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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

The present document is part 1 of a multi-part deliverable covering the 5G System (5GS) User Equipment (UE) conformance specification, as identified below:

- **3GPP TS 38.508-1: "5GS; User Equipment (UE) conformance specification; Part 1: Common test environment"** (the present document).
- 3GPP TS 38.508-2 [10]: "5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma".

1 Scope

The present document defines the test environment for the 5G System.

This specification covers all aspects, including NG-RAN, 5GC and interworking between 5GS and EPS used for conformance tests of User Equipment (UE).

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); Common test environments for User Equipment (UE) conformance testing".
- [3] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); Overall description; Stage 2".
- [4] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".
- [5] 3GPP TS 38.300: "NR; Overall description; Stage 2".
- [6] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".
- [7] 3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone".
- [8] 3GPP TS 38.101-2: "NR; User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone".
- [9] 3GPP TS 38.101-3: "NR; User Equipment (UE) radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios".
- [10] 3GPP TS 38.508-2: "5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma".
- [11] 3GPP TS 38.509: "5GS; Special conformance testing functions for User Equipment (UE)".
- [12] 3GPP TS 38.523-1: "5GS; User Equipment (UE) conformance specification; Part 1: Protocol".
- [13] 3GPP TS 38.133: "NR; Requirements for support of radio resource management".
- [14] 3GPP TS 38.521-1: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 Standalone".
- [15] 3GPP TS 38.521-2: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Range 2 Standalone".
- [16] 3GPP TS 38.521-3: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios".

- [17] 3GPP TS 38.521-4: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 4: Performance".
- [18] 3GPP TS 38.533: "NR; User Equipment (UE) conformance specification; Radio resource management".
- [19] 3GPP TS 38.523-2: "5GS; User Equipment (UE) conformance specification; Part 2: Applicability of protocol test cases".
- [20] 3GPP TS 38.321: "NR; Medium Access Control (MAC) protocol specification".
- [21] 3GPP TS 38.214: "NR; Physical layer procedures for data".
- [22] 3GPP TS 38.213: "NR; Physical layer procedures for control".
- [23] 3GPP TS 38.523-3: "5GS; UE conformance specification; Part 3: Protocol Test Suites".
- [24] 3GPP TR 38.810: "NR; Study on test methods"
- [25] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)"
- [26] 3GPP TS 23.003: "Numbering, addressing and identification"
- [27] 3GPP TS 38.212: "NR; Multiplexing and channel coding"
- [28] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3"
- [29] 3GPP TS 38.211: "NR; Physical channels and modulation".
- [30] IETF RFC 4187: "Extensible Authentication Protocol Method for 3rd Generation Authentication and Key Agreement (EAP-AKA)".
- [31] IETF RFC 5448: "Improved Extensible Authentication Protocol Method for 3rd Generation Authentication and Key Agreement (EAP-AKA)".
- [32] IETF RFC 3748: "Extensible Authentication Protocol (EAP)".
- [33] 3GPP TS 23.502: "Procedures for the 5G System (5GS); Stage 2".
- [34] IETF RFC 7296: "Internet Key Exchange Protocol Version 2 (IKEv2)".
- [35] 3GPP TS 24.502: "Access to the 3GPP 5G Core Network (5GCN) via Non-3GPP Access Networks (N3AN); Stage 3"
- [36] 3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
- [37] 3GPP TS 36.523-2: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
- [38] 3GPP TR 38.903: "NR; Derivation of test tolerances and measurement uncertainty for User Equipment (UE) conformance test cases"
- [39] 3GPP TS 37.571-1: "Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 1: Conformance test specification".
- [40] 3GPP TS 37.571-2: "Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 2: Protocol conformance".
- [41] 3GPP TS 36.523-3: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 3: Test Suites".

- [42] 3GPP TS 36.523-1: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".
- [43] 3GPP TS 33.501: "Security architecture and procedures for 5G system".
- [44] 3GPP TS 34.229-1: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".
- [45] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS);Multimedia Telephony;Media handling and interaction".
- [46] IETF RFC 4566: "SDP: Session Description Protocol".
- [47] 3GPP TS 34.229-5: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 5: Protocol conformance specification using 5G System (5GS)".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

B: a value followed by "B" is a binary value.

H: a value followed by "H" is a hexadecimal value.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1].

5GC	5G Core Network
5GMM	5GS Mobility Management
5GS	5G System
5GSM	5GS Session Management
EN-DC	E-UTRA-NR Dual Connectivity
MCG	Master Cell Group
MR-DC	Multi-RAT Dual Connectivity
NE-DC	NR-E-UTRA Dual Connectivity
NGC	NG Core Network. Synonym of 5GC.
NGEN-DC	NG-RAN E-UTRA-NR Dual Connectivity
NG-RAN	NG Radio Access Network
NR	NR Radio Access
RRC	Radio Resource Control
SCG	Secondary Cell Group
SS	System Simulator

4 Common test environments

4.1 Environmental conditions

The requirements in this clause apply to all types of UE(s).

4.1.1 Temperature

Regarding FR1 the UE shall fulfil all the requirements in the full temperature range of:

Table 4.1.1-1: Temperature conditions for FR1

+15°C to +35°C	For normal conditions (with relative humidity of 25 % to 75 %)
-10°C to +55°C	For extreme conditions (see IEC publications 68-2-1 and 68-2-2)

Outside this temperature range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 38.101-1 [7] clause 6.2 for extreme operation.

The normative reference for this requirement is TS 38.101-1 [7] Annex E.2.

All RF requirements for UEs operating in FR2 are defined over the air and can only be tested in an OTA chamber.

Regarding FR2 the UE shall fulfil all requirements in the temperature range defined in Table 4.1.1-2.

Table 4.1.1-2: Temperature conditions for FR2

+15°C to +35°C	For normal (room temperature) conditions with relative humidity of 25% to 75%
-10°C to +55°C	For extreme conditions

Outside this temperature range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 38.101-2[8] clause 6.2 for extreme operation.

The normative reference for this requirement is TS 38.101-2 [8] Annex E.2.

Some tests are performed also in extreme temperature conditions. These test conditions are denoted as TL (temperature low, -10°C) and TH (temperature high, +55°C).

4.1.2 Voltage

Editor's Note: This clause is incomplete. The following items are missing or are incomplete:

- Methodology to control the voltage in a case which a power cable is not connected to DUT is FFS since it is not agreed whether we can connect the power cable to DUT at the OTA measurement situation yet.

Regarding both FR1 and FR2 the UE shall fulfil all the requirements in the full voltage range, i.e. the voltage range between the extreme voltages.

The manufacturer shall declare the lower and higher extreme voltages and the approximate shutdown voltage. For the equipment that can be operated from one or more of the power sources listed below, the lower extreme voltage shall not be higher, and the higher extreme voltage shall not be lower than that specified below.

Table 4.1.2-1: Voltage conditions

Power source	Lower extreme voltage	Higher extreme voltage	Normal conditions voltage
AC mains	0.9 * nominal	1.1 * nominal	nominal
Regulated lead acid battery	0.9 * nominal	1.3 * nominal	1.1 * nominal
Non regulated batteries:			
Leclanché	0.85 * nominal	nominal	nominal
Lithium	0.95 * nominal	1.1 * nominal	1.1 * nominal
Mercury/nickel & cadmium	0.90 * nominal		nominal

Outside this voltage range the UE if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 38.101-1[7] and TS 38.101-2[8] clause 6.2 for extreme operation. In particular, the UE shall inhibit all RF transmissions when the power supply voltage is below the manufacturer declared shutdown voltage.

The normative reference for this requirement is TS 38.101-1 [7] Annex E.2 and TS 38.101-2 [8] Annex E.2.

Some tests are performed also in extreme voltage conditions. These test conditions are denoted as VL (lower extreme voltage) and VH (higher extreme voltage).

4.2 Common requirements of test equipment

Mobile conformance testing can be categorized into 3 distinct areas:

- RF Conformance Testing consisting of:
 - Transmission and Reception Conformance Testing.
 - Performance Conformance Testing.
- RRM Conformance Testing.
- Signalling Conformance Testing.

The test equipment required for each category of testing may or not be different, depending on the supplier of the test equipment. However, there will be some generic requirements of the test equipment that are essential for all three categories of test, and these are specified in this clause.

In addition, there will be requirements to test operation in multi-system configurations other than E-UTRA and NR dual connectivity (EN-DC). However, these would not form a common test equipment requirement for the three test areas and are not considered in the present document.

4.2.1 General functional requirements

NOTE: This clause has been written such that it does not constrain the implementation of different architectures and designs of test equipment.

All test equipment used to perform conformance testing for frequency range 1 on a UE shall provide the following minimum functionality:

- Conducted test method

All test equipment used to perform conformance testing for frequency range 2 on a UE shall provide the following minimum functionality:

- OTA test method

All test equipment used to perform conformance testing on a UE shall provide a platform suitable for testing UE's that are either:

- non-standalone(NSA) mode; or
- standalone(SA) mode.

All test equipment used to perform conformance testing on a UE shall provide a platform suitable for testing UE's that are either of following duplex mode for NR and E-UTRA (NSA only) respectively.

- a) FDD Mode; or
- b) TDD Mode; or
- c) both FDD/TDD Modes.

All test equipment shall provide the following minimum functionality.

- The capability of emulating a single NR cell and a single E-UTRA (for NSA mode only) cell with the appropriate channels to allow the UE to register on the cell.
- The capability to allow the UE to set up an RRC connection with the system simulator, and to maintain the connection for the duration of the test.
- The capability (for the specific test):
 - to select and support an appropriate radio bearer for the downlink;
 - to set up and support the appropriate radio bearer for the uplink;

4.2.2 Minimum functional requirements

4.2.2.1 Supported Cell Configuration

The System Simulator shall provide the capability to simulate a minimum number of cells whose number and capabilities are governed by the test cases that need to be performed (test cases are defined in TS 38.523-1 [12] (Signalling), TS 38.521-1 [14], TS 38.521-2 [15], TS 38.521-3 [16] (TRx), TS 38.521-4 [17] (Performance), TS 38.533 [18] (RRM), TS 37.571-1 [39] and TS 37.571-2 [40] (Positioning)).

To perform test cases requiring multiple cell(s), the system simulator shall provide multiple cells offering the capabilities as required by the test case.

The type and number of channels (especially physical channels) constitute an important set of capabilities for a cell. The following clauses list possible channels that may be supported by the SS. Each channel type, however, and the minimum number of channels needed are only mandatory if specific test cases require them.

The mapping between Logical and Transport channels is as described in TS 38.321 [20]. Similarly, the mapping between Transport channels and Physical channels is as described in TS 38.211, TS 38.302 and TS 38.212. The reference measurement channels (mapping between Transport channels and Physical channels for PDSCH/PDCCH) are defined in TS 38.521-1 [14] annex A

4.2.2.1.1 Supported Channels for an E-UTRA cell (NSA mode only)

Requirement for supported channels for E-UTRA cell is described in TS 36.508[2].

4.2.2.1.2 Supported Channels for a NR cell

4.2.2.1.2.1 Logical channels

Logical channel	Minimum number	Comments
BCCH	0 for EN-DC, 1 for SA	
CCCH	0 for EN-DC, 1 for SA	
DCCH	0 for EN-DC, 2 for SA	Split SRB or SRB3 is optional in EN-DC
PCCH	0 for EN-DC, 1 for SA	
DTCH	n	Depending on SS's support for RB service testing

4.2.2.1.2.2 Transport channels

Transport channel	Minimum number	Comments
BCH	1	
PCH	N/A for EN-DC, 1 for SA	
RACH	1	
DL-SCH	1	
UL-SCH	1	

4.2.2.1.2.3 Physical channels

Physical channel	Minimum number	Comments
PBCH	1	Physical Broadcast Channel
PDCCH	1	The physical downlink control channel carries scheduling assignments and other control information.
PD SCH	1	Physical Downlink Shared Channel
PUCCH	1	The physical uplink control channel carries uplink control information
PUSCH	1	Physical Uplink Shared Channel
PRACH	1	Physical Random Access Channel

4.2.2.1.2.4 Physical signals

Physical signal	Minimum number	Comments
Demodulation reference signal	NA	UL
Sounding Reference signal	NA	UL, if applicable
Phase Tracking Reference Signal	NA	UL, if applicable
Demodulation reference signal(PD SCH)	NA	DL
Demodulation reference signal(PDCCH)	NA	DL
Demodulation reference signal(PBCH)	NA	DL
Phase Tracking Reference Signal	NA	DL, if applicable
CSI reference signal	NA	DL
Primary synchronisation signal	NA	DL
Secondary synchronisation signal	NA	DL

4.3 Reference test conditions

4.3.1 Test frequencies

4.3.1.0 General

The test frequencies are based on operating bands defined in TS 38.101-1 [7], TS 38.101-2 [8] and TS 38.101-3 [9].

4.3.1.0A Mid test channel bandwidth

The Mid test channel bandwidth definition for RF is given in Table 4.3.1.0A-1 and Table 4.3.1.0A-2 for FR1 and FR2 respectively.

Table 4.3.1.0A-1: Mid Test Channel bandwidths for each NR band, FR1

NR Band	UE Mid Test Channel bandwidth [MHz]
n1	15 ⁶ , 25 ⁷
n2	15
n3	20
n5	15
n7	15 ⁶ , 25 ⁷
n8	15
n12	10
n14	10
n20	15
n25	15
n26	10 ⁸
n28	15
n29	10 ²
n30	10
n34	10
n38	15
n39	20
n40	30
n41	60
n48	20 ⁴ , 40 ⁵
n50	20
n51	5
n53	10
n65	15
n66	20
n70	15
n71	10
n74	15
n75	15 ²
n76	5 ²
n77	50
n78	50
n79	60
n80	20 ³
n81	15 ³
n82	15 ³
n83	15 ³
n84	15 ³
n86	20 ³
Note 1:	For UEs with limited UE channel bandwidth capability, if mid channel BW is not supported by the UE, select the closest channel BW to the average channel BW of all supported channel bandwidths among all SCSs. If there are two channel bandwidths that have same distance to the mathematical center, the higher one is selected. This shall apply only for Rel 15 UEs.
Note 2:	This UE channel bandwidth is applicable only to downlink.
Note 3:	This UE channel bandwidth is applicable only to uplink.
Note 4:	Applicable when for use as single carrier, PCell in CA or PCell in DC configuration.

Note 5:	Applicable for use as SCell in CA or SCell in DC configuration.
Note 6:	This Mid test channel bandwidth is applicable to UEs supporting maximum channel bandwidth 20MHz.
Note 7:	This Mid test channel bandwidth is applicable to UEs supporting maximum channel bandwidth 50MHz.
Note 8:	This Mid test channel bandwidth is chosen since it is more commonly used.

Table 4.3.0A.1-2: Mid Test Channel bandwidths for each NR band, FR2

NR Band	UE Mid Test Channel bandwidth [MHz]
n257	200
n258	200
n260	200
n261	200
Note 1:	For UEs with limited UE channel bandwidth capability, if mid channel BW is not supported by the UE, select the closest channel BW to the average channel BW of all supported channel bandwidths among all SCSS. If there are two channel bandwidths that have same distance to the mathematical center, the higher one is selected. This shall apply only for Rel 15 UEs.

4.3.1.0B Low test channel bandwidth

The low test channel bandwidth definition for RF is given in Table 4.3.1.0B-1 and Table 4.3.1.0B-2 for FR1 and FR2 respectively.

Table 4.3.1.0B-1: Low Test Channel bandwidths for each NR band, FR1

NR Band	UE Low Test Channel bandwidth [MHz]
n1	5
n2	5
n3	5
n5	5
n7	5
n8	5
n12	5
n14	5
n20	5
n25	5
n26	5
n28	5
n29	5 ²
n30	5
n34	5
n38	5
n39	5
n40	5 ⁴ , 10 ⁵

NR Band	UE Low Test Channel bandwidth [MHz]
n41	10
n48	5 ⁴ , 10 ⁵
n50	5 ⁴ , 10 ⁵
n51	5
n53	5
n65	5
n66	5
n70	5
n71	5
n74	5
n75	5 ²
n76	5 ²
n77	10
n78	10
n79	40
n80	5 ³
n81	5 ³
n82	5 ³
n83	5 ³
n84	5 ³
n86	5 ³
Note 1:	For UEs with limited UE channel bandwidth capability, if the above defined low channel bandwidth is not supported by the UE, select the closest channel bandwidth in both DL and UL. This shall apply only for Rel.15 UEs.
Note 2:	This UE channel bandwidth is applicable only to downlink.
Note 3:	This UE channel bandwidth is applicable only to uplink.
Note 4:	Applicable for use as SCell in CA or SCell in DC configuration.
Note 5:	Applicable for use as single carrier, PCell in CA or PCell in DC configuration.

Table 4.3.1.0B-2: Low Test Channel bandwidths for each NR band, FR2

NR Band	UE Low Test Channel bandwidth [MHz]
n257	50
n258	50
n260	50
n261	50
Note 1:	For UEs with limited UE channel bandwidth capability, if the above defined low channel bandwidth is not supported by the UE, select the closest channel bandwidth in both DL and UL. This shall apply only for Rel.15 UEs..

4.3.1.0C High test channel bandwidth

The high test channel bandwidth definition for RF is given in Table 4.3.1.0C-1 and Table 4.3.1.0C-2 for FR1 and FR2 respectively.

Table 4.3.1.0C-1: High Test Channel bandwidths for each NR band, FR1

NR Band	UE High Test Channel bandwidth [MHz]
n1	20 ⁶ , 50 ⁷
n2	20
n3	30 ⁸ , 40 ⁹
n5	20
n7	20 ⁶ , 50 ⁷
n8	20
n12	15
n14	10
n20	20
n25	20 ⁶ , 40 ⁹
n26	20
n28	20 ⁶ , 30 ⁸
n29	10 ²
n30	10
n34	15
n38	20
n39	40
n40	80
n41	100
n48	40 ³ , 100 ⁴
n50	80
n51	5
n53	10
n65	20
n66	40
n70	15 ¹ /25 ²
n71	20
n74	20
n75	20 ²
n76	5 ²
n77	100
n78	100
n79	100
n80	30 ¹
n81	20 ¹
n82	20 ¹
n83	20 ¹
n84	20 ¹
n86	40 ¹
Note 1:	This UE channel bandwidth is applicable only to uplink.
Note 2:	This UE channel bandwidth is applicable only to downlink.
Note 3:	Applicable for use as single carrier, PCell in CA or PCell in DC configuration.
Note 4:	Applicable for use as DL SCell in CA or DL SCell in DC configuration.
Note 5:	For UEs with limited UE channel bandwidth capability, if the above defined high channel bandwidth is not supported by the UE, select the closest channel bandwidth in both DL and UL. This shall apply only for Rel-15 UEs.
Note 6:	This High test channel bandwidth is applicable to UEs supporting maximum channel bandwidth 20MHz.

Note 7:	This High test channel bandwidth is applicable to UEs supporting maximum channel bandwidth 50MHz.
Note 8:	This High test channel bandwidth is applicable to UEs supporting maximum channel bandwidth 30MHz.
Note 9:	This High test channel bandwidth is applicable to UEs supporting maximum channel bandwidth 40MHz.

Table 4.3.1.0C-2: High Test Channel bandwidths for each NR band, FR2

NR Band	UE High Test Channel bandwidth [MHz]
n257	400
n258	400
n260	400
n261	400
Note 1:	For UEs with limited UE channel bandwidth capability, if the above defined high channel bandwidth is not supported by the UE, select the closest channel bandwidth in both DL and UL. This shall apply only for Rel-15 UEs.

4.3.1.0D Bandwidth part

The value of *locationAndBandwidth* in *BWP* for FR1 is given in Table 4.3.1.0D-1. The value of *locationAndBandwidth* in *BWP* for FR2 is given in Table 4.3.1.0D-2.

Table 4.3.1.0D-1: *locationAndBandwidth* in BWP for FR1

BW [MHz]	SCS [kHz]	L_RBs (MAX N_{RB})	locationAndBandwidth (Note 1)
5	15	25	6600
5	30	11	2750
5	60	N/A	N/A
10	15	52	14025
10	30	24	6325
10	60	11	2750
15	15	79	21450
15	30	38	10175
15	60	18	4675
20	15	106	28875
20	30	51	13750
20	60	24	6325
25	15	133	36300
25	30	65	17600
25	60	31	8250
30	15	160	32174
30	30	78	21175
30	60	38	10175
40	15	216	16774
40	30	106	28875
40	60	51	13750
50	15	270	1924
50	30	133	36300
50	60	65	17600
60	15	N/A	N/A
60	30	162	31624
60	60	79	21450
70	15	N/A	N/A
70	30	189	24199
70	60	93	25300
80	15	N/A	N/A
80	30	217	16499
80	60	107	29150
90	15	N/A	N/A
90	30	245	8799
90	60	121	33000
100	15	N/A	N/A
100	30	273	1099
100	60	135	36850
Note 1: The value for <i>locationAndBandwidth</i> parameter is calculated as the RIV value in accordance to TS 38.214 [21] with $N_{BWP}^{size} = 275$, $RB_{start} = 0$ and $L_{RBs} = \text{Max } N_{RB}$ for each bandwidth and subcarrier spacing.			

Table 4.3.1.0D-2: *locationAndBandwidth* in BWP for FR2

BW [MHz]	SCS [kHz]	L_RBs (MAX N_{RB})	locationAndBandwidth (Note 1)
50	60	66	17875
50	120	32	8525
100	60	132	36025
100	120	66	17875
200	60	264	3574
200	120	132	36025
400	60	N/A	N/A
400	120	264	3574
Note 1: The value for <i>locationAndBandwidth</i> parameter is calculated as the RIV value in accordance to TS 38.214 [21] with $N_{\text{BWP}}^{\text{size}} = 275$, $RB_{\text{start}} = 0$ and $L_{\text{RBs}} = \text{Max } N_{\text{RB}}$ for each bandwidth and subcarrier spacing.			

4.3.1.0E Void

4.3.1.1 Test frequencies for NR operating bands in FR1

4.3.1.1.1 NR operating bands in FR1

4.3.1.1.1.1 Reference test frequencies for NR operating band n1

Table 4.3.1.1.1-1: Test frequencies for NR operating band n1 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0 (0)	0
			Mid	2140	428000	2119.39	423878	102		5350	427970	8	1	0 (0)	103
			High	2167.5	433500	2074.53	414906	504		5418	433470	8	1	0 (0)	505
		Uplink	Low	1922.5	384500	1920.25	384050	0	-	-	-	-	-	-	-
			Mid	1950	390000	1857.03	371406	504		-	-	-	-	-	-
			High	1977.5	395500	1974.17	394834	6		-	-	-	-	-	-
10	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0 (0)	0
			Mid	2140	428000	2116.96	423392	102		5344	427490	10	1	0 (0)	103
			High	2165	433000	2069.6	413920	504		5405	432490	10	1	0 (0)	505
		Uplink	Low	1925	385000	1920.32	384064	0	-	-	-	-	-	-	-
			Mid	1950	390000	1854.6	370920	504		-	-	-	-	-	-
			High	1975	395000	1969.24	393848	6		-	-	-	-	-	-
15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0 (0)	0
			Mid	2140	428000	2114.53	422906	102		5338	427010	0	0	1 (2)	104
			High	2162.5	432500	2064.67	412934	504		5395	431570	8	1	1 (2)	507
		Uplink	Low	1927.5	385500	1920.39	384078	0	-	-	-	-	-	-	-
			Mid	1950	390000	1852.17	370434	504		-	-	-	-	-	-
			High	1972.5	394500	1964.31	392862	6		-	-	-	-	-	-
20	106	Downlink	Low	2120	424000	2110.46	422092	0	15	5282	422650	6	1	2 (4)	5
			Mid	2140	428000	2112.1	422420	102		5332	426530	2	0	1 (2)	104
			High	2160	432000	2059.74	411948	504		5382	430590	10	1	1 (2)	507
		Uplink	Low	1930	386000	1920.46	384092	0	-	-	-	-	-	-	-
			Mid	1950	390000	1849.74	369948	504		-	-	-	-	-	-
			High	1970	394000	1959.38	391876	6		-	-	-	-	-	-
25	133	Downlink	Low	2122.5	424500	2110.53	422106	0	15	5283	422670	8	1	2 (4)	5
			Mid	2140	428000	2109.67	421934	102		5326	426050	4	0	1 (2)	104
			High	2157.5	431500	2054.81	410962	504		5369	429610	0	0	2 (4)	508
		Uplink	Low	1932.5	386500	1920.53	384106	0	-	-	-	-	-	-	-

			Mid	1950	390000	1847.31	369462	504		-	-	-	-	-	-
			High	1967.5	393500	1954.45	390890	6		-	-	-	-	-	-
30	160	Downlink	Low	2125	425000	2110.6	422120	0	15	5284	422690	10	1	2 (4)	5
			Mid	2140	428000	2107.24	421448	102		5320	425570	6	0	1 (2)	104
			High	2155	431000	2049.88	409976	504		5359	428690	10	1	2 (4)	509
		Uplink	Low	1935	387000	1920.6	384120	0	-	-	-	-	-	-	-
			Mid	1950	390000	1844.88	368976	504		-	-	-	-	-	-
			High	1965	393000	1949.52	389904	6		-	-	-	-	-	-
40	216	Downlink	Low	2130	426000	2110.56	422112	0	15	5283	422670	6	1	2 (4)	5
			Mid	2140	428000	2102.2	420440	102		5308	424610	10	1	1 (2)	105
			High	2150	430000	2039.84	407968	504		5330	426490	6	0	0 (0)	504
		Uplink	Low	1940	388000	1920.56	384112	0	-	-	-	-	-	-	-
			Mid	1950	390000	1839.84	367968	504		-	-	-	-	-	-
			High	1960	392000	1939.48	387896	6		-	-	-	-	-	-
50	270	Downlink	Low	2135	427000	2110.7	422140	0	15	5282	422650	2	0	2 (4)	4
			Mid	2140	428000	2097.34	419468	102		5296	423650	2	0	2 (4)	106
			High	2145	429000	2029.98	405996	504		5307	424590	6	0	1 (2)	506
		Uplink	Low	1945	389000	1920.7	384140	0	-	-	-	-	-	-	-
			Mid	1950	390000	1834.98	366996	504		-	-	-	-	-	-
			High	1955	391000	1929.62	385924	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.1-2: Test frequencies for NR operating band n1 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	0	0 (5)	10
			Mid	2140	428000	2098.96	419792	102		5350	427970	14	0	1 (6)	216
			High	2165	433000	1979.24	395848	504		5411	432970	14	0	1 (6)	1020
		Uplink	Low	1925	385000	1920.68	384136	0	-	-	-	-	-	-	-
			Mid	1950	390000	1764.24	352848	504		-	-	-	-	-	-
			High	1975	395000	1968.52	393704	6		-	-	-	-	-	-
15	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	0	1 (6)	12
			Mid	2140	428000	2096.44	419288	102		5344	427490	22	0	1 (6)	216

		Uplink	High	2162.5	432500	1974.22	394844	504	-	5401	432050	18	0	2 (7)	1022
			Low	1927.5	385500	1920.66	384132	0		-	-	-	-	-	
			Mid	1950	390000	1761.72	352344	504		-	-	-	-	-	
			High	1972.5	394500	1963.5	392700	6		-	-	-	-	-	
20	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	0	0 (5)	10
			Mid	2140	428000	2094.1	418820	102		5338	427010	18	0	1 (6)	216
			High	2160	432000	1969.38	393876	504		5388	431070	14	0	2 (7)	1022
		Uplink	Low	1930	386000	1920.82	384164	0	-	-	-	-	-	-	-
			Mid	1950	390000	1759.38	351876	504		-	-	-	-	-	-
			High	1970	394000	1958.66	391732	6		-	-	-	-	-	-
25	65	Downlink	Low	2122.5	424500	2110.8	422160	0	15	5286	422910	10	0	0 (5)	10
			Mid	2140	428000	2091.58	418316	102		5332	426530	2	0	2 (7)	218
			High	2157.5	431500	1964.36	392872	504		5375	430090	22	0	2 (7)	1022
		Uplink	Low	1932.5	386500	1920.8	384160	0	-	-	-	-	-	-	-
			Mid	1950	390000	1756.86	351372	504		-	-	-	-	-	-
			High	1967.5	393500	1953.64	390728	6		-	-	-	-	-	-
30	78	Downlink	Low	2125	425000	2110.96	422192	0	15	5287	422930	6	0	0 (5)	10
			Mid	2140	428000	2089.24	417848	102		5326	426050	22	0	1 (6)	216
			High	2155	431000	1959.52	391904	504		5362	428930	6	0	0 (5)	1018
		Uplink	Low	1935	387000	1920.96	384192	0	-	-	-	-	-	-	-
			Mid	1950	390000	1754.52	350904	504		-	-	-	-	-	-
			High	1965	393000	1948.8	389760	6		-	-	-	-	-	-
40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	0	0 (5)	10
			Mid	2140	428000	2084.2	416840	102		5314	425090	14	0	2 (7)	218
			High	2150	430000	1949.48	389896	504		5336	426970	22	0	0 (5)	1018
		Uplink	Low	1940	388000	1920.92	384184	0	-	-	-	-	-	-	-
			Mid	1950	390000	1749.48	349896	504		-	-	-	-	-	-
			High	1960	392000	1938.76	387752	6		-	-	-	-	-	-
50	133	Downlink	Low	2135	427000	2111.06	422212	0	15	5288	423130	18	0	2 (7)	14
			Mid	2140	428000	2079.34	415868	102		5302	424130	18	0	2 (7)	218
			High	2145	429000	1939.62	387924	504		5313	425070	22	0	1 (6)	1020
		Uplink	Low	1945	389000	1921.06	384212	0	-	-	-	-	-	-	-
			Mid	1950	390000	1744.62	348924	504		-	-	-	-	-	-
			High	1955	391000	1928.9	385780	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1-3: Test frequencies for NR operating band n1 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF frequency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF frequency SSB [ARFCN]
10	11	Downlink	Low	2115	423000	2111.04	422208	0	15	-	422568
			Mid	2140	428000	2062.6	412520	102		-	427568
			High	2165	433000	1798.16	359632	504		-	432568
		Uplink	Low	1925	385000	1921.04	384208	0	-	-	-
			Mid	1950	390000	1583.16	316632	504		-	-
			High	1975	395000	1966.72	393344	6		-	-
15	18	Downlink	Low	2117.5	423500	2111.02	422204	0	15	-	422564
			Mid	2140	428000	2060.08	412016	102		-	427064
			High	2162.5	432500	1793.14	358628	504		-	431564
		Uplink	Low	1927.5	385500	1921.02	384204	0	-	-	-
			Mid	1950	390000	1580.64	316128	504		-	-
			High	1972.5	394500	1961.7	392340	6		-	-
20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
			Mid	2140	428000	2057.92	411584	102		-	426632
			High	2160	432000	1788.48	357696	504		-	430632
		Uplink	Low	1930	386000	1921.36	384272	0	-	-	-
			Mid	1950	390000	1578.48	315696	504		-	-
			High	1970	394000	1957.04	391408	6		-	-
25	31	Downlink	Low	2122.5	424500	2111.34	422268	0	15	-	422628
			Mid	2140	428000	2055.4	411080	102		-	426128
			High	2157.5	431500	1783.46	356692	504		-	429628
		Uplink	Low	1932.5	386500	1921.34	384268	0	-	-	-
			Mid	1950	390000	1575.96	315192	504		-	-
			High	1967.5	393500	1952.02	390404	6		-	-
30	38	Downlink	Low	2125	425000	2111.32	422264	0	15	-	422624
			Mid	2140	428000	2052.88	410576	102		-	425624
			High	2155	431000	1778.44	355688	504		-	428624
		Uplink	Low	1935	387000	1921.32	384264	0	-	-	-
			Mid	1950	390000	1573.44	314688	504		-	-
			High	1965	393000	1947	389400	6		-	-
40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688
			Mid	2140	428000	2048.2	409640	102		-	424688
			High	2150	430000	1768.76	353752	504		-	426688
		Uplink	Low	1940	388000	1921.64	384328	0	-	-	-
			Mid	1950	390000	1568.76	313752	504		-	-
			High	1960	392000	1937.32	387464	6		-	-
50	65	Downlink	Low	2135	427000	2111.6	422320	0	15	-	422680
			Mid	2140	428000	2043.16	408632	102		-	423680

		Uplink	High	2145	429000	1758.72	351744	504	-	-	424680
			Low	1945	389000	1921.6	384320	0		-	-
			Mid	1950	390000	1563.72	312744	504		-	-
			High	1955	391000	1927.28	385456	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.2

Reference test frequencies for NR operating band n2

Table 4.3.1.1.1.2-1: Test frequencies for NR operating band n2 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1932.5	386500	1930.25	386050	0	15	4829	386410	0	0	0 (0)	0
			Mid	1960	392000	1939.39	387878	102		4900	391970	8	1	0 (0)	103
			High	1987.5	397500	1894.53	378906	504		4968	397470	8	1	0 (0)	505
		Uplink	Low	1852.5	370500	1850.25	370050	0	-	-	-	-	-	-	-
			Mid	1880	376000	1787.03	357406	504		-	-	-	-	-	-
			High	1907.5	381500	1904.17	380834	6		-	-	-	-	-	-
10	52	Downlink	Low	1935	387000	1930.32	386064	0	15	4830	386430	2	0	0 (0)	0
			Mid	1960	392000	1936.96	387392	102		4894	391490	10	1	0 (0)	103
			High	1985	397000	1889.6	377920	504		4955	396490	10	1	0 (0)	505
		Uplink	Low	1855	371000	1850.32	370064	0	-	-	-	-	-	-	-
			Mid	1880	376000	1784.6	356920	504		-	-	-	-	-	-
			High	1905	381000	1899.24	379848	6		-	-	-	-	-	-
15	79	Downlink	Low	1937.5	387500	1930.39	386078	0	15	4831	386450	4	0	0 (0)	0
			Mid	1960	392000	1934.53	386906	102		4888	391010	0	0	1 (2)	104
			High	1982.5	396500	1884.67	376934	504		4945	395570	8	1	1 (2)	507
		Uplink	Low	1857.5	371500	1850.39	370078	0	-	-	-	-	-	-	-
			Mid	1880	376000	1782.17	356434	504		-	-	-	-	-	-
			High	1902.5	380500	1894.31	378862	6		-	-	-	-	-	-
20	106	Downlink	Low	1940	388000	1930.46	386092	0	15	4832	386650	6	1	2 (4)	5
			Mid	1960	392000	1932.1	386420	102		4882	390530	2	0	1 (2)	104
			High	1980	396000	1879.74	375948	504		4932	394590	10	1	1 (2)	507
		Uplink	Low	1860	372000	1850.46	370092	0	-	-	-	-	-	-	-
			Mid	1880	376000	1779.74	355948	504		-	-	-	-	-	-
			High	1900	380000	1889.38	377876	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta f_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.2-2: Test frequencies for NR operating band n2 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1935	387000	1930.68	386136	0	15	4836	386910	18	0	0 (5)	10
			Mid	1960	392000	1918.96	383792	102		4900	391970	14	0	1 (6)	216
			High	1985	397000	1799.24	359848	504		4961	396970	14	0	1 (6)	1020
		Uplink	Low	1855	371000	1850.68	370136	0	-	-	-	-	-	-	-
			Mid	1880	376000	1694.24	338848	504		-	-	-	-	-	-
			High	1905	381000	1898.52	379704	6		-	-	-	-	-	-
15	38	Downlink	Low	1937.5	387500	1930.66	386132	0	15	4837	386930	2	0	1 (6)	12
			Mid	1960	392000	1916.44	383288	102		4894	391490	22	0	1 (6)	216
			High	1982.5	396500	1794.22	358844	504		4951	396050	18	0	2 (7)	1022
		Uplink	Low	1857.5	371500	1850.66	370132	0	-	-	-	-	-	-	-
			Mid	1880	376000	1691.72	338344	504		-	-	-	-	-	-
			High	1902.5	380500	1893.5	378700	6		-	-	-	-	-	-
20	51	Downlink	Low	1940	388000	1930.82	386164	0	15	4835	386890	2	0	0 (5)	10
			Mid	1960	392000	1914.1	382820	102		4888	391010	18	0	1 (6)	216
			High	1980	396000	1789.38	357876	504		4938	395070	14	0	2 (7)	1022
		Uplink	Low	1860	372000	1850.82	370164	0	-	-	-	-	-	-	-
			Mid	1880	376000	1689.38	337876	504		-	-	-	-	-	-
			High	1900	380000	1888.66	377732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.2-3: Test frequencies for NR operating band n2 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink	Low	1935	387000	1931.04	386208	0	15	-	386568
			Mid	1960	392000	1882.6	376520	102		-	391568
			High	1985	397000	1618.16	323632	504		-	396568
		Uplink	Low	1855	371000	1851.04	370208	0	-	-	-
			Mid	1880	376000	1513.16	302632	504		-	-
			High	1905	381000	1896.72	379344	6		-	-
15	18	Downlink	Low	1937.5	387500	1931.02	386204	0	15	-	386564
			Mid	1960	392000	1880.08	376016	102		-	391064
			High	1982.5	396500	1613.14	322628	504		-	395564
		Uplink	Low	1857.5	371500	1851.02	370204	0	-	-	-
			Mid	1880	376000	1510.64	302128	504		-	-
			High	1902.5	380500	1891.7	378340	6		-	-
20	24	Downlink	Low	1940	388000	1931.36	386272	0	15	-	386632
			Mid	1960	392000	1877.92	375584	102		-	390632
			High	1980	396000	1608.48	321696	504		-	394632
		Uplink	Low	1860	372000	1851.36	370272	0	-	-	-
			Mid	1880	376000	1508.48	301696	504		-	-
			High	1900	380000	1887.04	377408	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.3

Reference test frequencies for NR operating band n3

Table 4.3.1.1.1.3-1: Test frequencies for NR operating band n3 and SCS 15 kHz

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1807.5	361500	1805.25	361050	0	15	4518	361470	8	1	0 (0)	1
			Mid	1842.5	368500	1821.89	364378	102		4604	368410	0	0	0 (0)	102
			High	1877.5	375500	1784.53	356906	504		4693	375410	0	0	0 (0)	504
		Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1654.53	330906	504		-	-	-	-	-	-

10	52	Downlink	High	1782.5	356500	1779.17	355834	6	15	-	-	-	-	-	-
			Low	1810	362000	1805.32	361064	0		4519	361490	10	1	0 (0)	1
			Mid	1842.5	368500	1819.46	363892	102		4598	367930	2	0	0 (0)	102
		Uplink	High	1875	375000	1779.6	355920	504	-	4680	374430	2	0	0 (0)	504
			Low	1715	343000	1710.32	342064	0		-	-	-	-	-	-
			Mid	1747.5	349500	1652.1	330420	504		-	-	-	-	-	-
15	79	Downlink	High	1780	356000	1774.24	354848	6	15	-	-	-	-	-	-
			Low	1812.5	362500	1805.39	361078	0		4517	361450	4	0	0 (0)	0
			Mid	1842.5	368500	1817.03	363406	102		4592	367450	4	0	0 (0)	102
		Uplink	High	1872.5	374500	1774.67	354934	504	-	4667	373450	4	0	0 (0)	504
			Low	1717.5	343500	1710.39	342078	0		-	-	-	-	-	-
			Mid	1747.5	349500	1649.67	329934	504		-	-	-	-	-	-
20	106	Downlink	High	1777.5	355500	1769.31	353862	6	15	-	-	-	-	-	-
			Low	1815	363000	1805.46	361092	0		4518	361470	6	0	0 (0)	0
			Mid	1842.5	368500	1814.6	362920	102		4586	366970	6	0	0 (0)	102
		Uplink	High	1870	374000	1769.74	353948	504	-	4657	372530	2	0	1 (2)	506
			Low	1720	344000	1710.46	342092	0		-	-	-	-	-	-
			Mid	1747.5	349500	1647.24	329448	504		-	-	-	-	-	-
25	133	Downlink	High	1775	355000	1764.38	352876	6	15	-	-	-	-	-	-
			Low	1817.5	363500	1805.53	361106	0		4519	361490	8	0	0 (0)	0
			Mid	1842.5	368500	1812.17	362434	102		4580	366490	8	0	0 (0)	102
		Uplink	High	1867.5	373500	1764.81	352962	504	-	4644	371550	4	0	1 (2)	506
			Low	1722.5	344500	1710.53	342106	0		-	-	-	-	-	-
			Mid	1747.5	349500	1644.81	328962	504		-	-	-	-	-	-
30	160	Downlink	High	1772.5	354500	1759.45	351890	6	15	-	-	-	-	-	-
			Low	1820	364000	1805.6	361120	0		4520	361690	10	1	2 (4)	5
			Mid	1842.5	368500	1809.74	361948	102		4574	366010	10	0	0 (0)	102
		Uplink	High	1865	373000	1759.88	351976	504	-	4631	370570	6	0	1 (2)	506
			Low	1725	345000	1710.6	342120	0		-	-	-	-	-	-
			Mid	1747.5	349500	1642.38	328476	504		-	-	-	-	-	-
40	216	Downlink	High	1770	354000	1754.52	350904	6	15	-	-	-	-	-	-
			Low	1825	365000	1805.56	361112	0		4519	361490	6	0	0 (0)	0
			Mid	1842.5	368500	1804.7	360940	102		4562	365050	2	0	1 (2)	104
		Uplink	High	1862.5	372500	1752.34	350468	504	-	4615	369170	6	1	2 (4)	509
			Low	1730	346000	1710.56	342112	0		-	-	-	-	-	-
			Mid	1747.5	349500	1637.34	327468	504		-	-	-	-	-	-
			High	1767.5	353500	1746.98	349396	6	-	-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.3-2: Test frequencies for NR operating band n3 and SCS 30 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency Point A [ARFCN]	offset To Carrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offset To Point A (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1810	362000	1805.68	361136	0	15	4525	361970	14	0	1 (6)	12
			Mid	1842.5	368500	1801.46	360292	102		4604	368410	18	0	0 (5)	214
			High	1875	375000	1689.24	337848	504		4686	374910	18	0	0 (5)	1018
		Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1561.74	312348	504		-	-	-	-	-	-
			High	1780	356000	1773.52	354704	6		-	-	-	-	-	-
15	38	Downlink	Low	1812.5	362500	1805.66	361132	0	15	4523	361930	2	0	1 (6)	12
			Mid	1842.5	368500	1798.94	359788	102		4598	367930	2	0	1 (6)	216
			High	1872.5	374500	1684.22	336844	504		4673	373930	2	0	1 (6)	1020
		Uplink	Low	1717.5	343500	1710.66	342132	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1559.22	311844	504		-	-	-	-	-	-
			High	1777.5	355500	1768.5	353700	6		-	-	-	-	-	-
20	51	Downlink	Low	1815	363000	1805.82	361164	0	15	4524	361950	22	0	0 (5)	10
			Mid	1842.5	368500	1796.6	359320	102		4592	367450	22	0	0 (5)	214
			High	1870	374000	1679.38	335876	504		4663	373010	18	0	1 (6)	1020
		Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1556.88	311376	504		-	-	-	-	-	-
			High	1775	355000	1763.66	352732	6		-	-	-	-	-	-
25	65	Downlink	Low	1817.5	363500	1805.8	361160	0	15	4525	361970	6	0	1 (6)	12
			Mid	1842.5	368500	1794.08	358816	102		4586	366970	6	0	1 (6)	216
			High	1867.5	373500	1674.36	334872	504		4650	372030	2	0	2 (7)	1022
		Uplink	Low	1722.5	344500	1710.8	342160	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1554.36	310872	504		-	-	-	-	-	-
			High	1772.5	354500	1758.64	351728	6		-	-	-	-	-	-
30	78	Downlink	Low	1820	364000	1805.96	361192	0	15	4523	361930	6	0	0 (5)	10
			Mid	1842.5	368500	1791.74	358348	102		4580	366490	2	0	1 (6)	216
			High	1865	373000	1669.52	333904	504		4637	371050	22	0	1 (6)	1020
		Uplink	Low	1725	345000	1710.96	342192	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1552.02	310404	504		-	-	-	-	-	-
			High	1770	354000	1753.8	350760	6		-	-	-	-	-	-
40	106	Downlink	Low	1825	365000	1805.92	361184	0	15	4525	361970	22	0	0 (5)	10
			Mid	1842.5	368500	1786.7	357340	102		4568	365530	18	0	1 (6)	216
			High	1862.5	372500	1661.98	332396	504		4621	369650	10	0	3 (8)	1024
		Uplink	Low	1730	346000	1710.92	342184	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1546.98	000000	504		-	-	-	-	-	-
			High	1767.5	353500	1746.26	349252	6		-	-	-	-	-	-

- Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.
- Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.3-3: Test frequencies for NR operating band n3 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF re quency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF re quency SSB [ARFCN]
10	11	Downlink	Low	1810	362000	1806.04	361208	0	15	-	361568
			Mid	1842.5	368500	1765.1	353020	102		-	368068
			High	1875	375000	1508.16	301632	504		-	374568
		Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
			Mid	1747.5	349500	1380.66	276132	504		-	-
			High	1780	356000	1771.72	354344	6		-	-
15	18	Downlink	Low	1812.5	362500	1806.02	361204	0	15	-	361564
			Mid	1842.5	368500	1762.58	352516	102		-	367564
			High	1872.5	374500	1503.14	300628	504		-	373564
		Uplink	Low	1717.5	343500	1711.02	342204	0	-	-	-
			Mid	1747.5	349500	1378.14	275628	504		-	-
			High	1777.5	355500	1766.7	353340	6		-	-
20	24	Downlink	Low	1815	363000	1806.36	361272	0	15	-	361632
			Mid	1842.5	368500	1760.42	352084	102		-	367132
			High	1870	374000	1498.48	299696	504		-	372632
		Uplink	Low	1720	344000	1711.36	342272	0	-	-	-
			Mid	1747.5	349500	1375.98	275196	504		-	-
			High	1775	355000	1762.04	352408	6		-	-
25	31	Downlink	Low	1817.5	363500	1806.34	361268	0	15	-	361628
			Mid	1842.5	368500	1757.9	351580	102		-	366628
			High	1867.5	373500	1493.46	298692	504		-	371628
		Uplink	Low	1722.5	344500	1711.34	342268	0	-	-	-
			Mid	1747.5	349500	1373.46	274692	504		-	-
			High	1772.5	354500	1757.02	351404	6		-	-
30	38	Downlink	Low	1820	364000	1806.32	361264	0	15	-	361624
			Mid	1842.5	368500	1755.38	351076	102		-	366124
			High	1865	373000	1488.44	297688	504		-	370624
		Uplink	Low	1725	345000	1711.32	342264	0	-	-	-
			Mid	1747.5	349500	1370.94	274188	504		-	-
			High	1770	354000	1752	350400	6		-	-
40	51	Downlink	Low	1825	365000	1806.64	361328	0	15	-	361688
			Mid	1842.5	368500	1750.7	350140	102		-	365188
			High	1862.5	372500	1481.26	296252	504		-	369188
		Uplink	Low	1730	346000	1711.64	342328	0	-	-	-
			Mid	1747.5	349500	1366.26	273252	504		-	-
			High	1767.5	353500	1744.82	348964	6		-	-

Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{SSB}=31$, *controlResourceSetZero*=0 and *searchSpaceZero* = 0 (TS 38.213 [22], clause 13).

4.3.1.1.1.4

FFS

4.3.1.1.1.5

Reference test frequencies for NR operating band n5

Table 4.3.1.1.1.5-1: Test frequencies for NR operating band n5 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	871.5	174300	869.25	173850	0	15	2178	174270	8	1	0 (0)	1
			Mid	881.5	176300	860.89	172178	102		2203	176210	0	0	0 (0)	102
			High	891.5	178300	798.53	159706	504		2228	178330	4	1	1 (2)	507
		Uplink	Low	826.5	165300	824.25	164850	0	-	-	-	-	-	-	-
			Mid	836.5	167300	743.53	148706	504		-	-	-	-	-	-
			High	846.5	169300	843.17	168634	6		-	-	-	-	-	-
		Downlink	Low	874	174800	869.32	173864	0	15	2179	174290	10	1	0 (0)	1
			Mid	881.5	176300	858.46	171692	102		2197	175730	2	0	0 (0)	102
			High	889	177800	793.6	158720	504		2218	177410	2	1	2 (4)	509
10	52	Uplink	Low	829	165800	824.32	164864	0	-	-	-	-	-	-	-
			Mid	836.5	167300	741.1	148220	504		-	-	-	-	-	-
			High	844	168800	838.24	167648	6		-	-	-	-	-	-
		Downlink	Low	876.5	175300	869.39	173878	0	15	2177	174250	4	0	0 (0)	0
			Mid	881.5	176300	856.03	171206	102		2191	175250	4	0	0 (0)	102
			High	886.5	177300	788.67	157734	504		2205	176430	4	1	2 (4)	509
		Uplink	Low	831.5	166300	824.39	164878	0	-	-	-	-	-	-	-
			Mid	836.5	167300	738.67	147734	504		-	-	-	-	-	-
			High	841.5	168300	833.31	166662	6		-	-	-	-	-	-
15	79	Downlink	Low	879	175800	869.46	173892	0	15	2178	174270	6	0	0 (0)	0
			Mid	881.5	176300	853.6	170720	102		2185	174770	6	0	0 (0)	102
			High	884	176800	783.74	156748	504		2192	175450	6	1	2 (4)	509
		Uplink	Low	834	166800	824.46	164892	0	-	-	-	-	-	-	-
			Mid	836.5	167300	736.24	147248	504		-	-	-	-	-	-
			High	839	167800	828.38	165676	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.5-2: Test frequencies for NR operating band n5 and SCS 30 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	874	174800	869.68	173936	0	30	2185	174770	14	0	1 (1)	2
			Mid	881.5	176300	840.46	168092	102		2203	176210	18	0	0 (0)	204
			High	889	177800	703.24	140648	504		2224	177890	6	0	3 (3)	1014
		Uplink	Low	829	165800	824.68	164936	0	-	-	-	-	-	-	-
			Mid	836.5	167300	650.74	130148	504		-	-	-	-	-	-
			High	844	168800	837.52	167504	6		-	-	-	-	-	-
15	38	Downlink	Low	876.5	175300	869.66	173932	0	30	2183	174730	2	0	1 (1)	2
			Mid	881.5	176300	837.94	167588	102		2197	175730	2	0	1 (1)	206
			High	886.5	177300	698.22	139644	504		2208	176670	6	0	0 (0)	1008
		Uplink	Low	831.5	166300	824.66	164932	0	-	-	-	-	-	-	-
			Mid	836.5	167300	648.22	129644	504		-	-	-	-	-	-
			High	841.5	168300	832.5	166500	6		-	-	-	-	-	-
20	51	Downlink	Low	879	175800	869.82	173964	0	30	2184	174750	22	0	0 (0)	0
			Mid	881.5	176300	835.6	167120	102		2191	175250	22	0	0 (0)	204
			High	884	176800	693.38	138676	504		2195	175690	2	0	0 (0)	1008
		Uplink	Low	834	166800	824.82	164964	0	-	-	-	-	-	-	-
			Mid	836.5	167300	645.88	129176	504		-	-	-	-	-	-
			High	839	167800	827.66	165532	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

4.3.1.1.1.6

FFS

4.3.1.1.1.7

Reference test frequencies for NR operating band n7

Table 4.3.1.1.1.7-1: Test frequencies for NR operating band n7 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	2622.5	524500	2620.25	524050	0	15	6554	524410	0	0	0 (0)	0
			Mid	2655	531000	2634.39	526878	102		6636	530910	0	0	0 (0)	102
			High	2687.5	537500	2594.53	518906	504		6718	537410	0	0	0 (0)	504
		Uplink	Low	2502.5	500500	2500.25	500050	0	-	-	-	-	-	-	-
			Mid	2535	507000	2442.03	488406	504		-	-	-	-	-	-
			High	2567.5	513500	2564.17	512834	6		-	-	-	-	-	-
10	52	Downlink	Low	2625	525000	2620.32	524064	0	15	6555	524430	2	0	0 (0)	0
			Mid	2655	531000	2631.96	526392	102		6630	530430	2	0	0 (0)	102
			High	2685	537000	2589.6	517920	504		6705	536430	2	0	0 (0)	504
		Uplink	Low	2505	501000	2500.32	500064	0	-	-	-	-	-	-	-
			Mid	2535	507000	2439.6	487920	504		-	-	-	-	-	-
			High	2565	513000	2559.24	511848	6		-	-	-	-	-	-
15	79	Downlink	Low	2627.5	525500	2620.39	524078	0	15	6556	524450	4	0	0 (0)	0
			Mid	2655	531000	2629.53	525906	102		6624	529950	4	0	0 (0)	102
			High	2682.5	536500	2584.67	516934	504		6692	535450	4	0	0 (0)	504
		Uplink	Low	2507.5	501500	2500.39	500078	0	-	-	-	-	-	-	-
			Mid	2535	507000	2437.17	487434	504		-	-	-	-	-	-
			High	2562.5	512500	2554.31	510862	6		-	-	-	-	-	-
20	106	Downlink	Low	2630	526000	2620.46	524092	0	15	6557	524650	6	1	2 (4)	5
			Mid	2655	531000	2627.1	525420	102		6618	529470	6	0	0 (0)	102
			High	2680	536000	2579.74	515948	504		6682	534530	2	0	1 (2)	506
		Uplink	Low	2510	502000	2500.46	500092	0	-	-	-	-	-	-	-
			Mid	2535	507000	2434.74	486948	504		-	-	-	-	-	-
			High	2560	512000	2549.38	509876	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.7-2: Test frequencies for NR operating band n7 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	2625	525000	2620.68	524136	0	15	6561	524910	18	0	0 (5)	10
			Mid	2655	531000	2613.96	522792	102		6636	530910	18	0	0 (5)	214
			High	2685	537000	2499.24	499848	504		6711	536910	18	0	0 (5)	1018
		Uplink	Low	2505	501000	2500.68	500136	0	-	-	-	-	-	-	-
			Mid	2535	507000	2349.24	469848	504		-	-	-	-	-	-
			High	2565	513000	2558.52	511704	6		-	-	-	-	-	-
15	38	Downlink	Low	2627.5	525500	2620.66	524132	0	15	6562	524930	2	0	1 (6)	12
			Mid	2655	531000	2611.44	522288	102		6630	530430	2	0	1 (6)	216
			High	2682.5	536500	2494.22	498844	504		6698	535930	2	0	1 (6)	1020
		Uplink	Low	2507.5	501500	2500.66	500132	0	-	-	-	-	-	-	-
			Mid	2535	507000	2346.72	469344	504		-	-	-	-	-	-
			High	2562.5	512500	2553.5	510700	6		-	-	-	-	-	-
20	51	Downlink	Low	2630	526000	2620.82	524164	0	15	6560	524890	2	0	0 (5)	10
			Mid	2655	531000	2609.1	521820	102		6624	529950	22	0	0 (5)	214
			High	2680	536000	2489.38	497876	504		6688	535010	18	0	1 (6)	1020
		Uplink	Low	2510	502000	2500.82	500164	0	-	-	-	-	-	-	-
			Mid	2535	507000	2344.38	468876	504		-	-	-	-	-	-
			High	2560	512000	2548.66	509732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.7-3: Test frequencies for NR operating band n7 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink	Low	2625	525000	2621.04	524208	0	15	-	524568
			Mid	2655	531000	2577.6	515520	102		-	530568
			High	2685	537000	2318.16	463632	504		-	536568
		Uplink	Low	2505	501000	2501.04	500208	0	-	-	-
			Mid	2535	507000	2168.16	433632	504		-	-
			High	2565	513000	2556.72	511344	6		-	-
15	18	Downlink	Low	2627.5	525500	2621.02	524204	0	15	-	524564
			Mid	2655	531000	2575.08	515016	102		-	530064
			High	2682.5	536500	2313.14	462628	504		-	535564
		Uplink	Low	2507.5	501500	2501.02	500204	0	-	-	-
			Mid	2535	507000	2165.64	433128	504		-	-
			High	2562.5	512500	2551.7	510340	6		-	-
20	24	Downlink	Low	2630	526000	2621.36	524272	0	15	-	524632
			Mid	2655	531000	2572.92	514584	102		-	529632
			High	2680	536000	2308.48	461696	504		-	534632
		Uplink	Low	2510	502000	2501.36	500272	0	-	-	-
			Mid	2535	507000	2163.48	432696	504		-	-
			High	2560	512000	2547.04	509408	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.8

Reference test frequencies for NR operating band n8

Table 4.3.1.1.1.8-1: Test frequencies for NR operating band n8 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	927.5	185500	925.25	185050	0	15	2318	185530	4	1	1 (2)	3
			Mid	942.5	188500	921.89	184378	102		2354	188410	0	0	0 (0)	102
			High	957.5	191500	864.53	172906	504		2393	191530	4	1	1 (2)	507
		Uplink	Low	882.5	176500	880.25	176050	0	-	-	-	-	-	-	-
			Mid	897.5	179500	804.53	160906	504		-	-	-	-	-	-
			High	912.5	182500	909.17	181834	6		-	-	-	-	-	-
10	52	Downlink	Low	930	186000	925.32	185064	0	15	2319	185550	6	1	1 (2)	3
			Mid	942.5	188500	919.46	183892	102		2348	187930	2	0	0 (0)	102
			High	955	191000	859.6	171920	504		2383	190610	2	1	2 (4)	509
		Uplink	Low	885	177000	880.32	176064	0	-	-	-	-	-	-	-
			Mid	897.5	179500	802.1	160420	504		-	-	-	-	-	-
			High	910	182000	904.24	180848	6		-	-	-	-	-	-
15	79	Downlink	Low	932.5	186500	925.39	185078	0	15	2320	185570	8	1	1 (2)	3
			Mid	942.5	188500	917.03	183406	102		2342	187450	4	0	0 (0)	102
			High	952.5	190500	854.67	170934	504		2370	189630	4	1	2 (4)	509
		Uplink	Low	887.5	177500	880.39	176078	0	-	-	-	-	-	-	-
			Mid	897.5	179500	799.67	159934	504		-	-	-	-	-	-
			High	907.5	181500	899.31	179862	6		-	-	-	-	-	-
20	106	Downlink	Low	935	187000	925.46	185092	0	15	2318	185530	2	0	1 (2)	2
			Mid	942.5	188500	914.6	182920	102		2336	186970	6	0	0 (0)	102
			High	950	190000	849.74	169948	504		2357	188650	6	1	2 (4)	509
		Uplink	Low	890	178000	880.46	176092	0	-	-	-	-	-	-	-
			Mid	897.5	179500	797.24	159448	504		-	-	-	-	-	-
			High	905	181000	894.38	178876	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.1.8-2: Test frequencies for NR operating band n8 and SCS 30 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	930	186000	925.68	185136	0	15	2325	186030	10	0	2 (7)	14
			Mid	942.5	188500	901.46	180292	102		2354	188410	18	0	0 (5)	214
			High	955	191000	769.24	153848	504		2389	191090	6	0	3 (8)	1024
		Uplink	Low	885	177000	880.68	176136	0	-	-	-	-	-	-	-
			Mid	897.5	179500	711.74	142348	504		-	-	-	-	-	-
			High	910	182000	903.52	180704	6		-	-	-	-	-	-
15	38	Downlink	Low	932.5	186500	925.66	185132	0	15	2326	186050	18	0	2 (7)	14
			Mid	942.5	188500	898.94	179788	102		2348	187930	2	0	1 (6)	216
			High	952.5	190500	764.22	152844	504		2373	189870	6	0	0 (5)	1018
		Uplink	Low	887.5	177500	880.66	176132	0	-	-	-	-	-	-	-
			Mid	897.5	179500	709.22	141844	504		-	-	-	-	-	-
			High	907.5	181500	898.5	179700	6		-	-	-	-	-	-
20	51	Downlink	Low	935	187000	925.82	185164	0	15	2324	186010	18	0	1 (6)	12
			Mid	942.5	188500	896.6	179320	102		2342	187450	22	0	0 (5)	214
			High	950	190000	759.38	151876	504		2360	188890	2	0	0 (5)	1018
		Uplink	Low	890	178000	880.82	176164	0	-	-	-	-	-	-	-
			Mid	897.5	179500	706.88	141376	504		-	-	-	-	-	-
			High	905	181000	893.66	178732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

4.3.1.1.1.9 to 4.3.1.1.1.11 FFS

4.3.1.1.1.12 Reference test frequencies for NR operating band n12

Table 4.3.1.1.1.12-1: Test frequencies for NR operating band n12 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	731.5	146300	729.25	145850	0	15	1828	146210	0	0	0 (0)	0
			Mid	737.5	147500	716.89	143378	102		1843	147410	0	0	0 (0)	102
			High	743.5	148700	650.53	130106	504		1858	148610	0	0	0 (0)	504
		Uplink	Low	701.5	140300	699.25	139850	0	-	-	-	-	-	-	-
			Mid	707.5	141500	614.53	122906	504		-	-	-	-	-	-
			High	713.5	142700	710.17	142034	6		-	-	-	-	-	-
10	52	Downlink	Low	734	146800	729.32	145864	0	15	1829	146410	2	1	2 (4)	5
			Mid	737.5	147500	714.46	142892	102		1837	146930	2	0	0 (0)	102
			High	741	148200	645.6	129120	504		1845	147630	2	0	0 (0)	504
		Uplink	Low	704	140800	699.32	139864	0	-	-	-	-	-	-	-
			Mid	707.5	141500	612.1	122420	504		-	-	-	-	-	-
			High	711	142200	705.24	141048	6		-	-	-	-	-	-
15	79	Downlink	Low	736.5	147300	729.39	145878	0	15	1830	146430	4	1	2 (4)	5
			Mid	737.5	147500	712.03	142406	102		1831	146450	4	0	0 (0)	102
			High	738.5	147700	640.67	128134	504		1832	146650	4	0	0 (0)	504
		Uplink	Low	706.5	141300	699.39	139878	0	-	-	-	-	-	-	-
			Mid	707.5	141500	609.67	121934	504		-	-	-	-	-	-
			High	708.5	141700	700.31	140062	6		-	-	-	-	-	-
Note 1:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.														
Note 2:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.														

Table 4.3.1.1.12-2: Test frequencies for NR operating band n12 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	734	146800	729.68	145936	0	15	1835	146890	6	0	3 (8)	16
			Mid	737.5	147500	696.46	139292	102		1843	147410	18	0	0 (5)	214
			High	741	148200	555.24	111048	504		1851	148110	18	0	0 (5)	1018
		Uplink	Low	704	140800	699.68	139936	0	-	-	-	-	-	-	-
			Mid	707.5	141500	521.74	104348	504		-	-	-	-	-	-
			High	711	142200	704.52	140904	6		-	-	-	-	-	-
15	38	Downlink	Low	736.5	147300	729.66	145932	0	15	1833	146670	6	0	0 (5)	10
			Mid	737.5	147500	693.94	138788	102		1837	146930	2	0	1 (6)	216
			High	738.5	147700	550.22	110044	504		1838	147130	2	0	1 (6)	1020
		Uplink	Low	706.5	141300	699.66	139932	0	-	-	-	-	-	-	-
			Mid	707.5	141500	519.22	103844	504		-	-	-	-	-	-
			High	708.5	141700	699.5	139900	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

4.3.1.1.1.13 FFS

4.3.1.1.1.14 Reference test frequencies for NR operating band n14

Table 4.3.1.1.1.14-1: Test frequencies for NR operating band n14 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	760.5	152100	758.25	151650	0	15	1902	152190	0	1	2 (4)	5
			Mid	763	152600	742.39	148478	102		1909	152690	0	1	2 (4)	107
			High	765.5	153100	672.53	134506	504		1913	153130	4	1	1 (2)	507
		Uplink	Low	790.5	158100	788.25	157650	0	-	-	-	-	-	-	-
			Mid	793	158600	700.03	140006	504		-	-	-	-	-	-
			High	795.5	159100	792.17	158434	6		-	-	-	-	-	-
10	52	Downlink	Low	763	152600	758.32	151664	0	15	1903	152210	2	1	2 (4)	5
			Mid												
			High												
		Uplink	Low	793	158600	788.32	157664	0	-	-	-	-	-	-	-
			Mid												
			High												
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcchConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET0Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.14-2: Test frequencies for NR operating band n14 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	763	152600	758.68	151736	0	15	1909	152690	6	0	3 (8)	16
			Mid												
			High												
		Uplink	Low	793	158600	788.68	157736	0	-	-	-	-	-	-	
			Mid												
			High												
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled controlResourceSetZero (pdcchConfigSIB1 in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET0Carrier}}$ in Annex C expressed in number of common RBs.															

4.3.1.1.15 to 4.3.1.1.19 FFS

4.3.1.1.20 Reference test frequencies for NR operating band n20

Table 4.3.1.1.20-1: Test frequencies for NR operating band n20 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	793.5	158700	791.25	158250	0	15	1983	158670	8	1	0 (0)	1
			Mid	806	161200	785.39	157078	102		2015	161290	0	1	2 (4)	107
			High	818.5	163700	725.53	145106	504		2047	163730	4	1	1 (2)	507
		Uplink	Low	834.5	166900	832.25	166450	0	-	-	-	-	-	-	-
			Mid	847	169400	754.03	150806	504		-	-	-	-	-	-
			High	859.5	171900	856.17	171234	6		-	-	-	-	-	-
10	52	Downlink	Low	796	159200	791.32	158264	0	15	1984	158690	10	1	0 (0)	1
			Mid	806	161200	782.96	156592	102		2009	160810	2	1	2 (4)	107
			High	816	163200	720.6	144120	504		2034	162750	6	1	1 (2)	507
		Uplink	Low	837	167400	832.32	166464	0	-	-	-	-	-	-	-
			Mid	847	169400	751.6	150320	504		-	-	-	-	-	-
			High	857	171400	851.24	170248	6		-	-	-	-	-	-
15	79	Downlink	Low	798.5	159700	791.39	158278	0	15	1982	158650	4	0	0 (0)	0
			Mid	806	161200	780.53	156106	102		2003	160330	4	1	2 (4)	107
			High	813.5	162700	715.67	143134	504		2021	161770	8	1	1 (2)	507
		Uplink	Low	839.5	167900	832.39	166478	0	-	-	-	-	-	-	-
			Mid	847	169400	749.17	149834	504		-	-	-	-	-	-
			High	854.5	170900	846.31	169262	6		-	-	-	-	-	-
20	106	Downlink	Low	801	160200	791.46	158292	0	15	1983	158670	6	0	0 (0)	0
			Mid	806	161200	778.1	155620	102		1997	159850	6	1	2 (4)	107
			High	811	162200	710.74	142148	504		2011	160850	6	1	2 (4)	509
		Uplink	Low	842	168400	832.46	166492	0	-	-	-	-	-	-	-
			Mid	847	169400	746.74	149348	504		-	-	-	-	-	-
			High	852	170400	841.38	168276	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.20-2: Test frequencies for NR operating band n20 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	796	159200	791.68	158336	0	15	1990	159170	14	0	1 (6)	12
			Mid	806	161200	764.96	152992	102		2015	161290	6	0	3 (8)	220
			High	816	163200	630.24	126048	504		2040	163230	10	0	2 (7)	1022
		Uplink	Low	837	167400	832.68	166536	0	-	-	-	-	-	-	-
			Mid	847	169400	661.24	132248	504		-	-	-	-	-	-
			High	857	171400	850.52	170104	6		-	-	-	-	-	-
15	38	Downlink	Low	798.5	159700	791.66	158332	0	15	1988	159130	2	0	1 (6)	12
			Mid	806	161200	762.44	152488	102		2006	160570	6	0	0 (5)	214
			High	813.5	162700	625.22	125044	504		2027	162250	18	0	2 (7)	1022
		Uplink	Low	839.5	167900	832.66	166532	0	-	-	-	-	-	-	-
			Mid	847	169400	658.72	131744	504		-	-	-	-	-	-
			High	854.5	170900	845.5	169100	6		-	-	-	-	-	-
20	51	Downlink	Low	801	160200	791.82	158364	0	15	1989	159150	22	0	0 (5)	10
			Mid	806	161200	760.1	152020	102		2000	160090	2	0	0 (5)	214
			High	811	162200	620.38	124076	504		2014	161090	2	0	0 (5)	1018
		Uplink	Low	842	168400	832.82	166564	0	-	-	-	-	-	-	-
			Mid	847	169400	656.38	131276	504		-	-	-	-	-	-
			High	852	170400	840.66	168132	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled controlResourceSetZero (pdcch-ConfigSIB1 in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

4.3.1.1.1.21 to 4.3.1.1.1.24 FFS

4.3.1.1.1.25 Reference test frequencies for NR operating band n25

Table 4.3.1.1.1.25-1: Test frequencies for NR operating band n25 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency Point A [ARFCN]	offset To Carrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offset To Point A (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1932.5	386500	1930.25	386050	0	15	4829	386410	0	0	0 (0)	0
			Mid	1962.5	392500	1941.89	388378	102		4904	392410	0	0	0 (0)	102
			High	1992.5	398500	1899.53	379906	504		4979	398410	0	0	0 (0)	504
		Uplink	Low	1852.5	370500	1850.25	370050	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1789.53	357906	504		-	-	-	-	-	-
			High	1912.5	382500	1909.17	381834	6		-	-	-	-	-	-
10	52	Downlink	Low	1935	387000	1930.32	386064	0	15	4830	386430	2	0	0 (0)	0
			Mid	1962.5	392500	1939.46	387892	102		4898	391930	2	0	0 (0)	102
			High	1990	398000	1894.6	378920	504		4969	397490	10	1	0 (0)	505
		Uplink	Low	1855	371000	1850.32	370064	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1787.1	357420	504		-	-	-	-	-	-
			High	1910	382000	1904.24	380848	6		-	-	-	-	-	-
15	79	Downlink	Low	1937.5	387500	1930.39	386078	0	15	4831	386450	4	0	0 (0)	0
			Mid	1962.5	392500	1937.03	387406	102		4892	391450	4	0	0 (0)	102
			High	1987.5	397500	1889.67	377934	504		4956	396510	0	0	1 (2)	506
		Uplink	Low	1857.5	371500	1850.39	370078	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1784.67	356934	504		-	-	-	-	-	-
			High	1907.5	381500	1899.31	379862	6		-	-	-	-	-	-
20	106	Downlink	Low	1940	388000	1930.46	386092	0	15	4832	386650	6	1	2 (4)	5
			Mid	1962.5	392500	1934.6	386920	102		4886	390970	6	0	0 (0)	102
			High	1985	397000	1884.74	376948	504		4943	395530	2	0	1 (2)	506
		Uplink	Low	1860	372000	1850.46	370092	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1782.24	356448	504		-	-	-	-	-	-
			High	1905	381000	1894.38	378876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.25-2: Test frequencies for NR operating band n25 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1935	387000	1930.68	386136	0	15	4836	386910	18	0	0 (5)	10
			Mid	1962.5	392500	1921.46	384292	102		4904	392410	18	0	0 (5)	214
			High	1990	398000	1804.24	360848	504		4975	397970	14	0	1 (6)	1020
		Uplink	Low	1855	371000	1850.68	370136	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1696.74	339348	504		-	-	-	-	-	-
			High	1910	382000	1903.52	380704	6		-	-	-	-	-	-
15	38	Downlink	Low	1937.5	387500	1930.66	386132	0	15	4837	386930	2	0	1 (6)	12
			Mid	1962.5	392500	1918.94	383788	102		4898	391930	2	0	1 (6)	216
			High	1987.5	397500	1799.22	359844	504		4962	396990	22	0	1 (6)	1020
		Uplink	Low	1857.5	371500	1850.66	370132	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1694.22	338844	504		-	-	-	-	-	-
			High	1907.5	381500	1898.5	379700	6		-	-	-	-	-	-
20	51	Downlink	Low	1940	388000	1930.82	386164	0	15	4835	386890	2	0	0 (5)	10
			Mid	1962.5	392500	1916.6	383320	102		4892	391450	22	0	0 (5)	214
			High	1985	397000	1794.38	358876	504		4949	396010	18	0	1 (6)	1020
		Uplink	Low	1860	372000	1850.82	370164	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1691.88	338376	504		-	-	-	-	-	-
			High	1905	381000	1893.66	378732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.25-3: Test frequencies for NR operating band n25 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink	Low	1935	387000	1931.04	386208	0	15	-	386568
			Mid	1962.5	392500	1885.1	377020	102		-	392068
			High	1990	398000	1623.16	324632	504		-	397568
		Uplink	Low	1855	371000	1851.04	370208	0	-	-	-
			Mid	1882.5	376500	1515.66	303132	504		-	-
			High	1910	382000	1901.72	380344	6		-	-
15	18	Downlink	Low	1937.5	387500	1931.02	386204	0	15	-	386564
			Mid	1962.5	392500	1882.58	376516	102		-	391564
			High	1987.5	397500	1618.14	323628	504		-	396564
		Uplink	Low	1857.5	371500	1851.02	370204	0	-	-	-
			Mid	1882.5	376500	1513.14	302628	504		-	-
			High	1907.5	381500	1896.7	379340	6		-	-
20	24	Downlink	Low	1940	388000	1931.36	386272	0	15	-	386632
			Mid	1962.5	392500	1880.42	376084	102		-	391132
			High	1985	397000	1613.48	322696	504		-	395632
		Uplink	Low	1860	372000	1851.36	370272	0	-	-	-
			Mid	1882.5	376500	1510.98	302196	504		-	-
			High	1905	381000	1892.04	378408	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.26

Reference test frequencies for NR operating band n26

Table 4.3.1.1.1.26-1: Test frequencies for NR operating band n26 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	861.5	172300	859.25	171850	0	15	2153	172330	4	1	1 (2)	3
			Mid	876.5	175300	855.89	171178	102		2189	175210	0	0	0 (0)	102
			High	891.5	178300	798.53	159706	504		2228	178330	4	1	1 (2)	507
		Uplink	Low	816.5	163300	814.25	162850	0	-	-	-	-	-	-	-
			Mid	831.5	166300	738.53	147706	504		-	-	-	-	-	-
			High	846.5	169300	843.17	168634	6		-	-	-	-	-	-
		Downlink	Low	864	172800	859.32	171864	0	15	2154	172350	6	1	1 (2)	3
			Mid	876.5	175300	853.46	170692	102		2183	174730	2	0	0 (0)	102
			High	889	177800	793.6	158720	504		2218	177410	2	1	2 (4)	509
10	52	Uplink	Low	819	163800	814.32	162864	0	-	-	-	-	-	-	-
			Mid	831.5	166300	736.1	147220	504		-	-	-	-	-	-
			High	844	168800	838.24	167648	6		-	-	-	-	-	-
		Downlink	Low	866.5	173300	859.39	171878	0	15	2155	172370	8	1	1 (2)	3
			Mid	876.5	175300	851.03	170206	102		2177	174250	4	0	0 (0)	102
			High	886.5	177300	788.67	157734	504		2205	176430	4	1	2 (4)	509
		Uplink	Low	821.5	164300	814.39	162878	0	-	-	-	-	-	-	-
			Mid	831.5	166300	733.67	146734	504		-	-	-	-	-	-
			High	841.5	168300	833.31	166662	6		-	-	-	-	-	-
15	79	Downlink	Low	869	173800	859.46	171892	0	15	2153	172330	2	0	1 (2)	2
			Mid	876.5	175300	848.6	169720	102		2171	173770	6	0	0 (0)	102
			High	884	176800	783.74	156748	504		2192	175450	6	1	2 (4)	509
		Uplink	Low	824	164800	814.46	162892	0	-	-	-	-	-	-	-
			Mid	831.5	166300	731.24	146248	504		-	-	-	-	-	-
			High	839	167800	828.38	165676	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.26-2: Test frequencies for NR operating band n26 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	864	172800	859.68	171936	0	15	2160	172830	10	0	2 (7)	14
			Mid	876.5	175300	835.46	167092	102		2189	175210	18	0	0 (5)	214
			High	889	177800	703.24	140648	504		2224	177890	6	0	3 (8)	1024
		Uplink	Low	819	163800	814.68	162936	0	-	-	-	-	-	-	-
			Mid	831.5	166300	645.74	129148	504		-	-	-	-	-	-
			High	844	168800	837.52	167504	6		-	-	-	-	-	-
15	38	Downlink	Low	866.5	173300	859.66	171932	0	15	2161	172850	18	0	2 (7)	14
			Mid	876.5	175300	832.94	166588	102		2183	174730	2	0	1 (6)	216
			High	886.5	177300	698.22	139644	504		2208	176670	6	0	0 (5)	1018
		Uplink	Low	821.5	164300	814.66	162932	0	-	-	-	-	-	-	-
			Mid	831.5	166300	643.22	128644	504		-	-	-	-	-	-
			High	841.5	168300	832.5	166500	6		-	-	-	-	-	-
20	51	Downlink	Low	869	173800	859.82	171964	0	15	2159	172810	18	0	1 (6)	12
			Mid	876.5	175300	830.6	166120	102		2177	174250	22	0	0 (5)	214
			High	884	176800	693.38	138676	504		2195	175690	2	0	0 (5)	1018
		Uplink	Low	824	164800	814.82	162964	0	-	-	-	-	-	-	-
			Mid	831.5	166300	640.88	128176	504		-	-	-	-	-	-
			High	839	167800	827.66	165532	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

4.3.1.1.1.27 FFS

4.3.1.1.1.28 Reference test frequencies for NR operating band n28

Table 4.3.1.1.1.28-1: Test frequencies for NR operating band n28 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0	CORESET#0 Index (Offset	offsetToPointA (SIB1) [PRBs]

													[RBs] Note 3	[RBs]) Note 1	Note 1
5	25	Downlink	Low	760.5	152100	758.25	151650	0	15	1902	152190	0	1	2 (4)	5
			Mid	780.5	156100	759.89	151978	102		1949	156010	0	0	0 (0)	102
			High	800.5	160100	707.53	141506	504		2002	160130	4	1	1 (2)	507
		Uplink	Low	705.5	141100	703.25	140650	0	-	-	-	-	-	-	-
			Mid	725.5	145100	632.53	126506	504		-	-	-	-	-	-
			High	745.5	149100	742.17	148434	6		-	-	-	-	-	-
10	52	Downlink	Low	763	152600	758.32	151664	0	15	1903	152210	2	1	2 (4)	5
			Mid	780.5	156100	757.46	151492	102		1943	155530	2	0	0 (0)	102
			High	798	159600	702.6	140520	504		1989	159150	6	1	1 (2)	507
		Uplink	Low	708	141600	703.32	140664	0	-	-	-	-	-	-	-
			Mid	725.5	145100	630.1	126020	504		-	-	-	-	-	-
			High	743	148600	737.24	147448	6		-	-	-	-	-	-
15	79	Downlink	Low	765.5	153100	758.39	151678	0	15	1901	152170	8	1	1 (2)	3
			Mid	780.5	156100	755.03	151006	102		1937	155050	4	0	0 (0)	102
			High	795.5	159100	697.67	139534	504		1976	158170	8	1	1 (2)	507
		Uplink	Low	710.5	142100	703.39	140678	0	-	-	-	-	-	-	-
			Mid	725.5	145100	627.67	125534	504		-	-	-	-	-	-
			High	740.5	148100	732.31	146462	6		-	-	-	-	-	-
20 (Note 2)	106	Downlink	Low	768	153600	758.46	151692	0	15	1902	152190	10	1	1 (2)	3
			Mid	783	156600	755.1	151020	102		1938	155070	6	0	0 (0)	102
			High	793	158600	692.74	138548	504		1966	157250	6	1	2 (4)	509
		Uplink	Low	713	142600	703.46	140692	0	-	-	-	-	-	-	-
			Mid	728	145600	627.74	125548	504		-	-	-	-	-	-
			High	738	147600	727.38	145476	6		-	-	-	-	-	-
30 (Note 4)	160	Downlink	Low	773	154600	758.6	151720	0	15	1901	152170	6	0	1 (2)	2
			High	788	157600	682.88	136576	504		1940	155290	10	1	2 (4)	509
		Uplink	Low	718	143600	703.6	140720	0	-	-	-	-	-	-	-
			High	733	146600	717.52	143504	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: Carrier centre frequency moved for Mid Range and CBW=20 MHz due to Note 7 in TS 38.101-1 [7], Table 5.3.5-1.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: No carrier centre frequency specified for Mid Range and CBW=30 MHz due to Note 7 in TS 38.101-1 [7], Table 5.3.5-1.

Table 4.3.1.1.28-2: Test frequencies for NR operating band n28 and SCS 30 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range	Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	763	152600	758.68	151736	15	1909	152690	6	0	3 (8)	16
			Mid	780.5	156100	739.46	147892		1949	156010	18	0	0 (5)	214
			High	798	159600	612.24	122448		1995	159630	10	0	2 (7)	1022
		Uplink	Low	708	141600	703.68	140736	-	-	-	-	-	-	-
			Mid	725.5	145100	539.74	107948		-	-	-	-	-	-
			High	743	148600	736.52	147304		-	-	-	-	-	-
15	38	Downlink	Low	765.5	153100	758.66	151732	15	1907	152650	18	0	2 (7)	14
			Mid	780.5	156100	736.94	147388		1943	155530	2	0	1 (6)	216
			High	795.5	159100	607.22	121444		1982	158650	18	0	2 (7)	1022
		Uplink	Low	710.5	142100	703.66	140732	-	-	-	-	-	-	-
			Mid	725.5	145100	537.22	107444		-	-	-	-	-	-
			High	740.5	148100	731.5	146300		-	-	-	-	-	-
20 (Note 2)	51	Downlink	Low	768	153600	758.82	151764	15	1908	152670	14	0	2 (7)	14
			Mid	783	156600	737.1	147420		1944	155550	22	0	0 (5)	214
			High	793	158600	602.38	120476		1969	157490	2	0	0 (5)	1018
		Uplink	Low	713	142600	703.82	140764	-	-	-	-	-	-	-
			Mid	728	145600	537.38	107476		-	-	-	-	-	-
			High	738	147600	726.66	145332		-	-	-	-	-	-
30 (Note 4)	78	Downlink	Low	773	154600	758.96	151792	15	1907	152650	22	0	1 (6)	12
			High	788	157600	592.52	118504		1943	155530	6	0	0 (5)	1018
		Uplink	Low	718	143600	703.96	140792	-	-	-	-	-	-	-
			High	733	146600	716.8	143360		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: Carrier centre frequency moved for Mid Range and CBW=20 MHz due to Note 7 in TS 38.101-1 [7], Table 5.3.5-1.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: No carrier centre frequency specified for Mid Range and CBW=30 MHz due to Note 7 in TS 38.101-1 [7], Table 5.3.5-1.

Table 4.3.1.1.1.29-1: Test frequencies for NR operating band n29 and SCS 15 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]
5	25	Downlink	Low	719.5	143900	717.25	143450	0	15	-	143810
			Mid	722.5	144500	701.89	140378	102		-	144410
			High	725.5	145100	632.53	126506	504		-	145010
10	52	Downlink	Low	722	144400	717.32	143464	0	15	-	143824
			Mid	722.5	144500	699.46	139892	102		-	143924
			High	723	144600	627.6	125520	504		-	144024
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

Table 4.3.1.1.1.29-2: Test frequencies for NR operating band n29 and SCS 30 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	24	Downlink	Low	722	144400	717.68	143536	0	15	-	143896
			Mid	722.5	144500	681.46	136292	102		-	143996
			High	723	144600	537.24	107448	504		-	144096
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.30

Reference test frequencies for NR operating band n30

Table 4.3.1.1.1.30-1: Test frequencies for NR operating band n30 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	2352.5	470500	2350.25	470050	0	15	5879	470410	0	0	0 (0)	0
			Mid	2355	471000	2334.39	466878	102		5886	470910	0	0	0 (0)	102
			High	2357.5	471500	2264.53	452906	504		5893	471410	0	0	0 (0)	504
		Uplink	Low	2307.5	461500	2305.25	461050	0	-	-	-	-	-	-	-
			Mid	2310	462000	2217.03	443406	504		-	-	-	-	-	-
			High	2312.5	462500	2309.17	461834	6		-	-	-	-	-	-
10	52	Downlink	Low	2355	471000	2350.32	470064	0	15	5880	470430	2	0	0 (0)	0
			Mid	2355	471000	2331.96	466392	102		5880	470430	2	0	0 (0)	102
			High	2355	471000	2259.6	451920	504		5880	470430	2	0	0 (0)	504
		Uplink	Low	2310	462000	2305.32	461064	0	-	-	-	-	-	-	-
			Mid	2310	462000	2214.6	442920	504		-	-	-	-	-	-
			High	2310	462000	2304.24	460848	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.1.30-2: Test frequencies for NR operating band n30 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	2355	471000	2350.68	470136	0	15	5886	470910	18	0	0 (5)	10
			Mid	2355	471000	2313.96	462792	102		5886	470910	18	0	0 (5)	214
			High	2355	471000	2169.24	433848	504		5886	470910	18	0	0 (5)	1018
		Uplink	Low	2310	462000	2305.68	461136	0	-	-	-	-	-	-	-
			Mid	2310	462000	2124.24	424848	504		-	-	-	-	-	-
			High	2310	462000	2303.52	460704	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

4.3.1.1.1.31 to 4.3.1.1.1.33 FFS

4.3.1.1.1.34 Reference test frequencies for NR operating band n34

Table 4.3.1.1.1.34-1: Test frequencies for NR operating band n34 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	2012.5	402500	2010.25	402050	0	15	5032	402530	4	1	1 (2)	3
			Mid	2017.5	403500	1996.89	399378	102		5043	403470	8	1	0 (0)	103
			High	2022.5	404500	1929.53	385906	504		5054	404410	0	0	0 (0)	504
10	52	Downlink & Uplink	Low	2015	403000	2010.32	402064	0	30	5036	402970	2	3	0 (2)	5
			Mid	2017.5	403500	1994.46	398892	102		5043	403470	2	3	0 (2)	107
			High	2020	404000	1924.6	384920	504		5050	403970	2	3	0 (2)	509
15	79	Downlink & Uplink	Low	2017.5	403500	2010.39	402078	0	30	5037	402990	4	3	0 (2)	5
			Mid	-	-	-	-	-		-	-	-	-	-	-
			High	-	-	-	-	-		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.34-2: Test frequencies for NR operating band n34 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2015	403000	2010.68	402136	0	30	5036	402970	14	0	1 (1)	2
			Mid	2017.5	403500	1976.46	395292	102		5043	403470	14	0	1 (1)	206
			High	2020	404000	1834.24	366848	504		5050	403970	14	0	1 (1)	1010
15	38	Downlink & Uplink	Low	2017.5	403500	2010.66	402132	0	30	5037	402990	22	0	1 (1)	12
			-	-	-	-	-	-		-	-	-	-	-	-
			-	-	-	-	-	-		-	-	-	-	-	-
Note 1:		The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.													
Note 2:		The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.													

Table 4.3.1.1.1.34-3: Test frequencies for NR operating band n34 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink & Uplink	Low	2015	403000	2011.04	402208	0	15	-	402568
			Mid	2017.5	403500	1940.1	388020	102		-	403068
			High	2020	404000	1653.16	330632	504		-	403568
15	18	Downlink & Uplink	Low	2017.5	403500	2011.02	402204	0	15	-	402564
			Mid								
			High								
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.35 to 4.3.1.1.1.37 FFS

4.3.1.1.1.38 Reference test frequencies for NR operating band n38

Table 4.3.1.1.1.38-1: Test frequencies for NR operating band n38 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	2572.5	514500	2570.25	514050	0	15	6432	514590	0	1	2 (4)	5
			Mid	2592.5	518500	2571.89	514378	102		6479	518410	0	0	0 (0)	102
			High	2617.5	523500	2524.53	504906	504		6543	523470	8	1	0 (0)	505
10	52	Downlink & Uplink	Low	2575	515000	2570.32	514064	0	30	6439	515090	6	2	1 (6)	8
			Mid	2595	519000	2571.96	514392	102		6486	518910	6	1	0 (2)	105
			High	2615	523000	2519.6	503920	504		6536	522970	2	3	0 (2)	509
15	79	Downlink & Uplink	Low	2577.5	515500	2570.39	514078	0	30	6437	515050	0	1	1 (6)	7
			Mid	2595	519000	2569.53	513906	102		6480	518430	8	1	0 (2)	105
			High	2612.5	522500	2514.67	502934	504		6526	522050	0	1	1 (6)	511
20	106	Downlink & Uplink	Low	2580	516000	2570.46	514092	0	30	6438	515070	2	1	1 (6)	7
			Mid	2595	519000	2567.1	513420	102		6474	517950	10	1	0 (2)	105
			High	2610	522000	2509.74	501948	504		6513	521070	2	1	1 (6)	511
40	216	Downlink & Uplink	Low	2590	518000	2570.56	514112	0	30	6439	515090	2	1	1 (6)	7
			Mid	2595	519000	2557.2	511440	102		6450	516030	6	3	0 (2)	107
			High	2600	520000	2489.84	497968	504		6461	516970	10	1	0 (2)	507
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 for SSB_SCS = 15kHz and Table 13-3 for SSB_SCS=30kHz in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta f_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.1.38-2: Test frequencies for NR operating band n38 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2575	515000	2570.68	514136	0	30	6439	515090	6	0	3 (3)	6
			Mid	2595	519000	2553.96	510792	102		6486	518910	18	0	0 (0)	204
			High	2615	523000	2429.24	485848	504		6536	522970	14	0	1 (1)	1010
15	38	Downlink & Uplink	Low	2577.5	515500	2570.66	514132	0	30	6437	515050	18	0	2 (2)	4
			Mid	2595	519000	2551.44	510288	102		6480	518430	2	0	1 (1)	206
			High	2612.5	522500	2424.22	484844	504		6526	522050	18	0	2 (2)	1012
20	51	Downlink & Uplink	Low	2580	516000	2570.82	514164	0	30	6438	515070	14	0	2 (2)	4
			Mid	2595	519000	2549.1	509820	102		6474	517950	22	0	0 (0)	204
			High	2610	522000	2419.38	483876	504		6513	521070	14	0	2 (2)	1012
40	106	Downlink & Uplink	Low	2590	518000	2570.92	514184	0	30	6439	515090	14	0	2 (2)	4
			Mid	2595	519000	2539.2	507840	102		6450	516030	18	0	1 (1)	206
			High	2600	520000	2399.48	479896	504		6461	516970	22	0	0 (0)	1008
Note 1:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.														
Note 2:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.														

Table 4.3.1.1.1.38-3: Test frequencies for NR operating band n38 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySB [ARFCN]
10	11	Downlink & Uplink	Low	2575	515000	2571.04	514208	0	30	-	514928
			Mid	2595	519000	2517.6	503520	102		-	518928
			High	2615	523000	2248.16	449632	504		-	522928
15	18	Downlink & Uplink	Low	2577.5	515500	2571.02	514204	0	30	-	514924
			Mid	2595	519000	2515.08	503016	102		-	518424
			High	2612.5	522500	2243.14	448628	504		-	521924
20	24	Downlink & Uplink	Low	2580	516000	2571.36	514272	0	30	-	514992
			Mid	2595	519000	2512.92	502584	102		-	517992
			High	2610	522000	2238.48	447696	504		-	520992
40	51	Downlink & Uplink	Low	2590	518000	2571.64	514328	0	15	-	514688
			Mid	2595	519000	2503.2	500640	102		-	515688
			High	2600	520000	2218.76	443752	504		-	516688
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.39

Reference test frequencies for NR operating band n39

Table 4.3.1.1.1.39-1: Test frequencies for NR operating band n39 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	1882.5	376500	1880.25	376050	0	15	4707	376590	0	1	2 (4)	5
			Mid	1898.8	379760	1878.19	375638	102		4747379730		8	1	0 (0)	103
		High	1917.5	383500	1824.53	364906	504	4793		383530	4	1	1 (2)	507	
10	52	Downlink & Uplink	Low	1885	377000	1880.32	376064	0	30	4714	377090	6	2	1 (6)	8
			Mid	1900	380000	1876.96	375392	102		4750	379970	2	3	0 (2)	107
			High	1915	383000	1819.6	363920	504		4789	383090	6	2	1 (6)	512
15	79	Downlink & Uplink	Low	1887.5	377500	1880.39	376078	0	30	4712	377050	0	1	1 (6)	7
			Mid	1900	380000	1874.53	374906	102		4744	379490	4	3	0 (2)	107
			High	1912.5	382500	1814.67	362934	504		4773	381870	0	0	0 (2)	506
20	106	Downlink & Uplink	Low	1890	378000	1880.46	376092	0	30	4713	377070	2	1	1 (6)	7
			Mid	1900	380000	1872.1	374420	102		4738	379010	6	3	0 (2)	107
			High	1910	382000	1809.74	361948	504		4760	380890	2	0	0 (2)	506
25	133	Downlink & Uplink	Low	1892.5	378500	1880.53	376106	0	30	4714	377090	4	1	1 (6)	7
			Mid	1900	380000	1869.67	373934	102		4732	378530	8	3	0 (2)	107
			High	1907.5	381500	1804.81	360962	504		4750	379970	0	2	0 (2)	508
30	160	Downlink & Uplink	Low	1895	379000	1880.6	376120	0	30	4712	377050	10	3	0 (2)	5
			Mid	1900	380000	1867.24	373448	102		4726	378050	10	3	0 (2)	107
			High	1905	381000	1799.88	359976	504		4737	378990	2	2	0 (2)	508
40	216	Downlink & Uplink	Low	1900	380000	1880.56	376112	0	30	4714	377090	2	1	1 (6)	7
			Mid	1900	380000	1862.2	372440	102		4714	377090	2	1	1 (6)	109
			High	1900	380000	1789.84	357968	504		4714	377090	2	1	1 (6)	511
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 for SSB_SCS = 15kHz and Table 13-3 for SSB_SCS=30kHz in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.1.39-2: Test frequencies for NR operating band n39 and SCS 30 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	1885	377000	1880.68	376136	0	30	4714	377090	6	0	3 (3)	6
			Mid	1900	380000	1858.96	371792	102		4750	379970	14	0	1 (1)	206
			High	1915	383000	1729.24	345848	504		4789	383090	6	0	3 (3)	1014
15	38	Downlink & Uplink	Low	1887.5	377500	1880.66	376132	0	30	4712	377050	18	0	2 (2)	4
			Mid	1900	380000	1856.44	371288	102		4744	379490	22	0	1 (1)	206
			High	1912.5	382500	1724.22	344844	504		4773	381870	6	0	0 (0)	1008
20	51	Downlink & Uplink	Low	1890	378000	1880.82	376164	0	30	4713	377070	14	0	2 (2)	4
			Mid	1900	380000	1854.1	370820	102		4738	379010	18	0	1 (1)	206
			High	1910	382000	1719.38	343876	504		4760	380890	2	0	0 (0)	1008
25	65	Downlink & Uplink	Low	1892.5	378500	1880.8	376160	0	30	4714	377090	22	0	2 (2)	4
			Mid	1900	380000	1851.58	370316	102		4732	378530	2	0	2 (2)	208
			High	1907.5	381500	1714.36	342872	504		4750	379970	6	0	1 (1)	1010
30	78	Downlink & Uplink	Low	1895	379000	1880.96	376192	0	30	4712	377050	22	0	1 (1)	2
			Mid	1900	380000	1849.24	369848	102		4726	378050	22	0	1 (1)	206
			High	1905	381000	1709.52	341904	504		4737	378990	2	0	1 (1)	1010
40	106	Downlink & Uplink	Low	1900	380000	1880.92	376184	0	30	4714	377090	14	0	2 (2)	4
			Mid	1900	380000	1844.2	368840	102		4714	377090	14	0	2 (2)	208
			High	1900	380000	1699.48	339896	504		4714	377090	14	0	2 (2)	1012

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.39-3: Test frequencies for NR operating band n39 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink & Uplink	Low	1885	377000	1881.04	376208	0	30	-	376928
			Mid	1900	380000	1822.6	364520	102		-	379928
			High	1915	383000	1548.16	309632	504		-	382928
15	18	Downlink & Uplink	Low	1887.5	377500	1881.02	376204	0	30	-	376924
			Mid	1900	380000	1820.08	364016	102		-	379424
			High	1912.5	382500	1543.14	308628	504		-	381924
20	24	Downlink & Uplink	Low	1890	378000	1881.36	376272	0	30	-	376992
			Mid	1900	380000	1817.92	363584	102		-	378992
			High	1910	382000	1538.48	307696	504		-	380992
25	31	Downlink & Uplink	Low	1892.5	378500	1881.34	376268	0	30	-	376988
			Mid	1900	380000	1815.4	363080	102		-	378488
			High	1907.5	381500	1533.46	306692	504		-	379988
30	38	Downlink & Uplink	Low	1895	379000	1881.32	376264	0	30	-	376984
			Mid	1900	380000	1812.88	362576	102		-	377984
			High	1905	381000	1528.44	305688	504		-	378984
40	51	Downlink & Uplink	Low	1900	380000	1881.64	376328	0	30	-	377048
			Mid	-	-	-	-	-		-	-
			High	-	-	-	-	-		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.40

Reference test frequencies for NR operating band n40

Table 4.3.1.1.1.40-1: Test frequencies for NR operating band n40 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	2302.5	460500	2300.25	460050	0	(Note 3)	-	460770	-	-	-	-
			Mid	2350	470000	2329.39	465878	102		-	470270	-	-	-	-
			High	2397.5	479500	2304.53	460906	504		-	479770	-	-	-	-
10	52	Downlink & Uplink	Low	2305	461000	2300.32	460064	0	30	5764	461090	6	2	1 (6)	8
			Mid	2350	470000	2326.96	465392	102		5875	469970	2	3	0 (2)	107
			High	2395	479000	2299.6	459920	504		5989	479090	6	2	1 (6)	512
15	79	Downlink & Uplink	Low	2307.5	461500	2300.39	460078	0	30	5762	461050	0	1	1 (6)	7
			Mid	2350	470000	2324.53	464906	102		5869	469490	4	3	0 (2)	107
			High	2392.5	478500	2294.67	458934	504		5973	477870	0	0	0 (2)	506
20	106	Downlink & Uplink	Low	2310	462000	2300.46	460092	0	30	5763	461070	2	1	1 (6)	7
			Mid	2350	470000	2322.1	464420	102		5863	469010	6	3	0 (2)	107
			High	2390	478000	2289.74	457948	504		5960	476890	2	0	0 (2)	506
25	133	Downlink & Uplink	Low	2312.5	462500	2300.53	460106	0	30	5764	461090	4	1	1 (6)	7
			Mid	2350	470000	2319.67	463934	102		5857	468530	8	3	0 (2)	107
			High	2387.5	477500	2284.81	456962	504		5950	475970	0	2	0 (2)	508
30	160	Downlink & Uplink	Low	2315	463000	2300.6	460120	0	30	5762	461050	10	3	0 (2)	5
			Mid	2350	470000	2317.24	463448	102		5851	468050	10	3	0 (2)	107
			High	2385	477000	2279.88	455976	504		5937	474990	2	2	0 (2)	508
40	216	Downlink & Uplink	Low	2320	464000	2300.56	460112	0	30	5764	461090	2	1	1 (6)	7
			Mid	2350	470000	2312.2	462440	102		5839	467090	2	1	1 (6)	109
			High	2380	476000	2269.84	453968	504		5914	473090	2	1	1 (6)	511
50	270	Downlink & Uplink	Low	2325	465000	2300.7	460140	0	30	5763	461070	10	3	0 (2)	5
			Mid	2350	470000	2307.34	461468	102		5827	466130	6	1	1 (6)	109
			High	2375	475000	2259.98	451996	504		5888	471130	6	1	1 (6)	511

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 3: No SS/PBCH block fits within the channel bandwidth. The channel bandwidth can only be used as SCell

Table 4.3.1.1.40-2: Test frequencies for NR operating band n40 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2305	461000	2300.68	460136	0	30	5764	461090	6	0	3 (3)	6
			Mid	2350	470000	2308.96	461792	102		5875	469970	14	0	1 (1)	206
			High	2395	479000	2209.24	441848	504		5989	479090	6	0	3 (3)	1014
15	38	Downlink & Uplink	Low	2307.5	461500	2300.66	460132	0	30	5762	461050	18	0	2 (2)	4
			Mid	2350	470000	2306.44	461288	102		5869	469490	22	0	1 (1)	206
			High	2392.5	478500	2204.22	440844	504		5973	477870	6	0	0 (0)	1008
20	51	Downlink & Uplink	Low	2310	462000	2300.82	460164	0	30	5763	461070	14	0	2 (2)	4
			Mid	2350	470000	2304.1	460820	102		5863	469010	18	0	1 (1)	206
			High	2390	478000	2199.38	439876	504		5960	476890	2	0	0 (0)	1008
25	65	Downlink & Uplink	Low	2312.5	462500	2300.8	460160	0	30	5764	461090	22	0	2 (2)	4
			Mid	2350	470000	2301.58	460316	102		5857	468530	2	0	2 (2)	208
			High	2387.5	477500	2194.36	438872	504		5950	475970	6	0	1 (1)	1010
30	78	Downlink & Uplink	Low	2315	463000	2300.96	460192	0	30	5762	461050	22	0	1 (1)	2
			Mid	2350	470000	2299.24	459848	102		5851	468050	22	0	1 (1)	206
			High	2385	477000	2189.52	437904	504		5937	474990	2	0	1 (1)	1010
40	106	Downlink & Uplink	Low	2320	464000	2300.92	460184	0	30	5764	461090	14	0	2 (2)	4
			Mid	2350	470000	2294.2	458840	102		5839	467090	14	0	2 (2)	208
			High	2380	476000	2179.48	435896	504		5914	473090	14	0	2 (2)	1012
50	133	Downlink & Uplink	Low	2325	465000	2301.06	460212	0	30	5763	461070	22	0	1 (1)	2
			Mid	2350	470000	2289.34	457868	102		5827	466130	18	0	2 (2)	208
			High	2375	475000	2169.62	433924	504		5888	471130	18	0	2 (2)	1012
60	162	Downlink & Uplink	Low	2330	466000	2300.84	460168	0	30	5762	461050	6	0	2 (2)	4
			Mid	2350	470000	2284.12	456824	102		5812	464930	14	0	0 (0)	204
			High	2370	474000	2159.4	431880	504		5862	468990	10	0	1 (1)	1010
80	217	Downlink & Uplink	Low	2340	468000	2300.94	460188	0	30	5763	461070	6	0	2 (2)	4
			Mid	2350	470000	2274.22	454844	102		5788	463010	10	0	1 (1)	206
			High	2360	472000	2139.5	427900	504		5813	465130	2	0	3 (3)	1014

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta f_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.40-3: Test frequencies for NR operating band n40 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink & Uplink	Low	2305	461000	2301.04	460208	0	30	-	460928
			Mid	2350	470000	2272.6	454520	102		-	469928
			High	2395	479000	2028.16	405632	504		-	478928
15	18	Downlink & Uplink	Low	2307.5	461500	2301.02	460204	0	30	-	460924
			Mid	2350	470000	2270.08	454016	102		-	469424
			High	2392.5	478500	2023.14	404628	504		-	477924
20	24	Downlink & Uplink	Low	2310	462000	2301.36	460272	0	30	-	460992
			Mid	2350	470000	2267.92	453584	102		-	468992
			High	2390	478000	2018.48	403696	504		-	476992
25	31	Downlink & Uplink	Low	2312.5	462500	2301.34	460268	0	30	-	460988
			Mid	2350	470000	2265.4	453080	102		-	468488
			High	2387.5	477500	2013.46	402692	504		-	475988
30	38	Downlink & Uplink	Low	2315	463000	2301.32	460264	0	30	-	460984
			Mid	2350	470000	2262.88	452576	102		-	467984
			High	2385	477000	2008.44	401688	504		-	474984
40	51	Downlink & Uplink	Low	2320	464000	2301.64	460328	0	30	-	461048
			Mid	2350	470000	2258.2	451640	102		-	467048
			High	2380	476000	1998.76	399752	504		-	473048
50	65	Downlink & Uplink	Low	2325	465000	2301.6	460320	0	30	-	461040
			Mid	2350	470000	2253.16	450632	102		-	466040
			High	2375	475000	1988.72	397744	504		-	471040
60	79	Downlink & Uplink	Low	2330	466000	2301.56	460312	0	30	-	461032
			Mid	2350	470000	2248.12	449624	102		-	465032
			High	2370	474000	1978.68	395736	504		-	469032
80	107	Downlink & Uplink	Low	2340	468000	2301.48	460296	0	30	-	461016
			Mid	2350	470000	2238.04	447608	102		-	463016
			High	2360	472000	1958.6	391720	504		-	465016
Note: FR1 carrier without CORSESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

Table 4.3.1.1.1.41-1: Test frequencies for NR operating band n41, SCS 15 kHz and ΔF_{Raster} 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	52	Downlink & Uplink	Low	2501.01	500202	2496.33	499266	0	15	6246	499710	4	0	1 (2)	2
			Mid	2593.005	518601	2569.965	513993	102		6477	518190	7	0	2 (4)	106
			High	2685	537000	2589.6	517920	504		6705	536430	2	0	0 (0)	504
15	79	Downlink & Uplink	Low	2503.5	500700	2496.39	499278	0	15	6246	499710	0	0	1 (2)	2
			Mid	2593.005	518601	2567.535	513507	102		6471	517710	9	0	2 (4)	106
			High	2682.495	536499	2584.665	516933	504		6693	535470	11	0	0 (0)	504
20	106	Downlink & Uplink	Low	2506.005	501201	2496.465	499293	0	15	6246	499710	7	1	0 (0)	1
			Mid	2593.005	518601	2565.105	513021	102		6465	517230	11	0	2 (4)	106
			High	2679.99	535998	2579.73	515946	504		6681	534510	8	1	0 (0)	505
30	160	Downlink	Low	2511	502200	2496.6	499320	0	15	6246	499710	10	0	0 (0)	0
		&	Mid	2593.005	518601	2560.245	512049	102		6453	516270	3	1	2 (4)	107
		Uplink	High	2674.995	534999	2569.875	513975	504		6657	532590	1	1	1 (2)	507
40	216	Downlink & Uplink	Low	2516.01	503202	2496.57	499314	0	15	6246	499710	0	1	0 (0)	1
			Mid	2593.005	518601	2555.205	511041	102		6441	515310	7	2	2 (4)	108
			High	2670	534000	2559.84	511968	504		6633	530670	6	1	2 (4)	509
50	270	Downlink & Uplink	Low	2521.005	504201	2496.705	499341	0	15	6246	499710	3	0	0 (0)	0
			Mid	2593.005	518601	2550.345	510069	102		6426	514110	3	0	0 (0)	102
			High	2664.99	532998	2549.97	509994	504		6606	528510	4	0	0 (0)	504
Note 1:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.														
Note 2:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.														

Table 4.3.1.1.41-2: Test frequencies for NR operating band n41, SCS 30 kHz and ΔF_{Raster} 30 kHz

CBW [MHz]	carrier bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2501.01	500202	2496.69	499338	0	30	6252	500190	20	0	1 (1)	2
			Mid	2592.99	518598	2551.95	510390	102		6483	518670	0	0	3 (3)	210
			High	2685	537000	2499.24	499848	504		6711	536910	18	0	0 (0)	1008
15	38	Downlink & Uplink	Low	2503.5	500700	2496.66	499332	0	30	6252	500190	22	0	1 (1)	2
			Mid	2592.99	518598	2549.43	509886	102		6474	517950	0	0	0 (0)	204
			High	2682.48	536496	2494.2	498840	504		6699	535950	10	0	1 (1)	1010
20	51	Downlink & Uplink	Low	2506.02	501204	2496.84	499368	0	30	6252	500190	10	0	1 (1)	2
			Mid	2592.99	518598	2547.09	509418	102		6471	517710	4	0	3 (3)	210
			High	2679.99	535998	2489.37	497874	504		6687	534990	12	0	1 (1)	1010
30	78	Downlink & Uplink	Low	2511	502200	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2
			Mid	2592.99	518598	2542.23	508446	102		6456	516510	0	0	0 (0)	204
			High	2674.98	534996	2479.5	495900	504		6663	533070	6	0	2 (2)	1012
40	106	Downlink & Uplink	Low	2516.01	503202	2496.93	499386	0	30	6252	500190	4	0	1 (1)	2
			Mid	2592.99	518598	2537.19	507438	102		6444	515550	16	0	0 (0)	204
			High	2670	534000	2469.48	493896	504		6636	530910	2	0	0 (0)	1008
50	133	Downlink & Uplink	Low	2521.02	504204	2497.08	499416	0	30	6252	500190	18	0	0 (0)	0
			Mid	2592.99	518598	2532.33	506466	102		6432	514590	20	0	0 (0)	204
			High	2664.99	532998	2459.61	491922	504		6612	528990	20	0	0 (0)	1008
60	162	Downlink & Uplink	Low	2526	505200	2496.84	499368	0	30	6252	500190	10	0	1 (1)	2
			Mid	2592.99	518598	2527.11	505422	102		6420	513630	0	0	2 (2)	208
			High	2659.98	531996	2449.38	489876	504		6588	527070	14	0	2 (2)	1012
80	217	Downlink & Uplink	Low	2536.02	507204	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2
			Mid	2592.99	518598	2517.21	503442	102		6396	511710	20	0	2 (2)	208
			High	2649.99	529998	2429.49	485898	504		6537	522990	4	0	1 (1)	1010
90	245	Downlink & Uplink	Low	2541	508200	2496.9	499380	0	30	6252	500190	6	0	1 (1)	2
			Mid	2592.99	518598	2512.17	502434	102		6381	510510	4	0	0 (0)	204
			High	2644.98	528996	2419.44	483888	504		6513	521070	10	0	2 (2)	1012
100	273	Downlink & Uplink	Low	2546.01	509202	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2
			Mid	2592.99	518598	2507.13	501426	102		6369	509550	20	0	0 (0)	204
			High	2640	528000	2409.42	481884	504		6486	518910	6	0	0 (0)	1008

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.41-3: Test frequencies for NR operating band n41, SCS 60 kHz and ΔF_{Raster} 15 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]
10	11	Downlink & Uplink	Low	2501.01	500202	2497.05	499410	0	15	-	499770
			Mid	2593.005	518601	2515.605	503121	102		-	518169
			High	2685	537000	2318.16	463632	504		-	536568
15	18	Downlink & Uplink	Low	2503.5	500700	2497.02	499404	0	15	-	499764
			Mid	2593.005	518601	2513.085	502617	102		-	517665
			High	2682.495	536499	2313.135	462627	504		-	535563
20	24	Downlink & Uplink	Low	2506.005	501201	2497.365	499473	0	15	-	499833
			Mid	2593.005	518601	2510.925	502185	102		-	517233
			High	2679.99	535998	2308.47	461694	504		-	534630
30	38	Downlink & Uplink	Low	2511	502200	2497.32	499464	0	15	-	499824
			Mid	2593.005	518601	2505.885	501177	102		-	516225
			High	2674.995	534999	2298.435	459687	504		-	532623
40	51	Downlink & Uplink	Low	2516.01	503202	2497.65	499530	0	15	-	499890
			Mid	2593.005	518601	2501.205	500241	102		-	515289
			High	2670	534000	2288.76	457752	504		-	530688
50	65	Downlink & Uplink	Low	2521.005	504201	2497.605	499521	0	15	-	499881
			Mid	2593.005	518601	2496.165	499233	102		-	514281
			High	2664.99	532998	2278.71	455742	504		-	528678
60	79	Downlink & Uplink	Low	2526	505200	2497.56	499512	0	15	-	499872
			Mid	2593.005	518601	2491.125	498225	102		-	513273
			High	2659.995	531999	2268.675	453735	504		-	526671
80	107	Downlink & Uplink	Low	2536.005	507201	2497.485	499497	0	15	-	499857
			Mid	2593.005	518601	2481.045	496209	102		-	511257
			High	2649.99	529998	2248.59	449718	504		-	522654
90	121	Downlink & Uplink	Low	2541	508200	2497.44	499488	0	15	-	499848
			Mid	2593.005	518601	2476.005	495201	102		-	510249
			High	2644.995	528999	2238.555	447711	504		-	520647
100	135	Downlink & Uplink	Low	2546.01	509202	2497.41	499482	0	15	-	499842
			Mid	2593.005	518601	2470.965	494193	102		-	509241
			High	2640	528000	2228.52	445704	504		-	518640

Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{\text{SSB}}=31$, *controlResourceSetZero*=0 and *searchSpaceZero* = 0 (TS 38.213 [22], clause 13).

4.3.1.1.1.42 to 4.3.1.1.1.47 FFS

4.3.1.1.1.48 Reference test frequencies for NR operating band n48

Table 4.3.1.1.1.48-1: Test frequencies for NR operating band n48 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency Point A [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB} (Note 4)	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	3552.51	636834	3550.26	636684	0	(Note 3)	-	-	-	-	-	-
			Mid	3625.005	641667	3604.395	640293	102		-	-	-	-	-	-
			High	3697.5	646500	3604.53	640302	504		-	-	-	-	-	-
10	52	Downlink & Uplink	Low	3555	637000	3550.32	636688	0	30	7884	636960	8	0	0 (2)	2
			Mid	3624.99	641666	3601.95	640130	102		7933	641664	10	3	0 (2)	107
			High	3694.98	646332	3599.58	639972	504		7982	646368	0	3	1 (6)	513
15	79	Downlink & Uplink	Low	3557.52	637168	3550.41	636694	0	30	7884	636960	2	0	0 (2)	2
			Mid	3624.99	641666	3599.52	639968	102		7931	641472	4	1	0 (2)	105
			High	3692.49	646166	3594.66	639644	504		7978	645984	4	2	0 (2)	508
20	106	Downlink & Uplink	Low	3560.01	637334	3550.47	636698	0	30	7885	637056	10	3	1 (6)	9
			Mid	3624.99	641666	3597.09	639806	102		7930	641376	10	2	1 (6)	110
			High	3690	646000	3589.74	639316	504		7975	645696	8	1	1 (6)	511
40	216	Downlink & Uplink	Low	3570	638000	3550.56	636704	0	30	7885	637056	4	3	1 (6)	9
			Mid	3624.99	641666	3587.19	639146	102		7923	640704	10	1	1 (6)	109
			High	3679.98	645332	3569.82	637988	504		7961	644352	4	0	1 (6)	510
50	270	Downlink (Note 4) & Uplink	Low	3575.01	638334	3550.71	636714	0	30		637056	31			
			Mid	3624.99	641666	3582.33	638822	102			640320	31			
			High	3675	645000	3559.98	637332	504			643680	31			

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-3 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta f_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 3: No SS/PBCH block fits within the channel bandwidth. The channel bandwidth can only be used as SCell.

Note 4: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as a downlink only SCell part of a CA configuration. As the bandwidth is limited to SCell then absence of CORESET#0 is indicated in the MIB by setting $k_{SSB}=31$, *controlResourceSetZero*=0 and *searchSpaceZero* = 0 (TS 38.213 [22], clause 13).

Table 4.3.1.1.48-2: Test frequencies for NR operating band n48 and SCS 30 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	3555	637000	3550.68	636712	0	30	7884	636960	8	0	0 (0)	0
			Mid	3624.99	641666	3583.95	638930	102		7933	641664	22	0	1 (1)	206
			High	3694.98	646332	3509.22	633948	504		7982	646368	12	0	3 (3)	1014
15	38	Downlink & Uplink	Low	3557.52	637168	3550.68	636712	0	30	7884	636960	8	0	0 (0)	0
			Mid	3624.99	641666	3581.43	638762	102		7931	641472	22	0	0 (0)	204
			High	3692.49	646166	3504.21	633614	504		7978	645984	10	0	1 (1)	1010
20	51	Downlink & Uplink	Low	3560.01	637334	3550.83	636722	0	30	7885	637056	22	0	3 (3)	6
			Mid	3624.99	641666	3579.09	638606	102		7930	641376	10	0	3 (3)	210
			High	3690	646000	3499.38	633292	504		7975	645696	20	0	2 (2)	1012
40	106	Downlink & Uplink	Low	3570	638000	3550.92	636728	0	30	7885	637056	16	0	3 (3)	6
			Mid	3624.99	641666	3569.19	637946	102		7923	640704	22	0	2 (2)	208
			High	3679.98	645332	3479.46	631964	504		7961	644352	4	0	2 (2)	1012
50	133	Downlink (Note 3)	Low	3575.01	638334	3551.07	636738	0	30		637056	31			
			Mid	3624.99	641666	3564.33	637622	102			640320	31			
			High	3675	645000	3469.62	631308	504			643680	31			
60	162	Downlink (Note 3)	Low	3580.02	638668	3550.86	636724	0	30		637056	31			
			Mid	3624.99	641666	3559.11	637274	102			640032	31			
			High	3669.99	644666	3459.39	630626	504			643008	31			
80	217	Downlink (Note 3)	Low	3590.01	639334	3550.95	636730	0	30		637056	31			
			Mid	3624.99	641666	3549.21	636614	102			639360	31			
			High	3660	644000	3439.5	629300	504			641664	31			
90	245	Downlink (Note 3)	Low	3595.02	639668	3550.92	636728	0	30		637056	31			
			Mid	3624.99	641666	3544.17	636278	102			638976	31			
			High	3654.99	643666	3429.45	628630	504			640992	31			
100	273	Downlink (Note 3)	Low	3600	640000	3550.86	636724	0	30		637056	31			
			Mid	3624.99	641666	3539.13	635942	102			638688	31			
			High	3649.98	643332	3419.4	627960	504			640320	31			

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 3: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as a downlink only SCell part of a CA configuration. As the bandwidth is limited to SCell then absence of CORESET#0 is indicated in the MIB by setting $k_{SSB}=31$, *controlResourceSetZero*=0 and *searchSpaceZero* = 0 (TS 38.213 [22], clause 13).

Table 4.3.1.1.48-3: Test frequencies for NR operating band n48 and SCS 60 kHz without CORESET#0 (Note 1)

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink & Uplink	Low	3555	637000	3551.04	636736	0	30	-	636976
			Mid	3624.99	641666	3547.59	636506	102		-	641642
			High	3694.98	646332	3328.14	621876	504		-	646308
15	18	Downlink & Uplink	Low	3557.52	637168	3551.04	636736	0	30	-	636976
			Mid	3624.99	641666	3545.07	636338	102		-	641474
			High	3692.49	646166	3323.13	621542	504		-	645974
20	24	Downlink & Uplink	Low	3560.01	637334	3551.37	636758	0	30	-	636998
			Mid	3624.99	641666	3542.91	636194	102		-	641330
			High	3690	646000	3318.48	621232	504		-	645664
40	51	Downlink & Uplink	Low	3570	638000	3551.64	636776	0	30	-	637016
			Mid	3624.99	641666	3533.19	635546	102		-	640682
			High	3679.98	645332	3298.74	619916	504		-	644348
50	65	Downlink(Note 2)	Low	3575.01	638334	3551.61	636774	0	30	-	637014
			Mid	3624.99	641666	3528.15	635210	102		-	640346
			High	3675	645000	3288.72	619248	504		-	643680
60	79	Downlink(Note 2)	Low	3580.02	638668	3551.58	636772	0	30	-	637012
			Mid	3624.99	641666	3523.11	634874	102		-	640010
			High	3669.99	644666	3278.67	618578	504		-	643010
80	107	Downlink(Note 2)	Low	3590.01	639334	3551.49	636766	0	30	-	637006
			Mid	3624.99	641666	3513.03	634202	102		-	639338
			High	3660	644000	3258.6	617240	504		-	641672
90	121	Downlink(Note 2)	Low	3595.02	639668	3551.46	636764	0	30	-	637004
			Mid	3624.99	641666	3507.99	633866	102		-	639002
			High	3654.99	643666	3248.55	616570	504		-	641002
100	135	Downlink(Note 2)	Low	3600	640000	3551.4	636760	0	30	-	637000
			Mid	3624.99	641666	3502.95	633530	102		-	638666
			High	3649.98	643332	3238.5	615900	504		-	640332
Note:	FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).										
Note 2:	For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as a downlink only SCell part of a CA configuration.										

4.3.1.1.1.49 FFS

4.3.1.1.1.50 Reference test frequencies for NR operating band n50

Table 4.3.1.1.1.50-1: Test frequencies for NR operating band n50 and SCS 15 kHz

CBW [MHz]	carrierB andwidth h [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORES ET#0 Index (Offset[RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	1434.5	286900	1432.25	286450	0	(Note 3)	-	287170	-	-	-	-
			Mid	1474.5	294900	1453.89	290778	102		-	295170	-	-	-	-
			High	1514.5	302900	1421.53	284306	504		-	303170	-	-	-	-
10	52	Downlink & Uplink	Low	1437	287400	1432.32	286464	0	30	3591	287310	6	1	0 (2)	3
			Mid	1474.5	294900	1451.46	290292	102		3687	294990	6	2	1 (6)	110
			High	1512	302400	1416.6	283320	504		3780	302430	10	0	1 (6)	510
15	79	Downlink & Uplink	Low	1439.5	287900	1432.39	286478	0	30	3592	287330	8	1	0 (2)	3
			Mid	1474.5	294900	1449.03	289806	102		3678	294270	0	0	0 (2)	104
			High	1509.5	301900	1411.67	282334	504		3767	301450	0	1	1 (6)	511
20	106	Downlink & Uplink	Low	1442	288400	1432.46	286492	0	30	3590	287290	2	0	0 (2)	2
			Mid	1474.5	294900	1446.6	289320	102		3672	293790	2	0	0 (2)	104
			High	1507	301400	1406.74	281348	504		3754	300290	2	0	0 (2)	506
40	216	Downlink & Uplink	Low	1452	290400	1432.56	286512	0	30	3591	287310	2	0	0 (2)	2
			Mid	1474.5	294900	1436.7	287340	102		3648	291870	10	1	0 (2)	105
			High	1497	299400	1386.84	277368	504		3705	296430	6	3	0 (2)	509
50	270	Downlink & Uplink	Low	1457	291400	1432.7	286540	0	30	3593	287530	6	1	1 (6)	7
			Mid	1474.5	294900	1431.84	286368	102		3636	290910	2	2	0 (2)	106
			High	1492	298400	1376.98	275396	504		3682	294530	6	1	1 (6)	511

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 3: No SS/PBCH block fits within the channel bandwidth. The channel bandwidth can only be used as SCell

Table 4.3.1.1.1.50-2: Test frequencies for NR operating band n50 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	1437	287400	1432.68	286536	0	30	3591	287310	18	0	0 (0)	0
			Mid	1474.5	294900	1433.46	286692	102		3687	294990	6	0	3 (3)	210
			High	1512	302400	1326.24	265248	504		3780	302430	10	0	2 (2)	1012
15	38	Downlink & Uplink	Low	1439.5	287900	1432.66	286532	0	30	3592	287330	2	0	1 (1)	2
			Mid	1474.5	294900	1430.94	286188	102		3678	294270	6	0	0 (0)	204
			High	1509.5	301900	1321.22	264244	504		3767	301450	18	0	2 (2)	1012
20	51	Downlink & Uplink	Low	1442	288400	1432.82	286564	0	30	3590	287290	2	0	0 (0)	0
			Mid	1474.5	294900	1428.6	285720	102		3672	293790	2	0	0 (0)	204
			High	1507	301400	1316.38	263276	504		3754	300290	2	0	0 (0)	1008
40	106	Downlink & Uplink	Low	1452	290400	1432.92	286584	0	30	3591	287310	2	0	0 (0)	0
			Mid	1474.5	294900	1418.7	283740	102		3648	291870	22	0	0 (0)	204
			High	1497	299400	1296.48	259296	504		3705	296430	18	0	1 (1)	1010
50	133	Downlink & Uplink	Low	1457	291400	1433.06	286612	0	30	3593	287530	18	0	2 (2)	4
			Mid	1474.5	294900	1413.84	282768	102		3636	290910	2	0	1 (1)	206
			High	1492	298400	1286.62	257324	504		3682	294530	18	0	2 (2)	1012
60	162	Downlink & Uplink	Low	1462	292400	1432.84	286568	0	30	3592	287330	14	0	0 (0)	0
			Mid	1474.5	294900	1408.62	281724	102		3624	289950	6	0	2 (2)	208
			High	1487	297400	1276.4	255280	504		3653	292330	14	0	0 (0)	1008
80 (Note 3)	217	Downlink	Low	1472	294400	1432.94	286588	0	30	3593	287530	2	0	3 (3)	6
			Mid	1474.5	294900	1398.72	279744	102		3600	288030	2	0	3 (3)	210
			High	1477	295400	1256.5	251300	504		3607	288530	2	0	3 (3)	1014
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															
Note 3: This UE channel bandwidth is applicable only to downlink (TS 38.101-1 table 5.3.5-1).															

Table 4.3.1.1.50-3: Test frequencies for NR operating band n50 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]
10	11	Downlink & Uplink	Low	1437	287400	1433.04	286608	0	30	-	287328
			Mid	1474.5	294900	1397.1	279420	102		-	294828
			High	1512	302400	1145.16	229032	504		-	302328
15	18	Downlink & Uplink	Low	1439.5	287900	1433.02	286604	0	30	-	287324
			Mid	1474.5	294900	1394.58	278916	102		-	294324
			High	1509.5	301900	1140.14	228028	504		-	301324
20	24	Downlink & Uplink	Low	1442	288400	1433.36	286672	0	30	-	287392
			Mid	1474.5	294900	1392.42	278484	102		-	293892
			High	1507	301400	1135.48	227096	504		-	300392
40	51	Downlink & Uplink	Low	1452	290400	1433.64	286728	0	30	-	287448
			Mid	1474.5	294900	1382.7	276540	102		-	291948
			High	1497	299400	1115.76	223152	504		-	296448
50	65	Downlink & Uplink	Low	1457	291400	1433.6	286720	0	30	-	287440
			Mid	1474.5	294900	1377.66	275532	102		-	290940
			High	1492	298400	1105.72	221144	504		-	294440
60	79	Downlink & Uplink	Low	1462	292400	1433.56	286712	0	30	-	287432
			Mid	1474.5	294900	1372.62	274524	102		-	289932
			High	1487	297400	1095.68	219136	504		-	292432
80 (Note 2)	107	Downlink	Low	1472	294400	1433.48	286696	0	30	-	287416
			Mid	1474.5	294900	1362.54	272508	102		-	287916
			High	1477	295400	1075.6	215120	504		-	288416
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{SSB}=31$, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											
Note 2: This UE channel bandwidth is applicable only to downlink (TS 38.101-1 table 5.3.5-1).											

4.3.1.1.1.51

Reference test frequencies for NR operating band n51

Table 4.3.1.1.1.51-1: Test frequencies for NR operating band n51 and SCS 15 kHz

[MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low Mid High	1429.5	285900	1336.53	267306	504	15	3573	285870	8	1	0 (0)	505
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2. Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

4.3.1.1.1.52 FFS

4.3.1.1.1.53 Reference test frequencies for NR operating band n53

Table 4.3.1.1.1.53-1: Test frequencies for NR operating band n53 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	2486	497200	2483.75	496750	0	15	6215	497290	0	1	2 (4)	5
			Mid	2489.3	497860	2468.69	493738	102		6221	497770	0	0	0 (0)	102
			High	2492.5	498500	2399.53	479906	504		6232	498530	4	1	1 (2)	507
10	52	Downlink & Uplink	Low	2488.5	497700	2483.82	496764	0	15	6216	497310	2	1	2 (4)	5
			Mid	2489.3	497860	2466.6	493252	102		6215	497290	2	0	0 (0)	102
			High	2490	498000	2394.6	478920	504		6219	497550	6	1	1 (2)	507
Note 1:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.														
Note 2:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.														

Table 4.3.1.1.1.53-2: Test frequencies for NR operating band n53 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2488.5	497700	2484.18	496836	0	15	6222	497790	6	0	3 (8)	16
			Mid	2489.3	497860	2448.26	489652	102		6221	497770	18	0	0 (5)	214
			High	2490	498000	2304.24	460848	504		6225	498030	10	0	2 (17)	1022
Note 1:		The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.													
Note 2:		The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.													

Table 4.3.1.1.1.53-3: Test frequencies for NR operating band n53 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFreque ncyPointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink & Uplink	Low	2488.5	497700	2484.54	496908	0	15	-	497268
			Mid	2489.3	497860	2411.9	482380	102		-	497428
			High	2490	498000	2123.16	424632	504		-	497568
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22] clause 13).											

4.3.1.1.1.54 to 4.3.1.1.1.64 FFS

4.3.1.1.1.65 Reference test frequencies for NR operating band n65

Table 4.3.1.1.1.65-1: Test frequencies for NR operating band n65 and SCS 15 kHz

CBW [MHz]	carrierB andwidth h [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0 (0)	0
			Mid	2155	431000	2134.39	426878	102		5389	431090	0	1	2 (4)	107
			High	2197.5	439500	2104.53	420906	504		5493	439470	8	1	0 (0)	505
		Uplink	Low	1922.5	384500	1920.25	384050	0	-	-	-	-	-	-	-
			Mid	1965	393000	1872.03	374406	504		-	-	-	-	-	-
			High	2007.5	401500	2004.17	400834	6		-	-	-	-	-	-
10	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0 (0)	0
			Mid	2155	431000	2131.96	426392	102		5383	430610	2	1	2 (4)	107
			High	2195	439000	2099.6	419920	504		5480	438490	10	1	0 (0)	505
		Uplink	Low	1925	385000	1920.32	384064	0	-	-	-	-	-	-	-
			Mid	1965	393000	1869.6	373920	504		-	-	-	-	-	-
			High	2005	401000	1999.24	399848	6		-	-	-	-	-	-
15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0 (0)	0
			Mid	2155	431000	2129.53	425906	102		5377	430130	4	1	2 (4)	107
			High	2192.5	438500	2094.67	418934	504		5470	437570	8	1	1 (2)	507
		Uplink	Low	1927.5	385500	1920.39	384078	0	-	-	-	-	-	-	-
			Mid	1965	393000	1867.17	373434	504		-	-	-	-	-	-
			High	2002.5	400500	1994.31	398862	6		-	-	-	-	-	-
20	106	Downlink	Low	2120	424000	2110.46	422092	0	15	5282	422650	6	1	2 (4)	5
			Mid	2155	431000	2127.1	425420	102		5371	429650	6	1	2 (4)	107
			High	2190	438000	2089.74	417948	504		5457	436590	10	1	1 (2)	507
		Uplink	Low	1930	386000	1920.46	384092	0	-	-	-	-	-	-	-
			Mid	1965	393000	1864.74	372948	504		-	-	-	-	-	-
			High	2000	400000	1989.38	397876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.65-2: Test frequencies for NR operating band n65 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	0	0 (5)	10
			Mid	2155	431000	2113.96	422792	102		5389	431090	6	0	3 (8)	220
			High	2195	439000	2009.24	401848	504		5486	438970	14	0	1 (6)	1020
		Uplink	Low	1925	385000	1920.68	384136	0	-	-	-	-	-	-	-
			Mid	1965	393000	1779.24	355848	504		-	-	-	-	-	-
			High	2005	401000	1998.52	399704	6		-	-	-	-	-	-
15	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	0	1 (6)	12
			Mid	2155	431000	2111.44	422288	102		5380	430370	6	0	0 (5)	214
			High	2192.5	438500	2004.22	400844	504		5476	438050	18	0	2 (7)	1022
		Uplink	Low	1927.5	385500	1920.66	384132	0	-	-	-	-	-	-	-
			Mid	1965	393000	1776.72	355344	504		-	-	-	-	-	-
			High	2002.5	400500	1993.5	398700	6		-	-	-	-	-	-
20	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	0	0 (5)	10
			Mid	2155	431000	2109.1	421820	102		5374	429890	2	0	0 (5)	214
			High	2190	438000	1999.38	399876	504		5463	437070	14	0	2 (7)	1022
		Uplink	Low	1930	386000	1920.82	384164	0	-	-	-	-	-	-	-
			Mid	1965	393000	1774.38	354876	504		-	-	-	-	-	-
			High	2000	400000	1988.66	397732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.65-3: Test frequencies for NR operating band n65 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink	Low	2115	423000	2111.04	422208	0	15	-	422568
			Mid	2155	431000	2077.6	415520	102		-	430568
			High	2195	439000	1828.16	365632	504		-	438568
		Uplink	Low	1925	385000	1921.04	384208	0	-	-	-
			Mid	1965	393000	1598.16	319632	504		-	-
			High	2005	401000	1996.72	399344	6		-	-
15	18	Downlink	Low	2117.5	423500	2111.02	422204	0	15	-	422564
			Mid	2155	431000	2075.08	415016	102		-	430064
			High	2192.5	438500	1823.14	364628	504		-	437564
		Uplink	Low	1927.5	385500	1921.02	384204	0	-	-	-
			Mid	1965	393000	1595.64	319128	504		-	-
			High	2002.5	400500	1991.7	398340	6		-	-
20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
			Mid	2155	431000	2072.92	414584	102		-	429632
			High	2190	438000	1818.48	363696	504		-	436632
		Uplink	Low	1930	386000	1921.36	384272	0	-	-	-
			Mid	1965	393000	1593.48	318696	504		-	-
			High	2000	400000	1987.04	397408	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.66

Reference test frequencies for NR operating band n66

Table 4.3.1.1.66-1: Test frequencies for NR operating band n66, uplink and downlink channel bandwidth combinations and SCS 15 kHz

UL/DL Bandwidth combination	CBW [MHz]	carrier bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute frequency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
5/5	5	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0 (0)	0
				Mid	2145	429000	2124.39	424878	102		5361	428910	0	0	0 (0)	102
				High	2177.5	435500	2084.53	416906	504		5443	435410	0	0	0 (0)	504
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1745	349000	1652.03	330406	504		-	-	-	-	-	-
				High	1777.5	355500	1774.17	354834	6		-	-	-	-	-	-
5/20	20	106	Downlink	Low	2120	424000	2110.46	422092	0	15	5282	422650	6	1	2 (4)	5
				Mid	2152.5	430500	2124.6	424920	102		5364	429150	6	1	2 (4)	107
				High	2185	437000	2084.74	416948	504		5446	435650	6	1	2 (4)	509
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1745	349000	1652.03	330406	504		-	-	-	-	-	-
				High	1777.5	355500	1774.17	354834	6		-	-	-	-	-	-
5/40	40	216	Downlink	Low	2130	426000	2110.56	422112	0	15	5283	422670	6	1	2 (4)	5
				Mid	2155	431000	2117.2	423440	102		5344	427490	6	0	0 (0)	102
				High	2180	436000	2069.84	413968	504		5405	432490	6	0	0 (0)	504
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1737.5	347500	1644.53	328906	504		-	-	-	-	-	-
				High	1762.5	352500	1759.17	351834	6		-	-	-	-	-	-
10/10	10	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0 (0)	0
				Mid	2145	429000	2121.96	424392	102		5355	428430	2	0	0 (0)	102
				High	2175	435000	2079.6	415920	504		5430	434430	2	0	0 (0)	504
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1745	349000	1649.6	329920	504		-	-	-	-	-	-
				High	1775	355000	1769.24	353848	6		-	-	-	-	-	-
10/20	20	106	Downlink	Low	2120	424000	2110.46	422092	0	15	5282	422650	6	1	2 (4)	5
				Mid	2150	430000	2122.1	424420	102		5357	428650	6	1	2 (4)	107
				High	2180	436000	2079.74	415948	504		5432	434650	6	1	2 (4)	509
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1745	349000	1649.6	329920	504		-	-	-	-	-	-
				High	1775	355000	1769.24	353848	6		-	-	-	-	-	-
10/40	40	216	Downlink	Low	2130	426000	2110.56	422112	0	15	5283	422670	6	1	2 (4)	5
				Mid	2155	431000	2117.2	423440	102		5344	427490	6	0	0 (0)	102
				High	2180	436000	2069.84	413968	504		5405	432490	6	0	0 (0)	504
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1745	349000	1649.6	329920	504		-	-	-	-	-	-
				High	1775	355000	1769.24	353848	6		-	-	-	-	-	-

15/15	15	79	Downlink	Mid	1740	348000	1644.6	328920	504	15	-	-	-	-	-	-
				High	1765	353000	1759.24	351848	6		-	-	-	-	-	-
				Low	2117.5	423500	2110.39	422078	0		5281	422450	4	0	0 (0)	0
				Mid	2145	429000	2119.53	423906	102		5349	427950	4	0	0 (0)	102
				High	2172.5	434500	2074.67	414934	504		5417	433450	4	0	0 (0)	504
				Low	1717.5	343500	1710.39	342078	0		-	-	-	-	-	-
20/20	20	106	Downlink	Mid	1745	349000	1647.17	329434	504	15	-	-	-	-	-	-
				High	1772.5	354500	1764.31	352862	6		-	-	-	-	-	-
				Low	2120	424000	2110.46	422092	0		5282	422650	6	1	2 (4)	5
				Mid	2145	429000	2117.1	423420	102		5343	427470	6	0	0 (0)	102
				High	2170	434000	2069.74	413948	504		5407	432530	2	0	1 (2)	506
				Low	1720	344000	1710.46	342092	0		-	-	-	-	-	-
20/40	40	216	Downlink	Mid	1745	349000	1644.74	328948	504	15	-	-	-	-	-	-
				High	1770	354000	1759.38	351876	6		-	-	-	-	-	-
				Low	2130	426000	2110.56	422112	0		5283	422670	6	6	2 (4)	5
				Mid	2155	431000	2117.2	423440	102		5344	427490	6	0	0 (0)	102
				High	2180	436000	2069.84	413968	504		5405	432490	6	0	0 (0)	504
				Low	1720	344000	1710.46	342092	0		-	-	-	-	-	-
25/25	25	133	Downlink	Mid	1745	349000	1644.74	328948	504	15	-	-	-	-	-	-
				High	1770	354000	1759.38	351876	6		-	-	-	-	-	-
				Low	2122.5	424500	2110.53	422106	0		5283	422670	8	1	2 (4)	5
				Mid	2145	429000	2114.67	422934	102		5337	426990	8	0	0 (0)	102
				High	2167.5	433500	2064.81	412962	504		5394	431550	4	0	1 (2)	506
				Low	1722.5	344500	1710.53	342106	0		-	-	-	-	-	-
30/30	30	160	Downlink	Mid	1745	349000	1642.31	328462	504	15	-	-	-	-	-	-
				High	1767.5	353500	1754.45	350890	6		-	-	-	-	-	-
				Low	2125	425000	2110.6	422120	0		5284	422690	10	1	2 (4)	5
				Mid	2145	429000	2112.24	422448	102		5331	426510	10	0	0 (0)	102
				High	2165	433000	2059.88	411976	504		5381	430570	6	0	1 (2)	506
				Low	1725	345000	1710.6	342120	0		-	-	-	-	-	-
40/40	40	216	Downlink	Mid	1745	349000	1639.88	327976	504	15	-	-	-	-	-	-
				High	1765	353000	1749.52	349904	6		-	-	-	-	-	-
				Low	2130	426000	2110.56	422112	0		5283	422670	6	1	2 (4)	5
				Mid	2145	429000	2107.2	421440	102		5319	425550	2	0	1 (2)	104
				High	2160	432000	2049.84	409968	504		5358	428670	6	1	2 (4)	509
				Low	1730	346000	1710.56	342112	0		-	-	-	-	-	-
40/40	40	216	Uplink	Mid	1745	349000	1634.84	326968	504	-	-	-	-	-	-	-
				High	1760	352000	1739.48	347896	6		-	-	-	-	-	-
				Low	1730	346000	1710.56	342112	0		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.66-1A: Test frequencies for NR operating band n66 and asymmetric channel bandwidth combination set 1, uplink and downlink channel bandwidth combination and SCS 15 kHz

UL/DL Bandwidth combination	CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5/20	20	106	Downlink	Low	Same as for UL/DLBandwidth combination 5/20 in Table 4.3.1.1.1.66-1.											
	5	25	Uplink	Low												
5/25	25	133	Downlink	Low	2122.5	424500	2110.53	422106	0	15	5283	422670	8	1	2 (4)	5
				Mid	2155	431000	2124.67	424934	102		5365	429170	8	1	2 (4)	107
				High	2187.5	437500	2084.81	416962	504		5444	435610	0	0	2 (4)	508
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1745	349000	1652.03	330406	504		-	-	-	-	-	-
				High	1777.5	355500	1774.17	354834	6		-	-	-	-	-	-
5/30	30	Downlink	Low	2125	425000	2110.6	422120	0	15	5284	422690	10	1	2 (4)	5	
			Mid	2155	431000	2122.24	424448	102		5359	428690	10	1	2 (4)	107	
			High	2185	437000	2079.88	415976	504		5434	434690	10	1	2 (4)	509	
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1742.5	348500	1649.53	329906	504		-	-	-	-	-	-
				High	1772.5	354500	1769.17	353834	6		-	-	-	-	-	-
5/40	40	216	Downlink	Low	Same as for UL/DLBandwidth combination 5/40 in Table 4.3.1.1.1.66-1.											
	5	25	Uplink	Low												
10/20	20	106	Downlink	Low	Same as for UL/DLBandwidth combination 10/20 in Table 4.3.1.1.1.66-1.											
	10	52	Uplink	Low												
10/25	25	133	Downlink	Low	2122.5	424500	2110.53	422106	0	15	5283	422670	8	1	2 (4)	5
				Mid	2152.5	430500	2122.17	424434	102		5358	428670	8	1	2 (4)	107
				High	2182.5	436500	2079.81	415962	504		5433	434670	8	1	2 (4)	509
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1745	349000	1649.6	329920	504		-	-	-	-	-	-
				High	1775	355000	1769.24	353848	6		-	-	-	-	-	-
10/30	30	Downlink	Low	2125	425000	2110.6	422120	0	15	5284	422690	10	1	2 (4)	5	
			Mid	2155	431000	2122.24	424448	102		5359	428690	10	1	2 (4)	107	
			High	2185	437000	2079.88	415976	504		5434	434690	10	1	2 (4)	509	
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1745	349000	1649.6	329920	504		-	-	-	-	-	-
				High	1775	355000	1769.24	353848	6		-	-	-	-	-	-
10/40	40	216	Downlink	Low	Same as for UL/DLBandwidth combination 10/40 in Table 4.3.1.1.1.66-1.											
	10	52	Uplink	Low												
20/40	40	216	Downlink	Low	Same as for UL/DLBandwidth combination 20/40 in Table 4.3.1.1.1.66-1.											
	20	106	Uplink	Low												
25/40	40	216	Downlink	Low	2130	426000	2110.56	422112	0	15	5283	422670	6	1	2 (4)	5

30/40	25	133	Uplink	Mid	2152.5	430500	2114.7	422940	102	-	5337	426990	6	0	0 (0)	102
				High	2175	435000	2064.84	412968	504		5394	431550	2	0	1 (2)	506
				Low	1722.5	344500	1710.53	342106	0		-	-	-	-	-	-
				Mid	1745	349000	1642.31	328462	504		-	-	-	-	-	-
				High	1767.5	353500	1754.45	350890	6		-	-	-	-	-	-
	40	216	Downlink	Low	2130	426000	2110.56	422112	0	15	5283	422670	6	1	2 (4)	5
				Mid	2150	430000	2112.2	422440	102		5330	426490	6	0	0 (0)	102
				High	2170	434000	2059.84	411968	504		5383	430610	10	1	1 (2)	507
				Low	1725	345000	1710.6	342120	0		-	-	-	-	-	-
				Mid	1745	349000	1639.88	327976	504		-	-	-	-	-	-
	30	160	Uplink	High	1765	353000	1749.52	349904	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.66-2: Test frequencies for NR operating band n66, uplink and downlink channel bandwidth combinations and SCS 30 kHz

UL/DL Bandwidth combination	CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10/10	10	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	0	0 (5)	10
				Mid	2145	429000	2103.96	420792	102		5361	428910	18	0	0 (5)	214
				High	2175	435000	1989.24	397848	504		5436	434910	18	0	0 (5)	1018
	10	24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
				Mid	1745	349000	1559.24	311848	504		-	-	-	-	-	-
				High	1775	355000	1768.52	353704	6		-	-	-	-	-	-
10/20	20	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	0	0 (5)	10	
			Mid	2150	430000	2104.1	420820	102		5360	428890	2	0	0 (5)	214	
			High	2180	436000	1989.38	397876	504		5435	434890	2	0	0 (5)	1018	
	10	24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
				Mid	1745	349000	1559.24	311848	504		-	-	-	-	-	-
				High	1775	355000	1768.52	353704	6		-	-	-	-	-	-
10/40	40	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	0	0 (5)	10	
			Mid	2155	431000	2099.2	419840	102		5350	427970	22	0	0 (5)	214	
			High	2180	436000	1979.48	395896	504		5411	432970	22	0	0 (5)	1018	
	10	24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
				Mid	1740	348000	1554.24	310848	504		-	-	-	-	-	-
				High	1765	353000	1758.52	351704	6		-	-	-	-	-	-
15/15	15	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	0	1 (6)	12

				Mid	2145	429000	2101.44	420288	102		5355	428430	2	0	1 (6)	216
				High	2172.5	434500	1984.22	396844	504		5423	433930	2	0	1 (6)	1020
	15	38	Uplink	Low	1717.5	343500	1710.66	342132	0		-	-	-	-	-	-
				Mid	1745	349000	1556.72	311344	504		-	-	-	-	-	-
				High	1772.5	354500	1763.5	352700	6		-	-	-	-	-	-
20/20	20	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	0	0 (5)	10
				Mid	2145	429000	2099.1	419820	102		5349	427950	22	0	0 (5)	214
				High	2170	434000	1979.38	395876	504		5413	433010	18	0	1 (6)	1020
	20	51	Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	
				Mid	1745	349000	1554.38	310876	504	-	-	-	-	-	-	
High				1770	354000	1758.66	351732	6	-	-	-	-	-	-		
20/40	40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	0	0 (5)	10
				Mid	2155	431000	2099.2	419840	102		5350	427970	22	0	0 (5)	214
				High	2180	436000	1979.48	395896	504		5411	432970	22	0	0 (5)	1018
	20	51	Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	
				Mid	1745	349000	1554.38	310876	504	-	-	-	-	-	-	
High				1770	354000	1758.66	351732	6	-	-	-	-	-	-		
25/25	25	65	Downlink	Low	2122.5	424500	2110.8	422160	0	15	5286	422910	10	0	0 (5)	10
				Mid	2145	429000	2096.58	419316	102		5343	427470	6	0	1 (6)	216
				High	2167.5	433500	1974.36	394872	504		5400	432030	2	0	2 (7)	1022
	25	65	Uplink	Low	1722.5	344500	1710.8	342160	0	-	-	-	-	-	-	
				Mid	1745	349000	1551.86	310372	504	-	-	-	-	-	-	
High				1767.5	353500	1753.64	350728	6	-	-	-	-	-	-		
30/30	30	78	Downlink	Low	2125	425000	2110.96	422192	0	15	5287	422930	6	0	0 (5)	10
				Mid	2145	429000	2094.24	418848	102		5337	426990	2	0	1 (6)	216
				High	2165	433000	1969.52	393904	504		5387	431050	22	0	1 (6)	1020
	30	78	Uplink	Low	1725	345000	1710.96	342192	0	-	-	-	-	-	-	
				Mid	1745	349000	1549.52	309904	504	-	-	-	-	-	-	
High				1765	353000	1748.8	349760	6	-	-	-	-	-	-		
40/40	40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	0	0 (5)	10
				Mid	2145	429000	2089.2	417840	102		5325	426030	18	0	1 (6)	216
				High	2160	432000	1959.48	391896	504		5361	428910	2	0	0 (5)	1018
	40	106	Uplink	Low	1730	346000	1710.92	342184	0	-	-	-	-	-	-	
				Mid	1745	349000	1544.48	308896	504	-	-	-	-	-	-	
High				1760	352000	1738.76	347752	6	-	-	-	-	-	-		

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.66-2A: Test frequencies for NR operating band n66 asymmetric channel bandwidth combination set 1, uplink and downlink channel bandwidth combination and SCS 15 kHz

UL/DL Bandwidth combination	CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1	
10/20	20	106	Downlink	Low	Same as for UL/DLBandwidth combination 10/20 in Table 4.3.1.1.1.66-2.												
	10	52	Uplink	Low													
10/25	25	65	Downlink	Low	2122.5	424500	2110.8	422160	0	15	5286	422910	10	0	0 (5)	10	
				Mid	2152.5	430500	2104.08	420816	102		5361	428910	10	0	0 (5)	214	
				High	2182.5	436500	1989.36	397872	504		5436	434910	10	0	0 (5)	1018	
	10	24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-	
				Mid	1745	349000	1559.24	311848	504		-	-	-	-	-	-	
				High	1775	355000	1768.52	353704	6		-	-	-	-	-	-	
	10/30	30	78	Downlink	Low	2125	425000	2110.96	422192	0	15	5287	422930	6	0	0 (5)	10
Mid					2155	431000	2104.24	420848	102	5362		428930	6	0	0 (5)	214	
High					2185	437000	1989.52	397904	504	5437		434930	6	0	0 (5)	1018	
10		24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-	
				Mid	1745	349000	1559.24	311848	504		-	-	-	-	-	-	
				High	1775	355000	1768.52	353704	6		-	-	-	-	-	-	
10/40		40	216	Downlink	Low	Same as for UL/DLBandwidth combination 10/40 in Table 4.3.1.1.1.66-2.											
	10	52	Uplink	Low													
20/40	40	216	Downlink	Low	Same as for UL/DLBandwidth combination 20/40 in Table 4.3.1.1.1.66-2.												
	20	106	Uplink	Low													
25/40	40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	0	0 (5)	10	
				Mid	2152.5	430500	2096.7	419340	102		5343	427470	22	0	0 (5)	214	
				High	2175	435000	1974.48	394896	504		5400	432030	18	0	1 (6)	1020	
	25	65	Uplink	Low	1722.5	344500	1710.8	342160	0	-	-	-	-	-	-	-	
				Mid	1745	349000	1551.86	310372	504		-	-	-	-	-	-	
				High	1767.5	353500	1753.64	350728	6		-	-	-	-	-	-	
30/40	40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	0	0 (5)	10	
				Mid	2150	430000	2094.2	418840	102		5336	426970	22	0	0 (5)	214	
				High	2170	434000	1969.48	393896	504		5389	431090	14	0	2 (7)	1022	
	30	78	Uplink	Low	1725	345000	1710.96	342192	0	-	-	-	-	-	-	-	
				Mid	1745	349000	1549.52	309904	504		-	-	-	-	-	-	
				High	1765	353000	1748.8	349760	6		-	-	-	-	-	-	
Note 1:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																
Note 2:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																

Table 4.3.1.1.1.66-3: Test frequencies for NR operating band n66, uplink and downlink channel bandwidth combinations and SCS 60 kHz without CORESET#0

UL/DLB andwidth h combin ation	CBW [MHz]	carrierB andwidth h [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequ encyPointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10/10	10	11	Downlink	Low	2115	423000	2111.04	422208	0	15	-	422568
				Mid	2145	429000	2067.6	413520	102		-	428568
				High	2175	435000	1808.16	361632	504		-	434568
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1745	349000	1378.16	275632	504		-	-
				High	1775	355000	1766.72	353344	6		-	-
10/20	20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
				Mid	2150	430000	2067.92	413584	102		-	428632
				High	2180	436000	1808.48	361696	504		-	434632
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1745	349000	1378.16	275632	504		-	-
				High	1775	355000	1766.72	353344	6		-	-
10/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688
				Mid	2155	431000	2063.2	412640	102		-	427688
				High	2180	436000	1798.76	359752	504		-	432688
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1740	348000	1373.16	274632	504		-	-
				High	1765	353000	1756.72	351344	6		-	-
15/15	15	18	Downlink	Low	2117.5	423500	2111.02	422204	0	15	-	422564
				Mid	2145	429000	2065.08	413016	102		-	428064
				High	2172.5	434500	1803.14	360628	504		-	433564
	15	18	Uplink	Low	1717.5	343500	1711.02	342204	0	-	-	-
				Mid	1745	349000	1375.64	275128	504		-	-
				High	1772.5	354500	1761.7	352340	6		-	-
20/20	20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
				Mid	2145	429000	2062.92	412584	102		-	427632
				High	2170	434000	1798.48	359696	504		-	432632
	20	24	Uplink	Low	1720	344000	1711.36	342272	0	-	-	-
				Mid	1745	349000	1373.48	274696	504		-	-
				High	1770	354000	1757.04	351408	6		-	-
20/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688
				Mid	2155	431000	2063.2	412640	102		-	427688
				High	2180	436000	1798.76	359752	504		-	432688
	20	24	Uplink	Low	1720	344000	1711.36	342272	0	-	-	-
				Mid	1745	349000	1373.48	274696	504		-	-
				High	1770	354000	1757.04	351408	6		-	-

25/25	25	31	Downlink	Low	2122.5	424500	2111.34	422268	0	15	-	422628
				Mid	2145	429000	2060.4	412080	102		-	427128
				High	2167.5	433500	1793.46	358692	504		-	431628
	25	31	Uplink	Low	1722.5	344500	1711.34	342268	0	-	-	-
				Mid	1745	349000	1370.96	274192	504		-	-
				High	1767.5	353500	1752.02	350404	6		-	-
30/30	30	38	Downlink	Low	2125	425000	2111.32	422264	0	15	-	422624
				Mid	2145	429000	2057.88	411576	102		-	426624
				High	2165	433000	1788.44	357688	504		-	430624
	30	38	Uplink	Low	1725	345000	1711.32	342264	0	-	-	-
				Mid	1745	349000	1368.44	273688	504		-	-
				High	1765	353000	1747	349400	6		-	-
40/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688
				Mid	2145	429000	2053.2	410640	102		-	425688
				High	2160	432000	1778.76	355752	504		-	428688
	40	51	Uplink	Low	1730	346000	1711.64	342328	0	-	-	-
				Mid	1745	349000	1363.76	272752	504		-	-
				High	1760	352000	1737.32	347464	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).												

Table 4.3.1.1.1.66-3A: Test frequencies for NR operating band n66 and asymmetric channel bandwidth combination set 1, uplink and downlink channel bandwidth combinations and SCS 60 kHz without CORESET#0

UL/DL bandwidth combination	CBW [MHz]	carrier bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]
10/20	20 10	24 11	Downlink	Low Mid	Same as for UL/DL Bandwidth combination 10/20 in Table 4.3.1.1.1.66-3.							
10/25	25	31	Downlink	Low	2122.5	424500	2111.34	422268	0	15	-	422628
				Mid	2152.5	430500	2067.9	413580	102		-	428628
				High	2182.5	436500	1808.46	361692	504		-	434628
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1745	349000	1378.16	275632	504		-	-
				High	1775	355000	1766.72	353344	6		-	-
10/30	30	38	Downlink	Low	2125	425000	2111.32	422264	0	15	-	422624
				Mid	2155	431000	2067.88	413576	102		-	428624
				High	2185	437000	1808.44	361688	504		-	434624
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1745	349000	1378.16	275632	504		-	-
				High	1775	355000	1766.72	353344	6		-	-
20/40	40 20	51 24	Downlink	Low Mid	Same as for UL/DL Bandwidth combination 20/40 in Table 4.3.1.1.1.66-3.							
25/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688
				Mid	2152.5	430500	2060.7	412140	102		-	427188
				High	2175	435000	1793.76	358752	504		-	431688
	25	31	Uplink	Low	1722.5	344500	1711.34	342268	0	-	-	-
				Mid	1745	349000	1370.96	274192	504		-	-
				High	1767.5	353500	1752.02	350404	6		-	-
30/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688
				Mid	2150	430000	2058.2	411640	102		-	426688
				High	2170	434000	1788.76	357752	504		-	430688
	30	38	Uplink	Low	1725	345000	1711.32	342264	0	-	-	-
				Mid	1745	349000	1368.44	273688	504		-	-
				High	1765	353000	1747	349400	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{SSB}=31$, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).												

4.3.1.1.1.67 – 4.3.1.1.1.69 FFS

4.3.1.1.1.70 Reference test frequencies for NR operating band n70

Editor's note: Test frequencies for the Tx-RX frequency separation of 295 Mhz option as specified in TS 38.101-1, Table 5.4.4-1 is FFS.

Table 4.3.1.1.1.70-1: Test frequencies for NR operating band n70, default Tx-RX frequency separation 300MHz, uplink and downlink channel bandwidth combinations and SCS 15 kHz

UL/DL Bandwidth combination	CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5/5	5	25	Downlink	Low	1997.5	399500	1995.25	399050	0	15	4993	399410	0	0	0 (0)	0
				Mid	2002.5	400500	1981.89	396378	102		5007	400590	0	1	2 (4)	107
				High	2007.5	401500	1914.53	382906	504		5018	401530	4	1	1 (2)	507
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1609.53	321906	504		-	-	-	-	-	-
				High	1707.5	341500	1704.17	340834	6		-	-	-	-	-	-
5/10	10	52	Downlink	Low	2000	400000	1995.32	399064	0	15	4994	399610	2	1	2 (4)	5
				Mid	2005	401000	1981.96	396392	102		5008	400610	2	1	2 (4)	107
				High	2010	402000	1914.6	382920	504		5019	401550	6	1	1 (2)	507
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1609.53	321906	504		-	-	-	-	-	-
				High	1707.5	341500	1704.17	340834	6		-	-	-	-	-	-
5/15	15	79	Downlink	Low	2002.5	400500	1995.39	399078	0	15	4995	399630	4	1	2 (4)	5
				Mid	2007.5	401500	1982.03	396406	102		5006	400570	8	1	1 (2)	105
				High	2012.5	402500	1914.67	382934	504		5020	401570	8	1	1 (2)	507
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1609.53	321906	504		-	-	-	-	-	-
				High	1707.5	341500	1704.17	340834	6		-	-	-	-	-	-
5/20	20	106	Downlink	Low	2005	401000	1995.46	399092	0	15	4996	399650	6	1	2 (4)	5
				Mid	2007.5	401500	1979.6	395920	102		5000	400090	10	1	1 (2)	105
				High	2010	402000	1909.74	381948	504		5007	400590	10	1	1 (2)	507
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1700	340000	1607.03	321406	504		-	-	-	-	-	-
				High	1702.5	340500	1699.17	339834	6		-	-	-	-	-	-
5/25	25	133	Downlink	Low	2007.5	401500	1995.53	399106	0	15	4994	399610	0	0	2 (4)	4
				Mid												
				High												
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid												

10/10	10	52	Downlink	High						15							
				Low	2000	400000	1995.32	399064	0			4994	399610	2	1	2 (4)	5
				Mid	2002.5	400500	1979.46	395892	102			5001	400110	2	1	2 (4)	107
	10	52	Uplink	High	2005	401000	1909.6	381920	504		5008	400610	2	1	2 (4)	509	
				Low	1700	340000	1695.32	339064	0	-	-	-	-	-	-	-	
				Mid	1702.5	340500	1607.1	321420	504		-	-	-	-	-	-	
10/20	20	106	Downlink	High	1705	341000	1699.24	339848	6			-	-	-	-	-	-
				Low	2005	401000	1995.46	399092	0	15	4996	399650	6	1	2 (4)	5	
				Mid	2007.5	401500	1979.6	395920	102		5000	400090	10	1	1 (2)	105	
	10	52	Uplink	High	2010	402000	1909.74	381948	504			5007	400590	10	1	1 (2)	507
				Low	1700	340000	1695.32	339064	0	-	-	-	-	-	-	-	
				Mid	1702.5	340500	1607.1	321420	504		-	-	-	-	-	-	
10/25	25	133	Downlink	High	1705	341000	1699.24	339848	6			-	-	-	-	-	-
				Low	2007.5	401500	1995.53	399106	0	15	4994	399610	0	0	2 (4)	4	
				Mid													
	10	52	Uplink	High													
				Mid													
				Low	1700	340000	1695.32	339064	0	-	-	-	-	-	-	-	
15/15	15	79	Downlink	High													
				Mid													
				Low	2002.5	400500	1995.39	399078	0	15	4995	399630	4	6	2 (4)	5	
	15	79	Uplink	High													
				Mid													
				Low	1702.5	340500	1695.39	339078	0	-	-	-	-	-	-	-	
15/20	20	106	Downlink	High													
				Mid													
				Low	2005	401000	1995.46	399092	0	15	4996	399650	6	6	2 (4)	5	
	15	79	Uplink	High													
				Mid													
				Low	1702.5	340500	1695.39	339078	0	-	-	-	-	-	-	-	
15/25	25	133	Downlink	High													
				Mid													
				Low	2007.5	401500	1995.53	399106	0	15	4994	399610	0	0	2 (4)	4	
	15	79	Uplink	High													
				Mid													
				Low	1702.5	340500	1695.39	339078	0	-	-	-	-	-	-	-	
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter Δf _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	

Table 4.3.1.1.1.70-2: Test frequencies for NR operating band n70, default Tx-RX frequency separation 300MHz, uplink and downlink channel bandwidth combinations and SCS 30 kHz

UL/DL Bandwidth combination	CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10/10	10	24	Downlink	Low	2000	400000	1995.68	399136	0	15	5000	400090	6	0	3 (8)	16
				Mid	2002.5	400500	1961.46	392292	102		5007	400590	6	0	3 (8)	220
				High	2005	401000	1819.24	363848	504		5014	401090	6	0	3 (8)	1024
	10	24	Uplink	Low	1700	340000	1695.68	339136	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1516.74	303348	504		-	-	-	-	-	-
				High	1705	341000	1698.52	339704	6		-	-	-	-	-	-
10/20	20	51	Downlink	Low	2005	401000	1995.82	399164	0	15	4999	399890	2	0	0 (5)	10
				Mid	2007.5	401500	1961.6	392320	102		5006	400570	14	0	2 (7)	218
				High	2010	402000	1819.38	363876	504		5013	401070	14	0	2 (7)	1022
	10	24	Uplink	Low	1700	340000	1695.68	339136	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1516.74	303348	504		-	-	-	-	-	-
				High	1705	341000	1698.52	339704	6		-	-	-	-	-	-
10/25	25	65	Downlink	Low	2007.5	401500	1959.08	391816	102		5000	400090	22	0	2 (7)	218
				Mid												
				High												
	10	24	Uplink	Low	1700	340000	1514.24	302848	504	-	-	-	-	-	-	-
				Mid												
				High												
15/15	15	38	Downlink	Low	2002.5	400500	1958.94	391788	102		4998	399870	6	0	0 (5)	214
				Mid												
				High												
	15	38	Uplink	Low	1702.5	340500	1514.22	302844	504	-	-	-	-	-	-	-
				Mid												
				High												
15/20	20	51	Downlink	Low	2005	401000	1959.1	391820	102	15	4999	399890	2	0	0 (5)	214
				Mid												
				High												
	15	38	Uplink	Low	1702.5	340500	1514.22	302844	504	-	-	-	-	-	-	-
				Mid												
				High												
15/25	25	65	Downlink	Low	2007.5	401500	1959.08	391816	102	15	5000	400090	22	0	2 (7)	218
				Mid												
				High												
	15	38	Uplink	Low	1702.5	340500	1514.22	302844	504	-	-	-	-	-	-	-
				Mid												
				High												

High

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1 in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.70-3: Test frequencies for NR operating band n70, default Tx-RX frequency separation 300MHz, uplink and downlink channel bandwidth combinations and SCS 60 kHz without CORESET#0

UL/DL Bandwidth combination	CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]
10/10	10	11	Downlink	Low	2000	400000	1996.04	399208	0	15	-	399568
				Mid	2002.5	400500	1925.1	385020	102		-	400068
				High	2005	401000	1638.16	327632	504		-	400568
	10	11	Uplink	Low	1700	340000	1696.04	339208	0	-	-	-
				Mid	1702.5	340500	1335.66	267132	504		-	-
				High	1705	341000	1696.72	339344	6		-	-
10/20	20	24	Downlink	Low	2005	401000	1996.36	399272	0	15	-	399632
				Mid	2007.5	401500	1925.42	385084	102		-	400132
				High	2010	402000	1638.48	327696	504		-	400632
	10	11	Uplink	Low	1700	340000	1696.04	339208	0	-	-	-
				Mid	1702.5	340500	1335.66	267132	504		-	-
				High	1705	341000	1696.72	339344	6		-	-
10/25	25	31	Downlink	Low	2007.5	401500	1922.9	384580	102	15	-	399628
				Mid								
				High								
	10	11	Uplink	Low	1700	340000	1333.16	266632	504	-	-	-
				Mid								
				High								
15/15	15	18	Downlink	Low	2002.5	400500	1922.58	384516	102	15	-	399564
				Mid								
				High								
	15	18	Uplink	Low	1702.5	340500	1333.14	266628	504	-	-	-
				Mid								
				High								
15/20	20	24	Downlink	Low	2005	401000	1922.92	384584	102	15	-	399632
				Mid								
				High								
	15	18	Uplink	Low	1702.5	340500	1333.14	266628	504	-	-	-
				Mid								

15/25	25	31	Downlink	High	2007.5	401500	1922.9	384580	102	15	-	399628
				Low								
				Mid								
	15	18	Uplink	High	1702.5	340500	1333.14	266628	504	-	-	-
				Low								
				Mid								
High												
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).												

4.3.1.1.1.71

Reference test frequencies for NR operating band n71

Table 4.3.1.1.1.71-1: Test frequencies for NR operating band n71 and SCS 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	619.5	123900	617.25	123450	0	15	1548	123870	8	1	0 (0)	1
			Mid	634.5	126900	613.89	122778	102		1587	126990	0	1	2 (4)	107
			High	649.5	129900	556.53	111306	504		1623	129870	8	1	0 (0)	505
		Uplink	Low	665.5	133100	663.25	132650	0	-	-	-	-	-	-	-
			Mid	680.5	136100	587.53	117506	504		-	-	-	-	-	-
			High	695.5	139100	692.17	138434	6		-	-	-	-	-	-
10	52	Downlink	Low	622	124400	617.32	123464	0	15	1549	123890	10	1	0 (0)	1
			Mid	634.5	126900	611.46	122292	102		1581	126510	2	1	2 (4)	107
			High	647	129400	551.6	110320	504		1610	128890	10	1	0 (0)	505
		Uplink	Low	668	133600	663.32	132664	0	-	-	-	-	-	-	-
			Mid	680.5	136100	585.1	117020	504		-	-	-	-	-	-
			High	693	138600	687.24	137448	6		-	-	-	-	-	-
15	79	Downlink	Low	624.5	124900	617.39	123478	0	15	1547	123850	4	0	0 (0)	0
			Mid	634.5	126900	609.03	121806	102		1575	126030	4	1	2 (4)	107
			High	644.5	128900	546.67	109334	504		1600	127970	8	1	1 (2)	507
		Uplink	Low	670.5	134100	663.39	132678	0	-	-	-	-	-	-	-
			Mid	680.5	136100	582.67	116534	504		-	-	-	-	-	-
			High	690.5	138100	682.31	136462	6		-	-	-	-	-	-
20	106	Downlink	Low	627	125400	617.46	123492	0	15	1548	123870	6	0	0 (0)	0
			Mid	634.5	126900	606.6	121320	102		1569	125550	6	1	2 (4)	107
			High	642	128400	541.74	108348	504		1587	126990	10	1	1 (2)	507
		Uplink	Low	673	134600	663.46	132692	0	-	-	-	-	-	-	-
			Mid	680.5	136100	580.24	116048	504		-	-	-	-	-	-
			High	688	137600	677.38	135476	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.71-2: Test frequencies for NR operating band n71 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	622	124400	617.68	123536	0	15	1555	124370	14	0	1 (6)	12
			Mid	634.5	126900	593.46	118692	102		1587	126990	6	0	3 (8)	220
			High	647	129400	461.24	92248	504		1616	129370	14	0	1 (6)	1020
		Uplink	Low	668	133600	663.68	132736	0	-	-	-	-	-	-	-
			Mid	680.5	136100	494.74	98948	504		-	-	-	-	-	-
			High	693	138600	686.52	137304	6		-	-	-	-	-	-
15	38	Downlink	Low	624.5	124900	617.66	123532	0	15	1553	124330	2	0	1 (6)	12
			Mid	634.5	126900	590.94	118188	102		1578	126270	6	0	0 (5)	214
			High	644.5	128900	456.22	91244	504		1606	128450	18	0	2 (7)	1022
		Uplink	Low	670.5	134100	663.66	132732	0	-	-	-	-	-	-	-
			Mid	680.5	136100	492.22	98444	504		-	-	-	-	-	-
			High	690.5	138100	681.5	136300	6		-	-	-	-	-	-
20	51	Downlink	Low	627	125400	617.82	123564	0	15	1554	124350	22	0	0 (5)	10
			Mid	634.5	126900	588.6	117720	102		1572	125790	2	0	0 (5)	214
			High	642	128400	451.38	90276	504		1593	127470	14	0	2 (7)	1022
		Uplink	Low	673	134600	663.82	132764	0	-	-	-	-	-	-	-
			Mid	680.5	136100	489.88	97976	504		-	-	-	-	-	-
			High	688	137600	676.66	135332	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

4.3.1.1.1.72 – 4.3.1.1.1.73

4.3.1.1.1.74

Reference test frequencies for NR operating band n74

Table 4.3.1.1.1.74-1: Test frequencies for NR operating band n74 and SCS 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1477.5	295500	1475.25	295050	0	15	3693	295470	8	1	0 (0)	1
			Mid	1496.5	299300	1475.89	295178	102		3742	299330	4	1	1 (2)	105
			High	1515.5	303100	1422.53	284506	504		3788	303130	4	1	1 (2)	507
		Uplink	Low	1429.5	285900	1427.25	285450	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1355.53	271106	504		-	-	-	-	-	-
			High	1467.5	293500	1464.17	292834	6		-	-	-	-	-	-
10	52	Downlink	Low	1480	296000	1475.32	295064	0	15	3694	295490	10	1	0 (0)	1
			Mid	1496.5	299300	1473.46	294692	102		3736	298850	6	1	1 (2)	105
			High	1513	302600	1417.6	283520	504		3778	302210	2	1	2 (4)	509
		Uplink	Low	1432	286400	1427.32	285464	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1353.1	270620	504		-	-	-	-	-	-
			High	1465	293000	1459.24	291848	6		-	-	-	-	-	-
15	79	Downlink	Low	1482.5	296500	1475.39	295078	0	15	3692	295450	4	0	0 (0)	0
			Mid	1496.5	299300	1471.03	294206	102		3730	298370	8	1	1 (2)	105
			High	1510.5	302100	1412.67	282534	504		3765	301230	4	1	2 (4)	509
		Uplink	Low	1434.5	286900	1427.39	285478	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1350.67	270134	504		-	-	-	-	-	-
			High	1462.5	292500	1454.31	290862	6		-	-	-	-	-	-
20	106	Downlink	Low	1485	297000	1475.46	295092	0	15	3693	295470	6	0	0 (0)	0
			Mid	1496.5	299300	1468.6	293720	102		3724	297890	10	1	1 (2)	105
			High	1508	301600	1407.74	281548	504		3752	300250	6	1	2 (4)	509
		Uplink	Low	1437	287400	1427.46	285492	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1348.24	269648	504		-	-	-	-	-	-
			High	1460	292000	1449.38	289876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.1.74-2: Test frequencies for NR operating band n74 and SCS 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1480	296000	1475.68	295136	0	15	3700	295970	14	0	1 (6)	12
			Mid	1496.5	299300	1455.46	291092	102		3742	299330	10	0	2 (7)	218
			High	1513	302600	1327.24	265448	504		3784	302690	6	0	3 (8)	1024
		Uplink	Low	1432	286400	1427.68	285536	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1262.74	252548	504		-	-	-	-	-	-
			High	1465	293000	1458.52	291704	6		-	-	-	-	-	-
15	38	Downlink	Low	1482.5	296500	1475.66	295132	0	15	3698	295930	2	0	1 (6)	12
			Mid	1496.5	299300	1452.94	290588	102		3736	298850	18	0	2 (7)	218
			High	1510.5	302100	1322.22	264444	504		3768	301470	6	0	0 (5)	1018
		Uplink	Low	1434.5	286900	1427.66	285532	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1260.22	252044	504		-	-	-	-	-	-
			High	1462.5	292500	1453.5	290700	6		-	-	-	-	-	-
20	51	Downlink	Low	1485	297000	1475.82	295164	0	15	3699	295950	22	0	0 (5)	10
			Mid	1496.5	299300	1450.6	290120	102		3730	298370	14	0	2 (7)	218
			High	1508	301600	1317.38	263476	504		3755	300490	2	0	0 (5)	1018
		Uplink	Low	1437	287400	1427.82	285564	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1257.88	251576	504		-	-	-	-	-	-
			High	1460	292000	1448.66	289732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1 in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.74-3: Test frequencies for NR operating band n74 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]
10	11	Downlink	Low	1480	296000	1476.04	295208	0	15	-	295568
			Mid	1496.5	299300	1419.1	283820	102		-	298868
			High	1513	302600	1146.16	229232	504		-	302168
		Uplink	Low	1432	286400	1428.04	285608	0	-	-	-
			Mid	1448.5	289700	1081.66	216332	504		-	-
			High	1465	293000	1456.72	291344	6		-	-
15	18	Downlink	Low	1482.5	296500	1476.02	295204	0	15	-	295564
			Mid	1496.5	299300	1416.58	283316	102		-	298364
			High	1510.5	302100	1141.14	228228	504		-	301164
		Uplink	Low	1434.5	286900	1428.02	285604	0	-	-	-
			Mid	1448.5	289700	1079.14	215828	504		-	-
			High	1462.5	292500	1451.7	290340	6		-	-
20	24	Downlink	Low	1485	297000	1476.36	295272	0	15	-	295632
			Mid	1496.5	299300	1414.42	282884	102		-	297932
			High	1508	301600	1136.48	227296	504		-	300232
		Uplink	Low	1437	287400	1428.36	285672	0	-	-	-
			Mid	1448.5	289700	1076.98	215396	504		-	-
			High	1460	292000	1447.04	289408	6		-	-
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.75

Reference test frequencies for NR operating band n75 (SDL)

Table 4.3.1.1.1.75-1: Test frequencies for NR operating band n75 and SCS 15 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
5	25	Downlink	Low	1434.5	286900	1432.25	286450	0	15	-	286810
			Mid	1474.5	294900	1453.89	290778	102		-	294810
			High	1514.5	302900	1421.53	284306	504		-	302810
10	52	Downlink	Low	1437	287400	1432.32	286464	0	15	-	286824
			Mid	1474.5	294900	1451.46	290292	102		-	294324
			High	1512	302400	1416.6	283320	504		-	301824
15	79	Downlink	Low	1439.5	287900	1432.39	286478	0	15	-	286838
			Mid	1474.5	294900	1449.03	289806	102		-	293838
			High	1509.5	301900	1411.67	282334	504		-	300838
20	106	Downlink	Low	1442	288400	1432.46	286492	0	15	-	286852
			Mid	1474.5	294900	1446.6	289320	102		-	293352
			High	1507	301400	1406.74	281348	504		-	299852
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

Table 4.3.1.1.1.75-2: Test frequencies for NR operating band n75 and SCS 30 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	24	Downlink	Low	1437	287400	1432.68	286536	0	15	-	286896
			Mid	1474.5	294900	1433.46	286692	102		-	294396
			High	1512	302400	1326.24	265248	504		-	301896
15	38	Downlink	Low	1439.5	287900	1432.66	286532	0	15	-	286892
			Mid	1474.5	294900	1430.94	286188	102		-	293892
			High	1509.5	301900	1321.22	264244	504		-	300892
20	51	Downlink	Low	1442	288400	1432.82	286564	0	15	-	286924
			Mid	1474.5	294900	1428.6	285720	102		-	293424
			High	1507	301400	1316.38	263276	504		-	299924
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

Table 4.3.1.1.1.75-3: Test frequencies for NR operating band n75 and SCS 60 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
10	11	Downlink	Low	1437	287400	1433.04	286608	0	15	-	286968
			Mid	1474.5	294900	1397.1	279420	102		-	294468
			High	1512	302400	1145.16	229032	504		-	301968
15	18	Downlink	Low	1439.5	287900	1433.02	286604	0	15	-	286964
			Mid	1474.5	294900	1394.58	278916	102		-	293964
			High	1509.5	301900	1140.14	228028	504		-	300964
20	24	Downlink	Low	1442	288400	1433.36	286672	0	15	-	287032
			Mid	1474.5	294900	1392.42	278484	102		-	293532
			High	1507	301400	1135.48	227096	504		-	300032
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.76 Reference test frequencies for NR operating band n76 (SDL)

Table 4.3.1.1.1.76-1: Test frequencies for NR operating band n76 and SCS 15 kHz without CORESET#0

Bandwidth [MHz]	<i>carrierBandwidth</i> [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	<i>absoluteFrequencyPointA</i> [ARFCN]	<i>offsetToCarrier</i> [PRBs]	SS block SCS [kHz]	GSCN	<i>absoluteFrequencySSB</i> [ARFCN]
5	25	Downlink	Low, Mid, High	1429.5	285900	1427.25	285450	0	15	-	285810
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{SSB}=31$, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.77 Reference test frequencies for NR operating band n77

Table 4.3.1.1.1.77-1: Test frequencies for NR operating band n77, SCS 15 kHz and ΔF_{Raster} 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	52	Downlink & Uplink	Low	3305.01	620334	3300.33	620022	0	30	7711	620352	6	1	1 (6)	7
			Mid	3750	650000	3726.96	648464	102		8020	650016	4	1	1 (6)	109
			High	4194.99	679666	4099.59	673306	504		8329	679680	2	1	1 (6)	511
15	79	Downlink & Uplink	Low	3307.5	620500	3300.39	620026	0	30	7711	620352	2	1	1 (6)	7
			Mid	3750	650000	3724.53	648302	102		8018	649824	10	2	0 (2)	106
			High	4192.5	679500	4094.67	672978	504		8325	679296	6	0	0 (2)	506
20	106	Downlink & Uplink	Low	3310.02	620668	3300.48	620032	0	30	7711	620352	8	0	1 (6)	6
			Mid	3750	650000	3722.1	648140	102		8016	649632	4	0	0 (2)	104
			High	4189.98	679332	4089.72	672648	504		8322	679008	0	0	1 (6)	510
25	133	Downlink & Uplink	Low	3312.51	620834	3300.54	620036	0	30	7711	620352	4	0	1 (6)	6
			Mid	3750	650000	3719.67	647978	102		8015	649536	10	1	1 (6)	109
			High	4187.49	679166	4084.8	672320	504		8319	678720	4	3	1 (6)	513
30	160	Downlink & Uplink	Low	3315	621000	3300.6	620040	0	30	7711	620352	0	0	1 (6)	6
			Mid	3750	650000	3717.24	647816	102		8013	649344	4	3	0 (2)	107
			High	4185	679000	4079.88	671992	504		8315	678336	8	2	0 (2)	508
40	216	Downlink & Uplink	Low	3320.01	621334	3300.57	620038	0	30	7711	620352	2	0	1 (6)	6
			Mid	3750	650000	3712.2	647480	102		8010	649056	4	3	1 (6)	111
			High	4179.99	678666	4069.83	671322	504		8308	677664	6	2	0 (2)	508
50	270	Downlink & Uplink	Low	3325.02	621668	3300.72	620048	0	30	7711	620352	4	3	0 (2)	5
			Mid	3750	650000	3707.34	647156	102		8006	648672	4	2	0 (2)	106
			High	4174.98	678332	4059.96	670664	504		8301	676992	4	1	0 (2)	507
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-3 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.77-2: Test frequencies for NR operating band n77, SCS 30 kHz and ΔF_{Raster} 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	3305.01	620334	3300.69	620046	0	30	7711	620352	18	0	2 (2)	4
			Mid	3750	650000	3708.96	647264	102		8020	650016	16	0	2 (2)	208

		Uplink	High	4194.99	679666	4009.23	667282	504		8329	679680	14	0	2 (2)	1012
15	38	Downlink & Uplink	Low	3307.5	620500	3300.66	620044	0	30	7711	620352	20	0	2 (2)	4
			Mid	3750	650000	3706.44	647096	102		8018	649824	16	0	1 (1)	206
			High	4192.5	679500	4004.22	666948	504		8325	679296	12	0	0 (0)	1008
20	51	Downlink & Uplink	Low	3310.02	620668	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4
			Mid	3750	650000	3704.1	646940	102		8016	649632	4	0	0 (0)	204
			High	4189.98	679332	3999.36	666624	504		8322	679008	0	0	2 (2)	1012
25	65	Downlink & Uplink	Low	3312.51	620834	3300.81	620054	0	30	7711	620352	10	0	2 (2)	4
			Mid	3750	650000	3701.58	646772	102		8015	649536	4	0	3 (3)	210
			High	4187.49	679166	3994.35	666290	504		8319	678720	22	0	3 (3)	1014
30	78	Downlink & Uplink	Low	3315	621000	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
			Mid	3750	650000	3699.24	646616	102		8013	649344	16	0	1 (1)	206
			High	4185	679000	3989.52	665968	504		8315	678336	8	0	1 (1)	1010
40	106	Downlink & Uplink	Low	3320.01	621334	3300.93	620062	0	30	7711	620352	2	0	2 (2)	4
			Mid	3750	650000	3694.2	646280	102		8010	649056	16	0	3 (3)	210
			High	4179.99	678666	3979.47	665298	504		8308	677664	6	0	1 (1)	1010
50	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	0	1 (1)	2
			Mid	3750	650000	3689.34	645956	102		8006	648672	4	0	1 (1)	206
			High	4174.98	678332	3969.6	664640	504		8301	676992	16	0	0 (0)	1008
60	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4
			Mid	3750	650000	3684.12	645608	102		8003	648384	16	0	3 (3)	210
			High	4170	678000	3959.4	663960	504		8294	676320	0	0	1 (1)	1010
80	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
			Mid	3750	650000	3674.22	644948	102		7996	647712	4	0	3 (3)	210
			High	4159.98	677332	3939.48	662632	504		8280	674976	8	0	0 (0)	1008
90	245	Downlink & Uplink	Low	3345	623000	3300.9	620060	0	30	7711	620352	4	0	2 (2)	4
			Mid	3750	650000	3669.18	644612	102		7992	647328	4	0	1 (1)	206
			High	4155	677000	3929.46	661964	504		8273	674304	4	0	0 (0)	1008
100	273	Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0	30	7711	620352	6	0	2 (2)	4
			Mid	3750	650000	3664.14	644276	102		7989	647040	4	0	3 (3)	210
			High	4149.99	676666	3919.41	661294	504		8266	673632	2	0	0 (0)	1008

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.77-3: Test frequencies for NR operating band n77, SCS 60 kHz and ΔF_{Raster} 30 kHz without CORESET#0

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF frequency PointA [ARFCN]	offsetToCarrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF frequency SSB [ARFCN]
10	11	Downlink & Uplink	Low	3305.01	620334	3301.05	620070	0	30	-	620310
			Mid	3750	650000	3672.6	644840	102		-	649976
			High	4194.99	679666	3828.15	655210	504		-	679642
15	18	Downlink & Uplink	Low	3307.5	620500	3301.02	620068	0	30	-	620308
			Mid	3750	650000	3670.08	644672	102		-	649808
			High	4192.5	679500	3823.14	654876	504		-	679308
20	24	Downlink & Uplink	Low	3310.02	620668	3301.38	620092	0	30	-	620332
			Mid	3750	650000	3667.92	644528	102		-	649664
			High	4189.98	679332	3818.46	654564	504		-	678996
25	31	Downlink & Uplink	Low	3312.51	620834	3301.35	620090	0	30	-	620330
			Mid	3750	650000	3665.4	644360	102		-	649496
			High	4187.49	679166	3813.45	654230	504		-	678662
30	38	Downlink & Uplink	Low	3315	621000	3301.32	620088	0	30	-	620328
			Mid	3750	650000	3662.88	644192	102		-	649328
			High	4185	679000	3808.44	653896	504		-	678328
40	51	Downlink & Uplink	Low	3320.01	621334	3301.65	620110	0	30	-	620350
			Mid	3750	650000	3658.2	643880	102		-	649016
			High	4179.99	678666	3798.75	653250	504		-	677682
50	65	Downlink & Uplink	Low	3325.02	621668	3301.62	620108	0	30	-	620348
			Mid	3750	650000	3653.16	643544	102		-	648680
			High	4174.98	678332	3788.7	652580	504		-	677012
60	79	Downlink & Uplink	Low	3330	622000	3301.56	620104	0	30	-	620344
			Mid	3750	650000	3648.12	643208	102		-	648344
			High	4170	678000	3778.68	651912	504		-	676344
80	107	Downlink & Uplink	Low	3340.02	622668	3301.5	620100	0	30	-	620340
			Mid	3750	650000	3638.04	642536	102		-	647672
			High	4159.98	677332	3758.58	650572	504		-	675004
90	121	Downlink & Uplink	Low	3345	623000	3301.44	620096	0	30	-	620336
			Mid	3750	650000	3633	642200	102		-	647336
			High	4155	677000	3748.56	649904	504		-	674336
100	135	Downlink & Uplink	Low	3350.01	623334	3301.41	620094	0	30	-	620334
			Mid	3750	650000	3627.96	641864	102		-	647000
			High	4149.99	676666	3738.51	649234	504		-	673666

Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{\text{SSB}}=31$, *controlResourceSetZero*=0 and *searchSpaceZero* = 0 (TS 38.213 [22], clause 13).

4.3.1.1.78

Reference test frequencies for NR operating band n78

Table 4.3.1.1.78-1: Test frequencies for NR operating band n78, SCS 15 kHz and ΔF_{Raster} 15 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	52	Downlink & Uplink	Low	3305.01	620334	3300.33	620022	0	30	7711	620352	6	1	1 (6)	7
			Mid	3549.99	636666	3526.95	635130	102		7881	636672	6	0	1 (6)	108
			High	3795	653000	3699.6	646640	504		8051	652992	4	3	0 (2)	509
15	79	Downlink & Uplink	Low	3307.5	620500	3300.39	620026	0	30	7711	620352	2	1	1 (6)	7
			Mid	3549.99	636666	3524.52	634968	102		7879	636480	0	2	0 (2)	106
			High	3792.48	652832	3694.65	646310	504		8048	652704	10	2	1 (6)	512
20	106	Downlink & Uplink	Low	3310.02	620668	3300.48	620032	0	30	7711	620352	8	0	1 (6)	6
			Mid	3549.99	636666	3522.09	634806	102		7878	636384	6	3	1 (6)	111
			High	3789.99	652666	3689.73	645982	504		8044	652320	2	2	0 (2)	508
25	133	Downlink & Uplink	Low	3312.51	620834	3300.54	620036	0	30	7711	620352	4	0	1 (6)	6
			Mid	3549.99	636666	3519.66	634644	102		7876	636192	0	1	1 (6)	109
			High	3787.5	652500	3684.81	645654	504		8041	652032	6	1	1 (6)	511
30	160	Downlink & Uplink	Low	3315	621000	3300.6	620040	0	30	7711	620352	0	0	1 (6)	6
			Mid	3549.99	636666	3517.23	634482	102		7874	636000	6	2	0 (2)	106
			High	3784.98	652332	3679.86	645324	504		8037	651648	0	1	0 (2)	507
40	216	Downlink & Uplink	Low	3320.01	621334	3300.57	620038	0	30	7711	620352	2	0	1 (6)	6
			Mid	3549.99	636666	3512.19	634146	102		7871	635712	6	2	1 (6)	110
			High	3780	652000	3669.84	644656	504		8030	650976	8	0	0 (2)	506
50	270	Downlink & Uplink	Low	3325.02	621668	3300.72	620048	0	30	7711	620352	4	3	0 (2)	5
			Mid	3549.99	636666	3507.33	633822	102		7867	635328	6	1	0 (2)	105
			High	3774.99	651666	3659.97	643998	504		8024	650400	6	3	1 (6)	513

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-3 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.1.78-2: Test frequencies for NR operating band n78, SCS 30 kHz and ΔF_{Raster} 30 kHz

CBW [MHz]	carrier bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute frequency Point A [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	3305.01	620334	3300.69	620046	0	30	7711	620352	18	0	2 (2)	4
			Mid	3549.99	636666	3508.95	633930	102		7881	636672	6	0	2 (2)	208
			High	3795	653000	3609.24	640616	504		8051	652992	16	0	1 (1)	1010
15	38	Downlink & Uplink	Low	3307.5	620500	3300.66	620044	0	30	7711	620352	20	0	2 (2)	4
			Mid	3549.99	636666	3506.43	633762	102		7879	636480	6	0	1 (1)	206
			High	3792.48	652832	3604.2	640280	504		8048	652704	16	0	3 (3)	1014
20	51	Downlink & Uplink	Low	3310.02	620668	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4
			Mid	3549.99	636666	3504.09	633606	102		7878	636384	18	0	3 (3)	210
			High	3789.99	652666	3599.37	639958	504		8044	652320	2	0	1 (1)	1010
25	65	Downlink & Uplink	Low	3312.51	620834	3300.81	620054	0	30	7711	620352	10	0	2 (2)	4
			Mid	3549.99	636666	3501.57	633438	102		7876	636192	18	0	2 (2)	208
			High	3787.5	652500	3594.36	639624	504		8041	652032	0	0	3 (3)	1014
30	78	Downlink & Uplink	Low	3315	621000	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
			Mid	3549.99	636666	3499.23	633282	102		7874	636000	6	0	1 (1)	206
			High	3784.98	652332	3589.5	639300	504		8037	651648	12	0	0 (0)	1008
40	106	Downlink & Uplink	Low	3320.01	621334	3300.93	620062	0	30	7711	620352	2	0	2 (2)	4
			Mid	3549.99	636666	3494.19	632946	102		7871	635712	6	0	3 (3)	210
			High	3780	652000	3579.48	638632	504		8030	650976	8	0	0 (0)	1008
50	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	0	1 (1)	2
			Mid	3549.99	636666	3489.33	632622	102		7867	635328	18	0	0 (0)	204
			High	3774.99	651666	3569.61	637974	504		8024	650400	18	0	3 (3)	1014
60	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4
			Mid	3549.99	636666	3484.11	632274	102		7864	635040	6	0	3 (3)	210
			High	3769.98	651332	3559.38	637292	504		8016	649632	4	0	0 (0)	1008
70	189	Downlink & Uplink	Low	3335.01	622334	3300.99	620066	0	30	7711	620352	22	0	1 (1)	2
			Mid	3549.99	636666	3479.25	631950	102		7860	634656	18	0	0 (0)	204
			High	3765	651000	3549.54	636636	504		8010	649056	12	0	3 (3)	1014
80	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
			Mid	3549.99	636666	3474.21	631614	102		7857	634368	18	0	2 (2)	208
			High	3759.99	650666	3539.49	635966	504		8003	648384	10	0	3 (3)	1014
90	245	Downlink & Uplink	Low	3345	623000	3300.9	620060	0	30	7711	620352	4	0	2 (2)	4
			Mid	3549.99	636666	3469.17	631278	102		7853	633984	18	0	0 (0)	204
			High	3754.98	650332	3529.44	635296	504		7996	647712	8	0	3 (3)	1014

100	273	Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0	30	7711	620352	6	0	2 (2)	4
			Mid	3549.99	636666	3464.13	630942	102		7850	633696	18	0	2 (2)	208
			High	3750	650000	3519.42	634628	504		7989	647040	4	0	3 (3)	1014
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.78-3: Test frequencies for NR operating band n78, SCS 60 kHz and ΔF_{Raster} 30 kHz without CORESET#0.

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPoint A [ARFCN]	offsetToCarrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]
10	11	Downlink & Uplink	Low	3305.01	620334	3301.05	620070	0	30	-	620310
			Mid	3549.99	636666	3472.59	631506	102		-	636642
			High	3795	653000	3428.16	628544	504		-	652976
15	18	Downlink & Uplink	Low	3307.5	620500	3301.02	620068	0	30	-	620308
			Mid	3549.99	636666	3470.07	631338	102		-	636474
			High	3792.48	652832	3423.12	628208	504		-	652640
20	24	Downlink & Uplink	Low	3310.02	620668	3301.38	620092	0	30	-	620332
			Mid	3549.99	636666	3467.91	631194	102		-	636330
			High	3789.99	652666	3418.47	627898	504		-	652330
25	31	Downlink & Uplink	Low	3312.51	620834	3301.35	620090	0	30	-	620330
			Mid	3549.99	636666	3465.39	631026	102		-	636162
			High	3787.5	652500	3413.46	627564	504		-	651996
30	38	Downlink & Uplink	Low	3315	621000	3301.32	620088	0	30	-	620328
			Mid	3549.99	636666	3462.87	630858	102		-	635994
			High	3784.98	652332	3408.42	627228	504		-	651660
40	51	Downlink & Uplink	Low	3320.01	621334	3301.65	620110	0	30	-	620350
			Mid	3549.99	636666	3458.19	630546	102		-	635682
			High	3780	652000	3398.76	626584	504		-	651016
50	65	Downlink & Uplink	Low	3325.02	621668	3301.62	620108	0	30	-	620348
			Mid	3549.99	636666	3453.15	630210	102		-	635346
			High	3774.99	651666	3388.71	625914	504		-	650346
60	79	Downlink & Uplink	Low	3330	622000	3301.56	620104	0	30	-	620344
			Mid	3549.99	636666	3448.11	629874	102		-	635010
			High	3769.98	651332	3378.66	625244	504		-	649676
70	93	Downlink & Uplink	Low	3335.01	622334	3301.53	620102	0	30		620342
			Mid	3549.99	636666	3443.07	629538	102			634674
			High	3765	651000	3368.64	624576	504			649008
80	107	Downlink & Uplink	Low	3340.02	622668	3301.5	620100	0	30	-	620340
			Mid	3549.99	636666	3438.03	629202	102		-	634338
			High	3759.99	650666	3358.59	623906	504		-	648338
90	121	Downlink & Uplink	Low	3345	623000	3301.44	620096	0	30	-	620336
			Mid	3549.99	636666	3432.99	628866	102		-	634002
			High	3754.98	650332	3348.54	623236	504		-	647668
100	135	Downlink & Uplink	Low	3350.01	623334	3301.41	620094	0	30	-	620334
			Mid	3549.99	636666	3427.95	628530	102		-	633666
			High	3750	650000	3338.52	622568	504		-	647000
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{\text{SSB}}=31$, $\text{controlResourceSetZero}=0$ and $\text{searchSpaceZero}=0$ (TS 38.213 [22], clause 13).											

4.3.1.1.1.79 Reference test frequencies for NR operating band n79

Table 4.3.1.1.79-1: Test frequencies for NR operating band n79, SCS 15 kHz and ΔF_{Raster} 15 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
40	216	Downlink & Uplink	Low	4420.02	694668	4400.58	693372	0	30	8480	694176	0	43	0 (4)	47
			Mid	4699.98	713332	4662.18	710812	102		8672	712608	8	23	0 (4)	129
			High	4980	732000	4869.84	724656	504		8864	731040	0	4	0 (4)	512
50	270	Downlink & Uplink	Low	4425	695000	4400.7	693380	0	30	8480	694176	4	42	0 (4)	46
			Mid	4699.98	713332	4657.32	710488	102		8672	712608	8	50	0 (4)	156
			High	4974.99	731666	4859.97	723998	504		8864	731040	10	58	0 (4)	566
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-5 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

Table 4.3.1.1.79-2: Test frequencies for NR operating band n79, SCS 30 kHz and ΔF_{Raster} 30 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
40	106	Downlink & Uplink	Low	4420.02	694668	4400.94	693396	0	30	8480	694176	12	18	1 (4)	44
			Mid	4700.01	713334	4644.21	709614	102		8672	712608	18	8	1 (4)	228
			High	4980	732000	4779.48	718632	504		8864	731040	0	3	0 (0)	1014
50	133	Downlink & Uplink	Low	4425	695000	4401.06	693404	0	30	8480	694176	4	18	1 (4)	44
			Mid	4700.01	713334	4639.35	709290	102		8672	712608	6	22	1 (4)	256
			High	4974.99	731666	4769.61	717974	504		8864	731040	10	26	1 (4)	1068
60	162	Downlink & Uplink	Low	4430.01	695334	4400.85	693390	0	30	8480	694176	18	18	1 (4)	44
			Mid	4700.01	713334	4634.13	708942	102		8672	712608	18	36	1 (4)	284
			High	4969.98	731332	4759.38	717292	504		8864	731040	20	54	1 (4)	1124
80	217	Downlink & Uplink	Low	4440	696000	4400.94	693396	0	30	8480	694176	12	18	1 (4)	44
			Mid	4700.01	713334	4624.23	708282	102		8656	711072	6	0	1 (4)	212
			High	4959.99	730666	4739.49	715966	504		8848	729504	2	46	1 (4)	1108
100	273	Downlink & Uplink	Low	4450.02	696668	4400.88	693392	0	30	8480	694176	16	18	1 (4)	44
			Mid	4700.01	713334	4614.15	707610	102		8656	711072	6	28	1 (4)	268
			High	4950	730000	4719.42	714628	504		8832	727968	20	37	1 (4)	1090
Note 1:		The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-6 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.													
Note 2:		The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.													

Table 4.3.1.1.79-3: Test frequencies for NR operating band n79, SCS 60 kHz and ΔF_{Raster} 30 kHz without CORESET#0.

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFreque ncyPoin tA [ARFCN]	offsetToC arrier [PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]
40	51	Downlink & Uplink	Low	4420.02	694668	4401.66	693444	0	30	-	693684
			Mid	4700.01	713334	4608.21	707214	102		-	712350
			High	4980	732000	4598.76	706584	504		-	731016
50	65	Downlink & Uplink	Low	4425	695000	4401.6	693440	0	30	-	693680
			Mid	4700.01	713334	4603.17	706878	102		-	712014
			High	4974.99	731666	4588.71	705914	504		-	730346
60	79	Downlink & Uplink	Low	4430.01	695334	4401.57	693438	0	30	-	693678
			Mid	4700.01	713334	4598.13	706542	102		-	711678
			High	4969.98	731332	4578.66	705244	504		-	729676
80	107	Downlink & Uplink	Low	4440	696000	4401.48	693432	0	30	-	693672
			Mid	4700.01	713334	4588.05	705870	102		-	711006
			High	4959.99	730666	4558.59	703906	504		-	728338
100	135	Downlink & Uplink	Low	4450.02	696668	4401.42	693428	0	30	-	693668
			Mid	4700.01	713334	4577.97	705198	102		-	710334
			High	4950	730000	4538.52	702568	504		-	727000
Note: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{\text{SSB}}=31$, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).											

4.3.1.1.1.80 Reference test frequencies for NR operating band n80 (SUL)

Table 4.3.1.1.1.80-1: Test frequencies for NR operating band n80 and SCS 15 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFrequen cyPoin tA [ARFCN]	offsetToC arrier [PRBs]
5	25	Uplink	Low	1712.5	342500	1710.25	342050	0
			Mid	1747.5	349500	1349.61	269922	2198
			High	1782.5	356500	1780.07	356014	1
10	52	Uplink	Low	1715	343000	1710.32	342064	0
			Mid	1747.5	349500	1347.18	269436	2198
			High	1780	356000	1775.14	355028	1
15	79	Uplink	Low	1717.5	343500	1710.39	342078	0
			Mid	1747.5	349500	1344.75	268950	2198
			High	1777.5	355500	1770.21	354042	1
20	106	Uplink	Low	1720	344000	1710.46	342092	0
			Mid	1747.5	349500	1342.32	268464	2198
			High	1775	355000	1765.28	353056	1
25	133	Uplink	Low	1722.5	344500	1710.53	342106	0
			Mid	1747.5	349500	1339.89	267978	2198
			High	1772.5	354500	1760.35	352070	1
30	160	Uplink	Low	1725	345000	1710.6	342120	0
			Mid	1747.5	349500	1337.46	267492	2198
			High	1770	354000	1755.42	351084	1

Table 4.3.1.1.1.80-2: Test frequencies for NR operating band n80 and SCS 30 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFrequen cyPoin tA [ARFCN]	offsetToC arrier [PRBs]
10	24	Uplink	Low	1715	343000	1710.68	342136	0
			Mid	1747.5	349500	951.9	190380	2198
			High	1780	356000	1775.32	355064	1
15	38	Uplink	Low	1717.5	343500	1710.66	342132	0
			Mid	1747.5	349500	949.38	189876	2198
			High	1777.5	355500	1770.3	354060	1
20	51	Uplink	Low	1720	344000	1710.82	342164	0
			Mid	1747.5	349500	947.04	189408	2198
			High	1775	355000	1765.46	353092	1
25	65	Uplink	Low	1722.5	344500	1710.8	342160	0
			Mid	1747.5	349500	944.52	188904	2198
			High	1772.5	354500	1760.44	352088	1
30	78	Uplink	Low	1725	345000	1710.96	342192	0
			Mid	1747.5	349500	942.18	188436	2198
			High	1770	354000	1755.6	351120	1

Table 4.3.1.1.1.80-3: Test frequencies for NR operating band n80 and SCS 60 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
10	11	Uplink	Low	1715	343000	1711.04	342208	0
			Mid	1747.5	349500	160.98	32196	2198
			High	1780	356000	1775.32	355064	1
15	18	Uplink	Low	1717.5	343500	1711.02	342204	0
			Mid	1747.5	349500	158.46	31692	2198
			High	1777.5	355500	1770.3	354060	1
20	24	Uplink	Low	1720	344000	1711.36	342272	0
			Mid	1747.5	349500	156.3	31260	2198
			High	1775	355000	1765.64	353128	1
25	31	Uplink	Low	1722.5	344500	1711.34	342268	0
			Mid	1747.5	349500	153.78	30756	2198
			High	1772.5	354500	1760.62	352124	1
30	38	Uplink	Low	1725	345000	1711.32	342264	0
			Mid	1747.5	349500	151.26	30252	2198
			High	1770	354000	1755.6	351120	1

4.3.1.1.1.81 Reference test frequencies for NR operating band n81 (SUL)

Table 4.3.1.1.1.81-1: Test frequencies for NR operating band n81 and SCS 15 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
5	25	Uplink	Low	882.5	176500	880.25	176050	0
			Mid	897.5	179500	499.61	99922	2198
			High	912.5	182500	910.07	182014	1
10	52	Uplink	Low	885	177000	880.32	176064	0
			Mid	897.5	179500	497.18	99436	2198
			High	910	182000	905.14	181028	1
15	79	Uplink	Low	887.5	177500	880.39	176078	0
			Mid	897.5	179500	494.75	98950	2198
			High	907.5	181500	900.21	180042	1
20	106	Uplink	Low	890	178000	880.46	176092	0
			Mid	897.5	179500	492.32	98464	2198
			High	905	181000	895.28	179056	1

Table 4.3.1.1.1.81-2: Test frequencies for NR operating band n81 and SCS 30 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFrequencyPoin tA [ARFCN]	offsetToC arrier [PRBs]
10	24	Uplink	Low	885	177000	880.68	176136	0
			Mid	897.5	179500	101.9	20380	2198
			High	910	182000	905.32	181064	1
15	38	Uplink	Low	887.5	177500	880.66	176132	0
			Mid	897.5	179500	99.38	19876	2198
			High	907.5	181500	900.3	180060	1
20	51	Uplink	Low	890	178000	880.82	176164	0
			Mid	897.5	179500	97.04	19408	2198
			High	905	181000	895.46	179092	1

4.3.1.1.1.82 Reference test frequencies for NR operating band n82 (SUL)

Table 4.3.1.1.1.82-1: Test frequencies for NR operating band n82 and SCS 15 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFrequencyPoin tA [ARFCN]	offsetToC arrier [PRBs]
5	25	Uplink	Low	834.5	166900	832.25	166450	0
			Mid	847	169400	449.11	89822	2198
			High	859.5	171900	857.07	171414	1
10	52	Uplink	Low	837	167400	832.32	166464	0
			Mid	847	169400	446.68	89336	2198
			High	857	171400	852.14	170428	1
15	79	Uplink	Low	839.5	167900	832.39	166478	0
			Mid	847	169400	444.25	88850	2198
			High	854.5	170900	847.21	169442	1
20	106	Uplink	Low	842	168400	832.46	166492	0
			Mid	847	169400	441.82	88364	2198
			High	852	170400	842.28	168456	1

Table 4.3.1.1.1.82-2: Test frequencies for NR operating band n82 and SCS 30 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFrequencyPoin tA [ARFCN]	offsetToC arrier [PRBs]
10	24	Uplink	Low	837	167400	832.68	166536	0
			Mid	847	169400	51.4	10280	2198
			High	857	171400	852.32	170464	1
15	38	Uplink	Low	839.5	167900	832.66	166532	0
			Mid	847	169400	48.88	9776	2198
			High	854.5	170900	847.3	169460	1
20	51	Uplink	Low	842	168400	832.82	166564	0
			Mid	847	169400	46.54	9308	2198
			High	852	170400	842.46	168492	1

4.3.1.1.1.83 Reference test frequencies for NR operating band n83 (SUL)

Table 4.3.1.1.1.83-1: Test frequencies for NR operating band n83 and SCS 15 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
5	25	Uplink	Low	705.5	141100	703.25	140650	0
			Mid	725.5	145100	632.53	126506	504
			High	745.5	149100	742.17	148434	6
10	52	Uplink	Low	708	141600	703.32	140664	0
			Mid	725.5	145100	630.1	126020	504
			High	743	148600	737.24	147448	6
15	79	Uplink	Low	710.5	142100	703.39	140678	0
			Mid	725.5	145100	627.67	125534	504
			High	740.5	148100	732.31	146462	6
20	106	Uplink	Low	713	142600	703.46	140692	0
			Mid	725.5	145100	625.24	125048	504
			High	738	147600	727.3	145476	6

Table 4.3.1.1.1.83-2: Test frequencies for NR operating band n83 and SCS 30 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
10	24	Uplink	Low	708	141600	703.68	140736	0
			Mid	725.5	145100	539.7	107948	504
			High	743	148600	736.52	147304	6
15	38	Uplink	Low	710.5	142100	703.66	140732	0
			Mid	725.5	145100	537.22	107444	504
			High	740.5	148100	731.5	146300	6
20	51	Uplink	Low	713	142600	703.82	140764	0
			Mid	725.5	145100	534.88	106976	504
			High	738	147600	726.66	145332	6

4.3.1.1.1.84 Reference test frequencies for NR operating band n84 (SUL)

Table 4.3.1.1.1.84-1: Test frequencies for NR operating band n84 and SCS 15 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
5	25	Uplink	Low	1922.5	384500	1920.25	384050	0
			Mid	1950	390000	1857.03	371406	504
			High	1977.5	395500	1974.17	394834	6
10	52	Uplink	Low	1925	385000	1920.32	384064	0
			Mid	1950	390000	1854.6	370920	504
			High	1975	395000	1969.24	393848	6
15	79	Uplink	Low	1927.5	385500	1920.39	384078	0
			Mid	1950	390000	1852.17	370434	504
			High	1972.5	394500	1964.31	392862	6
20	106	Uplink	Low	1930	386000	1920.46	384092	0
			Mid	1950	390000	1849.74	369948	504
			High	1970	394000	1959.38	391876	6

Table 4.3.1.1.1.84-2: Test frequencies for NR operating band n84 and SCS 30 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
10	24	Uplink	Low	1925	385000	1920.68	384136	0
			Mid	1950	390000	1764.24	352848	504
			High	1975	395000	1968.52	393704	6
15	38	Uplink	Low	1927.5	385500	1920.66	384132	0
			Mid	1950	390000	1761.72	352344	504
			High	1972.5	394500	1963.5	392700	6
20	51	Uplink	Low	1930	386000	1920.82	384164	0
			Mid	1950	390000	1759.38	351876	504
			High	1970	394000	1958.66	391732	6

Table 4.3.1.1.1.84-3: Test frequencies for NR operating band n84 and SCS 60 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
10	11	Uplink	Low	1925	385000	1921.04	384208	0
			Mid	1950	390000	1583.16	316632	504
			High	1975	395000	1966.72	393344	6
15	18	Uplink	Low	1927.5	385500	1921.02	384204	0
			Mid	1950	390000	1580.64	316128	504
			High	1972.5	394500	1961.7	392340	6
20	24	Uplink	Low	1930	386000	1921.36	384272	0
			Mid	1950	390000	1578.48	315696	504
			High	1970	394000	1957.04	391408	6

4.3.1.1.1.85 FFS

4.3.1.1.1.86 Reference test frequencies for NR operating band n86 (SUL)

Table 4.3.1.1.1.86-1: Test frequencies for NR operating band n86 and SCS 15 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
5	25	Uplink	Low	1712.5	342500	1710.25	342050	0
			Mid	1745	349000	1347.11	269422	2198
			High	1777.5	355500	1775.07	355014	1
10	52	Uplink	Low	1715	343000	1710.32	342064	0
			Mid	1745	349000	1344.68	268936	2198
			High	1775	355000	1770.14	354028	1
15	79	Uplink	Low	1717.5	343500	1710.39	342078	0
			Mid	1745	349000	1342.25	268450	2198
			High	1772.5	354500	1765.21	353042	1
20	106	Uplink	Low	1720	344000	1710.46	342092	0
			Mid	1745	349000	1339.82	267964	2198
			High	1770	354000	1760.28	352056	1
40	216	Uplink	Low	1730	346000	1710.56	342112	0
			Mid	1745	349000	1329.92	265984	2198
			High	1760	352000	1740.38	348076	1

Table 4.3.1.1.1.86-2: Test frequencies for NR operating band n86 and SCS 30 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
10	24	Uplink	Low	1715	343000	1710.68	342136	0
			Mid	1745	349000	949.4	189880	2198
			High	1775	355000	1770.32	354064	1
15	38	Uplink	Low	1717.5	343500	1710.66	342132	0
			Mid	1745	349000	946.88	189376	2198
			High	1772.5	354500	1765.3	353060	1
20	51	Uplink	Low	1720	344000	1710.82	342164	0
			Mid	1745	349000	944.54	188908	2198
			High	1770	354000	1760.46	352092	1
40	106	Uplink	Low	1730	346000	1710.92	342184	0
			Mid	1745	349000	934.64	186928	2198
			High	1760	352000	1740.56	348112	1

Table 4.3.1.1.1.86-3: Test frequencies for NR operating band n86 and SCS 60 kHz

Bandwidth [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
10	11	Uplink	Low	1715	343000	1711.04	342208	0
			Mid	1745	349000	158.48	31696	2198
			High	1775	355000	1770.32	354064	1
15	18	Uplink	Low	1717.5	343500	1711.02	342204	0
			Mid	1745	349000	155.96	31192	2198
			High	1772.5	354500	1765.3	353060	1
20	24	Uplink	Low	1720	344000	1711.36	342272	0
			Mid	1745	349000	153.8	30760	2198
			High	1770	354000	1760.64	352128	1
40	51	Uplink	Low	1730	346000	1711.64	342328	0
			Mid	1745	349000	144.08	28816	2198
			High	1760	352000	1740.92	348184	1

4.3.1.1.1.86 to 4.3.1.1.1.94 FFS

4.3.1.1.1.95 Reference test frequencies for NR operating band n95 (SUL)

Table 4.3.1.1.1.95-1: Test frequencies for NR operating band n95 and SCS 15 kHz

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
5	25	Uplink	Low	2012.5	402500	2010.25	402050	0
			Mid	2017.5	403500	1924.53	384906	504
			High	2022.5	404500	2019.17	403834	6
10	52	Uplink	Low	2015	403000	2010.32	402064	0
			Mid	2017.5	403500	1922.1	384420	504
			High	2020	404000	2014.24	402848	6
15	79	Uplink	Low, Mid, High	2017.5	403500	2010.39	402078	0

Table 4.3.1.1.1.95-2: Test frequencies for NR operating band n95 and SCS 30 kHz

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [PRBs]
10	24	Uplink	Low	2015	403000	2010.68	402136	0
			Mid	2017.5	403500	1831.74	366348	504
			High	2020	404000	2013.52	402704	6
15	38	Uplink	Low, Mid, High	2017.5	403500	2010.66	402132	0

Table 4.3.1.1.1.95-3: Test frequencies for NR operating band n95 and SCS 60 kHz

CBW [MHz]	carrierBand width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFreque ncyPoin tA [ARFCN]	offsetToC arrier [PRBs]
10	11	Uplink	Low	2015	403000	2011.04	402208	0
			Mid	2017.5	403500	1650.66	330132	504
			High	2020	404000	2011.72	402344	6
15	18	Uplink	Low, Mid, High	2017.5	403500	2011.02	402204	0

4.3.1.1.2 NR inter-band CA configurations in FR1

4.3.1.1.2.1 NR inter-band CA configurations in FR1 (two bands)

Table 4.3.1.1.2.1-1: Inter-band NR CA configurations (FR1, two bands)

NR CA configuration	Uplink NR CA configuration	NR CA downlink configuration band 1	NR CA downlink configuration band 2	NR CA uplink configuration band 1	NR CA uplink configuration band 2	Applicable for protocol testing (Note 2)
CA_n1A-n77A	-	n1A	n77A	-	-	Yes
CA_n1A-n78A	CA_n1A-n78A	n1A	n78A	n1A	n78A	Yes
CA_n1A-n78C	CA_n1A-n78A	n1A	CA_n78C	n1A	n78A	No
CA_n3A-n77A	-	n3A	n77A	-	-	Yes
CA_n3A-n78A	CA_n3A-n78A	n3A	n78A	N3A	n78A	Yes
CA_n3A-n79A	CA_n3A-n79A	n3A	n79A	N3A	n79A	Yes
CA_n8A-n75A	-	n8A	n75A	-	-	Yes
CA_n8A-n78A	CA_n8A-n78A	n8A	n78A	N8A	n78A	Yes
CA_n8A-n79A	CA_n8A-n79A	n8A	n79A	n8A	n79A	Yes
CA_n28A-n75A	-	n28A	n75A	-	-	Yes
CA_n28A-n78A	CA_n28A-n78A	n28A	n78A	n28A	n78A	Yes
CA_n29A-n66A	-	n29A	n66A (Note 1)	-	-	Yes
CA_n41A-n78A	-	n41A	n78A	-	-	Yes
CA_n41A-n79A	-	n41A	n79A	-	-	Yes
CA_n66A-n70A	-	n66A	n70A	-	-	Yes
CA_n66B-n70A	-	CA_n66B	n70A	-	-	No
CA_n66(2A)-n70A	-	CA_n66(2A)	n70A	-	-	No
CA_n66A-n71A	- CA_n66A-n71A	n66A	n71A	-	-	Yes
CA_n66B-n71A	CA_n66A-n71A-	CA_n66B	n71A	-	-	No
CA_n66(2A)-n71A	CA_n66A-n71A-	CA_n66(2A)	n71A	-	-	No
CA_n70A-n71A	- CA_n70A-n71A	n70A	n71A	-	-	Yes
CA_n75A-n78A	-	n75A	n78A (Note 1)	-	-	Yes
CA_n76A-n78A	-	n76A	n78A (Note 1)	-	-	Yes
CA_n77A-n79A	-	n77A	n79A	-	-	Yes
CA_n78A-n79A	-	n78A	n79A	-	-	Yes

Note 1: This band is used as PCell.
Note 2: Protocol testing is limited to NR CA configurations with 2CC.

4.3.1.1.2.2 NR inter-band CA configurations in FR1 (three bands)

Table 4.3.1.1.2.2-1: Inter-band NR CA configurations within FR1 (three bands)

NR CA configuration	Uplink NR CA configuration	NR CA downlink configuration band 1	NR CA downlink configuration band 2	NR CA downlink configuration band 3	NR CA uplink configuration on band 1	NR CA uplink configuration on band 2	NR CA uplink configuration on band 3
CA_n29A-n66A-n70A	-	n29A (Note1)	n66A	n70A	-	-	-
CA_n29A-n66B-n70A	-	n29A (Note1)	n66B	n70A	-	-	-
CA_n29A-n66(2A)-n70A	-	n29A (Note1)	n66(2A)	n70A	-	-	-
CA_n66A-n70A-n71A	CA_n66A-n71A CA_n70A-n71A -	n66A	n70A	n71A	-	-	-
CA_n66B-n70A-n71A	CA_n66A-n71A CA_n70A-n71A -	CA_n66B	n70A	n71A	-	-	-
CA_n66(2A)-n70A-n71A	CA_n66A-n71A CA_n70A-n71A -	CA_n66(2A)	n70A	n71A	-	-	-
Note 1: This band cannot be used as PCell.							

4.3.1.1.3 NR intra-band contiguous CA in FR1

4.3.1.1.3.1 – 4.3.1.1.3.39 FFS

4.3.1.1.3.40 NR Intra-band contiguous configurations CA_n40

4.3.1.1.3.40.1 CA_n40B

Editor's note: Test frequencies for CA_n40B with mixed numerology with SCS CC1=15 kHz and SCS CC2=30 kHz or 60 kHz; and SCS CC1=30 kHz and SCS CC2= 15 kHz or 60kHz is FFS.

Table 4.3.1.1.3.40.1-1: NR Intra-Band contiguous CA configuration CA_n40B (PCC=CC1 and SCC=CC2), CC1 SCS = 15kHz, CC2 SCS = 15kHz

CBW combination [MHz]	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute FrequencyPoint A [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute FrequencySSB [ARFCN]	k_{SSB}	Offset carrier CORESET#0 [RBs] Note 3	CORESET #0 Index (Offset [RBs]) Note 4	offsetToPoint A (SIB1) [PRBs] Note 4
50+50	CC1	50	15	270	Downlink & Uplink	Low	2325	465000	2300.7	460140	0	30	5763	461070	10	3	0 (2)	5
						Mid												
						High	2325.2	465040	2210.18	442036	504		5762	461050	2	2	0 (2)	508
	Channel spacing CC1-CC2=49.8 MHz (Note 1)																	
	CC2	50	15	270	Downlink & Uplink	Low	2374.8	474960	2350.5	470100	0	30	5886	470910	6	0	0 (2)	2
						Mid												
High						2375	475000	2259.98	451996	504	5888		471130	6	1	1 (6)	511	
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination. Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case. Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs. Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

Table 4.3.1.1.3.40.1-2: NR Intra-Band contiguous CA configuration CA_n40B (PCC=CC1 and SCC=CC2), CC1 SCS = 30kHz, CC2 SCS = 30kHz

CBW combination [MHz]	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute FrequencyPoint A [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute FrequencySSB [ARFCN]	k_{SSB}	Offset carrier CORE SET#0 [RBs] Note 3	CORE SET #0 Index (Offset [RBs]) Note 4	offsetToPoint A (SIB1) [PRBs] Note 4
20+80	CC1	20	30	51	Downlink & Uplink	Low	2310	462000	2300.82	460164	0	30	5763	461070	14	0	2 (2)	4
						Mid												
						High	2310.2	462040	2119.58	423916	504		5762	461050	18	0	1 (1)	1010
	Channel spacing CC1-CC2=49.8 MHz (Note 1)																	
	CC2	80	30	217	Downlink	Low	2359.8	471960	2320.74	464148	0	30	5811	464910	14	0	0 (0)	0

					& Uplink	Mid												
50+50	CC1	50	30	133	Downlink & Uplink	High	2360	472000	2139.5	427900	504	30	5813	465130	2	0	3 (3)	1014
						Low	2325	465000	2301.06	460212	0		5763	461070	22	0	1 (1)	2
					Mid													
					High	2325.2	465040	2119.82	423964	504	5762		461050	2	0	1 (1)	1010	
	Channel spacing CC1-CC2=49.8 MHz (Note 1)																	
	CC2	50	30	133	Downlink & Uplink	Low	2374.8	474960	2350.86	470172	0	30	5886	470910	6	0	0 (0)	0
Mid																		
High						2375	475000	2169.62	433924	504	5888		471130	18	0	2 (2)	1012	
80+20	CC1	80	30	217	Downlink & Uplink	Low	2340	468000	2300.94	460188	0	30	5763	461070	6	0	2 (2)	4
						Mid												
					High	2340.2	468040	2119.7	423940	504	5762		461050	10	0	1 (1)	1010	
					Channel spacing CC1-CC2=49.8 MHz (Note 1)													
	CC2	20	30	51	Downlink & Uplink	Low	2389.8	477960	2380.62	476124	0	30	5961	476910	22	0	0 (0)	0
						Mid												
High						2390	478000	2199.38	439876	504	5960		476890	2	0	0 (0)	1008	
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		
Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.1.3.41

NR Intra-band contiguous configurations CA_n41

4.3.1.1.3.41.1 CA_{n41C}

Editor's note: Test frequencies for CA_{n41C} with mixed numerology with SCS CC1=15 kHz and SCS CC2=30 kHz or 60 kHz; and SCS CC1=30 kHz and SCS CC2= 30 kHz or 60kHz is FFS.

Table 4.3.1.1.3.41.1-1: NR Intra-Band contiguous CA configuration CA_{n41C} (PCC=CC1 and SCC=CC2), CC1 SCS = 30kHz, CC2 SCS = 30 kHz

CBW combi nation	CA Aggre gated CBW [MHz] Note 5	CC Note 2	CBW [MHz]	SCS [kHz]	carri erBa ndwi dth [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolut eFreque ncyPoin tA [ARFCN]	offse tToC arrier [Carr ier PRB s]	SS bloc k SCS [kHz]	GSCN	absolut eFreque ncySSB [ARFCN]	k_{SSB}	carrier CORE SET#0 [RBs] Note 3	COR ESET #0 Index (Offs et [RBs) Note 4	offset ToPoint A (SIB1) [PRBs] Note 4	
40+80	119.9 2	CC1	40	30	106	Downlink & Uplink	Low	2516.01	503202	2496.93	499386	0	30	6252	500190	4	0	1 (1)	2	
							Mid	2553	510600	2497.2	499440	102		6345	507630	18	0	1 (1)	206	
							High	2590.17	518034	2389.65	477930	504		6438	515070	20	0	1 (1)	1010	
			Channel spacing CC1-CC2=59.82 MHz (Note 1)																	
		CC2	80	30	217	Downlink & Uplink	Low	2575.83	515166	2536.77	507354	0	30	6351	508110	12	0	0 (0)	0	
							Mid	2612.82	522564	2537.04	507408	102		6444	515550	2	0	1 (1)	206	
							High	2649.99	529998	2429.49	485898	504		6537	522990	4	0	1 (1)	1010	
	40+100	139.9	CC1	40	30	106	Downlink & Uplink	Low	2516.01	503202	2496.93	499386	0	30	6252	500190	4	0	1 (1)	2
								Mid	2543.01	508602	2487.21	497442	102		6321	505710	20	0	2 (2)	208
								High	2570.28	514056	2369.76	473952	504		6387	510990	10	0	0 (0)	1008
			Channel spacing CC1-CC2=69.72 MHz (Note 1)																	
		CC2	100	30	273	Downlink & Uplink	Low	2585.73	517146	2536.59	507318	0	30	6351	508110	0	0	1 (1)	2	
							Mid	2612.73	522546	2526.87	505374	102		6420	513630	16	0	2 (2)	208	
							High	2640	528000	2409.42	481884	504		6486	518910	6	0	0 (0)	1008	
50+60		109.9 4	CC1	50	30	133	Downlink & Uplink	Low	2521.02	504204	2497.08	499416	0	30	6252	500190	18	0	0 (0)	0
								Mid	2562.99	512598	2502.33	500466	102		6357	508590	20	0	0 (0)	204
								High	2605.02	521004	2399.64	479928	504		6462	516990	18	0	0 (0)	1008
			Channel spacing CC1-CC2=54.96 MHz (Note 1)																	
		CC2	60	30	162	Downlink & Uplink	Low	2575.98	515196	2546.82	509364	0	30	6378	510270	14	0	2 (2)	4	
							Mid	2617.95	523590	2552.07	510414	102		6483	518670	16	0	2 (2)	208	
							High	2659.98	531996	2449.38	489876	504		6588	527070	14	0	2 (2)	1012	
	50+80	129.9 2	CC1	50	30	133	Downlink & Uplink	Low	2521.02	504204	2497.08	499416	0	30	6252	500190	18	0	0 (0)	0
								Mid	2553	510600	2492.34	498468	102		6333	506670	22	0	1 (1)	206
								High	2585.13	517026	2379.75	475950	504		6414	513150	16	0	2 (2)	1012

		Channel spacing CC1-CC2=64.86 MHz (Note 1)																	
		CC2	80	30	217	Downlink & Uplink	Low	2585.88	517176	2546.82	509364	0	30	6378	510270	14	0	2 (2)	4
50+100	149.9	CC1	50	30	133	Downlink & Uplink	Mid	2617.86	523572	2542.08	508416	102	30	6456	516510	10	0	0 (0)	204
							High	2649.99	529998	2429.49	485898	504		6537	522990	4	0	1 (1)	1010
							Low	2521.02	504204	2497.08	499416	0		6252	500190	18	0	0 (0)	0
							Mid	2543.01	508602	2482.35	496470	102		6309	504750	0	0	3 (3)	210
							High	2565.24	513048	2359.86	471972	504		6363	509070	6	0	1 (1)	1010
							Channel spacing CC1-CC2=74.76 MHz (Note 1)												
	109.9 4	CC1	60	30	162	Downlink & Uplink	Low	2595.78	519156	2546.64	509328	0	30	6378	510270	2	0	3(3)	6
							Mid	2617.77	523554	2531.91	506382	102		6432	514590	0	0	2(2)	208
							High	2640	528000	2409.42	481884	504		6486	518910	6	0	0(0)	1008
							Low	2526	505200	2496.84	499368	0		6252	500190	10	0	1 (1)	2
							Mid	2568	513600	2502.12	500424	102		6357	508590	10	0	1 (1)	206
							High	2610.03	522006	2399.43	479886	504		6462	516990	8	0	1 (1)	1010
Channel spacing CC1-CC2=54.96 MHz (Note 1)																			
119.9 4	CC1	60	30	162	Downlink & Uplink	Low	2580.96	516192	2557.02	511404	0	30	6402	512190	22	0	0 (0)	0	
						Mid	2622.96	524592	2562.3	512460	102		6507	520590	22	0	0 (0)	204	
						High	2664.99	532998	2459.61	491922	504		6612	528990	20	0	0 (0)	1008	
						Low	2526	505200	2496.84	499368	0		6252	500190	10	0	1 (1)	2	
						Mid	2562.99	512598	2497.11	499422	102		6345	507630	0	0	2 (2)	208	
						High	2599.98	519996	2389.38	477876	504		6438	515070	14	0	2 (2)	1012	
Channel spacing CC1-CC2=60 MHz (Note 1)																			
139.9 2	CC1	60	30	162	Downlink & Uplink	Low	2586	517200	2556.84	511368	0	30	6402	512190	10	0	1 (1)	2	
						Mid	2622.99	524598	2557.11	511422	102		6495	519630	0	0	2 (2)	208	
						High	2659.98	531996	2449.38	489876	504		6588	527070	14	0	2 (2)	1012	
						Low	2526	505200	2496.84	499368	0		6252	500190	10	0	1 (1)	2	
						Mid	2553	510600	2487.12	497424	102		6321	505710	2	0	3 (3)	210	
						High	2580.09	516018	2369.49	473898	504		6387	510990	4	0	1 (1)	1010	
Channel spacing CC1-CC2=69.9 MHz (Note 1)																			
159.9	CC1	60	30	162	Downlink & Uplink	Low	2595.9	519180	2556.84	511368	0	30	6402	512190	10	0	1 (1)	2	
						Mid	2622.9	524580	2547.12	509424	102		6471	517710	2	0	3 (3)	210	
						High	2649.99	529998	2429.49	485898	504		6537	522990	4	0	1 (1)	1010	
						Low	2526	505200	2496.84	499368	0		6252	500190	10	0	1 (1)	2	
						Mid	2543.01	508602	2477.13	495426	102		6294	503550	20	0	0 (0)	204	
						High	2560.2	512040	2349.6	469920	504		6339	507150	2	0	3 (3)	1014	
Channel spacing CC1-CC2=79.8 MHz (Note 1)																			
119.9 2	CC1	80	30	217	Downlink & Uplink	Low	2605.8	521160	2556.66	511332	0	30	6402	512190	22	0	1 (1)	2	
						Mid	2622.81	524562	2536.95	507390	102		6444	515550	8	0	1 (1)	206	
						High	2640	528000	2409.42	481884	504		6486	518910	6	0	0 (0)	1008	
						Low	2536.02	507204	2496.96	499392	0		6252	500190	2	0	1 (1)	2	

						& Uplink	Mid	2573.01	514602	2497.23	499446	102		6345	507630	16	0	1 (1)	206						
							High	2610.18	522036	2389.68	477936	504		6438	515070	18	0	1 (1)	1010						
		Channel spacing CC1-CC2=59.82 MHz (Note 1)																							
		CC2	40	30	106	Downlink & Uplink	Low	2595.84	519168	2576.76	515352	0	30	6453	516270	18	0	2 (2)	4						
80+50	129.9 2	CC1	80	30	217	Downlink & Uplink	Mid	2632.83	526566	2577.03	515406	102		6543	523470	0	0	0 (0)	204						
							High	2670	534000	2469.48	493896	504		6636	530910	2	0	0 (0)	1008						
							Low	2536.02	507204	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2						
							Mid	2568	513600	2492.22	498444	102		6333	506670	6	0	2 (2)	208						
							High	2600.13	520026	2379.63	475926	504		6414	513150	0	0	3 (3)	1014						
							Channel spacing CC1-CC2=64.86 MHz (Note 1)																		
		CC2	50	30	133	Downlink & Uplink	Low	2600.88	520176	2576.94	515388	0	30	6453	516270	6	0	2 (2)	4						
							Mid	2632.86	526572	2572.2	514440	102		6531	522510	2	0	0 (0)	204						
							High	2664.99	532998	2459.61	491922	504		6612	528990	20	0	0 (0)	1008						
							Low	2536.02	507204	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2						
Mid							2562.99	512598	2487.21	497442	102		6321	505710	20	0	2 (2)	208							
High							2590.08	518016	2369.58	473916	504		6387	510990	22	0	0 (0)	1008							
80+60	139.9 2	CC1	80	30	217	Downlink & Uplink	Channel spacing CC1-CC2=69.9 MHz (Note 1)																		
								CC2	60	30	162	Downlink & Uplink	Low	2605.92	521184	2576.76	515352	0	30	6453	516270	18	0	2 (2)	4
													Mid	2632.89	526578	2567.01	513402	102		6519	521550	4	0	1 (1)	206
						High							2659.98	531996	2449.38	489876	504		6588	527070	14	0	2 (2)	1012	
							CC1	80	30	217	Downlink & Uplink	Low	2536.02	507204	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2	
												Mid	2553	510600	2477.22	495444	102		6294	503550	14	0	0 (0)	204	
	High	2570.01	514002	2349.51	469902							504		6336	506910	0	0	0 (0)	1008						
		CC2	80	30	217	Downlink & Uplink	Channel spacing CC1-CC2=79.98 MHz (Note 1)																		
								CC2	80	30	217	Downlink & Uplink	Low	2616	523200	2576.94	515388	0	30	6453	516270	6	0	2 (2)	4
													Mid	2632.98	526596	2557.2	511440	102		6495	519630	18	0	1 (1)	206
High						2649.99							529998	2429.49	485898	504		6537	522990	4	0	1 (1)	1010		
						CC1	80	30	217	Downlink & Uplink	Low	2536.02	507204	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2		
											Mid	2543.01	508602	2467.23	493446	102		6270	501630	16	0	1 (1)	206		
	High	2550.12	510024	2329.62	465924						504		6288	503070	22	0	1 (1)	1010							
80+100	179.9	CC1	80	30	217	Downlink & Uplink	Channel spacing CC1-CC2=89.88 MHz (Note 1)																		
								CC2	100	30	273	Downlink & Uplink	Low	2625.9	525180	2576.76	515352	0	30	6453	516270	18	0	2 (2)	4
													Mid	2632.89	526578	2547.03	509406	102		6468	517470	0	0	0 (0)	204
						High							2640	528000	2409.42	481884	504		6486	518910	6	0	0 (0)	1008	
							CC1	100	30	273	Downlink & Uplink	Low	2546.01	509202	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2	
												Mid	2573.01	514602	2487.15	497430	102		6321	505710	0	0	3 (3)	210	
	High	2600.28	520056	2369.7	473940							504		6387	510990	14	0	0 (0)	1008						
		CC2	40	30	106	Downlink & Uplink	Channel spacing CC1-CC2=69.72 MHz (Note 1)																		
								CC2	40	30	106	Downlink & Uplink	Low	2615.73	523146	2596.65	519330	0	30	6501	520110	20	0	0 (0)	0
													Mid	2642.73	528546	2586.93	517386	102		6570	525630	12	0	2 (2)	208
High						2670							534000	2469.48	493896	504		6636	530910	2	0	0 (0)	1008		

100+50	149.9	CC1	100	30	273	Downlink & Uplink	Low	2546.01	509202	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2	
							Mid	2568	513600	2482.14	496428	102		6306	504510	6	0	0 (0)	204	
							High	2590.23	518046	2359.65	471930	504		6363	509070	20	0	1 (1)	1010	
		Channel spacing CC1-CC2=74.76 MHz (Note 1)																		
		CC2	50	30	133	Downlink & Uplink	Low	2620.77	524154	2596.83	519366	0	30	6501	520110	8	0	0 (0)	0	
							Mid	2642.76	528552	2582.1	516420	102		6558	524670	14	0	2 (2)	208	
							High	2664.99	532998	2459.61	491922	504		6612	528990	20	0	0 (0)	1008	
	100+60	159.9	CC1	100	30	273	Downlink & Uplink	Low	2546.01	509202	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2
								Mid	2562.99	512598	2477.13	495426	102		6294	503550	20	0	0 (0)	204
								High	2580.18	516036	2349.6	469920	504		6339	507150	2	0	3 (3)	1014
		Channel spacing CC1-CC2=79.8 MHz (Note 1)																		
		CC2	60	30	162	Downlink & Uplink	Low	2625.81	525162	2596.65	519330	0	30	6501	520110	20	0	0 (0)	0	
							Mid	2642.79	528558	2576.91	515382	102		6543	523470	8	0	0 (0)	204	
							High	2659.98	531996	2449.38	489876	504		6588	527070	14	0	2 (2)	1012	
100+80		179.9	CC1	100	30	273	Downlink & Uplink	Low	2546.01	509202	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2
								Mid	2553	510600	2467.14	493428	102		6270	501630	22	0	1 (1)	206
								High	2560.11	512022	2329.53	465906	504		6288	503070	4	0	2 (2)	1012
		Channel spacing CC1-CC2=89.88 MHz (Note 1)																		
		CC2	80	30	217	Downlink & Uplink	Low	2635.89	527178	2596.83	519366	0	30	6501	520110	8	0	0 (0)	0	
							Mid	2642.88	528576	2567.1	513420	102		6519	521550	22	0	0 (0)	204	
							High	2649.99	529998	2429.49	485898	504		6537	522990	4	0	1 (1)	1010	

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 5: Corresponds to CA aggregated channel bandwidth $BW_{\text{Channel CA}}$ in accordance with TS 38.101-1 [7] clause 5.3A.3.

4.3.1.1.3.42 – 4.3.1.1.3.65 FFS

4.3.1.1.3.66 NR Intra-band contiguous configurations CA_n66

4.3.1.1.3.66.1 CA_n66B

Editor's note: Test frequencies for CA_n66B with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.3.66.1-1: NR Intra-Band contiguous CA configuration CA_n66B (PCC=CC1 and SCC=CC2), SCS 15 kHz

CBW combination	CA Aggregated CBW [MHz] Note 5	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset carrier CORE SET#0 [RBs] Note 3	CORE SET #0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
5+20	24.98	CC1	5	15	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0 (0)	0
							Mid	2135	427000	2114.39	422878	102		5336	426970	8	1	0 (0)	103
							High	2158	431600	2065.03	413006	504		5395	431570	8	1	0 (0)	505
						Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
							Mid	1735	347000	1642.03	328406	504		-	-	-	-	-	-
							High	1758	351600	1754.67	350934	6		-	-	-	-	-	-
		Channel spacing CC1-CC2=12 MHz (Note 1)																	
		CC2	20	15	106	Downlink	Low	2124.5	424900	2114.96	422992	0	15	5291	423370	6	0	0 (0)	0
							Mid	2147	429400	2119.1	423820	102		5348	427930	2	0	1 (2)	104
							High	2170	434000	2069.74	413948	504		5407	432530	2	0	1 (2)	506
						Uplink	Low	1724.5	344900	1714.96	342992	0	-	-	-	-	-	-	-
							Mid	1747	349400	1646.74	329348	504		-	-	-	-	-	-
							High	1770	354000	1759.38	351876	6		-	-	-	-	-	-
5+40	44.98	CC1	5	15	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0 (0)	0
							Mid	2125	425000	2104.39	420878	102		5314	425090	0	1	2 (4)	107
							High	2138.1	427620	2045.13	409026	504		5346	427710	0	1	2 (4)	509
						Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
							Mid	1725	345000	1632.03	326406	504		-	-	-	-	-	-
							High	1738.1	347620	1734.77	346954	6		-	-	-	-	-	-
		Channel spacing CC1-CC2=21.9 MHz (Note 1)																	
		CC2	40	15	216	Downlink	Low	2134.4	426880	2114.96	422992	0	15	5291	423370	6	0	0 (0)	0
							Mid	2146.9	429380	2109.1	421820	102		5326	426050	6	1	2 (4)	107

10+15	24.94	CC1	10	15	52	Uplink	High	2160	432000	2049.84	409968	504	-	5358	428670	6	1	2 (4)	509		
							Low	1734.4	346880	1714.96	342992	0		-	-	-	-	-	-		
							Mid	1746.9	349380	1636.74	327348	504		-	-	-	-	-	-		
						Downlink	High	1760	352000	1739.48	347896	6		15	-	-	-	-	-	-	-
							Low	2115	423000	2110.32	422064	0			5280	422430	2	0	0 (0)	0	
							Mid	2137.5	427500	2114.46	422892	102			5337	426990	10	1	0 (0)	103	
						Uplink	High	2160.2	432040	2064.8	412960	504			-	5393	431530	10	1	0 (0)	505
							Low	1715	343000	1710.32	342064	0				-	-	-	-	-	-
							Mid	1737.5	347500	1642.1	328420	504				-	-	-	-	-	-
	High	1760.2	352040	1754.44	350888	6	-	-	-	-	-	-									
	Channel spacing CC1-CC2=12.3 MHz (Note 1)																				
	Downlink	Low	2127.3	425460	2120.19	424038	0	15	5307	424590	4	1	2 (4)			5					
		Mid	2149.8	429960	2124.33	424866	102		5361	428910	4	0	0 (0)	102							
		High	2172.5	434500	2074.67	414934	504		5417	433450	4	0	0 (0)	504							
		Uplink	Low	1727.3	345460	1720.19	344038		0	-	-	-	-	-		-	-				
			Mid	1749.8	349960	1651.97	330394		504		-	-	-	-	-	-					
			High	1772.5	354500	1764.31	352862		6		-	-	-	-	-	-					
	10+20	29.9	CC1	10	15	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0 (0)	0	
								Mid	2135	427000	2111.96	422392	102		5330	426490	10	1	0 (0)	103	
High								2155.6	431120	2060.2	412040	504	5383		430610	10	1	0 (0)	505		
Uplink							Low	1715	343000	1710.32	342064	0	-		-	-	-	-	-	-	
							Mid	1735	347000	1639.6	327920	504			-	-	-	-	-	-	
							High	1755.6	351120	1749.84	349968	6			-	-	-	-	-	-	
Channel spacing CC1-CC2=14.4 MHz (Note 1)																					
Downlink							Low	2129.4	425880	2119.86	423972	0	15		5304	424350	6	0	0 (0)	0	
							Mid	2149.4	429880	2121.5	424300	102			5354	428410	2	0	1 (2)	104	
	High	2170	434000	2069.74	413948	504	5407	432530	2	0	1 (2)	506									
	Uplink	Low	1729.4	345880	1719.86	343972	0	-	-	-	-	-		-	-						
		Mid	1749.4	349880	1649.14	329828	504		-	-	-	-		-	-						
		High	1770	354000	1759.38	351876	6		-	-	-	-		-	-						
10+40	49.9	CC1	10	15	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0 (0)	0		
							Mid	2125	425000	2101.96	420392	102		5308	424610	2	1	2 (4)	107		
							High	2135.7	427140	2040.3	408060	504		5334	426750	2	1	2 (4)	509		
						Uplink	Low	1715	343000	1710.32	342064	0		-	-	-	-	-	-	-	
							Mid	1725	345000	1629.6	325920	504			-	-	-	-	-	-	
							High	1735.7	347140	1729.94	345988	6			-	-	-	-	-	-	
						Channel spacing CC1-CC2=24.3 MHz (Note 1)															
						Downlink	Low	2139.3	427860	2119.86	423972	0		15	5304	424350	6	0	0 (0)	0	
							Mid	2149.3	429860	2111.5	422300	102			5332	426530	6	1	2 (4)	107	
High	2160	432000	2049.84	409968	504		5358	428670	6	1	2 (4)	509									
Uplink	Low	1739.3	347860	1719.86	343972		0	-	-	-	-	-	-		-						
	Mid	1749.3	349860	1639.14	327828		504		-	-	-	-	-		-						
	High	1760	352000	1739.48	347896		6		-	-	-	-	-		-						
15+10	24.94	CC1	15	15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0 (0)	0		

						Uplink	Mid	2140	428000	2114.53	422906	102	-	5338	427010	0	0	1 (2)	104	
							High	2162.7	432540	2064.87	412974	504		5394	431550	0	0	1 (2)	506	
							Low	1717.5	343500	1710.39	342078	0		-	-	-	-	-	-	
							Mid	1740	348000	1642.17	328434	504		-	-	-	-	-	-	
							High	1762.7	352540	1754.51	350902	6		-	-	-	-	-	-	
		Channel spacing CC1-CC2=12.3 MHz (Note 1)																		
		CC2	10	15	52	Downlink	Low	2129.8	425960	2125.12	425024	0	15	5320	425570	2	1	2 (4)	5	
							Mid	2152.3	430460	2129.26	425852	102		5374	429890	2	0	0 (0)	102	
							High	2175	435000	2079.6	415920	504		5430	434430	2	0	0 (0)	504	
						Uplink	Low	1729.8	345960	1725.12	345024	0	-	-	-	-	-	-	-	
							Mid	1752.3	350460	1656.9	331380	504		-	-	-	-	-	-	
							High	1775	355000	1769.24	353848	6		-	-	-	-	-	-	
15+15	29.94	CC1	15	15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0 (0)	0	
							Mid	2137.5	427500	2112.03	422406	102		5331	426510	0	0	1 (2)	104	
							High	2157.5	431500	2059.67	411934	504		5381	430570	8	1	1 (2)	507	
						Uplink	Low	1717.5	343500	1710.39	342078	0	-	-	-	-	-	-	-	-
							Mid	1737.5	347500	1639.67	327934	504		-	-	-	-	-	-	
							High	1757.5	351500	1749.31	349862	6		-	-	-	-	-	-	
		Channel spacing CC1-CC2=15 MHz (Note 1)																		
		CC2	15	15	79	Downlink	Low	2132.5	426500	2125.39	425078	0	15	5320	425570	8	1	1 (2)	3	
							Mid	2152.5	430500	2127.03	425406	102		5370	429630	4	1	2 (4)	107	
							High	2172.5	434500	2074.67	414934	504		5417	433450	4	0	0 (0)	504	
						Uplink	Low	1732.5	346500	1725.39	345078	0	-	-	-	-	-	-	-	
							Mid	1752.5	350500	1654.67	330934	504		-	-	-	-	-	-	
					High		1772.5	354500	1764.31	352862	6	-		-	-	-	-	-		
15+20	34.94	CC1	15	15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0 (0)	0	
							Mid	2135	427000	2109.53	421906	102		5324	426010	0	0	1 (2)	104	
							High	2152.9	430580	2055.07	411014	504		5371	429650	8	1	1 (2)	507	
						Uplink	Low	1717.5	343500	1710.39	342078	0	-	-	-	-	-	-	-	-
							Mid	1735	347000	1637.17	327434	504		-	-	-	-	-	-	-
							High	1752.9	350580	1744.71	348942	6		-	-	-	-	-	-	-
		Channel spacing CC1-CC2=17.1 MHz (Note 1)																		
		CC2	20	15	106	Downlink	Low	2134.6	426920	2125.06	425012	0	15	5320	425570	6	1	2 (4)	5	
							Mid	2152.1	430420	2124.2	424840	102		5360	428890	6	0	0 (0)	102	
							High	2170	434000	2069.74	413948	504		5407	432530	2	0	1 (2)	506	
						Uplink	Low	1734.6	346920	1725.06	345012	0	-	-	-	-	-	-	-	
							Mid	1752.1	350420	1651.84	330368	504		-	-	-	-	-	-	
					High		1770	354000	1759.38	351876	6	-		-	-	-	-	-		
20+5	24.98	CC1	20	15	106	Downlink	Low	2120	424000	2110.46	422092	0	15	5282	422650	6	1	2 (4)	5	
							Mid	2142.5	428500	2114.6	422920	102		5336	426970	6	0	0 (0)	102	
							High	2165.5	433100	2065.24	413048	504		5395	431570	6	0	0 (0)	504	
						Uplink	Low	1720	344000	1710.46	342092	0	-	-	-	-	-	-	-	-
							Mid	1742.5	348500	1642.24	328448	504		-	-	-	-	-	-	-
							High	1765.5	353100	1754.88	350976	6		-	-	-	-	-	-	-

		Channel spacing CC1-CC2=12 MHz (Note 1)																			
		CC2	5	15	25	Downlink	Low	2132	426400	2129.75	425950	0	15	5330	426490	0	1	2 (4)	5		
							Mid	2154.5	430900	2133.89	426778	102			5384	430810	0	0	0 (0)	102	
							High	2177.5	435500	2084.53	416906	504			5443	435410	0	0	0 (0)	504	
					Uplink		Low	1732	346400	1729.75	345950	0	-	-	-	-	-	-	-		
							Mid	1754.5	350900	1661.53	332306	504			-	-	-	-	-	-	
							High	1777.5	355500	1774.17	354834	6			-	-	-	-	-	-	
20+10	29.9	CC1	20	15	106	Downlink	Low	2120	424000	2110.46	422092	0	15	5282	422650	6	1	2 (4)	5		
							Mid	2140	428000	2112.1	422420	102			5332	426530	2	0	1 (2)	104	
							High	2160.6	432120	2060.34	412068	504			5382	430590	6	0	0 (0)	504	
						Uplink	Low	1720	344000	1710.46	342092	0	-	-	-	-	-	-	-	-	
							Mid	1740	348000	1639.74	327948	504			-	-	-	-	-	-	
							High	1760.6	352120	1749.98	349996	6			-	-	-	-	-	-	
				Channel spacing CC1-CC2=14.4 MHz (Note 1)																	
				CC2	10	15	52	Downlink	Low	2134.4	426880	2129.72	425944	0	15	5330	426490	2	1	2 (4)	5
							Mid		2154.4	430880	2131.36	426272	102			5380	430370	10	1	0 (0)	103
							High		2175	435000	2079.6	415920	504			5430	434430	2	0	0 (0)	504
						Uplink	Low		1734.4	346880	1729.72	345944	0	-	-	-	-	-	-	-	
							Mid		1754.4	350880	1659	331800	504			-	-	-	-	-	-
				High	1775		355000		1769.24	353848	6		-		-	-	-	-	-		
20+15	34.94	CC1	20	15	106	Downlink	Low	2120	424000	2110.46	422092	0	15	5282	422650	6	1	2 (4)	5		
							Mid	2137.5	427500	2109.6	421920	102			5325	426030	2	0	1 (2)	104	
							High	2155.4	431080	2055.14	411028	504			5369	429610	2	0	1 (2)	506	
						Uplink	Low	1720	344000	1710.46	342092	0	-	-	-	-	-	-	-	-	
							Mid	1737.5	347500	1637.24	327448	504			-	-	-	-	-	-	
							High	1755.4	351080	1744.78	348956	6			-	-	-	-	-	-	
				Channel spacing CC1-CC2=17.1 MHz (Note 1)																	
				CC2	15	15	79	Downlink	Low	2137.1	427420	2129.99	425998	0	15	5330	426490	8	1	1 (2)	3
							Mid		2154.6	430920	2129.13	425826	102			5373	429870	4	0	0 (0)	102
							High		2172.5	434500	2074.67	414934	504			5417	433450	4	0	0 (0)	504
						Uplink	Low		1737.1	347420	1729.99	345998	0	-	-	-	-	-	-	-	
							Mid		1754.6	350920	1656.77	331354	504			-	-	-	-	-	-
				High	1772.5		354500		1764.31	352862	6		-		-	-	-	-	-		
40+5	44.98	CC1	40	15	216	Downlink	Low	2130	426000	2110.56	422112	0	15	5283	422670	6	1	2 (4)	5		
							Mid	2142.5	428500	2104.7	420940	102			5312	425050	2	0	1 (2)	104	
							High	2155.6	431120	2045.44	409088	504			5347	427730	10	1	1 (2)	507	
						Uplink	Low	1730	346000	1710.56	342112	0	-	-	-	-	-	-	-	-	
							Mid	1742.5	348500	1632.34	326468	504			-	-	-	-	-	-	
							High	1755.6	351120	1735.08	347016	6			-	-	-	-	-	-	
				Channel spacing CC1-CC2=21.9 MHz (Note 1)																	
				CC2	5	15	25	Downlink	Low	2151.9	430380	2149.65	429930	0	15	5379	430350	8	1	0 (0)	1
							Mid		2164.4	432880	2143.79	428758	102			5411	432970	0	1	2 (4)	107
							High		2177.5	435500	2084.53	416906	504			5443	435410	0	0	0 (0)	504
						Uplink	Low		1751.9	350380	1749.65	349930	0	-	-	-	-	-	-	-	
							Mid		1764.4	352880	1743.79	348758	102			-	-	-	-	-	-
				High	1777.5		355500		1774.17	354834	6		-		-	-	-	-	-		

40+10	49.9	CC1	40	15	216	Downlink	Mid	1764.4	352880	1671.43	334286	504	15	-	-	-	-	-	-
							High	1777.5	355500	1774.17	354834	6		-	-	-	-	-	-
							Low	2130	426000	2110.56	422112	0		5283	422670	6	1	2 (4)	5
							Mid	2140	428000	2102.2	420440	102		5308	424610	10	1	1 (2)	105
							High	2150.7	430140	2040.54	408108	504		5334	426750	10	1	1 (2)	507
							Uplink	Low	1730	346000	1710.56	342112		0	-	-	-	-	-
						Mid		1740	348000	1629.84	325968	504		-	-	-	-	-	-
						High		1750.7	350140	1730.18	346036	6		-	-	-	-	-	-
							Channel spacing CC1-CC2=24.3 MHz (Note 1)												
		CC2	10	15	52	Downlink	Low	2154.3	430860	2149.62	429924	0	15	5379	430350	10	1	0 (0)	1
							Mid	2164.3	432860	2141.26	428252	102		5404	432290	2	0	0 (0)	102
							High	2175	435000	2079.6	415920	504		5430	434430	2	0	0 (0)	504
						Uplink	Low	1754.3	350860	1749.62	349924	0	-	-	-	-	-	-	
							Mid	1764.3	352860	1668.9	333780	504	-	-	-	-	-	-	
							High	1775	355000	1769.24	353848	6	-	-	-	-	-	-	

Note 1:

Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.

Note 2:

CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3:

The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4:

The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 5:

Corresponds to CA aggregated channel bandwidth $BW_{\text{Channel CA}}$ in accordance with TS 38.101-1 [7] clause 5.3A.3.

Table 4.3.1.1.3.66.1-2: NR Intra-Band contiguous CA configuration CA_n66B (PCC=CC1 and SCC=CC2), SCS 30 kHz

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute FrequencyPoint A [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute FrequencySSB [ARFCN]	k_{SSB}	Offset carrier CORE SET#0 [RBs] Note 3	CORESET #0 Index (Offset [RBs]) Note 4	offsetToPoint A (SIB1) [PRBs] Note 4					
10+15	CC1	10	30	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	0	0 (5)	10					
						Mid	2137.5	427500	2096.46	419292	102		5343	427470	14	0	1 (6)	216					
						High	2160.2	432040	1974.44	394888	504		5399	432010	14	0	1 (6)	1020					
					Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-					
						Mid	1737.5	347500	1551.74	310348	504		-	-	-	-	-	-					
						High	1760.2	352040	1753.72	350744	6		-	-	-	-	-	-					
					Channel spacing CC1-CC2=12.3 MHz (Note 1)																		
					CC2	15	30	38	Downlink	Low	2127.3	425460	2120.46	424092	0	15	5310	424830	6	0	0 (5)	10	

10+20	CC1	10	30	24	Uplink	Mid	2149.8	429960	2106.24	421248	102	-	5367	429390	2	0	1 (6)	216		
						High	2172.5	434500	1984.22	396844	504		5423	433930	2	0	1 (6)	1020		
						Low	1727.3	345460	1720.46	344092	0		-	-	-	-	-	-		
						Mid	1749.8	349960	1561.52	312304	504		-	-	-	-	-	-		
						High	1772.5	354500	1763.5	352700	6		-	-	-	-	-	-		
		Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	0	0 (5)	10					
			Mid	2135	427000	2093.96	418792	102		5336	426970	14	0	1 (6)	216					
			High	2155.6	431120	1969.84	393968	504		5389	431090	14	0	1 (6)	1020					
			Low	1715	343000	1710.68	342136	0		-	-	-	-	-	-					
			Mid	1735	347000	1549.24	309848	504		-	-	-	-	-	-					
	Uplink	High	1755.6	351120	1749.12	349824	6	-	-	-	-	-	-							
		Channel spacing CC1-CC2=14.4 MHz (Note 1)																		
		CC2	20	30	51	Downlink	Low	2129.4	425880	2120.22	424044	0	15	5310	424830	22	0	0 (5)	10	
							Mid	2149.4	429880	2103.5	420700	102		5360	428890	18	0	1 (6)	216	
							High	2170	434000	1979.38	395876	504		5413	433010	18	0	1 (6)	1020	
	Uplink	Low	1729.4	345880	1720.22	344044	0	-	-	-	-	-	-	-						
		Mid	1749.4	349880	1558.78	311756	504		-	-	-	-	-	-						
		High	1770	354000	1758.66	351732	6		-	-	-	-	-	-						
	10+40	CC1	10	30	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	0	0 (5)	10	
							Mid	2125	425000	2083.96	416792	102		5314	425090	6	0	3 (8)	220	
High							2135.7	427140	1949.94	389988	504	5340		427230	6	0	3 (8)	1024		
Uplink							Low	1715	343000	1710.68	342136	0		-	-	-	-	-	-	-
							Mid	1725	345000	1539.24	307848	504			-	-	-	-	-	-
			High	1735.7	347140	1729.22	345844	6	-	-	-	-	-		-					
Channel spacing CC1-CC2=24.3 MHz (Note 1)																				
CC2			40	30	106	Downlink	Low	2139.3	427860	2120.22	424044	0	15	5310	424830	22	0	0 (5)	10	
							Mid	2149.3	429860	2093.5	418700	102		5335	426770	2	0	0 (5)	214	
							High	2160	432000	1959.48	391896	504		5361	428910	2	0	0 (5)	1018	
	Uplink	Low					1739.3	347860	1720.22	344044	0	-		-	-	-	-	-	-	
		Mid					1749.3	349860	1548.78	309756	504			-	-	-	-	-	-	
High		1760	352000	1738.76	347752	6	-	-	-	-	-		-							
15+10	CC1	15	30	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	0	1 (6)	12		
						Mid	2140	428000	2096.44	419288	102		5344	427490	22	0	1 (6)	216		
						High	2162.7	432540	1974.42	394884	504		5400	432030	22	0	1 (6)	1020		
						Uplink	Low	1717.5	343500	1710.66	342132		0	-	-	-	-	-	-	-
							Mid	1740	348000	1551.72	310344		504		-	-	-	-	-	-
		High	1762.7	352540	1753.7		350740	6	-	-	-	-	-		-					
		Channel spacing CC1-CC2=12.3 MHz (Note 1)																		
		CC2	10	30	24	Downlink	Low	2129.8	425960	2125.48	425096	0	15	5326	426050	6	0	3 (8)	16	
							Mid	2152.3	430460	2111.26	422252	102		5380	430370	18	0	0 (5)	214	
							High	2175	435000	1989.24	397848	504		5436	434910	18	0	0 (5)	1018	
Uplink	Low						1729.8	345960	1725.48	345096	0	-		-	-	-	-	-	-	
	Mid						1752.3	350460	1566.54	313308	504			-	-	-	-	-	-	
	High	1775	355000	1768.52	353704	6	-	-	-	-	-		-							

15+15	CC1	15	30	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	0	1 (6)	12				
						Mid	2137.5	427500	2093.94	418788	102		5337	426990	22	0	1 (6)	216				
						High	2157.5	431500	1969.22	393844	504		5387	431050	18	0	2 (7)	1022				
						Uplink	Low	1717.5	343500	1710.66	342132		0	-	-	-	-	-	-	-		
							Mid	1737.5	347500	1549.22	309844		504		-	-	-	-	-	-		
							High	1757.5	351500	1748.5	349700		6		-	-	-	-	-	-		
					Channel spacing CC1-CC2=15 MHz (Note 1)																	
					CC2	15	30	38	Downlink	Low	2132.5	426500	2125.66	425132	0	15	5326	426050	18	0	2 (7)	14
										Mid	2152.5	430500	2108.94	421788	102		5373	429870	6	0	0 (5)	214
	High	2172.5	434500	1984.22						396844	504	5423	433930	2	0		1 (6)	1020				
	Uplink	Low	1732.5	346500					1725.66	345132	0	-	-	-	-	-	-	-				
		Mid	1752.5	350500					1564.22	312844	504		-	-	-	-	-	-				
		High	1772.5	354500					1763.5	352700	6		-	-	-	-	-	-				

15+20	CC1	15	30	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	0	1 (6)	12
Mid	2135	427000	2091.44	418288	102	5330	426490	22	0	1 (6)	216							
High	2152.9	430580	1964.62	392924	504	5377	430130	18	0	2 (7)	1022							
Uplink	Low	1717.5	343500	1710.66	342132	0	-	-	-	-	-	-	-					
Mid	1735	347000	1546.72	309344	504	-	-	-	-	-	-							
High	1752.9	350580	1743.9	348780	6	-	-	-	-	-	-							
Channel spacing CC1-CC2=17.1 MHz (Note 1)																		
CC2	20	30	51	Downlink	Low	2134.6	426920	2125.42	425084	0	15	5323	425810	2	0	0 (5)	10	
Mid	2152.1	430420	2106.2	421240	102	5366	429370	22	0	0 (5)	214							
High	2170	434000	1979.38	395876	504	5413	433010	18	0	1 (6)	1020							
Uplink	Low	1734.6	346920	1725.42	345084	0	-	-	-	-	-	-	-					
Mid	1752.1	350420	1561.48	312296	504	-	-	-	-	-	-							
High	1770	354000	1758.66	351732	6	-	-	-	-	-	-							
20+10	CC1	20	30	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	0	0 (5)	10
Mid	2140	428000	2094.1	418820	102	5338	427010	18	0	1 (6)	216							
High	2160.6	432120	1969.98	393996	504	5388	431070	22	0	0 (5)	1018							
Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	-					
Mid	1740	348000	1549.38	309876	504	-	-	-	-	-	-							
High	1760.6	352120	1749.26	349852	6	-	-	-	-	-	-							
Channel spacing CC1-CC2=14.4 MHz (Note 1)																		
CC2	10	30	24	Downlink	Low	2134.4	426880	2130.08	426016	0	15	5336	426970	6	0	3 (8)	16	
Mid	2154.4	430880	2113.36	422672	102	5386	430850	14	0	1 (6)	216							
High	2175	435000	1989.24	397848	504	5436	434910	18	0	0 (5)	1018							
Uplink	Low	1734.4	346880	1730.08	346016	0	-	-	-	-	-	-	-					
Mid	1754.4	350880	1568.64	313728	504	-	-	-	-	-	-							
High	1775	355000	1768.52	353704	6	-	-	-	-	-	-							
20+15	CC1	20	30	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	0	0 (5)	10
Mid	2137.5	427500	2091.6	418320	102	5331	426510	18	0	1 (6)	216							
High	2155.4	431080	1964.78	392956	504	5375	430090	18	0	1 (6)	1020							
Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	-					
Mid	1737.5	347500	1546.88	309376	504	-	-	-	-	-	-							
High	1755.4	350580	1749.26	349852	6	-	-	-	-	-	-							

						High	1755.4	351080	1744.06	348812	6		-	-	-	-	-	-				
	Channel spacing CC1-CC2=17.1 MHz (Note 1)																					
	CC2	15	30	38	Downlink	Low	2137.1	427420	2130.26	426052	0	15	5336	426970	18	0	2 (7)	14				
						Mid	2154.6	430920	2111.04	422208	102		5379	430350	2	0	1 (6)	216				
						High	2172.5	434500	1984.22	396844	504		5423	433930	2	0	1 (6)	1020				
					Uplink	Low	1737.1	347420	1730.26	346052	0	-	-	-	-	-	-	-				
						Mid	1754.6	350920	1566.32	313264	504		-	-	-	-	-	-				
						High	1772.5	354500	1763.5	352700	6		-	-	-	-	-	-				
	40+10	CC1	40	30	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	0	0 (5)	10			
							Mid	2140	428000	2084.2	416840	102		5314	425090	14	0	2 (7)	218			
High							2150.7	430140	1950.18	390036	504	5340		427230	14	0	2 (7)	1022				
Uplink						Low	1730	346000	1710.92	342184	0	-	-	-	-	-	-	-				
						Mid	1740	348000	1539.48	307896	504		-	-	-	-	-	-				
						High	1750.7	350140	1729.46	345892	6		-	-	-	-	-	-				
Channel spacing CC1-CC2=24.3 MHz (Note 1)																						
CC2						10	30	24	Downlink	Low	2154.3	430860	2149.98	429996	0	15	5385	430830	14	0	1 (6)	12
										Mid	2164.3	432860	2123.26	424652	102		5410	432770	18	0	0 (5)	214
		High	2175	435000	1989.24					397848	504	5436	434910	18	0		0 (5)	1018				
	Uplink	Low	1754.3	350860	1749.98				349996	0	-	-	-	-	-	-	-					
		Mid	1764.3	352860	1578.54				315708	504		-	-	-	-	-	-					
		High	1775	355000	1768.52				353704	6		-	-	-	-	-	-					

- Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.
- Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
- Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.1.3.67 – 4.3.1.1.3.77 FFS

4.3.1.1.3.78 NR Intra-band contiguous configurations CA_n78

4.3.1.1.3.78.1 CA_n78C

Editor's note: Test frequencies for CA_n78C with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.3.78.1-1: NR Intra-Band contiguous CA configuration CA_n78C (PCC=CC1 and SCC=CC2), SCS 30 kHz

CBW combi nation	CA Aggre gated CBW [MHz] Note 5	CC Note 2	CBW [MHz]	SCS [kHz]	carri erBa ndwi dth [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolut eFreque ncyPoin tA [ARFCN]	offse tToC arrier [Carr ier PRB s]	SS bloc k SCS [kHz]	GSCN	absolut eFreque ncySSB [ARFCN]	k_{SSB}	Offset carrier CORE SET#0 [RBs] Note 3	COR ESET #0 Index (Offs et [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4	
50+60	109.94	CC1	50	30	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	0	1 (1)	2	
							Mid	3519.99	634666	3459.33	630622	102		7846	633312	2	0	0 (0)	204	
							High	3715.02	647668	3509.64	633976	504		7982	646368	8	0	2 (2)	1012	
		Channel spacing CC1-CC2=54.96 MHz (Note 1)																		
		CC2	60	30	162	Downlink & Uplink	Low	3379.98	625332	3350.82	623388	0	30	7746	623712	12	0	3 (3)	6	
							Mid	3574.95	638330	3509.07	633938	102		7881	636672	22	0	1 (1)	206	
							High	3769.98	651332	3559.38	637292	504		8016	649632	4	0	0 (0)	1008	
	50+80	129.92	CC1	50	30	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	0	1 (1)	2
								Mid	3510	634000	3449.34	629956	102		7840	632736	20	0	3 (3)	210
								High	3695.13	646342	3489.75	632650	504		7968	645024	14	0	1 (1)	1010
	Channel spacing CC1-CC2=64.86 MHz (Note 1)																			
	CC2	80	30	217	Downlink & Uplink	Low	3389.88	625992	3350.82	623388	0	30	7746	623712	12	0	3 (3)	6		
						Mid	3574.86	638324	3499.08	633272	102		7874	636000	16	0	1 (1)	206		
						High	3759.99	650666	3539.49	635966	504		8003	648384	10	0	3 (3)	1014		
50+100	149.9	CC1	50	30	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	0	1 (1)	2	
							Mid	3500.01	633334	3439.35	629290	102		7833	632064	14	0	3 (3)	210	
							High	3675.24	645016	3469.86	631324	504		7954	643680	20	0	0 (0)	1008	
	Channel spacing CC1-CC2=74.76 MHz (Note 1)																			
	CC2	100	30	273	Downlink & Uplink	Low	3399.78	626652	3350.64	623376	0	30	7745	623616	0	0	0 (0)	0		
						Mid	3574.77	638318	3488.91	632594	102		7867	635328	22	0	1 (1)	206		
						High	3750	650000	3519.42	634628	504		7989	647040	4	0	3 (3)	1014		
60+50	109.94	CC1	60	30	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4	
							Mid	3525	635000	3459.12	630608	102		7846	633312	16	0	0 (0)	204	
							High	3720.03	648002	3509.43	633962	504		7982	646368	22	0	2 (2)	1012	
	Channel spacing CC1-CC2=54.96 MHz (Note 1)																			
	CC2	50	30	133	Downlink & Uplink	Low	3384.96	625664	3361.02	624068	0	30	7753	624384	4	0	3 (3)	6		
						Mid	3579.96	638664	3519.3	634620	102		7888	637344	12	0	1 (1)	206		
						High	3774.99	651666	3569.61	637974	504		8024	650400	18	0	3 (3)	1014		
60+60	119.94	CC1	60	30	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4	
							Mid	3519.99	634666	3454.11	630274	102		7843	633024	14	0	2 (2)	208	
							High	3709.98	647332	3499.38	633292	504		7975	645696	20	0	2 (2)	1012	
	Channel spacing CC1-CC2=60 MHz (Note 1)																			

60+80	139.92	CC2	60	30	162	Downlink & Uplink	Low	3390	626000	3360.84	624056	0	30	7753	624384	16	0	3 (3)	6	
							Mid	3579.99	638666	3514.11	634274	102		7885	637056	22	0	3 (3)	210	
							High	3769.98	651332	3559.38	637292	504		8016	649632	4	0	0 (0)	1008	
		CC1	60	30	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4	
							Mid	3510	634000	3444.12	629608	102		7836	632352	8	0	2 (2)	208	
							High	3690.09	646006	3479.49	631966	504		7961	644352	2	0	2 (2)	1012	
	Channel spacing CC1-CC2=69.9 MHz (Note 1)																			
	60+100	159.9	CC2	80	30	217	Downlink & Uplink	Low	3399.9	626660	3360.84	624056	0	30	7753	624384	16	0	3 (3)	6
								Mid	3579.9	638660	3504.12	633608	102		7878	636384	16	0	3 (3)	210
								High	3759.99	650666	3539.49	635966	504		8003	648384	10	0	3 (3)	1014
			CC1	60	30	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4
								Mid	3500.01	633334	3434.13	628942	102		7829	631680	2	0	2 (2)	208
High								3670.2	644680	3459.6	630640	504	7947		643008	8	0	1 (1)	1010	
Channel spacing CC1-CC2=79.8 MHz (Note 1)																				
80+50		129.92	CC2	100	30	273	Downlink & Uplink	Low	3409.8	627320	3360.66	624044	0	30	7752	624288	4	0	0 (0)	0
								Mid	3579.81	638654	3493.95	632930	102		7871	635712	22	0	3 (3)	210
								High	3750	650000	3519.42	634628	504		7989	647040	4	0	3 (3)	1014
			CC1	80	30	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
								Mid	3525	635000	3449.22	629948	102		7839	632640	4	0	0 (0)	204
	High							3710.13	647342	3489.63	632642	504	7968		645024	22	0	1 (1)	1010	
	Channel spacing CC1-CC2=64.86 MHz (Note 1)																			
	80+60	139.92	CC2	50	30	133	Downlink & Uplink	Low	3404.88	626992	3380.94	625396	0	30	7767	625728	20	0	3 (3)	6
								Mid	3589.86	639324	3529.2	635280	102		7895	638016	0	0	2 (2)	208
								High	3774.99	651666	3569.61	637974	504		8024	650400	18	0	3 (3)	1014
			CC1	80	30	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
								Mid	3519.99	634666	3444.21	629614	102		7836	632352	2	0	2 (2)	208
High								3700.08	646672	3479.58	631972	504	7961		644352	20	0	1 (1)	1010	
Channel spacing CC1-CC2=69.9 MHz (Note 1)																				
80+80		159.92	CC2	60	30	162	Downlink & Uplink	Low	3409.92	627328	3380.76	625384	0	30	7766	625632	8	0	0 (0)	0
								Mid	3589.89	639326	3524.01	634934	102		7891	637632	10	0	0 (0)	204
								High	3769.98	651332	3559.38	637292	504		8016	649632	4	0	0 (0)	1008
			CC1	80	30	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
								Mid	3510	634000	3434.22	628948	102		7829	631680	20	0	1 (1)	206
	High							3680.01	645334	3459.51	630634	504	7947		643008	14	0	1 (1)	1010	
	Channel spacing CC1-CC2=79.98 MHz (Note 1)																			
	80+100	179.9	CC2	80	30	217	Downlink & Uplink	Low	3420	628000	3380.94	625396	0	30	7767	625728	20	0	3 (3)	6
								Mid	3589.98	639332	3514.2	634280	102		7885	637056	16	0	3 (3)	210
								High	3759.99	650666	3539.49	635966	504		8003	648384	10	0	3 (3)	1014
			CC1	80	30	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	0	2 (2)	4
								Mid	3500.01	633334	3424.23	628282	102		7822	631008	14	0	1 (1)	206
High								3660.12	644008	3439.62	629308	504	7933		641664	20	0	0 (0)	1008	
Channel spacing CC1-CC2=89.88 MHz (Note 1)																				
		CC2	100	30	273	Downlink & Uplink	Low	3429.9	628660	3380.76	625384	0	30	7766	625632	8	0	0 (0)	0	
							Mid	3589.89	639326	3504.03	633602	102		7878	636384	22	0	3 (3)	210	

100+50	149.9	CC1	100	30	273	Uplink	High	3750	650000	3519.42	634628	504	30	7989	647040	4	0	3 (3)	1014	
						Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0		7711	620352	6	0	2 (2)	4	
							Mid	3525	635000	3439.14	629276	102		7832	631968	4	0	0 (0)	204	
							High	3700.23	646682	3469.65	631310	504		7954	643680	10	0	1 (1)	1010	
		Channel spacing CC1-CC2=74.76 MHz (Note 1)																		
		CC2	50	30	133	Downlink & Uplink	Low	3424.77	628318	3400.83	626722	0	30	7780	626976	14	0	0 (0)	0	
							Mid	3599.76	639984	3539.1	635940	102		7902	638688	12	0	2 (2)	208	
							High	3774.99	651666	3569.61	637974	504		8024	650400	18	0	3 (3)	1014	
	100+60	159.9	CC1	100	30	273	Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0	30	7711	620352	6	0	2 (2)	4
								Mid	3519.99	634666	3434.13	628942	102		7829	631680	2	0	2 (2)	208
								High	3690.18	646012	3459.6	630640	504		7947	643008	8	0	1 (1)	1010
								Channel spacing CC1-CC2=79.8 MHz (Note 1)												
	CC2	60	30	162	Downlink & Uplink	Low	3429.81	628654	3400.65	626710	0	30	7780	626976	2	0	1 (1)	2		
						Mid	3599.79	639986	3533.91	635594	102		7898	638304	22	0	0 (0)	204		
						High	3769.98	651332	3559.38	637292	504		8016	649632	4	0	0 (0)	1008		
						Channel spacing CC1-CC2=89.88 MHz (Note 1)														
100+80	179.9	CC1	100	30	273	Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0	30	7711	620352	6	0	2 (2)	4	
							Mid	3510	634000	3424.14	628276	102		7822	631008	20	0	1 (1)	206	
							High	3670.11	644674	3439.53	629302	504		7933	641664	2	0	1 (1)	1010	
							Channel spacing CC1-CC2=89.88 MHz (Note 1)													
	CC2	80	30	217	Downlink & Uplink	Low	3439.89	629326	3400.83	626722	0	30	7780	626976	14	0	0 (0)	0		
						Mid	3599.88	639992	3524.1	634940	102		7891	637632	4	0	0 (0)	204		
						High	3759.99	650666	3539.49	635966	504		8003	648384	10	0	3 (3)	1014		
						Channel spacing CC1-CC2=99.96 MHz (Note 1)														
100+100	199.9	CC1	100	30	273	Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0	30	7711	620352	6	0	2 (2)	4	
							Mid	3500.01	633334	3414.15	627610	102		7815	630336	14	0	1 (1)	206	
							High	3650.04	643336	3419.46	627964	504		7919	640320	20	0	0 (0)	1008	
							Channel spacing CC1-CC2=99.96 MHz (Note 1)													
	CC2	100	30	273	Downlink & Uplink	Low	3449.97	629998	3400.83	626722	0	30	7780	626976	14	0	0 (0)	0		
						Mid	3599.97	639998	3514.11	634274	102		7885	637056	22	0	3 (3)	210		
						High	3750	650000	3519.42	634628	504		7989	647040	4	0	3 (3)	1014		

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta f_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 5: Corresponds to CA aggregated channel bandwidth $BW_{\text{Channel\_CA}}$ in accordance with TS 38.101-1 [7] clause 5.3A.3.

4.3.1.1.3.78.2 CA_n78B

Editor's note: Test frequencies for CA_n78B with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.3.78.2-1: NR Intra-Band contiguous CA configuration CA_n78B (PCC=CC1 and SCC=CC2), SCS 15 kHz and ΔF_{Raster} 15 kHz

CBW combina tion	CC Note 2	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute frequency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
20+50	CC1	20	15	106	Downlink & Uplink	Low	3310.005	620667	3300.465	620031	0	30	7711	620352	9	0	1 (6)	6
						Mid	3525	635000	3497.1	633140	102		7860	634656	4	2	0 (2)	106
						High	3740.25	649350	3639.99	642666	504		8010	649056	6	2	1 (6)	512
	Channel spacing CC1-CC2=34.74 MHz (Note 1)																	
	CC2	50	15	270	Downlink & Uplink	Low	3344.745	622983	3320.445	621363	0	30	7725	621696	9	1	1 (6)	7
						Mid	3559.74	637316	3517.08	634472	102		7874	636000	4	3	0 (2)	107
						High	3774.99	651666	3659.97	643998	504		8024	650400	6	3	1 (6)	513
	50+20	CC1	50	15	270	Downlink & Uplink	Low	3325.005	621667	3300.705	620047	0	30	7711	620352	5	3	0 (2)
Mid							3540	636000	3497.34	633156	102	7860		634656	0	1	0 (2)	105
High							3755.25	650350	3640.23	642682	504	8010		649056	2	1	1 (6)	511
Channel spacing CC1-CC2=34.74 MHz (Note 1)																		
CC2		20	15	106	Downlink & Uplink	Low	3359.745	623983	3350.205	623347	0	30	7745	623616	5	0	0 (2)	2
						Mid	3574.74	638316	3546.84	636456	102		7895	638016	0	2	1 (6)	110
						High	3789.99	652666	3689.73	645982	504		8044	652320	2	2	0 (2)	508
Note 1:		Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.1.3.78.2-2: NR Intra-Band contiguous CA configuration CA_n78B (PCC=CC1 and SCC=CC2), SCS 30 kHz and ΔF_{Raster} 30 kHz

CBW combina tion	CC Note 2	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute frequency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4	
20+50	CC1	20	30	51	Downlink & Uplink	Low	3310.02	620668	3300.84	620056	0	30	7711	620352	8	0	2 (2)	4	
						Mid	3525	635000	3479.1	631940	102		7860	634656	4	0	1 (1)	206	
						High	3740.25	649350	3549.63	636642	504		8010	649056	6	0	3 (3)	1014	
	Channel spacing CC1-CC2=34.74 MHz (Note 1)																		
	CC2	50	30	133	Downlink & Uplink	Low	3344.76	622984	3320.82	621388	0	30	7725	621696	20	0	2 (2)	4	
						Mid	3559.74	637316	3499.08	633272	102		7874	636000	16	0	1 (1)	206	
						High	3774.99	651666	3569.61	637974	504		8024	650400	18	0	3 (3)	1014	
	50+20	CC1	50	30	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	0	1 (1)	2
							Mid	3540	636000	3479.34	631956	102		7860	634656	12	0	0 (0)	204
							High	3755.25	650350	3549.87	636658	504		8010	649056	14	0	2 (2)	1012
Channel spacing CC1-CC2=34.74 MHz (Note 1)																			
CC2		20	30	51	Downlink & Uplink	Low	3359.76	623984	3350.58	623372	0	30	7745	623616	4	0	0 (0)	0	
						Mid	3574.74	638316	3528.84	635256	102		7895	638016	0	0	3 (3)	210	
						High	3789.99	652666	3599.37	639958	504		8044	652320	2	0	1 (1)	1010	
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.1.4 Void

4.3.1.1.5 NR intra-band non-contiguous CA configurations in FR1

4.3.1.1.5.1 – 4.3.1.1.5.65 FFS

4.3.1.1.5.66 CA_n66(2A)

Editor's note: Test frequencies for CA_n66(2A) with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.5.66-1: NR Intra-Band non-contiguous CA configuration CA_n66(2A), SCS=15 kHz, Max Wgap

CBW combination	CC	Band width [MHz]	carrier Bandwidth [PRBs]	Range	Gap	Test frequencies and signalling parameters
CA_n66(2A); A (5MHz) - A(5-40MHz)						
5-5	CC1	5	25	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	5	25	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-10	CC1	5	25	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	10	52	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-15	CC1	5	25	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	15	79	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-20	CC1	5	25	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	20	106	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-40	CC1	5	25	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	40	216	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
CA_n66(2A); A (10MHz) - A(5-40MHz)						
10-5	CC1	10	52	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	5	25	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-10	CC1	10	52	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	10	52	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-15	CC1	10	52	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	15	79	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-20	CC1	10	52	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	20	106	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-40	CC1	10	52	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	40	216	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
CA_n66(2A); A (15MHz) - A(5-40MHz)						
15-5	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	5	25	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-10	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	10	52	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-15	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	15	79	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-20	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	20	106	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-40	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	40	216	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
CA_n66(2A); A (20MHz) - A(5-40MHz)						
20-5	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	5	25	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1

20-10	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-15	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-20	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-40	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
CA_n66(2A); A (40MHz) - A(5-20MHz)						
40-5	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	5	25	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-10	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-15	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-20	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1

Table 4.3.1.1.5.66-2: NR Intra-Band non-contiguous CA configuration CA_n66(2A), SCS=30 kHz, Max Wgap

CBW combination	CC	Band width [MHz]	carrier Bandwidth [PRBs]	Range	Gap	Test frequencies and signalling parameters
CA_n66(2A); A (10MHz) - A(10-40MHz)						
10-10	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-2: High range for UL/DL Bandwidth combination = 10/10
10-15	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-20	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-40	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10

CA_n66(2A); A (15MHz) - A(10-40MHz)						
15-10	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	10	52	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-15	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	15	79	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-20	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	20	106	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-40	CC1	15	79	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	40	216	Downlink	Wgap	Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
CA_n66(2A); A (20MHz) - A(10-40MHz)						
20-10	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	10	52	Downlink & Uplink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-15	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	15	79	Downlink & Uplink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-20	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	20	106	Downlink & Uplink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-40	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	40	216	Downlink & Uplink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
CA_n66(2A); A (40MHz) - A(10-20MHz)						
40-10	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/40 or 20/40 depending on required UL bandwidth
	CC2	10	52	Downlink & Uplink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-15	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/40 or 20/40 depending on required UL bandwidth
	CC2	15	79	Downlink & Uplink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-20	CC1	20	106	Downlink & Uplink	Max	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/40 or 20/40 depending on required UL bandwidth
	CC2	20	106	Downlink & Uplink	Wgap	Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1

4.3.1.1.5.67 – 4.3.1.1.5.76 FFS

4.3.1.1.5.77 CA_n77(2A)

Editor's note: Test frequencies for CA_n77(2A) with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.5.77-1: NR Intra-Band non-contiguous CA configuration CA_n77(2A), SCS=15 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	Range	Gap	Test frequencies and signalling parameters
CA_n77(2A); A(20-40MHz) - A(20-40MHz)					
CBW1+CBW2	CC1	CBW1	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.77-1: Low range for CBW = 20 OR 40 MHz
	CC2	CBW2	Downlink		Table 4.3.1.1.1.77-1: High range for CBW = 20 OR 40 MHz

Table 4.3.1.1.5.77-2: NR Intra-Band non-contiguous CA configuration CA_n77(2A), SCS=30 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	Range	Gap	Test frequencies and signalling parameters
CA_n77(2A); A(20-100MHz) - A(20-100MHz)					
CBW1+CBW2	CC1	CBW1	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.77-2: Low range for CBW = 20, 40, 80 OR 100 MHz
	CC2	CBW2	Downlink		Table 4.3.1.1.1.77-2: High range for CBW = 20, 40, 80 OR 100 MHz

4.3.1.1.5.78 CA_n78(2A)

Editor's note: Test frequencies for CA_n78(2A) with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.5.78-1: NR Intra-Band non-contiguous CA configuration CA_n78(2A), SCS=15 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	Range	Gap	Test frequencies and signalling parameters
CA_n78(2A); A(10-50MHz) - A(10-50MHz)					
CBW1+CBW2	CC1	CBW1	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.78-1: Low range for CBW = 10, 20, 25, 30, 40 OR 50 MHz
	CC2	CBW2	Downlink		Table 4.3.1.1.1.78-1: High range for CBW = 10, 20, 25, 30, 40 OR 50 MHz

Table 4.3.1.1.5.78-2: NR Intra-Band non-contiguous CA configuration CA_n78(2A), SCS=30 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	Range	Gap	Test frequencies and signalling parameters
CA_n78(2A); A(10-100MHz) - A(10-100MHz)					
CBW1+CBW2	CC1	CBW1	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.78-2: Low range for CBW = 10, 20, 25, 30, 40, 50, 60, 70, 80, 90 OR 100 MHz
	CC2	CBW2	Downlink		Table 4.3.1.1.1.78-2: High range for CBW = 10, 20, 25, 30, 40, 50, 60, 70, 80, 90 OR 100 MHz

4.3.1.1.6 NR Operating SUL band combinations in FR1

4.3.1.2 Test frequencies for NR operating bands in FR2

4.3.1.2.1 NR operating bands in FR2

4.3.1.2.1.1 Reference test frequencies for NR operating band n257

Table 4.3.1.2.1.1-1: Test frequencies for NR operating band n257, SCS 60 kHz and ΔF_{Raster} 60 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	26525.04	2054583	26501.28	2054187	0	120	22388	2054683	4	13	1 (8)	21
			Mid	27999.96	2079165	27902.76	2077545	102		22473	2079163	10	4	1 (8)	114
			High	29475	2103749	29088.36	2097305	504		22558	2103643	2	4	0 (0)	508
100	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
			Mid	27999.96	2079165	27879	2077149	102		22472	2078875	10	13	1 (8)	123
			High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
200	264	Downlink & Uplink	Low	26600.04	2055833	26505	2054249	0	120	22388	2054683	2	8	1 (8)	16
			Mid	27999.96	2079165	27831.48	2076357	102		22469	2078011	10	7	1 (8)	117
			High	29400	2102499	28942.08	2094867	504		22550	2101339	4	7	1 (8)	519

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.2.1.1-2: Test frequencies for NR operating band n257, SCS 120kHz and ΔF_{Raster} 120 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	26525.04	2054583	26502	2054199	0	120	22388	2054683	2	6	1 (4)	20
			Mid	27999.96	2079165	27830.04	2076333	102		22473	2079163	11	1	1 (4)	214
			High	29475	2103749	28726.2	2091269	504		22558	2103643	7	1	0 (0)	1010
100	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
			Mid	27999.96	2079165	27805.56	2075925	102		22472	2078875	11	6	1 (4)	224
			High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008
200	132	Downlink & Uplink	Low	26600.04	2055833	26505	2054249	0	120	22388	2054683	1	4	1 (4)	16
			Mid	27999.96	2079165	27758.04	2075133	102		22469	2078011	11	3	1 (4)	218
			High	29400	2102499	28579.2	2088819	504		22550	2101339	8	3	1 (4)	1022
400	264	Downlink & Uplink	Low	26700	2057499	26509.92	2054331	0	120	22388	2054683	8	0	1 (4)	8
			Mid	27999.96	2079165	27663	2073549	102		22463	2076283	11	1	0 (0)	206
			High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030
Note 1:		The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.													
Note 2:		The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.													

4.3.1.2.1.2

Reference test frequencies for NR operating band n258

Table 4.3.1.2.1.2-1: Test frequencies for NR operating band n258, SCS 60 kHz and ΔF_{Raster} 60 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	24275.04	2017083	24251.28	2016687	0	120	22257	2016955	4	2	0 (0)	2
			Mid	25875	2043749	25777.8	2042129	102		22350	2043739	2	4	1 (8)	114
			High	27474.96	2070415	27088.32	2063971	504		22443	2070523	0	14	1 (8)	526
100	132	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	8	0	0 (0)	0
			Mid	25875	2043749	25754.04	2041733	102		22349	2043451	2	13	1 (8)	123
			High	27450	2069999	27039.6	2063159	504		22440	2069659	8	9	1 (8)	521
200	264	Downlink & Uplink	Low	24350.04	2018333	24255	2016749	0	120	22258	2017243	2	13	1 (8)	21
			Mid	25875	2043749	25706.52	2040941	102		22346	2042587	2	7	1 (8)	117
			High	27399.96	2069165	26942.04	2061533	504		22434	2067931	2	1	1 (8)	513
Note 1:		The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.													
Note 2:		The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.													

Table 4.3.1.2.1.2: Test frequencies for NR operating band n258, SCS 120kHz and ΔF_{Raster} 120 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	24275.04	2017083	24252	2016699	0	120	22257	2016955	8	0	0 (0)	0
			Mid	25875	2043749	25705.08	2040917	102		22350	2043739	7	1	1 (4)	214
			High	27474.96	2070415	26726.16	2057935	504		22443	2070523	6	6	1 (4)	1028
100	66	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	4	0	0 (0)	0
			Mid	25875	2043749	25680.6	2040509	102		22349	2043451	7	6	1 (4)	224
			High	27450	2069999	26676.72	2057111	504		22440	2069659	10	4	1 (4)	1024
200	132	Downlink & Uplink	Low	24350.04	2018333	24255	2016749	0	120	22258	2017243	7	6	1 (4)	20
			Mid	25875	2043749	25633.08	2039717	102		22346	2042587	7	3	1 (4)	218
			High	27399.96	2069165	26579.16	2055485	504		22434	2067931	7	0	1 (4)	1016
400	264	Downlink & Uplink	Low	24450	2019999	24259.92	2016831	0	120	22258	2017243	2	3	1 (4)	14
			Mid	25875	2043749	25538.04	2038133	102		22340	2040859	7	1	0 (0)	206
			High	27300	2067499	26384.16	2052235	504		22423	2064763	0	4	1 (4)	1024
Note 1:		The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.													
Note 2:		The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.													

4.3.1.2.1.3

Reference test frequencies for NR operating band n259

Table 4.3.1.2.1.3-1: Test frequencies for NR operating band n259, SCS 60 kHz and ΔF_{Raster} 60 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency Point A [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	39525	2271249	39501.24	2270853	0	120	23140	2271259	10	5	1 (8)	13
			Mid	41499.96	2304165	41402.76	2302545	102		23254	2304091	10	6	0 (0)	108
			High	43474.92	2337081	43088.28	2330637	504		23369	2337211	10	15	1 (8)	527
100	132	Downlink & Uplink	Low	39550.08	2271667	39502.56	2270875	0	120	23140	2271259	0	4	1 (8)	12
			Mid	41499.96	2304165	41379	2302149	102		23253	2303803	10	7	1 (8)	117
			High	43449.96	2336665	43039.56	2329825	504		23366	2336347	6	11	1 (8)	523
200	264	Downlink & Uplink	Low	39600	2272499	39504.96	2270915	0	120	23140	2271259	8	0	1 (8)	8
			Mid	41499.96	2304165	41331.48	2301357	102		23250	2302939	10	1	1 (8)	111
			High	43399.92	2335831	42942	2328199	504		23360	2334619	0	3	1 (8)	515

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.2.1.3-2: Test frequencies for NR operating band n259, SCS 120kHz and ΔF_{Raster} 120 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	39525	2271249	39501.96	2270865	0	120	23140	2271259	5	2	1 (4)	12
			Mid	41499.96	2304165	41330.04	2301333	102		23254	2304091	11	2	0 (0)	208
			High	43474.92	2337081	42726.12	2324601	504		23369	2337211	5	7	1 (4)	1030
100	66	Downlink & Uplink	Low	39550.08	2271667	39502.56	2270875	0	120	23140	2271259	0	2	1 (4)	12
			Mid	41499.96	2304165	41305.56	2300925	102		23253	2303803	11	3	1 (4)	218
			High	43449.96	2336665	42676.68	2323777	504		23366	2336347	9	5	1 (4)	1026
200	132	Downlink & Uplink	Low	39600	2272499	39504.96	2270915	0	120	23140	2271259	4	0	1 (4)	8
			Mid	41499.96	2304165	41258.04	2300133	102		23250	2302939	11	0	1 (4)	212
			High	43399.92	2335831	42579.12	2322151	504		23360	2334619	6	1	1 (4)	1018
400	264	Downlink & Uplink	Low	39700.08	2274167	39510	2270999	0	120	23140	2271259	10	0	0 (0)	0
			Mid	41499.96	2304165	41163	2298549	102		23245	2301499	11	6	1 (4)	224
			High	43299.96	2334165	42384.12	2318901	504		23349	2331451	11	4	1 (4)	1024
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

4.3.1.2.1.4

Reference test frequencies for NR operating band n260

Table 4.3.1.2.1.4-1: Test frequencies for NR operating band n260, SCS 60 kHz and ΔF_{Raster} 60 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency Point A [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
			Mid	38499.96	2254165	38402.76	2252545	102		23081	2254267	6	13	1 (8)	123
			High	39975	2278749	39588.36	2272305	504		23166	2278747	10	4	1 (8)	516
100	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
			Mid	38499.96	2254165	38379	2252149	102		23079	2253691	6	6	0 (0)	108
			High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512
200	264	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	10	0	0 (0)	0
			Mid	38499.96	2254165	38331.48	2251357	102		23076	2252827	6	0	0 (0)	102
			High	39900	2277499	39442.08	2269867	504		23157	2276155	0	0	0 (0)	504

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.2.1.4-2: Test frequencies for NR operating band n260, SCS 120kHz and ΔF_{Raster} 120 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
			Mid	38499.96	2254165	38330.04	2251333	102		23081	2254267	3	6	1 (4)	224
			High	39975	2278749	39226.2	2266269	504		23166	2278747	11	1	1 (4)	1018
100	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
			Mid	38499.96	2254165	38305.56	2250925	102		23079	2253691	3	3	0 (0)	210
			High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
200	132	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	5	0	0 (0)	0
			Mid	38499.96	2254165	38258.04	2250133	102		23076	2252827	3	0	0 (0)	204
			High	39900	2277499	39079.2	2263819	504		23157	2276155	0	0	0 (0)	1008
400	264	Downlink & Uplink	Low	37200	2232499	37009.92	2229331	0	120	22996	2229787	0	5	1 (4)	18
			Mid	38499.96	2254165	38163	2248549	102		23071	2251387	3	2	1 (4)	216
			High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

4.3.1.2.1.5

Reference test frequencies for NR operating band n261

Table 4.3.1.2.1.5-1: Test frequencies for NR operating band n261, SCS 60 kHz and ΔF_{Raster} 60 kHz

CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency Point A [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
			Mid	27924.96	2077915	27827.76	2076295	102		22469	2078011	0	13	1 (8)	123
			High	28324.92	2084581	27938.28	2078137	504		22492	2084635	6	9	1 (8)	521
100	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
			Mid	27924.96	2077915	27804	2075899	102		22467	2077435	0	6	0 (0)	108
			High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517
200	264	Downlink & Uplink	Low	27600	2072499	27504.96	2070915	0	120	22446	2071387	4	11	1 (8)	19
			Mid	27924.96	2077915	27756.48	2075107	102		22464	2076571	0	0	0 (0)	102
			High	28249.92	2083331	27792	2075699	504		22483	2082043	8	4	0 (0)	508

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.2.1.5-2: Test frequencies for NR operating band n261, SCS 120kHz and ΔF_{Raster} 120 kHz

CBW [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
			Mid	27924.96	2077915	27755.04	2075083	102		22469	2078011	0	6	1 (4)	224
			High	28324.92	2084581	27576.12	2072101	504		22492	2084635	3	4	1 (4)	1024
100	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
			Mid	27924.96	2077915	27730.56	2074675	102		22467	2077435	0	3	0 (0)	210
			High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020
200	132	Downlink & Uplink	Low	27600	2072499	27504.96	2070915	0	120	22446	2071387	8	5	1 (4)	18
			Mid	27924.96	2077915	27683.04	2073883	102		22464	2076571	0	0	0 (0)	204
			High	28249.92	2083331	27429.12	2069651	504		22483	2082043	4	2	0 (0)	1012
400	264	Downlink & Uplink	Low	27700.08	2074167	27510	2070999	0	120	22446	2071387	2	2	1 (4)	12
			Mid	27924.96	2077915	27588	2072299	102		22459	2075131	0	2	1 (4)	216
			High	28149.96	2081665	27234.12	2066401	504		22472	2078875	9	1	1 (4)	1018
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.															

4.3.1.2.2 NR inter-band CA configurations in FR2

4.3.1.2.3 NR intra-band contiguous CA configurations in FR2

4.3.1.2.3.1 NR Intra-band contiguous CA configurations for CA_n257

4.3.1.2.3.1.1 CA_n257B

Editor's note: CBW=400 MHz for NR band n257 is only supported by for SCS 120kHz. Test frequencies for CA_n257B are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.1.1-1: NR Intra-Band contiguous CA configuration CA_n257B, SCS=120 kHz, ΔF_{Raster} 120 kHz

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidht h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4	
50+400	CC1	50	120	32	Downlink & Uplink	Low	26525.04	2054583	26502	2054199	0	120	22388	2054683	2	6	1 (4)	20	
						Mid	27800.04	2075833	27630.12	2073001	102		22461	2075707	9	0	0 (0)	204	
						High	29082.96	2097215	28334.16	2084735	504		22536	2097307	10	5	1 (4)	1026	
	Channel spacing CC1-CC2=216.96 MHz (Note 1)																		
	CC2	400	120	264	Downlink & Uplink	Low	26742	2058199	26551.92	2055031	0	120	22391	2055547	6	7	1 (4)	22	
						Mid	28017	2079449	27680.04	2073833	102		22464	2076571	1	2	0 (0)	208	
						High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030	
	100+400	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
							Mid	27800.04	2075833	27605.64	2072593	102		22460	2075419	9	1	1 (4)	214
							High	29057.4	2096789	28284.12	2083901	504		22533	2096443	7	4	1 (4)	1024
Channel spacing CC1-CC2=242.52 MHz (Note 1)																			
CC2		400	120	264	Downlink & Uplink	Low	26792.52	2059041	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0	
						Mid	28042.56	2079875	27705.6	2074259	102		22466	2077147	4	4	1 (4)	220	
						High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030	
200+400		CC1	200	120	132	Downlink & Uplink	Low	26600.04	2055833	26505	2054249	0	120	22388	2054683	1	4	1 (4)	16
							Mid	27800.04	2075833	27558.12	2071801	102		22457	2074555	9	2	0 (0)	208
							High	29004.96	2095915	28184.16	2082235	504		22527	2094715	0	2	1 (4)	1020
	Channel spacing CC1-CC2=294.96 MHz (Note 1)																		
	CC2	400	120	264	Downlink & Uplink	Low	26895	2060749	26704.92	2057581	0	120	22399	2057851	3	1	0 (0)	2	
						Mid	28095	2080749	27758.04	2075133	102		22469	2078011	11	3	1 (4)	218	
						High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030	
	400+400	CC1	400	120	264	Downlink & Uplink	Low	26700	2057499	26509.92	2054331	0	120	22388	2054683	8	0	1 (4)	8
							Mid	27800.04	2075833	27463.08	2070217	102		22452	2073115	9	4	1 (4)	220
							High	28899.96	2094165	27984.12	2078901	504		22515	2091259	11	0	0 (0)	1008
Channel spacing CC1-CC2=399.96 MHz (Note 1)																			
CC2		400	120	264	Downlink & Uplink	Low	27099.96	2064165	26909.88	2060997	0	120	22411	2061307	11	2	0 (0)	4	
						Mid	28200	2082499	27863.04	2076883	102		22475	2079739	0	3	1 (4)	218	
						High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030	

Note 1:

Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.

Note 2:

CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3:

The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.1.2 CA_n257C

Editor's note: CBW=400 MHz for NR band n257 is only supported by for SCS 120kHz. Test frequencies for CA_n257C are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.1.2-1: NR Intra-Band contiguous CA configuration CA_n257C, SCS=120 kHz, ΔF_{Raster} 120 kHz

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidd h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
50+400 +400	CC1	50	120	32	Downlink & Uplink	Low	26525.04	2054583	26502	2054199	0	120	22388	2054683	2	6	1 (4)	20
						Mid	27600	2072499	27430.08	2069667	102		22450	2072539	8	3	1 (4)	218
						High	28683	2090549	27934.2	2078069	504		22513	2090683	7	7	1 (4)	1030
	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	26742	2058199	26551.92	2055031	0	120	22391	2055547	6	7	1 (4)	22
						Mid	27816.96	2076115	27480	2070499	102		22453	2073403	0	5	1 (4)	222
						High	28899.96	2094165	27984.12	2078901	504		22515	2091259	11	0	0 (0)	1008
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	27141.96	2064865	26951.88	2061697	0	120	22414	2062171	9	5	1 (4)	18
						Mid	28216.92	2082781	27879.96	2077165	102		22476	2080027	3	3	1 (4)	218
						High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030
100+400 +400	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27600	2072499	27405.6	2069259	102		22448	2071963	8	0	0 (0)	204
						High	28657.44	2090123	27884.16	2077235	504		22510	2089819	4	6	1 (4)	1028
	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	26792.52	2059041	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0
						Mid	27842.52	2076541	27505.56	2070925	102		22454	2073691	3	3	0 (0)	210
						High	28899.96	2094165	27984.12	2078901	504		22515	2091259	11	0	0 (0)	1008
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	27192.48	2065707	27002.4	2062539	0	120	22417	2063035	8	6	1 (4)	20
						Mid	28242.48	2083207	27905.52	2077591	102		22477	2080315	6	1	0 (0)	206
						High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030
200+400 +400	CC1	200	120	132	Downlink & Uplink	Low	26600.04	2055833	26505	2054249	0	120	22388	2054683	1	4	1 (4)	16
						Mid	27600	2072499	27358.08	2068467	102		22446	2071387	8	5	1 (4)	222
						High	28605	2089249	27784.2	2075569	504		22504	2088091	9	3	1 (4)	1022
	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	26895	2060749	26704.92	2057581	0	120	22399	2057851	3	1	0 (0)	2
						Mid	27894.96	2077415	27558	2071799	102		22457	2074555	10	2	0 (0)	208
						High	28899.96	2094165	27984.12	2078901	504		22515	2091259	11	0	0 (0)	1008
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink &	Low	27294.96	2067415	27104.88	2064247	0	120	22423	2064763	6	7	1 (4)	22
						Mid	28294.92	2084081	27957.96	2078465	102		22480	2081179	1	1	0 (0)	206

400+400 +400	CC1	400	120	264	Uplink	High	29299.92	2100831	28384.08	2085567	504	120	22539	2098171	2	7	1 (4)	1030
					Downlink & Uplink	Low	26700	2057499	26509.92	2054331	0		22388	2054683	8	0	1 (4)	8
						Mid	27600	2072499	27263.04	2066883	102		22440	2069659	8	3	0 (0)	210
						High	28500	2087499	27584.16	2072235	504		22492	2084635	8	2	0 (0)	1012
	Channel spacing CC1-CC2=399.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	27099.96	2064165	26909.88	2060997	0	120	22411	2061307	11	2	0 (0)	4
						Mid	27999.96	2079165	27663	2073549	102		22463	2076283	11	1	0 (0)	206
						High	28899.96	2094165	27984.12	2078901	504		22515	2091259	11	0	0 (0)	1008
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	27499.92	2070831	27309.84	2067663	0	120	22434	2067931	2	1	0 (0)	2
						Mid	28399.92	2085831	28062.96	2080215	102		22486	2082907	2	0	0 (0)	204
						High	29299.92	2100831	28384.08	2085567	504		22539	2098171	2	7	1 (4)	1030

Note 1:

Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1-CC2 and CC2-CC3 channel bandwidth combinations.

Note 2:

CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3:

The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4:

The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.1.3

CA_n257D

Table 4.3.1.2.3.1.3-1: NR Intra-Band contiguous CA configuration CA_n257D, SCS=60 kHz, ΔF_{Raster} 60 kHz

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidht h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4		
50+200	CC1	50	60	66	Downlink & Uplink	Low	26525.04	2054583	26501.28	2054187	0	120	22388	2054683	4	13	1 (8)	21		
						Mid	27900	2077499	27802.8	2075879	102		22467	2077435	8	7	0 (0)	109		
						High	29278.8	2100479	28892.16	2094035	504		22547	2100475	8	4	1 (8)	516		
	Channel spacing CC1-CC2=121.2 MHz (Note 1)																			
	CC2	200	60	264	Downlink & Uplink	Low	26646.24	2056603	26551.2	2055019	0	120	22390	2055259	0	0	0 (0)	0		
						Mid	28021.2	2079519	27852.72	2076711	102		22470	2078299	4	2	1 (8)	112		
						High	29400	2102499	28942.08	2094867	504		22550	2101339	4	7	1 (8)	519		
	100+200	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19	
							Mid	27900	2077499	27779.04	2075483	102		22466	2077147	8	8	1 (8)	118	
							High	29252.52	2100041	28842.12	2093201	504		22544	2099611	2	2	1 (8)	514	
Channel spacing CC1-CC2=147.48 MHz (Note 1)																				
CC2		200	60	264	Downlink & Uplink	Low	26697.48	2057457	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0		
						Mid	28047.48	2079957	27879	2077149	102		22472	2078875	10	13	1 (8)	123		
						High	29400	2102499	28942.08	2094867	504		22550	2101339	4	7	1 (8)	519		
200+200		CC1	200	60	264	Downlink & Uplink	Low	26600.04	2055833	26505	2054249	0	120	22388	2054683	2	8	1 (8)	16	
							Mid	27900	2077499	27731.52	2074691	102		22463	2076283	8	2	1 (8)	112	
							High	29200.08	2099167	28742.16	2091535	504		22538	2097883	0	5	0 (0)	509	
	Channel spacing CC1-CC2=199.92 MHz (Note 1)																			
	CC2	200	60	264	Downlink & Uplink	Low	26799.96	2059165	26704.92	2057581	0	120	22399	2057851	6	2	0 (0)	2		
						Mid	28099.92	2080831	27931.44	2078023	102		22475	2079739	0	13	1 (8)	123		
						High	29400	2102499	28942.08	2094867	504		22550	2101339	4	7	1 (8)	519		

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.3-2: NR Intra-Band contiguous CA configuration CA_n257D, SCS=120 kHz, ΔF_{Raster} 120 kHz

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidth [PRBs]	Range		Carrier centre [MHz] Note 2		Carrier centre [ARFCN]		point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
50+200	CC1	50	120	32	Downlink & Uplink	Low	26525.04	2054583	26502	2054199	0	120	22388	2054683	2	6	1 (4)	20		
						Mid	27900	2077499	27730.08	2074667	102		22467	2077435	4	3	0 (0)	210		
						High	29278.08	2100467	28529.28	2087987	504		22547	2100475	4	2	1 (4)	1020		
	Channel spacing CC1-CC2=121.92 MHz (Note 1)																			
	CC2	200	120	132	Downlink & Uplink	Low	26646.96	2056615	26551.92	2055031	0	120	22391	2055547	6	7	1 (4)	22		
						Mid	28021.92	2079531	27780	2075499	102		22470	2078299	8	0	1 (4)	212		
						High	29400	2102499	28579.2	2088819	504		22550	2101339	8	3	1 (4)	1022		
	100+200	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18	
							Mid	27900	2077499	27705.6	2074259	102		22466	2077147	4	4	1 (4)	220	
							High	29252.52	2100041	28479.24	2087153	504		22544	2099611	1	1	1 (4)	1018	
Channel spacing CC1-CC2=147.48 MHz (Note 1)																				
CC2		200	120	132	Downlink & Uplink	Low	26697.48	2057457	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0		
						Mid	28047.48	2079957	27805.56	2075925	102		22472	2078875	11	6	1 (4)	224		
						High	29400	2102499	28579.2	2088819	504		22550	2101339	8	3	1 (4)	1022		
200+200	CC1	200	120	132	Downlink & Uplink	Low	26600.04	2055833	26505	2054249	0	120	22388	2054683	1	4	1 (4)	16		
						Mid	27900	2077499	27658.08	2073467	102		22463	2076283	4	1	1 (4)	214		
						High	29200.08	2099167	28379.28	2085487	504		22538	2097883	6	2	0 (0)	1012		
	Channel spacing CC1-CC2=199.92 MHz (Note 1)																			
	CC2	200	120	132	Downlink & Uplink	Low	26799.96	2059165	26704.92	2057581	0	120	22399	2057851	3	1	0 (0)	2		
						Mid	28099.92	2080831	27858	2076799	102		22475	2079739	6	6	1 (4)	224		
						High	29400	2102499	28579.2	2088819	504		22550	2101339	8	3	1 (4)	1022		

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.1.4 CA_n257E

Table 4.3.1.2.3.1.4-1: NR Intra-Band contiguous CA configuration CA_n257E, SCS=60 kHz, ΔF_{Raster} 60 kHz.

FFS

Table 4.3.1.2.3.1.4-2: NR Intra-Band contiguous CA configuration CA_n257E, SCS=120 kHz, ΔF_{Raster} 120 kHz.

FFS

4.3.1.2.3.1.5 CA_n257F

Table 4.3.1.2.3.1.5-1: NR Intra-Band contiguous CA configuration CA_n257F, SCS=60 kHz, ΔF_{Raster} 60 kHz.

FFS

Table 4.3.1.2.3.1.5-2: NR Intra-Band contiguous CA configuration CA_n257F, SCS=120 kHz, ΔF_{Raster} 120 kHz.

FFS

4.3.1.2.3.1.6 CA_n257G

Table 4.3.1.2.3.1.6-1: NR Intra-Band contiguous CA configuration CA_n257G, SCS=60 kHz, ΔF_{Raster} 60 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27949.92	2078331	27828.96	2076315	102		22469	2078011	4	11	1 (8)	121
						High	29350.56	2101675	28940.16	2094835	504		22550	2101339	0	10	1 (8)	522
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	8	1	0 (0)	1
						Mid	28049.28	2079987	27928.32	2077971	102		22474	2079451	4	1	0 (0)	103
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504

Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both $scs=60$ kHz and $scs=120$ kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.6-2: NR Intra-Band contiguous CA configuration CA_n257G, SCS=60 kHz, ΔF_{Raster} 60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidth h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27949.92	2078331	27828.96	2076315	102		22469	2078011	4	11	1 (8)	121
						High	29349.96	2101665	28939.56	2094825	504		22550	2101339	10	10	1 (8)	522
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0
						Mid	28049.88	2079997	27928.92	2077981	102		22474	2079451	6	0	0 (0)	102
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
	Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.6-3: NR Intra-Band contiguous CA configuration CA_n257G, SCS=120 kHz, ΔF_{Raster} 120 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27950.04	2078333	27755.64	2075093	102		22469	2078011	7	5	1 (4)	222
						High	29350.56	2101675	28577.28	2088787	504		22550	2101339	0	5	1 (4)	1026
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	10	0	0 (0)	0
						Mid	28049.4	2079989	27855	2076749	102		22474	2079451	7	0	0 (0)	204
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcc-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.6-4: NR Intra-Band contiguous CA configuration CA_n257G, SCS=120 kHz, ΔF_{Raster} 120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwid th [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27950.04	2078333	27755.64	2075093	102		22469	2078011	7	5	1 (4)	222
						High	29349.96	2101665	28576.68	2088777	504		22550	2101339	5	5	1 (4)	1026
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0
						Mid	28050	2079999	27855.6	2076759	102		22474	2079451	2	0	0 (0)	204
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.1.7

CA_n257H

Table 4.3.1.2.3.1.7-1: NR Intra-Band contiguous CA configuration CA_n257H, SCS=60 kHz, ΔF_{Raster} 60 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27900	2077499	27779.04	2075483	102		22466	2077147	8	8	1 (8)	118
						High	29251.2	2100019	28840.8	2093179	504		22544	2099611	0	4	1 (8)	516
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	8	1	0 (0)	1
						Mid	27999.36	2079155	27878.4	2077139	102		22472	2078875	8	14	1 (8)	124
						High	29350.56	2101675	28940.16	2094835	504		22550	2101339	0	10	1 (8)	522
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	8	7	0 (0)	7
						Mid	28098.72	2080811	27977.76	2078795	102		22477	2080315	8	4	0 (0)	106
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.7-2: NR Intra-Band contiguous CA configuration CA_n257H, SCS=60 kHz, ΔF_{Raster} 60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requecy PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requecy SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27900	2077499	27779.04	2075483	102		22466	2077147	8	8	1 (8)	118
						High	29250	2099999	28839.6	2093159	504		22544	2099611	8	5	1 (8)	517
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27999.96	2079165	27879	2077149	102		22472	2078875	10	13	1 (8)	123
						High	29349.96	2101665	28939.56	2094825	504		22550	2101339	10	10	1 (8)	522
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	6	0 (0)	6
						Mid	28099.92	2080831	27978.96	2078815	102		22477	2080315	0	3	0 (0)	105
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.7-3: NR Intra-Band contiguous CA configuration CA_n257H, SCS=120 kHz, ΔF_{Raster} 120 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4	
100+100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18	
						Mid	27900	2077499	27705.6	2074259	102		22466	2077147	4	4	1 (4)	220	
						High	29251.2	2100019	28477.92	2087131	504		22544	2099611	0	2	1 (4)	1020	
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																		
	CC2	100	120	66	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	10	0	0 (0)	0	
						Mid	27999.36	2079155	27804.96	2075915	102		22472	2078875	4	7	1 (4)	226	
						High	29350.56	2101675	28577.28	2088787	504		22550	2101339	0	5	1 (4)	1026	
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																		
	CC3	100	120	66	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	10	3	0 (0)	6	
						Mid	28098.72	2080811	27904.32	2077571	102		22477	2080315	4	2	0 (0)	208	
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008	
	Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
	Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
	Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
	Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.7-4: NR Intra-Band contiguous CA configuration CA_n257H, SCS=120 kHz, ΔF_{Raster} 120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combinati on	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27900	2077499	27705.6	2074259	102		22466	2077147	4	4	1 (4)	220
						High	29250	2099999	28476.72	2087111	504		22544	2099611	10	2	1 (4)	1020
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0
						Mid	27999.96	2079165	27805.56	2075925	102		22472	2078875	11	6	1 (4)	224
						High	29349.96	2101665	28576.68	2088777	504		22550	2101339	5	5	1 (4)	1026
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	3	0 (0)	6
						Mid	28099.92	2080831	27905.52	2077591	102		22477	2080315	6	1	0 (0)	206
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

4.3.1.2.3.1.8 CA_n257I

Table 4.3.1.2.3.1.8-1: NR Intra-Band contiguous CA configuration CA_n257I, SCS=60 kHz, ΔF_{Raster} 60 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4	
100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19	
						Mid	27849.96	2076665	27729	2074649	102		22463	2076283	2	6	1 (8)	116	
						High	29151.84	2098363	28741.44	2091523	504		22538	2097883	0	6	0 (0)	510	
		Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
		CC2	100	60	132	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	8	1	0 (0)	1
							Mid	27949.32	2078321	27828.36	2076305	102		22469	2078011	2	12	1 (8)	122
							High	29251.2	2100019	28840.8	2093179	504		22544	2099611	0	4	1 (8)	516
		Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
		CC3	100	60	132	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	8	7	0 (0)	7
	Mid						28048.68	2079977	27927.72	2077961	102	22474		2079451	2	2	0 (0)	104	
	High						29350.56	2101675	28940.16	2094835	504	22550		2101339	0	10	1 (8)	522	
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																		
	CC4	100	60	132	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	8	5	1 (8)	13	
						Mid	28148.04	2081633	28027.08	2079617	102		22480	2081179	2	0	1 (8)	110	
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504	
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																		
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

Table 4.3.1.2.3.1.8-2: NR Intra-Band contiguous CA configuration CA_n257I, SCS=60 kHz, ΔF_{Raster} 60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27849.96	2076665	27729	2074649	102		22463	2076283	2	6	1 (8)	116
						High	29150.04	2098333	28739.64	2091493	504		22538	2097883	6	0	1 (8)	512
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27949.92	2078331	27828.96	2076315	102		22469	2078011	4	11	1 (8)	121
						High	29250	2099999	28839.6	2093159	504		22544	2099611	8	5	1 (8)	517
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	6	0 (0)	6
						Mid	28049.88	2079997	27928.92	2077981	102		22474	2079451	6	0	0 (0)	102
						High	29349.96	2101665	28939.56	2094825	504		22550	2101339	10	10	1 (8)	522
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	2	3	1 (8)	11
						Mid	28149.84	2081663	28028.88	2079647	102		22480	2081179	8	5	0 (0)	107
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.8-3: NR Intra-Band contiguous CA configuration CA_n2571, SCS=120 kHz, ΔF_{Raster} 120 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27849.96	2076665	27655.56	2073425	102		22463	2076283	1	3	1 (4)	218
						High	29151.84	2098363	28378.56	2085475	504		22538	2097883	0	3	0 (0)	1014
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27949.32	2078321	27754.92	2075081	102		22469	2078011	1	6	1 (4)	224
						High	29251.2	2100019	28477.92	2087131	504		22544	2099611	0	2	1 (4)	1020
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	10	3	0 (0)	6
						Mid	28048.68	2079977	27854.28	2076737	102		22474	2079451	1	1	0 (0)	206
						High	29350.56	2101675	28577.28	2088787	504		22550	2101339	0	5	1 (4)	1026
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	10	2	1 (4)	12
						Mid	28148.04	2081633	27953.64	2078393	102		22480	2081179	1	0	1 (4)	212
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.8-4: NR Intra-Band contiguous CA configuration CA_n257I, SCS=120 kHz, ΔF_{Raster} 120 kHz nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27849.96	2076665	27655.56	2073425	102		22463	2076283	1	3	1 (4)	218
						High	29150.04	2098333	28376.76	2085445	504		22538	2097883	3	0	1 (4)	1016
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0
						Mid	27949.92	2078331	27755.52	2075091	102		22469	2078011	8	5	1 (4)	222
						High	29250	2099999	28476.72	2087111	504		22544	2099611	10	2	1 (4)	1020
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	3	0 (0)	6
						Mid	28049.88	2079997	27855.48	2076757	102		22474	2079451	3	0	0 (0)	204
						High	29349.96	2101665	28576.68	2088777	504		22550	2101339	5	5	1 (4)	1026
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	7	1	1 (4)	10
						Mid	28149.84	2081663	27955.44	2078423	102		22480	2081179	10	2	0 (0)	208
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.1.9

CA_n257J

Table 4.3.1.2.3.1.9-1: NR Intra-Band contiguous CA configuration CA_n257J, SCS=60 kHz, ΔF_{Raster} 60 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27799.92	2075831	27678.96	2073815	102		22460	2075419	8	3	1 (8)	113
						High	29052.48	2096707	28642.08	2089867	504		22532	2096155	0	0	0 (0)	504
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	8	1	0 (0)	1
						Mid	27899.28	2077487	27778.32	2075471	102		22466	2077147	8	9	1 (8)	119
						High	29151.84	2098363	28741.44	2091523	504		22538	2097883	0	6	0 (0)	510
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	8	7	0 (0)	7
						Mid	27998.64	2079143	27877.68	2077127	102		22472	2078875	8	15	1 (8)	125
						High	29251.2	2100019	28840.8	2093179	504		22544	2099611	0	4	1 (8)	516
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	8	5	1 (8)	13
						Mid	28098	2080799	27977.04	2078783	102		22477	2080315	8	5	0 (0)	107
						High	29350.56	2101675	28940.16	2094835	504		22550	2101339	0	10	1 (8)	522
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	8	11	1 (8)	19
						Mid	28197.36	2082455	28076.4	2080439	102		22483	2082043	8	3	1 (8)	113
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.9-2: NR Intra-Band contiguous CA configuration CA_n257J, SCS=60 kHz, ΔF_{Raster} 60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27799.92	2075831	27678.96	2073815	102		22460	2075419	8	3	1 (8)	113
						High	29050.08	2096667	28639.68	2089827	504		22532	2096155	4	3	0 (0)	507
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27899.88	2077497	27778.92	2075481	102		22466	2077147	10	8	1 (8)	118
						High	29150.04	2098333	28739.64	2091493	504		22538	2097883	6	0	1 (8)	512
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	6	0 (0)	6
						Mid	27999.84	2079163	27878.88	2077147	102		22472	2078875	0	14	1 (8)	124
						High	29250	2099999	28839.6	2093159	504		22544	2099611	8	5	1 (8)	517
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	2	3	1 (8)	11
						Mid	28099.8	2080829	27978.84	2078813	102		22477	2080315	2	3	0 (0)	105
						High	29349.96	2101665	28939.56	2094825	504		22550	2101339	10	10	1 (8)	522
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	4	8	1 (8)	16
						Mid	28199.76	2082495	28078.8	2080479	102		22483	2082043	4	0	1 (8)	110
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.9-3: NR Intra-Band contiguous CA configuration CA_n257J, SCS=120 kHz, ΔF_{Raster} 120 kHz, adjusted channel spacing (default)

CBW combinatio n	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27800.04	2075833	27605.64	2072593	102		22460	2075419	9	1	1 (4)	214
						High	29052.48	2096707	28279.2	2083819	504		22532	2096155	0	0	0 (0)	1008
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27899.4	2077489	27705	2074249	102		22466	2077147	9	4	1 (4)	220
						High	29151.84	2098363	28378.56	2085475	504		22538	2097883	0	3	0 (0)	1014
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	10	3	0 (0)	6
						Mid	27998.76	2079145	27804.36	2075905	102		22472	2078875	9	7	1 (4)	226
						High	29251.2	2100019	28477.92	2087131	504		22544	2099611	0	2	1 (4)	1020
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	10	2	1 (4)	12
						Mid	28098.12	2080801	27903.72	2077561	102		22477	2080315	9	2	0 (0)	208
						High	29350.56	2101675	28577.28	2088787	504		22550	2101339	0	5	1 (4)	1026
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	10	5	1 (4)	18
						Mid	28197.48	2082457	28003.08	2079217	102		22483	2082043	9	1	1 (4)	214
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.9-4: NR Intra-Band contiguous CA configuration CA_n257J, SCS=120 kHz, ΔF_{Raster} 120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combinatio n	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27800.04	2075833	27605.64	2072593	102		22460	2075419	9	1	1 (4)	214
						High	29050.08	2096667	28276.8	2083779	504		22532	2096155	8	1	0 (0)	1010
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0
						Mid	27900	2077499	27705.6	2074259	102		22466	2077147	4	4	1 (4)	220
						High	29150.04	2098333	28376.76	2085445	504		22538	2097883	3	0	1 (4)	1016
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	3	0 (0)	6
						Mid	27999.96	2079165	27805.56	2075925	102		22472	2078875	11	6	1 (4)	224
						High	29250	2099999	28476.72	2087111	504		22544	2099611	10	2	1 (4)	1020
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	7	1	1 (4)	10
						Mid	28099.92	2080831	27905.52	2077591	102		22477	2080315	6	1	0 (0)	206
						High	29349.96	2101665	28576.68	2088777	504		22550	2101339	5	5	1 (4)	1026
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	2	4	1 (4)	16
						Mid	28199.88	2082497	28005.48	2079257	102		22483	2082043	1	0	1 (4)	212
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

4.3.1.2.3.1.10

CA_n257K

Table 4.3.1.2.3.1.10-1: NR Intra-Band contiguous CA configuration CA_n257K, SCS=60 kHz, ΔF_{Raster} 60 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4	
100+100 +100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19	
						Mid	27750	2074999	27629.04	2072983	102		22457	2074555	0	1	1 (8)	111	
						High	28953.12	2095051	28542.72	2088211	504		22527	2094715	0	10	1 (8)	522	
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	8	1	0 (0)	1	
						Mid	27849.36	2076655	27728.4	2074639	102		22463	2076283	0	7	1 (8)	117	
						High	29052.48	2096707	28642.08	2089867	504		22532	2096155	0	0	0 (0)	504	
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																		
	CC3	100	60	132	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	8	7	0 (0)	7	
						Mid	27948.72	2078311	27827.76	2076295	102		22469	2078011	0	13	1 (8)	123	
						High	29151.84	2098363	28741.44	2091523	504		22538	2097883	0	6	0 (0)	510	
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																		
	CC4	100	60	132	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	8	5	1 (8)	13	
						Mid	28048.08	2079967	27927.12	2077951	102		22474	2079451	0	3	0 (0)	105	
						High	29251.2	2100019	28840.8	2093179	504		22544	2099611	0	4	1 (8)	516	
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																		
	CC5	100	60	132	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	8	11	1 (8)	19	
						Mid	28147.44	2081623	28026.48	2079607	102		22480	2081179	0	1	1 (8)	111	
						High	29350.56	2101675	28940.16	2094835	504		22550	2101339	0	10	1 (8)	522	
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																		
	CC6	100	60	132	Downlink & Uplink	Low	27046.8	2063279	26999.28	2062487	0	120	22416	2062747	8	1	0 (0)	1	
						Mid	28246.8	2083279	28125.84	2081263	102		22486	2082907	0	7	1 (8)	117	
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504	

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-

ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.10-2: NR Intra-Band contiguous CA configuration CA_n257K, SCS=60 kHz, ΔF_{Raster} 60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19
						Mid	27750	2074999	27629.04	2072983	102		22457	2074555	0	1	1 (8)	111
						High	28950.12	2095001	28539.72	2088161	504		22527	2094715	2	14	1 (8)	526
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27849.96	2076665	27729	2074649	102		22463	2076283	2	6	1 (8)	116
						High	29050.08	2096667	28639.68	2089827	504		22532	2096155	4	3	0 (0)	507
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	6	0 (0)	6
						Mid	27949.92	2078331	27828.96	2076315	102		22469	2078011	4	11	1 (8)	121
						High	29150.04	2098333	28739.64	2091493	504		22538	2097883	6	0	1 (8)	512
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	2	3	1 (8)	11
						Mid	28049.88	2079997	27928.92	2077981	102		22474	2079451	6	0	0 (0)	102
						High	29250	2099999	28839.6	2093159	504		22544	2099611	8	5	1 (8)	517
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	4	8	1 (8)	16
						Mid	28149.84	2081663	28028.88	2079647	102		22480	2081179	8	5	0 (0)	107
						High	29349.96	2101665	28939.56	2094825	504		22550	2101339	10	10	1 (8)	522
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																	
	CC6	100	60	132	Downlink & Uplink	Low	27049.8	2063329	27002.28	2062537	0	120	22417	2063035	6	13	1 (8)	21
						Mid	28249.8	2083329	28128.84	2081313	102		22486	2082907	10	2	1 (8)	112
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.10-3: NR Intra-Band contiguous CA configuration CA_n257K, SCS=120 kHz, ΔF_{Raster} 120 kHz, adjusted channel spacing (default)

CBW combinatio n	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCarri er [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27750	2074999	27555.6	2071759	102		22457	2074555	6	0	1 (4)	212
						High	28953.12	2095051	28179.84	2082163	504		22527	2094715	0	5	1 (4)	1026
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27849.36	2076655	27654.96	2073415	102		22463	2076283	6	3	1 (4)	218
						High	29052.48	2096707	28279.2	2083819	504		22532	2096155	0	0	0 (0)	1008
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	10	3	0 (0)	6
						Mid	27948.72	2078311	27754.32	2075071	102		22469	2078011	6	6	1 (4)	224
						High	29151.84	2098363	28378.56	2085475	504		22538	2097883	0	3	0 (0)	1014
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	10	2	1 (4)	12
						Mid	28048.08	2079967	27853.68	2076727	102		22474	2079451	6	1	0 (0)	206
						High	29251.2	2100019	28477.92	2087131	504		22544	2099611	0	2	1 (4)	1020
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	10	5	1 (4)	18
						Mid	28147.44	2081623	27953.04	2078383	102		22480	2081179	6	0	1 (4)	212
						High	29350.56	2101675	28577.28	2088787	504		22550	2101339	0	5	1 (4)	1026
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																	
	CC6	100	120	66	Downlink & Uplink	Low	27046.8	2063279	26999.28	2062487	0	120	22416	2062747	10	0	0 (0)	0
						Mid	28246.8	2083279	28052.4	2080039	102		22486	2082907	6	3	1 (4)	218
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.10-4: NR Intra-Band contiguous CA configuration CA_n257K, SCS=120 kHz, ΔF_{Raster} 120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27750	2074999	27555.6	2071759	102		22457	2074555	6	0	1 (4)	212
						High	28950.12	2095001	28176.84	2082113	504		22527	2094715	1	7	1 (4)	1030
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0
						Mid	27849.96	2076665	27655.56	2073425	102		22463	2076283	1	3	1 (4)	218
						High	29050.08	2096667	28276.8	2083779	504		22532	2096155	8	1	0 (0)	1010
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	3	0 (0)	6
						Mid	27949.92	2078331	27755.52	2075091	102		22469	2078011	8	5	1 (4)	222
						High	29150.04	2098333	28376.76	2085445	504		22538	2097883	3	0	1 (4)	1016
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	7	1	1 (4)	10
						Mid	28049.88	2079997	27855.48	2076757	102		22474	2079451	3	0	0 (0)	204
						High	29250	2099999	28476.72	2087111	504		22544	2099611	10	2	1 (4)	1020
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	2	4	1 (4)	16
						Mid	28149.84	2081663	27955.44	2078423	102		22480	2081179	10	2	0 (0)	208
						High	29349.96	2101665	28576.68	2088777	504		22550	2101339	5	5	1 (4)	1026
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																	
	CC6	100	120	66	Downlink & Uplink	Low	27049.8	2063329	27002.28	2062537	0	120	22417	2063035	9	6	1 (4)	20
						Mid	28249.8	2083329	28055.4	2080089	102		22486	2082907	5	1	1 (4)	214
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

4.3.1.2.3.1.11 CA_n257L

Table 4.3.1.2.3.1.11-1: NR Intra-Band contiguous CA configuration CA_n257L, SCS=60 kHz, ΔF_{Raster} 60 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4	
100+100 +100+100 +100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19	
						Mid	27699.96	2074165	27579	2072149	102		22454	2073691	6	6	0 (0)	108	
						High	28853.76	2093395	28443.36	2086555	504		22521	2092987	0	4	1 (8)	516	
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	8	1	0 (0)	1	
						Mid	27799.32	2075821	27678.36	2073805	102		22460	2075419	6	4	1 (8)	114	
						High	28953.12	2095051	28542.72	2088211	504		22527	2094715	0	10	1 (8)	522	
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																		
	CC3	100	60	132	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	8	7	0 (0)	7	
						Mid	27898.68	2077477	27777.72	2075461	102		22466	2077147	6	10	1 (8)	120	
						High	29052.48	2096707	28642.08	2089867	504		22532	2096155	0	0	0 (0)	504	
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																		
	CC4	100	60	132	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	8	5	1 (8)	13	
						Mid	27998.04	2079133	27877.08	2077117	102		22471	2078587	6	0	0 (0)	102	
						High	29151.84	2098363	28741.44	2091523	504		22538	2097883	0	6	0 (0)	510	
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																		
	CC5	100	60	132	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	8	11	1 (8)	19	
						Mid	28097.4	2080789	27976.44	2078773	102		22477	2080315	6	6	0 (0)	108	
						High	29251.2	2100019	28840.8	2093179	504		22544	2099611	0	4	1 (8)	516	
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																		
	CC6	100	60	132	Downlink & Uplink	Low	27046.8	2063279	26999.28	2062487	0	120	22416	2062747	8	1	0 (0)	1	
						Mid	28196.76	2082445	28075.8	2080429	102		22483	2082043	6	4	1 (8)	114	
						High	29350.56	2101675	28940.16	2094835	504		22550	2101339	0	10	1 (8)	522	
	Channel spacing CC6-CC7=99.36 MHz (Note 1)																		
	CC7	100	60	132	Downlink & Uplink	Low	27146.16	2064935	27098.64	2064143	0	120	22422	2064475	8	7	0 (0)	7	
						Mid	28296.12	2084101	28175.16	2082085	102		22489	2083771	6	10	1 (8)	120	
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504	

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

- Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
- Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.11-2: NR Intra-Band contiguous CA configuration CA_n257L, SCS=60 kHz, ΔF_{Raster} 60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4	
100+100 +100+100 +100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19	
						Mid	27699.96	2074165	27579	2072149	102		22454	2073691	6	6	0 (0)	108	
						High	28850.16	2093335	28439.76	2086495	504		22521	2092987	0	9	1 (8)	521	
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0	
						Mid	27799.92	2075831	27678.96	2073815	102		22460	2075419	8	3	1 (8)	113	
						High	28950.12	2095001	28539.72	2088161	504		22527	2094715	2	14	1 (8)	526	
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																		
	CC3	100	60	132	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	6	0 (0)	6	
						Mid	27899.88	2077497	27778.92	2075481	102		22466	2077147	10	8	1 (8)	118	
						High	29050.08	2096667	28639.68	2089827	504		22532	2096155	4	3	0 (0)	507	
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																		
	CC4	100	60	132	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	2	3	1 (8)	11	
						Mid	27999.84	2079163	27878.88	2077147	102		22472	2078875	0	14	1 (8)	124	
						High	29150.04	2098333	28739.64	2091493	504		22538	2097883	6	0	1 (8)	512	
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																		
	CC5	100	60	132	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	4	8	1 (8)	16	
						Mid	28099.8	2080829	27978.84	2078813	102		22477	2080315	2	3	0 (0)	105	
						High	29250	2099999	28839.6	2093159	504		22544	2099611	8	5	1 (8)	517	
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																		
	CC6	100	60	132	Downlink & Uplink	Low	27049.8	2063329	27002.28	2062537	0	120	22417	2063035	6	13	1 (8)	21	
						Mid	28199.76	2082495	28078.8	2080479	102		22483	2082043	4	0	1 (8)	110	
						High	29349.96	2101665	28939.56	2094825	504		22550	2101339	10	10	1 (8)	522	
	Channel spacing CC6-CC7=99.96 MHz (Note 1)																		
	CC7	100	60	132	Downlink & Uplink	Low	27149.76	2064995	27102.24	2064203	0	120	22422	2064475	8	2	0 (0)	2	
						Mid	28299.72	2084161	28178.76	2082145	102		22489	2083771	6	5	1 (8)	115	
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504	
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																		

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.11-3: NR Intra-Band contiguous CA configuration CA_n257L, SCS=120 kHz, ΔF_{Raster} 120 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4	
100+100 +100+100 +100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18	
						Mid	27699.96	2074165	27505.56	2070925	102		22454	2073691	3	3	0 (0)	210	
						High	28853.76	2093395	28080.48	2080507	504		22521	2092987	0	2	1 (4)	1020	
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																		
	CC2	100	120	66	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	10	0	0 (0)	0	
						Mid	27799.32	2075821	27604.92	2072581	102		22460	2075419	3	2	1 (4)	216	
						High	28953.12	2095051	28179.84	2082163	504		22527	2094715	0	5	1 (4)	1026	
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																		
	CC3	100	120	66	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	10	3	0 (0)	6	
						Mid	27898.68	2077477	27704.28	2074237	102		22466	2077147	3	5	1 (4)	222	
						High	29052.48	2096707	28279.2	2083819	504		22532	2096155	0	0	0 (0)	1008	
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																		
	CC4	100	120	66	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	10	2	1 (4)	12	
						Mid	27998.04	2079133	27803.64	2075893	102		22471	2078587	3	0	0 (0)	204	
						High	29151.84	2098363	28378.56	2085475	504		22538	2097883	0	3	0 (0)	1014	
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																		
	CC5	100	120	66	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	10	5	1 (4)	18	
						Mid	28097.4	2080789	27903	2077549	102		22477	2080315	3	3	0 (0)	210	
						High	29251.2	2100019	28477.92	2087131	504		22544	2099611	0	2	1 (4)	1020	
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																		
	CC6	100	120	66	Downlink & Uplink	Low	27046.8	2063279	26999.28	2062487	0	120	22416	2062747	10	0	0 (0)	0	
						Mid	28196.76	2082445	28002.36	2079205	102		22483	2082043	3	2	1 (4)	216	
						High	29350.56	2101675	28577.28	2088787	504		22550	2101339	0	5	1 (4)	1026	
	Channel spacing CC6-CC7=99.36 MHz (Note 1)																		
	CC7	100	120	66	Downlink & Uplink	Low	27146.16	2064935	27098.64	2064143	0	120	22422	2064475	10	3	0 (0)	6	
						Mid	28296.12	2084101	28101.72	2080861	102		22489	2083771	3	5	1 (4)	222	
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008	
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter																		

Note 4: $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.11-4: NR Intra-Band contiguous CA configuration CA_n257L, SCS=120 kHz, ΔF_{Raster} 120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4	
100+100 +100+100 +100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18	
						Mid	27699.96	2074165	27505.56	2070925	102		22454	2073691	3	3	0 (0)	210	
						High	28850.16	2093335	28076.88	2080447	504		22521	2092987	6	4	1 (4)	1024	
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																		
	CC2	100	120	66	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0	
						Mid	27799.92	2075831	27605.52	2072591	102		22460	2075419	10	1	1 (4)	214	
						High	28950.12	2095001	28176.84	2082113	504		22527	2094715	1	7	1 (4)	1030	
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																		
	CC3	100	120	66	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	3	0 (0)	6	
						Mid	27899.88	2077497	27705.48	2074257	102		22466	2077147	5	4	1 (4)	220	
						High	29050.08	2096667	28276.8	2083779	504		22532	2096155	8	1	0 (0)	1010	
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																		
	CC4	100	120	66	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	7	1	1 (4)	10	
						Mid	27999.84	2079163	27805.44	2075923	102		22472	2078875	0	7	1 (4)	226	
						High	29150.04	2098333	28376.76	2085445	504		22538	2097883	3	0	1 (4)	1016	
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																		
	CC5	100	120	66	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	2	4	1 (4)	16	
						Mid	28099.8	2080829	27905.4	2077589	102		22477	2080315	7	1	0 (0)	206	
						High	29250	2099999	28476.72	2087111	504		22544	2099611	10	2	1 (4)	1020	
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																		
	CC6	100	120	66	Downlink & Uplink	Low	27049.8	2063329	27002.28	2062537	0	120	22417	2063035	9	6	1 (4)	20	
						Mid	28199.76	2082495	28005.36	2079255	102		22483	2082043	2	0	1 (4)	212	
						High	29349.96	2101665	28576.68	2088777	504		22550	2101339	5	5	1 (4)	1026	
	Channel spacing CC6-CC7=99.96 MHz (Note 1)																		
	CC7	100	120	66	Downlink & Uplink	Low	27149.76	2064995	27102.24	2064203	0	120	22422	2064475	4	1	0 (0)	2	
						Mid	28299.72	2084161	28105.32	2080921	102		22489	2083771	9	2	1 (4)	216	
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008	
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																		

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.1.12 CA_n257M

Table 4.3.1.2.3.1.12-1: NR Intra-Band contiguous CA configuration CA_n257M, SCS=60 kHz, ΔF_{Raster} 60 kHz, adjusted channel spacing (default)

CBW combination	CC Note 2	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4	
100+100 +100+100 +100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19	
						Mid	27649.92	2073331	27528.96	2071315	102		22451	2072827	0	4	0 (0)	106	
						High	28754.4	2091739	28344	2084899	504		22515	2091259	0	6	0 (0)	510	
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	8	1	0 (0)	1	
						Mid	27749.28	2074987	27628.32	2072971	102		22457	2074555	0	2	1 (8)	112	
						High	28853.76	2093395	28443.36	2086555	504		22521	2092987	0	4	1 (8)	516	
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																		
	CC3	100	60	132	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	8	7	0 (0)	7	
						Mid	27848.64	2076643	27727.68	2074627	102		22463	2076283	0	8	1 (8)	118	
						High	28953.12	2095051	28542.72	2088211	504		22527	2094715	0	10	1 (8)	522	
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																		
	CC4	100	60	132	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	8	5	1 (8)	13	
						Mid	27948	2078299	27827.04	2076283	102		22469	2078011	0	14	1 (8)	124	
						High	29052.48	2096707	28642.08	2089867	504		22532	2096155	0	0	0 (0)	504	
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																		
	CC5	100	60	132	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	8	11	1 (8)	19	
						Mid	28047.36	2079955	27926.4	2077939	102		22474	2079451	0	4	0 (0)	106	
						High	29151.84	2098363	28741.44	2091523	504		22538	2097883	0	6	0 (0)	510	
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																		
	CC6	100	60	132	Downlink & Uplink	Low	27046.8	2063279	26999.28	2062487	0	120	22416	2062747	8	1	0 (0)	1	
						Mid	28146.72	2081611	28025.76	2079595	102		22480	2081179	0	2	1 (8)	112	
						High	29251.2	2100019	28840.8	2093179	504		22544	2099611	0	4	1 (8)	516	
	Channel spacing CC6-CC7=99.36 MHz (Note 1)																		
	CC7	100	60	132	Downlink & Uplink	Low	27146.16	2064935	27098.64	2064143	0	120	22422	2064475	8	7	0 (0)	7	
						Mid	28246.08	2083267	28125.12	2081251	102		22486	2082907	0	8	1 (8)	118	
						High	29350.56	2101675	28940.16	2094835	504		22550	2101339	0	10	1 (8)	522	
	Channel spacing CC7-CC8=99.36 MHz (Note 1)																		
	CC8	100	60	132	Downlink	Low	27245.52	2066591	27198	2065799	0	120	22428	2066203	8	5	1 (8)	13	

					& Uplink	Mid	28345.44	2084923	28224.48	2082907	102		22492	2084635	0	14	1 (8)	124
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504
Note 1:	The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.1.12-2: NR Intra-Band contiguous CA configuration CA_n257M, SCS=60 kHz, ΔF_{Raster} 60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combinatio n	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4	
100+100 +100+100 +100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	8	11	1 (8)	19	
						Mid	27649.92	2073331	27528.96	2071315	102		22451	2072827	0	4	0 (0)	106	
						High	28750.2	2091669	28339.8	2084829	504		22515	2091259	10	3	1 (8)	515	
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	10	0	0 (0)	0	
						Mid	27749.88	2074997	27628.92	2072981	102		22457	2074555	2	1	1 (8)	111	
						High	28850.16	2093335	28439.76	2086495	504		22521	2092987	0	9	1 (8)	521	
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																		
	CC3	100	60	132	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	6	0 (0)	6	
						Mid	27849.84	2076663	27728.88	2074647	102		22463	2076283	4	6	1 (8)	116	
						High	28950.12	2095001	28539.72	2088161	504		22527	2094715	2	14	1 (8)	526	
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																		
	CC4	100	60	132	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	2	3	1 (8)	11	
						Mid	27949.8	2078329	27828.84	2076313	102		22469	2078011	6	11	1 (8)	121	
						High	29050.08	2096667	28639.68	2089827	504		22532	2096155	4	3	0 (0)	507	
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																		
	CC5	100	60	132	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	4	8	1 (8)	16	
						Mid	28049.76	2079995	27928.8	2077979	102		22474	2079451	8	0	0 (0)	102	
						High	29150.04	2098333	28739.64	2091493	504		22538	2097883	6	0	1 (8)	512	
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																		
	CC6	100	60	132	Downlink & Uplink	Low	27049.8	2063329	27002.28	2062537	0	120	22417	2063035	6	13	1 (8)	21	
						Mid	28149.72	2081661	28028.76	2079645	102		22480	2081179	10	5	0 (0)	107	
						High	29250	2099999	28839.6	2093159	504		22544	2099611	8	5	1 (8)	517	
	Channel spacing CC6-CC7=99.96 MHz (Note 1)																		
	CC7	100	60	132	Downlink & Uplink	Low	27149.76	2064995	27102.24	2064203	0	120	22422	2064475	8	2	0 (0)	2	
						Mid	28249.68	2083327	28128.72	2081311	102		22486	2082907	0	3	1 (8)	113	
						High	29349.96	2101665	28939.56	2094825	504		22550	2101339	10	10	1 (8)	522	
	Channel spacing CC7-CC8=99.96 MHz (Note 1)																		
	CC8	100	60	132	Downlink & Uplink	Low	27249.72	2066661	27202.2	2065869	0	120	22428	2066203	10	7	0 (0)	7	
						Mid	28349.64	2084993	28228.68	2082977	102		22492	2084635	2	8	1 (8)	118	
						High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0 (0)	504	

- Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.
- Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
- Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.12-3: NR Intra-Band contiguous CA configuration CA_n257M, SCS=120 kHz, ΔF_{Raster} 120 kHz, adjusted channel spacing (default)

CBW combinatio n	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetTo PointA (SIB1) [PRBs] Note 4
100+100 +100+100 +100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	5	1 (4)	18
						Mid	27650.04	2073333	27455.64	2070093	102		22451	2072827	11	1	0 (0)	206
						High	28754.4	2091739	27981.12	2078851	504		22515	2091259	0	3	0 (0)	1014
	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.36	2056655	26601.84	2055863	0	120	22393	2056123	10	0	0 (0)	0
						Mid	27749.4	2074989	27555	2071749	102		22457	2074555	11	0	1 (4)	212
						High	28853.76	2093395	28080.48	2080507	504		22521	2092987	0	2	1 (4)	1020
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26748.72	2058311	26701.2	2057519	0	120	22399	2057851	10	3	0 (0)	6
						Mid	27848.76	2076645	27654.36	2073405	102		22463	2076283	11	3	1 (4)	218
						High	28953.12	2095051	28179.84	2082163	504		22527	2094715	0	5	1 (4)	1026
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26848.08	2059967	26800.56	2059175	0	120	22405	2059579	10	2	1 (4)	12
						Mid	27948.12	2078301	27753.72	2075061	102		22469	2078011	11	6	1 (4)	224
						High	29052.48	2096707	28279.2	2083819	504		22532	2096155	0	0	0 (0)	1008
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26947.44	2061623	26899.92	2060831	0	120	22411	2061307	10	5	1 (4)	18
						Mid	28047.48	2079957	27853.08	2076717	102		22474	2079451	11	1	0 (0)	206
						High	29151.84	2098363	28378.56	2085475	504		22538	2097883	0	3	0 (0)	1014
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																	
	CC6	100	120	66	Downlink & Uplink	Low	27046.8	2063279	26999.28	2062487	0	120	22416	2062747	10	0	0 (0)	0
						Mid	28146.84	2081613	27952.44	2078373	102		22480	2081179	11	0	1 (4)	212
						High	29251.2	2100019	28477.92	2087131	504		22544	2099611	0	2	1 (4)	1020
	Channel spacing CC6-CC7=99.36 MHz (Note 1)																	
	CC7	100	120	66	Downlink & Uplink	Low	27146.16	2064935	27098.64	2064143	0	120	22422	2064475	10	3	0 (0)	6
						Mid	28246.2	2083269	28051.8	2080029	102		22486	2082907	11	3	1 (4)	218
						High	29350.56	2101675	28577.28	2088787	504		22550	2101339	0	5	1 (4)	1026
	Channel spacing CC7-CC8=99.36 MHz (Note 1)																	
	CC8	100	120	66	Downlink & Uplink	Low	27245.52	2066591	27198	2065799	0	120	22428	2066203	10	2	1 (4)	12
						Mid	28345.56	2084925	28151.16	2081685	102		22492	2084635	11	6	1 (4)	224
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008

- Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both $\text{scs}=60$ kHz and $\text{scs}=120$ kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.
- Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
- Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.1.12-4: NR Intra-Band contiguous CA configuration CA_n257M, SCS=120 kHz, ΔF_{Raster} 120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combinatio n	CC Note 2	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	CORES ET#1 Offset from N _{BWP} ^{start} [RBs]	CORE SET#0 Index (Offse t [RBs]) Note 1	offsetTo PointA (SIB1) [PRBs] Note 1
100+100 +100+100 +100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	26550	2054999	26502.48	2054207	0	120	22388	2054683	10	6	1 (4)	18
						Mid	27999.6	2079159	27805.2	2075919	102		22472	2078875	2	12	1 (4)	226
						High	28750.2	2091669	27976.92	2078781	504		22515	2091259	11	6	1 (4)	1018
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	26649.96	2056665	26602.44	2055873	0	120	22393	2056123	5	0	0 (0)	0
						Mid	28099.56	2080825	27905.16	2077585	102		22477	2080315	9	6	0 (0)	206
						High	28850.16	2093335	28076.88	2080447	504		22521	2092987	6	6	1 (4)	1024
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26749.92	2058331	26702.4	2057539	0	120	22399	2057851	0	6	0 (0)	6
						Mid	28199.52	2082491	28005.12	2079251	102		22483	2082043	4	0	1 (4)	212
						High	28950.12	2095001	28176.84	2082113	504		22527	2094715	1	12	1 (4)	1030
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26849.88	2059997	26802.36	2059205	0	120	22405	2059579	7	6	1 (4)	10
						Mid	28299.48	2084157	28105.08	2080917	102		22489	2083771	11	6	1 (4)	216
						High	29050.08	2096667	28276.8	2083779	504		22532	2096155	8	6	0 (0)	1010
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26949.84	2061663	26902.32	2060871	0	120	22411	2061307	2	6	1 (4)	16
						Mid	28399.44	2085823	28205.04	2082583	102		22495	2085499	6	6	1 (4)	222
						High	29150.04	2098333	28376.76	2085445	504		22538	2097883	3	0	1 (4)	1016
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																	
	CC6	100	120	66	Downlink & Uplink	Low	27049.8	2063329	27002.28	2062537	0	120	22417	2063035	9	6	1 (4)	20
						Mid	28499.4	2087489	28305	2084249	102		22500	2086939	1	0	0 (0)	204
						High	29250	2099999	28476.72	2087111	504		22544	2099611	10	6	1 (4)	1020
	Channel spacing CC6-CC7=99.96 MHz (Note 1)																	
	CC7	100	120	66	Downlink & Uplink	Low	27149.76	2064995	27102.24	2064203	0	120	22422	2064475	4	6	0 (0)	2
						Mid	28599.36	2089155	28404.96	2085915	102		22506	2088667	8	6	0 (0)	208
						High	29349.96	2101665	28576.68	2088777	504		22550	2101339	5	6	1 (4)	1026
	Channel spacing CC7-CC8=99.96 MHz (Note 1)																	
	CC8	100	120	66	Downlink & Uplink	Low	27249.72	2066661	27202.2	2065869	0	120	22428	2066203	11	6	0 (0)	6
						Mid	28699.32	2090821	28504.92	2087581	102		22512	2090395	3	6	1 (4)	214
						High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0 (0)	1008

Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

4.3.1.2.3.2 NR Intra-band contiguous CA configurations for CA_n258

4.3.1.2.3.2.1 CA_n258B

Table 4.3.1.2.3.2.1-1: Void

Table 4.3.1.2.3.2.1-2: NR Intra-Band contiguous CA configuration CA_n258B (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrier Bandwi dth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offset ToPoi ntA (SIB1) [PRB s] Note 4
50+400	CC1	50	120	32	Downlink & Uplink	Low	24275.04	2017083	24252	2016699	0	120	22257	2016955	8	0	0 (0)	0
						Mid	25674.96	2040415	25505.04	2037583	102		22338	2040283	6	0	0 (0)	204
						High	27083.04	2063883	26334.24	2051403	504		22420	2063899	8	2	1 (4)	1020
	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	24492	2020699	24301.92	2017531	0	120	22260	2017819	0	2	0 (0)	4
						Mid	25891.92	2044031	25554.96	2038415	102		22341	2041147	10	1	0 (0)	206
						High	27300	2067499	26384.16	2052235	504		22423	2064763	0	4	1 (4)	1024
100+400	CC1	100	120	66	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	4	0	0 (0)	0
						Mid	25674.96	2040415	25480.56	2037175	102		22337	2039995	6	1	1 (4)	214
						High	27057.48	2063457	26284.2	2050569	504		22417	2063035	5	1	1 (4)	1018
	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	24542.52	2021541	24352.44	2018373	0	120	22263	2018683	11	2	0 (0)	4
						Mid	25917.48	2044457	25580.52	2038841	102		22343	2041723	1	4	1 (4)	220
						High	27300	2067499	26384.16	2052235	504		22423	2064763	0	4	1 (4)	1024
200+400	CC1	200	120	132	Downlink & Uplink	Low	24350.04	2018333	24255	2016749	0	120	22258	2017243	7	6	1 (4)	20
						Mid	25674.96	2040415	25433.04	2036383	102		22334	2039131	6	2	0 (0)	208
						High	27005.04	2062583	26184.24	2048903	504		22411	2061307	10	2	0 (0)	1012
	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	24645	2023249	24454.92	2020081	0	120	22269	2020411	9	3	0 (0)	6
						Mid	25969.92	2045331	25632.96	2039715	102		22346	2042587	8	3	1 (4)	218
						High	27300	2067499	26384.16	2052235	504		22423	2064763	0	4	1 (4)	1024
400+400	CC1	400	120	264	Downlink &	Low	24450	2019999	24259.92	2016831	0	120	22258	2017243	2	3	1 (4)	14
						Mid	25674.96	2040415	25338	2034799	102		22329	2037691	6	4	1 (4)	220

					Uplink	High	26900.04	2060833	25984.2	2045569	504		22400	2058139	9	5	1 (4)	1026	
	Channel spacing CC1-CC2=399.96 MHz (Note 1)																		
	CC2	400	120	264	Downlink & Uplink	Low	24849.96	2026665	24659.88	2023497	0	120	22281	2023867	5	1	1 (4)	10	
						Mid	26074.92	2047081	25737.96	2041465	102			22352	2044315	9	2	1 (4)	216
						High	27300	2067499	26384.16	2052235	504			22423	2064763	0	4	1 (4)	1024
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.2.3.2.2 CA_n258C

FFS

4.3.1.2.3.2.3 CA_n258D

Table 4.3.1.2.3.2.3-1: NR Intra-Band contiguous CA configuration CA_n258D (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequenc ySSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offset ToPoi ntA (SIB1) [PRBs] Note 4	
50+200	CC1	50	60	66	Downlink & Uplink	Low	24275.04	2017083	24251.28	2016687	0	120	22257	2016955	4	2	0 (0)	2	
						Mid	25774.92	2042081	25677.72	2040461	102		22344	2042011	2	7	0 (0)	109	
						High	27278.76	2067145	26892.12	2060701	504		22431	2067067	6	6	0 (0)	510	
	Channel spacing CC1-CC2=121.2 MHz (Note 1)																		
	CC2	200	60	264	Downlink & Uplink	Low	24396.24	2019103	24301.2	2017519	0	120	22260	2017819	0	5	0 (0)	5	
						Mid	25896.12	2044101	25727.64	2041293	102		22347	2042875	10	1	1 (8)	111	
						High	27399.96	2069165	26942.04	2061533	504		22434	2067931	2	1	1 (8)	513	
	100+200	CC1	100	60	132	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	8	0	0 (0)	0
Mid							25774.92	2042081	25653.96	2040065	102	22343		2041723	2	8	1 (8)	118	
High							27252.48	2066707	26842.08	2059867	504	22428		2066203	0	4	0 (0)	508	
Channel spacing CC1-CC2=147.48 MHz (Note 1)																			
CC2		200	60	264	Downlink & Uplink	Low	24447.48	2019957	24352.44	2018373	0	120	22263	2018683	10	5	0 (0)	5	
						Mid	25922.4	2044539	25753.92	2041731	102		22349	2043451	4	13	1 (8)	123	
						High	27399.96	2069165	26942.04	2061533	504		22434	2067931	2	1	1 (8)	513	
200+200		CC1	200	60	264	Downlink & Uplink	Low	24350.04	2018333	24255	2016749	0	120	22258	2017243	2	13	1 (8)	21
	Mid						25774.92	2042081	25606.44	2039273	102	22340		2040859	2	2	1 (8)	112	
	High						27200.04	2065833	26742.12	2058201	504	22423		2064763	10	14	1 (8)	526	
	Channel spacing CC1-CC2=199.92 MHz (Note 1)																		
	CC2	200	60	264	Downlink & Uplink	Low	24549.96	2021665	24454.92	2020081	0	120	22269	2020411	6	7	0 (0)	7	
						Mid	25974.84	2045413	25806.36	2042605	102		22352	2044315	6	12	1 (8)	122	
						High	27399.96	2069165	26942.04	2061533	504		22434	2067931	2	1	1 (8)	513	

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.2.3-2: NR Intra-Band contiguous CA configuration CA_n258D (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidth h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetTo Carrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequenc ySSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offset ToPoi ntA (SIB1) [PRBs] Note 4	
50+200	CC1	50	120	32	Downlink & Uplink	Low	24275.04	2017083	24252	2016699	0	120	22257	2016955	8	0	0 (0)	0	
						Mid	25775.04	2042083	25605.12	2039251	102		22344	2042011	0	3	0 (0)	210	
						High	27278.04	2067133	26529.24	2054653	504		22431	2067067	3	3	0 (0)	1014	
	Channel spacing CC1-CC2=121.92 MHz (Note 1)																		
	CC2	200	120	132	Downlink & Uplink	Low	24396.96	2019115	24301.92	2017531	0	120	22260	2017819	0	2	0 (0)	4	
						Mid	25896.96	2044115	25655.04	2040083	102		22347	2042875	4	0	1 (4)	212	
						High	27399.96	2069165	26579.16	2055485	504		22434	2067931	7	0	1 (4)	1016	
	100+200	CC1	100	120	66	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	4	0	0 (0)	0
							Mid	25775.04	2042083	25580.64	2038843	102		22343	2041723	0	4	1 (4)	220
							High	27252.48	2066707	26479.2	2053819	504		22428	2066203	0	2	0 (0)	1012
Channel spacing CC1-CC2=147.48 MHz (Note 1)																			
CC2		200	120	132	Downlink & Uplink	Low	24447.48	2019957	24352.44	2018373	0	120	22263	2018683	11	2	0 (0)	4	
						Mid	25922.52	2044541	25680.6	2040509	102		22349	2043451	7	6	1 (4)	224	
						High	27399.96	2069165	26579.16	2055485	504		22434	2067931	7	0	1 (4)	1016	
200+200	CC1	200	120	132	Downlink & Uplink	Low	24350.04	2018333	24255	2016749	0	120	22258	2017243	7	6	1 (4)	20	
						Mid	25775.04	2042083	25533.12	2038051	102		22340	2040859	0	1	1 (4)	214	
						High	27200.04	2065833	26379.24	2052153	504		22423	2064763	5	7	1 (4)	1030	
	Channel spacing CC1-CC2=199.92 MHz (Note 1)																		
	CC2	200	120	132	Downlink & Uplink	Low	24549.96	2021665	24454.92	2020081	0	120	22269	2020411	9	3	0 (0)	6	
						Mid	25974.96	2045415	25733.04	2041383	102		22352	2044315	2	6	1 (4)	224	
						High	27399.96	2069165	26579.16	2055485	504		22434	2067931	7	0	1 (4)	1016	

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.2.4 CA_n258E

FFS

4.3.1.2.3.2.5 CA_n258F

FFS

4.3.1.2.3.2.6

CA_n258G

Table 4.3.1.2.3.2.6-1: NR Intra-Band contiguous CA configuration CA_n258G (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
50+100	CC1	50	60	66	Downlink & Uplink	Low	24275.04	2017083	24251.28	2016687	0	120	22257	2016955	4	2	0 (0)	2
						Mid	25824.96	2042915	25727.76	2041295	102		22347	2042875	8	1	1 (8)	111
						High	27376.32	2068771	26989.68	2062327	504		22437	2068795	0	7	1 (8)	519
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	24348.72	2018311	24301.2	2017519	0	120	22260	2017819	0	5	0 (0)	5
						Mid	25898.64	2044143	25777.68	2042127	102		22350	2043739	4	4	1 (8)	114
						High	27450	2069999	27039.6	2063159	504		22440	2069659	8	9	1 (8)	521
	100+100	CC1	100	60	132	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	8	0	0 (0)
Mid							25824.96	2042915	25704	2040899	102	22346		2042587	8	10	1 (8)	120
High							27350.04	2068333	26939.64	2061493	504	22434		2067931	6	4	1 (8)	516
Channel spacing CC1-CC2=99.96 MHz (Note 1)																		
CC2		100	60	132	Downlink & Uplink	Low	24399.96	2019165	24352.44	2018373	0	120	22263	2018683	10	5	0 (0)	5
						Mid	25924.92	2044581	25803.96	2042565	102		22352	2044315	10	15	1 (8)	125
						High	27450	2069999	27039.6	2063159	504		22440	2069659	8	9	1 (8)	521
Note 1:		Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter ΔF _{OffsetCORESET-0-Carrier} in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.2.6-2: NR Intra-Band contiguous CA configuration CA_n258G (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS bloc k SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 1	offset ToPoi ntA (SIB1) [PRBs] Note 1	
50+100	CC1	50	120	32	Downlink & Uplink	Low	24275.04	2017083	24252	2016699	0	120	22257	2016955	8	0	0 (0)	0	
						Mid	25824.96	2042915	25655.04	2040083	102		22347	2042875	4	0	1 (4)	212	
						High	27375.6	2068759	26626.8	2056279	504		22437	2068795	6	3	1 (4)	1022	
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																		
	CC2	100	120	66	Downlink & Uplink	Low	24349.44	2018323	24301.92	2017531	0	120	22260	2017819	0	2	0 (0)	4	
						Mid	25899.36	2044155	25704.96	2040915	102		22350	2043739	8	1	1 (4)	214	
						High	27450	2069999	26676.72	2057111	504		22440	2069659	10	4	1 (4)	1024	
	100+100	CC1	100	120	66	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	4	0	0 (0)	0
							Mid	25824.96	2042915	25630.56	2039675	102		22346	2042587	4	5	1 (4)	222
							High	27350.04	2068333	26576.76	2055445	504		22434	2067931	3	2	1 (4)	1020
		Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
CC2		100	120	66	Downlink & Uplink	Low	24399.96	2019165	24352.44	2018373	0	120	22263	2018683	11	2	0 (0)	4	
						Mid	25924.92	2044581	25730.52	2041341	102		22352	2044315	11	7	1 (4)	226	
	High					27450	2069999	26676.72	2057111	504	22440		2069659	10	4	1 (4)	1024		

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.2.7

CA_n258H

Table 4.3.1.2.3.2.7-1: NR Intra-Band contiguous CA configuration CA_n258H (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS bloc k SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offset ToPoi ntA (SIB1) [PRBs] Note 4
50+100 +100	CC1	50	60	66	Downlink & Uplink	Low	24275.04	2017083	24251.28	2016687	0	120	22257	2016955	4	2	0 (0)	2
						Mid	25774.92	2042081	25677.72	2040461	102		22344	2042011	2	7	0 (0)	109
						High	27276.36	2067105	26889.72	2060661	504		22431	2067067	10	1	1 (8)	513
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	24348.72	2018311	24301.2	2017519	0	120	22260	2017819	0	5	0 (0)	5
						Mid	25848.6	2043309	25727.64	2041293	102		22347	2042875	10	1	1 (8)	111
						High	27350.04	2068333	26939.64	2061493	504		22434	2067931	6	4	1 (8)	516
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	24448.68	2019977	24401.16	2019185	0	120	22266	2019547	2	2	1 (8)	10
						Mid	25948.56	2044975	25827.6	2042959	102		22353	2044603	0	7	1 (8)	117
						High	27450	2069999	27039.6	2063159	504		22440	2069659	8	9	1 (8)	521
100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	8	0	0 (0)	0
						Mid	25774.92	2042081	25653.96	2040065	102		22343	2041723	2	8	1 (8)	118
						High	27250.08	2066667	26839.68	2059827	504		22428	2066203	4	7	0 (0)	511
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	24399.96	2019165	24352.44	2018373	0	120	22263	2018683	10	5	0 (0)	5
						Mid	25874.88	2043747	25753.92	2041731	102		22349	2043451	4	13	1 (8)	123
						High	27350.04	2068333	26939.64	2061493	504		22434	2067931	6	4	1 (8)	516
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	24499.92	2020831	24452.4	2020039	0	120	22269	2020411	0	3	1 (8)	11
						Mid	25974.84	2045413	25853.88	2043397	102		22354	2044891	6	2	0 (0)	104
						High	27450	2069999	27039.6	2063159	504		22440	2069659	8	9	1 (8)	521

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.2.7-2: NR Intra-Band contiguous CA configuration CA_n258H (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carrie r PRBs]	SS bloc k SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offset ToPoi ntA (SIB1) [PRBs] Note 4
50+100 +100	CC1	50	120	32	Downlink & Uplink	Low	24275.04	2017083	24252	2016699	0	120	22257	2016955	8	0	0 (0)	0
						Mid	25775.04	2042083	25605.12	2039251	102		22344	2042011	0	3	0 (0)	210
						High	27275.64	2067093	26526.84	2054613	504		22431	2067067	11	0	1 (4)	1016
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	24349.44	2018323	24301.92	2017531	0	120	22260	2017819	0	2	0 (0)	4
						Mid	25849.44	2043323	25655.04	2040083	102		22347	2042875	4	0	1 (4)	212
						High	27350.04	2068333	26576.76	2055445	504		22434	2067931	3	2	1 (4)	1020
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	24449.4	2019989	24401.88	2019197	0	120	22266	2019547	7	0	1 (4)	8
						Mid	25949.4	2044989	25755	2041749	102		22353	2044603	11	2	1 (4)	216
						High	27450	2069999	26676.72	2057111	504		22440	2069659	10	4	1 (4)	1024
100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	4	0	0 (0)	0
						Mid	25775.04	2042083	25580.64	2038843	102		22343	2041723	0	4	1 (4)	220
						High	27250.08	2066667	26476.8	2053779	504		22428	2066203	8	3	0 (0)	1014
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	24399.96	2019165	24352.44	2018373	0	120	22263	2018683	11	2	0 (0)	4
						Mid	25875	2043749	25680.6	2040509	102		22349	2043451	7	6	1 (4)	224
						High	27350.04	2068333	26576.76	2055445	504		22434	2067931	3	2	1 (4)	1020
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	24499.92	2020831	24452.4	2020039	0	120	22269	2020411	6	1	1 (4)	10
						Mid	25974.96	2045415	25780.56	2042175	102		22354	2044891	2	1	0 (0)	206
						High	27450	2069999	26676.72	2057111	504		22440	2069659	10	4	1 (4)	1024

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.2.8 CA_n258I

FFS

4.3.1.2.3.2.9 CA_n258J

FFS

4.3.1.2.3.2.10 CA_n258K

FFS

4.3.1.2.3.2.11 CA_n258L

FFS

4.3.1.2.3.2.12 CA_n258M

FFS

4.3.1.2.3.3 FFS

4.3.1.2.3.4 NR Intra-band contiguous CA configurations for CA_n260

4.3.1.2.3.4.1 CA_n260B

Editor's note: CBW=400 MHz for NR band n260 is only supported by for SCS 120kHz. Test frequencies for CA_n260B are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.4.1-1: NR Intra-Band contiguous CA configuration CA_n260B (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+400	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38300.04	2250833	38130.12	2248001	102		23069	2250811	1	1	1 (4)	214
						High	39582.96	2272215	38834.16	2259735	504		23143	2272123	2	2	0 (0)	1012
	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	37242	2233199	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38517	2254449	38180.04	2248833	102		23072	2251675	5	2	1 (4)	216
						High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014
100+400	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38300.04	2250833	38105.64	2247593	102		23068	2250523	1	6	1 (4)	224
						High	39557.4	2271789	38784.12	2258901	504		23140	2271259	11	0	0 (0)	1008
	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	37292.52	2234041	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8
						Mid	38542.56	2254875	38205.6	2249259	102		23073	2251963	8	0	0 (0)	204
						High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014
200+400	CC1	200	120	132	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	5	0	0 (0)	0
						Mid	38300.04	2250833	38058.12	2246801	102		23065	2249659	1	3	1 (4)	218
						High	39504.96	2270915	38684.16	2257235	504		23135	2269819	4	6	1 (4)	1028
	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	37395	2235749	37204.92	2232581	0	120	23007	2232955	7	1	1 (4)	10
						Mid	38595	2255749	38258.04	2250133	102		23076	2252827	3	0	0 (0)	204
						High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014
400+400	CC1	400	120	264	Downlink & Uplink	Low	37200	2232499	37009.92	2229331	0	120	22996	2229787	0	5	1 (4)	18
						Mid	38300.04	2250833	37963.08	2245217	102		23059	2247931	1	1	0 (0)	206
						High	39399.96	2269165	38484.12	2253901	504		23123	2266363	3	1	1 (4)	1018
	Channel spacing CC1-CC2=399.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	37599.96	2239165	37409.88	2235997	0	120	23019	2236411	3	3	1 (4)	14
						Mid	38700	2257499	38363.04	2251883	102		23083	2254843	4	7	1 (4)	226
						High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014

Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.4.2 CA_n260C

Editor's note: CBW=400 MHz for NR band n260 is only supported by for SCS 120kHz. Test frequencies for CA_n260C are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.4.2-1: NR Intra-Band contiguous CA configuration CA_n260C (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offset ToPoi ntA (SIB1) [PRBs] Note 4
50+400 +400	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38100	2247499	37930.08	2244667	102		23057	2247355	0	0	0 (0)	204
						High	39183	2265549	38434.2	2253069	504		23120	2265499	11	3	0 (0)	1014
	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	37242	2233199	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38316.96	2251115	37980	2245499	102		23060	2248219	4	1	0 (0)	206
						High	39399.96	2269165	38484.12	2253901	504		23123	2266363	3	1	1 (4)	1018
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	37641.96	2239865	37451.88	2236697	0	120	23021	2236987	1	2	0 (0)	4
						Mid	38716.92	2257781	38379.96	2252165	102		23084	2255131	7	7	1 (4)	226
						High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014
100+400 +400	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38100	2247499	37905.6	2244259	102		23056	2247067	0	1	1 (4)	214
						High	39157.44	2265123	38384.16	2252235	504		23117	2264635	8	2	0 (0)	1012
	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	37292.52	2234041	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8
						Mid	38342.52	2251541	38005.56	2245925	102		23062	2248795	7	3	1 (4)	218
						High	39399.96	2269165	38484.12	2253901	504		23123	2266363	3	1	1 (4)	1018
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	37692.48	2240707	37502.4	2237539	0	120	23024	2237851	0	3	0 (0)	6
						Mid	38742.48	2258207	38405.52	2252591	102		23085	2255419	10	1	1 (4)	214
						High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014
200+400 +400	CC1	200	120	132	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	5	0	0 (0)	0
						Mid	38100	2247499	37858.08	2243467	102		23053	2246203	0	2	0 (0)	208
						High	39105	2264249	38284.2	2250569	504		23111	2262907	1	0	0 (0)	1008
	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	37395	2235749	37204.92	2232581	0	120	23007	2232955	7	1	1 (4)	10
						Mid	38394.96	2252415	38058	2246799	102		23065	2249659	2	3	1 (4)	218
						High	39399.96	2269165	38484.12	2253901	504		23123	2266363	3	1	1 (4)	1018
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
CC3	400	120	264	Downlink	Low	37794.96	2242415	37604.88	2239247	0	120	23030	2239579	10	3	0 (0)	6	

400+400 +400					& Uplink	Mid	38794.92	2259081	38457.96	2253465	102	120	23088	2256283	5	1	1 (4)	214	
						High	39799.92	2275831	38884.08	2260567	504		23146	2272987	6	3	0 (0)	1014	
	CC1	400	120	264	Downlink & Uplink	Low	37200	2232499	37009.92	2229331	0		22996	2229787	0	5	1 (4)	18	
						Mid	38100	2247499	37763.04	2241883	102		23048	2244763	0	4	1 (4)	220	
						High	39000	2262499	38084.16	2247235	504		23100	2259739	0	3	1 (4)	1022	
	Channel spacing CC1-CC2=399.96 MHz (Note 1)																		
	CC2	400	120	264	Downlink & Uplink	Low	37599.96	2239165	37409.88	2235997	0		120	23019	2236411	3	3	1 (4)	14
						Mid	38499.96	2254165	38163	2248549	102			23071	2251387	3	2	1 (4)	216
						High	39399.96	2269165	38484.12	2253901	504			23123	2266363	3	1	1 (4)	1018
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																		
	CC3	400	120	264	Downlink & Uplink	Low	37999.92	2245831	37809.84	2242663	0		120	23042	2243035	6	1	1 (4)	10
						Mid	38899.92	2260831	38562.96	2255215	102			23094	2258011	6	0	1 (4)	212
						High	39799.92	2275831	38884.08	2260567	504			23146	2272987	6	3	0 (0)	1014
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.2.3.4.3

CA_n260D

Table 4.3.1.2.3.4.3-1: NR Intra-Band contiguous CA configuration CA_n260D (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4	
50+200	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6	
						Mid	38400	2252499	38302.8	2250879	102		23075	2252539	4	8	1 (8)	118	
						High	39778.8	2275479	39392.16	2269035	504		23155	2275579	4	13	1 (8)	525	
	Channel spacing CC1-CC2=121.2 MHz (Note 1)																		
	CC2	200	60	264	Downlink & Uplink	Low	37146.24	2231603	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8	
						Mid	38521.2	2254519	38352.72	2251711	102		23078	2253403	0	11	1 (8)	121	
						High	39900	2277499	39442.08	2269867	504		23157	2276155	0	0	0 (0)	504	
	100+200	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
							Mid	38400	2252499	38279.04	2250483	102		23073	2251963	4	1	0 (0)	103
							High	39752.52	2275041	39342.12	2268201	504		23152	2274715	10	10	1 (8)	522
	Channel spacing CC1-CC2=147.48 MHz (Note 1)																		
	CC2	200	60	264	Downlink & Uplink	Low	37197.48	2232457	37102.44	2230873	0	120	23001	2231227	6	1	1 (8)	9	
Mid						38547.48	2254957	38379	2252149	102	23079		2253691	6	6	0 (0)	108		
High						39900	2277499	39442.08	2269867	504	23157		2276155	0	0	0 (0)	504		
200+200	CC1	200	60	264	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	10	0	0 (0)	0	
						Mid	38400	2252499	38231.52	2249691	102		23071	2251387	4	11	1 (8)	121	
						High	39700.08	2274167	39242.16	2266535	504		23146	2272987	8	5	1 (8)	517	
Channel spacing CC1-CC2=199.92 MHz (Note 1)																			
CC2	200	60	264	Downlink & Uplink	Low	37299.96	2234165	37204.92	2232581	0	120	23007	2232955	2	3	1 (8)	11		
					Mid	38599.92	2255831	38431.44	2253023	102		23082	2254555	8	5	0 (0)	107		
					High	39900	2277499	39442.08	2269867	504		23157	2276155	0	0	0 (0)	504		
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

Table 4.3.1.2.3.4.3-2: NR Intra-Band contiguous CA configuration CA_n260D (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4	
50+200	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4	
						Mid	38400	2252499	38230.08	2249667	102		23075	2252539	8	3	1 (4)	218	
						High	39778.08	2275467	39029.28	2262987	504		23155	2275579	8	6	1 (4)	1028	
	Channel spacing CC1-CC2=121.92 MHz (Note 1)																		
	CC2	200	120	132	Downlink & Uplink	Low	37146.96	2231615	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6	
						Mid	38521.92	2254531	38280	2250499	102		23078	2253403	0	5	1 (4)	222	
						High	39900	2277499	39079.2	2263819	504		23157	2276155	0	0	0 (0)	1008	
	100+200	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
							Mid	38400	2252499	38205.6	2249259	102		23073	2251963	8	0	0 (0)	204
							High	39752.52	2275041	38979.24	2262153	504		23152	2274715	5	5	1 (4)	1026
Channel spacing CC1-CC2=147.48 MHz (Note 1)																			
CC2		200	120	132	Downlink & Uplink	Low	37197.48	2232457	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8	
						Mid	38547.48	2254957	38305.56	2250925	102		23079	2253691	3	3	0 (0)	210	
						High	39900	2277499	39079.2	2263819	504		23157	2276155	0	0	0 (0)	1008	
200+200		CC1	200	120	132	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	5	0	0 (0)	0
							Mid	38400	2252499	38158.08	2248467	102		23071	2251387	8	5	1 (4)	222
							High	39700.08	2274167	38879.28	2260487	504		23146	2272987	10	2	1 (4)	1020
	Channel spacing CC1-CC2=199.92 MHz (Note 1)																		
	CC2	200	120	132	Downlink & Uplink	Low	37299.96	2234165	37204.92	2232581	0	120	23007	2232955	7	1	1 (4)	10	
						Mid	38599.92	2255831	38358	2251799	102		23082	2254555	10	2	0 (0)	208	
						High	39900	2277499	39079.2	2263819	504		23157	2276155	0	0	0 (0)	1008	

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.4.4 CA_n260E

Table 4.3.1.2.3.4.4-1: NR Intra-Band contiguous CA configuration CA_n260E (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

FFS

Table 4.3.1.2.3.4.4-2: NR Intra-Band contiguous CA configuration CA_n260E (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

FFS

4.3.1.2.3.4.5 CA_n260F

Table 4.3.1.2.3.4.5-1: NR Intra-Band contiguous CA configuration CA_n260F (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

FFS

Table 4.3.1.2.3.4.5-2: NR Intra-Band contiguous CA configuration CA_n260F (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

FFS

4.3.1.2.3.4.6 CA_n260G

Table 4.3.1.2.3.4.6-1: NR Intra-Band contiguous CA configuration CA_n260G (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4	
50+100	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6	
						Mid	38449.92	2253331	38352.72	2251711	102		23078	2253403	0	11	1 (8)	121	
						High	39876.24	2277103	39489.6	2270659	504		23160	2277019	0	6	0 (0)	510	
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	37098.72	2230811	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8	
						Mid	38523.6	2254559	38402.64	2252543	102		23081	2254267	8	13	1 (8)	123	
						High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512	
	100+100	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
							Mid	38449.92	2253331	38328.96	2251315	102		23076	2252827	0	4	0 (0)	106
							High	39849.96	2276665	39439.56	2269825	504		23157	2276155	6	3	0 (0)	507
		Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
CC2		100	60	132	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	6	1	1 (8)	9	
						Mid	38549.88	2254997	38428.92	2252981	102		23082	2254555	2	1	1 (8)	111	
						High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512	
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

Table 4.3.1.2.3.4.6-2: NR Intra-Band contiguous CA configuration CA_n260G (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidd h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 1	offsetT oPoint A (SIB1) [PRBs] Note 1
50+100	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38450.04	2253333	38280.12	2250501	102		23078	2253403	11	4	1 (4)	220
						High	39875.52	2277091	39126.72	2264611	504		23160	2277019	0	3	0 (0)	1014
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	37099.44	2230823	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38524.44	2254573	38330.04	2251333	102		23081	2254267	3	6	1 (4)	224
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
	100+100	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)
Mid							38450.04	2253333	38255.64	2250093	102	23076		2252827	11	1	0 (0)	206
High							39849.96	2276665	39076.68	2263777	504	23157		2276155	9	1	0 (0)	1010
Channel spacing CC1-CC2=99.96 MHz (Note 1)																		
CC2		100	120	66	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8
						Mid	38550	2254999	38355.6	2251759	102		23082	2254555	6	0	1 (4)	212
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
Note 1:		Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

4.3.1.2.3.4.7

CA_n260H

Table 4.3.1.2.3.4.7-1: NR Intra-Band contiguous CA configuration CA_n260H (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
						Mid	38400	2252499	38302.8	2250879	102		23075	2252539	4	8	1 (8)	118
						High	39776.28	2275437	39389.64	2268993	504		23154	2275291	10	0	0 (0)	504
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37098.72	2230811	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8
						Mid	38473.68	2253727	38352.72	2251711	102		23078	2253403	0	11	1 (8)	121
						High	39849.96	2276665	39439.56	2269825	504		23157	2276155	6	3	0 (0)	507
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37198.68	2232477	37151.16	2231685	0	120	23004	2232091	10	5	1 (8)	13
						Mid	38573.64	2255393	38452.68	2253377	102		23083	2254843	2	0	0 (0)	102
						High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512
100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
						Mid	38400	2252499	38279.04	2250483	102		23073	2251963	4	1	0 (0)	103
						High	39750	2274999	39339.6	2268159	504		23152	2274715	4	14	1 (8)	526
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	6	1	1 (8)	9
						Mid	38499.96	2254165	38379	2252149	102		23079	2253691	6	6	0 (0)	108
						High	39849.96	2276665	39439.56	2269825	504		23157	2276155	6	3	0 (0)	507
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37249.92	2233331	37202.4	2232539	0	120	23007	2232955	8	6	1 (8)	14
						Mid	38599.92	2255831	38478.96	2253815	102		23085	2255419	8	3	1 (8)	113
						High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.4.7-2: NR Intra-Band contiguous CA configuration CA_n260H (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidd h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38400	2252499	38230.08	2249667	102		23075	2252539	8	3	1 (4)	218
						High	39775.56	2275425	39026.76	2262945	504		23154	2275291	5	0	0 (0)	1008
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	37099.44	2230823	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38474.4	2253739	38280	2250499	102		23078	2253403	0	5	1 (4)	222
						High	39849.96	2276665	39076.68	2263777	504		23157	2276155	9	1	0 (0)	1010
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37199.4	2232489	37151.88	2231697	0	120	23004	2232091	5	2	1 (4)	12
						Mid	38574.36	2255405	38379.96	2252165	102		23084	2255131	7	7	1 (4)	226
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38400	2252499	38205.6	2249259	102		23073	2251963	8	0	0 (0)	204
						High	39750	2274999	38976.72	2262111	504		23152	2274715	2	7	1 (4)	1030
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8
						Mid	38499.96	2254165	38305.56	2250925	102		23079	2253691	3	3	0 (0)	210
						High	39849.96	2276665	39076.68	2263777	504		23157	2276155	9	1	0 (0)	1010
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37249.92	2233331	37202.4	2232539	0	120	23007	2232955	4	3	1 (4)	14
						Mid	38599.92	2255831	38405.52	2252591	102		23085	2255419	10	1	1 (4)	214
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

4.3.1.2.3.4.8

CA_n260I

Table 4.3.1.2.3.4.8-1: NR Intra-Band contiguous CA configuration CA_n260I (PCC=CC1, SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPoint A (SIB1) [PRBs] Note 4
50+100 +100+100	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
						Mid	38349.96	2251665	38252.76	2250045	102		23072	2251675	10	5	1 (8)	115
						High	39676.32	2273771	39289.68	2267327	504		23149	2273851	8	11	1 (8)	523
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37098.72	2230811	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8
						Mid	38423.64	2252893	38302.68	2250877	102		23075	2252539	6	8	1 (8)	118
						High	39750	2274999	39339.6	2268159	504		23152	2274715	4	14	1 (8)	526
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37198.68	2232477	37151.16	2231685	0	120	23004	2232091	10	5	1 (8)	13
						Mid	38523.6	2254559	38402.64	2252543	102		23081	2254267	8	13	1 (8)	123
						High	39849.96	2276665	39439.56	2269825	504		23157	2276155	6	3	0 (0)	507
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	37298.64	2234143	37251.12	2233351	0	120	23010	2233819	0	11	1 (8)	19
						Mid	38623.56	2256225	38502.6	2254209	102		23086	2255707	10	2	0 (0)	104
						High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512
100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
						Mid	38349.96	2251665	38229	2249649	102		23071	2251387	10	14	1 (8)	124
						High	39650.04	2273333	39239.64	2266493	504		23146	2272987	2	9	1 (8)	521
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	6	1	1 (8)	9
						Mid	38449.92	2253331	38328.96	2251315	102		23076	2252827	0	4	0 (0)	106
						High	39750	2274999	39339.6	2268159	504		23152	2274715	4	14	1 (8)	526
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37249.92	2233331	37202.4	2232539	0	120	23007	2232955	8	6	1 (8)	14
						Mid	38549.88	2254997	38428.92	2252981	102		23082	2254555	2	1	1 (8)	111
						High	39849.96	2276665	39439.56	2269825	504		23157	2276155	6	3	0 (0)	507
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	37349.88	2234997	37302.36	2234205	0	120	23013	2234683	10	11	1 (8)	19
						Mid	38649.84	2256663	38528.88	2254647	102		23088	2256283	4	6	1 (8)	116

					Uplink	High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.4.8-2: NR Intra-Band contiguous CA configuration CA_n260I (PCC=CC1, SCC=CC2, CC3,CC4), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetT oCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100+100	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38349.96	2251665	38180.04	2248833	102		23072	2251675	5	2	1 (4)	216
						High	39675.6	2273759	38926.8	2261279	504		23149	2273851	10	5	1 (4)	1026
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	37099.44	2230823	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38424.36	2252905	38229.96	2249665	102		23075	2252539	9	3	1 (4)	218
						High	39750	2274999	38976.72	2262111	504		23152	2274715	2	7	1 (4)	1030
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37199.4	2232489	37151.88	2231697	0	120	23004	2232091	5	2	1 (4)	12
						Mid	38524.32	2254571	38329.92	2251331	102		23081	2254267	4	6	1 (4)	224
						High	39849.96	2276665	39076.68	2263777	504		23157	2276155	9	1	0 (0)	1010
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	37299.36	2234155	37251.84	2233363	0	120	23010	2233819	0	5	1 (4)	18
						Mid	38624.28	2256237	38429.88	2252997	102		23086	2255707	11	0	0 (0)	204
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38349.96	2251665	38155.56	2248425	102		23071	2251387	5	7	1 (4)	226
						High	39650.04	2273333	38876.76	2260445	504		23146	2272987	7	4	1 (4)	1024
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8
						Mid	38449.92	2253331	38255.52	2250091	102		23076	2252827	0	2	0 (0)	208
						High	39750	2274999	38976.72	2262111	504		23152	2274715	2	7	1 (4)	1030
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37249.92	2233331	37202.4	2232539	0	120	23007	2232955	4	3	1 (4)	14
						Mid	38549.88	2254997	38355.48	2251757	102		23082	2254555	7	0	1 (4)	212
						High	39849.96	2276665	39076.68	2263777	504		23157	2276155	9	1	0 (0)	1010
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	37349.88	2234997	37302.36	2234205	0	120	23013	2234683	11	5	1 (4)	18
						Mid	38649.84	2256663	38455.44	2253423	102		23088	2256283	2	3	1 (4)	218
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

- Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
- Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.4.9

CA_n260J

Table 4.3.1.2.3.4.9-1: NR Intra-Band contiguous CA configuration CA_n260J (PCC=CC1, SCC=CC2, CC3, CC4, CC5), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index Note 4	offsetToPoint A (SIB1) [PRBs] Note 4
50+100 +100+100 +100	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
						Mid	38299.92	2250831	38202.72	2249211	102		23069	2250811	4	3	1 (8)	113
						High	39576.36	2272105	39189.72	2265661	504		23143	2272123	6	6	1 (8)	518
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37098.72	2230811	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8
						Mid	38373.6	2252059	38252.64	2250043	102		23072	2251675	0	6	1 (8)	116
						High	39650.04	2273333	39239.64	2266493	504		23146	2272987	2	9	1 (8)	521
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37198.68	2232477	37151.16	2231685	0	120	23004	2232091	10	5	1 (8)	13
						Mid	38473.56	2253725	38352.6	2251709	102		23078	2253403	2	11	1 (8)	121
						High	39750	2274999	39339.6	2268159	504		23152	2274715	4	14	1 (8)	526
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	37298.64	2234143	37251.12	2233351	0	120	23010	2233819	0	11	1 (8)	19
						Mid	38573.52	2255391	38452.56	2253375	102		23083	2254843	4	0	0 (0)	102
						High	39849.96	2276665	39439.56	2269825	504		23157	2276155	6	3	0 (0)	507
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	37398.6	2235809	37351.08	2235017	0	120	23015	2235259	2	0	0 (0)	0
						Mid	38673.48	2257057	38552.52	2255041	102		23089	2256571	6	5	0 (0)	107
						High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512
100+100 +100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
						Mid	38299.92	2250831	38178.96	2248815	102		23068	2250523	4	12	1 (8)	122
						High	39550.08	2271667	39139.68	2264827	504		23140	2271259	0	4	1 (8)	516
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	6	1	1 (8)	9
						Mid	38399.88	2252497	38278.92	2250481	102		23073	2251963	6	1	0 (0)	103
						High	39650.04	2273333	39239.64	2266493	504		23146	2272987	2	9	1 (8)	521
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37249.92	2233331	37202.4	2232539	0	120	23007	2232955	8	6	1 (8)	14
						Mid	38499.84	2254163	38378.88	2252147	102		23079	2253691	8	6	0 (0)	108
						High	39750	2274999	39339.6	2268159	504		23152	2274715	4	14	1 (8)	526

Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
CC4	100	60	132	Downlink & Uplink	Low	37349.88	2234997	37302.36	2234205	0	120	23013	2234683	10	11	1 (8)	19
					Mid	38599.8	2255829	38478.84	2253813	102		23085	2255419	10	3	1 (8)	113
					High	39849.96	2276665	39439.56	2269825	504		23157	2276155	6	3	0 (0)	507
Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
CC5	100	60	132	Downlink & Uplink	Low	37449.84	2236663	37402.32	2235871	0	120	23018	2236123	0	1	0 (0)	1
					Mid	38699.76	2257495	38578.8	2255479	102		23091	2257147	0	9	1 (8)	119
					High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.4.9-2: NR Intra-Band contiguous CA configuration CA_n260J (PCC=CC1, SCC=CC2, CC3, CC4, CC5), SCS=120 kHz, nominal channel spacing

CBW combinatio n	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4	
50+100 +100+100 +100	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4	
						Mid	38300.04	2250833	38130.12	2248001	102		23069	2250811	1	1	1 (4)	214	
						High	39575.64	2272093	38826.84	2259613	504		23143	2272123	3	3	1 (4)	1022	
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																		
	CC2	100	120	66	Downlink & Uplink	Low	37099.44	2230823	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6	
						Mid	38374.44	2252073	38180.04	2248833	102		23072	2251675	5	2	1 (4)	216	
						High	39650.04	2273333	38876.76	2260445	504		23146	2272987	7	4	1 (4)	1024	
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																		
	CC3	100	120	66	Downlink & Uplink	Low	37199.4	2232489	37151.88	2231697	0	120	23004	2232091	5	2	1 (4)	12	
						Mid	38474.4	2253739	38280	2250499	102		23078	2253403	0	5	1 (4)	222	
						High	39750	2274999	38976.72	2262111	504		23152	2274715	2	7	1 (4)	1030	
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																		
	CC4	100	120	66	Downlink & Uplink	Low	37299.36	2234155	37251.84	2233363	0	120	23010	2233819	0	5	1 (4)	18	
						Mid	38574.36	2255405	38379.96	2252165	102		23084	2255131	7	7	1 (4)	226	
						High	39849.96	2276665	39076.68	2263777	504		23157	2276155	9	1	0 (0)	1010	
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																		
	CC5	100	120	66	Downlink & Uplink	Low	37399.32	2235821	37351.8	2235029	0	120	23016	2235547	7	7	1 (4)	22	
						Mid	38674.32	2257071	38479.92	2253831	102		23089	2256571	2	2	0 (0)	208	
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016	
100+100 +100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4	
						Mid	38300.04	2250833	38105.64	2247593	102		23068	2250523	1	6	1 (4)	224	
						High	39550.08	2271667	38776.8	2258779	504		23140	2271259	0	2	1 (4)	1020	
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																		
	CC2	100	120	66	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8	
						Mid	38400	2252499	38205.6	2249259	102		23073	2251963	8	0	0 (0)	204	
						High	39650.04	2273333	38876.76	2260445	504		23146	2272987	7	4	1 (4)	1024	
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																		
	CC3	100	120	66	Downlink & Uplink	Low	37249.92	2233331	37202.4	2232539	0	120	23007	2232955	4	3	1 (4)	14	
						Mid	38499.96	2254165	38305.56	2250925	102		23079	2253691	3	3	0 (0)	210	
						High	39750	2274999	38976.72	2262111	504		23152	2274715	2	7	1 (4)	1030	
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																		

	CC4	100	120	66	Downlink & Uplink	Low	37349.88	2234997	37302.36	2234205	0	120	23013	2234683	11	5	1 (4)	18
						Mid	38599.92	2255831	38405.52	2252591	102		23085	2255419	10	1	1 (4)	214
						High	39849.96	2276665	39076.68	2263777	504		23157	2276155	9	1	0 (0)	1010
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	37449.84	2236663	37402.32	2235871	0	120	23018	2236123	6	0	0 (0)	0
						Mid	38699.88	2257497	38505.48	2254257	102		23091	2257147	5	4	1 (4)	220
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016

Note 1:

Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2:

CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3:

The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4:

The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.4.10 CA_n260K

FFS

4.3.1.2.3.4.11 CA_n260L

FFS

4.3.1.2.3.4.12 CA_n260M

FFS

4.3.1.2.3.4.13 CA_n2600

Table 4.3.1.2.3.4.13-1: NR Intra-Band contiguous CA configuration CA_n2600 (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
50+100	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
100+50	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
						Mid	38475	2253749	38354.04	2251733	102		23078	2253403	2	9	1 (8)	119
						High	39901.32	2277521	39490.92	2270681	504		23160	2277019	2	4	0 (0)	508
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	37123.68	2231227	37099.92	2230831	0	120	23001	2231227	0	5	1 (8)	13
						Mid	38548.68	2254977	38451.48	2253357	102		23083	2254843	10	1	0 (0)	103
						High	39975	2278749	39588.36	2272305	504		23166	2278747	10	4	1 (8)	516
100+100	CC1 CC2					100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.							
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

Table 4.3.1.2.3.4.13-2: NR Intra-Band contiguous CA configuration CA_n2600 (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
50+100	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
100+50	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38475	2253749	38280.6	2250509	102		23078	2253403	7	4	1 (4)	220
						High	39900.6	2277509	39127.32	2264621	504		23160	2277019	7	2	0 (0)	1012
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	37124.4	2231239	37101.36	2230855	0	120	23001	2231227	6	1	1 (4)	10
						Mid	38549.4	2254989	38379.48	2252157	102		23084	2255131	11	7	1 (4)	226
						High	39975	2278749	39226.2	2266269	504		23166	2278747	11	1	1 (4)	1018
100+100	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

4.3.1.2.3.4.14 CA_n260P

Table 4.3.1.2.3.4.14-1: NR Intra-Band contiguous CA configuration CA_n260P (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+50 +50	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
						Mid	38449.92	2253331	38352.72	2251711	102		23078	2253403	0	11	1 (8)	121
						High	39875.16	2277085	39488.52	2270641	504		23160	2277019	6	7	0 (0)	511
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	37074.96	2230415	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8
						Mid	38499.84	2254163	38402.64	2252543	102		23081	2254267	8	13	1 (8)	123
						High	39925.08	2277917	39538.44	2271473	504		23163	2277883	2	2	1 (8)	514
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	37124.88	2231247	37101.12	2230851	0	120	23001	2231227	4	3	1 (8)	11
						Mid	38549.76	2254995	38452.56	2253375	102		23083	2254843	4	0	0 (0)	102
						High	39975	2278749	39588.36	2272305	504		23166	2278747	10	4	1 (8)	516
50+50 +100	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
						Mid	38424.96	2252915	38327.76	2251295	102		23076	2252827	8	5	0 (0)	107
						High	39826.32	2276271	39439.68	2269827	504		23157	2276155	4	3	0 (0)	507
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	37074.96	2230415	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8
						Mid	38474.88	2253747	38377.68	2252127	102		23079	2253691	4	0	1 (8)	110
						High	39876.24	2277103	39489.6	2270659	504		23160	2277019	0	6	0 (0)	510
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37148.64	2231643	37101.12	2230851	0	120	23001	2231227	4	3	1 (8)	11
						Mid	38548.56	2254975	38427.6	2252959	102		23082	2254555	0	3	1 (8)	113
						High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512
50+100 +50	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
						Mid	38424.96	2252915	38327.76	2251295	102		23076	2252827	8	5	0 (0)	107
						High	39827.64	2276293	39441	2269849	504		23157	2276155	6	1	0 (0)	505
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37098.72	2230811	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8
						Mid	38498.64	2254143	38377.68	2252127	102		23079	2253691	4	0	1 (8)	110
						High	39901.32	2277521	39490.92	2270681	504		23160	2277019	2	4	0 (0)	508

50+100 +100	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	37172.4	2232039	37148.64	2231643	0	120	23004	2232091	4	9	1 (8)	17
						Mid	38572.32	2255371	38475.12	2253751	102		23085	2255419	0	9	1 (8)	119
						High	39975	2278749	39588.36	2272305	504		23166	2278747	10	4	1 (8)	516
	CC1	50	60	66	Downlink & Uplink	Low	37025.04	2229583	37001.28	2229187	0	120	22995	2229499	0	6	0 (0)	6
						Mid	38400	2252499	38302.8	2250879	102		23075	2252539	4	8	1 (8)	118
						High	39776.28	2275437	39389.64	2268993	504		23154	2275291	10	0	0 (0)	504
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	37098.72	2230811	37051.2	2230019	0	120	22998	2230363	8	0	1 (8)	8
Mid						38473.68	2253727	38352.72	2251711	102	23078		2253403	0	11	1 (8)	121	
High						39849.96	2276665	39439.56	2269825	504	23157		2276155	6	3	0 (0)	507	
Channel spacing CC2-CC3=99.96 MHz (Note 1)																		
CC3	100	60	132	Downlink & Uplink	Low	37198.68	2232477	37151.16	2231685	0	120	23004	2232091	10	5	1 (8)	13	
					Mid	38573.64	2255393	38452.68	2253377	102		23083	2254843	2	0	0 (0)	102	
					High	39949.92	2278331	39539.52	2271491	504		23163	2277883	8	0	1 (8)	512	
100+50 +50	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
						Mid	38449.92	2253331	38328.96	2251315	102		23076	2252827	0	4	0 (0)	106
						High	39851.4	2276689	39441	2269849	504		23157	2276155	6	1	0 (0)	505
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	37123.68	2231227	37099.92	2230831	0	120	23001	2231227	0	5	1 (8)	13
						Mid	38523.6	2254559	38426.4	2252939	102		23082	2254555	8	4	1 (8)	114
						High	39925.08	2277917	39538.44	2271473	504		23163	2277883	2	2	1 (8)	514
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	37173.6	2232059	37149.84	2231663	0	120	23004	2232091	8	7	1 (8)	15
Mid						38573.52	2255391	38476.32	2253771	102	23085		2255419	4	7	1 (8)	117	
High						39975	2278749	39588.36	2272305	504	23166		2278747	10	4	1 (8)	516	
100+50 +100	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
						Mid	38424.96	2252915	38304	2250899	102		23075	2252539	8	6	1 (8)	116
						High	39802.56	2275875	39392.16	2269035	504		23155	2275579	4	13	1 (8)	525
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	37123.68	2231227	37099.92	2230831	0	120	23001	2231227	0	5	1 (8)	13
						Mid	38498.64	2254143	38401.44	2252523	102		23081	2254267	4	15	1 (8)	125
						High	39876.24	2277103	39489.6	2270659	504		23160	2277019	0	6	0 (0)	510
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37197.36	2232455	37149.84	2231663	0	120	23004	2232091	8	7	1 (8)	15
Mid						38572.32	2255371	38451.36	2253355	102	23083		2254843	0	2	0 (0)	104	
High						39949.92	2278331	39539.52	2271491	504	23163		2277883	8	0	1 (8)	512	
100+100 +50	CC1	100	60	132	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	4	4	0 (0)	4
						Mid	38424.96	2252915	38304	2250899	102		23075	2252539	8	6	1 (8)	116
						High	39801.36	2275855	39390.96	2269015	504		23155	2275579	0	15	1 (8)	527

	Channel spacing CC1-CC2=99.96 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	6	1	1 (8)	9	
						Mid	38524.92	2254581	38403.96	2252565	102		23081	2254267	10	11	1 (8)	121	
						High	39901.32	2277521	39490.92	2270681	504		23160	2277019	2	4	0 (0)	508	
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																		
	CC3	50	60	66	Downlink & Uplink	Low	37223.64	2232893	37199.88	2232497	0	120	23007	2232955	2	10	1 (8)	18	
						Mid	38598.6	2255809	38501.4	2254189	102		23086	2255707	6	4	0 (0)	106	
						High	39975	2278749	39588.36	2272305	504		23166	2278747	10	4	1 (8)	516	
	100+100 +100	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																			
Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																			
Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																			

Table 4.3.1.2.3.4.14-2: NR Intra-Band contiguous CA configuration CA_n260P (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+50 +50	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38450.04	2253333	38280.12	2250501	102		23078	2253403	11	4	1 (4)	220
						High	39875.16	2277085	39126.36	2264605	504		23160	2277019	3	3	0 (0)	1014
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	37074.96	2230415	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38499.96	2254165	38330.04	2251333	102		23081	2254267	3	6	1 (4)	224
						High	39925.08	2277917	39176.28	2265437	504		23163	2277883	7	0	1 (4)	1016
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	37124.88	2231247	37101.84	2230863	0	120	23001	2231227	2	1	1 (4)	10
						Mid	38549.88	2254997	38379.96	2252165	102		23084	2255131	7	7	1 (4)	226
						High	39975	2278749	39226.2	2266269	504		23166	2278747	11	1	1 (4)	1018
50+50 +100	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38424.96	2252915	38255.04	2250083	102		23076	2252827	4	2	0 (0)	208
						High	39825.6	2276259	39076.8	2263779	504		23157	2276155	8	1	0 (0)	1010
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	37074.96	2230415	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38474.88	2253747	38304.96	2250915	102		23079	2253691	8	3	0 (0)	210
						High	39875.52	2277091	39126.72	2264611	504		23160	2277019	0	3	0 (0)	1014
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37149.36	2231655	37101.84	2230863	0	120	23001	2231227	2	1	1 (4)	10
						Mid	38549.28	2254987	38354.88	2251747	102		23082	2254555	0	1	1 (4)	214
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
50+100 +50	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38424.96	2252915	38255.04	2250083	102		23076	2252827	4	2	0 (0)	208
						High	39826.2	2276269	39077.4	2263789	504		23157	2276155	3	1	0 (0)	1010
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	37099.44	2230823	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38499.36	2254155	38304.96	2250915	102		23079	2253691	8	3	0 (0)	210
						High	39900.6	2277509	39127.32	2264621	504		23160	2277019	7	2	0 (0)	1012
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
CC3	50	120	32	Downlink	Low	37173.84	2232063	37150.8	2231679	0	120	23004	2232091	2	3	1 (4)	14	

50+100 +100					& Uplink	Mid	38573.76	2255395	38403.84	2252563	102		23085	2255419	0	3	1 (4)	218
						High	39975	2278749	39226.2	2266269	504		23166	2278747	11	1	1 (4)	1018
	CC1	50	120	32	Downlink & Uplink	Low	37025.04	2229583	37002	2229199	0	120	22995	2229499	6	2	0 (0)	4
						Mid	38400	2252499	38230.08	2249667	102		23075	2252539	8	3	1 (4)	218
						High	39775.56	2275425	39026.76	2262945	504		23154	2275291	5	0	0 (0)	1008
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	37099.44	2230823	37051.92	2230031	0	120	22998	2230363	10	3	0 (0)	6
						Mid	38474.4	2253739	38280	2250499	102		23078	2253403	0	5	1 (4)	222
						High	39849.96	2276665	39076.68	2263777	504		23157	2276155	9	1	0 (0)	1010
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37199.4	2232489	37151.88	2231697	0	120	23004	2232091	5	2	1 (4)	12
						Mid	38574.36	2255405	38379.96	2252165	102		23084	2255131	7	7	1 (4)	226
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
100+50 +50	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38450.04	2253333	38255.64	2250093	102		23076	2252827	11	1	0 (0)	206
						High	39850.68	2276677	39077.4	2263789	504		23157	2276155	3	1	0 (0)	1010
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	37124.4	2231239	37101.36	2230855	0	120	23001	2231227	6	1	1 (4)	10
						Mid	38524.44	2254573	38354.52	2251741	102		23082	2254555	3	1	1 (4)	214
						High	39925.08	2277917	39176.28	2265437	504		23163	2277883	7	0	1 (4)	1016
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	37174.32	2232071	37151.28	2231687	0	120	23004	2232091	10	2	1 (4)	12
						Mid	38574.36	2255405	38404.44	2252573	102		23085	2255419	7	2	1 (4)	216
						High	39975	2278749	39226.2	2266269	504		23166	2278747	11	1	1 (4)	1018
100+50 +100	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38424.96	2252915	38230.56	2249675	102		23075	2252539	4	3	1 (4)	218
						High	39801.12	2275851	39027.84	2262963	504		23155	2275579	8	7	1 (4)	1030
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	37124.4	2231239	37101.36	2230855	0	120	23001	2231227	6	1	1 (4)	10
						Mid	38499.36	2254155	38329.44	2251323	102		23081	2254267	8	6	1 (4)	224
						High	39875.52	2277091	39126.72	2264611	504		23160	2277019	0	3	0 (0)	1014
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37198.8	2232479	37151.28	2231687	0	120	23004	2232091	10	2	1 (4)	12
						Mid	38573.76	2255395	38379.36	2252155	102		23083	2254843	0	0	0 (0)	204
						High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	0	1 (4)	1016
100+100 +50	CC1	100	120	66	Downlink & Uplink	Low	37050	2229999	37002.48	2229207	0	120	22995	2229499	2	2	0 (0)	4
						Mid	38424.96	2252915	38230.56	2249675	102		23075	2252539	4	3	1 (4)	218
						High	39800.64	2275843	39027.36	2262955	504		23154	2275291	0	0	0 (0)	1008
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink	Low	37149.96	2231665	37102.44	2230873	0	120	23001	2231227	9	0	1 (4)	8

					& Uplink	Mid	38524.92	2254581	38330.52	2251341	102		23081	2254267	11	5	1 (4)	222
						High	39900.6	2277509	39127.32	2264621	504		23160	2277019	7	2	0 (0)	1012
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	37224.36	2232905	37201.32	2232521	0	120	23007	2232955	1	4	1 (4)	16
						Mid	38599.32	2255821	38429.4	2252989	102		23086	2255707	3	1	0 (0)	206
				High		39975	2278749	39226.2	2266269	504	23166		2278747	11	1	1 (4)	1018	
100+100 +100	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.2.3.4.15 CA_n260Q

FFS

4.3.1.2.3.5 NR Intra-band contiguous CA configurations for CA_n261

4.3.1.2.3.5.1 CA_n261B

Editor's note: CBW=400 MHz for NR band n261 is only supported by for SCS 120kHz. Test frequencies for CA_n261B are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.5.1-1: NR Intra-Band contiguous CA configuration CA_n261B (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+400	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27725.04	2074583	27555.12	2071751	102		22457	2074555	10	0	1 (4)	212
						High	27933	2078049	27184.2	2065569	504		22469	2078011	5	0	1 (4)	1016
Channel spacing CC1-CC2=216.96 MHz (Note 1)																		
100+400	CC2	400	120	264	Downlink & Uplink	Low	27741.96	2074865	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27942	2078199	27605.04	2072583	102		22460	2075419	2	2	1 (4)	216
						High	28149.96	2081665	27234.12	2066401	504		22472	2078875	9	1	1 (4)	1018
	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27725.04	2074583	27530.64	2071343	102		22456	2074267	10	5	1 (4)	222
						High	27907.44	2077623	27134.16	2064735	504		22466	2077147	2	3	0 (0)	1014
Channel spacing CC1-CC2=242.52 MHz (Note 1)																		
200+400	CC2	400	120	264	Downlink & Uplink	Low	27792.6	2075709	27602.52	2072541	0	120	22451	2072827	11	1	0 (0)	2
						Mid	27967.56	2078625	27630.6	2073009	102		22461	2075707	5	0	0 (0)	204
						High	28149.96	2081665	27234.12	2066401	504		22472	2078875	9	1	1 (4)	1018
	CC1	200	120	132	Downlink & Uplink	Low	27600	2072499	27504.96	2070915	0	120	22446	2071387	8	5	1 (4)	18
						Mid	27725.04	2074583	27483.12	2070551	102		22453	2073403	10	2	1 (4)	216
						High	27855	2076749	27034.2	2063069	504		22460	2075419	7	0	0 (0)	1008
Channel spacing CC1-CC2=294.96 MHz (Note 1)																		
400+400	CC2	400	120	264	Downlink & Uplink	Low	27894.96	2077415	27704.88	2074247	0	120	22457	2074555	10	2	0 (0)	4
						Mid	28020	2079499	27683.04	2073883	102		22464	2076571	0	0	0 (0)	204
						High	28149.96	2081665	27234.12	2066401	504		22472	2078875	9	1	1 (4)	1018
	CC1	400	120	264	Downlink & Uplink	Low	27700.08	2074167	27510	2070999	0	120	22446	2071387	2	2	1 (4)	12
						Mid	27725.04	2074583	27388.08	2068967	102		22447	2071675	10	0	0 (0)	204
						High	27750	2074999	26834.16	2059735	504		22449	2072251	6	3	1 (4)	1022
Channel spacing CC1-CC2=399.96 MHz (Note 1)																		
400+400	CC2	400	120	264	Downlink & Uplink	Low	28100.04	2080833	27909.96	2077665	0	120	22469	2078011	5	0	1 (4)	8
						Mid	28125	2081249	27788.04	2075633	102		22471	2078587	1	7	1 (4)	226
						High	28149.96	2081665	27234.12	2066401	504		22472	2078875	9	1	1 (4)	1018

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.5.2 CA_n261C

Editor's note: CBW=400 MHz for NR band n261 is only supported by for SCS 120kHz. Test frequencies for CA_n261C are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.5.2-1: NR Intra-Band contiguous CA configuration CA_n261C (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCar rier [Carri er PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offset ToPoi ntA (SIB1) [PRBs] Note 4
50+400 +400	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27525	2071249	27355.08	2068417	102		22446	2071387	9	7	1 (4)	226
						High	27533.04	2071383	26784.24	2058903	504		22446	2071387	2	2	1 (4)	1020
	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC2	400	120	264	Downlink & Uplink	Low	27741.96	2074865	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27741.96	2074865	27405	2069249	102		22448	2071963	1	1	0 (0)	206
						High	27750	2074999	26834.16	2059735	504		22449	2072251	6	3	1 (4)	1022
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	28141.92	2081531	27951.84	2078363	0	120	22472	2078875	4	7	1 (4)	22
						Mid	28141.92	2081531	27804.96	2075915	102		22472	2078875	4	7	1 (4)	226
						High	28149.96	2081665	27234.12	2066401	504		22472	2078875	9	1	1 (4)	1018

- Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.
- Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
- Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.5.3

CA_n261D

Table 4.3.1.2.3.5.3-1: NR Intra-Band contiguous CA configuration CA_n261D (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetTo Point A (SIB1) [PRBs] Note 4	
50+200	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24	
						Mid	27825	2076249	27727.8	2074629	102		22463	2076283	10	7	1 (8)	117	
						High	28128.72	2081311	27742.08	2074867	504		22480	2081179	0	2	0 (0)	506	
	Channel spacing CC1-CC2=121.2 MHz (Note 1)																		
	CC2	200	60	264	Downlink & Uplink	Low	27646.2	2073269	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3	
						Mid	27946.2	2078269	27777.72	2075461	102		22466	2077147	6	10	1 (8)	120	
						High	28249.92	2083331	27792	2075699	504		22483	2082043	8	4	0 (0)	508	
	100+200	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
							Mid	27825	2076249	27704.04	2074233	102		22461	2075707	10	0	0 (0)	102
							High	28102.44	2080873	27692.04	2074033	504		22478	2080603	6	15	1 (8)	527
Channel spacing CC1-CC2=147.48 MHz (Note 1)																			
CC2		200	60	264	Downlink & Uplink	Low	27697.56	2074125	27602.52	2072541	0	120	22451	2072827	10	3	0 (0)	3	
						Mid	27972.48	2078707	27804	2075899	102		22467	2077435	0	6	0 (0)	108	
						High	28249.92	2083331	27792	2075699	504		22483	2082043	8	4	0 (0)	508	
200+200		CC1	200	60	264	Downlink & Uplink	Low	27600	2072499	27504.96	2070915	0	120	22446	2071387	4	11	1 (8)	19
							Mid	27825	2076249	27656.52	2073441	102		22459	2075131	10	10	1 (8)	120
							High	28050	2079999	27592.08	2072367	504		22472	2078875	4	10	1 (8)	522
	Channel spacing CC1-CC2=199.92 MHz (Note 1)																		
	CC2	200	60	264	Downlink & Uplink	Low	27799.92	2075831	27704.88	2074247	0	120	22457	2074555	8	5	0 (0)	5	
						Mid	28024.92	2079581	27856.44	2076773	102		22470	2078299	2	5	0 (0)	107	
						High	28249.92	2083331	27792	2075699	504		22483	2082043	8	4	0 (0)	508	
	Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
	Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
	Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																			

Table 4.3.1.2.3.5.3-2: NR Intra-Band contiguous CA configuration CA_n261D (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetTo Point A (SIB1) [PRBs] Note 4		
50+200	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22		
						Mid	27825	2076249	27655.08	2073417	102		22463	2076283	5	3	1 (4)	218		
						High	28128	2081299	27379.2	2068819	504		22480	2081179	0	1	0 (0)	1010		
	Channel spacing CC1-CC2=121.92 MHz (Note 1)																			
	CC2	200	120	132	Downlink & Uplink	Low	27646.92	2073281	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2		
						Mid	27946.92	2078281	27705	2074249	102		22466	2077147	9	4	1 (4)	220		
						High	28249.92	2083331	27429.12	2069651	504		22483	2082043	4	2	0 (0)	1012		
	100+200	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22	
Mid							27825	2076249	27630.6	2073009	102	22461		2075707	5	0	0 (0)	204		
High							28102.44	2080873	27329.16	2067985	504	22478		2080603	9	7	1 (4)	1030		
Channel spacing CC1-CC2=147.48 MHz (Note 1)																				
CC2		200	120	132	Downlink & Uplink	Low	27697.56	2074125	27602.52	2072541	0	120	22451	2072827	11	1	0 (0)	2		
						Mid	27972.48	2078707	27730.56	2074675	102		22467	2077435	0	3	0 (0)	210		
						High	28249.92	2083331	27429.12	2069651	504		22483	2082043	4	2	0 (0)	1012		
200+200		CC1	200	120	132	Downlink & Uplink	Low	27600	2072499	27504.96	2070915	0	120	22446	2071387	8	5	1 (4)	18	
	Mid						27825	2076249	27583.08	2072217	102	22459		2075131	5	5	1 (4)	222		
	High						28050	2079999	27229.2	2066319	504	22472		2078875	2	5	1 (4)	1026		
	Channel spacing CC1-CC2=199.92 MHz (Note 1)																			
	CC2	200	120	132	Downlink & Uplink	Low	27799.92	2075831	27704.88	2074247	0	120	22457	2074555	10	2	0 (0)	4		
						Mid	28024.92	2079581	27783	2075549	102		22470	2078299	7	2	0 (0)	208		
						High	28249.92	2083331	27429.12	2069651	504		22483	2082043	4	2	0 (0)	1012		
	Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																			
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																			
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																			

4.3.1.2.3.5.4 CA_n261E

Table 4.3.1.2.3.5.4-1: NR Intra-Band contiguous CA configuration CA_n261E (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing.

FFS

Table 4.3.1.2.3.5.4-2: NR Intra-Band contiguous CA configuration CA_n261E (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing.

FFS

4.3.1.2.3.5.5 CA_n261F

Table 4.3.1.2.3.5.5-1: NR Intra-Band contiguous CA configuration CA_n261F (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing.

FFS

Table 4.3.1.2.3.5.5-2: NR Intra-Band contiguous CA configuration CA_n261F (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing.

FFS

4.3.1.2.3.5.6

CA_n261G

Table 4.3.1.2.3.5.6-1: NR Intra-Band contiguous CA configuration CA_n261G (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrier Bandwi dth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4	
50+100	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24	
						Mid	27874.92	2077081	27777.72	2075461	102		22466	2077147	6	10	1 (8)	120	
						High	28226.28	2082937	27839.64	2076493	504		22486	2082907	6	2	1 (8)	514	
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																		
	CC2	100	60	132	Downlink & Uplink	Low	27598.68	2072477	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3	
						Mid	27948.6	2078309	27827.64	2076293	102		22469	2078011	2	13	1 (8)	123	
						High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517	
	100+100	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
							Mid	27874.92	2077081	27753.96	2075065	102		22464	2076571	6	3	0 (0)	105
							High	28200	2082499	27789.6	2075659	504		22483	2082043	0	0	1 (8)	512
		Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
CC2		100	60	132	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	10	3	0 (0)	3	
						Mid	27974.88	2078747	27853.92	2076731	102		22470	2078299	8	0	1 (8)	110	
	High					28299.96	2084165	27889.56	2077325	504	22489		2083771	2	5	1 (8)	517		

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcc-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.5.6-2: NR Intra-Band contiguous CA configuration CA_n261G (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrier Bandwi dth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4	
50+100	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22	
						Mid	27875.04	2077083	27705.12	2074251	102		22466	2077147	8	4	1 (4)	220	
						High	28225.56	2082925	27476.76	2070445	504		22486	2082907	3	1	1 (4)	1018	
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																		
	CC2	100	120	66	Downlink & Uplink	Low	27599.4	2072489	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2	
						Mid	27949.44	2078323	27755.04	2075083	102		22469	2078011	0	6	1 (4)	224	
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020	
	100+100	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
							Mid	27875.04	2077083	27680.64	2073843	102		22464	2076571	8	1	0 (0)	206
							High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016
Channel spacing CC1-CC2=99.96 MHz (Note 1)																			
CC2		100	120	66	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	11	1	0 (0)	2	
						Mid	27975	2078749	27780.6	2075509	102		22470	2078299	3	0	1 (4)	212	
	High					28299.96	2084165	27526.68	2071277	504	22489		2083771	7	2	1 (4)	1020		

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.5.7

CA_n261H

Table 4.3.1.2.3.5.7-1: NR Intra-Band contiguous CA configuration CA_n261H (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidht h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
						Mid	27825	2076249	27727.8	2074629	102		22463	2076283	10	7	1 (8)	117
						High	28126.32	2081271	27739.68	2074827	504		22480	2081179	4	5	0 (0)	509
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27598.68	2072477	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3
						Mid	27898.68	2077477	27777.72	2075461	102		22466	2077147	6	10	1 (8)	120
						High	28200	2082499	27789.6	2075659	504		22483	2082043	0	0	1 (8)	512
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27698.64	2074143	27651.12	2073351	0	120	22454	2073691	4	0	1 (8)	8
						Mid	27998.64	2079143	27877.68	2077127	102		22472	2078875	8	15	1 (8)	125
						High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517
100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
						Mid	27825	2076249	27704.04	2074233	102		22461	2075707	10	0	0 (0)	102
						High	28100.04	2080833	27689.64	2073993	504		22477	2080315	10	2	0 (0)	506
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	10	3	0 (0)	3
						Mid	27924.96	2077915	27804	2075899	102		22467	2077435	0	6	0 (0)	108
						High	28200	2082499	27789.6	2075659	504		22483	2082043	0	0	1 (8)	512
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27750	2074999	27702.48	2074207	0	120	22457	2074555	0	1	1 (8)	9
						Mid	28024.92	2079581	27903.96	2077565	102		22473	2079163	2	3	1 (8)	113
						High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.5.7-2: NR Intra-Band contiguous CA configuration CA_n261H (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrierB andwidd h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27825	2076249	27655.08	2073417	102		22463	2076283	5	3	1 (4)	218
						High	28125.6	2081259	27376.8	2068779	504		22480	2081179	8	2	0 (0)	1012
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27599.4	2072489	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27899.4	2077489	27705	2074249	102		22466	2077147	9	4	1 (4)	220
						High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27699.36	2074155	27651.84	2073363	0	120	22454	2073691	8	3	0 (0)	6
						Mid	27999.36	2079155	27804.96	2075915	102		22472	2078875	4	7	1 (4)	226
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020
100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27825	2076249	27630.6	2073009	102		22461	2075707	5	0	0 (0)	204
						High	28100.04	2080833	27326.76	2067945	504		22477	2080315	5	1	0 (0)	1010
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	11	1	0 (0)	2
						Mid	27924.96	2077915	27730.56	2074675	102		22467	2077435	0	3	0 (0)	210
						High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27750	2074999	27702.48	2074207	0	120	22457	2074555	6	0	1 (4)	8
						Mid	28024.92	2079581	27830.52	2076341	102		22473	2079163	7	1	1 (4)	214
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

4.3.1.2.3.5.8

CA_n261l

Table 4.3.1.2.3.5.8-1: NR Intra-Band contiguous CA configuration CA_n261l (PCC=CC1, SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetToPoint A (SIB1) [PRBs] Note 4
50+100 +100+100	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
						Mid	27774.96	2075415	27677.76	2073795	102		22460	2075419	4	5	1 (8)	115
						High	28026.36	2079605	27639.72	2073161	504		22474	2079451	2	0	0 (0)	504
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27598.68	2072477	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3
						Mid	27848.64	2076643	27727.68	2074627	102		22463	2076283	0	8	1 (8)	118
						High	28100.04	2080833	27689.64	2073993	504		22477	2080315	10	2	0 (0)	506
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27698.64	2074143	27651.12	2073351	0	120	22454	2073691	4	0	1 (8)	8
						Mid	27948.6	2078309	27827.64	2076293	102		22469	2078011	2	13	1 (8)	123
						High	28200	2082499	27789.6	2075659	504		22483	2082043	0	0	1 (8)	512
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	27798.6	2075809	27751.08	2075017	0	120	22460	2075419	6	5	1 (8)	13
						Mid	28048.56	2079975	27927.6	2077959	102		22474	2079451	4	2	0 (0)	104
						High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517
100+100 +100+100	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
						Mid	27774.96	2075415	27654	2073399	102		22459	2075131	4	14	1 (8)	124
						High	28000.08	2079167	27589.68	2072327	504		22472	2078875	8	13	1 (8)	525
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	10	3	0 (0)	3
						Mid	27874.92	2077081	27753.96	2075065	102		22464	2076571	6	3	0 (0)	105
						High	28100.04	2080833	27689.64	2073993	504		22477	2080315	10	2	0 (0)	506
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27750	2074999	27702.48	2074207	0	120	22457	2074555	0	1	1 (8)	9
						Mid	27974.88	2078747	27853.92	2076731	102		22470	2078299	8	0	1 (8)	110
						High	28200	2082499	27789.6	2075659	504		22483	2082043	0	0	1 (8)	512
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	27849.96	2076665	27802.44	2075873	0	120	22463	2076283	2	6	1 (8)	14
						Mid	28074.84	2080413	27953.88	2078397	102		22476	2080027	10	5	1 (8)	115

					Uplink	High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.5.8-2: NR Intra-Band contiguous CA configuration CA_n261I (PCC=CC1, SCC=CC2, CC3,CC4), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetT oCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORE SET#0 Index (Offset [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100+100	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27774.96	2075415	27605.04	2072583	102		22460	2075419	2	2	1 (4)	216
						High	28025.64	2079593	27276.84	2067113	504		22474	2079451	1	0	0 (0)	1008
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27599.4	2072489	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27849.36	2076655	27654.96	2073415	102		22463	2076283	6	3	1 (4)	218
						High	28100.04	2080833	27326.76	2067945	504		22477	2080315	5	1	0 (0)	1010
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27699.36	2074155	27651.84	2073363	0	120	22454	2073691	8	3	0 (0)	6
						Mid	27949.32	2078321	27754.92	2075081	102		22469	2078011	1	6	1 (4)	224
						High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	27799.32	2075821	27751.8	2075029	0	120	22460	2075419	3	2	1 (4)	12
						Mid	28049.28	2079987	27854.88	2076747	102		22474	2079451	8	0	0 (0)	204
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020
100+100 +100+100	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27774.96	2075415	27580.56	2072175	102		22459	2075131	2	7	1 (4)	226
						High	28000.08	2079167	27226.8	2066279	504		22472	2078875	10	6	1 (4)	1028
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	11	1	0 (0)	2
						Mid	27874.92	2077081	27680.52	2073841	102		22464	2076571	9	1	0 (0)	206
						High	28100.04	2080833	27326.76	2067945	504		22477	2080315	5	1	0 (0)	1010
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27750	2074999	27702.48	2074207	0	120	22457	2074555	6	0	1 (4)	8
						Mid	27974.88	2078747	27780.48	2075507	102		22470	2078299	4	0	1 (4)	212
						High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	27849.96	2076665	27802.44	2075873	0	120	22463	2076283	1	3	1 (4)	14
						Mid	28074.84	2080413	27880.44	2077173	102		22476	2080027	11	2	1 (4)	216
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

- Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.
- Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.2.3.5.9

CA_n261J

Table 4.3.1.2.3.5.9-1: NR Intra-Band contiguous CA configuration CA_n261J (PCC=CC1, SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing

CBW combinatio n	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100+100 +100	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
						Mid	27724.92	2074581	27627.72	2072961	102		22457	2074555	10	2	1 (8)	112
						High	27926.4	2077939	27539.76	2071495	504		22469	2078011	0	11	1 (8)	523
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27598.68	2072477	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3
						Mid	27798.6	2075809	27677.64	2073793	102		22460	2075419	6	5	1 (8)	115
						High	28000.08	2079167	27589.68	2072327	504		22472	2078875	8	13	1 (8)	525
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27698.64	2074143	27651.12	2073351	0	120	22454	2073691	4	0	1 (8)	8
						Mid	27898.56	2077475	27777.6	2075459	102		22466	2077147	8	10	1 (8)	120
						High	28100.04	2080833	27689.64	2073993	504		22477	2080315	10	2	0 (0)	506
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	27798.6	2075809	27751.08	2075017	0	120	22460	2075419	6	5	1 (8)	13
						Mid	27998.52	2079141	27877.56	2077125	102		22472	2078875	10	15	1 (8)	125
						High	28200	2082499	27789.6	2075659	504		22483	2082043	0	0	1 (8)	512
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	27898.56	2077475	27851.04	2076683	0	120	22466	2077147	8	10	1 (8)	18
						Mid	28098.48	2080807	27977.52	2078791	102		22477	2080315	0	5	0 (0)	107
						High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517
100+100 +100+100 +100	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
						Mid	27724.92	2074581	27603.96	2072565	102		22456	2074267	10	11	1 (8)	121
						High	27900.12	2077501	27489.72	2070661	504		22466	2077147	6	8	1 (8)	520
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	10	3	0 (0)	3
						Mid	27824.88	2076247	27703.92	2074231	102		22461	2075707	0	1	0 (0)	103
						High	28000.08	2079167	27589.68	2072327	504		22472	2078875	8	13	1 (8)	525
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27750	2074999	27702.48	2074207	0	120	22457	2074555	0	1	1 (8)	9
						Mid	27924.84	2077913	27803.88	2075897	102		22467	2077435	2	6	0 (0)	108

				Uplink	High	28100.04	2080833	27689.64	2073993	504		22477	2080315	10	2	0 (0)	506
Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
CC4	100	60	132	Downlink & Uplink	Low	27849.96	2076665	27802.44	2075873	0	120	22463	2076283	2	6	1 (8)	14
					Mid	28024.8	2079579	27903.84	2077563	102		22473	2079163	4	3	1 (8)	113
					High	28200	2082499	27789.6	2075659	504		22483	2082043	0	0	1 (8)	512
Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
CC5	100	60	132	Downlink & Uplink	Low	27949.92	2078331	27902.4	2077539	0	120	22469	2078011	4	11	1 (8)	19
					Mid	28124.76	2081245	28003.8	2079229	102		22479	2080891	6	8	1 (8)	118
					High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.3.5.9-2: NR Intra-Band contiguous CA configuration CA_n261J (PCC=CC1, SCC=CC2, CC3, CC4), SCS=120 kHz, nominal channel spacing

CBW combinatio n	CC	CBW [MHz]	SCS [kHz]	carrierB andwidt h [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+100 +100+100 +100	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27725.04	2074583	27555.12	2071751	102		22457	2074555	10	0	1 (4)	212
						High	27925.68	2077927	27176.88	2065447	504		22469	2078011	6	5	1 (4)	1026
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27599.4	2072489	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27799.44	2075823	27605.04	2072583	102		22460	2075419	2	2	1 (4)	216
						High	28000.08	2079167	27226.8	2066279	504		22472	2078875	10	6	1 (4)	1028
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27699.36	2074155	27651.84	2073363	0	120	22454	2073691	8	3	0 (0)	6
						Mid	27899.4	2077489	27705	2074249	102		22466	2077147	9	4	1 (4)	220
						High	28100.04	2080833	27326.76	2067945	504		22477	2080315	5	1	0 (0)	1010
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	27799.32	2075821	27751.8	2075029	0	120	22460	2075419	3	2	1 (4)	12
						Mid	27999.36	2079155	27804.96	2075915	102		22472	2078875	4	7	1 (4)	226
						High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	27899.28	2077487	27851.76	2076695	0	120	22466	2077147	10	4	1 (4)	16
						Mid	28099.32	2080821	27904.92	2077581	102		22477	2080315	11	1	0 (0)	206
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020
100+100 +100+100 +100	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27725.04	2074583	27530.64	2071343	102		22456	2074267	10	5	1 (4)	222
						High	27900.12	2077501	27126.84	2064613	504		22466	2077147	3	4	1 (4)	1024
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	11	1	0 (0)	2
						Mid	27825	2076249	27630.6	2073009	102		22461	2075707	5	0	0 (0)	204
						High	28000.08	2079167	27226.8	2066279	504		22472	2078875	10	6	1 (4)	1028
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27750	2074999	27702.48	2074207	0	120	22457	2074555	6	0	1 (4)	8
						Mid	27924.96	2077915	27730.56	2074675	102		22467	2077435	0	3	0 (0)	210
						High	28100.04	2080833	27326.76	2067945	504		22477	2080315	5	1	0 (0)	1010
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	

	CC4	100	120	66	Downlink & Uplink	Low	27849.96	2076665	27802.44	2075873	0	120	22463	2076283	1	3	1 (4)	14	
						Mid	28024.92	2079581	27830.52	2076341	102		22473	2079163	7	1	1 (4)	214	
						High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016	
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																		
	CC5	100	120	66	Downlink & Uplink	Low	27949.92	2078331	27902.4	2077539	0	120	22469	2078011	8	5	1 (4)	18	
						Mid	28124.88	2081247	27930.48	2078007	102		22479	2080891	2	4	1 (4)	220	
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020	
	Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	
	Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
	Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.2.3.5.10 CA_n261K

FFS

4.3.1.2.3.5.11 CA_n261L

FFS

4.3.1.2.3.5.12 CA_n261M

FFS

4.3.1.2.3.5.13 CA_n261O

Table 4.3.1.2.3.5.13-1: NR Intra-Band contiguous CA configuration CA_n261O (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
50+100	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
100+50	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
						Mid	27900	2077499	27779.04	2075483	102		22466	2077147	8	8	1 (8)	118
						High	28251.24	2083353	27840.84	2076513	504		22486	2082907	10	0	1 (8)	512
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	27623.76	2072895	27600	2072499	0	120	22451	2072827	4	7	0 (0)	7
						Mid	27973.68	2078727	27876.48	2077107	102		22471	2078587	4	1	0 (0)	103
						High	28324.92	2084581	27938.28	2078137	504		22492	2084635	6	9	1 (8)	521
100+100	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers. Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case. Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs. Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

Table 4.3.1.2.3.5.13-2: NR Intra-Band contiguous CA configuration CA_n2610 (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 4	offsetToPointA (SIB1) [PRBs] Note 4
50+100	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
100+50	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27900	2077499	27705.6	2074259	102		22466	2077147	4	4	1 (4)	220
						High	28250.52	2083341	27477.24	2070453	504		22486	2082907	11	0	1 (4)	1016
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	27624.48	2072907	27601.44	2072523	0	120	22451	2072827	8	2	0 (0)	4
						Mid	27974.4	2078739	27804.48	2075907	102		22472	2078875	8	7	1 (4)	226
						High	28324.92	2084581	27576.12	2072101	504		22492	2084635	3	4	1 (4)	1024
100+100	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.2.3.5.14

CA_n261P

Table 4.3.1.2.3.5.14-1: NR Intra-Band contiguous CA configuration CA_n261P (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+50 +50	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
						Mid	27874.92	2077081	27777.72	2075461	102		22466	2077147	6	10	1 (8)	120
						High	28225.08	2082917	27838.44	2076473	504		22486	2082907	2	4	1 (8)	516
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	27574.92	2072081	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3
						Mid	27924.84	2077913	27827.64	2076293	102		22469	2078011	2	13	1 (8)	123
						High	28275	2083749	27888.36	2077305	504		22489	2083771	10	6	1 (8)	518
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	27624.84	2072913	27601.08	2072517	0	120	22451	2072827	10	5	0 (0)	5
						Mid	27974.76	2078745	27877.56	2077125	102		22472	2078875	10	15	1 (8)	125
						High	28324.92	2084581	27938.28	2078137	504		22492	2084635	6	9	1 (8)	521
50+50 +100	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
						Mid	27849.96	2076665	27752.76	2075045	102		22464	2076571	2	5	0 (0)	107
						High	28176.36	2082105	27789.72	2075661	504		22483	2082043	10	7	0 (0)	511
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	27574.92	2072081	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3
						Mid	27899.88	2077497	27802.68	2075877	102		22467	2077435	10	7	0 (0)	109
						High	28226.28	2082937	27839.64	2076493	504		22486	2082907	6	2	1 (8)	514
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27648.6	2073309	27601.08	2072517	0	120	22451	2072827	10	5	0 (0)	5
						Mid	27973.56	2078725	27852.6	2076709	102		22470	2078299	6	2	1 (8)	112
						High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517
50+100 +50	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
						Mid	27849.96	2076665	27752.76	2075045	102		22464	2076571	2	5	0 (0)	107
						High	28177.56	2082125	27790.92	2075681	504		22483	2082043	2	6	0 (0)	510
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27598.68	2072477	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3
						Mid	27923.64	2077893	27802.68	2075877	102		22467	2077435	10	7	0 (0)	109
						High	28251.24	2083353	27840.84	2076513	504		22486	2082907	10	0	1 (8)	512

50+100 +100	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	27672.36	2073705	27648.6	2073309	0	120	22454	2073691	10	3	1 (8)	11
						Mid	27997.32	2079121	27900.12	2077501	102		22473	2079163	6	8	1 (8)	118
						High	28324.92	2084581	27938.28	2078137	504		22492	2084635	6	9	1 (8)	521
	CC1	50	60	66	Downlink & Uplink	Low	27525	2071249	27501.24	2070853	0	120	22446	2071387	6	16	1 (8)	24
						Mid	27825	2076249	27727.8	2074629	102		22463	2076283	10	7	1 (8)	117
						High	28126.32	2081271	27739.68	2074827	504		22480	2081179	4	5	0 (0)	509
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27598.68	2072477	27551.16	2071685	0	120	22448	2071963	2	3	0 (0)	3
Mid						27898.68	2077477	27777.72	2075461	102	22466		2077147	6	10	1 (8)	120	
High						28200	2082499	27789.6	2075659	504	22483		2082043	0	0	1 (8)	512	
Channel spacing CC2-CC3=99.96 MHz (Note 1)																		
CC3	100	60	132	Downlink & Uplink	Low	27698.64	2074143	27651.12	2073351	0	120	22454	2073691	4	0	1 (8)	8	
					Mid	27998.64	2079143	27877.68	2077127	102		22472	2078875	8	15	1 (8)	125	
					High	28299.96	2084165	27889.56	2077325	504		22489	2083771	2	5	1 (8)	517	
100+50 +50	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
						Mid	27874.92	2077081	27753.96	2075065	102		22464	2076571	6	3	0 (0)	105
						High	28201.32	2082521	27790.92	2075681	504		22483	2082043	2	6	0 (0)	510
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	27623.76	2072895	27600	2072499	0	120	22451	2072827	4	7	0 (0)	7
						Mid	27948.6	2078309	27851.4	2076689	102		22470	2078299	2	4	1 (8)	114
						High	28275	2083749	27888.36	2077305	504		22489	2083771	10	6	1 (8)	518
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	27673.68	2073727	27649.92	2073331	0	120	22454	2073691	0	2	1 (8)	10
Mid						27998.52	2079141	27901.32	2077521	102	22473		2079163	10	6	1 (8)	116	
High						28324.92	2084581	27938.28	2078137	504	22492		2084635	6	9	1 (8)	521	
100+50 +100	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
						Mid	27849.96	2076665	27729	2074649	102		22463	2076283	2	6	1 (8)	116
						High	28152.6	2081709	27742.2	2074869	504		22480	2081179	10	1	0 (0)	505
	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC2	50	60	66	Downlink & Uplink	Low	27623.76	2072895	27600	2072499	0	120	22451	2072827	4	7	0 (0)	7
						Mid	27923.64	2077893	27826.44	2076273	102		22469	2078011	10	14	1 (8)	124
						High	28226.28	2082937	27839.64	2076493	504		22486	2082907	6	2	1 (8)	514
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27697.44	2074123	27649.92	2073331	0	120	22454	2073691	0	2	1 (8)	10
Mid						27997.32	2079121	27876.36	2077105	102	22471		2078587	6	1	0 (0)	103	
High						28299.96	2084165	27889.56	2077325	504	22489		2083771	2	5	1 (8)	517	
100+100 +50	CC1	100	60	132	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	8	14	1 (8)	22
						Mid	27849.96	2076665	27729	2074649	102		22463	2076283	2	6	1 (8)	116
						High	28151.28	2081687	27740.88	2074847	504		22480	2081179	8	3	0 (0)	507

	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	60	132	Downlink & Uplink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	10	3	0 (0)	3
						Mid	27949.92	2078331	27828.96	2076315	102		22469	2078011	4	11	1 (8)	121
						High	28251.24	2083353	27840.84	2076513	504		22486	2082907	10	0	1 (8)	512
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	27723.72	2074561	27699.96	2074165	0	120	22457	2074555	6	4	1 (8)	12
						Mid	28023.6	2079559	27926.4	2077939	102		22474	2079451	0	4	0 (0)	106
						High	28324.92	2084581	27938.28	2078137	504		22492	2084635	6	9	1 (8)	521
	100+100 +100	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.										
	Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																
Note 2:	CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	
Note 4:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 4.3.1.2.3.5.14-2: NR Intra-Band contiguous CA configuration CA_n261P (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combinati on	CC	CBW [MHz]	SCS [kHz]	carrie rBand width [PRB s]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offsetT oCarrie r [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORE SET#0 [RBs] Note 3	CORE SET#0 Index (Offse t [RBs]) Note 4	offsetT oPoint A (SIB1) [PRBs] Note 4
50+50 +50	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27875.04	2077083	27705.12	2074251	102		22466	2077147	8	4	1 (4)	220
						High	28225.08	2082917	27476.28	2070437	504		22486	2082907	7	1	1 (4)	1018
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	27574.92	2072081	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27924.96	2077915	27755.04	2075083	102		22469	2078011	0	6	1 (4)	224
						High	28275	2083749	27526.2	2071269	504		22489	2083771	11	2	1 (4)	1020
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	27624.84	2072913	27601.8	2072529	0	120	22451	2072827	5	2	0 (0)	4
						Mid	27974.88	2078747	27804.96	2075915	102		22472	2078875	4	7	1 (4)	226
						High	28324.92	2084581	27576.12	2072101	504		22492	2084635	3	4	1 (4)	1024
50+50 +100	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27849.96	2076665	27680.04	2073833	102		22464	2076571	1	2	0 (0)	208
						High	28175.64	2082093	27426.84	2069613	504		22483	2082043	11	3	0 (0)	1014
	Channel spacing CC1-CC2=49.92 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	27574.92	2072081	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27899.88	2077497	27729.96	2074665	102		22467	2077435	5	3	0 (0)	210
						High	28225.56	2082925	27476.76	2070445	504		22486	2082907	3	1	1 (4)	1018
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27649.32	2073321	27601.8	2072529	0	120	22451	2072827	5	2	0 (0)	4
						Mid	27974.28	2078737	27779.88	2075497	102		22470	2078299	9	0	1 (4)	212
						High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020
50+100 +50	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27849.96	2076665	27680.04	2073833	102		22464	2076571	1	2	0 (0)	208
						High	28176.12	2082101	27427.32	2069621	504		22483	2082043	7	3	0 (0)	1014
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27599.4	2072489	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27924.36	2077905	27729.96	2074665	102		22467	2077435	5	3	0 (0)	210
						High	28250.52	2083341	27477.24	2070453	504		22486	2082907	11	0	1 (4)	1016
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink	Low	27673.8	2073729	27650.76	2073345	0	120	22454	2073691	5	0	1 (4)	8

50+100 +100					& Uplink	Mid	27998.76	2079145	27828.84	2076313	102		22473	2079163	9	2	1 (4)	216
						High	28324.92	2084581	27576.12	2072101	504		22492	2084635	3	4	1 (4)	1024
	CC1	50	120	32	Downlink & Uplink	Low	27525	2071249	27501.96	2070865	0	120	22446	2071387	9	7	1 (4)	22
						Mid	27825	2076249	27655.08	2073417	102		22463	2076283	5	3	1 (4)	218
						High	28125.6	2081259	27376.8	2068779	504		22480	2081179	8	2	0 (0)	1012
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	100	120	66	Downlink & Uplink	Low	27599.4	2072489	27551.88	2071697	0	120	22448	2071963	1	1	0 (0)	2
						Mid	27899.4	2077489	27705	2074249	102		22466	2077147	9	4	1 (4)	220
						High	28200	2082499	27426.72	2069611	504		22483	2082043	0	0	1 (4)	1016
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
CC3	100	120	66	Downlink & Uplink	Low	27699.36	2074155	27651.84	2073363	0	120	22454	2073691	8	3	0 (0)	6	
					Mid	27999.36	2079155	27804.96	2075915	102		22472	2078875	4	7	1 (4)	226	
					High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020	
100+50 +50	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27875.04	2077083	27680.64	2073843	102		22464	2076571	8	1	0 (0)	206
						High	28200.6	2082509	27427.32	2069621	504		22483	2082043	7	3	0 (0)	1014
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	27624.48	2072907	27601.44	2072523	0	120	22451	2072827	8	2	0 (0)	4
						Mid	27949.44	2078323	27779.52	2075491	102		22470	2078299	0	1	1 (4)	214
						High	28275	2083749	27526.2	2071269	504		22489	2083771	11	2	1 (4)	1020
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	27674.4	2073739	27651.36	2073355	0	120	22454	2073691	0	0	1 (4)	8
						Mid	27999.36	2079155	27829.44	2076323	102		22473	2079163	4	2	1 (4)	216
					High	28324.92	2084581	27576.12	2072101	504		22492	2084635	3	4	1 (4)	1024	
100+50 +100	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27849.96	2076665	27655.56	2073425	102		22463	2076283	1	3	1 (4)	218
						High	28151.16	2081685	27377.88	2068797	504		22480	2081179	11	1	0 (0)	1010
	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC2	50	120	32	Downlink & Uplink	Low	27624.48	2072907	27601.44	2072523	0	120	22451	2072827	8	2	0 (0)	4
						Mid	27924.36	2077905	27754.44	2075073	102		22469	2078011	5	6	1 (4)	224
						High	28225.56	2082925	27476.76	2070445	504		22486	2082907	3	1	1 (4)	1018
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27698.88	2074147	27651.36	2073355	0	120	22454	2073691	0	0	1 (4)	8
						Mid	27998.76	2079145	27804.36	2075905	102		22472	2078875	9	7	1 (4)	226
					High	28299.96	2084165	27526.68	2071277	504		22489	2083771	7	2	1 (4)	1020	
100+100 +50	CC1	100	120	66	Downlink & Uplink	Low	27550.08	2071667	27502.56	2070875	0	120	22446	2071387	4	7	1 (4)	22
						Mid	27849.96	2076665	27655.56	2073425	102		22463	2076283	1	3	1 (4)	218
						High	28150.56	2081675	27377.28	2068787	504		22480	2081179	4	2	0 (0)	1012
	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC2	100	120	66	Downlink	Low	27650.04	2073333	27602.52	2072541	0	120	22451	2072827	11	1	0 (0)	2

					& Uplink	Mid	27949.92	2078331	27755.52	2075091	102		22469	2078011	8	5	1 (4)	222
						High	28250.52	2083341	27477.24	2070453	504		22486	2082907	11	0	1 (4)	1016
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	27724.44	2074573	27701.4	2074189	0	120	22457	2074555	3	1	1 (4)	10
						Mid	28024.32	2079571	27854.4	2076739	102		22474	2079451	0	1	0 (0)	206
High						28324.92	2084581	27576.12	2072101	504	22492		2084635	3	4	1 (4)	1024	
100+100 +100	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		
Note 2: CCs are specified in increasing frequency order. CC1 is used as PCell if nothing else is specified in the test case.																		
Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		
Note 4: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		

4.3.1.2.3.5.15 CA_n261Q

FFS

4.3.1.2.4 NR intra-band non-contiguous CA configurations in FR2

4.3.1.2.4.1 NR Intra-band non-contiguous CA configurations for CA_n257

4.3.1.2.4.2 NR Intra-band non-contiguous CA configurations for CA_n258

4.3.1.2.4.3 FFS

4.3.1.2.4.4 NR Intra-band non-contiguous CA configurations for CA_n260

4.3.1.2.4.4.1 CA_n260(XA)

Editor's note: This clause is reserved for test frequencies for CA_n260(XA) configurations where x is ≥ 2 , e.g. CA_n260(2A), CA_n260(3A) and CA_n260(4A)

4.3.1.2.4.4.2 CA_n260(A-I)

Editor's note: CBW=400 MHz for NR band n260 is only supported by for SCS 120kHz. Test frequencies for CA_n260(A-I) are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.4.4.2-1: NR Intra-Band non-contiguous CA configuration CA_n260(A-I), SCS=120 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k _{SSB}	CORESET#0 Offset [RBs]	CORESET#0 Index	offsetToPointA (SIB1) [PRBs]
CA_n260(A-I); A (400MHz) - I (350-400MHz)																	
400, 50+100+100+100	CC1	400	264	Downlink & Uplink	Max Wgap	Same test frequencies as n260 for Low range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											
	CC2	50	32			Same test frequencies as for CA_n260I for High range, CBW combination 50+100+100+100 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.											
	CC3	100	66														
	CC4	100	66														
	CC5	100	66														
400, 100+100+100+50	CC1	400	264	Downlink & Uplink	Max Wgap	Same test frequencies as n260 for Low range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											
	CC2	100	66			Same test frequencies as for CA_n260I for High range, CBW combination 100+100+100+50 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.											
	CC3	100	66														
	CC4	100	66														
	CC5	50	32														
400, 100+100+100+100	CC1	400	264	Downlink & Uplink	Max Wgap	Same test frequencies as n260 for Low range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											
	CC2	100	66			Same test frequencies as for CA_n260I for High range, CBW combination 100+100+100+100 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.											
	CC3	100	66														
	CC4	100	66														
	CC5	100	66														
CA_n260(A-I); I (350-400MHz) – A (400MHz)																	
50+100+100+100, 400	CC1	50	32	Downlink & Uplink	Max Wgap	Same test frequencies as CA_n260I for Low range, CBW combination 50+100+100+100 and SCS=120kHz in Table4.3.1.2.3.4.8-2.											
	CC2	100	66														
	CC3	100	66														
	CC4	100	66														
	CC5	400	264			Same test frequencies as for n260 for High range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											
100+100+100+50, 400	CC1	100	66	Downlink & Uplink	Max Wgap	Same test frequencies as for CA_n260I for Low range, CBW combination 100+100+100+50 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.											
	CC2	100	66														
	CC3	100	66														
	CC4	50	32														
	CC5	400	264			Same test frequencies as for n260 for High range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											

100+100+ 100+100, 400	CC1	100	66	Downlink & Uplink	Max Wgap	Same test frequencies as for CA_n260I for Low range, CBW combination 100+100+100+100 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.
	CC2	100	66			
	CC3	100	66			
	CC4	100	66			
	CC5	400	264			Same test frequencies as for n260 for High range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.

4.3.1.2.4.5 NR Intra-band non-contiguous CA configurations for CA_n261

4.3.1.2.4.5.1 CA_n261(XA)

Table 4.3.1.2.4.5.1-1: NR Intra-Band non-contiguous CA configuration CA_n261(2A), SCS=120 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	Range		Test frequencies and signalling parameters
CA_n261(2A); A (50-400MHz) - A (50-400MHz)					
CBW1+ CBW2	CC1	CBW1	Downlink & Uplink	Max Wgap	Table 4.3.1.2.1.5-2: Low range for CBW=CBW1, where CBW1= 50 MHz, 100 MHz, 200 MHz or 400 MHz
	CC2	CBW2	Downlink & Uplink		Table 4.3.1.2.1.5-2: High range for CBW=CBW2, where CBW2= 50 MHz, 100 MHz, 200 MHz or 400 MHz

4.3.1.3 Test frequencies for NR band combinations between FR1 and FR2

4.3.1.3.1 NR inter-band CA configurations between FR1 and FR2

4.3.1.3.2 Inter-band NR-DC configurations between FR1 and FR2

4.3.1.3.2.1 NR-DC configurations between FR1 and FR2 (two bands)

Table 4.3.1.3.2.1-1: NR-DC configurations between FR1 and FR2 (two bands)

NR-DC configuration	Uplink NR-DC configuration	NR FR1 downlink configuration	NR FR2 downlink configuration	NR FR1 uplink configuration	NR FR2 uplink configuration	Applicable for protocol testing (Note 1)
DC_n78A-n257A	DC_n78A-n257A	n78A	n257A	n78A	n257A	Yes
DC_n78A-n257G	DC_n78A-n257A	n78A	CA_n257G	n78A	n257A	No
DC_n78A-n257H	DC_n78A-n257A	n78A	CA_n257H	n78A	n257A	No
DC_n78A-n257I	DC_n78A-n257A	n78A	CA_n257I	n78A	n257A	No
DC_n79A-n257A	DC_n79A-n257A	n79A	n257A	n79A	n257A	Yes
DC_n79A-n257G	DC_n79A-n257A	n79A	CA_n257G	n79A	n257A	No
DC_n79A-n257H	DC_n79A-n257A	n79A	CA_n257H	n79A	n257A	No
DC_n79A-n257I	DC_n79A-n257A	n79A	CA_n257I	n79A	n257A	No

Note 1: Protocol testing is limited to NR-DC configurations with 2CC.

4.3.1.4 Test frequencies for EN-DC band combinations within FR1

4.3.1.4.1 Inter-band EN-DC configurations within FR1

4.3.1.4.1.1 General

For inter-band EN-DC configurations as listed in this clause, the following apply:

For the E-UTRA band and E-UTRA CA configurations, test frequencies as specified in TS 36.508 [2], clause 4.3.1 are used.

For the NR band and NR CA configurations, test frequencies as specified in clause 4.3.1.1 are used.

For the EN-DC inter-band configuration that includes an EN-DC contiguous configuration (e.g. DC_2A-(n)71AA) the EN-DC contiguous configuration is listed in the NR configuration column and the test frequencies as specified in clause 4.3.1.4.2 are used.

For the secondary NR band in inter-band signalling test cases, the band selected is based on the subset of NR bands supported within the EN-DC configurations specified in Table 4.3.1.4.1.2-1 for NR FR1 and 4.3.1.5.1.2-1 for NR FR2.

4.3.1.4.1.2 Inter-band EN-DC configurations within FR1 (two bands)

Table 4.3.1.4.1.2-1: Inter-band EN-DC configurations within FR1 (two bands)

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A_n3A	DC_1A_n3A	1A	n3A	1A	n3A	Yes
DC_1A_n28A	DC_1A_n28A	1A	n28A	1A	n28A	Yes
DC_1A_n40A	DC_1A_n40A	1A	n40A	1A	n40A	Yes
DC_1A_n51A	DC_1A_n51A	1A	n51A	1A	n51A	Yes
DC_1A_n77A	DC_1A_n77A	1A	n77A	1A	n77A	Yes
DC_1A_n77C	DC_1A_n77A	1A	CA_n77C	1A	n77A	FFS (NR 2CC)
DC_1A_n78A	DC_1A_n78A	1A	n78A	1A	n78A	Yes
DC_1A_n78C	DC_1A_n78A	1A	CA_n78C	1A	n78A	Yes (NR 2CC)
DC_1A_n79A	DC_1A_n79A	1A	n79A	1A	n79A	Yes
DC_1A_n79C	DC_1A_n79A	1A	CA_n79C	1A	n79A	FFS (NR 2CC)
DC_2A_n5A	DC_2A_n5A	2A	n5A	2A	n5A	Yes
DC_2A_n41A	DC_2A_n41A	2A	n41A	2A	n41A	Yes
DC_2C_n41A	DC_2A_n41A	CA_2C	n41A	2A	n41A	No
	DC_2C_n41A	CA_2C	n41A	CA_2C	n41A	No
DC_2A_n66A	DC_2A_n66A	2A	n66A	2A	n66A	Yes
DC_2A_n71A	DC_2A_n71A	2A	n71A	2A	n71A	Yes
DC_2A_n78A	DC_2A_n78A	2A	n78A	2A	n78A	Yes
DC_3A_n1A	DC_3A_n1A	3A	n1A	3A	n1A	Yes
DC_3A_n7A	DC_3A_n7A	3A	n7A	3A	n7A	Yes
DC_3A_n28A	DC_3A_n28A	3A	n28A	3A	n28A	Yes
DC_3A_n40A	DC_3A_n40A	3A	n40A	3A	n40A	Yes
DC_3A_n41A	DC_3A_n41A	3A	n41A	3A	n41A	Yes
DC_3A_n51A	DC_3A_n51A	3A	n51A	3A	n51A	Yes
DC_3A_n77A	DC_3A_n77A	3A	n77A	3A	n77A	Yes
DC_3A_n77C	DC_3A_n77A	3A	CA_n77C	3A	n77A	FFS (NR 2CC)
DC_3A_n78A	DC_3A_n78A	3A	n78A	3A	n78A	Yes
DC_3A_n78C	DC_3A_n78A	3A	CA_n78C	3A	n78A	Yes (NR 2CC)
DC_3C_n78A	DC_3A_n78A	CA_3C	n78A	3A	n78A	No
DC_3A_n79A	DC_3A_n79A	3A	n79A	3A	n79A	Yes
DC_3A_n79C	DC_3A_n79A	3A	CA_n79C	3A	n79A	FFS (NR 2CC)
DC_5A_n2A	DC_5A_n2A	5A	n2A	5A	n2A	Yes
DC_5A_n40A	DC_5A_n40A	5A	n40A	5A	n40A	Yes
DC_5A_n66A	DC_5A_n66A	5A	n66A	5A	n66A	Yes
DC_5A_n78A	DC_5A_n78A	5A	n78A	5A	n78A	Yes
DC_7A-7A_n78A	DC_7A_n78A	CA_7A-7A	n78A	7A	n78A	No
DC_7A_n1A	DC_7A_n1A	7A	n1A	7A	n1A	Yes
DC_7A_n3A	DC_7A_n3A	7A	n3A	7A	n3A	Yes
DC_7A_n28A	DC_7A_n28A	7A	n28A	7A	n28A	Yes
DC_7A_n51A	DC_7A_n51A	7A	n51A	7A	n51A	Yes
DC_7A_n66A	DC_7A_n66A	7A	n66A	7A	n66A	Yes
DC_7A_n78A	DC_7A_n78A	7A	n78A	7A	n78A	Yes
DC_7C_n66A	DC_7A_n66A	CA_7C	n66A	7A	n66A	No
DC_7C_n78A	DC_7A_n78A	CA_7C	n78A	7A	n78A	No
DC_8A_n1A	DC_8A_n1A	8A	n1A	8A	n1A	Yes
DC_8A_n3A	DC_8A_n3A	8A	n3A	8A	n3A	Yes
DC_8A_n40A	DC_8A_n40A	8A	n40A	8A	n40A	Yes
DC_8A_n41A	DC_8A_n41A	8A	n41A	8A	n41A	Yes
DC_8A_n77A	DC_8A_n77A	8A	n77A	8A	n77A	Yes
DC_8A_n78A	DC_8A_n78A	8A	n78A	8A	n78A	Yes
DC_8A_n79A	DC_8A_n79A	8A	n79A	8A	n79A	Yes
DC_11A_n77A	DC_11A_n77A	11A	n77A	11A	n77A	Yes
DC_11A_n78A	DC_11A_n78A	11A	n78A	11A	n78A	Yes
DC_11A_n79A	DC_11A_n79A	11A	n79A	11A	n79A	Yes

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_12A_n5A	DC_12A_n5A	12A	n5A	12A	n5A	Yes
DC_12A_n66A	DC_12A_n66A	12A	n66A	12A	n66A	Yes
DC_12A_n78A	DC_12A_n78A	12A	n78A	12A	n78A	Yes
DC_13A_n2A	DC_13A_n2A	13A	n2A	13A	n2A	Yes
DC_13A_n66A	DC_13A_n66A	13A	n66A	13A	n66A	Yes
DC_14A_n2A	DC_14A_n2A	14A	n2A	14A	n2A	Yes
DC_14A_n66A	DC_14A_n66A	14A	n66A	14A	n66A	Yes
DC_18A_n77A	DC_18A_n77A	18A	n77A	18A	n77A	Yes
DC_18A_n78A	DC_18A_n78A	18A	n78A	18A	n78A	Yes
DC_18A_n79A	DC_18A_n79A	18A	n79A	18A	n79A	Yes
DC_19A_n77A	DC_19A_n77A	19A	n77A	19A	n77A	Yes
DC_19A_n77C	DC_19A_n77A	19A	CA_n77C	19A	n77A	FFS (NR 2CC)
DC_19A_n78A	DC_19A_n78A	19A	n78A	19A	n78A	Yes
DC_19A_n78C	DC_19A_n78A	19A	CA_n78C	19A	n78A	Yes (NR 2CC)
DC_19A_n79A	DC_19A_n79A	19A	n79A	19A	n79A	Yes
DC_19A_n79C	DC_19A_n79A	19A	CA_n79C	19A	n79A	FFS (NR 2CC)
DC_20A_n1A	DC_20A_n1A	20A	n1A	20A	n1A	Yes
DC_20A_n3A	DC_20A_n3A	20A	n3A	20A	n3A	Yes
DC_20A_n8A	DC_20A_n8A	20A	n8A	20A	n8A	Yes
DC_20A_n28A	DC_20A_n28A	20A	n28A	20A	n28A	Yes
DC_20A_n51A	DC_20A_n51A	20A	n51A	20A	n51A	Yes
DC_20A_n77A	DC_20A_n77A	20A	n77A	20A	n77A	Yes
DC_20A_n78A	DC_20A_n78A	20A	n78A	20A	n78A	Yes
DC_21A_n77A	DC_21A_n77A	21A	n77A	21A	n77A	Yes
DC_21A_n77C	DC_21A_n77A	21A	CA_n77C	21A	n77A	FFS (NR 2CC)
DC_21A_n78A	DC_21A_n78A	21A	n78A	21A	n78A	Yes
DC_21A_n78C	DC_21A_n78A	21A	CA_n78C	21A	n78A	Yes (NR 2CC)
DC_21A_n79A	DC_21A_n79A	21A	n79A	21A	n79A	Yes
DC_21A_n79C	DC_21A_n79A	21A	CA_n79C	21A	n79A	FFS (NR 2CC)
DC_25A_n41A	DC_25A_n41A	25A	n41A	25A	n41A	Yes
DC_26A_n41A	DC_26A_n41A	26A	n41A	26A	n41A	Yes
DC_26A_n77A	DC_26A_n77A	26A	n77A	26A	n77A	Yes
DC_26A_n78A	DC_26A_n78A	26A	n78A	26A	n78A	Yes
DC_26A_n79A	DC_26A_n79A	26A	n79A	26A	n79A	Yes
DC_28A_n3A	DC_28A_n3A	28A	n3A	28A	n3A	Yes
DC_28A_n51A	DC_28A_n51A	28A	n51A	28A	n51A	Yes
DC_28A_n77A	DC_28A_n77A	28A	n77A	28A	n77A	Yes
DC_28A_n77C	DC_28A_n77A	28A	CA_n77C	28A	n77A	FFS (NR 2CC)
DC_28A_n78A	DC_28A_n78A	28A	n78A	28A	n78A	Yes
DC_28A_n78C	DC_28A_n78A	28A	CA_n78C	28A	n78A	Yes (NR 2CC)
DC_28A_n79A	DC_28A_n79A	28A	n79A	28A	n79A	Yes
DC_28A_n79C	DC_28A_n79A	28A	CA_n79C	28A	n79A	FFS (NR 2CC)
DC_30A_n5A	DC_30A_n5A	30A	n5A	30A	n5A	Yes
DC_30A_n66A	DC_30A_n66A	30A	n66A	30A	n66A	Yes
DC_38A_n78A	-	38A	n78A	-	-	Yes
DC_39A_n78A	DC_39A_n78A	39A	n78A	39A	n78A	Yes
DC_39A_n41A	DC_39A_n41A	39A	n41A	39A	n41A	Yes
DC_39A_n79A	DC_39A_n79A	39A	n79A	39A	n79A	Yes
DC_40A_n1A	DC_40A_n1A	40A	n1A	40A	n1A	Yes
DC_40A_n41A	DC_40A_n41A	40A	n41A	40A	n41A	Yes
DC_40A_n77A	-	40A	n77A	-	-	Yes
DC_40A_n78A	DC_40A_n78A	40A	n78A	40A	n78A	Yes
DC_40C_n78A	DC_40A_n78A	CA_40C	n78A	40A	n78A	No
	DC_40C_n78A	CA_40C	n78A	CA_40C	n78A	No
DC_41A_n77A	DC_41A_n77A	41A	n77A	41A	n77A	Yes
DC_41C_n77A	DC_41A_n77A	CA_41C	n77A	41A	n77A	No
DC_41A_n78A	DC_41A_n78A	41A	n78A	41A	n78A	Yes

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_41C_n78A	DC_41A_n78A	CA_41C	n78A	41A	n78A	No
DC_41A_n79A	DC_41A_n79A	41A	n79A	41A	n79A	Yes
DC_41C_n79A	DC_41A_n79A	CA_41C	n79A	41A	n79A	No
DC_42A_n51A	DC_42A_n51A	42A	n51A	42A	n51A	Yes
DC_42A_n77A	-	42A	n77A	-	-	Yes
DC_42A_n77C	-	42A	CA_n77C	-	-	FFS (NR 2CC)
DC_42C_n77A	-	CA_42C	n77A	-	-	No
DC_42C_n77C	-	CA_42C	CA_n77C	-	-	No
DC_42D_n77A	-	CA_42D	n77A	-	-	No
DC_42E_n77A	-	CA_42E	n77A	-	-	No
DC_42A_n78A	-	42A	n78A	-	-	Yes
DC_42A_n78C	-	42A	CA_n78C	-	-	Yes (NR 2CC)
DC_42C_n78A	-	CA_42C	n78A	-	-	No
DC_42C_n78C	-	CA_42C	CA_n78C	-	-	No
DC_42D_n78A	-	CA_42D	n78A	-	-	No
DC_42E_n78A	-	CA_42E	n78A	-	-	No
DC_42A_n79A	-	42A	n79A	-	-	Yes
DC_42A_n79C	-	42A	CA_n79C	-	-	FFS (NR 2CC)
DC_42C_n79A	-	CA_42C	n79A	-	-	No
DC_42C_n79C	-	CA_42C	CA_n79C	-	-	No
DC_42D_n79A	-	CA_42D	n79A	-	-	No
DC_42E_n79A	-	CA_42E	n79A	-	-	No
DC_46A_n78A	-	46A	n78A	-	-	No
DC_46C_n78A	-	CA_46C	n78A	-	-	No
DC_46D_n78A	-	CA_46D	n78A	-	-	No
DC_46E_n78A	-	CA_46E	n78A	-	-	No
DC_48A_n5A	DC_48A_n5A	48A	n5A	48A	n5A	Yes
DC_48A_n66A	DC_48A_n66A	48A	n66A	48A	n66A	Yes
DC_66A_n2A	DC_66A_n2A	66A	n2A	66A	n2A	Yes
DC_66A_n5A	DC_66A_n5A	66A	n5A	66A	n5A	Yes
DC_66A_n41A	DC_66A_n41A	66A	n41A	66A	n41A	Yes
DC_66A_n71A	DC_66A_n71A	66A	n71A	66A	n71A	Yes
DC_66A_n78A	DC_66A_n78A	66A	n78A	66A	n78A	Yes

Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.

4.3.1.4.1.3

Inter-band EN-DC configurations within FR1 (three bands)

Table 4.3.1.4.1.3-1: Inter-band EN-DC configurations within FR1 (three bands)

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A_n28A	DC_1A_n28A	CA_1A-3A	n28A	1A	n28A	No
	DC_3A_n28A	CA_1A-3A	n28A	3A	n28A	No
DC_1A-3A_n78A	DC_1A_n78A	CA_1A-3A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A	n78A	3A	n78A	No
DC_1A-3A_n78C	DC_1A_n78A	CA_1A-3A	n78C	1A	n78A	No
	DC_3A_n78A	CA_1A-3A	n78C	3A	n78A	No
DC_1A-3C_n78A	DC_1A_n78A	CA_1A-3C	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3C	n78A	3A	n78A	No
DC_1A-3A_n79A	DC_1A_n79A	CA_1A-3A	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A	n79A	3A	n79A	No
DC_1A-7A_n3A	DC_1A_n3A	CA_1A-7A	n3A	1A	n3A	No
	DC_7A_n3A	CA_1A-7A	n3A	7A	n3A	No
DC_1A-7A_n78A	DC_1A_n78A	CA_1A-7A	n78A	1A	n78A	No
	DC_7A_n78A	CA_1A-7A	n78A	7A	n78A	No
DC_1A-8A_n3A	DC_1A_n3A	CA_1A-8A	n3A	1A	n3A	No
	DC_8A_n3A	CA_1A-8A	n3A	8A	n3A	No
DC_1A-8A_n78A	DC_1A_n78A	CA_1A-8A	n78A	1A	n78A	No
	DC_8A_n78A	CA_1A-8A	n78A	8A	n78A	No
DC_1A-19A_n78A	DC_1A_n78A	CA_1A-19A	n78A	1A	n78A	No
	DC_19A_n78A	CA_1A-19A	n78A	19A	n78A	No
DC_1A-19A_n79A	DC_1A_n79A	CA_1A-19A	n79A	1A	n79A	No
	DC_19A_n79A	CA_1A-19A	n79A	19A	n79A	No
DC_1A-20A_n3A	DC_1A_n3A	CA_1A-20A	n3A	1A	n3A	No
	DC_20A_n3A	CA_1A-20A	n3A	20A	n3A	No
DC_1A-20A_n78A	DC_1A_n78A	CA_1A-20A	n78A	1A	n78A	No
	DC_20A_n78A	CA_1A-20A	n78A	20A	n78A	No
DC_1A-21A_n78A	DC_1A_n78A	CA_1A-21A	n78A	1A	n78A	No
	DC_21A_n78A	CA_1A-21A	n78A	21A	n78A	No
DC_1A-21A_n79A	DC_1A_n79A	CA_1A-21A	n79A	1A	n79A	No
	DC_21A_n79A	CA_1A-21A	n79A	21A	n79A	No
DC_1A-21A_n79A	DC_1A_n79A	CA_1A-21A	n79A	1A	n79A	No
	DC_21A_n79A	CA_1A-21A	n79A	21A	n79A	No
DC_1A-28A_n3A	DC_1A_n3A	CA_1A-28A	n3A	1A	n3A	No
	DC_28A_n3A	CA_1A-28A	n3A	28A	n3A	No
DC_1A_n28A-n78A	DC_1A_n28A	1A	CA_n28A-n78A	1A	n28A	Yes (NR 2CC)
	DC_1A_n78A	1A	CA_n28A-n78A	1A	n78A	No
DC_1A-42A_n78A	DC_1A_n78A	CA_1A-42A	n78A	1A	n78A	No
DC_1A-42C_n78A	DC_1A_n78A	CA_1A-42C	n78A	1A	n78A	No
DC_1A-42D_n78A	DC_1A_n78A	CA_1A-42D	n78A	1A	n78A	No
DC_1A-42E_n78A	DC_1A_n78A	CA_1A-42E	n78A	1A	n78A	No
DC_1A-42A_n79A	DC_1A_n79A	CA_1A-42A	n79A	1A	n79A	No
DC_1A-42C_n79A	DC_1A_n79A	CA_1A-42C	n79A	1A	n79A	No
DC_1A-42D_n79A	DC_1A_n79A	CA_1A-42D	n79A	1A	n79A	No
DC_1A-42E_n79A	DC_1A_n79A	CA_1A-42E	n79A	1A	n79A	No
DC_1A_n78A-n79A	DC_1A_n78A	1A	CA_n78A-n79A	1A	n78A	Yes (NR 2CC)
	DC_1A_n79A	1A	CA_n78A-n79A	1A	n79A	No
DC_2A-2A-14A_n66A	DC_2A_n66A	CA_2A-2A-14A	n66A	2A	n66A	No
	DC_14A_n66A	CA_2A-2A-14A	n66A	14A	n66A	No
DC_2A-14A_n2A	DC_2A_n2A	CA_2A-14A	n2A	2A	n2A	No
	DC_14A_n2A	CA_2A-14A	n2A	14A	n2A	No
DC_2A-14A_n66A	DC_2A_n66A	CA_2A-14A	n66A	2A	n66A	No
	DC_14A_n66A	CA_2A-14A	n66A	14A	n66A	No
DC_2A-66A_n5A	DC_2A_n5A	CA_2A-66A	n5A	2A	n5A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_66A_n5A	CA_2A-66A	n5A	66A	n5A	No
DC_2A-66A_n41A	DC_2A_n41A	CA_2A-66A	n41A	2A	n41A	No
	DC_66A_n41A	CA_2A-66A	n41A	66A	n41A	No
DC_2A-66A_n71A	DC_2A_n71A	CA_2A-66A	n71A	2A	n71A	No
	DC_66A_n71A	CA_2A-66A	n71A	66A	n71A	No
DC_2A-(n)71AA	DC_2A_n71A	2A	DC_(n)71AA	2A	n71A	No
	DC_(n)71AA	2A	DC_(n)71AA	-	DC_(n)71AA	No
DC_3A-7A_n1A	DC_3A_n1A	CA_3A-7A	n1A	3A	n1A	No
	DC_7A_n1A	CA_3A-7A	n1A	7A	n1A	No
DC_3A-7A_n78A	DC_3A_n78A	CA_3A-7A	n78A	1A	n78A	No
	DC_7A_n78A	CA_3A-7A	n78A	7A	n78A	No
DC_3A-8A_n1A	DC_3A_n1A	CA_3A-8A	n1A	3A	n1A	No
	DC_8A_n1A	CA_3A-8A	n1A	8A	n1A	No
DC_3A-8A_n78A	DC_3A_n78A	CA_3A-8A	n78A	3A	n78A	No
	DC_8A_n78A	CA_3A-8A	n78A	8A	n78A	No
DC_3A-19A_n78A	DC_3A_n78A	CA_3A-19A	n78A	3A	n78A	No
	DC_19A_n78A	CA_3A-19A	n78A	19A	n78A	No
DC_3A-19A_n79A	DC_3A_n79A	CA_3A-19A	n79A	3A	n79A	No
	DC_19A_n79A	CA_3A-19A	n79A	19A	n79A	No
DC_3A-20A_n1A	DC_3A_n1A	CA_3A-20A	n1A	3A	n1A	No
	DC_20A_n1A	CA_3A-20A	n1A	20A	n1A	No
DC_3A-21A_n78A	DC_3A_n78A	CA_3A-21A	n78A	3A	n78A	No
	DC_21A_n78A	CA_3A-21A	n78A	21A	n78A	No
DC_3A-21A_n79A	DC_3A_n79A	CA_3A-21A	n79A	3A	n79A	No
	DC_21A_n79A	CA_3A-21A	n79A	21A	n79A	No
DC_3A_n28A-n78A	DC_3A_n28A	3A	CA_n28A-n78A	3A	n28A	Yes (NR 2CC)
	DC_3A_n78A	3A	CA_n28A-n78A	3A	n78A	No
DC_3A-40A_n1A	DC_3A_n1A	CA_3A-40A	n1A	3A	n1A	No
	DC_40A_n1A	CA_3A-40A	n1A	40A	n1A	No
DC_3A-42A_n78A	DC_3A_n78A	CA_3A-42A	n78A	3A	n78A	No
DC_3A-42C_n78A	DC_3A_n78A	CA_3A-42C	n78A	3A	n78A	No
DC_3A-42D_n78A	DC_3A_n78A	CA_3A-42D	n78A	3A	n78A	No
DC_3A-42E_n78A	DC_3A_n78A	CA_3A-42E	n78A	3A	n78A	No
DC_3A-42A_n79A	DC_3A_n79A	CA_3A-42A	n79A	3A	n79A	No
DC_3A-42C_n79A	DC_3A_n79A	CA_3A-42C	n79A	3A	n79A	No
DC_3A-42D_n79A	DC_3A_n79A	CA_3A-42D	n79A	3A	n79A	No
DC_3A-42E_n79A	DC_3A_n79A	CA_3A-42E	n79A	3A	n79A	No
DC_3A_n78A-n79A	DC_3A_n78A	3A	CA_n78A-n79A	3A	n78A	Yes (NR 2CC)
	DC_3A_n79A	3A	CA_n78A-n79A	3A	n79A	No
DC_5A-7A_n78A	DC_5A_n78A	CA_5A-7A	n78A	5A	n78A	No
	DC_7A_n78A	CA_5A-7A	n78A	7A	n78A	No
DC_7A-8A_n1A	DC_7A_n1A	CA_7A-8A	n1A	7A	n1A	No
	DC_8A_n1A	CA_7A-8A	n1A	8A	n1A	No
DC_7A-20A_n1A	DC_7A_n1A	CA_7A-20A	n1A	7A	n1A	No
	DC_20A_n1A	CA_7A-20A	n1A	20A	n1A	No
DC_7A-20A_n3A	DC_7A_n3A	CA_7A-20A	n3A	7A	n3A	No
	DC_20A_n3A	CA_7A-20A	n3A	20A	n3A	No
DC_7A-20A_n78A	DC_7A_n78A	CA_7A-20A	n78A	7A	n78A	No
	DC_20A_n78A	CA_7A-20A	n78A	20A	n78A	No
DC_7A-28A_n3A	DC_7A_n3A	CA_7A-28A	n3A	7A	n3A	No
	DC_28A_n3A	CA_7A-28A	n3A	28A	n3A	No
DC_7A_n28A-n78A	DC_7A_n28A	7A	CA_n28A-n78A	7A	n28A	Yes (NR 2CC)
	DC_7A_n78A	7A	CA_n28A-n78A	7A	n78A	No
DC_14A-66A_n2A	DC_14A_n2A	CA_14A-66A	n2A	14A	n2A	No
	DC_66A_n2A	CA_14A-66A	n2A	66A	n2A	No
DC_14A-66A_n66A	DC_14A_n66A	CA_14A-66A	n66A	14A	n66A	No
	DC_66A_n66A	CA_14A-66A	n66A	66A	n66A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_14A-66A-66A_n2A	DC_14A_n2A	CA_14A-66A-66A	n2A	14A	n2A	No
	DC_66A_n2A	CA_14A-66A-66A	n2A	66A	n2A	No
DC_19A-21A_n78A	DC_19A_n78A	CA_19A-21A	n78A	19A	n78A	No
	DC_21A_n78A	CA_19A-21A	n78A	21A	n78A	No
DC_19A-21A_n79A	DC_19A_n79A	CA_19A-21A	n79A	19A	n79A	No
	DC_21A_n79A	CA_19A-21A	n79A	21A	n79A	No
DC_19A-42A_n78A	DC_19A_n78A	CA_19A-42A	n78A	19A	n78A	No
DC_19A-42A_n79A	DC_19A_n79A	CA_19A-42A	n79A	19A	n79A	No
DC_19A-42C_n78A	DC_19A_n78A	CA_19A-42C	n78A	19A	n78A	No
DC_19A-42C_n79A	DC_19A_n79A	CA_19A-42C	n79A	19A	n79A	No
DC_19A_n78A-n79A	DC_19A_n78A	19A	CA_n78A-n79A	19A	n78A	Yes (NR 2CC)
	DC_19A_n79A	19A	CA_n78A-n79A	19A	n79A	No
DC_20A_n28A-n78A	DC_20A_n28A	20A	CA_n28A-n78A	20A	n28A	Yes (NR 2CC)
	DC_20A_n78A	20A	CA_n28A-n78A	20A	n78A	No
DC_21A-42A_n78A	DC_21A_n78A	CA_21A-42A	n78A	21A	n78A	No
DC_21A-42C_n78A	DC_21A_n78A	CA_21A-42C	n78A	21A	n78A	No
DC_21A-42A_n79A	DC_21A_n79A	CA_21A-42A	n79A	21A	n79A	No
DC_21A-42C_n79A	DC_21A_n79A	CA_21A-42C	n79A	21A	n79A	No
DC_21A_n78A-n79A	DC_21A_n78A	21A	CA_n78A-n79A	21A	n78A	Yes (NR 2CC)
	DC_21A_n79A	21A	CA_n78A-n79A	21A	n79A	No
DC_66A_(n)71AA	DC_66A_n71A	66A	DC_(n)71AA	66A	n71A	No
	DC_(n)71AA	66A	DC_(n)71AA	-	DC_(n)71AA	No

Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.

4.3.1.4.1.4 Inter-band EN-DC configurations within FR1 (four bands)

Table 4.3.1.4.1.4-1: Inter-band EN-DC configurations within FR1 (four bands)

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A-7A_n28A	DC_1A_n28A	CA_1A-3A-7A	n28A	1A	n28A	No
	DC_3A_n28A	CA_1A-3A-7A	n28A	3A	n28A	No
	DC_7A_n28A	CA_1A-3A-7A	n28A	7A	n28A	No
DC_1A-3A-7A_n78A	DC_1A_n78A	CA_1A-3A-7A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-7A	n78A	3A	n78A	No
	DC_7A_n78A	CA_1A-3A-7A	n78A	7A	n78A	No
DC_1A-3A-8A_n78A	DC_1A_n78A	CA_1A-3A-8A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-8A	n78A	3A	n78A	No
	DC_8A_n78A	CA_1A-3A-8A	n78A	8A	n78A	No
DC_1A-3A-19A_n78A	DC_1A_n78A	CA_1A-3A-19A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-19A	n78A	3A	n78A	No
	DC_19A_n78A	CA_1A-3A-19A	n78A	19A	n78A	No
DC_1A-3A-19A_n79A	DC_1A_n79A	CA_1A-3A-19A	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-19A	n79A	3A	n79A	No
	DC_19A_n79A	CA_1A-3A-19A	n79A	19A	n79A	No
DC_1A-3A-20A_n78A	DC_1A_n78A	CA_1A-3A-20A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-20A	n78A	3A	n78A	No
	DC_20A_n78A	CA_1A-3A-20A	n78A	20A	n78A	No
DC_1A-3A-21A_n78A	DC_1A_n78A	CA_1A-3A-21A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-21A	n78A	3A	n78A	No
	DC_21A_n78A	CA_1A-3A-21A	n78A	21A	n78A	No
DC_1A-3A-21A_n79A	DC_1A_n79A	CA_1A-3A-21A	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-21A	n79A	3A	n79A	No
	DC_21A_n79A	CA_1A-3A-21A	n79A	21A	n79A	No
DC_1A-3A_n28A-n78A	DC_1A_n28A	CA_1A-3A	CA_n28A-n78A	1A	n28A	No
	DC_1A_n78A	CA_1A-3A	CA_n28A-n78A	1A	n78A	No
	DC_3A_n28A	CA_1A-3A	CA_n28A-n78A	3A	n28A	No
	DC_3A_n78A	CA_1A-3A	CA_n28A-n78A	3A	n78A	No
DC_1A-3A-42A_n78A	DC_1A_n78A	CA_1A-3A-42A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-42A	n78A	3A	n78A	No
DC_1A-3A-42C_n78A	DC_1A_n78A	CA_1A-3A-42C	n78A	1A	n78A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_3A_n78A	CA_1A-3A-42C	n78A	3A	n78A	No
DC_1A-3A-42D_n78A	DC_1A_n78A	CA_1A-3A-42D	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-42D	n78A	3A	n78A	No
DC_1A-3A-42A_n79A	DC_1A_n79A	CA_1A-3A-42A	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-42A	n79A	3A	n79A	No
DC_1A-3A-42C_n79A	DC_1A_n79A	CA_1A-3A-42C	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-42C	n79A	3A	n79A	No
DC_1A-3A-42D_n79A	DC_1A_n79A	CA_1A-3A-42D	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-42D	n79A	3A	n79A	No
DC_1A-7A-20A_n78A	DC_1A_n78A	CA_1A-7A-20A	n78A	1A	n78A	No
	DC_7A_n78A	CA_1A-7A-20A	n78A	7A	n78A	No
	DC_20A_n78A	CA_1A-7A-20A	n78A	20A	n78A	No
DC_1A-7A_n28A-n78A	DC_1A_n28A	CA_1A-7A	CA_n28A-n78A	1A	n28A	No
	DC_1A_n78A	CA_1A-7A	CA_n28A-n78A	1A	n78A	No
	DC_7A_n28A	CA_1A-7A	CA_n28A-n78A	7A	n28A	No
	DC_7A_n78A	CA_1A-7A	CA_n28A-n78A	7A	n78A	No
DC_1A-19A-21A_n78A	DC_1A_n78A	CA_1A-19A-21A	n78A	1A	n78A	No
	DC_19A_n78A	CA_1A-19A-21A	n78A	19A	n78A	No
	DC_21A_n78A	CA_1A-19A-21A	n78A	21A	n78A	No
DC_1A-19A-21A_n79A	DC_1A_n79A	CA_1A-19A-21A	n79A	1A	n79A	No
	DC_19A_n79A	CA_1A-19A-21A	n79A	19A	n79A	No
	DC_21A_n79A	CA_1A-19A-21A	n79A	21A	n79A	No
DC_1A-19A-42A_n78A	DC_1A_n78A	CA_1A-19A-42A	n78A	1A	n78A	No
	DC_19A_n78A	CA_1A-19A-42A	n78A	19A	n78A	No
DC_1A-19A-42C_n78A	DC_1A_n78A	CA_1A-19A-42C	n78A	1A	n78A	No
	DC_19A_n78A	CA_1A-19A-42C	n78A	19A	n78A	No
DC_1A-19A-42A_n79A	DC_1A_n79A	CA_1A-19A-42A	n79A	1A	n79A	No
	DC_19A_n79A	CA_1A-19A-42A	n79A	19A	n79A	No
DC_1A-19A-	DC_1A_n79A	CA_1A-19A-	n79A	1A	n79A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
42C_n79A		42C				
	DC_19A_n79A	CA_1A-19A-42C	n79A	19A	n79A	No
DC_1A-20A_n28A-n78A	DC_1A_n28A	CA_1A-20A	CA_n28A-n78A	1A	n28A	No
	DC_1A_n78A	CA_1A-20A	CA_n28A-n78A	1A	n78A	No
	DC_20A_n28A	CA_1A-20A	CA_n28A-n78A	20A	n28A	No
	DC_20A_n78A	CA_1A-20A	CA_n28A-n78A	20A	n78A	No
DC_1A-21A-42A_n78A	DC_1A_n78A	CA_1A-21A-42A	n78A	1A	n78A	No
	DC_21A_n78A	CA_1A-21A-42A	n78A	21A	n78A	No
DC_1A-21A-42C_n78A	DC_1A_n78A	CA_1A-21A-42C	n78A	1A	n78A	No
	DC_21A_n78A	CA_1A-21A-42C	n78A	21A	n78A	No
DC_1A-21A-42A_n79A	DC_1A_n79A	CA_1A-21A-42A	n79A	1A	n79A	No
	DC_21A_n79A	CA_1A-21A-42A	n79A	21A	n79A	No
DC_1A-21A-42C_n79A	DC_1A_n79A	CA_1A-21A-42C	n79A	1A	n79A	No
	DC_21A_n79A	CA_1A-21A-42C	n79A	21A	n79A	No
DC_2A-2A-14A-66A_n66A	DC_2A_n66A	CA_2A-2A-14A-66A	n66A	2A	n66A	No
	DC_14A_n66A	CA_2A-2A-14A-66A	n66A	14A	n66A	No
	DC_66A_n66A	CA_2A-2A-14A-66A	n66A	66A	n66A	No
DC_2A-7A-7A-13A_n66A	DC_2A_n66A	CA_2A-7A-7A-13A	n66A	2A	n66A	No
	DC_7A_n66A	CA_2A-7A-7A-13A	n66A	7A	n66A	No
	DC_13A_n66A	CA_2A-7A-7A-13A	n66A	13A	n66A	No
DC_2A-7A-7A-66A_n66A	DC_2A_n66A	CA_2A-7A-7A-66A	n66A	2A	n66A	No
	DC_7A_n66A	CA_2A-7A-7A-66A	n66A	7A	n66A	No
	DC_66A_n66A	CA_2A-7A-7A-66A	n66A	66A	n66A	No
DC_2A-7A-7A-66A_n78A	DC_2A_n78A	CA_2A-7A-7A-66A	n78A	2A	n78A	No
	DC_7A_n78A	CA_2A-7A-7A-66A	n78A	7A	n78A	No
	DC_66A_n78A	CA_2A-7A-7A-66A	n78A	66A	n78A	No
DC_2A-7A-13A_n66A	DC_2A_n66A	CA_2A-7A-13A	n66A	2A	n66A	No
	DC_7A_n66A	CA_2A-7A-13A	n66A	7A	n66A	No
	DC_13A_n66A	CA_2A-7A-13A	n66A	13A	n66A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_2A-7A-66A_n66A	DC_2A_n66A	CA_2A-7A-66A	n66A	2A	n66A	No
	DC_7A_n66A	CA_2A-7A-66A	n66A	7A	n66A	No
	DC_66A_n66A	CA_2A-7A-66A	n66A	66A	n66A	No
DC_2A-7C-13A_n66A	DC_2A_n66A	CA_2A-7C-13A	n66A	2A	n66A	No
	DC_7A_n66A	CA_2A-7C-13A	n66A	7A	n66A	No
	DC_13A_n66A	CA_2A-7C-13A	n66A	13A	n66A	No
DC_2A-7C-66A_n66A	DC_2A_n66A	CA_2A-7C-66A	n66A	2A	n66A	No
	DC_7A_n66A	CA_2A-7C-66A	n66A	7A	n66A	No
	DC_66A_n66A	CA_2A-7C-66A	n66A	66A	n66A	No
DC_2A-7C-66A_n78A	DC_2A_n78A	CA_2A-7C-66A	n78A	2A	n78A	No
	DC_7A_n78A	CA_2A-7C-66A	n78A	7A	n78A	No
	DC_66A_n78A	CA_2A-7C-66A	n78A	66A	n78A	No
DC_2A-14A-66A_n2A	DC_2A_n2A	CA_2A-14A-66A	n2A	2A	n2A	No
	DC_14A_n2A	CA_2A-14A-66A	n2A	14A	n2A	No
	DC_66A_n2A	CA_2A-14A-66A	n2A	66A	n2A	No
DC_2A-14A-66A-66A_n2A	DC_2A_n2A	CA_2A-14A-66A-66A	n2A	2A	n2A	No
	DC_14A_n2A	CA_2A-14A-66A-66A	n2A	14A	n2A	No
	DC_66A_n2A	CA_2A-14A-66A-66A	n2A	66A	n2A	No
DC_2A-14A-66A_n66A	DC_2A_n66A	CA_2A-14A-66A	n66A	2A	n66A	No
	DC_14A_n66A	CA_2A-14A-66A	n66A	14A	n66A	No
	DC_66A_n66A	CA_2A-14A-66A	n66A	66A	n66A	No
DC_2A-66A-(n)71AA	DC_2A_n71A	CA_2A-66A	DC-(n)71AA	2A	n71A	No
	DC_66A_n71A	CA_2A-66A	DC-(n)71AA	66A	n71A	No
	DC_(n)71AA	CA_2A-66A	DC-(n)71AA	-	(n)71AA	No
DC_3A-7A-20A_n1A	DC_3A_n1A	CA_3A-7A-20A	n1A	3A	n1A	No
	DC_7A_n1A	CA_3A-7A-20A	n1A	7A	n1A	No
	DC_20A_n1A	CA_3A-7A-20A	n1A	20A	n1A	No
DC_3A-7A-20A_n78A	DC_3A_n78A	CA_3A-7A-20A	n78A	3A	n78A	No
	DC_7A_n78A	CA_3A-7A-20A	n78A	7A	n78A	No
	DC_20A_n78A	CA_3A-7A-20A	n78A	20A	n78A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_3A-7A_n28A-n78A	DC_3A_n28A	CA_3A-7A	CA_n28A-n78A	3A	n28A	No
	DC_3A_n78A	CA_3A-7A	CA_n28A-n78A	3A	n78A	No
	DC_7A_n28A	CA_3A-7A	CA_n28A-n78A	7A	n28A	No
	DC_7A_n78A	CA_3A-7A	CA_n28A-n78A	7A	n78A	No
DC_3A-19A-21A_n78A	DC_3A_n78A	CA_3A-19A-21A	n78A	3A	n78A	No
	DC_19A_n78A	CA_3A-19A-21A	n78A	19A	n78A	No
	DC_21A_n78A	CA_3A-19A-21A	n78A	21A	n78A	No
DC_3A-19A-21A_n79A	DC_3A_n79A	CA_3A-19A-21A	n79A	3A	n79A	No
	DC_19A_n79A	CA_3A-19A-21A	n79A	19A	n79A	No
	DC_21A_n79A	CA_3A-19A-21A	n79A	21A	n79A	No
DC_3A-19A-42A_n78A	DC_3A_n78A	CA_3A-19A-42A	n78A	3A	n78A	No
	DC_19A_n78A	CA_3A-19A-42A	n78A	19A	n78A	No
DC_3A-19A-42C_n78A	DC_3A_n78A	CA_3A-19A-42C	n78A	3A	n78A	No
	DC_19A_n78A	CA_3A-19A-42C	n78A	19A	n78A	No
DC_3A-19A-42A_n79A	DC_3A_n79A	CA_3A-19A-42A	n79A	3A	n79A	No
	DC_19A_n79A	CA_3A-19A-42A	n79A	19A	n79A	No
DC_3A-19A-42C_n79A	DC_3A_n79A	CA_3A-19A-42C	n79A	3A	n79A	No
	DC_19A_n79A	CA_3A-19A-42C	n79A	19A	n79A	No
DC_3A-20A_n28A-n78A	DC_3A_n28A	CA_3A-20A	CA_n28A-n78A	3A	n28A	No
	DC_3A_n78A	CA_3A-20A	CA_n28A-n78A	3A	n78A	No
	DC_20A_n28A	CA_3A-20A	CA_n28A-n78A	20A	n28A	No
	DC_20A_n78A	CA_3A-20A	CA_n28A-n78A	20A	n78A	No
DC_3A-21A-42A_n78A	DC_3A_n78A	CA_3A-21A-42A	n78A	3A	n78A	No
	DC_21A_n78A	CA_3A-21A-42A	n78A	21A	n78A	No
DC_3A-21A-42C_n78A	DC_3A_n78A	CA_3A-21A-42C	n78A	3A	n78A	No
	DC_21A_n78A	CA_3A-21A-42C	n78A	21A	n78A	No
DC_3A-21A-42A_n79A	DC_3A_n79A	CA_3A-21A-42A	n79A	3A	n79A	No
	DC_21A_n79A	CA_3A-21A-42A	n79A	21A	n79A	No
DC_3A-21A-	DC_3A_n79A	CA_3A-21A-	n79A	3A	n79A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
42C_n79A		42C				
	DC_21A_n79A	CA_3A-21A-42C	n79A	21A	n79A	No
DC_7A-20A_n28A-n78A	DC_7A_n28A	CA_7A-20A	CA_n28A-n78A	7A	n28A	No
	DC_7A_n78A	CA_7A-20A	CA_n28A-n78A	7A	n78A	No
	DC_20A_n28A	CA_7A-20A	CA_n28A-n78A	20A	n28A	No
	DC_20A_n78A	CA_7A-20A	CA_n28A-n78A	20A	n78A	No
DC_19A-21A-42A_n78A	DC_19A_n78A	CA_19A-21A-42A	n78A	19A	n78A	No
	DC_21A_n78A	CA_19A-21A-42A	n78A	21A	n78A	No
DC_19A-21A-42C_n78A	DC_19A_n78A	CA_19A-21A-42C	n78A	19A	n78A	No
	DC_21A_n78A	CA_19A-21A-42C	n78A	21A	n78A	No
DC_19A-21A-42A_n79A	DC_19A_n79A	CA_19A-21A-42A	n79A	19A	n79A	No
	DC_21A_n79A	CA_19A-21A-42A	n79A	21A	n79A	No
DC_19A-21A-42C_n79A	DC_19A_n79A	CA_19A-21A-42C	n79A	19A	n79A	No
	DC_21A_n79A	CA_19A-21A-42C	n79A	21A	n79A	No

Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.

4.3.1.4.1.5 Inter-band EN-DC configurations within FR1 (five bands)

Table 4.3.1.4.1.5-1: Inter-band EN-DC configurations within FR1 (five bands)

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A-5A-41A_n79A	DC_1A_n79A	CA_1A-3A-5A-41A	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-5A-41A	n79A	3A	n79A	No
	DC_5A_n79A	CA_1A-3A-5A-41A	n79A	5A	n79A	No
	DC_41A_n79A	CA_1A-3A-5A-41A	n79A	41A	n79A	No
DC_1A-3A-7A-20A_n28A	DC_1A_n28A	CA_1A-3A-7A-20A	n28A	1A	n28A	No
	DC_3A_n28A	CA_1A-3A-7A-20A	n28A	3A	n28A	No
	DC_7A_n28A	CA_1A-3A-7A-20A	n28A	7A	n28A	No
	DC_20A_n28A	CA_1A-3A-7A-20A	n28A	20A	n28A	No
DC_1A-3A-7A-20A_n78A	DC_1A_n78A	CA_1A-3A-7A-20A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-7A-20A	n78A	3A	n78A	No
	DC_7A_n78A	CA_1A-3A-7A-20A	n78A	7A	n78A	No
	DC_20A_n78A	CA_1A-3A-7A-20A	n78A	20A	n78A	No
DC_1A-3A-7A_n28A-n78A	DC_1A_n28A	CA_1A-3A-7A	CA_n28A-n78A	1A	n28A	No
	DC_1A_n78A	CA_1A-3A-7A	CA_n28A-n78A	1A	n78A	No
	DC_3A_n28A	CA_1A-3A-7A	CA_n28A-n78A	3A	n28A	No
	DC_3A_n78A	CA_1A-3A-7A	CA_n28A-n78A	3A	n78A	No
	DC_7A_n28A	CA_1A-3A-7A	CA_n28A-n78A	7A	n28A	No
	DC_7A_n78A	CA_1A-3A-7A	CA_n28A-n78A	7A	n78A	No
DC_1A-3A-19A-42A_n78A	DC_1A_n78A	CA_1A-3A-19A-42A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-19A-42A	n78A	3A	n78A	No
	DC_19A_n78A	CA_1A-3A-19A-42A	n78A	19A	n78A	No
DC_1A-3A-19A-42C_n78A	DC_1A_n78A	CA_1A-3A-19A-42C	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-19A-42C	n78A	3A	n78A	No
	DC_19A_n78A	CA_1A-3A-19A-42C	n78A	19A	n78A	No
DC_1A-3A-19A-42A_n79A	DC_1A_n79A	CA_1A-3A-19A-42A	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-19A-42A	n79A	3A	n79A	No
	DC_19A_n79A	CA_1A-3A-	n79A	19A	n79A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
		19A-42A				
DC_1A-3A-19A-42C_n79A	DC_1A_n79A	CA_1A-3A-19A-42C	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-19A-42C	n79A	3A	n79A	No
	DC_19A_n79A	CA_1A-3A-19A-42C	n79A	19A	n79A	No
DC_1A-3A-20A_n28A-n78A	DC_1A_n28A	CA_1A-3A-20A	CA_n28A-n78A	1A	n28A	No
	DC_1A_n78A	CA_1A-3A-20A	CA_n28A-n78A	1A	n78A	No
	DC_3A_n28A	CA_1A-3A-20A	CA_n28A-n78A	3A	n28A	No
	DC_3A_n78A	CA_1A-3A-20A	CA_n28A-n78A	3A	n78A	No
	DC_20A_n28A	CA_1A-3A-20A	CA_n28A-n78A	20A	n28A	No
	DC_20A_n78A	CA_1A-3A-20A	CA_n28A-n78A	20A	n78A	No
DC_1A-3A-21A-42A_n78A	DC_1A_n78A	CA_1A-3A-21A-42A	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-21A-42A	n78A	3A	n78A	No
	DC_21A_n78A	CA_1A-3A-21A-42A	n78A	21A	n78A	No
DC_1A-3A-21A-42C_n78A	DC_1A_n78A	CA_1A-3A-21A-42C	n78A	1A	n78A	No
	DC_3A_n78A	CA_1A-3A-21A-42C	n78A	3A	n78A	No
	DC_21A_n78A	CA_1A-3A-21A-42C	n78A	21A	n78A	No
DC_1A-3A-21A-42A_n79A	DC_1A_n79A	CA_1A-3A-21A-42A	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-21A-42A	n79A	3A	n79A	No
	DC_21A_n79A	CA_1A-3A-21A-42A	n79A	21A	n79A	No
DC_1A-3A-21A-42C_n79A	DC_1A_n79A	CA_1A-3A-21A-42C	n79A	1A	n79A	No
	DC_3A_n79A	CA_1A-3A-21A-42C	n79A	3A	n79A	No
	DC_21A_n79A	CA_1A-3A-21A-42C	n79A	21A	n79A	No
DC_1A-7A-20A_n28A-n78A	DC_1A_n28A	CA_1A-7A-20A	CA_n28A-n78A	1A	n28A	No
	DC_1A_n78A	CA_1A-7A-20A	CA_n28A-n78A	1A	n78A	No
	DC_7A_n28A	CA_1A-7A-20A	CA_n28A-n78A	7A	n28A	No
	DC_7A_n78A	CA_1A-7A-20A	CA_n28A-n78A	7A	n78A	No
	DC_20A_n28A	CA_1A-7A-20A	CA_n28A-n78A	20A	n28A	No
	DC_20A_n78A	CA_1A-7A-20A	CA_n28A-n78A	20A	n78A	No
DC_1A-19A-21A-42A_n78A	DC_1A_n78A	CA_1A-19A-21A-42A	n78A	1A	n78A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_19A_n78A	CA_1A-19A-21A-42A	n78A	19A	n78A	No
	DC_21A_n78A	CA_1A-19A-21A-42A	n78A	21A	n78A	No
DC_1A-19A-21A-42C_n78A	DC_1A_n78A	CA_1A-19A-21A-42C	n78A	1A	n78A	No
	DC_19A_n78A	CA_1A-19A-21A-42C	n78A	19A	n78A	No
	DC_21A_n78A	CA_1A-19A-21A-42C	n78A	21A	n78A	No
DC_1A-19A-21A-42A_n79A	DC_1A_n79A	CA_1A-19A-21A-42A	n79A	1A	n79A	No
	DC_19A_n79A	CA_1A-19A-21A-42A	n79A	19A	n79A	No
	DC_21A_n79A	CA_1A-19A-21A-42A	n79A	21A	n79A	No
DC_1A-19A-21A-42C_n79A	DC_1A_n79A	CA_1A-19A-21A-42C	n79A	1A	n79A	No
	DC_19A_n79A	CA_1A-19A-21A-42C	n79A	19A	n79A	No
	DC_21A_n79A	CA_1A-19A-21A-42C	n79A	21A	n79A	No
DC_3A-7A-20A_n28A-n78A	DC_3A_n28A	CA_3A-7A-20A	CA_n28A-n78A	3A	n28A	No
	DC_3A_n78A	CA_3A-7A-20A	CA_n28A-n78A	3A	n78A	No
	DC_7A_n28A	CA_3A-7A-20A	CA_n28A-n78A	7A	n28A	No
	DC_7A_n78A	CA_3A-7A-20A	CA_n28A-n78A	7A	n78A	No
	DC_20A_n28A	CA_3A-7A-20A	CA_n28A-n78A	20A	n28A	No
	DC_20A_n78A	CA_3A-7A-20A	CA_n28A-n78A	20A	n78A	No
DC_3A-19A-21A-42A_n78A	DC_3A_n78A	CA_3A-19A-21A-42A	n78A	3A	n78A	No
	DC_19A_n78A	CA_3A-19A-21A-42A	n78A	19A	n78A	No
	DC_21A_n78A	CA_3A-19A-21A-42A	n78A	21A	n78A	No
DC_3A-19A-21A-42C_n78A	DC_3A_n78A	CA_3A-19A-21A-42C	n78A	3A	n78A	No
	DC_19A_n78A	CA_3A-19A-21A-42C	n78A	19A	n78A	No
	DC_21A_n78A	CA_3A-19A-21A-42C	n78A	21A	n78A	No
DC_3A-19A-21A-42A_n79A	DC_3A_n79A	CA_3A-19A-21A-42A	n79A	3A	n79A	No
	DC_19A_n79A	CA_3A-19A-21A-42A	n79A	19A	n79A	No
	DC_21A_n79A	CA_3A-19A-21A-42A	n79A	21A	n79A	No
DC_3A-19A-21A-42C_n79A	DC_3A_n79A	CA_3A-19A-21A-42C	n79A	3A	n79A	No
	DC_19A_n79A	CA_3A-19A-21A-42C	n79A	19A	n79A	No
	DC_21A_n79A	CA_3A-19A-21A-42C	n79A	21A	n79A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
		21A-42C				
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.4.1.6 Inter-band EN-DC configurations within FR1 (six bands)

Table 4.3.1.4.1.6-1: Inter-band EN-DC configurations within FR1 (six bands)

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A-7A-20A_n28A-n78A	DC_1A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	1A	n28A	No
	DC_1A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	1A	n78A	No
	DC_3A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	3A	n28A	No
	DC_3A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	3A	n78A	No
	DC_7A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	7A	n28A	No
	DC_7A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	7A	n78A	No
	DC_20A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	20A	n28A	No
	DC_20A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	20A	n78A	No
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.4.2 Intra-band contiguous EN-DC configurations within FR1

4.3.1.4.2.1 – 4.3.1.4.2.40 FFS

4.3.1.4.2.41 Intra-band contiguous EN-DC configurations DC_(n)41

4.3.1.4.2.41.1 DC_(n)41AA

Table 4.3.1.4.2.41.1-1: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 15 kHz, 15 kHz NR raster, NR CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency Point A [ARFCN]	offset To Carrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2508.600	39776	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2677.500	41465	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink & Uplink	Low	2501.100	500220	2496.42	499284	0	15	6246	499710	10	1	(0)	1
					Mid	2590.500	518100	2567.46	513492	102		6471	517710	2	1	(4)	107
					High	2685.000	537000	2589.6	517920	504		6705	536430	2	0	0 (0)	504
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.695	500739	2496.585	499317	0	15	6246	499710	11	0	0	0
					Mid	2590.395	518079	2564.925	512985	102		6465	517230	11	1	(4)	107
					High	2682.405	536481	2583.575	16915	504		6693	535470	5	1	(0)	505
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.005	501201	2496.465	499293	0	15	6246	499710	7	1	(0)	1
					Mid	2590.605	518121	2562.705	512541	102		6459	516750	11	0	(4)	106
					High	2679.795	535959	2579.535	515907	504		6681	534510	9	0	(2)	506
E-UTRA: 5MHz + NR: 40MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2538.600	40076	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2647.500	41165	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink &	Low	2516.100	503220	2496.66	499332	0	15	6246	499710	6	0	(0)	0
					Mid	2590.500	518100	2552.7	510540	102		6432	514590	6	0	(0)	102

				Uplink	High	2670.000	534000	2559.84	511968	504		6633	530670	6	1	(4)	509
E-UTRA: 5MHz + NR: 50MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2548.500	40175	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2637.300	41063	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	270	Downlink & Uplink	Low	2521.005	504201	2496.705	499341	0	15	6246	499710	3	0	(0)	0
					Mid	2590.605	518121	2547.945	509589	102		6420	513630	3	0	(0)	102
					High	2664.795	532959	2549.775	509955	504		6606	528510	5	1	(0)	510505
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2511.300	39803	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2674.800	41438	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink & Uplink	Low	2501.295	500259	2496.615	499323	0	15	6246	499710	9	0	(0)	0
					Mid	2587.995	517599	955	512991	102		6465	517230	9	1	(4)	107
					High	2684.805	536961	2589.405	517881	504		6705	536430	3	1	(0)	505
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	406974	-	-	-	-	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.605	500721	2496.495	499299	0	15	6246	499710	5	1	(0)	1
					Mid	2587.905	517581	2562.435	512487	102		6459	516750	5	2	(4)	108
					High	2682.495	536499	2584.665	516933	504		6693	535470	11	0	(0)	504
E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.200	501240	2496.66	499332	0	15	6246	499710	6	0	0 (0)	0
					Mid	2588.100	517620	2560.2	512040	102		6453	516270	6	1	2 (4)	107
					High	2679.900	535980	2579.64	515928	504		6681	534510	2	0	1 (2)	506
E-UTRA: 10MHz + NR: 40MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2541.300	40103	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2644.800	41138	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2516.295	503259	2496.855	499371	0	15	6249	499950	1	2	2 (4)	6
					Mid	2587.995	517599	2550.195	510039	102		6426	514110	1	1	0 (0)	103
					High	2669.805	533961	2559.645	511929	504		6633	530670	7	2	2 (4)	510
E-UTRA: 10MHz + NR: 50MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2551.200	40202	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2634.900	41039	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	270	Downlink & Uplink	Low	2521.200	504240	2496.9	499380	0	15	6249	499950	10	1	2 (4)	5
					Mid	2588.100	517620	2545.44	509088	102		6414	513150	10	0	0 (0)	102
					High	2664.900	532980	2549.88	509976	504		6606	528510	10	0	0 (0)	504
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-

	NR CC1	10	52	Downlink & Uplink	Low	2501.205	500241	2496.525	499305	0	15	6246	499710	3	1	0 (0)	1
					Mid	2585.505	517101	2562.465	512493	102		6459	516750	3	2	2 (4)	108
					High	2684.895	536979	2589.495	517899	504		6705	536430	9	0	0 (0)	504
E-UTRA: 15MHz + NR: 15MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2518.500	39875	-	-	-	15	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-		-	-	-	-	-	-
					High	2667.300	41363	-	-	-		-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.500	500700	2496.39	499278	0	15	6246	499710	0	0	1 (2)	2
					Mid	2585.400	517080	2559.93	511986	102		6450	516030	4	0	0 (0)	102
					High	2682.300	536460	2584.47	516894	504		6693	535470	0	0	1 (2)	506
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2523.600	39926	-	-	-	15	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-		-	-	-	-	-	-
					High	2662.200	41312	-	-	-		-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.095	501219	2496.555	499311	0	15	6246	499710	1	0	0	6
					Mid	2585.595	517119	2557.695	511539	102		6447	515790	1	2	2 (4)	108
					High	2679.705	535941	2579.445	515889	504		6681	534510	3	1	1 (2)	507
E-UTRA: 15MHz + NR: 40MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2543.700	40127	-	-	-	15	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-		-	-	-	-	-	-
					High	2642.400	41114	-	-	-		-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2516.205	503241	2496.765	499353	0	15	6249	499950	7	2	2 (4)	6
					Mid	2585.505	517101	2547.705	509541	102		6420	513630	7	1	0 (0)	103
					High	2669.895	533979	2559.735	511947	504		6633	530670	1	2	2 (4)	510
E-UTRA: 15MHz + NR: 50MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2553.600	40226	-	-	-	15	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-		-	-	-	-	-	-
					High	2632.200	41012	-	-	-		-	-	-	-	-	-
	NR CC1	50	270	Downlink & Uplink	Low	2521.095	504219	2496.795	499359	0	15	6249	499950	5	2	2 (4)	6
					Mid	2585.595	517119	2542.935	508587	102		6408	512670	5	1	0 (0)	103
					High	2664.705	532941	2549.685	509937	504		6606	528510	11	1	0 (0)	505
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2516.100	39851	-	-	-	15	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-		-	-	-	-	-	-
					High	2670.000	41390	-	-	-		-	-	-	-	-	-
	NR CC1	10	52	Downlink & Uplink	Low	2501.100	500220	2496.42	499284	0	15	6246	499710	10	1	0 (0)	1
					Mid	2583.000	516600	2559.96	511992	102		6450	516030	2	0	0 (0)	102
					High	2685.000	537000	2589.6	517920	504		6705	536430	2	0	0 (0)	504
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2521.200	39902	-	-	-	15	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-		-	-	-	-	-	-
					High	2664.900	41339	-	-	-		-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.695	500739	2496.585	499317	0	15	6246	499710	11	0	0 (0)	0
					Mid	2582.895	516579	2557.425	511485	102		6444	515550	11	0	0 (0)	102
					High	2682.405	536481	2584.575	516915	504		6693	535470	5	1	0 (0)	505

E-UTRA: 20MHz + NR: 20MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2526.000	39950	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2659.800	41288	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.005	501201	2496.465	499293	0	15	6246	499710	7	1	0 (0)	1
					Mid	2583.105	516621	2555.205	511041	102		6441	515310	7	2	2 (4)	108
					High	2679.795	535959	2579.535	515907	504		6681	534510	9	0	1 (2)	506
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2546.100	40151	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2640.000	41090	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2516.100	503220	2496.66	499332	0	15	6246	499710	6	0	0 (0)	0
					Mid	2583.000	516600	2545.2	509040	102		6414	513150	2	0	1 (2)	104
					High	2670.000	534000	2559.84	511968	504		6633	530670	6	1	2 (4)	509
E-UTRA: 20MHz + NR: 50MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2556.000	40250	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2629.800	40988	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	270	Downlink & Uplink	Low	2521.005	504201	2496.705	499341	0	15	6246	499710	3	0	0 (0)	0
					Mid	2583.105	516621	2540.445	508089	102		6402	512190	11	1	0 (0)	103
					High	2664.795	532959	2549.775	509955	504		6606	528510	5	1	0 (0)	505

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.

Table 4.3.1.4.2.41.1-1A: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 15 kHz, 15 kHz NR raster, E-UTRA CC at the band edges

EN-DC channel bandwidth combination	CC	Band width [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2536.200	507240	2516.76	503352	0	15	6297	503790	2	0	1 (2)	2
					Mid	2583.000	516600	2545.2	509040	102		6414	513150	2	0	1 (2)	104
					High	2649.900	529980	2539.74	507948	504		6582	526590	10	1	1 (2)	512

- Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.
- Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.
- Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.4.2.41.1-2: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 30 kHz, 30 kHz NR raster, NR CC at the band edges

EN-DC channel bandwidth combination	CC	Band width [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2508.600	39776	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2677.500	41465	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.100	500220	2496.78	499356	0	30	6252	500190	14	0	1 (1)	2
					Mid	2590.500	518100	2549.46	509892	102		6477	518190	6	0	3 (3)	210
					High	2685.000	537000	2499.24	499848	504		6711	536910	18	0	0 (0)	1008
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.710	500742	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2
					Mid	2590.410	518082	2546.85	509370	102		6468	517470	12	0	0 (0)	204
					High	2682.390	536478	2494.11	498822	504		6699	535950	16	0	1 (1)	1010
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2518.800	39878	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.290	501258	2497.11	499422	0	30	6252	500190	16	0	0 (0)	0
					Mid	2590.590	518118	2544.69	508938	102		6465	517230	4	0	3 (3)	210
					High	2679.810	535962	2489.19	497838	504		6687	534990	0	0	2 (2)	1012
E-UTRA: 5MHz + NR: 40MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2538.600	40076	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2647.500	41165	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.100	503220	2497.02	499404	0	30	6252	500190	22	0	0 (0)	0
					Mid	2590.500	518100	2534.7	506940	102		6438	515070	22	0	0 (0)	204
					High	2670.000	534000	2469.48	493896	504		6636	530910	2	0	0 (0)	1008
E-UTRA: 5MHz + NR:	E-UTRA CC1	5	25	Downlink &	Low	2548.800	40178	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-

50MHz	NR CC1	50	133	Uplink	High	2637.300	41063	-	-	-	-	-	-	-	-	-	-
				Downlink & Uplink	Low	2521.290	504258	2497.35	499470	0	30	6252	500190	0	0	0 (0)	0
					Mid	2590.590	518118	2529.93	505986	102		6426	514110	20	0	0 (0)	204
					High	2664.810	532962	2459.43	491886	504		6612	528990	8	0	1 (1)	1010
E-UTRA: 5MHz + NR: 60MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2558.700	40277	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-
					High	2627.400	40964	-	-	-	-	-	-	-	-	-	-
	NR CC1	60	162	Downlink & Uplink	Low	2526.210	505242	2497.05	499410	0	30	6252	500190	20	0	0 (0)	0
					Mid	2590.410	518082	2524.53	504906	102		6414	513150	12	0	2 (2)	208
					High	2659.890	531978	2449.29	489858	504		6588	527070	20	0	2 (2)	1012
E-UTRA: 5MHz + NR: 80MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2578.800	40478	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-
					High	2607.300	40763	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2536.290	507258	2497.23	499446	0	30	6252	500190	8	0	0 (0)	0
					Mid	2590.590	518118	2514.81	502962	102		6390	511230	20	0	2 (2)	208
					High	2649.810	529962	2429.31	485862	504		6537	522990	16	0	1 (1)	1010
E-UTRA: 5MHz + NR: 90MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2588.700	40577	-	-	-	-	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-
					High	2597.400	40664	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink & Uplink	Low	2541.210	508242	2497.11	499422	0	30	6252	500190	16	0	0 (0)	0
					Mid	2590.410	518082	2509.59	501918	102		6375	510030	16	0	0 (0)	204
					High	2644.890	528978	2419.35	483870	504		6513	521070	16	0	2 (2)	1012
E-UTRA: 5MHz + NR: 100MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2598.600	40676	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2587.500	40565	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2546.100	509220	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2
					Mid	2590.500	518100	2504.64	500928	102		6363	509070	2	0	1 (1)	206
					High	2640.000	528000	2409.42	481884	504		6486	518910	6	0	0 (0)	1008
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2511.000	39800	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2674.800	41438	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.010	500202	2496.69	499338	0	30	6252	500190	20	0	1 (1)	2
					Mid	2588.010	517602	2546.97	509394	102		6468	517470	4	0	0 (0)	204
					High	2684.790	536958	2499.03	499806	504		6711	536910	8	0	1 (1)	1010
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2669.700	41387	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.590	500718	2496.75	499350	0	30	6252	500190	16	0	1 (1)	2
					Mid	2587.890	517578	2544.33	508866	102		6462	516990	20	0	0 (0)	204
					High	2682.210	536442	2493.93	498786	504		6699	535950	4	0	2 (2)	1012

E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.200	501240	2497.02	499404	0	30	6252	500190	22	0	0 (0)	0
					Mid	2588.100	517620	2542.2	508440	102		6456	516510	2	0	0 (0)	204
					High	2679.900	535980	2489.28	497856	504		6687	534990	18	0	1 (1)	1010
E-UTRA: 10MHz + NR: 40MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2541.000	40100	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2644.800	41138	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.010	503202	2496.93	499386	0	30	6252	500190	4	0	1 (1)	2
					Mid	2588.010	517602	2532.21	506442	102		6432	514590	4	0	1 (1)	206
					High	2669.790	533958	2469.27	493854	504		6636	530910	16	0	0 (0)	1008
E-UTRA: 10MHz + NR: 50MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2551.200	40202	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2634.900	41039	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	133	Downlink & Uplink	Low	2521.200	504240	2497.26	499452	0	30	6252	500190	6	0	0 (0)	0
					Mid	2588.100	517620	2527.44	505488	102		6420	513630	2	0	1 (1)	206
					High	2664.900	532980	2459.52	491904	504		6612	528990	2	0	1 (1)	1010
E-UTRA: 10MHz + NR: 60MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2561.100	40301	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-
					High	2624.700	40937	-	-	-	-	-	-	-	-	-	-
	NR CC1	60	162	Downlink & Uplink	Low	2526.090	505218	2496.93	499386	0	30	6252	500190	4	0	1 (1)	2
					Mid	2587.890	517578	2522.01	504402	102		6408	512670	20	0	2 (2)	208
					High	2659.710	531942	2449.11	489822	504		6585	526830	0	0	0 (0)	1008
E-UTRA: 10MHz + NR: 80MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2581.200	40502	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-
					High	2604.900	40739	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2536.200	507240	2497.14	499428	0	30	6252	500190	14	0	0 (0)	0
					Mid	2588.100	517620	2512.32	502464	102		6384	510750	2	0	3 (3)	210
					High	2649.900	529980	2429.4	485880	504		6537	522990	10	0	1 (1)	1010
E-UTRA: 10MHz + NR: 90MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2591.100	40601	-	-	-	-	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-
					High	2594.700	40637	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink & Uplink	Low	2541.090	508218	2496.99	499398	0	30	6252	500190	0	0	1 (1)	2
					Mid	2587.890	517578	2507.07	501414	102		6369	509550	0	0	1 (1)	206
					High	2644.710	528942	2419.17	483834	504		6513	521070	4	0	3 (3)	1014
E-UTRA: 10MHz + NR: 100MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2601.000	40700	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2584.800	40538	-	-	-	-	-	-	-	-	-	-
	NR	100	273	Downlink	Low	2546.010	509202	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2

	CC1			& Uplink	Mid	2588.010	517602	2502.15	500430	102		6357	508590	8	0	1 (1)	206
					High	2639.790	527958	2409.21	481842	504		6486	518910	20	0	0 (0)	1008
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.190	500238	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2
					Mid	2585.490	517098	2544.45	508890	102		6462	516990	12	0	0 (0)	204
					High	2684.910	536982	2499.15	499830	504		6711	536910	0	0	1 (1)	1010
E-UTRA: 15MHz + NR: 15MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.500	500700	2496.66	499332	0	30	6252	500190	22	0	1 (1)	2
					Mid	2585.400	517080	2541.84	508368	102		6456	516510	2	0	1 (1)	206
					High	2682.300	536460	2494.02	498804	504		6699	535950	22	0	1 (1)	1010
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2523.600	39926	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2662.500	41315	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.110	501222	2496.93	499386	0	30	6252	500190	4	0	1 (1)	2
					Mid	2585.610	517122	2539.71	507942	102		6450	516030	8	0	0 (0)	204
					High	2679.990	535998	2489.37	497874	504		6687	534990	12	0	1 (1)	1010
E-UTRA: 15MHz + NR: 40MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2543.700	40127	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2642.400	41114	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.190	503238	2497.11	499422	0	30	6252	500190	16	0	0 (0)	0
					Mid	2585.490	517098	2529.69	505938	102		6426	514110	12	0	1 (1)	206
					High	2669.910	533982	2469.39	493878	504		6636	530910	8	0	0 (0)	1008
E-UTRA: 15MHz + NR: 50MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2553.600	40226	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2632.500	41015	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	133	Downlink & Uplink	Low	2521.110	504222	2497.17	499434	0	30	6252	500190	12	0	0 (0)	0
					Mid	2585.610	517122	2524.95	504990	102		6414	513150	8	0	1 (1)	206
					High	2664.990	532998	2459.61	491922	504		6612	528990	20	0	0 (0)	1008
E-UTRA: 15MHz + NR: 60MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2563.500	40325	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-
					High	2622.300	40913	-	-	-	-	-	-	-	-	-	-
	NR CC1	60	162	Downlink & Uplink	Low	2526.000	505200	2496.84	499368	0	30	6252	500190	10	0	1 (1)	2
					Mid	2585.400	517080	2519.52	503904	102		6402	512190	2	0	3 (3)	210
					High	2659.800	531960	2449.2	489840	504		6588	527070	2	0	3 (3)	1014
E-UTRA: 15MHz +	E-UTRA CC1	15	75	Downlink &	Low	2583.600	40526	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-

NR: 80MHz	NR CC1	80	217	Uplink	High	2602.500	40715	-	-	-	-	-	-	-	-	-	-
					Low	2536.110	507222	2497.05	499410	0	30	6252	500190	20	0	0 (0)	0
					Mid	2585.610	517122	2509.83	501966	102		6375	510030	0	0	0 (0)	204
					High	2649.990	529998	2429.49	485898	504		6537	522990	4	0	1 (1)	1010
E-UTRA: 15MHz + NR: 90MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2593.500	40625	-	-	-	-	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-
					High	2592.300	40613	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink & Uplink	Low	2541.000	508200	2496.9	499380	0	30	6252	500190	6	0	1 (1)	2
					Mid	2585.400	517080	2504.58	500916	102		6363	509070	6	0	1 (1)	206
					High	2644.800	528960	2419.26	483852	504		6513	521070	22	0	2 (2)	1012
E-UTRA: 15MHz + NR: 100MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2603.700	40727	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2582.400	40514	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2546.190	509238	2497.05	499410	0	30	6252	500190	20	0	0 (0)	0
					Mid	2585.490	517098	2499.63	499926	102		6351	508110	16	0	1 (1)	206
					High	2639.910	527982	2409.33	481866	504		6486	518910	12	0	0 (0)	1008
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.100	500220	2496.78	499356	0	30	6252	500190	14	0	1 (1)	2
					Mid	2583.000	516600	2541.96	508392	102		6456	516510	18	0	0 (0)	204
					High	2685.000	537000	2499.24	499848	504		6711	536910	18	0	0 (0)	1008
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.710	500742	2496.87	499374	0	30	6252	500190	8	0	1 (1)	2
					Mid	2582.910	516582	2539.35	507870	102		6450	516030	8	0	1 (1)	206
					High	2682.390	536478	2494.11	498822	504		6699	535950	16	0	1 (1)	1010
E-UTRA: 20MHz + NR: 20MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2526.300	39953	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2659.800	41288	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.290	501258	2497.11	499422	0	30	6252	500190	16	0	0 (0)	0
					Mid	2583.090	516618	2537.19	507438	102		6444	515550	16	0	0 (0)	204
					High	2679.810	535962	2489.19	497838	504		6687	534990	0	0	2 (2)	1012
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2546.100	40151	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2640.000	41090	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.100	503220	2497.02	499404	0	30	6252	500190	22	0	0 (0)	0
					Mid	2583.000	516600	2527.2	505440	102		6420	513630	18	0	1 (1)	206
					High	2670.000	534000	2469.48	493896	504		6636	530910	2	0	0 (0)	1008

E-UTRA: 20MHz + NR: 50MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2556.300	40253	-	-	-	-	-	-	-	-	-	-	
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-	
					High	2629.800	40988	-	-	-	-	-	-	-	-	-	-	
	NR CC1	50	133	Downlink & Uplink	Low	2521.290	504258	2497.35	499470	0	30	6252	500190	0	0	0 (0)	0	
					Mid	2583.090	516618	2522.43	504486	102		6408	512670	16	0	1 (1)	206	
					High	2664.810	532962	2459.43	491886	504		6612	528990	8	0	1 (1)	1010	
E-UTRA: 20MHz + NR: 60MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2566.200	40352	-	-	-	-	-	-	-	-	-	-	
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-	-
					High	2619.900	40889	-	-	-	-	-	-	-	-	-	-	-
	NR CC1	60	162	Downlink & Uplink	Low	2526.210	505242	2497.05	499410	0	30	6252	500190	20	0	0 (0)	0	
					Mid	2582.910	516582	2517.03	503406	102		6393	511470	0	0	0 (0)	204	
					High	2659.890	531978	2449.29	489858	504		6588	527070	20	0	2 (2)	1012	
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2586.300	40553	-	-	-	-	-	-	-	-	-	-	
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-	-
					High	2599.800	40688	-	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2536.290	507258	2497.23	499446	0	30	6252	500190	8	0	0 (0)	0	
					Mid	2583.090	516618	2507.31	501462	102		6369	509550	8	0	0 (0)	204	
					High	2649.810	529962	2429.31	485862	504		6537	522990	16	0	1 (1)	1010	
E-UTRA: 20MHz + NR: 90MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2596.200	40652	-	-	-	-	-	-	-	-	-	-	
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-	-
					High	2589.900	40589	-	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink & Uplink	Low	2541.210	508242	2497.11	499422	0	30	6252	500190	16	0	0 (0)	0	
					Mid	2582.910	516582	2502.09	500418	102		6357	508590	12	0	1 (1)	206	
					High	2644.890	528978	2419.35	483870	504		6513	521070	16		2 (2)	1012	
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2606.100	40751	-	-	-	-	-	-	-	-	-	-	
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-	-
					High	2580.000	40490	-	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2546.100	509220	2496.96	499392	0	30	6252	500190	2	0	1 (1)	2	
					Mid	2583.000	516600	2497.14	499428	102		6345	507630	22	0	1 (1)	206	
					High	2640.000	528000	2409.42	481884	504		6486	518910	6	0	0 (0)	1008	

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.4.2.41.1-2A: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 30 kHz, 30 kHz NR raster, E-UTRA CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset[RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1	
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-	
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-	
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-	
	NR CC1	40	106	Downlink & Uplink	Low	2536.200	507240	2517.12	503424	0	30	6303	504270	18	0	1 (1)	2	
					Mid	2583.000	516600	2527.2	505440	102		6420	513630	18	0	1 (1)	206	
					High	2649.900	529980	2449.38	489876	504		6588	527070	14	0	2 (2)	1012	
E-UTRA: 20MHz + NR: 60MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-	
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-	-
	NR CC1	60	162	Downlink & Uplink	Low	2546.190	509238	2517.03	503406	0	30	6303	504270	0	0	2 (2)	4	
					Mid	2582.910	516582	2517.03	503406	102		6393	511470	0	0	0 (0)	204	
					High	2639.910	527982	2429.31	485862	504		6537	522990	16	0	1 (1)	1010	
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-	
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2556.210	511242	2517.15	503430	0	30	6303	504270	16	0	1 (1)	2	
					Mid	2583.090	516618	2507.31	501462	102		6369	509550	8	0	0 (0)	204	
					High	2629.890	525978	2409.39	481878	504		6486	518910	8	0	0 (0)	1008	
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-	
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2566.200	513240	2517.06	503412	0	30	6303	504270	22	0	1 (1)	2	
					Mid	2583.000	516600	2497.14	499428	102		6345	507630	22	0	1 (1)	206	
					High	2619.900	523980	2389.32	477864	504		6438	515070	18	0	2 (2)	1012	
Note 1:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	
Note 2:	The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.																	
Note 3:	The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																	

Table 4.3.1.4.2.41.1-3: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 60 kHz, 15 kHz NR raster, NR CC at the band edges without CORESET#0

EN-DC channel bandwidth combination	CC	Band width [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 1	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2508.600	39776	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2677.500	41465	-	-	-	-	-	-
	NR CC1	10	11	Downlink & Uplink	Low	2501.100	500220	2497.14	499428	0	15	-	499788
					Mid	2590.500	518100	2513.1	502620	102	-	-	517668
					High	2685.000	537000	2318.16	463632	504	-	-	536568
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.695	500739	2497.215	499443	0	15	-	499803
					Mid	2590.395	518079	2510.475	502095	102	-	-	517143
					High	2682.405	536481	2313.045	462609	504	-	-	535545
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.005	501201	2497.365	499473	0	15	-	499833
					Mid	2590.605	518121	2508.525	501705	102	-	-	516753
					High	2679.795	535959	2308.275	461655	504	-	-	534591
E-UTRA: 5MHz + NR: 40MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2538.600	40076	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2647.500	41165	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.100	503220	2497.74	499548	0	15	-	499908
					Mid	2590.500	518100	2498.7	499740	102	-	-	514788
					High	2670.000	534000	2288.76	457752	504	-	-	530688
E-UTRA: 5MHz + NR: 50MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2548.500	40175	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2637.300	41063	-	-	-	-	-	-
	NR CC1	50	65	Downlink & Uplink	Low	2521.005	504201	2497.605	499521	0	15	-	499881
					Mid	2590.605	518121	2493.765	498753	102	-	-	513801
					High	2664.795	532959	2278.515	455703	504	-	-	528639
E-UTRA: 5MHz + NR:	E-UTRA CC1	5	25	Downlink &	Low	2558.700	40277	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-

60MHz	NR CC1	60	79	Uplink	High	2627.400	40964	-	-	-	-	-	-
				Downlink & Uplink	Low	2526.195	505239	2497.755	499551	0	15	-	499911
					Mid	2590.395	518079	2488.515	497703	102		-	512751
					High	2659.905	531981	2268.585	453717	504		-	526653
E-UTRA: 5MHz + NR: 80MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2578.500	40475	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2607.300	40763	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2536.005	507201	2497.485	499497	0	15	-	499857
					Mid	2590.605	518121	2478.645	495729	102		-	510777
					High	2649.795	529959	2248.395	449679	504		-	522615
E-UTRA: 5MHz + NR: 90MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2588.700	40577	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-
					High	2597.400	40664	-	-	-	-	-	-
	NR CC1	90	121	Downlink & Uplink	Low	2541.195	508239	2497.635	499527	0	15	-	499887
					Mid	2590.395	518079	2473.395	494679	102		-	509727
					High	2644.905	528981	2238.465	447693	504		-	520629
E-UTRA: 5MHz + NR: 100MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2598.600	40676	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2587.500	40565	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2546.100	509220	2497.5	499500	0	15	-	499860
					Mid	2590.500	518100	2468.46	493692	102		-	508740
					High	2640.000	528000	2228.52	445704	504		-	518640
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2511.300	39803	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2674.800	41438	-	-	-	-	-	-
	NR CC1	10	11	Downlink & Uplink	Low	2501.295	500259	2497.335	499467	0	15	-	499827
					Mid	2587.995	517599	2510.595	502119	102		-	517167
					High	2684.805	536961	2317.965	463593	504		-	536529
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.605	500721	2497.125	499425	0	15	-	499785
					Mid	2587.905	517581	2507.985	501597	102		-	516645
					High	2682.495	536499	2313.135	462627	504		-	535563
E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.200	501240	2497.56	499512	0	15	-	499872
					Mid	2588.100	517620	2506.02	501204	102		-	516252
					High	2679.900	535980	2308.38	461676	504		-	534612

E-UTRA: 10MHz + NR: 40MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2541.300	40103	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2644.800	41138	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.295	503259	2497.935	499587	0	15	-	499947
					Mid	2587.995	517599	2496.195	499239	102		-	514287
					High	2669.805	533961	2288.565	457713	504		-	530649
E-UTRA: 10MHz + NR: 50MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2551.200	40202	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2634.900	41039	-	-	-	-	-	-
	NR CC1	50	65	Downlink & Uplink	Low	2521.200	504240	2497.8	499560	0	15	-	499920
					Mid	2588.100	517620	2491.26	498252	102		-	513300
					High	2664.900	532980	2278.62	455724	504		-	528660
E-UTRA: 10MHz + NR: 60MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2561.100	40301	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2625.000	40940	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2526.105	505221	2497.665	499533	0	15	-	499893
					Mid	2587.905	517581	2486.025	497205	102		-	512253
					High	2659.995	531999	2268.675	453735	504		-	526671
E-UTRA: 10MHz + NR: 80MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2581.200	40502	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2604.900	40739	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2536.200	507240	2497.68	499536	0	15	-	499896
					Mid	2588.100	517620	2476.14	495228	102		-	510276
					High	2649.900	529980	2248.5	449700	504		-	522636
E-UTRA: 10MHz + NR: 90MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2591.100	40601	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-
					High	2595.000	40640	-	-	-	-	-	-
	NR CC1	90	121	Downlink & Uplink	Low	2541.105	508221	2497.545	499509	0	15	-	499869
					Mid	2587.905	517581	2470.905	494181	102		-	509229
					High	2644.995	528999	2238.555	447711	504		-	520647
E-UTRA: 10MHz + NR: 100MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2601.300	40703	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2584.800	40538	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2546.295	509259	2497.695	499539	0	15	-	499899
					Mid	2587.995	517599	2465.955	493191	102		-	508239
					High	2639.805	527961	2228.325	445665	504		-	518601
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-
	NR	10	11	Downlink	Low	2501.205	500241	2497.245	499449	0	15	-	499809

	CC1			& Uplink	Mid	2585.505	517101	2508.105	501621	102		-	516669
					High	2684.895	536979	2318.055	463611	504		-	536547
E-UTRA: 15MHz + NR: 15MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.500	500700	2497.02	499404	0	15	-	499764
					Mid	2585.400	517080	2505.48	501096	102		-	516144
					High	2682.300	536460	2312.94	462588	504		-	535524
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2523.600	39926	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-
					High	2662.200	41312	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.095	501219	2497.455	499491	0	15	-	499851
					Mid	2585.595	517119	2503.515	500703	102		-	515751
					High	2679.705	535941	2308.185	461637	504		-	534573
E-UTRA: 15MHz + NR: 40MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2543.700	40127	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2642.400	41114	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.205	503241	2497.845	499569	0	15	-	499929
					Mid	2585.505	517101	2493.705	498741	102		-	513789
					High	2669.895	533979	2288.655	457731	504		-	530667
E-UTRA: 15MHz + NR: 50MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2553.600	40226	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2632.200	41012	-	-	-	-	-	-
	NR CC1	50	65	Downlink & Uplink	Low	2521.095	504219	2497.695	499539	0	15	-	499899
					Mid	2585.595	517119	2488.755	497751	102		-	512799
					High	2664.705	532941	2278.425	455685	504		-	528621
E-UTRA: 15MHz + NR: 60MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2563.500	40325	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2622.300	40913	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2526.000	505200	2497.56	499512	0	15	-	499872
					Mid	2585.400	517080	2483.52	496704	102		-	511752
					High	2659.800	531960	2268.48	453696	504		-	526632
E-UTRA: 15MHz + NR: 80MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2583.600	40526	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2602.200	40712	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2536.095	507219	2497.575	499515	0	15	-	499875
					Mid	2585.595	517119	2473.635	494727	102		-	509775
					High	2649.705	529941	2248.305	449661	504		-	522597
E-UTRA: 15MHz +	E-UTRA CC1	15	75	Downlink &	Low	2593.500	40625	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-

NR: 90MHz	NR CC1	90	121	Uplink	High	2592.300	40613	-	-	-	-	-	-
				Downlink & Uplink	Low	2541.000	508200	2497.44	499488	0	15	-	499848
					Mid	2585.400	517080	2468.4	493680	102		-	508728
					High	2644.800	528960	2238.36	447672	504		-	520608
E-UTRA: 15MHz + NR: 100MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2603.700	40727	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2582.400	40514	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2546.205	509241	2497.605	499521	0	15	-	499881
					Mid	2585.505	517101	2463.465	492693	102		-	507741
					High	2639.895	527979	2228.415	445683	504		-	518619
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-
	NR CC1	10	11	Downlink & Uplink	Low	2501.100	500220	2497.14	499428	0	15	-	499788
					Mid	2583.000	516600	2505.6	501120	102		-	516168
					High	2685.000	537000	2318.16	463632	504		-	536568
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.695	500739	2497.215	499443	0	15	-	499803
					Mid	2582.895	516579	2502.975	500595	102		-	515643
					High	2682.405	536481	2313.045	462609	504		-	535545
E-UTRA: 20MHz + NR: 20MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2526.000	39950	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-
					High	2659.800	41288	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.005	501201	2497.365	499473	0	15	-	499833
					Mid	2583.105	516621	2501.025	500205	102		-	515253
					High	2679.795	535959	2308.275	461655	504		-	534591
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2546.100	40151	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2640.000	41090	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.100	503220	2497.74	499548	0	15	-	499908
					Mid	2583.000	516600	2491.2	498240	102		-	513288
					High	2670.000	534000	2288.76	457752	504		-	530688
E-UTRA: 20MHz + NR: 50MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2556.000	40250	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2629.800	40988	-	-	-	-	-	-
	NR CC1	50	65	Downlink & Uplink	Low	2521.005	504201	2497.605	499521	0	15	-	499881
					Mid	2583.105	516621	2486.265	497253	102		-	512301
					High	2664.795	532959	2278.515	455703	504		-	528639

E-UTRA: 20MHz + NR: 60MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2566.200	40352	-	-	-	-	-	-	
					Mid	2622.900	40919	-	-	-		-	-	
					High	2619.900	40889	-	-	-		-	-	
	NR CC1	60	79	Downlink & Uplink	Low	2526.195	505239	2497.755	499551	0	15	-	499911	
					Mid	2582.895	516579	2481.015	496203	102		-	511251	
					High	2659.905	531981	2268.585	453717	504		-	526653	
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2586.000	40550	-	-	-	-	-	-	
					Mid	2633.100	41021	-	-	-		-	-	-
					High	2599.800	40688	-	-	-		-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2536.005	507201	2497.485	499497	0	15	-	499857	
					Mid	2583.105	516621	2471.145	494229	102		-	509277	
					High	2649.795	529959	2248.395	449679	504		-	522615	
E-UTRA: 20MHz + NR: 90MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2596.200	40652	-	-	-	-	-	-	
					Mid	2637.900	41069	-	-	-		-	-	-
					High	2589.900	40589	-	-	-		-	-	-
	NR CC1	90	121	Downlink & Uplink	Low	2541.195	508239	2497.635	499527	0	15	-	499887	
					Mid	2582.895	516579	2465.895	493179	102		-	508227	
					High	2644.905	528981	2238.465	447693	504		-	520629	
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2606.100	40751	-	-	-	-	-	-	
					Mid	2643.000	41120	-	-	-		-	-	-
					High	2580.000	40490	-	-	-		-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2546.100	509220	2497.5	499500	0	15	-	499860	
					Mid	2583.000	516600	2460.96	492192	102		-	507240	
					High	2640.000	528000	2228.52	445704	504		-	518640	
Note 1: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.														
Note 2: FR1 carrier without CORESET#0 is indicated in the MIB by setting k_{SSB} =31, <i>controlResourceSetZero</i> =0 and <i>searchSpaceZero</i> = 0 (TS 38.213 [22], clause 13).														

Table 4.3.1.4.2.41.1-3A: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 60 kHz, 15 kHz NR raster, E-UTRA CC at the band edges without CORESET#0

EN-DC channel bandwidth combination	CC	Band width [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 1	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]
E-UTRA: 20MHz +	E-UTRA CC1	20	100	Downlink &	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-

NR: 40MHz	NR CC1	40	51	Uplink	High	2679.900	41489	-	-	-	-	-	-
				Downlink & Uplink	Low	2536.200	507240	2517.84	503568	0	15	-	503928
					Mid	2583.000	516600	2491.2	498240	102	-	-	513288
					High	2649.900	529980	2268.66	453732	504		-	526668
E-UTRA: 20MHz + NR: 60MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2546.205	509241	2517.765	503553	0	15	-	503913
					Mid	2582.895	516579	2481.015	496203	102	-	-	511251
					High	2639.895	527979	2248.575	449715	504		-	522651
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2556.195	511239	2517.675	503535	0	15	-	503895
					Mid	2583.105	516621	2471.145	494229	102	-	-	509277
					High	2629.905	525981	2228.505	445701	504		-	518637
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2566.200	513240	2517.6	503520	0	15	-	503880
					Mid	2583.000	516600	2460.96	492192	102	-	-	507240
					High	2619.900	523980	2208.42	441684	504		-	514620

Note 1: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.

Note 2: FR1 carrier without CORESET#0 is indicated in the MIB by setting $k_{SSB}=31$, *controlResourceSetZero*=0 and *searchSpaceZero* = 0 (TS 38.213 [22], clause 13).

4.3.1.4.2.42.to 4.3.1.4.2.70 FFS

4.3.1.4.2.71 Intra-band contiguous EN-DC configurations DC_(n)71

4.3.1.4.2.71.1 DC_(n)71AA

Table 4.3.1.4.2.71.1-1: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 15 kHz, 100 kHz NR raster, NR CC at the band edges

EN-DC channel bandwidth combination	CC	Band width [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 5MHz	E-UTRA CC1	5	25	Downlink	Low	624.500	68661	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	644.500	68861	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	670.500	133197	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	690.500	133397	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	619.500	123900	617.25	123450	0	15	1548	123870	8	1	0 (0)	1
					Mid	632.000	126400	611.39	122278	102		1580	126490	0	1	2 (4)	107
					High	649.500	129900	556.53	111306	504		1623	129870	8	1	0 (0)	505
				Uplink	Low	665.500	133100	663.25	132650	0	-	-	-	-	-	-	-
					Mid	678.000	135600	585.03	117006	504		-	-	-	-	-	-
					High	695.500	139100	692.17	138434	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink	Low	629.500	68711	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	639.500	68811	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	675.500	133247	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	685.500	133347	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink	Low	622.000	124400	617.32	123464	0	15	1549	123890	10	1	0 (0)	1
					Mid	632.000	126400	608.96	121792	102		1574	126010	2	1	2 (4)	107
					High	647.000	129400	551.6	110320	504		1610	128890	10	1	0 (0)	505 (0)
				Uplink	Low	668.000	133600	663.32	132664	0	-	-	-	-	-	-	-
					Mid	678.000	135600	582.6	116520	504		-	-	-	-	-	-
					High	693.000	138600	687.24	137448	6		-	-	-	-	-	-
E-UTRA:	E-UTRA	5	25	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-	-

5MHz + NR: 15MHz	CC1			Uplink	Mid	642.000	68836	-	-	-	-	-	-	-	-	-	
					High	634.500	68761	-	-	-	-	-	-	-	-	-	
					Low	680.500	133297	-	-	-	-	-	-	-	-	-	
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	
					High	680.500	133297	-	-	-	-	-	-	-	-	-	
	NR CC1	15	79	Downlink	Low	624.500	124900	617.39	123478	0	15	1547	123850	4	0	0	0
					Mid	632.000	126400	606.53	121306	102		1568	125530	4	1	2 (4)	107
					High	644.500	128900	546.67	109334	504		1600	127970	8	1	1 (2)	507 (0)
				Uplink	Low	670.500	134100	663.39	132678	0	-	-	-	-	-	-	-
					Mid	678.000	135600	580.17	116034	504		-	-	-	-	-	-
High					690.500	138100	682.31	136462	6	-		-	-	-	-	-	
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink	Low	639.500	68811	-	-	-	-	-	-	-	-	-	
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	629.500	68711	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	685.500	133347	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	675.500	133247	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink	Low	627.000	125400	617.46	123492	0	15	1548	123870	6	0	0	0
					Mid	632.000	126400	604.1	120820	102		1562	125050	6	1	2 (4)	107
					High	642.000	128400	541.74	108348	504		1587	126990	10	1	1 (2)	507
				Uplink	Low	673.000	134600	663.46	132692	0	-	-	-	-	-	-	-
					Mid	678.000	135600	577.74	115548	504		-	-	-	-	-	-
					High	688.000	137600	677.38	135476	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 5MHz	E-UTRA CC1	10	50	Downlink	Low	627.000	68686	-	-	-	-	-	-	-	-	-	
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	642.000	68836	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	673.000	133222	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	688.000	133372	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	619.500	123900	617.25	123450	0	15	1548	123870	8	1	0 (0)	1 (0)
					Mid	629.500	125900	608.89	121778	102		1573	125810	0	0	0	102
					High	649.500	129900	556.53	111306	504		1623	129870	8	1	0 (0)	505
				Uplink	Low	665.500	133100	663.25	132650	0	-	-	-	-	-	-	-
					Mid	675.500	135100	582.53	116506	504		-	-	-	-	-	-
					High	695.500	139100	692.17	138434	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink	Low	632.000	68736	-	-	-	-	-	-	-	-		
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	
					High	637.000	68786	-	-	-	-	-	-	-	-	-	
				Uplink	Low	678.000	133272	-	-	-	-	-	-	-	-	-	
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	

	NR CC1	10	52	Downlink	High	683.000	133322	-	-	-	-	-	-	-	-	-	-				
					Low	622.000	124400	617.32	123464	0	15	1549	123890	10	1	0 (0)	1 (0)				
					Mid	629.500	125900	606.46	121292	102		1567	125330	2	0	0	102				
					High	647.000	129400	551.6	110320	504		1610	128890	10	1	0 (0)	505				
					Uplink	Low	668.000	133600	663.32	132664	0	-	-	-	-	-	-	-			
						Mid	675.500	135100	580.1	116020	504		-	-	-	-	-	-			
				High		693.000	138600	687.24	137448	6	-		-	-	-	-	-				
				E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink	Low	637.000	68786	-	-	-	-	-	-	-	-	-	-
									Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
High	632.000	68736	-						-	-	-	-	-	-	-	-	-				
Uplink	Low	683.000	133322					-	-	-	-	-	-	-	-	-	-				
	Mid	688.000	133372					-	-	-	-	-	-	-	-	-	-				
	High	678.000	133272					-	-	-	-	-	-	-	-	-	-				
NR CC1	15	79	Downlink					Low	624.500	124900	617.39	123478	0	15	1547	123850	4	0	0 (0)	0	
								Mid	629.500	125900	604.03	120806	102		1561	124850	4	0	0 (0)	102	
								High	644.500	128900	546.67	109334	504		1600	127970	8	1	1 (1)	507	
			Uplink		Low	670.500	134100	663.39	132678	0	-	-	-	-	-	-	-				
					Mid	675.500	135100	577.67	115534	504		-	-	-	-	-	-				
					High	690.500	138100	682.31	136462	6		-	-	-	-	-	-				
E-UTRA: 15MHz + NR: 5MHz	E-UTRA CC1	15	75		Downlink	Low	629.500	68711	-	-	-	-	-	-	-	-	-				
						Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-			
						High	639.500	68811	-	-	-	-	-	-	-	-	-	-			
				Uplink	Low	675.500	133247	-	-	-	-	-	-	-	-	-	-				
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-				
					High	685.500	133347	-	-	-	-	-	-	-	-	-	-				
				NR CC1	5	25	Downlink	Low	619.500	123900	617.25	123450	0	15	1548	123870	8	1	0 (0)	1	
								Mid	627.000	125400	606.39	121278	102		1566	125310	0	0	0 (0)	102	
								High	649.500	129900	556.53	111306	504		1623	129870	8	1	0 (0)	505	
	Uplink	Low	665.500				133100	663.25	132650	0	-	-	-	-	-	-	-				
		Mid	673.000				134600	580.03	116006	504		-	-	-	-	-	-				
		High	695.500				139100	692.17	138434	6		-	-	-	-	-	-				
	E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-				
						Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-			
						High	634.500	68761	-	-	-	-	-	-	-	-	-	-			
Uplink					Low	680.500	133297	-	-	-	-	-	-	-	-	-	-				
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-				
					High	680.500	133297	-	-	-	-	-	-	-	-	-	-				
NR CC1					10	52	Downlink	Low	622.000	124400	617.32	123464	0	15	1549	123890	10	1	0 (0)	1	
								Mid	627.000	125400	603.96	120792	102		1560	124830	2	0	0 (0)	102	
								High	647.000	129400	551.6	110320	504		1610	128890	10	1	0 (0)	505	

				Uplink	Low	668.000	133600	663.32	132664	0	-	-	-	-	-	-	-	
					Mid	673.000	134600	577.6	115520	504		-	-	-	-	-	-	-
					High	693.000	138600	687.24	137448	6		-	-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		
Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.																		
Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		

Table 4.3.1.4.2.71.1-1A: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 15 kHz, 100 kHz NR raster, E-UTRA CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 5MHz	E-UTRA CC1	5	25	Downlink	Low	619.500	68611	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	649.500	68911	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	665.500	133147	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	695.500	133447	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	624.500	124900	622.25	124450	0	15	1559	124810	0	0	0 (0)	0
					Mid	632.000	126400	611.39	122278	102		1580	126490	0	1	2 (4)	112
					High	644.500	128900	551.53	110306	504		1612	128930	4	1	1 (2)	507
				Uplink	Low	670.500	134100	668.25	133650	0	-	-	-	-	-	-	-
					Mid	678.000	135600	585.03	117006	504		-	-	-	-	-	-
					High	690.500	138100	687.17	137434	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink	Low	619.500	68611	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	649.500	68911	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	665.500	133147	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	695.500	133447	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink	Low	629.500	125900	622.39	124478	0	15	1561	124850	4	0	0 (0)	0
					Mid	632.000	126400	606.53	121306	102		1568	125530	4	1	2 (4)	107
					High	639.500	127900	541.67	108334	504		1586	126970	8	1	1 (2)	507
				Uplink	Low	675.500	135100	668.39	133678	0	-	-	-	-	-	-	-
					Mid	678.000	135600	580.17	116034	504		-	-	-	-	-	-
					High	685.500	137100	677.31	135462	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink	Low	622.000	68636	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	647.000	68886	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	668.000	133172	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	693.000	133422	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink	Low	632.000	126400	627.32	125464	0	15	1574	126010	2	1	2 (4)	5
					Mid	629.500	125900	606.46	121292	102		1567	125330	2	0	0 (0)	102

E-UTRA: 15MHz + NR: 5MHz	E-UTRA CC1	15	75	Uplink	High	637.000	127400	541.6	108320	504	-	1588	127010	2	1	2 (4)	509
					Low	678.000	135600	673.32	134664	0		-	-	-	-	-	-
					Mid	675.500	135100	580.1	116020	504		-	-	-	-	-	-
					High	683.000	136600	677.24	135448	6		-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	624.500	68661	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	644.500	68861	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	670.500	133197	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	690.500	133397	-	-	-	-	-	-	-	-	-	-
				Downlink	Low	634.500	126900	632.25	126450	0	15	1587	126990	0	1	2 (4)	5
					Mid	627.000	125400	606.39	121278	102		1566	125310	0	0	0 (0)	102
					High	634.500	126900	541.53	108306	504		1587	126990	0	1	2 (4)	509
				Uplink	Low	680.500	136100	678.25	135650	0	-	-	-	-	-	-	-
					Mid	673.000	134600	580.03	116006	504		-	-	-	-	-	-
					High	680.500	136100	677.17	135434	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.4.2.71.1-2: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 30 kHz, 100 kHz NR raster, NR CC at the band edge

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs] Note 3	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink	Low	629.500	68711	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	639.500	68811	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	675.500	133247	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	685.500	133347	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink	Low	622.000	124400	617.68	123536	0	15	1555	124370	14	0	1 (6)	12
					Mid	632.000	126400	590.96	118192	102		1580	126490	6	0	3 (8)	220
					High	647.000	129400	461.24	92248	504		1616	129370	14	0	1 (6)	1020
				Uplink	Low	668.000	133600	663.68	132736	0	-	-	-	-	-	-	-
					Mid	678.000	135600	492.24	98448	504		-	-	-	-	-	-
					High	693.000	138600	686.52	137304	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	634.500	68761	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	680.500	133297	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	680.500	133297	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink	Low	624.500	124900	617.66	123532	0	15	1553	124330	2	0	1 (6)	12
					Mid	632.000	126400	588.44	117688	102		1571	125770	6	0	0 (5)	214
					High	644.500	128900	456.22	91244	504		1606	128450	18	0	2 (7)	1022
				Uplink	Low	670.500	134100	663.66	132732	0	-	-	-	-	-	-	-
					Mid	678.000	135600	489.72	97944	504		-	-	-	-	-	-
					High	690.500	138100	681.5	136300	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink	Low	639.500	68811	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	629.500	68711	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	685.500	133347	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	675.500	133247	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink	Low	627.000	125400	617.82	123564	0	15	1554	124350	22	0	0 (5)	10
					Mid	632.000	126400	586.1	117220	102		1565	125290	2	0	0 (5)	214
					High	642.000	128400	451.38	90276	504		1593	127470	14	0	2 (7)	1022

				Uplink	Low	673.000	134600	663.82	132764	0	-	-	-	-	-	-	-	
					Mid	678.000	135600	487.38	97476	504		-	-	-	-	-	-	
					High	688.000	137600	676.66	135332	6		-	-	-	-	-	-	
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink	Low	632.000	68736	-	-	-	-	-	-	-	-	-		
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-		
					High	637.000	68786	-	-	-	-	-	-	-	-	-		
				Uplink	Low	678.000	133272	-	-	-	-	-	-	-	-	-	-	
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-	
					High	683.000	133322	-	-	-	-	-	-	-	-	-	-	
	NR CC1	10	24	Downlink	Low	622.000	124400	617.68	123536	0	15	1555	124370	14	0	1 (6)	12	
					Mid	629.500	125900	588.46	117692	102		1573	125810	18	0	0 (5)	214	
					High	647.000	129400	461.24	92248	504		1616	129370	14	0	1 (6)	1020	
				Uplink	Low	668.000	133600	663.68	132736	0	-	-	-	-	-	-	-	-
					Mid	675.500	135100	489.74	97948	504		-	-	-	-	-	-	-
					High	693.000	138600	686.52	137304	6		-	-	-	-	-	-	-
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink	Low	637.000	68786	-	-	-	-	-	-	-	-	-		
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-	
					High	632.000	68736	-	-	-	-	-	-	-	-	-	-	
				Uplink	Low	683.000	133322	-	-	-	-	-	-	-	-	-	-	
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-	
					High	678.000	133272	-	-	-	-	-	-	-	-	-	-	
	NR CC1	15	38	Downlink	Low	624.500	124900	617.66	123532	0	15	1553	124330	2	0	1 (6)	12	
					Mid	629.500	125900	585.94	117188	102		1567	125330	2	0	1 (6)	216	
					High	644.500	128900	456.22	91244	504		1606	128450	18	0	2 (7)	1022	
				Uplink	Low	670.500	134100	663.66	132732	0	-	-	-	-	-	-	-	-
					Mid	675.500	135100	487.22	97444	504		-	-	-	-	-	-	-
					High	690.500	138100	681.5	136300	6		-	-	-	-	-	-	-
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-		
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-	
					High	634.500	68761	-	-	-	-	-	-	-	-	-	-	
				Uplink	Low	680.500	133297	-	-	-	-	-	-	-	-	-	-	
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-	
					High	680.500	133297	-	-	-	-	-	-	-	-	-	-	
	NR CC1	10	24	Downlink	Low	622.000	124400	617.68	123536	0	15	1555	124370	14	0	1 (6)	12	
					Mid	627.000	125400	585.96	117192	102		1566	125310	18	0	0 (5)	214	
					High	647.000	129400	461.24	92248	504		1616	129370	14	0	1 (6)	1020	
				Uplink	Low	668.000	133600	663.68	132736	0	-	-	-	-	-	-	-	-
					Mid	673.000	134600	487.24	97448	504		-	-	-	-	-	-	-
					High	693.000	138600	686.52	137304	6		-	-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch).

ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.

Note 3: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 4.3.1.4.2.71.1-2A: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 30 kHz, 100 kHz NR raster, E-UTRA CC at the band edge

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 3	CORESET#0 (Offset [RBs]) Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink	Low	619.500	68611	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	649.500	68911	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	665.500	133147	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	695.500	133447	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink	Low	629.500	125900	622.66	124532	0	15	1567	125330	2	0	1 (6)	12
					Mid	632.000	126400	588.44	117688	102		1571	125770	6	0	0 (5)	214
					High	639.500	127900	451.22	90244	504		1592	127450	18	0	2 (7)	1022
				Uplink	Low	675.500	135100	668.66	133732	0	-	-	-	-	-	-	-
					Mid	678.000	135600	489.72	97944	504		-	-	-	-	-	-
					High	685.500	137100	676.5	135300	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdccch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.

4.3.1.4.3 Intra-band non-contiguous EN-DC configurations within FR1

4.3.1.4.3.1 – 4.3.1.4.3.40 FFS

4.3.1.4.3.41 Intra-band non-contiguous EN-DC configurations DC_41_n41

4.3.1.4.3.41.1 DC_41A_n41A

Table 4.3.1.4.41.1-1: Test frequencies for EN-DC combination DC_41A_n41A, Max Wgap

Test Frequency ID	NR channel bandwidth [MHz]	NR SCS [kHz]	NR test frequency range (Note 1)	E-UTRA channel bandwidth [MHz]	E-UTRA frequency range (Note 2)
Low with maxWgap (NR – E-UTRA)	40	30	Low	20	High
	50				
	60				
	80				
	100				
High with maxWgap (E-UTRA - NR)	40		High	20	Low
	50				
	60				
	80				
	100				
Low with maxWgap (NR – E-UTRA)	40	60	Low	20	High
	50				
	60				
	80				
	100				
High with maxWgap (E-UTRA - NR)	40		High	20	Low
	50				
	60				
	80				
	100				
Note 1: The NR test frequencies are specified in clause 4.3.1.1.1.41 for the NR Channel Bandwidth, NR SCS and NR test frequency range as given in the table.					
Note 2: The E-UTRA test frequencies are specified in TS 36.508 [2], clause 4.3.1.2.9 for the E-UTRA channel bandwidth and E-UTRA test frequency range as given in the table.					

4.3.1.4.3.41.2 DC_41C_n41A

Table 4.3.1.4.41.2-1: Test frequencies for EN-DC combination DC_41C_n41A, SCS=30kHz, Max Wgap

Test Frequency ID	NR channel bandwidth [MHz]	NR SCS [kHz]	NR test frequency range (Note 1)	E-UTRA CC Combo / N _{RB_agg} [MHz]	E-UTRA frequency range (Note 2)
Low with maxWgap (NR – E-UTRA)	40	30	Low	20 + 20	High
	50				
	60				
	80				
	100				
High with maxWgap (E-UTRA - NR)	40		High	20 + 20	Low
	50				
	60				
	80				
	100				
Low with maxWgap (NR – E-UTRA)	40	60	Low	20 + 20	High
	50				
	60				
	80				
	100				
High with maxWgap (E-UTRA - NR)	40		High	20 + 20	Low
	50				
	60				
	80				
	100				
Note 1:	The NR test frequencies are specified in clause 4.3.1.1.1.41 for the NR Channel Bandwidth, NR SCS and NR test frequency range as given in the table.				
Note 2:	The E-UTRA test frequencies are specified in TS 36.508 [2], clause 4.3.1.2.9A for the E-UTRA CC Combo and E-UTRA test frequency range as given in the table.				

4.3.1.4.3.41.3 DC_41D_n41A

Table 4.3.1.4.41.3-1: Test frequencies for EN-DC combination DC_41D_n41A, SCS=30kHz, Max Wgap

Test Frequency ID	NR channel bandwidth [MHz]	NR SCS [kHz]	NR test frequency range (Note 1)	E-UTRA CC Combo / N _{RB_agg} [MHz]	E-UTRA frequency range (Note 2)	
Low with maxWgap (NR – E-UTRA)	40	30	Low	20 + 20 + 20	High	
	50					
	60					
	80					
	100					
High with maxWgap (E-UTRA - NR)	40		High	20 + 20 + 20	Low	
	50					
	60					
	80					
	100					
Low with maxWgap (NR – E-UTRA)	40	60	Low	20 + 20 + 20	High	
	50					
	60					
	80					
	100					
High with maxWgap (E-UTRA - NR)	40		High	20 + 20 + 20	Low	
	50					
	60					
	80					
	100					
Note 1: The NR test frequencies are specified in clause 4.3.1.1.41 for the NR Channel Bandwidth, NR scs and NR test frequency range as given in the table.						
Note 2: The E-UTRA test frequencies are specified in TS 36.508 [2], clause 4.3.1.2.9A for the E-UTRA CC Combo and E-UTRA test frequency range as given in the table.						

4.3.1.5 Test frequencies for EN-DC band combinations including FR2

4.3.1.5.1 Inter-band EN-DC configurations including FR2

4.3.1.5.1.1 General

For inter-band EN-DC configurations as listed in this clause, the following apply:

For the E-UTRA band and E-UTRA CA configurations, test frequencies as specified in TS 36.508 [2], clause 4.3.1 are used.

For the NR band and NR CA configurations, test frequencies as specified in clause 4.3.1.2 are used.

For the secondary NR band in inter-band signalling test cases, the band selected is based on the subset of NR bands supported within the EN-DC configurations specified in Table 4.3.1.4.1.2-1 for NR FR1 and 4.3.1.5.1.2-1 for NR FR2.

4.3.1.5.1.2 Inter-band EN-DC configurations including FR2 (two bands)

Table 4.3.1.5.1.2-1: Inter-band EN-DC configurations including FR2 (two bands)

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A_n257A	DC_1A_n257A	1A	n257A	1A	n257A	Yes
DC_1A_n257D	DC_1A_n257A	1A	CA_n257D	1A	n257A	FFS (NR 2CC)
DC_1A_n257E	DC_1A_n257A	1A	CA_n257E	1A	n257A	No
DC_1A_n257F	DC_1A_n257A	1A	CA_n257F	1A	n257A	No
DC_1A_n257G	DC_1A_n257A	1A	CA_n257G	1A	n257A	FFS (NR 2CC)
	DC_1A_n257G	1A	CA_n257G	1A	CA_n257G	No
DC_1A_n257H	DC_1A_n257A	1A	CA_n257H	1A	n257A	No
	DC_1A_n257G	1A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	1A	CA_n257H	1A	CA_n257H	No
DC_1A_n257I	DC_1A_n257A	1A	CA_n257I	1A	n257A	No
	DC_1A_n257G	1A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	1A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	1A	CA_n257I	1A	CA_n257I	No
DC_2A_n257A	DC_2A_n257A	2A	n257A	2A	n257A	Yes
DC_2C_n257A	DC_2A_n257A	CA_2C	n257A	2A	n257A	No
DC_2A_n257(2A)	DC_2A_n257A	2A	CA_n257(2A)	2A	n257A	FFS (NR 2CC)
DC_2A-2A_n257A	DC_2A_n257A	CA_2A-2A	n257A	2A	n257A	No
DC_2A_n260A	DC_2A_n260A	2A	n260A	2A	n260A	Yes
DC_2A_n260G	DC_2A_n260A	2A	CA_n260G	2A	n260A	Yes (NR 2CC)
DC_2A_n260H	DC_2A_n260A	2A	CA_n260H	2A	n260A	No
DC_2A_n260I	DC_2A_n260A	2A	CA_n260I	2A	n260A	No
DC_2A_n260J	DC_2A_n260A	2A	CA_n260J	2A	n260A	No
DC_2A_n260K	DC_2A_n260A	2A	CA_n260K	2A	n260A	No
DC_2A_n260L	DC_2A_n260A	2A	CA_n260L	2A	n260A	No
DC_2A_n260M	DC_2A_n260A	2A	CA_n260M	2A	n260A	No
DC_2C_n260A	DC_2A_n260A	CA_2C	n260A	2A	n260A	No
DC_2A_n260(2A)	DC_2A_n260A	2A	CA_n260(2A)	2A	n260A	FFS (NR 2CC)
DC_2A-2A_n260A	DC_2A_n260A	CA_2A-2A	n260A	2A	n260A	No
DC_2A-2A_n260G	DC_2A_n260A	CA_2A-2A	CA_n260G	2A	n260A	No
DC_2A-2A_n260H	DC_2A_n260A	CA_2A-2A	CA_n260H	2A	n260A	No
DC_2A-2A_n260I	DC_2A_n260A	CA_2A-2A	CA_n260I	2A	n260A	No
DC_2A-2A_n260J	DC_2A_n260A	CA_2A-2A	CA_n260J	2A	n260A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_2A-2A_n260K	DC_2A_n260A	CA_2A-2A	CA_n260K	2A	n260A	No
DC_2A-2A_n260L	DC_2A_n260A	CA_2A-2A	CA_n260L	2A	n260A	No
DC_2A-2A_n260M	DC_2A_n260A	CA_2A-2A	CA_n260M	2A	n260A	No
DC_3A_n257A	DC_3A_n257A	3A	n257A	3A	n257A	Yes
DC_3A_n257D	DC_3A_n257A	3A	CA_n257D	3A	n257A	FFS (NR 2CC)
DC_3A_n257E	DC_3A_n257A	3A	CA_n257E	3A	n257A	No
DC_3A_n257F	DC_3A_n257A	3A	CA_n257F	3A	n257A	No
DC_3A_n257G	DC_3A_n257A	3A	CA_n257G	3A	n257A	Yes (NR 2CC)
	DC_3A_n257B	3A	CA_n257G	3A	CA_n257B	No
	DC_3A_n257D	3A	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	3A	CA_n257G	3A	CA_n257G	No
DC_3A_n257H	DC_3A_n257A	3A	CA_n257H	3A	n257A	No
	DC_3A_n257B	3A	CA_n257H	3A	CA_n257B	No
	DC_3A_n257D	3A	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	3A	CA_n257H	3A	CA_n257G	No
DC_3A_n257I	DC_3A_n257H	3A	CA_n257H	3A	CA_n257H	No
	DC_3A_n257A	3A	CA_n257I	3A	n257A	No
	DC_3A_n257B	3A	CA_n257I	3A	CA_n257B	No
	DC_3A_n257D	3A	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	3A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	3A	CA_n257I	3A	CA_n257H	No
DC_3A_n257I	DC_3A_n257I	3A	CA_n257I	3A	CA_n257I	No
	DC_3A_n257I	3A	CA_n257I	3A	CA_n257I	No
DC_3A_n258A	DC_3A_n258A	3A	n258A	3A	n258A	Yes
DC_5A_n257A	DC_5A_n257A	5A	n257A	5A	n257A	Yes
DC_5B_n257A	DC_5A_n257A	CA_5B	n257A	5A	n257A	No
	DC_5B_n257A	CA_5B	n257A	CA_5B	n257A	No
DC_5A-5A_n257A	DC_5A_n257A	CA_5A-5A	n257A	5A	n257A	No
DC_5A_n260A	DC_5A_n260A	5A	n260A	5A	n260A	Yes
DC_5A_n260B	DC_5A_n260A	5A	CA_n260B	5A	n260A	FFS (NR 2CC)
DC_5A_n260C	DC_5A_n260A	5A	CA_n260C	5A	n260A	No
DC_5A_n260D	DC_5A_n260A	5A	CA_n260D	5A	n260A	FFS (NR 2CC)
DC_5A_n260E	DC_5A_n260A	5A	CA_n260E	5A	n260A	No
DC_5A_n260F	DC_5A_n260A	5A	CA_n260F	5A	n260A	No
DC_5A_n260G	DC_5A_n260A	5A	CA_n260G	5A	n260A	Yes (NR 2CC)
DC_5A_n260H	DC_5A_n260A	5A	CA_n260H	5A	n260A	No
DC_5A_n260I	DC_5A_n260A	5A	CA_n260I	5A	n260A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_5A_n260J	DC_5A_n260A	5A	CA_n260J	5A	n260A	No
DC_5A_n260K	DC_5A_n260A	5A	CA_n260K	5A	n260A	No
DC_5A_n260L	DC_5A_n260A	5A	CA_n260L	5A	n260A	No
DC_5A_n260M	DC_5A_n260A	5A	CA_n260M	5A	n260A	No
DC_5A_n260O	DC_5A_n260A	5A	CA_n260O	5A	n260A	FFS (NR 2CC)
DC_5A_n260P	DC_5A_n260A	5A	CA_n260P	5A	n260A	No
DC_5A_n260Q	DC_5A_n260A	5A	CA_n260Q	5A	n260A	No
DC_5B_n260A	DC_5A_n260A	CA_5B	n260A	5A	n260A	No
	DC_5B_n260A	CA_5B	n260A	CA_5B	n260A	No
DC_5A_n260(2A)	DC_5A_n260A	5A	CA_n260(2A)	5A	n260A	FFS (NR 2CC)
DC_5A_n260(3A)	DC_5A_n260A	5A	CA_n260(3A)	5A	n260A	No
DC_5A_n260(4A)	DC_5A_n260A	5A	n260(4A)	5A	n260A	No
DC_5A_n260(A-I)	DC_5A_n260A	5A	CA_n260(A-I)	5A	n260A	No
DC_5A_n260(D-G)	DC_5A_n260A	5A	CA_n260(D-G)	5A	n260A	No
DC_5A_n260(D-H)	DC_5A_n260A	5A	CA_n260(D-H)	5A	n260A	No
DC_5A_n260(D-I)	DC_5A_n260A	5A	CA_n260(D-I)	5A	n260A	No
DC_5A_n260(D-O)	DC_5A_n260A	5A	CA_n260(D-O)	5A	n260A	No
DC_5A_n260(D-P)	DC_5A_n260A	5A	CA_n260(D-P)	5A	n260A	No
DC_5A_n260(D-Q)	DC_5A_n260A	5A	CA_n260(D-Q)	5A	n260A	No
DC_5A_n260(E-O)	DC_5A_n260A	5A	CA_n260(E-O)	5A	n260A	No
DC_5A_n260(E-P)	DC_5A_n260A	5A	CA_n260(E-P)	5A	n260A	No
DC_5A_n260(E-Q)	DC_5A_n260A	5A	CA_n260(E-Q)	5A	n260A	No
DC_5A_n260(G-I)	DC_5A_n260A	5A	CA_n260(G-I)	5A	n260A	No
DC_5A-5A_n260A	DC_5A_n260A	CA_5A-5A	n260A	5A	n260A	No
DC_5A_n261A	DC_5A_n261A	5A	n261A	5A	n261A	Yes
DC_5A_n261B	DC_5A_n261A	5A	CA_n261B	5A	n261A	FFS (NR 2CC)
DC_5A_n261C	DC_5A_n261A	5A	CA_n261C	5A	n261A	No
DC_5A_n261D	DC_5A_n261A	5A	CA_n261D	5A	n261A	FFS (NR 2CC)
DC_5A_n261E	DC_5A_n261A	5A	CA_n261E	5A	n261A	No
DC_5A_n261F	DC_5A_n261A	5A	CA_n261F	5A	n261A	No
DC_5A_n261G	DC_5A_n261A	5A	CA_n261G	5A	n261A	Yes (NR 2CC)
DC_5A_n261H	DC_5A_n261A	5A	CA_n261H	5A	n261A	No
DC_5A_n261I	DC_5A_n261A	5A	CA_n261I	5A	n261A	No
DC_5A_n261J	DC_5A_n261A	5A	CA_n261J	5A	n261A	No
DC_5A_n261K	DC_5A_n261A	5A	CA_n261K	5A	n261A	No
DC_5A_n261L	DC_5A_n261A	5A	CA_n261L	5A	n261A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_5A_n261M	DC_5A_n261A	5A	CA_n261M	5A	n261A	No
DC_5A_n261O	DC_5A_n261A	5A	CA_n261O	5A	n261A	FFS (NR 2CC)
DC_5A_n261P	DC_5A_n261A	5A	CA_n261P	5A	n261A	No
DC_5A_n261Q	DC_5A_n261A	5A	CA_n261Q	5A	n261A	No
DC_5A_n261(2A)	DC_5A_n261A	5A	CA_n261(2A)	5A	n261A	FFS (NR 2CC)
DC_5A_n261(3A)	DC_5A_n261A	5A	CA_n261(3A)	5A	n261A	No
DC_5A_n261(4A)	DC_5A_n261A	5A	CA_n261(4A)	5A	n261A	No
DC_5A_n261(D-G)	DC_5A_n261A	5A	CA_n261(D-G)	5A	n261A	No
DC_5A_n261(D-H)	DC_5A_n261A	5A	CA_n261(D-H)	5A	n261A	No
DC_5A_n261(D-I)	DC_5A_n261A	5A	CA_n261(D-I)	5A	n261A	No
DC_5A_n261(D-O)	DC_5A_n261A	5A	CA_n261(D-O)	5A	n261A	No
DC_5A_n261(D-P)	DC_5A_n261A	5A	CA_n261(D-P)	5A	n261A	No
DC_5A_n261(D-Q)	DC_5A_n261A	5A	CA_n261(D-Q)	5A	n261A	No
DC_5A_n261(E-O)	DC_5A_n261A	5A	CA_n261(E-O)	5A	n261A	No
DC_5A_n261(E-P)	DC_5A_n261A	5A	CA_n261(E-P)	5A	n261A	No
DC_5A_n261(E-Q)	DC_5A_n261A	5A	CA_n261(E-Q)	5A	n261A	No
DC_7A_n257A	DC_7A_n257A	7A	n257A	7A	n257A	Yes
DC_7A-7A_n257A	DC_7A_n257A	CA_7A-7A	n257A	7A	n257A	No
DC_7A_n258A	DC_7A_n258A	7A	n258A	7A	n258A	Yes
DC_8A_n257A	DC_8A_n257A	8A	n257A	8A	n257A	Yes
DC_8A_n258A	DC_8A_n258A	8A	n258A	8A	n258A	Yes
DC_11A_n257A	DC_11A_n257A	11A	n257A	11A	n257A	Yes
DC_12A_n260A	DC_12A_n260A	12A	n260A	12A	n260A	Yes
DC_12A_n260G	DC_12A_n260A	12A	CA_n260G	12A	n260A	Yes (NR 2CC)
DC_12A_n260H	DC_12A_n260A	12A	CA_n260H	12A	n260A	No
DC_12A_n260I	DC_12A_n260A	12A	CA_n260I	12A	n260A	No
DC_12A_n260J	DC_12A_n260A	12A	CA_n260J	12A	n260A	No
DC_12A_n260K	DC_12A_n260A	12A	CA_n260K	12A	n260A	No
DC_12A_n260L	DC_12A_n260A	12A	CA_n260L	12A	n260A	No
DC_12A_n260M	DC_12A_n260A	12A	CA_n260M	12A	n260A	No
DC_12A_n260(A-I)	DC_12A_n260A	12A	CA_n260(A-I)	12A	n260A	No
DC_12A_n260(G-I)	DC_12A_n260A	12A	CA_n260(G-I)	12A	n260A	No
DC_13A_n257A	DC_13A_n257A	13A	n257A	13A	n257A	Yes
DC_13A_n260A	DC_13A_n260A	13A	n260A	13A	n260A	Yes
DC_18A_n257A	DC_18A_n257A	18A	n257A	18A	n257A	Yes
DC_19A_n257A	DC_19A_n257A	19A	n257A	19A	n257A	Yes

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_19A_n257D	DC_19A_n257A	19A	CA_n257D	19A	n257A	FFS (NR 2CC)
DC_19A_n257E	DC_19A_n257A	19A	CA_n257E	19A	n257A	No
DC_19A_n257F	DC_19A_n257A	19A	CA_n257F	19A	n257A	No
DC_19A_n257G	DC_19A_n257A	19A	CA_n257G	19A	n257A	Yes (NR 2CC)
	DC_19A_n257G	19A	CA_n257G	19A	CA_n257G	No
DC_19A_n257H	DC_19A_n257A	19A	CA_n257H	19A	n257A	No
	DC_19A_n257G	19A	CA_n257H	19A	CA_n257G	No
	DC_19A_n257H	19A	CA_n257H	19A	CA_n257H	No
DC_19A_n257I	DC_19A_n257A	19A	CA_n257I	19A	n257A	No
	DC_19A_n257G	19A	CA_n257I	19A	CA_n257G	No
	DC_19A_n257H	19A	CA_n257I	19A	CA_n257H	No
	DC_19A_n257I	19A	CA_n257I	19A	CA_n257I	No
DC_20A_n258A	DC_20A_n258A	20A	n258A	20A	n258A	Yes
DC_21A_n257A	DC_21A_n257A	21A	n257A	21A	n257A	Yes
DC_21A_n257D	DC_21A_n257A	21A	CA_n257D	21A	n257A	FFS (NR 2CC)
DC_21A_n257E	DC_21A_n257A	21A	CA_n257E	21A	n257A	No
DC_21A_n257F	DC_21A_n257A	21A	CA_n257F	21A	n257A	No
DC_21A_n257G	DC_21A_n257A	21A	CA_n257G	21A	n257A	Yes (NR 2CC)
	DC_21A_n257G	21A	CA_n257G	21A	CA_n257G	No
DC_21A_n257H	DC_21A_n257A	21A	CA_n257H	21A	n257A	No
	DC_21A_n257G	21A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	21A	CA_n257H	21A	CA_n257H	No
DC_21A_n257I	DC_21A_n257A	21A	CA_n257I	21A	n257A	No
	DC_21A_n257G	21A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	21A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	21A	CA_n257I	21A	CA_n257I	No
DC_26A_n257A	DC_26A_n257A	26A	n257A	26A	n257A	Yes
DC_28A_n257A	DC_28A_n257A	28A	n257A	28A	n257A	Yes
DC_28A_n257D	DC_28A_n257A	28A	CA_n257D	28A	n257A	FFS (NR 2CC)
DC_28A_n257E	DC_28A_n257A	28A	CA_n257E	28A	n257A	No
DC_28A_n257F	DC_28A_n257A	28A	CA_n257F	28A	n257A	No
DC_28A_n258A	DC_28A_n258A	28A	n258A	28A	n258A	Yes
DC_30A_n260A	DC_30A_n260A	30A	n260A	30A	n260A	Yes
DC_30A_n260G	DC_30A_n260A	30A	CA_n260G	30A	n260A	Yes (NR 2CC)
DC_30A_n260H	DC_30A_n260A	30A	CA_n260H	30A	n260A	No
DC_30A_n260I	DC_30A_n260A	30A	CA_n260I	30A	n260A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_30A_n260J	DC_30A_n260A	30A	CA_n260J	30A	n260A	No
DC_30A_n260K	DC_30A_n260A	30A	CA_n260K	30A	n260A	No
DC_30A_n260L	DC_30A_n260A	30A	CA_n260L	30A	n260A	No
DC_30A_n260M	DC_30A_n260A	30A	CA_n260M	30A	n260A	No
DC_30A_n260(A-I)	DC_30A_n260A	30A	CA_n260(A-I)	30A	n260A	No
DC_30A_n260(G-I)	DC_30A_n260A	30A	CA_n260(G-I)	30A	n260A	No
DC_39A_n258A	DC_39A_n258A	39A	n258A	39A	n258A	Yes
DC_41A_n257A	DC_41A_n257A	41A	n257A	41A	n257A	Yes
DC_41A_n258A	DC_41A_n258A	41A	n258A	41A	n258A	Yes
DC_41C_n257A	DC_41A_n257A	CA_41C	n257A	41A	n257A	No
	DC_41C_n257A	CA_41C	n257A	CA_41C	n257A	No
DC_42A_n257A	DC_42A_n257A	42A	n257A	42A	n257A	Yes
DC_42C_n257A	DC_42A_n257A	CA_42C	n257A	42A	n257A	No
	DC_42C_n257A	CA_42C	n257A	CA_42C	n257A	No
DC_42A_n257D	DC_42A_n257A	42A	CA_n257D	42A	n257A	FFS (NR 2CC)
DC_42A_n257E	DC_42A_n257A	42A	CA_n257E	42A	n257A	No
DC_42A_n257F	DC_42A_n257A	42A	CA_n257F	42A	n257A	No
DC_42C_n257D	DC_42A_n257A	CA_42C	CA_n257D	42A	n257A	No
	DC_42C_n257A	CA_42C	CA_n257D	CA_42C	n257A	No
DC_42C_n257E	DC_42A_n257A	CA_42C	CA_n257E	42A	n257A	No
	DC_42C_n257A	CA_42C	CA_n257E	CA_42C	n257A	No
DC_42C_n257F	DC_42A_n257A	CA_42C	CA_n257F	42A	n257A	No
	DC_42C_n257A	CA_42C	CA_n257F	CA_42C	n257A	No
DC_42D_n257A	DC_42A_n257A	CA_42D	n257A	42A	n257A	No
	DC_42C_n257A	CA_42D	n257A	CA_42C	n257A	No
DC_42E_n257A	DC_42A_n257A	CA_42E	n257A	42A	n257A	No
	DC_42C_n257A	CA_42E	n257A	CA_42C	n257A	No
DC_48A_n257A	DC_48A_n257A	48A	n257A	48A	n257A	Yes
DC_48C_n257A	DC_48A_n257A	CA_48C	n257A	48A	n257A	No
	DC_48C_n257A	CA_48C	n257A	CA_48C	n257A	No
DC_48A-48A_n257A	DC_48A_n257A	CA_48A-48A	n257A	48A	n257A	No
DC_48A_n260A	DC_48A_n260A	48A	n260A	48A	n260A	Yes
DC_48C_n260A	DC_48A_n260A	CA_48C	n260A	48A	n260A	No
	DC_48C_n260A	CA_48C	n260A	CA_48C	n260A	No
DC_48A-48A_n260A	DC_48A_n260A	CA_48A-48A	n260A	48A	n260A	No
DC_66A_n257A	DC_66A_n257A	66A	n257A	66A	n257A	Yes

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_66A_n257(2A)	DC_66A_n257A	66A	CA_n257(2A)	66A	n257A	FFS (NR 2CC)
DC_66A_n257G	DC_66A_n257A	66A	CA_n257G	66A	n257A	Yes (NR 2CC)
DC_66A_n257H	DC_66A_n257A	66A	CA_n257H	66A	n257A	No
DC_66A_n257I	DC_66A_n257A	66A	CA_n257I	66A	n257A	No
DC_66A_n257J	DC_66A_n257A	66A	CA_n257J	66A	n257A	No
DC_66A_n257K	DC_66A_n257A	66A	CA_n257K	66A	n257A	No
DC_66A_n257L	DC_66A_n257A	66A	CA_n257L	66A	n257A	No
DC_66A_n257M	DC_66A_n257A	66A	CA_n257M	66A	n257A	No
DC_66C_n257A	DC_66A_n257A	CA_66C	n257A	66A	n257A	No
DC_66A-66A_n257A	DC_66A_n257A	CA_66A-66A	n257A	66A	n257A	No
DC_66A_n260A	DC_66A_n260A	66A	n260A	66A	n260A	Yes
DC_66A_n260D	DC_66A_n260A	66A	CA_n260D	66A	n260A	FFS (NR 2CC)
DC_66A_n260E	DC_66A_n260A	66A	CA_n260E	66A	n260A	No
DC_66A_n260F	DC_66A_n260A	66A	CA_n260F	66A	n260A	No
DC_66A_n260G	DC_66A_n260A	66A	CA_n260G	66A	n260A	Yes (NR 2CC)
DC_66A_n260H	DC_66A_n260A	66A	CA_n260H	66A	n260A	No
DC_66A_n260I	DC_66A_n260A	66A	CA_n260I	66A	n260A	No
DC_66A_n260J	DC_66A_n260A	66A	CA_n260J	66A	n260A	No
DC_66A_n260K	DC_66A_n260A	66A	CA_n260K	66A	n260A	No
DC_66A_n260L	DC_66A_n260A	66A	CA_n260L	66A	n260A	No
DC_66A_n260M	DC_66A_n260A	66A	CA_n260M	66A	n260A	No
DC_66A_n260O	DC_66A_n260A	66A	CA_n260O	66A	n260A	FFS (NR 2CC)
DC_66A_n260P	DC_66A_n260A	66A	CA_n260P	66A	n260A	No
DC_66A_n260Q	DC_66A_n260A	66A	CA_n260Q	66A	n260A	No
DC_66A_n260(2A)	DC_66A_n260A	66A	CA_n260(2A)	66A	n260A	FFS (NR 2CC)
DC_66A_n260(3A)	DC_66A_n260A	66A	CA_n260(3A)	66A	n260A	No
DC_66A_n260(4A)	DC_66A_n260A	66A	CA_n260(4A)	66A	n260A	No
DC_66A_n260(A-I)	DC_66A_n260A	66A	CA_n260(A-I)	66A	n260A	No
DC_66A_n260(D-G)	DC_66A_n260A	66A	CA_n260(D-G)	66A	n260A	No
DC_66A_n260(D-H)	DC_66A_n260A	66A	CA_n260(D-H)	66A	n260A	No
DC_66A_n260(D-I)	DC_66A_n260A	66A	CA_n260(D-I)	66A	n260A	No
DC_66A_n260(D-O)	DC_66A_n260A	66A	CA_n260(D-O)	66A	n260A	No
DC_66A_n260(D-P)	DC_66A_n260A	66A	CA_n260(D-P)	66A	n260A	No
DC_66A_n260(D-Q)	DC_66A_n260A	66A	CA_n260(D-Q)	66A	n260A	No
DC_66A_n260(E-O)	DC_66A_n260A	66A	CA_n260(E-O)	66A	n260A	No
DC_66A_n260(E-P)	DC_66A_n260A	66A	CA_n260(E-P)	66A	n260A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_66A_n260(E-Q)	DC_66A_n260A	66A	CA_n260(E-Q)	66A	n260A	No
DC_66A_n260(G-I)	DC_66A_n260A	66A	CA_n260(G-I)	66A	n260A	No
DC_66A-66A_n260A	DC_66A_n260A	CA_66A-66A	n260A	66A	n260A	No
DC_66A-66A_n260G	DC_66A_n260A	CA_66A-66A	CA_n260G	66A	n260A	No
DC_66A-66A_n260H	DC_66A_n260A	CA_66A-66A	CA_n260H	66A	n260A	No
DC_66A-66A_n260I	DC_66A_n260A	CA_66A-66A	CA_n260I	66A	n260A	No
DC_66A-66A_n260J	DC_66A_n260A	CA_66A-66A	CA_n260J	66A	n260A	No
DC_66A-66A_n260K	DC_66A_n260A	CA_66A-66A	CA_n260K	66A	n260A	No
DC_66A-66A_n260L	DC_66A_n260A	CA_66A-66A	CA_n260L	66A	n260A	No
DC_66A-66A_n260M	DC_66A_n260A	CA_66A-66A	CA_n260M	66A	n260A	No
DC_66A_n261A	DC_66A_n261A	66A	n261A	66A	n261A	Yes
DC_66A_n261D	DC_66A_n261A	66A	CA_n261D	66A	n261A	FFS (NR 2CC)
DC_66A_n261E	DC_66A_n261A	66A	CA_n261E	66A	n261A	No
DC_66A_n261F	DC_66A_n261A	66A	CA_n261F	66A	n261A	No
DC_66A_n261G	DC_66A_n261A	66A	CA_n261G	66A	n261A	Yes (NR 2CC)
DC_66A_n261H	DC_66A_n261A	66A	CA_n261H	66A	n261A	No
DC_66A_n261I	DC_66A_n261A	66A	CA_n261I	66A	n261A	No
DC_66A_n261J	DC_66A_n261A	66A	CA_n261J	66A	n261A	No
DC_66A_n261K	DC_66A_n261A	66A	CA_n261K	66A	n261A	No
DC_66A_n261L	DC_66A_n261A	66A	CA_n261L	66A	n261A	No
DC_66A_n261M	DC_66A_n261A	66A	CA_n261M	66A	n261A	No
DC_66A_n261O	DC_66A_n261A	66A	CA_n261O	66A	n261A	FFS (NR 2CC)
DC_66A_n261P	DC_66A_n261A	66A	CA_n261P	66A	n261A	No
DC_66A_n261Q	DC_66A_n261A	66A	CA_n261Q	66A	n261A	No
DC_66A_n261(2A)	DC_66A_n261A	66A	CA_n261(2A)	66A	n261A	Yes (NR 2CC)
DC_66A_n261(3A)	DC_66A_n261A	66A	CA_n261(3A)	66A	n261A	No
DC_66A_n261(4A)	DC_66A_n261A	66A	CA_n261(4A)	66A	n261A	No
DC_66A_n261(D-G)	DC_66A_n261A	66A	CA_n261(D-G)	66A	n261A	No
DC_66A_n261(D-H)	DC_66A_n261A	66A	CA_n261(D-H)	66A	n261A	No
DC_66A_n261(D-I)	DC_66A_n261A	66A	CA_n261(D-I)	66A	n261A	No
DC_66A_n261(D-O)	DC_66A_n261A	66A	CA_n261(D-O)	66A	n261A	No
DC_66A_n261(D-P)	DC_66A_n261A	66A	CA_n261(D-P)	66A	n261A	No
DC_66A_n261(D-Q)	DC_66A_n261A	66A	CA_n261(D-Q)	66A	n261A	No
DC_66A_n261(E-O)	DC_66A_n261A	66A	CA_n261(E-O)	66A	n261A	No
DC_66A_n261(E-P)	DC_66A_n261A	66A	CA_n261(E-P)	66A	n261A	No
DC_66A_n261(E-Q)	DC_66A_n261A	66A	CA_n261(E-Q)	66A	n261A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.5.1.3 Inter-band EN-DC configurations including FR2 (three bands)

Table 4.3.1.5.1.3-1: Inter-band EN-DC configurations including FR2 (three bands)

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A_n257A	DC_1A_n257A	CA_1A-3A	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A	n257A	3A	n257A	No
DC_1A-3A_n257G	DC_1A_n257A	CA_1A-3A	CA_n257G	1A	n257A	No
	DC_1A_n257D	CA_1A-3A	CA_n257G	1A	CA_n257D	No
	DC_3A_n257A	CA_1A-3A	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_1A-3A	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_1A-3A	CA_n257G	3A	CA_n257G	No
DC_1A-3A_n257H	DC_1A_n257A	CA_1A-3A	CA_n257H	1A	n257A	No
	DC_1A_n257D	CA_1A-3A	CA_n257H	1A	CA_n257D	No
	DC_3A_n257A	CA_1A-3A	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_1A-3A	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_1A-3A	CA_n257H	3A	CA_n257G	No
DC_1A-3A_n257I	DC_3A_n257H	CA_1A-3A	CA_n257H	3A	CA_n257H	No
	DC_1A_n257A	CA_1A-3A	CA_n257I	1A	n257A	No
	DC_1A_n257D	CA_1A-3A	CA_n257I	1A	CA_n257D	No
	DC_3A_n257A	CA_1A-3A	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_1A-3A	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_1A-3A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A	CA_n257I	3A	CA_n257H	No
DC_1A-19A_n257A	DC_1A_n257A	CA_1A-19A	n257A	1A	n257A	No
	DC_19A_n257A	CA_1A-19A	n257A	19A	n257A	No
DC_1A-19A_n257G	DC_1A_n257A	CA_1A-19A	CA_n257G	1A	n257A	No
	DC_1A_n257D	CA_1A-19A	CA_n257G	1A	CA_n257D	No
	DC_1A_n257G	CA_1A-19A	CA_n257G	1A	CA_n257G	No
	DC_19A_n257A	CA_1A-19A	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_1A-19A	CA_n257G	19A	CA_n257D	No
DC_1A-19A_n257H	DC_1A_n257A	CA_1A-19A	CA_n257H	1A	n257A	No
	DC_1A_n257D	CA_1A-19A	CA_n257H	1A	CA_n257D	No
	DC_1A_n257G	CA_1A-19A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A	CA_n257H	1A	CA_n257H	No
	DC_19A_n257A	CA_1A-19A	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_1A-19A	CA_n257H	19A	CA_n257D	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-19A_n257I	DC_1A_n257A	CA_1A-19A	CA_n257I	1A	n257A	No
	DC_1A_n257D	CA_1A-19A	CA_n257I	1A	CA_n257D	No
	DC_1A_n257G	CA_1A-19A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-19A	CA_n257I	1A	CA_n257I	No
	DC_19A_n257A	CA_1A-19A	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_1A-19A	CA_n257I	19A	CA_n257D	No
DC_1A-21A_n257A	DC_1A_n257A	CA_1A-21A	n257A	1A	n257A	No
	DC_21A_n257A	CA_1A-21A	n257A	21A	n257A	No
DC_1A-21A_n257G	DC_1A_n257A	CA_1A-21A	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-21A	CA_n257G	1A	CA_n257G	No
	DC_21A_n257A	CA_1A-21A	CA_n257G	21A	n257A	No
	DC_21A_n257G	CA_1A-21A	CA_n257G	21A	CA_n257G	No
DC_1A-21A_n257H	DC_1A_n257A	CA_1A-21A	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-21A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-21A	CA_n257H	1A	CA_n257H	No
	DC_21A_n257A	CA_1A-21A	CA_n257H	21A	n257A	No
	DC_21A_n257G	CA_1A-21A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-21A	CA_n257H	21A	CA_n257H	No
DC_1A-21A_n257I	DC_1A_n257A	CA_1A-21A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-21A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-21A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-21A	CA_n257I	1A	CA_n257I	No
	DC_21A_n257A	CA_1A-21A	CA_n257I	21A	n257A	No
	DC_21A_n257G	CA_1A-21A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-21A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_1A-21A	CA_n257I	21A	CA_n257I	No
DC_1A-42A_n257A	DC_1A_n257A	CA_1A-42A	n257A	1A	n257A	No
	DC_42A_n257A	CA_1A-42A	n257A	42A	n257A	No
DC_1A-42A_n257G	DC_1A_n257A	CA_1A-42A	CA_n257G	1A	n257A	No
	DC_1A_n257D	CA_1A-42A	CA_n257G	1A	CA_n257D	No
	DC_1A_n257A	CA_1A-42A	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-42A	CA_n257G	1A	CA_n257G	No
	DC_42A_n257A	CA_1A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_1A-42A	CA_n257G	42A	CA_n257D	No
DC_1A-42A_n257H	DC_1A_n257A	CA_1A-42A	CA_n257H	1A	n257A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_1A_n257D	CA_1A-42A	CA_n257H	1A	CA_n257D	No
	DC_1A_n257A	CA_1A-42A	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-42A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-42A	CA_n257H	1A	CA_n257H	No
	DC_42A_n257A	CA_1A-42A	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_1A-42A	CA_n257H	42A	CA_n257D	No
DC_1A-42A_n257I	DC_1A_n257A	CA_1A-42A	CA_n257I	1A	n257A	No
	DC_1A_n257D	CA_1A-42A	CA_n257I	1A	CA_n257D	No
	DC_1A_n257A	CA_1A-42A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-42A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-42A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-42A	CA_n257I	1A	CA_n257I	No
	DC_42A_n257A	CA_1A-42A	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_1A-42A	CA_n257I	42A	CA_n257D	No
DC_1A-42C_n257A	DC_1A_n257A	CA_1A-42C	n257A	1A	n257A	No
	DC_42A_n257A	CA_1A-42C	n257A	42A	n257A	No
DC_1A-42D_n257A	DC_1A_n257A	CA_1A-42D	n257A	1A	n257A	No
	DC_42A_n257A	CA_1A-42D	n257A	42A	n257A	No
DC_1A-42E_n257A	DC_1A_n257A	CA_1A-42E	n257A	1A	n257A	No
	DC_42A_n257A	CA_1A-42E	n257A	42A	n257A	No
DC_1A-42E_n257G	DC_1A_n257A	CA_1A-42E	CA_n257G	1A	n257A	No
	DC_1A_n257D	CA_1A-42E	CA_n257G	1A	CA_n257D	No
	DC_1A_n257A	CA_1A-42E	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-42E	CA_n257G	1A	CA_n257G	No
	DC_42A_n257A	CA_1A-42E	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_1A-42E	CA_n257G	42A	CA_n257D	No
DC_1A-42E_n257H	DC_1A_n257A	CA_1A-42E	CA_n257H	1A	n257A	No
	DC_1A_n257D	CA_1A-42E	CA_n257H	1A	CA_n257D	No
	DC_1A_n257A	CA_1A-42E	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-42E	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-42E	CA_n257H	1A	CA_n257H	No
	DC_42A_n257A	CA_1A-42E	CA_n257H	42A	n257A	No
DC_1A-42E_n257I	DC_42A_n257D	CA_1A-42E	CA_n257H	42A	CA_n257D	No
	DC_1A_n257A	CA_1A-42E	CA_n257I	1A	n257A	No
	DC_1A_n257D	CA_1A-42E	CA_n257I	1A	CA_n257D	No
	DC_1A_n257A	CA_1A-42E	CA_n257I	1A	n257A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_1A_n257G	CA_1A-42E	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-42E	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-42E	CA_n257I	1A	CA_n257I	No
	DC_42A_n257A	CA_1A-42E	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_1A-42E	CA_n257I	42A	CA_n257D	No
DC_2A-5A_n257A	DC_2A_n257A	CA_2A-5A	n257A	2A	n257A	No
	DC_5A_n257A	CA_2A-5A	n257A	5A	n257A	No
DC_2A-5A_n260A	DC_2A_n260A	CA_2A-5A	n260A	2A	n260A	No
	DC_5A_n260A	CA_2A-5A	n260A	5A	n260A	No
DC_2A-12A_n260A	DC_2A_n260A	CA_2A-12A	n260A	2A	n260A	No
	DC_12A_n260A	CA_2A-12A	n260A	12A	n260A	No
DC_2A-30A_n260A	DC_2A_n260A	CA_2A-30A	n260A	2A	n260A	No
	DC_30A_n260A	CA_2A-30A	n260A	30A	n260A	No
DC_2A-66A_n257A	DC_2A_n257A	CA_2A-66A	n257A	2A	n257A	No
	DC_66A_n257A	CA_2A-66A	n257A	66A	n257A	No
DC_2A-66A_n260A	DC_2A_n260A	CA_2A-66A	n260A	2A	n260A	No
	DC_66A_n260A	CA_2A-66A	n260A	66A	n260A	No
DC_3A-19A_n257A	DC_3A_n257A	CA_3A-19A	n257A	3A	n257A	No
	DC_19A_n257A	CA_3A-19A	n257A	19A	n257A	No
DC_3A-19A_n257G	DC_3A_n257A	CA_3A-19A	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-19A	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A	CA_n257G	3A	CA_n257G	No
	DC_19A_n257A	CA_3A-19A	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_3A-19A	CA_n257G	19A	CA_n257D	No
DC_3A-19A_n257H	DC_3A_n257A	CA_3A-19A	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-19A	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-19A	CA_n257H	3A	CA_n257H	No
	DC_19A_n257A	CA_3A-19A	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_3A-19A	CA_n257H	19A	CA_n257D	No
DC_3A-19A_n257I	DC_3A_n257A	CA_3A-19A	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-19A	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-19A	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-19A	CA_n257I	3A	CA_n257I	No
	DC_19A_n257A	CA_3A-19A	CA_n257I	19A	n257A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_3A-21A_n257A	DC_19A_n257D	CA_3A-19A	CA_n257I	19A	CA_n257D	No
	DC_3A_n257A	CA_3A-21A	n257A	3A	n257A	No
	DC_21A_n257A	CA_3A-21A	n257A	21A	n257A	No
DC_3A-21A_n257G	DC_3A_n257A	CA_3A-21A	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-21A	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A	CA_n257G	3A	CA_n257G	No
	DC_21A_n257A	CA_3A-21A	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_3A-21A	CA_n257G	21A	CA_n257D	No
	DC_21A_n257G	CA_3A-21A	CA_n257G	21A	n257A	No
DC_3A-21A_n257H	DC_3A_n257A	CA_3A-21A	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-21A	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-21A	CA_n257H	3A	CA_n257H	No
	DC_21A_n257A	CA_3A-21A	CA_n257H	21A	n257A	No
	DC_21A_n257D	CA_3A-21A	CA_n257H	21A	CA_n257D	No
DC_3A-21A_n257I	DC_3A_n257A	CA_3A-21A	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-21A	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-21A	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-21A	CA_n257I	3A	CA_n257I	No
	DC_21A_n257A	CA_3A-21A	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_3A-21A	CA_n257I	21A	CA_n257D	No
DC_3A-42A_n257A	DC_3A_n257A	CA_3A-42A	n257A	3A	n257A	No
	DC_42A_n257A	CA_3A-42A	n257A	42A	n257A	No
DC_3A-42A_n257G	DC_3A_n257A	CA_3A-42A	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-42A	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42A	CA_n257G	3A	CA_n257G	No
	DC_42A_n257A	CA_3A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-42A	CA_n257G	42A	CA_n257D	No
DC_3A-42A_n257H	DC_3A_n257A	CA_3A-42A	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-42A	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42A	CA_n257H	3A	CA_n257H	No
	DC_42A_n257A	CA_3A-42A	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-42A	CA_n257H	42A	CA_n257D	No
DC_3A-42A_n257I	DC_3A_n257A	CA_3A-42A	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-42A	CA_n257I	3A	CA_n257D	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_3A_n257G	CA_3A-42A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42A	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-42A	CA_n257I	3A	CA_n257I	No
	DC_42A_n257A	CA_3A-42A	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_3A-42A	CA_n257I	42A	CA_n257D	No
DC_3A-42C_n257A	DC_3A_n257A	CA_3A-42C	n257A	3A	n257A	No
	DC_42A_n257A	CA_3A-42C	n257A	42A	n257A	No
DC_3A-42C_n257G	DC_3A_n257A	CA_3A-42C	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-42C	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42C	CA_n257G	3A	CA_n257G	No
	DC_42A_n257A	CA_3A-42C	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-42C	CA_n257G	42A	CA_n257D	No
DC_3A-42C_n257H	DC_3A_n257A	CA_3A-42C	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-42C	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42C	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42C	CA_n257H	3A	CA_n257H	No
	DC_42A_n257A	CA_3A-42C	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-42C	CA_n257H	42A	CA_n257D	No
DC_3A-42C_n257I	DC_3A_n257A	CA_3A-42C	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-42C	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42C	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42C	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-42C	CA_n257I	3A	CA_n257I	No
	DC_42A_n257A	CA_3A-42C	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_3A-42C	CA_n257I	42A	CA_n257D	No
DC_3A-42D_n257G	DC_3A_n257A	CA_3A-42D	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-42D	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42D	CA_n257G	3A	CA_n257G	No
	DC_42A_n257A	CA_3A-42D	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-42D	CA_n257G	42A	CA_n257D	No
DC_3A-42D_n257H	DC_3A_n257A	CA_3A-42D	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-42D	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42D	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42D	CA_n257H	3A	CA_n257H	No
	DC_42A_n257A	CA_3A-42D	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-42D	CA_n257H	42A	CA_n257D	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_3A-42D_n257I	DC_3A_n257A	CA_3A-42D	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-42D	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42D	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42D	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-42D	CA_n257I	3A	CA_n257I	No
	DC_42A_n257A	CA_3A-42D	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_3A-42D	CA_n257I	42A	CA_n257D	No
DC_3A-42E_n257G	DC_3A_n257A	CA_3A-42E	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-42E	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42E	CA_n257G	3A	CA_n257G	No
	DC_42A_n257A	CA_3A-42E	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-42E	CA_n257G	42A	CA_n257D	No
DC_3A-42E_n257H	DC_3A_n257A	CA_3A-42E	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-42E	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42E	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42E	CA_n257H	3A	CA_n257H	No
	DC_42A_n257A	CA_3A-42E	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-42E	CA_n257H	42A	CA_n257D	No
DC_3A-42E_n257I	DC_3A_n257A	CA_3A-42E	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-42E	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-42E	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-42E	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-42E	CA_n257I	3A	CA_n257I	No
	DC_42A_n257A	CA_3A-42E	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_3A-42E	CA_n257I	42A	CA_n257D	No
DC_5A-7A_n257A	DC_5A_n257A	CA_5A-7A	n257A	5A	n257A	No
	DC_7A_n257A	CA_5A-7A	n257A	7A	n257A	No
DC_5A-30A_n260A	DC_5A_n260A	CA_5A-30A	n260A	5A	n260A	No
	DC_30A_n260A	CA_5A-30A	n260A	30A	n260A	No
DC_5A-66A_n257A	DC_5A_n257A	CA_5A-66A	n257A	5A	n257A	No
	DC_66A_n257A	CA_5A-66A	n257A	66A	n257A	No
DC_5A-66A_n260A	DC_5A_n260A	CA_5A-66A	n260A	5A	n260A	No
	DC_66A_n260A	CA_5A-66A	n260A	66A	n260A	No
DC_12A-30A_n260A	DC_12A_n260A	CA_12A-30A	n260A	12A	n260A	No
	DC_30A_n260A	CA_12A-30A	n260A	30A	n260A	No
DC_12A-66A_n260A	DC_12A_n260A	CA_12A-66A	n260A	12A	n260A	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_19A-21A_n257A	DC_66A_n260A	CA_12A-66A	n260A	66A	n260A	No
	DC_19A_n257A	CA_19A-21A	n257A	19A	n257A	No
	DC_21A_n257A	CA_19A-21A	n257A	21A	n257A	No
DC_19A-21A_n257G	DC_19A_n257A	CA_19A-21A	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_19A-21A	CA_n257G	19A	CA_n257D	No
	DC_21A_n257A	CA_19A-21A	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_19A-21A	CA_n257G	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A	CA_n257G	21A	CA_n257G	No
	DC_21A_n257H	CA_19A-21A	CA_n257G	21A	CA_n257G	No
DC_19A-21A_n257H	DC_19A_n257A	CA_19A-21A	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_19A-21A	CA_n257H	19A	CA_n257D	No
	DC_21A_n257A	CA_19A-21A	CA_n257H	21A	n257A	No
	DC_21A_n257D	CA_19A-21A	CA_n257H	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_19A-21A	CA_n257H	21A	CA_n257H	No
DC_19A-21A_n257I	DC_19A_n257A	CA_19A-21A	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_19A-21A	CA_n257I	19A	CA_n257D	No
	DC_21A_n257A	CA_19A-21A	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_19A-21A	CA_n257I	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_19A-21A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_19A-21A	CA_n257I	21A	CA_n257I	No
DC_19A-42A_n257A	DC_19A_n257A	CA_19A-42A	n257A	19A	n257A	No
	DC_42A_n257A	CA_19A-42A	n257A	42A	n257A	No
DC_19A-42A_n257G	DC_19A_n257A	CA_19A-42A	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_19A-42A	CA_n257G	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-42A	CA_n257G	19A	CA_n257G	No
	DC_42A_n257A	CA_19A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_19A-42A	CA_n257G	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-42A	CA_n257G	42A	CA_n257G	No
DC_19A-42A_n257H	DC_19A_n257A	CA_19A-42A	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_19A-42A	CA_n257H	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-42A	CA_n257H	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-42A	CA_n257H	19A	CA_n257H	No
	DC_42A_n257A	CA_19A-42A	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_19A-42A	CA_n257H	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-42A	CA_n257H	42A	CA_n257G	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_19A-42A_n257I	DC_42A_n257H	CA_19A-42A	CA_n257H	42A	CA_n257H	No
	DC_19A_n257A	CA_19A-42A	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_19A-42A	CA_n257I	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-42A	CA_n257I	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-42A	CA_n257I	19A	CA_n257H	No
	DC_19A_n257I	CA_19A-42A	CA_n257I	19A	CA_n257I	No
	DC_42A_n257A	CA_19A-42A	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_19A-42A	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-42A	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_19A-42A	CA_n257I	42A	CA_n257H	No
	DC_42A_n257I	CA_19A-42A	CA_n257I	42A	CA_n257I	No
DC_19A-42C_n257A	DC_19A_n257A	CA_19A-42C	n257A	19A	n257A	No
	DC_42A_n257A	CA_19A-42C	n257A	42A	n257A	No
DC_19A-42C_n257G	DC_19A_n257A	CA_19A-42C	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_19A-42C	CA_n257G	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-42C	CA_n257G	19A	CA_n257G	No
	DC_42A_n257A	CA_19A-42C	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_19A-42C	CA_n257G	42A	CA_n257D	No
DC_19A-42C_n257H	DC_42A_n257G	CA_19A-42C	CA_n257G	42A	CA_n257G	No
	DC_19A_n257A	CA_19A-42C	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_19A-42C	CA_n257H	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-42C	CA_n257H	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-42C	CA_n257H	19A	CA_n257H	No
	DC_42A_n257A	CA_19A-42C	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_19A-42C	CA_n257H	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-42C	CA_n257H	42A	CA_n257G	No
DC_19A-42C_n257I	DC_42A_n257H	CA_19A-42C	CA_n257H	42A	CA_n257H	No
	DC_19A_n257A	CA_19A-42C	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_19A-42C	CA_n257I	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-42C	CA_n257I	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-42C	CA_n257I	19A	CA_n257H	No
	DC_19A_n257I	CA_19A-42C	CA_n257I	19A	CA_n257I	No
	DC_42A_n257A	CA_19A-42C	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_19A-42C	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-42C	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_19A-42C	CA_n257I	42A	CA_n257H	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_21A-42A_n257A	DC_42A_n257I	CA_19A-42C	CA_n257I	42A	CA_n257I	No
	DC_21A_n257A	CA_21A-42A	n257A	21A	n257A	No
	DC_42A_n257A	CA_21A-42A	n257A	42A	n257A	No
DC_21A-42A_n257G	DC_21A_n257A	CA_21A-42A	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_21A-42A	CA_n257G	21A	CA_n257D	No
	DC_42A_n257A	CA_21A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_21A-42A	CA_n257G	42A	CA_n257D	No
	DC_21A_n257G	CA_21A-42A	CA_n257G	21A	CA_n257G	No
	DC_21A_n257H	CA_21A-42A	CA_n257H	21A	n257A	No
DC_21A-42A_n257H	DC_21A_n257A	CA_21A-42A	CA_n257H	21A	CA_n257D	No
	DC_21A_n257D	CA_21A-42A	CA_n257H	21A	CA_n257D	No
	DC_42A_n257A	CA_21A-42A	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_21A-42A	CA_n257H	42A	CA_n257D	No
	DC_21A_n257G	CA_21A-42A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_21A-42A	CA_n257H	21A	CA_n257H	No
DC_21A-42A_n257I	DC_21A_n257A	CA_21A-42A	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_21A-42A	CA_n257I	21A	CA_n257D	No
	DC_42A_n257A	CA_21A-42A	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_21A-42A	CA_n257I	42A	CA_n257D	No
	DC_21A_n257G	CA_21A-42A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_21A-42A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_21A-42A	CA_n257I	21A	CA_n257I	No
DC_21A-42C_n257A	DC_21A_n257A	CA_21A-42C	n257A	21A	n257A	No
	DC_42A_n257A	CA_21A-42C	n257A	42A	n257A	No
DC_21A-42C_n257G	DC_21A_n257A	CA_21A-42C	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_21A-42C	CA_n257G	21A	CA_n257D	No
	DC_42A_n257A	CA_21A-42C	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_21A-42C	CA_n257G	42A	CA_n257D	No
	DC_21A_n257G	CA_21A-42C	CA_n257G	21A	CA_n257G	No
DC_21A-42C_n257H	DC_21A_n257A	CA_21A-42C	CA_n257H	21A	n257A	No
	DC_21A_n257D	CA_21A-42C	CA_n257H	21A	CA_n257D	No
	DC_42A_n257A	CA_21A-42C	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_21A-42C	CA_n257H	42A	CA_n257D	No
	DC_21A_n257G	CA_21A-42C	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_21A-42C	CA_n257H	21A	CA_n257H	No
DC_21A-42C_n257I	DC_21A_n257A	CA_21A-42C	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_21A-42C	CA_n257I	21A	CA_n257D	No

EN-DC configuration	Uplink EN-DC Configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_42A_n257A	CA_21A-42C	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_21A-42C	CA_n257I	42A	CA_n257D	No
	DC_21A_n257G	CA_21A-42C	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_21A-42C	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_21A-42C	CA_n257I	21A	CA_n257I	No
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.5.1.4

Inter-band EN-DC configurations including FR2 (four bands)

Table 4.3.1.5.1.4-1: Inter-band EN-DC configurations including FR2 (four bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A-19A_n257A	DC_1A_n257A	CA_1A-3A-19A	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A	n257A	3A	n257A	No
	DC_19A_n257A	CA_1A-3A-19A	n257A	19A	n257A	No
DC_1A-3A-19A_n257G	DC_1A_n257A	CA_1A-3A-19A	CA_n257G	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A	CA_n257G	3A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-19A	CA_n257G	3A	CA_n257G	No
	DC_19A_n257A	CA_1A-3A-19A	CA_n257G	19A	n257A	No
DC_1A-3A-19A_n257H	DC_1A_n257A	CA_1A-3A-19A	CA_n257H	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A	CA_n257H	3A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A	CA_n257H	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-19A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-19A	CA_n257H	3A	CA_n257H	No
	DC_19A_n257A	CA_1A-3A-19A	CA_n257H	19A	n257A	No
DC_1A-3A-19A_n257I	DC_1A_n257A	CA_1A-3A-19A	CA_n257I	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A	CA_n257I	3A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A	CA_n257I	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-19A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-19A	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A-19A	CA_n257I	3A	CA_n257I	No
	DC_19A_n257A	CA_1A-3A-19A	CA_n257I	19A	n257A	No
DC_1A-3A-21A_n257A	DC_1A_n257A	CA_1A-3A-21A	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A	n257A	3A	n257A	No
	DC_21A_n257A	CA_1A-3A-21A	n257A	21A	n257A	No
DC_1A-3A-21A_n257G	DC_1A_n257A	CA_1A-3A-21A	CA_n257G	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-21A	CA_n257G	3A	CA_n257G	No
	DC_21A_n257A	CA_1A-3A-21A	CA_n257G	21A	n257A	No
DC_1A-3A-21A_n257H	DC_1A_n257A	CA_1A-3A-21A	CA_n257H	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A	CA_n257H	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-21A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-21A	CA_n257H	3A	CA_n257H	No
	DC_21A_n257A	CA_1A-3A-21A	CA_n257H	21A	n257A	No
DC_1A-3A-21A_n257I	DC_1A_n257A	CA_1A-3A-21A	CA_n257I	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A	CA_n257I	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-21A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-21A	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A-21A	CA_n257I	3A	CA_n257I	No
	DC_21A_n257A	CA_1A-3A-21A	CA_n257I	21A	n257A	No
DC_1A-3A-42A_n257A	DC_1A_n257A	CA_1A-3A-42A	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-42A	n257A	3A	n257A	No
	DC_42A_n257A	CA_1A-3A-42A	n257A	42A	n257A	No
DC_1A-3A-42A_n257G	DC_1A_n257A	CA_1A-3A-42A	CA_n257G	1A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_1A_n257G	CA_1A-3A-42A	CA_n257G	1A	CA_n257G	No
	DC_3A_n257A	CA_1A-3A-42A	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42A	CA_n257G	3A	CA_n257G	No
DC_1A-3A-42A_n257H	DC_1A_n257A	CA_1A-3A-42A	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-3A-42A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42A	CA_n257H	1A	CA_n257H	No
	DC_3A_n257A	CA_1A-3A-42A	CA_n257H	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-42A	CA_n257H	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A-42A	CA_n257I	3A	CA_n257I	No
DC_1A-3A-42A_n257I	DC_1A_n257A	CA_1A-3A-42A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-3A-42A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-3A-42A	CA_n257I	1A	CA_n257I	No
	DC_3A_n257A	CA_1A-3A-42A	CA_n257I	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-42A	CA_n257I	3A	CA_n257H	No
DC_1A-3A-42C_n257A	DC_1A_n257A	CA_1A-3A-42C	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-42C	n257A	3A	n257A	No
	DC_42A_n257A	CA_1A-3A-42C	n257A	42A	n257A	No
	DC_1A_n257G	CA_1A-3A-42C	CA_n257G	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42C	CA_n257G	1A	CA_n257H	No
	DC_3A_n257A	CA_1A-3A-42C	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42C	CA_n257G	3A	CA_n257G	No
DC_1A-3A-42C_n257H	DC_1A_n257A	CA_1A-3A-42C	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-3A-42C	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42C	CA_n257H	1A	CA_n257H	No
	DC_3A_n257A	CA_1A-3A-42C	CA_n257H	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42C	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-42C	CA_n257H	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A-42C	CA_n257I	3A	CA_n257I	No
DC_1A-3A-42C_n257I	DC_1A_n257A	CA_1A-3A-42C	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-3A-42C	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42C	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-3A-42C	CA_n257I	1A	CA_n257I	No
	DC_3A_n257A	CA_1A-3A-42C	CA_n257I	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42C	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-42C	CA_n257I	3A	CA_n257H	No
DC_1A-3A-42D_n257G	DC_1A_n257A	CA_1A-3A-42D	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-3A-42D	CA_n257G	1A	CA_n257G	No
	DC_3A_n257A	CA_1A-3A-42D	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42D	CA_n257G	3A	CA_n257G	No
	DC_1A_n257A	CA_1A-3A-42D	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-3A-42D	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42D	CA_n257H	1A	CA_n257H	No
DC_1A-3A-42D_n257H	DC_3A_n257A	CA_1A-3A-42D	CA_n257H	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42D	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-42D	CA_n257H	3A	CA_n257H	No
	DC_1A_n257A	CA_1A-3A-42D	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-3A-42D	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42D	CA_n257I	1A	CA_n257H	No
	DC_3A_n257A	CA_1A-3A-42D	CA_n257I	3A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
42D_n257I						
	DC_1A_n257G	CA_1A-3A-42D	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A-42D	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-3A-42D	CA_n257I	1A	CA_n257I	No
	DC_3A_n257A	CA_1A-3A-42D	CA_n257I	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-42D	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-42D	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A-42D	CA_n257I	3A	CA_n257I	No
DC_1A-19A-21A_n257A	DC_1A_n257A	CA_1A-19A-21A	n257A	1A	n257A	No
	DC_19A_n257A	CA_1A-19A-21A	n257A	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A	n257A	21A	n257A	No
DC_1A-19A-21A_n257G	DC_1A_n257A	CA_1A-19A-21A	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A	CA_n257G	1A	CA_n257G	No
	DC_19A_n257A	CA_1A-19A-21A	CA_n257G	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A	CA_n257G	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A	CA_n257G	21A	CA_n257G	No
DC_1A-19A-21A_n257H	DC_1A_n257A	CA_1A-19A-21A	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A	CA_n257H	1A	CA_n257H	No
	DC_19A_n257A	CA_1A-19A-21A	CA_n257H	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A	CA_n257H	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A	CA_n257H	21A	CA_n257G	No
DC_1A-19A-21A_n257I	DC_1A_n257A	CA_1A-19A-21A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-19A-21A	CA_n257I	1A	CA_n257I	No
	DC_19A_n257A	CA_1A-19A-21A	CA_n257I	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A	CA_n257I	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-19A-21A	CA_n257I	21A	CA_n257H	No
DC_1A-19A-42A_n257A	DC_1A_n257A	CA_1A-19A-42A	n257A	1A	n257A	No
	DC_19A_n257A	CA_1A-19A-42A	n257A	19A	n257A	No
	DC_42A_n257A	CA_1A-19A-42A	n257A	42A	n257A	No
DC_1A-19A-42A_n257G	DC_1A_n257A	CA_1A-19A-42A	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-42A	CA_n257G	1A	CA_n257G	No
	DC_19A_n257A	CA_1A-19A-42A	CA_n257G	19A	n257A	No
	DC_42A_n257A	CA_1A-19A-42A	CA_n257G	42A	n257A	No
DC_1A-19A-42A_n257H	DC_1A_n257A	CA_1A-19A-42A	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-42A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-42A	CA_n257H	1A	CA_n257H	No
	DC_19A_n257A	CA_1A-19A-42A	CA_n257H	19A	n257A	No
	DC_42A_n257A	CA_1A-19A-42A	CA_n257H	42A	n257A	No
DC_1A-19A-42A_n257I	DC_1A_n257A	CA_1A-19A-42A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-42A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-42A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-19A-42A	CA_n257I	1A	CA_n257I	No
	DC_19A_n257A	CA_1A-19A-42A	CA_n257I	19A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_42A_n257A	CA_1A-19A-42A	CA_n257I	42A	n257A	No
DC_1A-19A-42C_n257A	DC_1A_n257A	CA_1A-19A-42C	n257A	1A	n257A	No
	DC_19A_n257A	CA_1A-19A-42C	n257A	19A	n257A	No
	DC_42A_n257A	CA_1A-19A-42C	n257A	42A	n257A	No
DC_1A-19A-42C_n257G	DC_1A_n257A	CA_1A-19A-42C	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-42C	CA_n257G	1A	CA_n257G	No
	DC_19A_n257A	CA_1A-19A-42C	CA_n257G	19A	n257A	No
	DC_42A_n257A	CA_1A-19A-42C	CA_n257G	42A	n257A	No
DC_1A-19A-42C_n257H	DC_1A_n257A	CA_1A-19A-42C	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-42C	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-42C	CA_n257H	1A	CA_n257H	No
	DC_19A_n257A	CA_1A-19A-42C	CA_n257H	19A	n257A	No
	DC_42A_n257A	CA_1A-19A-42C	CA_n257H	42A	n257A	No
DC_1A-19A-42C_n257I	DC_1A_n257A	CA_1A-19A-42C	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-42C	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-42C	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-19A-42C	CA_n257I	1A	CA_n257I	No
	DC_19A_n257A	CA_1A-19A-42C	CA_n257I	19A	n257A	No
	DC_42A_n257A	CA_1A-19A-42C	CA_n257I	42A	n257A	No
DC_1A-21A-42A_n257A	DC_1A_n257A	CA_1A-21A-42A	n257A	1A	n257A	No
	DC_21A_n257A	CA_1A-21A-42A	n257A	21A	n257A	No
	DC_42A_n257A	CA_1A-21A-42A	n257A	42A	n257A	No
DC_1A-21A-42A_n257G	DC_1A_n257A	CA_1A-21A-42A	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-21A-42A	CA_n257G	1A	CA_n257G	No
	DC_21A_n257A	CA_1A-21A-42A	CA_n257G	21A	n257A	No
	DC_21A_n257G	CA_1A-21A-42A	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_1A-21A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_1A-21A-42A	CA_n257G	42A	CA_n257D	No
	DC_42A_n257H	CA_1A-21A-42A	CA_n257H	1A	n257A	No
DC_1A-21A-42A_n257H	DC_1A_n257A	CA_1A-21A-42A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257G	CA_1A-21A-42A	CA_n257H	1A	CA_n257H	No
	DC_1A_n257H	CA_1A-21A-42A	CA_n257H	1A	CA_n257H	No
	DC_21A_n257A	CA_1A-21A-42A	CA_n257H	21A	n257A	No
	DC_21A_n257G	CA_1A-21A-42A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-21A-42A	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_1A-21A-42A	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_1A-21A-42A	CA_n257H	42A	CA_n257D	No
DC_1A-21A-42A_n257I	DC_1A_n257A	CA_1A-21A-42A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-21A-42A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-21A-42A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-21A-42A	CA_n257I	1A	CA_n257I	No
	DC_21A_n257A	CA_1A-21A-42A	CA_n257I	21A	n257A	No
	DC_21A_n257G	CA_1A-21A-42A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-21A-42A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_1A-21A-42A	CA_n257I	21A	CA_n257I	No
	DC_42A_n257A	CA_1A-21A-42A	CA_n257I	42A	n257A	No
DC_1A-21A-42C_n257A	DC_1A_n257A	CA_1A-21A-42C	n257A	1A	n257A	No
	DC_21A_n257A	CA_1A-21A-42C	n257A	21A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_42A_n257A	CA_1A-21A-42C	n257A	42A	n257A	No
DC_1A-21A-42C_n257G	DC_1A_n257A	CA_1A-21A-42C	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-21A-42C	CA_n257G	1A	CA_n257G	No
	DC_21A_n257A	CA_1A-21A-42C	CA_n257G	21A	n257A	No
	DC_21A_n257G	CA_1A-21A-42C	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_1A-21A-42C	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_1A-21A-42C	CA_n257G	42A	CA_n257D	No
DC_1A-21A-42C_n257H	DC_1A_n257A	CA_1A-21A-42C	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-21A-42C	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-21A-42C	CA_n257H	1A	CA_n257H	No
	DC_21A_n257A	CA_1A-21A-42C	CA_n257H	21A	n257A	No
	DC_21A_n257G	CA_1A-21A-42C	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-21A-42C	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_1A-21A-42C	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_1A-21A-42C	CA_n257H	42A	CA_n257D	No
DC_1A-21A-42C_n257I	DC_1A_n257A	CA_1A-21A-42C	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-21A-42C	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-21A-42C	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-21A-42C	CA_n257I	1A	CA_n257I	No
	DC_21A_n257A	CA_1A-21A-42C	CA_n257I	21A	n257A	No
	DC_21A_n257G	CA_1A-21A-42C	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-21A-42C	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_1A-21A-42C	CA_n257I	21A	CA_n257I	No
	DC_42A_n257A	CA_1A-21A-42C	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_1A-21A-42C	CA_n257I	42A	CA_n257D	No
DC_3A-19A-21A_n257A	DC_3A_n257A	CA_3A-19A-21A	n257A	3A	n257A	No
	DC_19A_n257A	CA_3A-19A-21A	n257A	19A	n257A	No
	DC_21A_n257A	CA_3A-19A-21A	n257A	21A	n257A	No
DC_3A-19A-42A_n257A	DC_3A_n257A	CA_3A-19A-42A	n257A	3A	n257A	No
	DC_19A_n257A	CA_3A-19A-42A	n257A	19A	n257A	No
	DC_42A_n257A	CA_3A-19A-42A	n257A	42A	n257A	No
DC_3A-19A-42A_n257G	DC_3A_n257A	CA_3A-19A-42A	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-19A-42A	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A-42A	CA_n257G	3A	CA_n257G	No
	DC_19A_n257A	CA_3A-19A-42A	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_3A-19A-42A	CA_n257G	19A	CA_n257D	No
	DC_19A_n257G	CA_3A-19A-42A	CA_n257G	19A	CA_n257G	No
	DC_42A_n257A	CA_3A-19A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-19A-42A	CA_n257G	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-19A-42A	CA_n257G	42A	CA_n257G	No
DC_3A-19A-42A_n257H	DC_3A_n257A	CA_3A-19A-42A	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-19A-42A	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A-42A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-19A-42A	CA_n257H	3A	CA_n257H	No
	DC_19A_n257A	CA_3A-19A-42A	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_3A-19A-42A	CA_n257H	19A	CA_n257D	No
	DC_19A_n257G	CA_3A-19A-42A	CA_n257H	19A	CA_n257G	No
	DC_19A_n257H	CA_3A-19A-42A	CA_n257H	19A	CA_n257H	No
	DC_42A_n257A	CA_3A-19A-42A	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-19A-42A	CA_n257H	42A	CA_n257D	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_42A_n257G	CA_3A-19A-42A	CA_n257H	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-19A-42A	CA_n257H	42A	CA_n257H	No
DC_3A-19A-42A_n257I	DC_3A_n257A	CA_3A-19A-42A	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-19A-42A	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A-42A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-19A-42A	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-19A-42A	CA_n257I	3A	CA_n257I	No
	DC_19A_n257A	CA_3A-19A-42A	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_3A-19A-42A	CA_n257I	19A	CA_n257D	No
	DC_19A_n257G	CA_3A-19A-42A	CA_n257I	19A	CA_n257G	No
	DC_19A_n257H	CA_3A-19A-42A	CA_n257I	19A	CA_n257H	No
	DC_19A_n257I	CA_3A-19A-42A	CA_n257I	19A	CA_n257I	No
	DC_42A_n257A	CA_3A-19A-42A	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_3A-19A-42A	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-19A-42A	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-19A-42A	CA_n257I	42A	CA_n257H	No
	DC_42A_n257I	CA_3A-19A-42A	CA_n257I	42A	CA_n257I	No
DC_3A-19A-42C_n257A	DC_3A_n257A	CA_3A-19A-42C	n257A	3A	n257A	No
	DC_19A_n257A	CA_3A-19A-42C	n257A	19A	n257A	No
	DC_42A_n257A	CA_3A-19A-42C	n257A	42A	n257A	No
DC_3A-19A-42C_n257G	DC_3A_n257A	CA_3A-19A-42C	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-19A-42C	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A-42C	CA_n257G	3A	CA_n257G	No
	DC_19A_n257A	CA_3A-19A-42C	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_3A-19A-42C	CA_n257G	19A	CA_n257D	No
	DC_19A_n257G	CA_3A-19A-42C	CA_n257G	19A	CA_n257G	No
	DC_42A_n257A	CA_3A-19A-42C	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-19A-42C	CA_n257G	42A	CA_n257D	No
DC_3A-19A-42C_n257H	DC_3A_n257A	CA_3A-19A-42C	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-19A-42C	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A-42C	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-19A-42C	CA_n257H	3A	CA_n257H	No
	DC_19A_n257A	CA_3A-19A-42C	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_3A-19A-42C	CA_n257H	19A	CA_n257D	No
	DC_19A_n257G	CA_3A-19A-42C	CA_n257H	19A	CA_n257G	No
	DC_19A_n257H	CA_3A-19A-42C	CA_n257H	19A	CA_n257H	No
	DC_42A_n257A	CA_3A-19A-42C	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-19A-42C	CA_n257H	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-19A-42C	CA_n257H	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-19A-42C	CA_n257H	42A	CA_n257H	No
DC_3A-19A-42C_n257I	DC_3A_n257A	CA_3A-19A-42C	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-19A-42C	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-19A-42C	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-19A-42C	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-19A-42C	CA_n257I	3A	CA_n257I	No
	DC_19A_n257A	CA_3A-19A-42C	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_3A-19A-42C	CA_n257I	19A	CA_n257D	No
	DC_19A_n257G	CA_3A-19A-42C	CA_n257I	19A	CA_n257G	No
	DC_19A_n257H	CA_3A-19A-42C	CA_n257I	19A	CA_n257H	No
	DC_19A_n257I	CA_3A-19A-42C	CA_n257I	19A	CA_n257I	No
	DC_42A_n257A	CA_3A-19A-42C	CA_n257I	42A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_42A_n257D	CA_3A-19A-42C	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-19A-42C	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-19A-42C	CA_n257I	42A	CA_n257H	No
	DC_42A_n257I	CA_3A-19A-42C	CA_n257I	42A	CA_n257I	No
DC_3A-21A-42A_n257A	DC_3A_n257A	CA_3A-21A-42A	n257A	3A	n257A	No
	DC_21A_n257A	CA_3A-21A-42A	n257A	21A	n257A	No
	DC_42A_n257A	CA_3A-21A-42A	n257A	42A	n257A	No
DC_3A-21A-42A_n257G	DC_3A_n257A	CA_3A-21A-42A	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-21A-42A	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A-42A	CA_n257G	3A	CA_n257G	No
	DC_21A_n257A	CA_3A-21A-42A	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_3A-21A-42A	CA_n257G	21A	CA_n257D	No
	DC_21A_n257G	CA_3A-21A-42A	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_3A-21A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-21A-42A	CA_n257G	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-21A-42A	CA_n257G	42A	CA_n257G	No
DC_3A-21A-42A_n257H	DC_3A_n257A	CA_3A-21A-42A	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-21A-42A	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A-42A	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-21A-42A	CA_n257H	3A	CA_n257H	No
	DC_21A_n257A	CA_3A-21A-42A	CA_n257H	21A	n257A	No
	DC_21A_n257D	CA_3A-21A-42A	CA_n257H	21A	CA_n257D	No
	DC_21A_n257G	CA_3A-21A-42A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_3A-21A-42A	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_3A-21A-42A	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-21A-42A	CA_n257H	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-21A-42A	CA_n257H	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-21A-42A	CA_n257H	42A	CA_n257H	No
DC_3A-21A-42A_n257I	DC_3A_n257A	CA_3A-21A-42A	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-21A-42A	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A-42A	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-21A-42A	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-21A-42A	CA_n257I	3A	CA_n257I	No
	DC_21A_n257A	CA_3A-21A-42A	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_3A-21A-42A	CA_n257I	21A	CA_n257D	No
	DC_21A_n257G	CA_3A-21A-42A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_3A-21A-42A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_3A-21A-42A	CA_n257I	21A	CA_n257I	No
	DC_42A_n257A	CA_3A-21A-42A	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_3A-21A-42A	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-21A-42A	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-21A-42A	CA_n257I	42A	CA_n257H	No
	DC_42A_n257I	CA_3A-21A-42A	CA_n257I	42A	CA_n257I	No
DC_3A-21A-42C_n257A	DC_3A_n257A	CA_3A-21A-42C	n257A	3A	n257A	No
	DC_21A_n257A	CA_3A-21A-42C	n257A	21A	n257A	No
	DC_42A_n257A	CA_3A-21A-42C	n257A	42A	n257A	No
DC_3A-21A-42C_n257G	DC_3A_n257A	CA_3A-21A-42C	CA_n257G	3A	n257A	No
	DC_3A_n257D	CA_3A-21A-42C	CA_n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A-42C	CA_n257G	3A	CA_n257G	No
	DC_21A_n257A	CA_3A-21A-42C	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_3A-21A-42C	CA_n257G	21A	CA_n257D	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_21A_n257G	CA_3A-21A-42C	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_3A-21A-42C	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_3A-21A-42C	CA_n257G	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-21A-42C	CA_n257G	42A	CA_n257G	No
DC_3A-21A-42C_n257H	DC_3A_n257A	CA_3A-21A-42C	CA_n257H	3A	n257A	No
	DC_3A_n257D	CA_3A-21A-42C	CA_n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A-42C	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-21A-42C	CA_n257H	3A	CA_n257H	No
	DC_21A_n257A	CA_3A-21A-42C	CA_n257H	21A	n257A	No
	DC_21A_n257D	CA_3A-21A-42C	CA_n257H	21A	CA_n257D	No
	DC_21A_n257G	CA_3A-21A-42C	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_3A-21A-42C	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_3A-21A-42C	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_3A-21A-42C	CA_n257H	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-21A-42C	CA_n257H	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-21A-42C	CA_n257H	42A	CA_n257H	No
DC_3A-21A-42C_n257I	DC_3A_n257A	CA_3A-21A-42C	CA_n257I	3A	n257A	No
	DC_3A_n257D	CA_3A-21A-42C	CA_n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_3A-21A-42C	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_3A-21A-42C	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_3A-21A-42C	CA_n257I	3A	CA_n257I	No
	DC_21A_n257A	CA_3A-21A-42C	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_3A-21A-42C	CA_n257I	21A	CA_n257D	No
	DC_21A_n257G	CA_3A-21A-42C	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_3A-21A-42C	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_3A-21A-42C	CA_n257I	21A	CA_n257I	No
	DC_42A_n257A	CA_3A-21A-42C	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_3A-21A-42C	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_3A-21A-42C	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_3A-21A-42C	CA_n257I	42A	CA_n257H	No
	DC_42A_n257I	CA_3A-21A-42C	CA_n257I	42A	CA_n257I	No
DC_19A-21A-42A_n257A	DC_19A_n257A	CA_19A-21A-42A	n257A	19A	n257A	No
	DC_21A_n257A	CA_19A-21A-42A	n257A	21A	n257A	No
	DC_42A_n257A	CA_19A-21A-42A	n257A	42A	n257A	No
DC_19A-21A-42A_n257G	DC_19A_n257A	CA_19A-21A-42A	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_19A-21A-42A	CA_n257G	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-21A-42A	CA_n257G	19A	CA_n257G	No
	DC_21A_n257A	CA_19A-21A-42A	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_19A-21A-42A	CA_n257G	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A-42A	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_19A-21A-42A	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_19A-21A-42A	CA_n257G	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-21A-42A	CA_n257G	42A	CA_n257G	No
DC_19A-21A-42A_n257H	DC_19A_n257A	CA_19A-21A-42A	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_19A-21A-42A	CA_n257H	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-21A-42A	CA_n257H	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-21A-42A	CA_n257H	19A	CA_n257H	No
	DC_21A_n257A	CA_19A-21A-42A	CA_n257H	21A	n257A	No
	DC_21A_n257D	CA_19A-21A-42A	CA_n257H	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A-42A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_19A-21A-42A	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_19A-21A-42A	CA_n257H	42A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_42A_n257D	CA_19A-21A-42A	CA_n257H	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-21A-42A	CA_n257H	42A	CA_n257G	No
	DC_42A_n257H	CA_19A-21A-42A	CA_n257H	42A	CA_n257H	No
DC_19A-21A-42A_n257I	DC_19A_n257A	CA_19A-21A-42A	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_19A-21A-42A	CA_n257I	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-21A-42A	CA_n257I	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-21A-42A	CA_n257I	19A	CA_n257H	No
	DC_19A_n257I	CA_19A-21A-42A	CA_n257I	19A	CA_n257I	No
	DC_21A_n257A	CA_19A-21A-42A	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_19A-21A-42A	CA_n257I	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A-42A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_19A-21A-42A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_19A-21A-42A	CA_n257I	21A	CA_n257I	No
	DC_42A_n257A	CA_19A-21A-42A	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_19A-21A-42A	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-21A-42A	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_19A-21A-42A	CA_n257I	42A	CA_n257H	No
	DC_42A_n257I	CA_19A-21A-42A	CA_n257I	42A	CA_n257I	No
DC_19A-21A-42C_n257A	DC_19A_n257A	CA_19A-21A-42C	n257A	19A	n257A	No
	DC_21A_n257A	CA_19A-21A-42C	n257A	21A	n257A	No
	DC_42A_n257A	CA_19A-21A-42C	n257A	42A	n257A	No
DC_19A-21A-42C_n257G	DC_19A_n257A	CA_19A-21A-42C	CA_n257G	19A	n257A	No
	DC_19A_n257D	CA_19A-21A-42C	CA_n257G	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-21A-42C	CA_n257G	19A	CA_n257G	No
	DC_21A_n257A	CA_19A-21A-42C	CA_n257G	21A	n257A	No
	DC_21A_n257D	CA_19A-21A-42C	CA_n257G	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A-42C	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_19A-21A-42C	CA_n257G	42A	n257A	No
	DC_42A_n257D	CA_19A-21A-42C	CA_n257G	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-21A-42C	CA_n257G	42A	CA_n257G	No
DC_19A-21A-42C_n257H	DC_19A_n257A	CA_19A-21A-42C	CA_n257H	19A	n257A	No
	DC_19A_n257D	CA_19A-21A-42C	CA_n257H	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-21A-42C	CA_n257H	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-21A-42C	CA_n257H	19A	CA_n257H	No
	DC_21A_n257A	CA_19A-21A-42C	CA_n257H	21A	n257A	No
	DC_21A_n257D	CA_19A-21A-42C	CA_n257H	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A-42C	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_19A-21A-42C	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_19A-21A-42C	CA_n257H	42A	n257A	No
	DC_42A_n257D	CA_19A-21A-42C	CA_n257H	42A	CA_n257D	No
DC_19A-21A-42C_n257I	DC_19A_n257A	CA_19A-21A-42C	CA_n257I	19A	n257A	No
	DC_19A_n257D	CA_19A-21A-42C	CA_n257I	19A	CA_n257D	No
	DC_19A_n257G	CA_19A-21A-42C	CA_n257I	19A	CA_n257G	No
	DC_19A_n257H	CA_19A-21A-42C	CA_n257I	19A	CA_n257H	No
	DC_19A_n257I	CA_19A-21A-42C	CA_n257I	19A	CA_n257I	No
	DC_21A_n257A	CA_19A-21A-42C	CA_n257I	21A	n257A	No
	DC_21A_n257D	CA_19A-21A-42C	CA_n257I	21A	CA_n257D	No
	DC_21A_n257G	CA_19A-21A-42C	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_19A-21A-42C	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_19A-21A-42C	CA_n257I	21A	CA_n257I	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_42A_n257A	CA_19A-21A-42C	CA_n257I	42A	n257A	No
	DC_42A_n257D	CA_19A-21A-42C	CA_n257I	42A	CA_n257D	No
	DC_42A_n257G	CA_19A-21A-42C	CA_n257I	42A	CA_n257G	No
	DC_42A_n257H	CA_19A-21A-42C	CA_n257I	42A	CA_n257H	No
	DC_42A_n257I	CA_19A-21A-42C	CA_n257I	42A	CA_n257I	No
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.5.1.5 Inter-band EN-DC configurations including FR2 (five bands)

Table 4.3.1.5.1.5-1: Inter-band EN-DC configurations including FR2 (five bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A-19A-42A_n257A	DC_1A_n257A	CA_1A-3A-19A-42A	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A-42A	n257A	3A	n257A	No
	DC_19A_n257A	CA_1A-3A-19A-42A	n257A	19A	n257A	No
	DC_42A_n257A	CA_1A-3A-19A-42A	n257A	42A	n257A	No
DC_1A-3A-19A-42A_n257G	DC_1A_n257A	CA_1A-3A-19A-42A	CA_n257G	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A-42A	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-19A-42A	CA_n257G	3A	CA_n257G	No
	DC_19A_n257A	CA_1A-3A-19A-42A	CA_n257G	19A	n257A	No
	DC_42A_n257A	CA_1A-3A-19A-42A	CA_n257G	42A	n257A	No
DC_1A-3A-19A-42C_n257A	DC_1A_n257A	CA_1A-3A-19A-42C	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A-42C	n257A	3A	n257A	No
	DC_19A_n257A	CA_1A-3A-19A-42C	n257A	19A	n257A	No
	DC_42A_n257A	CA_1A-3A-19A-42C	n257A	42A	n257A	No
DC_1A-3A-19A-42C_n257G	DC_1A_n257A	CA_1A-3A-19A-42C	CA_n257G	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A-42C	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-19A-42C	CA_n257G	3A	CA_n257G	No
	DC_19A_n257A	CA_1A-3A-19A-42C	CA_n257G	19A	n257A	No
	DC_42A_n257A	CA_1A-3A-19A-42C	CA_n257G	42A	n257A	No
DC_1A-3A-19A-42C_n257H	DC_1A_n257A	CA_1A-3A-19A-42C	CA_n257H	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A-42C	CA_n257H	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-19A-42C	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-19A-42C	CA_n257H	3A	CA_n257H	No
	DC_19A_n257A	CA_1A-3A-19A-42C	CA_n257H	19A	n257A	No
DC_1A-3A-19A-42C_n257I	DC_1A_n257A	CA_1A-3A-19A-42C	CA_n257I	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-19A-42C	CA_n257I	3A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_3A_n257G	CA_1A-3A-19A-42C	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-19A-42C	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A-19A-42C	CA_n257I	3A	CA_n257I	No
	DC_19A_n257A	CA_1A-3A-19A-42C	CA_n257I	19A	n257A	No
	DC_42A_n257A	CA_1A-3A-19A-42C	CA_n257I	42A	n257A	No
DC_1A-3A-21A-42A_n257A	DC_1A_n257A	CA_1A-3A-21A-42A	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A-42A	n257A	3A	n257A	No
	DC_21A_n257A	CA_1A-3A-21A-42A	n257A	21A	n257A	No
	DC_42A_n257A	CA_1A-3A-21A-42A	n257A	42A	n257A	No
DC_1A-3A-21A-42C_n257A	DC_1A_n257A	CA_1A-3A-21A-42C	n257A	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A-42C	n257A	3A	n257A	No
	DC_21A_n257A	CA_1A-3A-21A-42C	n257A	21A	n257A	No
	DC_42A_n257A	CA_1A-3A-21A-42C	n257A	42A	n257A	No
DC_1A-3A-21A-42C_n257G	DC_1A_n257A	CA_1A-3A-21A-42C	CA_n257G	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A-42C	CA_n257G	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-21A-42C	CA_n257G	3A	CA_n257G	No
	DC_21A_n257A	CA_1A-3A-21A-42C	CA_n257G	21A	n257A	No
	DC_42A_n257A	CA_1A-3A-21A-42C	CA_n257G	42A	n257A	No
DC_1A-3A-21A-42C_n257H	DC_1A_n257A	CA_1A-3A-21A-42C	CA_n257H	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A-42C	CA_n257H	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-21A-42C	CA_n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-21A-42C	CA_n257H	3A	CA_n257H	No
	DC_21A_n257A	CA_1A-3A-21A-42C	CA_n257H	21A	n257A	No
	DC_42A_n257A	CA_1A-3A-21A-42C	CA_n257H	42A	n257A	No
DC_1A-3A-21A-42C_n257I	DC_1A_n257A	CA_1A-3A-21A-42C	CA_n257I	1A	n257A	No
	DC_3A_n257A	CA_1A-3A-21A-42C	CA_n257I	3A	n257A	No
	DC_3A_n257G	CA_1A-3A-21A-42C	CA_n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A-21A-42C	CA_n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A-21A-42C	CA_n257I	3A	CA_n257I	No
	DC_21A_n257A	CA_1A-3A-21A-42C	CA_n257I	21A	n257A	No
	DC_42A_n257A	CA_1A-3A-21A-42C	CA_n257I	42A	n257A	No
DC_1A-19A-21A-	DC_1A_n257A	CA_1A-19A-21A-42A	n257A	1A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
42A_n257A						
	DC_19A_n257A	CA_1A-19A-21A-42A	n257A	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42A	n257A	21A	n257A	No
	DC_42A_n257A	CA_1A-19A-21A-42A	n257A	42A	n257A	No
DC_1A-19A-21A-42A_n257G	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257G	1A	CA_n257G	No
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257G	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257G	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257G	42A	n257A	No
DC_1A-19A-21A-42A_n257H	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257H	No
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257H	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257H	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257H	42A	n257A	No
DC_1A-19A-21A-42A_n257I	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257I	No
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257I	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257I	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257I	No
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257I	42A	n257A	No
DC_1A-19A-21A-42C_n257A	DC_1A_n257A	CA_1A-19A-21A-42C	n257A	1A	n257A	No
	DC_19A_n257A	CA_1A-19A-21A-42C	n257A	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42C	n257A	21A	n257A	No
	DC_42A_n257A	CA_1A-19A-21A-42C	n257A	42A	n257A	No
DC_1A-19A-21A-	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257G	1A	n257A	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
42A_n257G						
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257G	1A	CA_n257G	No
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257G	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257G	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257G	21A	CA_n257G	No
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257G	42A	n257A	No
DC_1A-19A-21A-42A_n257H	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257H	No
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257H	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257H	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257H	42A	n257A	No
DC_1A-19A-21A-42A_n257I	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257I	No
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257I	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257I	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257I	No
DC_1A-19A-21A-42C_n257G	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257I	42A	n257A	No
	DC_1A_n257A	CA_1A-19A-21A-42C	CA_n257G	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42C	CA_n257G	1A	CA_n257G	No
	DC_19A_n257A	CA_1A-19A-21A-42C	CA_n257G	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42C	CA_n257G	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42C	CA_n257G	21A	CA_n257G	No
DC_1A-19A-21A-42C_n257H	DC_42A_n257A	CA_1A-19A-21A-42C	CA_n257G	42A	n257A	No
	DC_1A_n257A	CA_1A-19A-21A-42C	CA_n257H	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42C	CA_n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A-42C	CA_n257H	1A	CA_n257H	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
	DC_19A_n257A	CA_1A-19A-21A-42C	CA_n257H	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42C	CA_n257H	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42C	CA_n257H	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-19A-21A-42C	CA_n257H	21A	CA_n257H	No
	DC_42A_n257A	CA_1A-19A-21A-42C	CA_n257H	42A	n257A	No
DC_1A-19A-21A-42C_n257I	DC_1A_n257A	CA_1A-19A-21A-42C	CA_n257I	1A	n257A	No
	DC_1A_n257G	CA_1A-19A-21A-42C	CA_n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-19A-21A-42C	CA_n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-19A-21A-42C	CA_n257I	1A	CA_n257I	No
	DC_19A_n257A	CA_1A-19A-21A-42C	CA_n257I	19A	n257A	No
	DC_21A_n257A	CA_1A-19A-21A-42C	CA_n257I	21A	n257A	No
	DC_21A_n257G	CA_1A-19A-21A-42C	CA_n257I	21A	CA_n257G	No
	DC_21A_n257H	CA_1A-19A-21A-42C	CA_n257I	21A	CA_n257H	No
	DC_21A_n257I	CA_1A-19A-21A-42C	CA_n257I	21A	CA_n257I	No
	DC_42A_n257A	CA_1A-19A-21A-42C	CA_n257I	42A	n257A	No

Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.

4.3.1.5.1.6 Inter-band EN-DC configurations including FR2 (six bands)

Table 4.3.1.5.1.6-1: Inter-band EN-DC configurations including FR2 (six bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
FFS	FFS	FFS	FFS	FFS	FFS	FFS

4.3.1.6 Test frequencies for EN-DC band combinations including FR1 and FR2

4.3.1.6.1 Inter-band EN-DC configurations including FR1 and FR2

4.3.1.6.1.1 General

For inter-band EN-DC configurations as listed in this clause, the following apply:

For the E-UTRA band and E-UTRA CA configurations, test frequencies as specified in TS 36.508 [2], clause 4.3.1 are used.

For the NR band and NR CA configurations, test frequencies as specified in clause 4.3.1 for FR1 and 4.3.2 for FR2 are used.

4.3.1.6.1.2

Inter-band EN-DC configurations including FR1 and FR2 (three bands)

Table 4.3.1.6.1.2-1: Inter-band EN-DC including FR1 and FR2 (three bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A_n78A-n257A	DC_1A_n78A	1A	CA_n78A-n257A	1A	n78A	Yes (NR 2CC)
	DC_1A_n257A	1A	CA_n78A-n257A	1A	n257A	No
	DC_1A_n78A-n257A	1A	CA_n78A-n257A	1A	CA_n78A-n257A	Yes (NR 2CC)
DC_1A_n79A-n257A	DC_1A_n79A	1A	CA_n79A-n257A	1A	n79A	Yes (NR 2CC)
	DC_1A_n257A	1A	CA_n79A-n257A	1A	n257A	No
	DC_1A_n79A-n257A	1A	CA_n79A-n257A	1A	CA_n79A-n257A	Yes (NR 2CC)
DC_3A_n78A-n257A	DC_3A_n78A	3A	CA_n78A-n257A	3A	n78A	Yes (NR 2CC)
	DC_3A_n257A	3A	CA_n78A-n257A	3A	n257A	No
	DC_3A_n78A-n257A	3A	CA_n78A-n257A	3A	CA_n78A-n257A	Yes (NR 2CC)
DC_3A_n79A-n257A	DC_3A_n79A	3A	CA_n79A-n257A	3A	n79A	Yes (NR 2CC)
	DC_3A_n257A	3A	CA_n79A-n257A	3A	n257A	No
	DC_3A_n79A-n257A	3A	CA_n79A-n257A	3A	CA_n79A-n257A	Yes (NR 2CC)
DC_19A_n78A-n257A	DC_19A_n78A	19A	CA_n78A-n257A	19A	n78A	Yes (NR 2CC)
	DC_19A_n257A	19A	CA_n78A-n257A	19A	n257A	No
	DC_19A_n78A-n257A	19A	CA_n78A-n257A	19A	CA_n78A-n257A	Yes (NR 2CC)
DC_19A_n79A-n257A	DC_19A_n79A	19A	CA_n79A-n257A	19A	n79A	Yes (NR 2CC)
	DC_19A_n257A	19A	CA_n79A-n257A	19A	n257A	No
	DC_19A_n79A-n257A	19A	CA_n79A-n257A	19A	CA_n79A-n257A	Yes (NR 2CC)
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.6.1.3 Inter-band EN-DC configurations including FR1 and FR2 (four bands)

Table 4.3.1.6.1.3-1: Inter-band EN-DC including FR1 and FR2 (four bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
DC_1A-3A_n78A-n257A	DC_1A_n78A	CA_1A-3A	CA_n78A-n257A	1A	n78A	No
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257A	1A	n257A	No
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257A	3A	n78A	No
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257A	3A	n257A	No
DC_1A-3A_n78A-n257G	DC_1A_n78A	CA_1A-3A	CA_n78A-n257G	1A	n78A	No
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257G	1A	n257A	No
	DC_1A_n257D	CA_1A-3A	CA_n78A-n257G	1A	CA_n257D	No
	DC_1A_n257G	CA_1A-3A	CA_n78A-n257G	1A	CA_n257G	No
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257G	3A	n78A	No
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257G	3A	n257A	No
	DC_3A_n257D	CA_1A-3A	CA_n78A-n257G	3A	CA_n257D	No
	DC_3A_n257G	CA_1A-3A	CA_n78A-n257G	3A	CA_n257G	No
DC_1A-3A_n78A-n257H	DC_1A_n78A	CA_1A-3A	CA_n78A-n257H	1A	n78A	No
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257H	1A	n257A	No
	DC_1A_n257D	CA_1A-3A	CA_n78A-n257H	1A	CA_n257D	No
	DC_1A_n257G	CA_1A-3A	CA_n78A-n257H	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A	CA_n78A-n257H	1A	CA_n257H	No
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257H	3A	n78A	No
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257H	3A	n257A	No
	DC_3A_n257D	CA_1A-3A	CA_n78A-n257H	3A	CA_n257D	No
	DC_3A_n257G	CA_1A-3A	CA_n78A-n257H	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A	CA_n78A-n257H	3A	CA_n257H	No
DC_1A-3A_n78A-n257I	DC_1A_n78A	CA_1A-3A	CA_n78A-n257I	1A	n78A	No
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257I	1A	n257A	No
	DC_1A_n257D	CA_1A-3A	CA_n78A-n257I	1A	CA_n257D	No
	DC_1A_n257G	CA_1A-3A	CA_n78A-n257I	1A	CA_n257G	No
	DC_1A_n257H	CA_1A-3A	CA_n78A-n257I	1A	CA_n257H	No
	DC_1A_n257I	CA_1A-3A	CA_n78A-n257I	1A	CA_n257I	No
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257I	3A	n78A	No
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257I	3A	n257A	No
	DC_3A_n257D	CA_1A-3A	CA_n78A-n257I	3A	CA_n257D	No
	DC_3A_n257G	CA_1A-3A	CA_n78A-n257I	3A	CA_n257G	No
	DC_3A_n257H	CA_1A-3A	CA_n78A-n257I	3A	CA_n257H	No
	DC_3A_n257I	CA_1A-3A	CA_n78A-n257I	3A	CA_n257I	No

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.6.1.4 Inter-band EN-DC configurations including FR1 and FR2 (five bands)

Table 4.3.1.6.1.4-1: Inter-band EN-DC including FR1 and FR2 (five bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
FFS	FFS	FFS	FFS	FFS	FFS	FFS
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.6.1.5 Inter-band EN-DC configurations including FR1 and FR2 (six bands)

Table 4.3.1.6.1.5-1: Inter-band EN-DC including FR1 and FR2 (six bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration	Applicable for protocol testing (Note 1)
FFS	FFS	FFS	FFS	FFS	FFS	FFS
Note 1: Protocol testing is limited to EN-DC configurations with 1 CC E-UTRA and 1CC or 2CC NR configurations.						

4.3.1.7 Test frequencies for Non-3GPP Access

4.3.1.7.1 WLAN Test frequencies

The same WLAN test frequencies as in TS 36.508 [2] clause 4.3.1.6 applies.

4.3.2 Radio conditions

4.3.2.1 FR1, normal propagation condition for connected

The downlink connection between the System Simulator and the UE is without Additive White Gaussian Noise, and has no fading or multipath effects.

The uplink connection between the UE and System Simulator is without Additive White Gaussian Noise, and has no fading or multipath effects.

4.3.2.2 FR2, condition for OTA

FFS

4.3.3 Physical channel allocations

4.3.3.1 E-UTRA

The same physical channel allocations as in TS 36.508 [2] clause 4.3.3 applies.

4.3.3.2 NR

4.3.3.2.1 Antennas

For FR1 testing, if the UE has two or four Rx antennas, the same downlink signal is applied to each antenna. All UE Rx antennas shall be connected unless otherwise stated in the test case.

4.3.3.2.2 Downlink physical channels and physical signals

Table 4.3.3.2.2-1: Power allocation for OFDM symbols and reference signals

Parameter	Unit	Value
SSS transmit power	W	Test specific (Note 1)
EPRE ratio of PSS to SSS	dB	0
EPRE ratio of PBCH DMRS to SSS	dB	0
EPRE ratio of PBCH to PBCH DMRS	dB	0
EPRE ratio of PDCCH DMRS to SSS	dB	0
EPRE ratio of PDCCH to PDCCH DMRS	dB	0
EPRE ratio of PDSCH DMRS to SSS	dB	0
EPRE ratio of PDSCH to PDSCH DMRS	dB	0
EPRE ratio of PTRS to PDSCH	dB	0
EPRE ratio of CSI-RS to SSS	dB	0
Note 1: For signalling test cases the power allocation according to clause 6.2.1.2 applies.		

4.3.3.2.3 Mapping of downlink physical channels and signals to physical resources

Parameters for mapping of downlink physical channels and signals are specified as follows.

Normal Cyclic Prefix

N_{ID}^{cell} , Physical layer cell identity = 0 is used as the default physical layer cell identity

For Signalling testing, the same subcarrier spacing (SCS) is used for carrier and SS blocks; the tables in clause 6.2.3.1 specify which SCS to use for a particular NR band. In general, SCS=15kHz is used for FR1 FDD, SCS=15kHz or SCS=30kHz is used for FR1 TDD and SCS=120kHz is used for FR2.

For Signalling testing, the default channel bandwidth is specified in clause 6.2.3.1 for each NR band.

For Signalling testing, single SS Tx antenna is used, in FR1, unless specified otherwise in the test case.

For RF testing, the mapping of DL physical channels to resource element is defined in Annex C of TS 38.101-1 [7] and TS 38.101-2 [8] and TS 38.101-3 [9].

4.3.4 Signal levels

4.3.4.1 Signal levels for conducted testing

4.3.4.1.1 Downlink signal levels

For E-UTRA cell in EN-DC with FR1 NR, the downlink power setting specified in Table 4.3.4.1-1 of TS 36.508[2] are used unless otherwise specified in a test case.

4.3.4.2 Signal levels for OTA testing

As defined in clause 5.2.1.2 for RF tests.

As defined in clause 6.2.1.2 for Signalling tests.

As defined in clause 7.2.1.2 for RRM tests.

4.3.5 Standard test signals

4.3.6 Physical layer parameters

4.3.6.1 Downlink physical layer parameters

4.3.6.1.1 Physical layer parameters for scheduling of PUSCH

4.3.6.1.1.1 Physical layer parameters for DCI format 0_0

DCI format 0_0 is used for the scheduling of PUSCH in one cell.

Default physical layer parameters for DCI format 0_0 are specified in table 4.3.6.1.1.1-1.

Table 4.3.6.1.1.1-1: Physical layer parameters for DCI format 0_0

Parameter	Value	Value in binary
Identifier for DCI formats	Indicating an UL DCI format	"0"
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PUSCH-TimeDomainResourceAllocationList to be used	"0000"
Frequency hopping flag	w/o hopping	"0"
Modulation and coding scheme	Dependent on test parameters	-
New data indicator	Set for every data transmission/retransmission according to the rules specified in TS 38.321	-
Redundancy version	Dependent on test parameters	-
HARQ process number	Dependent on test parameters	-
TPC command for scheduled PUSCH	0 dB (accumulated TPC) as per Table 7.1.1.1-1 in TS 38.213	"01"
UL/SUL indicator	Not present (0 bit for UEs not configured with SUL in the cell)	-

4.3.6.1.1.2 Physical layer parameters for DCI format 0_1

DCI format 0_1 is used for the scheduling of PUSCH in one cell.

Default physical layer parameters for DCI format 0_1 are specified in table 4.3.6.1.1.2-1.

Table 4.3.6.1.1.2-1: Physical layer parameters for DCI format 0_1

Parameter	Value	Value in binary	Condition
Carrier indicator	Not present	-	
UL/SUL indicator	Not present (0 bit for UEs not configured with SUL in the cell)	-	
	1	1	SUL
Identifier for DCI formats	Indicating an UL DCI format	"0"	
Bandwidth part indicator	Not present (indicating active BWP, not present in case of only one <i>BWP-Id</i> as per Table 4.6.3-8)	-	
Frequency domain resource assignment	Dependent on test parameters	-	
Time domain resource assignment	Indicating the first entry of PUSCH-TimeDomainResourceAllocationList to be used	"0000"	
Frequency hopping flag	Not present	-	
Modulation and coding scheme	Dependent on test parameters	-	
New data indicator	Set for every data transmission / retransmission according to the rules specified in TS 38.321 [20]	-	
Redundancy version	Dependent on test parameters	-	
HARQ process number	Dependent on test parameters	-	
1 st downlink assignment index	Dependent on test parameters		
2 nd downlink assignment index	Not present (0 bit if one HARQ-ACK sub-codebook)	-	
TPC command for scheduled PUSCH	0 dB (accumulated TPC) as per Table 7.1.1.1-1 in TS 38.213 [22]	"01"	
SRS resource indicator	Not present	-	
Precoding information and number of layers	Not present (0 bits for 1 antenna port and if the higher layer parameter txConfig = Codebook as per clause 7.3.1.1.2 TS 38.212 [27])	-	
	2	"10"	2TX_UL_MIMO or ULFPTx_Mode1
	Dependent on UE reported full power PMI	1 bit as per Table 7.3.1.1.2-5 in TS 38.212	ULFPTx_Mode2
	0 or 1	1 bit	ULFPTx_ModeFull
Antenna ports	Port 0 (NOTE 2)	"000"	
		"00"	TRANSFORM_PRECODER_ENABLED
SRS request	No aperiodic SRS resource set triggered as per Table 7.3.1.1.2-24 in TS 38.212 (no SUL configured)	"00"	
CSI request	Not present	-	
CBG transmission information	Not present	-	
PTRS-DMRS association	DMRS port 0	"00"	PTRS_UL_CONFIG
	Not present	-	
beta_offset indicator	Not present (0 bit if the higher layer parameter dynamic in uci-on-PUSCH is not configured)	-	
DMRS sequence initialization	$n_{\text{SCID}} = 0$ (ScramblingID0 is not present as per Table 4.6.3-50)	"0"	

	Not present	-	TRANSFORM _PRECODER _ENABLED
UL-SCH indicator	Dependent on test parameters 1 bit. A value of "1" indicates UL-SCH shall be transmitted on the PUSCH and a value of "0" indicates UL-SCH shall not be transmitted on the PUSCH.	-	
NOTE 1: codebookSubset = nonCoherent, 2 layers, TPMI = 0 as specified in TS 38.212 [27] Table 7.3.1.1.2-4 NOTE 2: Bitsize depends on transform precoder being enabled/disabled (PUSCH_Config, Table 4.6.3-118) and on dmrs- Type and maxLength (DMRS-UplinkConfig, Table 4.6.3-51); 3 bits (transform precoder disabled) or 2 bits (transform precoder enabled) for DMRS type 1 and len1			

Condition	Explanation
2TX_UL_MIMO	UL-MIMO test cases with 2 Tx antenna ports
PTRS_UL_CONFIG	When PTRS Uplink is configured
TRANSFORM_PRECODER_ENABLED	Transform precoding is enabled (PUSCH_Config, Table 4.6.3-118)
SUL	On the SUL carrier when supplementary carrier is configured
ULFPTx_Mode1	UL-MIMO test cases with UEs supporting UL full power transmission Mode-1
ULFPTx_Mode2	UL-MIMO test cases with UEs supporting UL full power transmission Mode-2
ULFPTx_ModeFull	UL-MIMO test cases with UEs supporting UL full power transmission Mode-full power

4.3.6.1.2 Physical layer parameters for scheduling of PDSCH

4.3.6.1.2.1 Physical layer parameters for DCI format 1_0

DCI format 1_0 is used for the scheduling of PDSCH in one cell.

Default physical layer parameters for DCI format 1_0 are specified in table 4.3.6.1.2.1-1 to 4.3.6.1.2.1-4.

Table 4.3.6.1.2.1-1: Physical layer parameters for DCI format 1_0

Parameter	Value	Value in binary
Identifier for DCI formats	Indicating a DL DCI format	"01"
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	"0000"
VRB-to-PRB mapping	Non-interleaved	"0"
Modulation and coding scheme	Dependent on test parameters	-
New data indicator	Set for every data transmission/retransmission according to the rules specified in TS 38.321	-
Redundancy version	Dependent on test parameters	-
HARQ process number	Dependent on test parameters	-
Downlink assignment index	Dependent on test parameters	-
TPC command for scheduled PUCCH	0 dB (accumulated TPC) as per Table 7.2.1-1 in TS 38.213	"01"
PUCCH resource indicator	$PUCCH-ResourceId[7] = 6$ in pucch-ResourceSetID[1] or $PUCCH-ResourceId[7] = 14$ in pucch-ResourceSetID[2] as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213)	"110"
PDSCH-to-HARQ_feedback timing indicator	K_1 slots as specified in 9.2.3 in TS 38.213 $\mu=0$ (SCS=15kHz): $K_1=7$ $\mu=1$ (SCS=30kHz): $K_1=5$ $\mu=3$ (SCS=120kHz): $K_1=8$	'110'B '100'B '111'B

Table 4.3.6.1.2.1-2: Physical layer parameters for DCI format 1_0 for paging

Parameter	Value	Value in binary
Short Messages Indicator	Only scheduling information for Paging is present in the DCI	"01"
Short Messages	Reserved	-
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	"0000"
VRB-to-PRB mapping	Non-interleaved	"0"
Modulation and coding scheme	Dependent on test parameters	-
TB scaling	Scaling factor $S=1$ as defined in Table 5.1.3.2-2 in TS 38.214)	"00"
Reserved bits	Reserved 6 bits	-

Table 4.3.6.1.2.1-3: Physical layer parameters for DCI format 1_0 for SI

Parameter	Value	Value in binary	Condition
Frequency domain resource assignment	Dependent on test parameters	-	-
Time domain resource assignment	Indicating the first entry of Table 5.1.2.1.1-2 in TS 38.214 [21] to be used	"0000"	SIB1
	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	"0000"	SI
VRB-to-PRB mapping	Non-interleaved	"0"	-
Modulation and coding scheme	Dependent on test parameters	-	-
Redundancy version	Dependent on test parameters	-	-
System information indicator	SIB1	"0"	SIB1
	SI message	"1"	SI
Reserved bits	Reserved 15 bits	-	-

Condition	Explanation
SIB1	Used for DCI format 1_0 for SIB1
SI	Used for DCI format 1_0 for SI

Table 4.3.6.1.2.1-4: Physical layer parameters for DCI format 1_0 for random access

Parameter	Value	Value in binary
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	"0000"
VRB-to-PRB mapping	Non-interleaved	"0"
Modulation and coding scheme	Dependent on test parameters	-
Redundancy version	Dependent on test parameters	-
TB scaling	Scaling factor S=[1] as defined in Table 5.1.3.2-2 in TS 38.214)	"00"
Reserved bits	Reserved 16 bits	-

4.3.6.1.2.2 Physical layer parameters for DCI format 1_1

DCI format 1_1 is used for the scheduling of PDSCH in one cell.

Default physical layer parameters for DCI format 1_1 are specified in table 4.3.6.1.2.2-1.

Table 4.3.6.1.2.2-1: Physical layer parameters for DCI format 1_1

Parameter	Value	Value in binary	Condition
Carrier indicator	Not present	-	
Identifier for DCI formats	Indicating a DL DCI format	"1"	
Bandwidth part indicator	Not present	-	
Frequency domain resource assignment	Dependent on test parameters	-	
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	"0000"	
VRB-to-PRB mapping	Non-interleaved	"0"	
PRB bundling size indicator	Not present (semi-static PRB_bundling)	-	
Rate matching indicator	Not present	-	
ZP CSI-RS trigger	Not present	-	
Modulation and coding scheme (TB1)	Dependent on test parameters	-	
New data indicator (TB1)	Set for every data transmission/retransmission according to the rules specified in TS 38.321 [20]	-	
Redundancy version (TB1)	Dependent on test parameters	-	
Modulation and coding scheme (TB2)	Dependent on test parameters	-	
New data indicator (TB2)	Set for every data transmission/retransmission according to the rules specified in TS 38.321 [20]	-	
Redundancy version (TB2)	Dependent on test parameters	-	
HARQ process number	Dependent on test parameters	-	
Downlink assignment index	Dependent on test parameters	-	
TPC command for scheduled PUCCH	0 dB (accumulated TPC) as per Table 7.2.1-1 in TS 38.213 [22]	"01"	
PUCCH resource indicator	<i>PUCCH-ResourceId</i> [7] = 6 in <i>pucch-ResourceSetID</i> [1] or <i>PUCCH-ResourceId</i> [7] = 14 in <i>pucch-ResourceSetID</i> [2] as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213 [22])	"110"	
PDSCH-to-HARQ_feedback timing indicator	corresponding to K1 slots as per Table 9.2.3-1 in TS 38.213 [22] and dl-DataToUL-ACK in Table 4.6.3-112 $\mu=0$ (SCS=15kHz): K1=7 $\mu=1$ (SCS=30kHz): K1=5 $\mu=3$ (SCS=120kHz): K1=8	"101" "011" "110"	
	corresponding to K1 slots as per Table 9.2.3-1 in TS 38.213 [22] and dl-DataToUL-ACK in Table 4.6.3-112 For 60KHz SCS K1 = 4 if mod(i,5) = 0 K1 = 3 if mod(i,5) = 1 K1 = 7 if mod(i,5) = 2 where i is slot index per frame; i = {0,...,39} For 120KHz SCS K1 = 4 if mod(i,5) = 0 K1 = 3 if mod(i,5) = 1 K1 = 7 if mod(i,5) = 2 where i is slot index per frame; i = {0,...,79}		RF_FR2_DL

	corresponding to K1 slots as per Table 9.2.3-1 in TS 38.213 [22] and dl-DataToUL-ACK in Table 4.6.3-112 For TDD $K1 = 4$ if $\text{mod}(i,5) = 0$ $K1 = 3$ if $\text{mod}(i,5) = 1$ $K1 = 2$ if $\text{mod}(i,5) = 2$ where i is slot index per frame; $i = \{0, \dots, 9\}$ For FDD $K1 = 2$		RF_FR1_15kHz
	For TDD corresponding to K1 slots as per Table 9.2.3-1 in TS 38.213 [22] and dl-DataToUL-ACK in Table 4.6.3-112 $K1 = 8$ if $\text{mod}(i,10) = 0$ $K1 = 7$ if $\text{mod}(i,10) = 1$ $K1 = 6$ if $\text{mod}(i,10) = 2$ $K1 = 5$ if $\text{mod}(i,10) = 3$ $K1 = 4$ if $\text{mod}(i,10) = 4$ $K1 = 3$ if $\text{mod}(i,10) = 5$ $K1 = 2$ if $\text{mod}(i,10) = 6$ where i is slot index per frame; $i = \{0, \dots, 19\}$ For FDD $K1 = 2$		RF_FR1_30kHz
	corresponding to K1 slots as per Table 9.2.3-1 in TS 38.213 [22] and dl-DataToUL-ACK in Table 4.6.3-112 For TDD $K1 = 13$ if $\text{mod}(i,20) = 2$ $K1 = 12$ if $\text{mod}(i,20) = 3$ $K1 = 11$ if $\text{mod}(i,20) = 4$ $K1 = 10$ if $\text{mod}(i,20) = 5$ $K1 = 9$ if $\text{mod}(i,20) = 6$ $K1 = 8$ if $\text{mod}(i,20) = 7$ $K1 = 7$ if $\text{mod}(i,20) = 8$ $K1 = 6$ if $\text{mod}(i,20) = 9$ $K1 = 6$ if $\text{mod}(i,20) = 10$ $K1 = 6$ if $\text{mod}(i,20) = 11$ $K1 = 6$ if $\text{mod}(i,20) = 12$ $K1 = 6$ if $\text{mod}(i,20) = 13$ where i is slot index per frame; $i = \{0, \dots, 39\}$ For FDD $K1 = 2$		RF_FR1_60kHz
Antenna port(s)	DMRS port 0 as per Table 7.3.1.2.2-1 in TS 38.212 [27] (<i>dmrs-Type</i> = DMRS type 1 and <i>maxLength</i> = len1 as per Table 4.6.3-50)	"0000"	
Transmission configuration indication	Not present (0 bits, <i>tci-PresentInDCI</i> = Not present as per Table 4.6.3-28)	-	
SRS request	No aperiodic SRS resource set triggered as per Table 7.3.1.1.2-24 in TS 38.212 [27] (no SUL configured)	"00"	
CBG transmission information	Not present	-	
CBG flushing out information	Not present	-	
DMRS sequence initialization	fix length of 1 bit; '0'B for DMRS-DownlinkConfig.scramblingID0 (or physCellId if scramblingID0 is not present); see Table 4.6.3-50	"0"	

Condition	Explanation
RF_FR1_15kHz	RF testing in TS 38.521-x for FR1. SCS is set to 15kHz.
RF_FR1_30kHz	RF testing in TS 38.521-x for FR1. SCS is set to 30kHz.
RF_FR1_60kHz	RF testing in TS 38.521-x for FR1. SCS is set to 60kHz.
RF_FR2_DL	RF testing in TS 38.521-x for FR2. SCS is set to 60kHz or 120kHz

4.3.6.1.3 Void

4.4 Reference system configurations

The reference system configurations specified in this sub clause apply to all test cases unless otherwise specified.

4.4.1 Simulated network scenarios

The simulated network scenarios will simulate UE operation in either standalone NR, standalone E-UTRA or in non-standalone NR and E-UTRA networks. For non-standalone case either the NR or the E-UTRA radio access acts as the master anchor node. For both standalone and non-standalone cases, the simulated networks may be single mode networks (FDD or TDD) or dual mode networks (FDD+TDD). For the standalone NR case the simulated networks may also be inter-RAT networks ((FDD or TDD) + (E-UTRA FDD or E-UTRA TDD or UTRA FDD)).

Simulated network scenarios to be tested are listed in this sub clause.

NOTE 1: The number of cells specified does not necessarily correspond to the maximum number of resources to be configured simultaneously in test equipment. Please refer to clause 6.1 for such information.

NOTE 2: For NAS test cases see sub clause 6.3.2.

4.4.1.1 Standalone cell network scenarios

4.4.1.1.1 Standalone E-UTRA single cell and multi cell network scenarios

For standalone E-UTRA FDD or TDD single cell environment see TS 36.508 [2], clause 4.4.1.1.

For standalone E-UTRA FDD or TDD multi cell network scenarios see TS 36.508 [2], clause 4.4.1.2.

4.4.1.1.2 Standalone NR single cell network scenarios

For standalone NR FDD or TDD single cell environment, NR Cell 1 is used.

4.4.1.1.3 Standalone NR single mode multi cell network scenarios

For standalone NR FDD or TDD intra-frequency multi cell environment, NR Cell 1, NR Cell 2 and NR Cell 4 are used.

For standalone NR FDD or TDD inter-frequency multi cell environment, NR Cell 1, NR Cell 3 and NR Cell 6 are used.

For standalone NR FDD or TDD inter-band cell environment, NR Cell 1 and NR Cell 10 are used.

For standalone NR FDD or TDD multi tracking area intra-frequency multi cell environment, NR Cell 1 and NR Cell 11 are used.

For standalone NR FDD or TDD multi tracking area inter-frequency multi cell environment, NR Cell 1 and NR Cell 23 are used.

For standalone NR FDD or TDD multi PLMN inter-frequency multi cell environment, NR Cell 1, NR Cell 12, NR Cell 13 and NR Cell 14 are used.

4.4.1.1.4 Standalone NR dual mode multi cell network scenarios

For standalone NR FDD and TDD multi cell environment, NR Cell 1, NR Cell 10 and NR Cell 31 are used.

For standalone NR FDD and TDD multi PLMN multi cell environment, NR Cell 1, NR Cell 28, NR Cell 29 and NR Cell 30 are used.

In addition, standalone NR single mode multi cell network scenarios defined in clause 4.4.1.1.3 are combined with the dual mode scenarios defined in this clause when additional intra or inter-frequency cells are used.

4.4.1.1.5 Standalone NR 3GPP Inter-RAT network scenarios

For standalone NR FDD or TDD single cell with E-UTRA FDD, E-UTRA TDD or UTRA FDD single cell inter-RAT environment:

- NR Cell 1 is used for the NR cell; and
- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; or
- Cell 5, as specified in TS 36.508 [2] clause 4.4.2, is used for the UTRA cell.

For standalone NR FDD or TDD single cell with E-UTRA FDD or E-UTRA TDD multi cell inter-RAT environment:

- NR Cell 1 is used for the NR cell; and
- Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and

4.4.1.2 Non-standalone cell network scenarios

4.4.1.2.1 Non-standalone E-UTRA single cell and NR single cell network scenarios

For non-standalone NR FDD or TDD single cell and E-UTRA FDD or TDD single cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1 is used for the NR cell.

4.4.1.2.2 Non-standalone E-UTRA single cell and NR single mode multi cell network scenarios

For non-standalone E-UTRA single cell and FDD or TDD NR intra-frequency single mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 2 and NR Cell 4 are used for NR cells.

For non-standalone E-UTRA single cell and FDD or TDD NR inter-frequency single mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 3 and NR Cell 6 are used for the NR cells.

For non-standalone E-UTRA single cell and FDD or TDD NR inter-band single mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1 and NR Cell 10 are used for the NR cells.

4.4.1.2.3 Non-standalone E-UTRA single mode multi cell and NR single mode multi cell network scenarios

For non-standalone E-UTRA intra-frequency single mode multi cell and FDD or TDD NR intra-frequency single mode multi cell environment:

- E-UTRA Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 2 and NR Cell 4 are used for NR cells.

For non-standalone FDD or TDD E-UTRA intra-frequency single mode multi cell and FDD or TDD NR inter-frequency single mode multi cell environment:

- E-UTRA Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 3 and NR Cell 6 are used for the NR cells.

For non-standalone FDD or TDD E-UTRA inter-frequency single mode multi cell and FDD or TDD NR inter-frequency single mode multi cell environment:

- E-UTRA Cell 1, Cell 3 and Cell 6, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 3 and NR Cell 6 are used for the NR cells.

For non-standalone single E-UTRA cell and FDD or TDD NR inter-band single mode multi cell environment:

- E-UTRA Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1 and NR Cell 10 are used for the NR cells.

4.4.1.2.4 Non-standalone E-UTRA single cell and NR dual mode multi cell network scenarios

Editor's note: It is FFS if the NR dual mode multi cell environment needs to include multiple E-UTRA cells in addition to the multiple NR cells.

For non-standalone single E-UTRA cell and FDD and TDD NR dual mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 10 and NR Cell 31 are used for the NR cells.

In addition, standalone NR single mode multi cell network scenarios defined in clause 4.4.1.2.2 are combined with the dual mode scenarios defined in this clause when additional intra or inter-frequency NR cells are used.

4.4.1.3 Non-3GPP Access network scenarios

4.4.1.3.1 WLAN network scenario

For non-3GPP access over WLAN single cell environment Cell 27, as specified in TS 36.508 [2] clauses 4.4.2 and 4.4.8 with condition 'IMSoWLAN' is used.

4.4.2 Simulated cells

NOTE 1: For NAS test cases see clause 6.3.2.

NOTE 2: Test frequency and range defined in table 4.4.2-1 do not apply to TS 38.521-1, TS 38.521-2 and TS 38.521-3 test cases.

Test frequencies and simulated NR cells are defined in table 4.4.2-1. Test frequencies and simulated E-UTRA and UTRA cells are defined in TS 36.508 [2] table 4.4.2-1.

For NR cells, NRf1 is the default test frequency. For UTRA cells, f8 as specified in TS 36.508 [2] table 4.2.2-1 is the default test frequency. For E-UTRA cells, f1 as specified in TS 36.508 [2] table 4.2.2-1 is the default test frequency.

Default parameters for simulated NR cells are specified in table 4.4.2-2 and table 4.4.2-3.

Default parameters for simulated E-UTRA cells are specified in TS 36.508 [2] table 4.4.2-1A and table 4.4.2-2.

Default parameters for simulated UTRA cells are specified in TS 36.508 [2] clause 4.4.4.

Common parameters for NR simulated cells are specified in clauses 4.4.3.

Other cell specific parameters are specified in TS 36.508 [2] clause 4.4.3 to 4.4.7.

Table 4.4.2-1: Definition of test frequencies and simulated NR cells

Test frequency	RAT	Operating band	Range	Simulated NR cells
NRf1	NR	Operating band under test	Mid (Note 1, Note 3)	NR Cell 1, NR Cell 2, NR Cell 4, NR Cell 11 (Note 2), NR Cell 489
NRf2	NR	Operating band under test	High (Note 1, Note 3)	NR Cell 3, NR Cell 12, NR Cell 23
NRf3	NR	Operating band under test	Low (Note 1, Note 3)	NR Cell 6, NR Cell 13
NRf4	NR	Operating band under test	(Note 1)	NR Cell 14
NRf5	NR	Operating band for inter-band cells	Mid (Note 1)	NR Cell 10, NR Cell 30, NR Cell 31
NRf6	NR	Operating band for inter-band cells	High (Note 1)	NR Cell 28, NR Cell 29
NRf7	NR	Operating band for inter-band cells	Low (Note 1)	
NRf8	NR	Operating band for SDL cell	Mid (note 1)	NR Cell 32
NRf9	NR	Operating band for SUL cell	Mid (note 1)	NR Cell 33
Note 1: For signalling test, see clause 6.2.3. Note 2: For signalling test, simultaneous co-existence of NR Cell 2 with NR Cell 11 is not allowed due to the same timing is used for Cell 2 and Cell 11 in 38.523-3 [23]. Note 3: For RRM test with NR intra-band non-contiguous CA, the test frequencies for the set of non-contiguous component carriers are specified in clauses 4.3.1.1.4 for FR1 and in clause 4.3.1.2.4 for FR2 without any regard to range. Thus “Low”, “Mid” and “High” information in this table does not apply. Unless otherwise stated, test point with maximum Wgap is chosen.				

Table 4.4.2-2: Default NR parameters for simulated NR cells

cell ID	NR Cell Identifier		Physical layer cell identity	PRACH-rootSequenceIndex FDD	PRACH-rootSequenceIndex TDD	SSB-Index ²
	gNB Identifier	Cell Identity		$L_{RA} = 139$ Note 1	$L_{RA} = 139$ Note 1	
NR Cell 1	'00 0000 0000 0000 0000 0000 0001'B	'00 0000 0000'B	0	0	0	1
NR Cell 2	'00 0000 0000 0000 0000 0000 0001'B	'00 0000 0010'B	2	32	32	0
NR Cell 3	'00 0000 0000 0000 0000 0000 0010'B	'00 0000 0011'B	3	0	0	1
NR Cell 4	'00 0000 0000 0000 0000 0000 0011'B	'00 0000 0100'B	4	64	64	1
NR Cell 6	'00 0000 0000 0000 0000 0000 0100'B	'00 0000 0110'B	6	0	0	1
NR Cell 10	'00 0000 0000 0000 0000 0000 0101'B	'00 0000 1010'B	10	0	0	1
NR Cell 11	'00 0000 0000 0000 0000 0000 0110'B	'00 0000 1011'B	11	96	96	0
NR Cell 12	'00 0000 0000 0000 0000 0000 0010'B	'00 0000 1100'B	12	32	32	0
NR Cell 13	'00 0000 0000 0000 0000 0000 0100'B	'00 0000 1101'B	13	32	32	0
NR Cell 14	'00 0000 0000 0000 0000 0000 0111'B	'00 0000 1110'B	14	0	0	1
NR Cell 23	'00 0000 0000 0000 0000 0000 0110'B	'00 0001 0111'B	23	64	64	1
NR Cell 28	'00 0000 0000 0000 0000 0000 0010'B	'00 0001 1100'B	28	0	0	1
NR Cell 29	'00 0000 0000 0000 0000 0000 0100'B	'00 0001 1101'B	29	32	32	0
NR Cell 30	'00 0000 0000 0000 0000 0000	'00 0001 1110'B	30	32	32	0

	0111'B					
NR Cell 31	'00 0000 0000 0000 0000 0000 0110'B	'00 0001 1111'B	31	64	64	1
NR Cell 32	'00 0000 0000 0000 0000 0001'B	'00 0010 0000'B	32	-	-	1
NR Cell 33	'00 0000 0000 0000 0000 0001'B	'00 0010 0001'B	33	-	-	-
NR Cell 489	'00 0000 0000 0000 0000 0000 0001'B	'01 1110 1001'B	489	128	128	0
Note 1: To avoid collision of the preambles between intra-frequency cells, with the default <i>zeroCorrelationZoneConfig</i> value set to 15, the <i>PRACH-rootSequenceIndex</i> values have been separated by 32 root sequences per intra-frequency cell. Note 2: This SSB-Index does not apply for RRM test cases in TS 38.533 [18]. RRM test cases shall use the SSB index defined in A.3 of TS 38.533 [18].						

Table 4.4.2-3: Default NAS parameters for simulated NR cells

cell ID	Tracking Area			TA# list (Note 1)	5G-GUTI (Note 2)			5G-TMSI	
	TA#	PLMN			TAC	AMF Identifier			
		MCC	MNC			AMF region ID	AMF Set ID		AMF Pointer
NR Cell 1	TAI-1	(Note 3)		1	TAI-1	254	1	Arbitrarily selected according to TS 23.003 [26] clause 2.10	
NR Cell 2	TAI-1	(Note 3)		1	TAI-1	254	1		
NR Cell 3	TAI-1	(Note 3)		1	TAI-1	254	1		
NR Cell 4	TAI-1	(Note 3)		1	TAI-1	254	1		
NR Cell 6	TAI-1	(Note 3)		1	TAI-1	254	1		
NR Cell 10	TAI-1	(Note 3)		1	TAI-1	254	1		
NR Cell 11	TAI-2	(Note 3)		2	TAI-2	254	1		
NR Cell 23	TAI-2	(Note 3)		2	TAI-2	254	1		
NR Cell 12, NR Cell 28	TAI-3	002	11	1	TAI-3	253	1		
NR Cell 13, NR Cell 29	TAI-4	003	21	1	TAI-4	252	1		
NR Cell 14, NR Cell 30	TAI-5	004	31	1	TAI-5	251	1		
NR Cell 31	TAI-2	(Note 3)		2	TAI-2	254	1		
NR Cell 489	TAI-1	(Note 3)		1	TAI-1	254	1		
Note 1: The value(s) in the column TA# list indicates TAI(s) included in the response messages of the registration procedure (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.									
Note 2: The value in the column 5G-GUTI indicates 5G-GUTI included in the response messages of the registration procedure (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.									
Note 3: Set to the same Mobile Country Code and Mobile Network Code stored in EF _{IMSI} on the test USIM card (subclause 4.9.3).									

Table 4.4.2-4: Default parameters for simulated SNPN cells

cell ID	Network Identifier (NID)	
	Assignment mode (Note 1)	NID value
NR Cell 1	1	1
NR Cell 2	1	2
NR Cell 3	1	3
NR Cell 4	1	4
NR Cell 6	1	6
NR Cell 10	1	10
NR Cell 11	1	11
NR Cell 12	1	12
NR Cell 13	1	13
NR Cell 14	1	14
NR Cell 23	1	23
NR Cell 28	1	28
NR Cell 29	1	29
NR Cell 30	1	30
NR Cell 31	1	32
NR Cell 32	1	32
NR Cell 33	1	33
NR Cell 489	1	489

Note 1: As per TS 23.003 Cl 12.7.1, Network Identifier comprises of Assignment mode (one hexadecimal digit) and NID value (10 hexadecimal digits). Self-assignment NIDs are chosen by setting the assignment mode to value 1.

4.4.3 Common parameters for simulated NR cells

The parameters specified in this sub clause apply to the simulated NR cells in standalone NR and non-standalone network scenarios unless otherwise specified.

The common parameters for the simulated E-UTRA cells for standalone E-UTRA and non-standalone network scenarios are specified in TS 36.508 [2] clause 4.4.3 unless otherwise specified.

4.4.3.1 Common configurations of system information blocks

4.4.3.1.1 Combinations of system information blocks for E-UTRA standalone, EN-DC and NGEN-DC

The combination of system information blocks for standalone E-UTRA, EN-DC and NGEN-DC network scenarios are specified in TS 36.508 [2] clause 4.4.3.1.

For EN-DC and NGEN-DC network scenarios the SS shall in addition to broadcasting the E-UTRA system information blocks also broadcast the NR MIB on the NR cell(s).

4.4.3.1.2 Combinations of system information blocks for NR standalone and NE-DC

The combination of system information blocks required by a test case depends on the test case scenario. In this clause, several combinations of system information blocks are defined.

Regardless of the combination of system information blocks indicated as being used by a test case, the SS shall broadcast only the NR MIB on the NR Cell(s) configured on an SDL band.

Combination NR-1 is the default combination which applies to the following test case scenarios:

- NR FDD single cell scenario except RRM test case scenarios

- NR TDD single cell scenario except RRM test case scenarios

Combination NR-2 applies to the following test case scenarios:

- NR FDD intra-frequency multi cell scenario
- NR TDD intra-frequency multi cell scenario
- NR FDD and NR TDD dual mode multi cell roaming scenario
- NR FDD single cell RRM test case scenario
- NR TDD single cell RRM test case scenario

Combination NR-3 applies to the following test case scenarios:

- NR FDD intra-frequency multi cell scenario with neighbouring cell related information
- NR TDD intra-frequency multi cell scenario with neighbouring cell related information

Combination NR-4 applies to the following test case scenarios:

- NR FDD inter-frequency multi cell scenario
- NR TDD inter-frequency multi cell scenario
- NR FDD inter-band multi cell scenario
- NR TDD inter-band multi cell scenario
- NR FDD and NR TDD dual mode multi cell non-roaming scenario
- NR FDD intra-band carrier aggregation component carriers cell scenario
- NR FDD inter-band carrier aggregation component carriers cell scenario
- NR TDD intra-band carrier aggregation component carriers cell scenario
- NR FDD and NR TDD inter-band carrier aggregation component carriers cell scenario

Combination NR-5 applies to the following test case scenarios:

- NR FDD intra-band carrier aggregation component carriers cell scenario + NR FDD intra-frequency neighbour.
- NR FDD inter-band carrier aggregation component carriers cell scenario+ NR FDD intra-frequency neighbour.
- NR TDD intra-band carrier aggregation component carriers cell scenario+ NR FDD intra-frequency neighbour.
- NR FDD and NR TDD inter-band carrier aggregation component carriers cell scenario+ NR FDD intra-frequency neighbour.

Combination NR-6 applies to the following test case scenarios:

- 3GPP inter-RAT NR FDD + E-UTRA FDD multi cell scenario
- 3GPP inter-RAT NR TDD + E-UTRA TDD multi cell scenario
- 3GPP inter-RAT NR TDD + E-UTRA FDD multi cell scenario

Combination NR-7 applies to the following test case scenarios:

- NR FDD inter-frequency + 3GPP inter-RAT E-UTRA multi-cell scenario
- NR TDD inter-frequency + 3GPP inter-RAT E-UTRA multi-cell scenario

Combination NR-8 applies to the following test case scenarios:

- NR FDD ETWS single cell scenario
- NR TDD ETWS single cell scenario

Combination NR-9 applies to the following test case scenarios:

- 3GPP NR FDD + CMAS single cell scenario
- 3GPP NR TDD + CMAS single cell scenario

Combination NR-10 applies to the following test case scenarios:

- 3GPP NR FDD + ETWS primary notification single cell scenario
- 3GPP NR TDD + ETWS primary notification single cell scenario

Combination NR-11 applies to the following test case scenarios:

- 3GPP NR FDD + ETWS secondary notification single cell scenario
- 3GPP NR TDD + ETWS secondary notification single cell scenario

Table 4.4.3.1.2-1: Combinations of system information blocks

Combination No.	System information block type							
	SIB1	SIB2	SIB3	SIB4	SIB5	SIB6	SIB7	SIB8
NR-1	X							
NR-2	X	X						
NR-3	X	X	X					
NR-4	X	X		X				
NR-5	X	X	X	X				
NR-6	X	X			X			
NR-7	X	X		X	X			
NR-8	X					X	X	
NR-9	X							X
NR-10	X					X		
NR-11	X						X	

4.4.3.1.3 Scheduling of system information blocks

The scheduling configurations for combinations of system information blocks are defined in the following tables. There is no scheduling information for combination NR-1.

Table 4.4.3.1.3-1: Scheduling for combination NR-2

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2

Table 4.4.3.1.3-2: Scheduling for combination NR-3

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB3

Table 4.4.3.1.3-3: Scheduling for combination NR-4

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB4

Table 4.4.3.1.3-4: Scheduling for combination NR-5

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB3
3	64	SIB4

Table 4.4.3.1.3-5: Scheduling for combination NR-6

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB5

Table 4.4.3.1.3-6: Scheduling for combination NR-7

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB4, SIB5

Table 4.4.3.1.3-7: Scheduling for combination NR-8

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB6
2	32	SIB7

Table 4.4.3.1.3-8: Scheduling for combination NR-9

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB8

Table 4.4.3.1.3-9: Scheduling for combination NR-10

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
	32	SIB6

Table 4.4.3.1.3-10: Scheduling for combination NR-11

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB7

4.4A Test states

4.4A.1 General

The purpose of the test states is to get the UE into specific 5GC and RRC protocol states in the initial condition of test cases. Each test state is identified by a test state ID. The syntax used for test state IDs is described in sub-clause 4.4A.4. The list of defined test states and the associated UE 5GC and RRC/ N3AN protocol states are specified in sub-clause 4.4A.2.

A test case may request that one or more test functions and/or configurations are activated/configured by the SS as part of the procedure used for the requested test state. The test case requests the additional test functions and/or configurations by specifying one or more test state parameters. The list of defined test state parameters is specified in sub-clause 4.4A.3.

4.4A.2 Test states and associated 5GC and RRC protocol states

Table 4.4A.2-0: 5GC and RRC/N3AN protocol states for UE Switched Off

5GS state ID	Connectivity	RRC/N3AN state	5GMM modes	5GMM sublayer	5GSM sublayer	Comments
0-A	-	-	-	-	-	UE switched off. No change to PLMN stored in the USIM
0N-B	NR	-	-	-	-	UE switched off with the PLMN under test stored in the USIM
0E-B	E-UTRA	-	-	-	-	
0W-B	WLAN	-	-	-	-	

Table 4.4A.2-1: 5GC and RRC/N3AN protocol states for IDLE

5GS state ID	Connectivity	RRC/N3AN state	5GMM modes	5GMM sublayer	5GSM sublayer
1N-A	NR	NR RRC_IDLE	5GMM-IDLE	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
1E-A	E-UTRA	EUTRA RRC_IDLE	5GMM-IDLE	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
1W-A	WLAN	Ipsec_SA_Released	5GMM-IDLE	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE

Table 4.4A.2-2: 5GC and RRC protocol states for INACTIVE

5GS state ID	Connectivity	RRC state	5GMM modes	5GMM sublayer	5GSM sublayer
2N-A	NR	NR RRC_INACTIVE	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
2E-A	E-UTRA	EUTRA RRC_INACTIVE	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE

Table 4.4A.2-3: 5GC and RRC/N3AN protocol states for CONNECTED

5GS state ID	Connectivity	RRC/N3AN state	5GMM modes	5GMM sublayer	5GSM sublayer
3N-A	NR	NR RRC_CONNECTED	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
3E-A	E-UTRA	EUTRA RRC_CONNECTED	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
3W-A	WLAN	Ipsec_SA_Established	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE

4.4A.3 Test state parameters

Table 4.4A.3-1 lists the test functions and configurations that a test case can request to be activated/configured. A test case requests a test function or configuration to be used in the preamble by including the test state parameter text in the preamble statement of the test case in *italics*.

Editor's Note: The test state parameters are currently limited to test functions required by standalone NR. Additional test state parameters will be added in future as needed. E.g. for EN-DC, NE-DC and NGEN-DC there will be a need for parameters for bearer type (MCG and SCG, MCG and split or MCG only).

Table 4.4A.3-1: Test state parameters

Test state parameter	Description
<i>UE test loop mode</i> <i><X> prepared</i>	If included the UE test mode is activated in the preamble indicating that UE test loop mode <X> will be activated in the test case test procedure, where <X> is A or B. (Note 1, Note 2, Note 3)
<i>UE test loop mode</i> <i><X> active</i>	If included the UE Test Mode and UE test loop mode <X> will be activated in the preamble, where <X> is A or B. (Note 1, Note 2, Note 3)
Note 1: See TS 38.509 [11], clause 5.2.2 for details of UE test mode.	
Note 2: See TS 38.509 [11], clause 5.3.4.1 for details of UE test loop mode A.	
Note 3: See TS 38.509 [11], clause 5.3.4.2.2 for details of UE test loop mode B.	

4.4A.4 Test state ID syntax

A test state ID is defined as:

<RRC state><Connectivity>-<Variant>

, where <RRC state>, <Connectivity> and <Variant> are defined in Table 4.4A.2-1.

Table 4.4A.4-1: Test state fields

Test state field	Value	Description
<RRC state>	0	Indicates that the requested test state will end up in SWITCHED_OFF state.
	1	Indicates that the requested test state will end up in RRC_IDLE/Ipsec_SA_Released state.
	2	Indicates that the requested test state will end up in RRC_INACTIVE state.
	3	Indicates that the requested test state will end up in RRC_CONNECTED/Ipsec_SA_Released state.
<Connectivity>	E	E-UTRA is used as the initial access.
	N	NR is used as the initial access.
	W	Un trusted non 3GPP Access over WLAN is used as the initial access
<Variant>	A	A, B, C etc. used to represent different variants within a <RRC state><Connectivity> group of test states.

4.4A.5 Mapping of test state IDs and test parameters to generic procedures, generic procedure parameters and specific message conditions

Depending on the test case preamble requested test state ID and test parameters the SS shall:

- 1> use the applicable generic procedure as specified in Table 4.4A.5-1 using the:
 - 2> applicable generic procedure parameters as specified in Table 4.4A.5-1 and Table 4.4A.5-2; and
 - 2> applicable message conditions as specified in Table 4.4A.5-2.

Table 4.4A.5-1: Test state ID mapping to generic procedures and Connectivity generic procedure parameter

Test state ID			Generic Procedure		
RRC state field	Connectivity field	Variant field	Name	Generic procedure parameter (Note 1)	Clause
0	-	A	SWITCHED_OFF		4.5.5
0	N	B	SWITCHED_OFF	Connectivity=NR	4.5.5
0	E	B	SWITCHED_OFF	Connectivity=E-UTRA	4.5.5
0	W	B	SWITCHED_OFF	Connectivity=WLAN	4.5.5
1	N	A	RRC_IDLE	Connectivity=NR	4.5.2
1	E	A	RRC_IDLE	Connectivity=E-UTRA	4.5.2
1	W	A	Ipsec_SA_Released	Connectivity=WLAN	4.5.2
2	N	A	RRC_INACTIVE	Connectivity=NR	4.5.3
2	E	A	RRC_INACTIVE	Connectivity=E-UTRA	4.5.3
3	N	A	RRC_CONNECTED	Connectivity=NR	4.5.4
3	E	A	RRC_CONNECTED	Connectivity=E-UTRA	4.5.4
3	W	A	Ipsec_SA_Established	Connectivity=WLAN	4.5.4

Note 1: In addition to the Connectivity parameter specified in this table the applicable additional generic procedure parameters and conditions as stated in Table 4.4A.5-2 shall be used

Table 4.4A.5-2: Additional generic procedure parameters and message conditions

Test state parameter	Additional generic procedure parameter(s)	Specific message conditions	
		Message	Condition
<i>UE test loop mode A prepared</i>	Test Mode=On	Note 1	Note 1
<i>UE test loop mode B prepared</i>	Test Mode=On	ACTIVATE UE TEST MODE (Table FFS)	UE test loop mode B
<i>UE test loop mode A active</i>	Test Loop Function=On	Note 1	Note 1
<i>UE test loop mode B active</i>	Test Loop Function=On	ACTIVATE UE TEST MODE (Table FFS)	UE test loop mode B
		CLOSE UE TEST LOOP (Table FFS)	UE test loop mode B

Note 1: For test state parameters *UE test loop mode A prepared* and *UE test loop mode A active* there is no specific message conditions needed as the default UE test loop mode in the messages ACTIVATE UE TEST MODE and CLOSE UE TEST LOOP is UE test loop mode A.

4.5 Generic procedures

4.5.1 General

The generic procedures are used by test cases to get UE under test into SWITCHED_OFF, RRC_IDLE/Ipsec SA not established, RRC_INACTIVE or RRC_CONNECTED/Ipsec SA established state.

A test case controls the SS by specifying the required RRC state and a set of generic procedure parameters applicable for the intended testing.

The connectivity *EN-DC* is MR-DC via E-UTRA-NR Dual Connectivity. This is a UE connected to the EPC. The connectivity *E-UTRA/5GC*, *NR*, *NGEN-DC*, *NE-DC* and *NR-DC* are all a UE connected to the 5GC.

The connectivity *E-UTRA/EPC* is E-UTRA connected to the EPC as specified in the present document.

Table 4.5.1-1: Generic procedure parameters

Parameter	Values	Description	Parameter condition

Connectivity	<i>E-UTRA/5GC</i>	E-UTRA connected to 5GC	Mandatory
	<i>NR</i>	NR connected to 5GC	
	<i>EN-DC</i>	E-UTRA-NR Dual Connectivity with E-UTRA connected to EPC	
	<i>NGEN-DC</i>	E-UTRA-NR Dual Connectivity with E-UTRA connected to 5GC	
	<i>NE-DC</i>	NR E-UTRA Dual Connectivity	
	<i>NR-DC</i>	NR-NR Dual Connectivity	
	<i>WLAN</i>	Un trusted non 3GPP access over WLAN	
	<i>E-UTRA/EPC</i>	E-UTRA connected to EPC	
Bearers	<i>MCG(s) and SCG</i>	MCG and SCG	Mandatory when Connectivity is set to <i>EN-DC</i> , <i>NGEN-DC</i> , <i>NE-DC</i> and <i>NR-DC</i> and when the generic procedures are used by test cases to get UE under test into RRC_CONNECTED state. s=1 if MULTI_PDN= FALSE and s=2 if MULTI_PDN=TRUE. <i>MCG(s) only</i> is N/A when Connectivity is set to <i>NR-DC</i> . N/A otherwise.
	<i>MCG(s) and split</i>	MCG and split	
	<i>MCG(s) only</i>	MCG only	
Test Mode	<i>On</i>	UE test mode active as specified in TS 38.509 [11], clause 5.2.2.	Optional
Test Loop Function	<i>On</i>	UE test mode active with one of the UE test loop modes activated as specified in TS 38.509 [11], clauses 5.2.2 and 5.3.2.	Optional
Connected without release	<i>On</i>	Enter RRC_Connected with Ipsec_SA_Established and without any release.	Optional N/A for <i>NR-DC</i> .
Interworking without N26 interface supported	<i>On</i>	The NWK sets the REGISTRATION ACCEPT message, IE 5GS network feature support, IWK N26 (octet 3, bit 7) = 1	Optional, Depends on test case scenario. Default message content for REGISTRATION ACCEPT is set to Interworking without N26 interface NOT supported

Editor's Note: The following values are not available to use in the current version of this specification because details are still FFS: Connectivity (E-UTRA/5GC, NGEN-DC and NE-DC).

4.5.2 RRC_IDLE

4.5.2.1 Initiation

The SS shall:

- 1> if connectivity is *EN-DC*:
 - 2> use 1 E-UTRA cell and 1 NR cell, default parameters;
 - 2> if connected without release is not present:
 - 3> perform according to the table 4.5.2.2-1: E-UTRA RRC_IDLE;
- 1> if connectivity is *E-UTRA/EPC*:

- 2> use 1 E-UTRA cell, default parameters;
- 2> perform according to the table 4.5.2.2-5: E-UTRA RRC_IDLE Unrestricted nr PDN;
- 2> if pc_noOf_PDNsNewConnection > 0
 - 3> perform according to the table 4.5.2.2-6: E-UTRA RRC_IDLE Unrestricted nr PDN Extension;
- 1> if connectivity is *NR*:
 - 2> use 1 NR cell, default parameters;
 - 2> perform according to the table 4.5.2.2-2: NR RRC_IDLE;
 - 2> if pc_noOf_PDUssNewConnection > 0
 - 3> perform according to the table 4.5.2.2-4: NR RRC_IDLE Extension;
- 1> if connectivity is *WLAN*:
 - 2> use 1 WLAN cell, default parameters;
 - 2> if connected without release is not present:
 - 3> perform according to the table 4.5.2.2-3: WLAN Ipsec_SA_Released;
 - 2> else:
 - 3> Not defined;
- 1> if connectivity is *NR-DC*:
 - 2> use 2 NR cells, default parameters;
 - 2> perform according to the table 4.5.2.2-2: NR RRC_IDLE.

Editor's Note: The value of specify "default parameters" is FFS. For *NR-DC* the requirement is 2 cells, but details might be required for specific test cases. For other connectivities the same assumption applies for 1 cell.

4.5.2.2 Procedures

Table 4.5.2.2-1: E-UTRA RRC_IDLE

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-9a2	Same as TS 36.508 [2] table 4.5.2.3-1, steps 1-9a2.	-	-	-	-
-	EXCEPTION: Steps 10a1 to 10b8 describe behaviour which depends on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
10a1-10a10	IF Test Mode = On OR Test Loop Function = On THEN steps 10-19 as defined in TS 36.508 [2] table 4.5.2A.3-1, are performed. The ACTIVATE TEST MODE is using the associated condition for the test loop.	-	-	-	-
10b1-10b8	ELSE steps 10-17 as defined in TS 36.508 [2], table 4.5.2.3-1 are performed.	-	-	-	-

Table 4.5.2.2-2: NR RRC_IDLE

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	-	<--	NR RRC: SYSTEM INFORMATION (BCCH)	-	-
2	The UE transmits an <i>RRCSetupRequest</i> message.	-->	NR RRC: <i>RRCSetupRequest</i>	-	-
3	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
4	The UE transmits an <i>RRCSetupComplete</i> message and a REGISTRATION REQUEST message.	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: REGISTRATION REQUEST	-	-
5	The SS transmits a <i>DLInformationTransfer</i> message and an AUTHENTICATION REQUEST message.	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: AUTHENTICATION REQUEST	-	-
6	The UE transmits an <i>ULInformationTransfer</i> message and an AUTHENTICATION RESPONSE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: AUTHENTICATION RESPONSE	-	-
7	Void	-	-	-	-
8	The SS transmits a <i>DLInformationTransfer</i> message and a SECURITY MODE COMMAND message.	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: SECURITY MODE COMMAND	-	-
9	The UE transmits an <i>ULInformationTransfer</i> message and a SECURITY MODE COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: SECURITY MODE COMPLETE	-	-
-	EXCEPTION: Step 9Aa1 to 9Aa2 describes behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that takes place if a capability is supported and the procedure parameter Interworking without N26 interface supported is not present.	-	-	-	-
9Aa1	IF UE_S1_SUPPORTED the SS transmits a <i>DLInformationTransfer</i> message and a SECURITY MODE COMMAND message.	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: SECURITY MODE COMMAND	-	-
9Aa2	The UE transmits an <i>ULInformationTransfer</i> message and a SECURITY MODE COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: SECURITY MODE COMPLETE	-	-
-	EXCEPTION: Steps 9a1 to 9a2 describe the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
9a1	IF Test Mode = On OR Test Loop Function = On, the SS transmits an ACTIVATE TEST MODE message to activate UE radio bearer test mode procedure. The ACTIVATE TEST MODE message is using the associated condition for the test loop.	<--	RRC: <i>DLInformationTransfer</i> TC: ACTIVATE TEST MODE	-	-
9a2	The UE transmits an ACTIVATE TEST MODE COMPLETE message.	-->	RRC: <i>ULInformationTransfer</i> TC: ACTIVATE TEST MODE COMPLETE	-	-
10	The SS transmits a <i>SecurityModeCommand</i> message.	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
11	The UE transmits a <i>SecurityModeComplete</i> message.	-->	NR RRC: <i>SecurityModeComplete</i>	-	-
12	The SS transmits a <i>UECapabilityEnquiry</i> message.	<--	NR RRC: <i>UECapabilityEnquiry</i>	-	-
13	The UE transmits a <i>UECapabilityInformation</i> message.	-->	NR RRC: <i>UECapabilityInformation</i>	-	-
14	The SS transmits a <i>DLInformationTransfer</i> message and a REGISTRATION ACCEPT message.	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: REGISTRATION ACCEPT	-	-

15	The UE transmits an <i>ULInformationTransfer</i> message and a REGISTRATION COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: REGISTRATION COMPLETE	-	-
16	Void	-	-	-	-
17	Void	-	-	-	-
18	Void	-	-	-	-
-	EXCEPTION: Step 19a1 describes behaviour depending on UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
19a1	IF <i>pc_noOf_PDUsSameConnection</i> > 0 THEN the generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2, takes place performing establishment of UE-requested PDU session(s) with <i>ExpectedNumberOfNewPDUSessions</i> = <i>pc_noOf_PDUsSameConnection</i> .	-	-	-	-
-	EXCEPTION: Steps 19Aa1 to 19Aa2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
19Aa1	IF <i>connected without release</i> is <i>On</i> AND <i>Test Loop Function=On</i> AND <i>pc_noOf_PDUsNewConnection</i> =0 THEN the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	NR RRC: <i>DLInformationTransfer</i> TC: CLOSE UE TEST LOOP	-	-
19Aa2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	NR RRC: <i>ULInformationTransfer</i> TC: CLOSE UE TEST LOOP COMPLETE	-	-
-	EXCEPTION: Step 20a1 depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
20a1	IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCRelease</i> message.	<--	NR RRC: <i>RRCRelease</i>	-	-

Table 4.5.2.2-3: WLAN Ipsec_SA_Released

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The UE associates with the WLAN AP and obtains the local IP address.	-	-	-	-
2	The UE performs a dynamic selection of N3IWF using DNS query	-	-	-	-
-	Exception: The UE establishes an IPsec tunnel in parallel to 5GC registration steps 3 to 7 as per the IKEv2 protocol as defined in TS 23.502 [33] clause 4.12.2.2 figure 4.12.2.2-1.	-	-	-	-
3	The UE transmits a REGISTRATION REQUEST message.	-->	5GMM: REGISTRATION REQUEST	-	-
4	The SS transmits an AUTHENTICATION REQUEST message including EAP-Request/AKA'-Challenge or 5G AKA Challenge.	<--	5GMM: AUTHENTICATION REQUEST	-	-
5	The UE transmits an AUTHENTICATION RESPONSE message including EAP-Response/AKA'-Challenge or 5G AKA Response.	-->	5GMM: AUTHENTICATION RESPONSE	-	-
6	The SS transmits a SECURITY MODE COMMAND message including EAP-Success if EAP-AKA' used.	<--	5GMM: SECURITY MODE COMMAND	-	-
7	The UE transmits a SECURITY MODE COMPLETE message.	-->	5GMM: SECURITY MODE COMPLETE	-	-
8	The SS transmits a REGISTRATION ACCEPT message.	<--	5GMM: REGISTRATION ACCEPT	-	-
9	The UE transmits a REGISTRATION COMPLETE message.	-->	5GMM: REGISTRATION COMPLETE	-	-
10	The generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2A, takes place performing establishment of UE-requested PDU session.	-	-	-	-
-	EXCEPTION: Step 11a1 depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
11a1	IF <i>connected without release</i> is not present THEN generic procedure for SS-requested IPsec Secure tunnel disconnection, specified in subclause 4.5A.5, takes place performing disconnection of security association.	-	-	-	-

Note: The current procedure assumes UE establishes a single PDU session over Non 3GPP Access.

Table 4.5.2.2-4: NR RRC_IDLE Extension

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
0	Wait for 10 sec to allow the UE to start PDU session establishment automatically. IF it does THEN stop the 10 sec timer and continue with the steps from step 2 onwards. IF it does not and the 10 sec timer expires THEN go to step 1.	-	-	-	-
-	EXCEPTION: Step 1a1 and 1b1 depends on the status of the UE; the "lower case letter" identifies a step sequence that take place if a PDU connection is already active.	-	-	-	-
1a1	IF there is no PDU connection already active THEN Trigger the UE to perform PDU session establishment via AT or MMI command. NOTE: For the DNN name in the AT command, check the default PDU type from the value the ICS parameter pc_APN_Default_Configuration and take the value of the corresponding ICS parameter. If it is set to 'none' then use pc_APN_ID_Internet.	-	-	-	-
1b1	ELSE skip the steps 2-9a1	-	-	-	-
2-6	Steps 2-6 from Table 4.5.4.2-3 are performed.	-	-	-	-
7	The SS transmits a SERVICE ACCEPT message.	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: SERVICE ACCEPT	-	-
8	The generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2, takes place performing establishment of UE-requested PDU session(s) with ExpectedNumberOfNewPDUSessions = pc_noOf_PDUsNewConnection.	-	-	-	-
-	EXCEPTION: Steps 8Aa1 to 8Aa2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
8Aa1	IF connected without release is <i>On</i> AND Test Loop Function= <i>On</i> THEN the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	NR RRC: <i>DLInformationTransfer</i> TC: CLOSE UE TEST LOOP	-	-
8Aa2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	NR RRC: <i>ULInformationTransfer</i> TC: CLOSE UE TEST LOOP COMPLETE	-	-
-	EXCEPTION: Step 9a1 depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
9a1	IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCRelease</i> message.	<--	NR RRC: <i>RRCRelease</i>	-	-

Table 4.5.2.2-5: E-UTRA RRC_IDLE Unrestricted nr PDN

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-9a2	Steps 1 to 9a2 of the generic procedure for UE Registration (State 2) as specified in TS 36.508 [2], table 4.5.2.3-1 take place.	-	-	-	-
-	EXCEPTION: Steps 10a1 to 10b8 describe behaviour which depends on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
10a1-10a8	IF Test Mode = On OR Test Loop Function = On THEN steps 10-17 of the generic procedure for UE Registration, UE Test Mode Activated (State 2A) as specified in TS 36.508 [2] table 4.5.2A.3-1, take place. The ACTIVATE TEST MODE is using the associated condition for the test loop.	-	-	-	-
10b1-10b6	ELSE steps 10-15 as defined in TS 36.508 [2], table 4.5.2.3-1 take place.	-	-	-	-
-	EXCEPTION: IF the 'IP address allocation' for the APN for which the PDN connection is established is set to "Yes" in Table 4.8.4-1 THEN, in parallel to the event described in step 10A below the generic procedure for IP address allocation in the U-plane specified in TS 36.508 [2], subclause 4.5A.1 takes place performing IP address allocation in the U-plane if requested by the UE.	-	-	-	-
-	EXCEPTION: IF the 'IMS registration' for the APN for which the PDN connection is established is set to "Yes" in Table 4.8.4-1, THEN in parallel to the event described in step 10A below the relevant generic procedure for IMS signalling in the U-plane specified in Table 4.8.4-1 takes place.	-	-	-	-
10A	This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE.	-->	RRC: <i>ULInformationTransfer</i> NAS: ATTACH COMPLETE NAS: ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT	-	-
11	The Generic Test Procedure to establish multiple additional PDN connections as specified in subclause 4.5A.2B takes place, ExpectedNumberOfNewPDNConnections=pc_noOf_PDNsSameConnection.	-	-	-	-
-	EXCEPTION: Steps 11Aa1 to 11Aa2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
11Aa1	IF connected without release is On AND Test Loop Function=On AND pc_noOf_PDUsNewConnection =0 THEN the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	RRC: <i>DLInformationTransfer</i> TC: CLOSE UE TEST LOOP	-	-
11Aa2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been	-->	RRC: <i>ULInformationTransfer</i> TC: CLOSE UE TEST LOOP COMPLETE	-	-

	created and loop back is activated.				
-	EXCEPTION: Step 12a1 depends on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
12a1	IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCConnectionRelease</i> message to release RRC connection and move to E-UTRA RRC_IDLE (State 2).	<--	RRC: <i>RRCConnectionRelease</i>	-	-

Table 4.5.2.2-6: E-UTRA RRC_IDLE Unrestricted nr PDN Extension

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
0	Wait for 10 sec to allow the UE to start PDN connection establishment automatically. IF it does THEN stop the 10 sec timer and continue with the steps from step 2 onwards. IF it does not and the 10 sec timer expires THEN go to step 1.	-	-	-	-
-	EXCEPTION: Step 1a1 and 1b1 depends on the status of the UE; the "lower case letter" identifies a step sequence that take place if a PDU connection is already active.	-	-	-	-
1a1	IF there is no PDN connection already active THEN Trigger the UE to perform PDN connection establishment via AT or MMI command. NOTE: For the DNN name in the AT command, check the default PDU type from the value the ICS parameter pc_APN_Default_Configuration and take the value of the corresponding ICS parameter. If it is set to 'none' then use pc_APN_ID_Internet.	-	-	-	-
1b1	ELSE skip the steps 2-8a1	-	-	-	-
2-6	Steps 3 to 7 of the generic procedure specified in TS 36.508 [2], table 4.5.3.3-1 take place.	-	-	-	-
7	The Generic Test Procedure to establish multiple additional PDN connections as specified in subclause 4.5A.2B takes place, ExpectedNumberOfNewPDNConnections=pc_n oOf_PDNsNewConnection.	-	-	-	-
-	EXCEPTION: Steps 7Aa1 to 7Aa2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
7Aa1	IF connected without release is On AND Test Loop Function=On THEN the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	RRC: DLInformationTransfer TC: CLOSE UE TEST LOOP	-	-
7Aa2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	RRC: ULInformationTransfer TC: CLOSE UE TEST LOOP COMPLETE	-	-
-	EXCEPTION: Step 18a1 depends on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
8a1	IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCCConnectionRelease</i> message to release RRC connection and move to E-UTRA RRC_IDLE (State 2).	<--	RRC: <i>RRCCConnectionRelease</i>	-	-

4.5.2.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 and TS 36.508 [2] clause 4.6 and 4.7 with the following exception(s).

Table 4.5.2.3-1: SECURITY MODE COMMAND (Step 9Aa1, Table 4.5.2.2-2)

Derivation path: Table 4.7.1-25 with condition UE_S1_SUPPORTED

Table 4.5.2.3-2: SERVICE REQUEST (Step 4, Table 4.5.2.2-4)

Derivation Path: Table 4.7.1-16.			
Information Element	Value/remark	Comment	Condition
Service type	'0000'B	signalling	

Table 4.5.2.3-3: Message PDN CONNECTIVITY REQUEST (step 4, Table 4.5.2.2-5)

Derivation path: TS 36.508 [2], Table 4.7.3-20.

Information Element	Value/Remark	Comment	Condition
Access point name	Not present or One of the provided APN(s) in the Table 4.8.4-1	If present, the SS shall initialise the APN_Default=False If not present NOTE 2	
NOTE 1: Unless explicitly specified otherwise, the SS uses the Access point name value to address the entry of Table 4.8.4-1 to be used for the subsequent signalling of the PDN connectivity establishment and verifying specific UE behaviour e.g. depending on the type of the APN the UE may perform some actions.			
NOTE 2: The SS uses pc_APN_Default_Configuration to address the entry of Table 4.8.4-1 to be used for the subsequent signalling of the PDN connectivity establishment.			

Table 4.5.2.3-4: Message ESM INFORMATION RESPONSE (step 9a2, Table 4.5.2.2-5)

Derivation path: TS 36.508 [2], Table 4.7.3-14.

Information Element	Value/Remark	Comment	Condition
Access point name	Not present or One of the provided APN(s) in the Table 4.8.4-1	If present, the SS shall initialise the APN_Default=False If not present NOTE 2	
NOTE 1: Unless explicitly specified otherwise, the SS uses the Access point name value to address the entry of Table 4.8.4-1 to be used for the subsequent signalling of the PDN connectivity establishment and verifying specific UE behaviour e.g. depending on the type of the APN the UE may perform some actions.			
NOTE 2: The SS uses pc_APN_Default_Configuration to address the entry of Table 4.8.4-1 to be used for the subsequent signalling of the PDN connectivity establishment.			

Table 4.5.2.3-5: Message ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST (Steps 10a5, 10b7, Table 4.5.2.2-5)

Derivation path: TS 36.508 [2], Table 4.7.3-6 with CONDITION Interworking_with_5GS.			
Information Element	Value/Remark	Comment	Condition
EPS QoS	The EPC default bearer context of the entry in Table 4.8.4-1 which has been determined at step 1		
Access point name	IF the UE provided an Access point name in step 1 THEN the SS returns this name; OTHERWISE the SS includes the DNN/APN ID value of the entry in Table 4.8.4-1 which has been determined at step 1.		
Container ID n+3	'001C'H		
Length of container ID n+3 contents			
Container ID n+3 contents	5GC QoS rule of the entry in Table 4.8.4-1 which has been determined at step 1		
Container ID n+4	'001F'H		
Length of container ID n+4 contents			
Container ID n+4 contents	As per the relevant QoS rule (Container ID n+3)		

4.5.3 RRC_INACTIVE

4.5.3.1 Initiation

The SS shall:

- 1> if connectivity is *NR*
- 2> use 1 NR cell, default parameters;
- 2> perform according to the table 4.5.3.2-1: NR RRC_INACTIVE;

4.5.3.2 Procedures

Table 4.5.3.2-1: NR RRC_INACTIVE

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-19a1	Same as table 4.5.2.2-2, steps 1-19a1.	-	-	-	-
20	The SS transmits an RRCRelease message with suspend.	<--	NR RRC: <i>RRCRelease</i>	-	-

4.5.4 RRC_CONNECTED

4.5.4.1 Initiation

The SS shall:

1> perform according to clause 4.5.2 RRC_IDLE;

1> if connectivity is *EN-DC*:

2> use 1 E-UTRA cell and 1 NR cell, default parameters;

2> if connected without release is *On*:

3> perform according to the table 4.5.4.2-2: RF E-UTRA RRC_CONNECTED;

2> else:

3> perform according to the table 4.5.4.2-1: E-UTRA RRC_CONNECTED;

1> if connectivity is *E-UTRA/EPC*:

2> use 1 E-UTRA cell, default parameters;

2> perform according to the table 4.5.4.2-1: E-UTRA RRC_CONNECTED with *MCG(s)* only;

1> if connectivity is *NR*:

2> use 1 NR cell, default parameters;

2> if connected without release is not present:

3> perform according to the table 4.5.4.2-3: NR RRC_CONNECTED;

1> if connectivity is *WLAN*:

2> use 1 WLAN cell, default parameters;

2> if connected without release is not present:

3> perform according to the table 4.5.4.2-4: WLAN IPsec_SA_Established;

2> else:

3> Not defined;

1> if connectivity is *NR-DC*:

2> use 2 NR cells, default parameters;

2> perform according to the table 4.5.4.2-5: NR-DC RRC_CONNECTED;

4.5.4.2 Procedures

Table 4.5.4.2-1: E-UTRA RRC_CONNECTED

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-6	Same as TS 36.508 [2] table 4.5.3.3-1, steps 2-7.	-	-	-	-
7	Same as TS 36.508 [2] table 4.5.3.3-1, step 8. The <i>RRConnectionReconfiguration</i> is using condition EN-DC_SRB2-DRB for bearers <i>MCG(s) and SCG</i> or <i>MCG(s) only</i> . The <i>RRConnectionReconfiguration</i> is using an associated condition <i>MCG_and_SCG</i> for bearers <i>MCG(s) and SCG</i> or condition <i>MCG_and_split</i> for bearers <i>MCG(s) and split</i> . For bearers <i>MCG(s) only</i> there's no associated condition.	<--	<i>RRC</i> : <i>RRConnectionReconfiguration</i> <i>NAS</i> : ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST	-	-
-	EXCEPTION: IF <i>MCG(s) and SCG</i> or <i>MCG(s) and split</i> . In parallel to steps 8-9 the UE performs a C-RNTI based Contention Based Random Access (CBRA) procedure on the NR cell.	-	-	-	-
8-9	Same as TS 36.508 [2] table 4.5.3.3-1, steps 9-10a1	-	-	-	-
10a1-10a2	IF Test Loop Function= <i>On</i> , same as TS 36.508 [2] table 4.5.4.3-1, steps 1-2. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	-	-	-	-

Table 4.5.4.2-2: RF E-UTRA RRC_CONNECTED

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-9	Same as table 4.5.2.2-1, steps 1-9.	-	-	-	-
10a1-10a2	IF Test Mode = <i>On</i> OR Test Loop Function = <i>On</i> THEN same as TS 36.508 [2] table 4.5.2A.3-1, steps 10-11. The ACTIVATE TEST MODE is using the associated condition for the test loop.	-	-	-	-
-	EXCEPTION: Steps 11a1 to 11b8 describe the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
11a1-11a8	IF Test Mode = <i>On</i> OR Test Loop Function = <i>On</i> THEN same as TS 36.508 [2] table 4.5.2A.3-1, steps 12-18.	-	-	-	-
11b1-11b8	ELSE, same as TS 36.508 [2] table 4.5.2.3-1, steps 10-16.	-	-	-	-
12-15	Same as table 4.5.4.2-1, steps 7-10.	-	-	-	-

Table 4.5.4.2-3: NR RRC_CONNECTED

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits a <i>Paging</i> message.	<--	NR RRC: <i>Paging</i>	-	-
2	The UE transmits an <i>RRCSetupRequest</i> message.	-->	NR RRC: <i>RRCSetupRequest</i>	-	-
3	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
4	The UE transmits an <i>RRCSetupComplete</i> message and a SERVICE REQUEST message.	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: SERVICE REQUEST	-	-
5	The SS transmits a <i>SecurityModeCommand</i> message.	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
6	The UE transmits a <i>SecurityModeComplete</i> message.	-->	NR RRC: <i>SecurityModeComplete</i>	-	-
7	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB(s). The <i>RRCReconfiguration</i> message is configured using <i>RRCReconfiguration-SRB2-DRB(n, m)</i> where n and m are the number of DRB(s) configured with RLC-AM and RLC-UM respectively.	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT	-	-
8	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
-	EXCEPTION: Steps 9a1 to 9a2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
9a1	IF Test Loop Function= <i>On</i> , the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	NR RRC: <i>DLInformationTransfer</i> TC: CLOSE UE TEST LOOP	-	-
9a2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	NR RRC: <i>ULInformationTransfer</i> TC: CLOSE UE TEST LOOP COMPLETE	-	-

Table 4.5.4.2-4: WLAN IPsec_SA_Established

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Trigger UE to initiate IPsec SA.	-	-	-	-
2	The generic procedure for UE-requested IPsec Secure tunnel establishment, specified in subclause 4.5A.64, takes place performing establishment of security association and one child security association.	-	-	-	-

Table 4.5.4.2-5: NR-DC RRC_CONNECTED

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-8	Same as table 4.5.4.2-3, steps 1-6.	-	-	-	-
8A	The SS transmits an <i>RRCReconfiguration</i> message and a PDU SESSION MODIFICATION COMMAND to add a new SCG DRB or a new split DRB	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
-	EXCEPTION: In parallel to steps 8B and 8C the UE performs a C-RNTI based Contention Based Random Access (CBRA) procedure on the PSCell.	-	-	-	-
8B	The UE transmits an <i>RRCReconfigurationComplete</i> message including nr-SCG-Response.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
8C	The UE transmits a <i>ULInformationTransfer</i> message and an PDU SESSION MODIFICATION COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	-
-	EXCEPTION: Steps 9a1 to 9a2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
9a1	IF Test Loop Function= <i>On</i> , the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	NR RRC: <i>DLInformationTransfer</i> TC: CLOSE UE TEST LOOP	-	-
9a2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	NR RRC: <i>ULInformationTransfer</i> TC: CLOSE UE TEST LOOP COMPLETE	-	-

4.5.4.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 and TS 36.508 [2] clause 4.6 and 4.7 with the exceptions below.

Table 4.5.4.3-0: RRCConnectionReconfiguration (step 7, Table 4.5.4.2-1)

Derivation Path: 36.508 table 4.6.1-8			
Information Element	Value/remark	Comment	Condition
RRCConnectionReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcConnectionReconfiguration-r8 SEQUENCE {			
dedicatedInfoNASList	Not present	no NAS message	MCG(s) only
dedicatedInfoNASList SEQUENCE (SIZE(1..maxDRB)) OF	1 entry		MCG_and_S CG OR MCG_and_s plit
dedicatedInfoNAS [1]	OCTET STRING including ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST	according to table 4.5.4.3-1	
}			
}			
}			
}			

Table 4.5.4.3-1: Message ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST (step 7, Table 4.5.4.2-1)

Derivation path: TS 36.508 [2] Table 4.7.3-3			
Information Element	Value/Remark	Comment	Condition
Linked EPS bearer identity	12		
EPS QoS	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
TFT	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Negotiated QoS	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Negotiated LLC SAPI	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Radio priority	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Protocol configuration options	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Extended protocol configuration options	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		

Table 4.5.4.3-2: RRCReconfiguration (step 7, Table 4.5.4.2-3)

Derivation Path: TS 38.508-1, table 4.8.1-1B

Table 4.5.4.3-3: Void**Table 4.5.4.3-4: PDU SESSION MODIFICATION COMMAND (step 8A, Table 4.5.4.2-5)**

Derivation Path: Table 4.7.2-9.			
Information Element	Value/remark	Comment	Condition
PDU session ID	The same as the PDU session ID in PDU SESSION ESTABLISHMENT REQUEST associated with the Internet PDU session if available or with the first PDU session		
Authorized QoS rules	One entry		
QoS rule [1]	Reference QoS rule #5 as defined in Table 4.8.2.1-5.	QFI=5	
Authorized QoS flow descriptions	One entry		
QoS flow [1]	Reference QoS flow #5 as defined in Table 4.8.2.3-5.	QFI=5	

Table 4.5.4.3-5: RRCReconfiguration (step 8A, Table 4.5.4.2-5)

Derivation Path: TS 38.508-1, table 4.8.1-1CA

Table 4.5.4.3-6: RRCReconfigurationComplete (step 8B, Table 4.5.4.2-5)

Derivation Path: TS 38.508-1, table 4.6.1-14 with condition NR-DC

4.5.5 SWITCHED_OFF

4.5.5.1 Initiation

The SS shall:

- 1> if Test State ID=0-A:
 - 2> Do nothing;
- 1> else if Test State ID=0N-B:
 - 2> use 1 NR cell, default parameters;
 - 2> perform the procedure according to the table 4.5.5.2-1: NR SWITCHED_OFF_0_B;
- 1> else if Test State ID=0E-B:
 - 2> FFS

NOTE: The procedure for State 0N-B is used as default.

4.5.5.2 Procedures

Table 4.5.5.2-1: NR SWITCHED_OFF_ON_B

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-20	Same as table 4.5.2.2-2, steps 1-20.	-	-	-	-
21-26	Same as table 4.9.6.1-1, steps 1a1-1b1	-	-	-	-

4.5.5.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7.

NOTE: The procedure refers to default messages content. If a test case requires specific parameters to be set during the procedure e.g. list with ePLMNs or/and TAIs is stored, new or not 5G-GUTI, etc. then, this needs to be specified in the test case, which uses the procedure.

4.5.6 Void

4.5A Auxiliary procedures

4.5A.1 General

4.5A.2 UE-requested PDU session establishment procedure

4.5A.2.1 Scope

The purpose of this procedure is to establish UE-requested PDU session(s).

Table 4.5A.2.1-1: Conditions and other parameters

Condition	Explanation
ExpectedNumberOfNewPDUSessions	Usage: Parameter determining procedure sequence. A value for this parameter shall be provided when the procedure is called. Unless the test requires specific number of PDU sessions to be established the value should be either px_noOf_PDUsSameConnection or px_noOf_PDUsNewConnection ([23]). Meaning: The number of PDU sessions which are expected to happen. Depends on the UE configuration and/or the context in which the procedure is used.
K	Usage: Parameter determining procedure sequence. Meaning: The number of PDU SESSION ESTABLISHMENT REQUEST messages already processed including the one that is currently being processed.
L	Usage: Parameter determining procedure sequence. Meaning: The number of PDU SESSION ESTABLISHMENT REQUEST messages being received so far.
N	Usage: Parameter determining procedure sequence. The parameter is initialised with the value of ExpectedNumberOfNewPDUSessions Meaning: Loop (step sequence repetition) control.
IMS_PDU	Usage: Condition determining specific message contents. Meaning: PDU session establishment for IMS. Whether a PDU session is for IMS is determined by the DNN/APN type of the entry in Table 4.8.4-1 which itself has been determined by the DNN IE in the UL NAS TRANSPORT message which carried the corresponding PDU SESSION ESTABLISHMENT REQUEST or by pc_APN_Default_Configuration if the DNN IE was not present

4.5A.2.2 Procedure description

4.5A.2.2.1 Initial conditions

The UE is in RRC_CONNECTED state.

4.5A.2.2.2 Procedure sequence

Table 4.5A.2.2.2-1: PDU session establishment procedure

St	Procedure	Message Sequence		Verdict
		U - S	Message	
0	Set K = 0, L = 0, N = ExpectedNumberOfNewPDUSessions	-	-	-
1	The procedure specified in Table 4.5A.2.2.2-2 takes place.	-	-	-
2	Set K = K +1	-	-	-
-	EXCEPTION: In parallel to the events described in steps 3-6a1 below the events specified in Table 4.5A.2.2.2-2 may take place.	-	-	-
3	The SS transmits an <i>RRCReconfiguration</i> message and an PDU SESSION ESTABLISHMENT ACCEPT	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT	-
4	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-
-	EXCEPTION: Step 5a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
5a1	IF the 'IP address allocation' for the DNN for which the PDU session is established is set to "Yes" in Table 4.8.4-1 THEN, the generic procedure for IP address allocation in the user plane, specified in subclause 4.5A.3, takes place performing IP address allocation in the user plane.	-	-	-
-	EXCEPTION: Step 6a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
6a1	IF the 'IMS registration' for the DNN for which the PDU session is established is set to "Yes" in Table 4.8.4-1, THEN the generic procedure for IMS signalling in the U-plane specified in subclause 4.5A.4 takes place.	-	-	-
-	EXCEPTION: Steps 7a1 to 7b2 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
7a1	IF L > K (NOTE 1) THEN repeat from step 2	-	-	-
7b1	ELSE IF K < N (NOTE 2) THEN repeat from step 1.	-	-	-
NOTE 1: One (or more) further PDU SESSION ESTABLISHMENT REQUEST message has been received in parallel.				
NOTE 2: Less PDU SESSION ESTABLISHMENT REQUEST messages than expected have been received and processed so far -> further request are expected from the UE.				

Table 4.5A.2.2.2-2: Reception of PDU SESSION ESTABLISHMENT REQUEST message

St	Procedure	Message Sequence		Verdict
		U – S	Message	
1	Start Wait_Timer = 8 sec. NOTE: 8s were chosen to cater for T3540 being set to 10s.	-	-	-
-	EXCEPTION: Steps 2a1 to 2b1 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
2a1	The UE transmits an <i>ULInformationTransfer</i> message and a PDU SESSION ESTABLISHMENT REQUEST	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST	-
2a2	Stop Wait_Timer.	-	-	-
2a3	Set L = L +1.	-	-	-
2a4	Check: Does the L>N? (NOTE 1)	-	-	F
2b1	Check: Does Wait_Timer expire? (NOTE 2)	-	-	F
NOTE 1: The SS shall raise a fail verdict when there are more PDU SESSION ESTABLISHMENT REQUEST messages than expected and terminate the test. The reason for such a behaviour can be e.g. wrongly set Ixit with which the ExpectedNumberOfNewPDNConnections was initiated,				
NOTE 2: Unless this is specified explicitly otherwise e.g. in a test procedure which calls the procedure specified in the present table, the SS shall raise a fail verdict when there are less PDN CONNECTIVITY REQUEST messages than expected received at this point and terminate the test. The reason for such a behaviour can be e.g. wrongly set PICS with which the ExpectedNumberOfNewPDUSessions was initiated.				

4.5A.2.2.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 with the exceptions below.

Table 4.5A.2.2.3-1: RRCReconfiguration (step 3, Table 4.5A.2.2.2-1)

Derivation Path: Table 4.6.1-13 and condition NR if SRB2 is not yet established			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig with conditions SRB2 and DRB2		NOT IMS_PDU
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with condition SRB2_DRB2		NOT IMS_PDU
dedicatedNAS-MessageList SEQUENCE (SIZE(1..maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message		
}			
}			
}			
}			

Table 4.5A.2.2.3-2: RRCReconfiguration (step 3, Table 4.5A.2.2.2-1)

Derivation Path: Table 4.6.1-13 and condition NR if SRB2 is already established			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig with condition DRBn	n is chosen as the next available number higher or equal to 2	
	RadioBearerConfig with condition DRB1		IMS_PDU
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with condition DRBn	n is set to the same value as for the radioBearerConfig IE above	
	CellGroupConfig with condition DRB1		IMS_PDU
dedicatedNAS-MessageList SEQUENCE (SIZE(1..maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message		
}			
}			
}			
}			

4.5A.2A UE-requested PDU session establishment procedure over Non 3GPP Access

4.5A.2A.1 Scope

The purpose of this procedure is to establish UE-requested PDU session.

4.5A.2A.2 Procedure description

4.5A.2A.2.1 Initial conditions

The UE has established an IPsec security association

4.5A.2A.2.2 Procedure sequence

Table 4.5A.2A.2.2-1: PDU session establishment procedure over Non 3GPP Access

St	Procedure	Message Sequence	
		U – S	Message
1	The UE transmits a PDU SESSION ESTABLISHMENT REQUEST	-->	5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST
2	The SS establishes an IPsec child security association according to the IKEv2 specification in RFC 7296 [34]		
3	The SS transmits an PDU SESSION ESTABLISHMENT ACCEPT	<--	5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT

Note 1: The current procedure assumes UE establishes a single PDU session over Non 3GPP Access.

4.5A.2A.3 Specific message contents

None

4.5A.2B Procedure to establish multiple additional PDN connections in S1

4.5A.2B.1 Scope

The present procedure is intended for test scenarios where it is desirable, due to the tested requirements (e.g. intersystem change between S1 and N1 mode), to allow the UE to set up as many as it may want, and in any order, PDN connections after the first PDN connection is established during the ATTACH to EPS procedure (i.e. when the UE is operating in S1 mode).

Table 4.5A.2B.1-1: Conditions and other parameters

Condition	Explanation
ExpectedNumberOfNewPDNConnections	Usage: Parameter determining procedure sequence. A value for this parameter shall be provided when the procedure is called. Unless the test requires specific number of PDN connections to be established the value should be either pc_noOf_PDNsSameConnection or pc_noOf_PDNsNewConnection ([19]). Meaning: The number of PDN connections which are expected to happen. Depends on the UE configuration and/or the context in which the procedure is used.
K	Usage: Parameter determining procedure sequence. Meaning: The number of PDN CONNECTIVITY REQUEST messages already processed including the one that is currently being processed.
L	Usage: Parameter determining procedure sequence. Meaning: The number of PDN CONNECTIVITY REQUEST messages being received so far.
N	Usage: Parameter determining procedure sequence. The parameter is initialised with the value of ExpectedNumberOfNewPDNConnections Meaning: Loop (step sequence repetition) control.

4.5A.2B.2 Procedure description

4.5A.2B.2.1 Initial conditions

System Simulator:

- 1 cell, default parameters.
- The procedure shall be performed under ideal radio conditions as defined in clause 5

User Equipment:

- The UE is in Registered, RRC_CONNECTED state (State 2).

The default system information messages are used.

4.5A.2B.2.2 Procedure sequence

Table 4.5A.2B.2.2-1: Establishment of additional PDN connectivity

St	Procedure	Message Sequence		Verdict
		U - S	Message	
0	Set K = 0, L = 0, N = ExpectedNumberOfNewPDNConnections	-	-	-
1	The procedure specified in Table 4.5A.2B.2.2-2 takes place.	-	-	-
2	Set K = K + 1.	-	-	-
-	EXCEPTION: In parallel to the events described in steps 3-6a1 below the events specified in Table 4.5A.2B.2.2-2 may take place.	-	-	-
3-4	Step 2-3 as defined in TS 36.508 [2], Table 4.5A.16.3-1, Generic Test Procedure to establish additional PDN connectivity take place.	-	-	-
-	EXCEPTION: IF the 'IP address allocation' for the APN for which the PDN connection is established is set to "Yes" in Table 4.8.4-1 THEN, in parallel to the event described in step 5 below the generic procedure for IP address allocation in the U-plane specified in TS 36.508 [2], subclause 4.5A.1 takes place performing IP address allocation in the U-plane if requested by the UE.	-	-	-
-	EXCEPTION: IF the 'IMS registration' for the APN for which the PDN connection is established is set to "Yes" in Table 4.8.4-1, THEN in parallel to the event described in step 5 below the relevant generic procedure for IMS signalling in the U-plane specified in Table 4.8.4-1 takes place.	-	-	-
5	Step 4 as defined in TS 36.508 [2], Table 4.5A.16.3-1, Generic Test Procedure to establish additional PDN connectivity takes place.	-	-	-
-	EXCEPTION: Steps 6a1 to 6b1 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
6a1	IF L > K (NOTE 1) THEN repeat from step 2.	-	-	-
6b1	ELSE IF K < N (NOTE 2) THEN repeat from step 1.	-	-	-
NOTE 1: One (or more) further PDN CONNECTIVITY REQUEST message has been received in parallel.				
NOTE 2: Less PDN CONNECTIVITY REQUEST messages than expected have been received and processed so far and consequently further requests are expected from the UE.				

Table 4.5A.2B.2-2: Reception of PDN CONNECTIVITY REQUEST message

St	Procedure	Message Sequence		Verdict
		U - S	Message	
1	Start Wait_Timer = 10 sec. NOTE: 10 sec is an arbitrary value.	-	-	-
-	EXCEPTION: Steps 2a1 to 2b1 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
2a1	Step 1 as defined in Table 4.5A.16.3-1, specified in TS 36.508 [2], subclause 4.5A.16 Generic Test Procedure to establish additional PDN connectivity takes place. The UE transmits a PDN CONNECTIVITY REQUEST message to request an additional PDN.	<--	PDN CONNECTIVITY REQUEST	-
2a2	Stop Wait_Timer.	-	-	-
2a3	Set L = L +1.	-	-	-
2a4	Check: Does the L>N? (NOTE 1)	-	-	F
2b1	Check: Does Wait_Timer expire? (NOTE 2)	-	-	F
NOTE 1: The SS shall raise a fail verdict when there are more PDN CONNECTIVITY REQUEST messages received than expected (L>N) and terminate the test. The reason for such a behaviour can be e.g. wrongly set PICS with which the ExpectedNumberOfNewPDNConnections was initiated.				
NOTE 2: Unless this is specified explicitly otherwise, e.g. in a test procedure which calls the procedure specified in the present table, the SS shall raise a fail verdict when there are less PDN CONNECTIVITY REQUEST messages than expected received at this point (note that when this procedure is called from the main behaviour K < N). The reason for such a behaviour can be e.g. wrongly set PICS with which the ExpectedNumberOfNewPDNConnections was initiated.				

4.5A.2B.3 Specific message contents

All specific message contents shall be referred to TS 36.508 [2] subclauses 4.6 and 4.7 with the exceptions specified below.

Table 4.5A.2B.3-1: Message PDN CONNECTIVITY REQUEST (step 1, Table 4.5A.2B.2-2)

Derivation path: TS 36.508 [2], Table 4.7.3-20.			
Information Element	Value/Remark	Comment	Condition
Access point name	Not present or One of the provided APN(s) in the Table 4.8.4-1	If present, the SS shall initialise the APN_Default=False If not present NOTE 2	
NOTE 1: Unless explicitly specified otherwise, the SS uses the Access point name value to address the entry of Table 4.8.4-1 to be used for the subsequent signalling of the PDN connectivity establishment and verifying specific UE behaviour e.g. depending on the type of the APN the UE may perform some actions.			
NOTE 2: The SS uses pc_APN_Default_Configuration to address the entry of Table 4.8.4-1 to be used for the subsequent signalling of the PDN connectivity establishment.			

Table 4.5A.2B.3-2: Message ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST (step 3, Table 4.5A.2B.2.2-1; Step 2, Table 4.5A.16.3-1 TS 36.508 [2])

Derivation path: TS 36.508 [2], Table 4.7.3-6 with CONDITION Interworking_with_5GS.			
Information Element	Value/Remark	Comment	Condition
EPS QoS	The EPC default bearer context of the entry in Table 4.8.4-1 which has been determined at step 1		
Access point name	IF the UE provided an Access point name in step 1 THEN the SS returns this name; OTHERWISE the SS includes the DNN/APN ID value of the entry in Table 4.8.4-1 which has been determined at step 1.		
Container ID n+3	'001C'H		
Length of container ID n+3 contents			
Container ID n+3 contents	5GC QoS rule of the entry in Table 4.8.4-1 which has been determined at step 1		
Container ID n+4	'001F'H		
Length of container ID n+4 contents			
Container ID n+4 contents	As per the relevant QoS rule (Container ID n+3)		

4.5A.2C Procedure for UE-requested PDU session modification after the first S1 to N1 mode change / Single-registration mode with N26

4.5A.2C.1 Scope

The purpose of this procedure is to handle UE-requested PDU session modification after the first S1 to N1 mode change in the scenario of Single-registration mode, 'Interworking without N26 interface not supported'.

Table 4.5A.2C.1-1: Conditions and other parameters

Condition	Explanation
ExpectedNumberOfPDUSessionModifications	Usage: Parameter determining procedure sequence. A value for this parameter shall be provided when the procedure is called. Unless the test requires specific number of PDU modifications to take place the value should be set to pc_noOf_PDNsSameConnection + pc_noOf_PDNsNewConnection ([19]). Meaning: The number of PDU sessions which are expected to happen. Depends on the UE configuration and/or the context in which the procedure is used.
K	Usage: Parameter determining procedure sequence. Meaning: The number of PDN SESSION MODIFICATION REQUEST messages already processed including the one that is currently being processed.
L	Usage: Parameter determining procedure sequence. Meaning: The number of PDN SESSION MODIFICATION REQUEST being received so far.
N	Usage: Parameter determining procedure sequence. The parameter is initialised with the value of ExpectedNumberOfPDUSessionModifications Meaning: Loop (step sequence repetition) control.

4.5A.2C.2 Procedure description

4.5A.2C.2.1 Initial conditions

The UE is in RRC_CONNECTED state.

4.5A.2C.2.2 Procedure sequence

Table 4.5A.2C.2.2-1: Procedure for UE-requested PDU session modification after the first S1 to N1 mode change

St	Procedure	Message Sequence		Verdict
		U - S	Message	
0	Set $K = 0$, $L = 0$, $N = (\text{ExpectedNumberOfPDUSessionModifications})$.	-	-	-
1	The procedure specified in Table 4.5A.2C.2.2-2 takes place.	-	-	-
2	Set $K = K + 1$.	-	-	-
-	EXCEPTION: In parallel to the events described in steps 3-5a1 below the events specified in Table 4.5A.2C.2.2-2 may take place.	-	-	-
3	The SS transmits a PDU SESSION MODIFICATION COMMAND.	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-
4	The UE transmits a PDU SESSION MODIFICATION COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-
-	EXCEPTION: Steps 5a1 to 5b1 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
5a1	IF $L > K$ (NOTE 1) THEN repeat from step 2.	-	-	-
5b1	ELSE IF $K < N$ (NOTE 2) THEN repeat from step 1.	-	-	-
NOTE 1: One (or more) further PDU SESSION MODIFICATION REQUEST message has been received in parallel.				
NOTE 2: Less PDU SESSION MODIFICATION REQUEST messages than expected have been received and processed so far -> Further request are expected from the UE.				

Table 4.5A.2C.2.2-2: Reception of PDU SESSION MODIFICATION REQUEST message

St	Procedure	Message Sequence		Verdict
		U - S	Message	
1	Start Wait_Timer = 8 sec. NOTE: 8s were chosen to cater for T3540 being set to 10s.	-	-	-
-	EXCEPTION: Steps 2a1 to 2b1 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-
2a1	The UE transmits an <i>ULInformationTransfer</i> message and a PDU SESSION MODIFICATION REQUEST with PDU session ID which has been associated with a default EPS bearer set up during the UE operation in S1.	-->	NR RRC: <i>ULInformationTransfer</i> 5GSM: PDU SESSION MODIFICATION REQUEST	-
2a2	Stop Wait_Timer.	-	-	-
2a3	Set L = L +1.	-	-	-
2a4	Check: Does the L>N? (NOTE 1)	-	-	F
2b1	Check: Does Wait_Timer expire? (NOTE 2)	-	-	F
NOTE 1: The SS shall raise a fail verdict when there are more PDU SESSION MODIFICATION REQUEST messages received than expected and terminate the test. The reason for such a behaviour can be e.g. wrongly set PICS with which the ExpectedNumberOfNewPDNConnections was initiated.				
NOTE 2: Unless this is specified explicitly otherwise e.g. in a test procedure which calls the procedure specified in the present table, the SS shall raise a fail verdict when there are less PDU SESSION MODIFICATION REQUEST messages than expected received at this point and terminate the test. The reason for such a behaviour can be e.g. wrongly set PICS with which the ExpectedNumberOfNewPDUSessions was initiated,				

4.5A.2C.2.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 with the below exceptions:

Table 4.5A.2C.2.3-1: UL NAS TRANSPORT (Step 1, Table 4.5A.2C.2.2-2)

Derivation Path: Table 4.7.1-10.			
Information Element	Value/remark	Comment	Condition
Request type	'101'B	"modification request"	

Table 4.5A.2C.2.3-2: PDU SESSION MODIFICATION REQUEST (Step 1, Table 4.5A.2C.2.2-2)

Derivation Path: Table 4.7.2-7.			
Information Element	Value/remark	Comment	Condition
PDU session ID	The PDU session ID associated with the default EPS bearer of the PDN connection which is being transferred into PDU session and for which the UE needs to indicate its capabilities via the modification procedure. (NOTE 1)		
5GSM capability	Present. Contents not checked.		
Integrity protection maximum data rate	Present. Contents not checked.		
NOTE 1: The PDU session ID was provided in the ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT when the UE attached in S1. If the UE provides here an unknown PDU session ID then the SS shall set an Inconclusive verdict.			

4.5A.3 Procedure for IP address allocation in the user plane

4.5A.3.1 Scope

The purpose of this procedure is to allow the successful completion of IP address allocation if it is initiated by the UE therefore the result from the execution of the Procedure for IP address allocation in the user plane shall not lead to assignment of a verdict.

Depending on the UE configuration there may be unpredictable delay in the start of the procedure. A guarding time of 1.2 sec is suggested within which the procedure is expected to start. If the timer expires then the test procedure, from which the Procedure for IP address allocation in the user plane is called, shall advance to the next specified step.

4.5A.3.2 Procedure description

4.5A.3.2.1 Initial conditions

N/A

4.5A.3.2.2 Procedure sequence

Table 4.5A.3.2.2-1: Procedure for IP address allocation in the user plane

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Step 1 below and Step 1 in Table 4.5A.3.2.2-2 describe behaviour that depends on the contents of the latest PDU SESSION ESTABLISHMENT REQUEST message sent by the UE prior to this procedure.	-	-
-	EXCEPTION: In parallel to the event described in step 1 below the step specified in Table 4.5A.3.2.2-2 may take place.	-	-
1	If the "PDU session type" in the latest PDU SESSION ESTABLISHMENT REQUEST message prior to this procedure was 'IPv4' or 'IPv4v6' then, IPv4 address allocation by DHCPv4 may occur on the user plane bearer established for the QoS flow of the default QoS rule.	-	-

Table 4.5A.3.2.2-2: Procedure for IP address allocation in the user plane, parallel behaviour

Step	Procedure	Message Sequence	
		U - S	Message
1	If the "PDU session type" in the latest PDU SESSION ESTABLISHMENT REQUEST message prior to this procedure was 'IPv6' or 'IPv4v6' then stateless address auto configuration occurs on the user plane bearer established for the QoS flow of the default QoS rule.	-	-

4.5A.3.2.3 Specific message contents

None

4.5A.4 Procedure for IMS signalling

4.5A.4.1 Scope

The purpose of this procedure is to allow the successful completion of IMS signalling.

The procedure is applicable for UEs with IMS support (TS 38.508-2 A.4.4-1/2).

4.5A.4.2 Procedure description

4.5A.4.2.1 Initial conditions

N/A

4.5A.4.2.2 Procedure sequence

Table 4.5A.4.2.2-1: Procedure for IMS signalling

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1a2b1 describe a transaction that depends on the UE capability	-	-
1a1	IF pc_IMS_5GS then the SS starts timer Timer_1 = 10 s (Note 1)	-	-
-	EXCEPTION: Steps 1a2a1 to 1a2b1 describe a transaction that depends on the UE implementation	-	-
1a2a1	Registration procedure according TS 34.229-5 [47] subclause A.2 (steps 1-8).	-	-
-	Note: SS cancels timer Timer_1 at step 1a2a1	-	-
1a2a8		-	-
1a2b1	Timer_1 expires	-	-
Note 1: Depending on the UE configuration there may be unpredictable delay in the start of the procedure. A guarding time of [10] sec is suggested within which the procedure is expected to start. If the timer expires then the test procedure, from which the Procedure for IMS signalling U-plane is called, shall advance to the next specified step			

4.5A.4.2.3 Specific message contents

None

4.5A.5 IPsec Tunnel Disconnection in 5GC / WLAN

4.5A.5.1 Scope

The purpose of this procedure is to disconnect an Ipsec tunnel.

4.5A.5.2 Procedure description

4.5A.5.2.1 Initial conditions

The UE has established an IPsec security association

4.5A.5.2.2 Procedure sequence

Table 4.5A.5.2.2-1: IPsec Tunnel Disconnection in 5GC / WLAN

St	Procedure	Message Sequence	
		U – S	Message
1	The SS initiated disconnection from the existing IPsec tunnel as defined in TS 24.502 [35] clause 7.4.2	-	-
NOTE: It is assumed that the WLAN AP association remains throughout the procedure.			

4.5A.5.3 Specific message contents

None

4.5A.6 IPsec Tunnel Establishment in 5GC / WLAN

4.5A.6.1 Scope

The purpose of this procedure is to establish an Ipsec tunnel and NAS signalling connection.

4.5A.6.2 Procedure description

4.5A.6.2.1 Initial conditions

The UE has Registered to 5GC with a PDU session established and IPsec security association is released

4.5A.6.2.2 Procedure sequence

Table 4.5A.6.2.2-1: IPsec Tunnel Establishment in 5GC / WLAN

St	Procedure	Message Sequence	
		U – S	Message
-	Exception: In parallel to steps 1 to 2, the UE initiates an IPsec security association and one child security association as defined in TS 24.502 [35] clause 7.3.2	-	-
1	The UE transmits a SERVICE REQUEST message.	-->	5GMM: SERVICE REQUEST
2	The SS transmits a SERVICE Accept message.	<--	5GMM: SERVICE ACCEPT
Note 1: The current procedure assumes UE establishes a single PDU session over Non 3GPP Access.			

4.5A.6.3 Specific message contents

Table 4.5A.6.3-1: SERVICE REQUEST (step 1, Table 4.5A.6.2.2-1)

Derivation Path: 38.508-1 [4], Table 4.7.1-16			
Information Element	Value/remark	Comment	Condition
Service type			
Service type value	'0000'B	signalling	

4.6 Default NG-RAN RRC message and information elements contents

4.6.0 General

4.6.0.1 Global conditions

Groups of RRC and 5GMM conditions including always one condition set to true.

Table 4.6.0.1-1: Signalling, RF/RRM/Performance

Condition	Explanation
SIG	Used for signalling test cases
RF	Used for RF/Performance test cases
RRM	Used for RRM test cases

Table 4.6.0.1-2: NR operating bands

Condition	Explanation
FR1	410 MHz – 7125 MHz
FR2	24250 MHz – 52600 MHz

Table 4.6.0.1-3: FDD/TDD

Condition	Explanation
FDD	Frequency Division Duplex
TDD	Time Division Duplex

Table 4.6.0.1-4: Subcarrier spacing

Condition	Explanation
SCS15	15kHz
SCS30	30kHz
SCS60	60kHz
SCS120	120kHz
SCS240	240kHz

Table 4.6.0.1-5: SST

Condition	Explanation
SST_eMBB	Slice suitable for the handling of 5G enhanced Mobile Broadband.
SST_URLLC	Slice suitable for the handling of ultra- reliable low latency communications.
SST_MIoT	Slice suitable for the handling of massive IoT.
SST_V2X	Slice suitable for the handling of V2X services.

Table 4.6.0.1-6: Channel bandwidth

Condition	Explanation
BW5	5mhz
BW10	10mhz
BW15	15mhz
BW20	20mhz
BW25	25mhz
BW30	30mhz
BW40	40mhz
BW50	50mhz
BW60	60mhz
BW80	80mhz
BW100	100mhz

4.6.1 Contents of RRC messages

– CounterCheck

Table 4.6.1-1: CounterCheck

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
CounterCheck ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
counterCheck SEQUENCE {			
drb-CountMSB-InfoList SEQUENCE (SIZE (1..maxDRB)) OF DRB-CountMSB-Info	1 entry		
DRB-CountMSB-Info[1] SEQUENCE {		entry 1	
drb-Identity	DRB-Identity		
countMSB-Uplink	0		
countMSB-Downlink	0		
}			
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			

– *CounterCheckResponse***Table 4.6.1-2: CounterCheckResponse**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
CounterCheckResponse ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
counterCheckResponse SEQUENCE {			
drb-CountInfoList SEQUENCE (SIZE (0..maxDRB)) OF DRB-CountInfo {	1 entry		
DRB-CountInfo[1] SEQUENCE {		entry 1	
drb-Identity	DRB-Identity		
count-Uplink	Not checked		
count-Downlink	Not checked		
}			
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *DedicatedSIBRequest***Table 4.6.1-2A: DedicatedSIBRequest**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
DedicatedSIBRequest-r16 ::= SEQUENCE {			
FFS			
}			

– *DL DedicatedMessageSegment***Table 4.6.1-2B: DL DedicatedMessageSegment**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
DL DedicatedMessageSegment-r16 ::= SEQUENCE {			
criticalExtensions CHOICE {			
dlDedicatedMessageSegment-r16 SEQUENCE {			
segmentNumber-r16	0 1		firstSegment lastSegment
rrc-MessageSegmentContainer-r16	Set according to specific message content	OCTET STRING including segmented RRCReconfiguration or RRCResume message	
rrc-MessageSegmentType-r16	notLastSegment lastSegment		firstSegment lastSegment
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

Condition	Explanation
firstSegment	The first segment of the RRCReconfiguration or RRCResume message
lastSegment	The last segment of the RRCReconfiguration or RRCResume message

– *DLInformationTransfer*

Table 4.6.1-3: *DLInformationTransfer*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
DLInformationTransfer ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
dlInformationTransfer SEQUENCE {			
dedicatedNAS-Message	DedicatedNAS-Message		
lateNonCriticalExtension SEQUENCE {	Not present		
referenceTimeInfo-r16	ReferenceTimeInfo		
nonCriticalExtension	Not present		
}			
nonCriticalExtension	Not present		
}			
}			
}			

Condition	Explanation
TSC	For test cases requiring TSC (Time Sensitive Communication) functions enabled.

– *DLInformationTransferMRDC*

Table 4.6.1-3A: *DLInformationTransferMRDC*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
DLInformationTransferMRDC-r16 ::= SEQUENCE {			
FFS			
}			

– *FailureInformation*

Table 4.6.1-4: FailureInformation

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
FailureInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
failureInformation SEQUENCE {			
failureInfoRLC-Bearer SEQUENCE {			
cellGroupId	Not checked		
logicalChannelIdentity	Not checked		
failureType	Not checked		
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {			DAPS_HOF
failureInfoDAPS-r16 SEQUENCE {			
failureType-r16	daps-failure	Indicate handover failure type is DAPS handover failure	
}			
nonCriticalExtension	Not checked		
}			
}			
}			
}			

Condition	Explanation
DAPS_HOF	DAPS handover failure

– *IABOtherInformation*

Table 4.6.1-4A: IABOtherInformation

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
IABOtherInformation-r16 ::= SEQUENCE {			
FFS			
}			

– *LocationMeasurementIndication*

Table 4.6.1-5: LocationMeasurementIndication

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
LocationMeasurementIndication ::= SEQUENCE {			
criticalExtensions CHOICE {			
locationMeasurementIndication SEQUENCE {			
measurementIndication CHOICE {			
setup	LocationMeasurementInfo		
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *LoggedMeasurementConfiguration*

Table 4.6.1-5AA: LoggedMeasurementConfiguration

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
LoggedMeasurementConfiguration-r16 ::= SEQUENCE {			
criticalExtensions CHOICE {			
LoggedMeasurementConfiguration SEQUENCE {			
traceReference-r16 SEQUENCE {			
plmn-Identity-r16	plmn-Identity in USIM	MCC/MNC=MCC/MNC in USIM	
traceId-r16	'0EF'H	OCTET STRING (SIZE (3))	
}			
traceRecordingSessionRef-r16	'1A'H	OCTET STRING (SIZE (2))	
tce-Id-r16	'5'H	OCTET STRING (SIZE (1))	
absoluteTimeInfo-r16	Set to value corresponding to the absolute time when the message is sent	BIT STRING (SIZE (48))	
areaConfiguration-r16	Not present		
plmn-IdentityList-r16	Not present		
bt-NameList-r16	Not present		
wlan-NameList-r16	Not present		
sensor-NameList-r16	Not present		
loggingDuration-r16	min120		
reportType CHOICE {			
periodical SEQUENCE {			PERIODICAL
loggingInterval-r16	ms2560	2.56s	
}			
eventTriggered SEQUENCE {			EVENT
eventType-r16 CHOICE {			
outOfCoverage	NULL		OUT-OF-COVERAG
eventL1 SEQUENCE {			EVENTL1
l1-Threshold CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
hysteresis	0		
timeToTrigger	ms100	0.1s	
}			
loggingInterval-r16	ms2560	2.56s	
}			
}			
}			
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

Condition	Explanation
PERIODICAL	Configuration of LoggedPeriodicalReport
EVENT	Configuration of LoggedEventTrigger
OUT-OF-COVERAGE	Configuration of outOfCoverage
EVENTL1	Configuration of eventL1

– *MCGFailureInformation***Table 4.6.1-5AB: MCGFailureInformation**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
MCGFailureInformation-r16 ::= SEQUENCE {			
FFS			
}			

– *MeasurementReport***Table 4.6.1-5A: MeasurementReport**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
MeasurementReport ::= SEQUENCE {			
criticalExtensions CHOICE {			
measurementReport SEQUENCE {			
measResults	MeasResults		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *MIB***Table 4.6.1-6: MIB**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
MIB ::= SEQUENCE {			
systemFrameNumber	A valid value as defined in TS 38.331 [6]		
subCarrierSpacingCommon	scs15or60	For signalling test cases see clause 6.2.3, otherwise see clause 4.3.1.	SCS15or60
	scs30or120	For signalling test cases see clause 6.2.3, otherwise see clause 4.3.1.	SCS30or120
ssb-subcarrierOffset	Set to the integer value of the 4 LSB of kSSB defined for the frequency of the cell	For signalling test cases see clause 6.2.3, otherwise see clause 4.3.1.	
dmrs-TypeA-Position	pos2		
pdcch-ConfigSIB1	PDCCH-ConfigSIB1		
cellBarred	notBarred		
intraFreqReselection	allowed		
spare	0		
}			

Condition	Explanation
SCS15or60	SCS is 15kHz or 60kHz
SCS30or120	SCS is 30kHz or 120kHz.

– *MobilityFromNRCommand*

Table 4.6.1-8: *MobilityFromNRCommand*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
MobilityFromNRCommand ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
mobilityFromNRCommand SEQUENCE {			
targetRAT-Type	eutra		
targetRAT-MessageContainer	OCTET STRING including the RRCConnectionReconfiguration message according TS 36.508 [2], table 4.6.1-8 with condition HO-TO-EUTRA		
nas-SecurityParamFromNR	The 4 LSB of the downlink NAS COUNT		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *Paging*

Table 4.6.1-9: *Paging*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
Paging ::= SEQUENCE {			
pagingRecordList SEQUENCE (SIZE(1..maxNrofPageRec)) OF PagingRecord {	1 entry		
PagingRecord[1] SEQUENCE {		entry 1	
ue-Identity CHOICE {			
ng-5G-S-TMSI	NG-5G-S-TMSI		
fullI-RNTI	I-RNTI-Value		NR_RRC_RESUME
}			
accessType	Not present		
}			
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			

Condition	Explanation
NR_RRC_RESUME	To page a UE in RRC_INACTIVE state to request RRC connection resumption

– *RRCReestablishment***Table 4.6.1-10: RRCReestablishment**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCReestablishment ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcReestablishment SEQUENCE {			
nextHopChainingCount	NextHopChainingCount		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *RRCReestablishmentComplete***Table 4.6.1-11: RRCReestablishmentComplete**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCReestablishmentComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcReestablishmentComplete SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *RRCReestablishmentRequest***Table 4.6.1-12: RRCReestablishmentRequest**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCReestablishmentRequest ::= SEQUENCE {			
ue-Identity SEQUENCE {			
c-RNTI	RNTI-Value		
physCellId	PhysCellId	The physical cell identity of the PCell the UE was connected to prior to the failure	
shortMAC-I	ShortMAC-I		
}			
reestablishmentCause	Not checked		
spare	Present but contents not checked		
}			

– *RRCReconfiguration*

Table 4.6.1-13: *RRCReconfiguration*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	Not present		
	RadioBearerConfig with conditions SRB2 and DRB1		NR, NR-DC
	RadioBearerConfig with conditions SRB2 and REEST		REEST
secondaryCellGroup	CellGroupConfig	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC
	CellGroupConfig with condition NR-DC_SCG	OCTET STRING (CONTAINING CellGroupConfig)	NR-DC_SCG
	CellGroupConfig with conditions EN-DC and PSCell change	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC_HO
	CellGroupConfig with condition MEAS	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC_MEAS
	CellGroupConfig with condition SCell_add	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC_SCell_add
	Not present		
measConfig	Not present		
	MeasConfig	Measurements configuration	NR_MEAS, EN-DC_MEAS
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {			NR, SCell_add, NR_MEAS, NR-DC, SIDELINK, DAPS_HO_ReleaseSource, CHO, CPC, REEST
masterCellGroup	CellGroupConfig with condition SRB2_DRB1	OCTET STRING (CONTAINING CellGroupConfig)	NR, NR-DC
	CellGroupConfig with condition SCell_add	OCTET STRING (CONTAINING CellGroupConfig)	SCell_add
	CellGroupConfig with condition MEAS	OCTET STRING (CONTAINING CellGroupConfig)	NR_MEAS
	CellGroupConfig with condition REEST	OCTET STRING (CONTAINING CellGroupConfig)	REEST
fullConfig	Not present		
dedicatedNAS-MessageList	Not present		
dedicatedNAS-MessageList SEQUENCE (SIZE(1..maxDRB)) OF DedicatedNAS-Message {	1 entry		NR
DedicatedNAS-Message[1]	DedicatedNAS-Message	entry 1 A sequence of OCTET STRING	

		(s) containing one or more DedicatedNAS-Message(s)	
}			
masterKeyUpdate	Not present		
masterKeyUpdate SEQUENCE {			MasterKeyChange
keySetChangeIndicator	true		
nextHopChainingCount	NextHopChainingCount		
nas-Container	Not present		
	OCTET STRING including the 10 Octets value generated according to TS 24.501 [28] clause 9.11.2.9		Inter_Sys_HO
}			
dedicatedSIB1-Delivery	Not present		
dedicatedSystemInformationDelivery	Not present		
otherConfig	Not present		
nonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {			NR-DC, SIDELINK, DAPS_HO_ReleaseSource, CHO, CPC
otherConfig-v1540	Not present		
nonCriticalExtension SEQUENCE {			
mrdc-SecondaryCellGroupConfig	Not present		
mrdc-SecondaryCellGroupConfig CHOICE {			NR-DC
setup SEQUENCE {			
mrdc-ReleaseAndAdd	Not present		
mrdc-SecondaryCellGroup CHOICE {			
nr-SCG	RRCReconfiguration with condition NR-DC_SCG	OCTET STRING (CONTAINING RRCReconfiguration)	
}			
}			
}			
radioBearerConfig2	RadioBearerConfig with condition DRBn and SecondaryKeys	OCTET STRING (CONTAINING RadioBearerConfig)	NR-DC
sk-Counter	SK-Counter		
nonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {			SIDELINK, DAPS_HO_ReleaseSource, CHO, CPC
otherConfig-v1610	Not present		
bap-Config-r16	Not present		
iab-IP-AddressConfigurationList-r16	Not present		
conditionalReconfiguration-r16	Not present		
	ConditionalReconfiguration		CHO, CPC
daps-SourceRelease-r16	Not present		
	true		DAPS_HO_ReleaseSource
t316-r16	Not present		
needForGapsConfigNR-r16	Not present		
onDemandSIB-Request-r16	Not present		
dedicatedPosSysInfoDelivery-r16	Not present		
sl-ConfigDedicatedNR-r16	Not present		
sl-ConfigDedicatedNR-r16 CHOICE {			SIDELINK
setup	SL-ConfigDedicatedNR-		

	r16		
}			
sl-ConfigDedicatedEUTRA-Info-r16	Not present		
smtc-r16	Not present		
nonCriticalExtension	Not present		
}			
}			
}			
}			
}			
}			
}			

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
EN-DC_MEAS	An EN-DC measurement is configured
NR_MEAS	A NR measurement is configured
NR	NG-RAN NR Radio Access
NR-DC	NR-NR Dual Connectivity is configured
NR-DC_SCG	Add SCG side configuration(NR-DC)
EN-DC_HO	NR PSCell change (EN-DC)
SCell_add	Add SCell
EN-DC_SCell_add	Add SCell (EN-DC)
MasterKeyChange	MasterKeyUpdate when performing ReconfigurationWithSync and indicating a change of the AS security algorithms associated to the master key
Inter_Sys_HO	Used during inter-system handover to NR procedure
REEST	The first RRCReconfiguration message after successful completion of the RRC re-establishment procedure
SIDELINK	For NR sidelink dedicated configuration
DAPS_HO_ReleaseSource	The source cell part of DAPS operation is to be stopped and the source cell part of DAPS configuration is to be released.
CHO	Conditional handover
CPC	Conditional PSCell change

– *RRCReconfigurationComplete*

Table 4.6.1-14: RRCReconfigurationComplete

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCReconfigurationComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	Not checked		
criticalExtensions CHOICE {			
rrcReconfigurationComplete SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {			NR-DC
uplinkTxDirectCurrentList	Not checked		
nonCriticalExtension SEQUENCE {			
scg-Response CHOICE {			
nr-SCG-Response	RRCReconfigurationComplete	OCTET STRING (CONTAINING RRCReconfigurationComplete)	
}			
nonCriticalExtension	Not checked		
}			
}			
nonCriticalExtension	Not checked		
}			
}			
}			

Condition	Explanation
NR-DC	Used in NR-DC configuration

– *RRCReject*

Table 4.6.1-15: RRCReject

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCReject ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReject SEQUENCE {			
waitTime	1		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *RRCRelease*

Table 4.6.1-16: RRCRelease

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCRelease ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcRelease SEQUENCE {			
redirectedCarrierInfo	Not present		
cellReselectionPriorities	Not present		
suspendConfig	Not present		
suspendConfig SEQUENCE {			NR_RRC_IN ACTIVE
fullI-RNTI	I-RNTI-Value		
shortI-RNTI	ShortI-RNTI-Value		
ran-PagingCycle	rf32		
ran-NotificationAreaInfo CHOICE {			
cellList SEQUENCE (SIZE (1.. maxPLMNIdentities)) OF PLMN-RAN-AreaCell {	1 entry		
PLMN-RAN-AreaCellList[1] SEQUENCE {		entry 1	
plmn-Identity	Not present		
ran-AreaCells SEQUENCE (SIZE (1..32)) OF CellIdentity {	1 entry		
CellIdentity[1]	CellIdentity	entry 1 Cellidentity for the used cell.	
}			
}			
}			
}			
t380	Not present		
nextHopChainingCount	NextHopChainingCount		
}			
deprioritisationReq	Not present		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

Condition	Explanation
NR_RRC_INACTIVE	NR RRC state RRC_INACTIVE

– *RRCResume*

Table 4.6.1-17: RRCResume

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCResume ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcResume SEQUENCE {			
radioBearerConfig	RadioBearerConfig with condition RESUME		
masterCellGroup	CellGroupConfig with condition RESUME	OCTET STRING (CONTAINING CellGroupConfig)	
measConfig	Not present		
fullConfig	Not present		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *RRCResumeComplete*

Table 4.6.1-18: RRCResumeComplete

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCResumeComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcResumeComplete SEQUENCE {			
dedicatedNAS-Message	Not checked		
selectedPLMN-Identity	Not checked		
uplinkTxDirectCurrentList	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *RRCResumeRequest*

Table 4.6.1-19: RRCResumeRequest

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCResumeRequest ::= SEQUENCE {			
rrcResumeRequest SEQUENCE {			
resumeIdentity	ShortI-RNTI-Value		
resumeMAC-I	Not checked		
resumeCause	ResumeCause		
spare	Not checked		
}			
}			

– *RRCResumeRequest1***Table 4.6.1-20: RRCResumeRequest1**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCResumeRequest1 ::= SEQUENCE {			
rrcResumeRequest1 SEQUENCE {			
resumeIdentity	I-RNTI-Value		
resumeMAC-I	Not checked		
resumeCause	ResumeCause		
spare	Not checked		
}			
}			

– *RRCSetup***Table 4.6.1-21: RRCSetup**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCSetup ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcSetup SEQUENCE {			
radioBearerConfig	RadioBearerConfig with condition SRB1		
masterCellGroup	CellGroupConfig with condition SRB1	OCTET STRING (CONTAINING CellGroupConfig)	
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *RRCSetupComplete***Table 4.6.1-22: RRCSetupComplete**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCSetupComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcSetupComplete SEQUENCE {			
selectedPLMN-Identity	Not checked		
registeredAMF	Not checked		
guami-Type	Not checked		
s-nssai-List	Not checked		
dedicatedNAS-Message	DedicatedNAS-Message		
ng-5G-S-TMSI-Value	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *RRCSetupRequest***Table 4.6.1-23: RRCSetupRequest**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
ue-Identity CHOICE {			
randomValue	Not checked		
}			
establishmentCause	Not checked		
spare	Not checked		
}			
}			

– *RRCSystemInfoRequest***Table 4.6.1-24: RRCSystemInfoRequest**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCSystemInfoRequest ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcSystemInfoRequest SEQUENCE {			
requested-SI-List	Not checked		
spare	Not checked		
}			
}			
}			

– *SCGFailureInformation***Table 4.6.1-24A: SCGFailureInformation**

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
SCGFailureInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
scgFailureInformation SEQUENCE {			
failureReportSCG	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *SCGFailureInformationEUTRA*

Table 4.6.1-24B: SCGFailureInformationEUTRA

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
SCGFailureInformationEUTRA ::= SEQUENCE {			
criticalExtensions CHOICE {			
scgFailureInformationEUTRA SEQUENCE {			
failureReportSCG-EUTRA	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *SecurityModeCommand*

Table 4.6.1-25: SecurityModeCommand

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
SecurityModeCommand ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
securityModeCommand SEQUENCE {			
securityConfigSMC SEQUENCE {			
securityAlgorithmConfig	SecurityAlgorithmConfig		
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *SecurityModeComplete*

Table 4.6.1-26: SecurityModeComplete

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
SecurityModeComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
securityModeComplete SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *SecurityModeFailure*

Table 4.6.1-27: *SecurityModeFailure*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
<i>SecurityModeFailure</i> ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
securityModeFailure SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

SIB1

Table 4.6.1-28: SIB1

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
cellSelectionInfo SEQUENCE {			
q-RxLevMin	-70	-140 dBm	RF OR RRM
	-55	-110 dBm	SIG AND FR1
	ROUND((-110+Delta(NRfs))/2)	-110+Delta(NRfs)	SIG AND FR2
q-RxLevMinOffset	Not present		
q-RxLevMinSUL	Not Present		
	-70	-140 dBm	SUL AND (RF OR RRM)
	-55	-110 dBm	SUL AND SIG
q-QualMin	-20	-20dB	QBASED
	Not present		
q-QualMinOffset	Not present		
}			
cellAccessRelatedInfo	CellAccessRelatedInfo		
connEstFailureControl	ConnEstFailureControl		
si-SchedulingInfo	Not present		NR_1
	SI-SchedulingInfo		
servingCellConfigCommon	ServingCellConfigCommonSIB		
ims-EmergencySupport	Not present		
	True	Indicates the cell supports IMS emergency bearer services for UEs in limited service mode.	SIG
eCallOverIMS-Support	Not present		
ue-TimersAndConstants	UE-TimersAndConstants		
uac-BarringInfo	Not present		
useFullResumeID	Not present		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
NOTE 1: Delta(NRfs) is derived based on calibration procedure defined in the clause 6.1.3.3. NRfs is NR frequency on which SIB1 is broadcasted.			
NOTE 2: ROUND is rounded off to the nearest integer. As an example, '1 to 1.49' set to '1' while '1.5 to 2' to '2' and '-2.0 to 1.5' set to '-2' while '-1.49 to -1' set to '-1'.			

Condition	Explanation
SUL	For test cases using SUL frequency for the serving cell, Qrxlevmin is obtained from q-RxLevMinSUL.
QBASED	This condition applies to Quality based signalling test cases.
NR_1	System information combination NR-1 according table 4.4.3.1.2-1 is applied.
SIG	Used for signalling test cases.

– *SidelinkUEInformationNR*

Table 4.6.1-28A: *SidelinkUEInformationNR*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
SidelinkUEInformationNR-r16 ::= SEQUENCE {			
criticalExtensions CHOICE {			
sidelinkUEInformationNR-r16 SEQUENCE {			
sl-RxInterestedFreqList-r16	Not present		
sl-RxInterestedFreqList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF INTEGER {	1 entry		SIDELINK_RX
INTEGER[1]	1	entry 1	
}			
sl-TxResourceReqList-r16	Not present		
sl-TxResourceReqList-r16 SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-TxResourceReq-r16 {	1 entry		SIDELINK_TX
SL-TxResourceReq-r16[1] SEQUENCE {		entry 1	
sl-DestinationIdentity-r16	SL-DestinationIdentity-r16		
sl-CastType-r16	unicast		
sl-RLC-ModeIndicationList-r16	Not present		
sl-QoS-InfoList-r16 SEQUENCE (SIZE (1..maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16 {	1 entry		
SL-QoS-Info-r16[1] SEQUENCE {		entry 1	
sl-QoS-FlowIdentity-r16	SL-QoS-FlowIdentity-r16		
sl-QoS-Profile-r16	SL-QoS-Profile-r16		
}			
}			
sl-TypeTxSyncList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-TypeTxSync-r16 {	1 entry		
SL-TypeTxSync-r16[1]	SL-TypeTxSync-r16	entry 1	
}			
sl-TxInterestedFreqList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF INTEGER {	1 entry		
INTEGER[1]	1	entry 1	
}			
sl-CapabilityInformationSidelink-r16[1]	Not present		
}			
}			
sl-FailureList-r16	Not present		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

Condition	Explanation
SIDELINK_TX	Used when UE indicates its interest on sidelink transmission.
SIDELINK_RX	Used when UE indicates its interest on sidelink reception.

– *SystemInformation*

Table 4.6.1-29: *SystemInformation*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
SystemInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
systemInformation SEQUENCE {			
sib-TypeAndInfo SEQUENCE (SIZE (1..maxSIB))	See subclause 4.4.3.1.3		
OF CHOICE			
sibX	"X" denotes the SIB number		
...			
sibY	"Y" denotes the SIB number		
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *UEAssistanceInformation*

Table 4.6.1-30: *UEAssistanceInformation*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
UEAssistanceInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
ueAssistanceInformation SEQUENCE {			
delayBudgetReport CHOICE {			
type1	Not checked		
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {			SIDELINK
overheatingAssistance	Not checked		
nonCriticalExtension SEQUENCE {			
idc-Assistance-r16	Not checked		
drx-Preference-r16	Not checked		
maxBW-Preference-r16	Not checked		
maxCC-Preference-r16	Not checked		
maxMIMO-LayerPreference-r16	Not checked		
minSchedulingOffsetPreference-r16	Not checked		
releasePreference-r16	Not checked		
sl-UE-AssistanceInformationNR-r16	Not checked		
sl-UE-AssistanceInformationNR-r16	1 entry		SIDELINK
SEQUENCE (SIZE (1..maxNrofTrafficPattern-r16)) OF			
SL-TrafficPatternInfo-r16 {			
SL-TrafficPatternInfo-r16[1] SEQUENCE {		entry 1	
trafficPeriodicity-r16	FFS		
timingOffset-r16	FFS		
messageSize-r16	FFS		
sl-QoS-FlowIdentity-r16	SL-QoS-FlowIdentity-r16		
}			
}			
referenceTimeInfoPreference-r16	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			
}			

– *UECapabilityEnquiry*

Table 4.6.1-31: UECapabilityEnquiry

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
UECapabilityEnquiry ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueCapabilityEnquiry SEQUENCE {			
ue-CapabilityRAT-RequestList	UE-CapabilityRAT-RequestList		
lateNonCriticalExtension	Not present		
ue-CapabilityEnquiryExt	Not present		
ue-CapabilityEnquiryExt SEQUENCE {	OCTET STRING (CONTAINING UECapabilityEnquiry- v1560-IEs)		RACS
capabilityRequestFilterCommon	Not present		
nonCriticalExtension SEQUENCE {			
rrc-SegAllowed-r16	enabled		
nonCriticalExtension	Not present		
}			
}			
}			
}			
}			

Condition	Explanation
RACS	UE supports segmentation of UECapabilityInformation message (pc_NR_UL_Segmentation)

– *UECapabilityInformation*

Table 4.6.1-32: UECapabilityInformation

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
UECapabilityInformation ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueCapabilityInformation SEQUENCE {			
ue-CapabilityRAT-ContainerList	UE-CapabilityRAT-ContainerList		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *UEInformationRequest*

Table 4.6.1-32A: *UEInformationRequest*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
UEInformationRequest-r16 ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueInformationRequest-r16 SEQUENCE {			
idleModeMeasurementReq-r16	Not present		
	True		IDLE
logMeasReportReq-r16	Not present		
	True		LOG
connEstFailReportReq-r16	Not present		
	True		FAIL
ra-ReportReq-r16	Not present		
	True		RA
rlf-ReportReq-r16	Not present		
	True		RLF
mobilityHistoryReportReq-r16	Not present		
	True		HISTORY
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}			
	Not present		
}			
}			
}			

Condition	Explanation
IDLE	idle measurement
LOG	Logged MDT
FAIL	connectFail
RA	ra-report
RLF	rlf-report
HISTORY	mobility history

– *UEInformationResponse*

Table 4.6.1-32B: *UEInformationResponse*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
UEInformationResponse-r16 ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueInformationResponse-r16 SEQUENCE {			
measResultIdleEUTRA-r16 SEQUENCE {}	Not checked		
measResultIdleNR-r16 SEQUENCE {}	Not checked		
logMeasReport-r16 SEQUENCE {}	Not checked		
connEstFailReport-r16 SEQUENCE {}	Not checked		
ra-ReportList-r16 SEQUENCE {}	Not checked		
rlf-Report-r16 SEQUENCE {}	Not checked		
mobilityHistoryReport-r16 SEQUENCE {}	Not checked		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *ULDedicatedMessageSegment*

Table 4.6.1-32C: *ULDedicatedMessageSegment*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
ULDedicatedMessageSegment-r16 ::= SEQUENCE {			
criticalExtensions CHOICE {			
ulDedicatedMessageSegment-r16 SEQUENCE {			
segmentNumber-r16	Any allowed value between 0 to 15		
rrc-MessageSegmentContainer-r16	Not Checked	OCTET STRING including segmented UECapabilityInformation message	
rrc-MessageSegmentType-r16	Not Checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *ULInformationTransfer*

Table 4.6.1-33: *ULInformationTransfer*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
ULInformationTransfer ::= SEQUENCE {			
criticalExtensions CHOICE {			
ulInformationTransfer SEQUENCE {			
dedicatedNAS-Message	DedicatedNAS-Message		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *ULInformationTransferIRAT*

Table 4.6.1-33A: *ULInformationTransferIRAT*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
ULInformationTransferIRAT-r16 ::= SEQUENCE {			
FFS			
}			

– *ULInformationTransferMRDC*

Table 4.6.1-34: *ULInformationTransferMRDC*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
ULInformationTransferMRDC ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
ulInformationTransferMRDC SEQUENCE {			
ul-DCCH-MessageNR	Not checked		
ul-DCCH-MessageEUTRA	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			
}			

4.6.1A Contents of PC5 RRC messages

– *MasterInformationBlockSidelink*

Table 4.6.1A-1: *MasterInformationBlockSidelink*

Derivation Path: TS 38.331 [6], clause 6.6.2			
Information Element	Value/remark	Comment	Condition
MasterInformationBlockSidelink ::= SEQUENCE {			
FFS			
}			

– *MeasurementReportSidelink*

Table 4.6.1A-2: *MeasurementReportSidelink*

Derivation Path: TS 38.331 [6], clause 6.6.2			
Information Element	Value/remark	Comment	Condition
MeasurementReportSidelink ::= SEQUENCE {			
FFS			
}			

– *RRCReconfigurationSidelink*

Table 4.6.1A-3: *RRCReconfigurationSidelink*

Derivation Path: TS 38.331 [6], clause 6.6.2			
Information Element	Value/remark	Comment	Condition
RRCReconfigurationSidelink ::= SEQUENCE {			
rrc-TransactionIdentifier-r16	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcReconfigurationSidelink-r16 SEQUENCE {			
slrb-ConfigToAddModList-r16	Not present		
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE (1..maxNrofSLRB-r16)) OF SLRB-Config-r16 {	1 entry		SL_DRB
SLRB-Config-r16[1] SEQUENCE {		entry 1	
slrb-PC5-ConfigIndex-r16	Not checked		
sl-SDAP-ConfigPC5-r16 SEQUENCE {			
sl-MappedQoS-FlowsToAddList-r16	1 entry		
SEQUENCE (SIZE (1.. maxNrofSL-QFIsPerDest-r16)) OF SL-PQFI-r16 {			
SL-PQFI-r16[1]	Not checked	entry 1	
}			
sl-MappedQoS-FlowsToReleaseList-r16	Not present		
sl-SDAP-Header-r16	absent		
}			
sl-PDCP-ConfigPC5-r16 SEQUENCE {			
sl-PDCP-SN-Size-r16	len12bits		
sl-OutOfOrderDelivery-r16	Not present		
}			
sl-RLC-ConfigPC5-r16 CHOICE {			
sl-AM-RLC-r16 SEQUENCE {			
sl-SN-FieldLengthAM-r16	size12		
}			
}			
sl-MAC-LogicalChannelConfigPC5-r16 SEQUENCE {			
sl-LogicalChannelIdentity-r16	Not checked		
}			
}			
}			
slrb-ConfigToReleaseList-r16	Not present		
sl-MeasConfig-r16	Not present		
sl-MeasConfig-r16 CHOICE {			SL_MEAS
setup SEQUENCE {			
sl-MeasObjectToRemoveList-r16	Not present		
sl-MeasObjectToAddModList-r16	SL-MeasObjectList-r16		
sl-ReportConfigToRemoveList-r16	Not present		
sl-ReportConfigToAddModList-r16	SL-ReportConfigList-r16		
sl-MeasIdToRemoveList-r16	Not present		
sl-MeasIdToAddModList-r16	SL-MeasIdList-r16		
sl-QuantityConfig-r16	SL-QuantityConfig-r16		
}			
}			
sl-CSI-RS-Config-r16	Not present		SL_CSI
sl-CSI-RS-Config-r16 CHOICE {			
setup SEQUENCE {			
sl-CSI-RS-FreqAllocation-r16 CHOICE {			
sl-OneAntennaPort-r16	000000000001		
}			
sl-CSI-RS-FirstSymbol-r16	6		
}			
}			
sl-ResetConfig-r16	Not present		
sl-LatencyBoundCSI-Report-r16	Not present		
	160		SL_CSI
lateNonCriticalExtension	Not checked		

nonCriticalExtension	Not checked		
}			
}			
}			

Condition	Explanation
SL_DRB	To provide peer UE SL DRB related configuration via PC5 RRC
SL_MEAS	To provide peer UE SL RSRP measurement and reporting related configuration via PC5 RRC
SL_CSI	To provide peer UE SL CSI reporting related configuration via PC5 RRC

– *RRCReconfigurationCompleteSidelink*

Table 4.6.1A-4: RRCReconfigurationCompleteSidelink

Derivation Path: TS 38.331 [6], clause 6.6.2			
Information Element	Value/remark	Comment	Condition
RRCReconfigurationCompleteSidelink ::= SEQUENCE {			
FFS			
}			

– *RRCReconfigurationFailureSidelink*

Table 4.6.1A-5: RRCReconfigurationFailureSidelink

Derivation Path: TS 38.331 [6], clause 6.6.2			
Information Element	Value/remark	Comment	Condition
RRCReconfigurationFailureSidelink ::= SEQUENCE {			
FFS			
}			

– *UECapabilityEnquirySidelink*

Table 4.6.1A-6: UECapabilityEnquirySidelink

Derivation Path: TS 38.331 [6], clause 6.6.2			
Information Element	Value/remark	Comment	Condition
UECapabilityEnquirySidelink ::= SEQUENCE {			
rrc-TransactionIdentifier-r16	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueCapabilityEnquirySidelink-r16 SEQUENCE {			
frequencyBandListFilterSidelink-r16	Not checked		
ue-CapabilityInformationSidelink-r16	Not present		
	OCTET STRING containing UECapabilityInformationSidelink specified in Table 4.6.1A-7		TWO_WAY_ENQUIRY
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
criticalExtensionsFuture	Not checked		
}			
}			

Condition	Explanation
TWO_WAY_ENQUIRY	For two-way SL UE capability enquiry procedure

– *UECapabilityInformationSidelink*

Table 4.6.1A-7: UECapabilityInformationSidelink

Derivation Path: TS 38.331 [6], clause 6.6.2			
Information Element	Value/remark	Comment	Condition
UECapabilityInformationSidelink ::= SEQUENCE {			
rrc-TransactionIdentifier-r16	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueCapabilityInformationSidelink-r16 SEQUENCE {			
accessStratumReleaseSidelink-r16	rel16		
pdcp-ParametersSidelink-r16	Not checked		
rlc-ParametersSidelink-r16	Not checked		
supportedBandCombinationListSidelinkNR-r16	Not checked		
supportedBandListSidelink-r16	Not checked		
appliedFreqBandListFilter-r16	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

4.6.2 System information blocks

– *SIB2*

SIB2 contains cell re-selection information common for intra-frequency, inter-frequency and/ or inter-RAT cell re-selection (i.e. applicable for more than one type of cell re-selection but not necessarily all) as well as intra-frequency cell re-selection information other than neighbouring cell related.

Table 4.6.2-1: SIB2

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB2 ::= SEQUENCE {			
cellReselectionInfoCommon SEQUENCE {			
nrofSS-BlocksToAverage	2		
absThreshSS-BlocksConsolidation SEQUENCE{			
thresholdRSRP	RSRP-Range	Table 4.6.3-152	
thresholdRSRQ	Not present		
thresholdSINR	Not present		
}			
rangeToBestCell	dB0		
q-Hyst	dB0	To reduce interference between intra-frequency multiple cells	
speedStateReselectionPars	Not present		
}			
cellReselectionServingFreqInfo SEQUENCE {			
s-NonIntraSearchP	Not present		
s-NonIntraSearchQ	Not present		
threshServingLowP	0	Actual value of threshold = field value * 2 [dB]	
threshServingLowQ	Not present		
	3	3dB	QBASED
cellReselectionPriority	4	A middle value in the range has been selected	
cellReselectionSubPriority	Not present		
}			

intraFreqCellReselectionInfo SEQUENCE {			
q-RxLevMin	-70	-140dBm	
	-55	-110dBm	SIG
q-RxLevMinSUL	Not Present		
	-70	-140dBm	SUL
	-55	-110dBm	SUL AND SIG
q-QualMin	Not present		
	-20	-20dB	QBASED
s-IntraSearchP	31	Actual value of threshold = field value * 2 [dB]	
s-IntraSearchQ	Not present		
t-ReselectionNR	0		
frequencyBandList	Not present		
frequencyBandListSUL	Not present		
p-Max	Not present		
smtc	SSB-MTC	Table 4.6.3-185	
ss-RSSI-Measurement	Not present		
ssb-ToMeasure	SSB-ToMeasure		
deriveSSB-IndexFromCell	false		FDD
	true		TDD
}			
}			

Condition	Explanation
SUL	For test cases using SUL frequency for the serving cell, Qrxlevmin is obtained from <i>q-RxLevMin-sul</i> .
QBASED	This condition applies to Quality based signalling test cases.

– SIB3

SIB3 contains neighbouring cell related information relevant only for intra-frequency cell re-selection. The IE includes cells with specific re-selection parameters as well as blacklisted cells.

Table 4.6.2-2: SIB3

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB3 ::= SEQUENCE {			
intraFreqNeighCellList	Not present	Not required unless Qoffset configuration is tested. When Qoffset configuration is tested, see table 6.3.1.1-1	
intraFreqBlackCellList	Not present	Not required unless Blacklisted cell list configuration is tested. When Blacklisted cell list configuration is tested, see table 6.3.1.1-1	
lateNonCriticalExtension	Not present		
}			

— *SIB4*

SIB4 contains information relevant only for inter-frequency cell re-selection i.e. information about other NR frequencies and inter-frequency neighbouring cells relevant for cell re-selection. The IE includes cell re-selection parameters common for a frequency as well as cell specific re-selection parameters.

Table 4.6.2-3: SIB4

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB4 ::= SEQUENCE {			
interFreqCarrierFreqList SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo {	The same number of entries as the configured inter-freq carriers defined in table 6.3.1.2-1	n denotes the index of the entry	
InterFreqCarrierFreqInfo[n] SEQUENCE {		entry n	
dl-CarrierFreq	Downlink NR SSB ARFCN. See table 6.3.1.2-1		
frequencyBandList	MultiFrequencyBandList NR-SIB		
frequencyBandListSUL	Not present		
nrofSS-BlocksToAverage	2		
absThreshSS-BlocksConsolidation SEQUENCE {			
thresholdRSRP	RSRP-Range	Table 4.6.3-152	
thresholdRSRQ	Not present		
thresholdSINR	Not present		
}			
smtc	SSB-MTC	Table 4.6.3-185	
ssbSubcarrierSpacing	SubcarrierSpacing	Table 4.6.3-188	
ssb-ToMeasure	SSB-ToMeasure		
deriveSSB-IndexFromCell	false		FDD
	true		TDD
ss-RSSI-Measurement	Not present		
q-RxLevMin	-70	-140dBm	
	-55	-110dBm	SIG and FR1
	$\text{ROUND}((-110 + \Delta(\text{NRfn}))/2)$	NOTE1 and NOTE2.	SIG and FR2
q-RxLevMinSUL	-70	-140dBm, For RF/RRM test cases	SUL
	Not present		
	-55	-110dBm	SUL and SIG
q-QualMin	Not present		
	-20	-20dB	QBASED
p-Max	Not present		
t-ReselectionNR	0		
t-ReselectionNR-SF	Not present	Not required unless speed-dependent cell re-selection is tested.	
threshX-HighP	2	4dB, This value should be higher than threshServingLow of the serving cell to avoid ping-pong with lower priority cells.	
threshX-LowP	1	2dB	
threshX-Q SEQUENCE {}	Not present		
threshX-Q SEQUENCE {			QBASED
threshX-HighQ	5	5dB	
threshX-LowQ	5	5dB	
}			
cellReselectionPriority	4	The same priority as the one used for serving cell in SIB 2.	

cellReselectionSubPriority	Not present	The same subpriority as the one used for serving cell in SIB 2.	
q-OffsetFreq	dBCY with XY = $(\text{FLOOR}((\text{Delta}(\text{NRfn}) - \text{Delta}(\text{NRfs}))/2)) * 2$ (NOTE 3)	This value is type of Q-OffsetRange in TS 38.331 [6] which must be even value when its absolute value is larger than dB5.	FR2 AND NOT AbsoluteValue_Within_dB5
	dBCY with XY = $\text{Delta}(\text{NRfn}) - \text{Delta}(\text{NRfs})$		FR2 AND AbsoluteValue_Within_dB5
	dB0		
interFreqNeighCellList	Not present	Not required unless Qoffset configuration is tested.	
interFreqBlackCellList	Not present	Not required unless Blacklisted cell list configuration is tested.	
}			
}			
lateNonCriticalExtension	Not present		
}			
NOTE 1: Delta(NRfn) and Delta(NRfs) is derived based on calibration procedure defined in the clause 6.1.3.3. NRfn and NRfs are NR frequencies in dl-CarrierFreq[n] and serving cell frequency on which SIB4 is broadcasted. NOTE 2: ROUND is rounded off to the nearest integer. As an example, '1 to 1.49' set to '1' while '1.5 to 2' to '2' and '-2.0 to 1.5' set to '-2' while '-1.49 to -1' set to '-1'. NOTE 3: FLOOR is rounded off to the smaller integer. As an example, '1.0 to 1.99' set to 1, '-1.01 to -2.00' set to -2.			

Condition	Explanation
SUL	For test cases using SUL frequency for the serving cell, Qrxlevmin is obtained from <i>q-RxLevMin-sul</i> .
QBASED	This condition applies to Quality based signalling test cases.
AbsoluteValue_Within_dB5	$-5\text{dB} \leq (\text{Delta}(\text{NRfn}) - \text{Delta}(\text{NRfs})) \leq 5\text{dB}$.

– SIB5

SIB5 contains information relevant only for inter-RAT cell re-selection i.e. information about E-UTRA frequencies and E-UTRAs neighbouring cells relevant for cell re-selection. The IE includes cell re-selection parameters common for a frequency.

Table 4.6.2-4: SIB5

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB5 ::= SEQUENCE {			
carrierFreqListEUTRA SEQUENCE (SIZE (1..maxEUTRA-Carrier)) OF CarrierFreqEUTRA {	The same number of entries as the configured E-UTRA carriers. For Signalling test cases, see table 6.3.1.3-1.	<i>n</i> denotes the index of the entry	
CarrierFreqEUTRA[n] SEQUENCE {		entry <i>n</i>	
carrierFreq	Downlink E-UTRA ARFCN under test. For Signalling test cases, see table 6.3.1.3-1.		
eutra-multiBandInfoList	Not present		
eutra-FreqNeighCellList	Not present	Not required unless EUTRA Qoffset configuration is tested.	
eutra-BlackCellList	Not present	Not required unless Blacklisted cell list configuration is tested.	
allowedMeasBandwidth	EUTRA-AllowedMeasBandwidth	The value of EUTRA-AllowedMeasBandwidth in Table 4.6.5-1.	
presenceAntennaPort1	FALSE		
	TRUE	At least two cell-specific antenna ports are used in all neighbouring cells.	All neighCells with port1
cellReselectionPriority	3		
cellReselectionSubPriority	Not Present		
threshX-High	2 (4 dB)		
threshX-Low	1 (2 dB)		
q-RxLevMin	-70 (-140 dBm)	For RF/RRM test cases	
	-55(-110dBm)	For signalling test cases	
q-QualMin	-20 (-20dB)		
p-MaxEUTRA	23		
threshX-Q SEQUENCE {}	Not present		
threshX-Q SEQUENCE {			QBASED
threshX-HighQ	9 (9dB)		
threshX-LowQ	9 (9dB)		
}			
}			
}			
t-ReselectionEUTRA	0		
t-ReselectionEUTRA-SF	Not present	Not required unless speed-dependent cell re-selection is tested.	
lateNonCriticalExtension	Not present		
}			

Condition	Explanation
QBASED	This condition applies to Quality based cell (re)selection signalling test cases.
All neighCells with port1	Used for all neighbouring cells with at least two cell-specific antenna ports

— SIB6

SIB6 contains an ETWS primary notification.

Table 4.6.2-5: SIB6

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB6 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1.	
warningType	'0000 0101 1000 0000'B	Note 2.	
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25]. Note 2: Warning Type Value (Octet 1 bit 7 ~ 1) set to 'Earthquake and Tsunami', Emergency User Alert (Octet 1 bit 0) set to 'Activate emergency user alert', Popup (Octet 2 bit 7) set to 'Activate Popup', see TS 23.041 [25], Padding (Octet 2 bit 6 ~ 0) set to '000 0000'B.			

— SIB7

SIB7 contains an ETWS secondary notification.

Table 4.6.2-6: SIB7 (1st Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB7 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1.	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	0		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Bitstring (8) ID of the alphabet/coding and the applied language	see TS 23.041 [25].	Segment 1
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Condition	Explanation
Segment1	The field is mandatory present in the first segment of SIB7, otherwise it is not present.

Table 4.6.2-7: SIB7 (2nd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB7 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	1		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Table 4.6.2-8: *SIB7* (3rd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB7 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	LastSegment		
warningMessageSegmentNumber	2		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

— *SIB8*

SIB8 contains a CMAS notification.

Table 4.6.2-9: *SIB8* (1st Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB8 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0001 0010'B	CMAS CBS Message Identifier for CMAS Presidential Level Alerts (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	0		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Bitstring (8) ID of the alphabet/coding and the applied language	see TS 23.041 [25]	Segment 1
warningAreaCoordinatesSegment	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Condition	Explanation
Segment1	The field is mandatory present in the first segment of SIB8, otherwise it is not present.

Table 4.6.2-10: *SIB8* (2nd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB8 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0001 0010'B	CMAS CBS Message Identifier for CMAS Presidential Level Alerts (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	1		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
warningAreaCoordinatesSegment	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Table 4.6.2-11: *SIB8* (3rd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB8 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0001 0010'B	CMAS CBS Message Identifier for CMAS Presidential Level Alerts (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	LastSegment		
warningMessageSegmentNumber	2		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
warningAreaCoordinatesSegment	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

– *SIB9*

SIB9 contains information related to GPS time and Coordinated Universal Time (UTC). The UE may use the parameters provided in this system information block to obtain the UTC, the GPS and the local time.

NOTE 1: The UE may use the time information for numerous purposes, possibly involving upper layers e.g. to assist GPS initialisation, to synchronise the UE clock.

SIB9 also contains accurate reference time information of 5G internal system clock, which is necessary for, e.g., time synchronization in TSC (Time Sensitive Communications) services.

Table 4.6.2-11A: *SIB9*

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	Value/remark	Comment	Condition
SIB9 ::= SEQUENCE {			
timeInfo ::= SEQUENCE {			
FFS			
}			
lateNonCriticalExtension	Not present		
referenceTimeInfo-r16	ReferenceTimeInfo		TSC
}			

Condition	Explanation
TSC	For test cases requiring TSC (Time Sensitive Communication) functions enabled.

*SIB10***Table 4.6.2-12: *SIB10***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SIB10-r16 ::= SEQUENCE {			
hrnn-List-r16 SEQUENCE (SIZE (1..maxNPN-r16)) OF HRNN-r16 {			
HRNN-r16[1] SEQUENCE {		1 entry	
hrnn-r16	"3gppTest"	charstring "3gppTest" converted to OCTETSTRING	
}			
}			
lateNonCriticalExtension	Not present		
}			

*SIB11***Table 4.6.2-13: *SIB11***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SIB11-r16 ::= SEQUENCE {			
FFS			
}			

– *SIB12*

Table 4.6.2-14: *SIB12*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SIB12-r16 ::= SEQUENCE {			
segmentNumber-r16			
segmentType-r16	lastSegment		
segmentContainer-r16	OCTET STRING (CONTAINING SIB12-IEs-r16)		
}			

Table 4.6.2-14A: *SIB12-IEs-r16*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SIB12-IEs-r16 ::= SEQUENCE {			
sl-ConfigCommonNR-r16 SEQUENCE {			
sl-FreqInfoList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-FreqConfigCommon-r16{	1 entry		
SL-FreqConfigCommon-r16[1]	SL-FreqConfigCommon-r16	entry 1	
}			
sl-UE-SelectedConfig-r16	SL-UE-SelectedConfig-r16		
sl-NR-AnchorCarrierFreqList-r16	Not present		
sl-EUTRA-AnchorCarrierFreqList-r16	Not present		
sl-RadioBearerConfigList-r16 SEQUENCE (SIZE (1..maxNrofSLRB-r16)) OF SL-RadioBearerConfig-r16{	1 entry		
SL-RadioBearerConfig-r16[1]	SL-RadioBearerConfig-r16	entry 1	
}			
sl-RLC-BearerConfigList-r16 SEQUENCE (SIZE (1..maxSL-LCID-r16)) OF SL-RLC-BearerConfig-r16{	1 entry		
SL-RLC-BearerConfig-r16[1]	SL-RLC-BearerConfig-r16	entry 1	
}			
sl-MeasConfigCommon-r16	SL-MeasConfigCommon-r16		
sl-CSI-Acquisition-r16	Not present		
sl-OffsetDFN-r16	Not present		
t400-r16	ms1000		
sl-MaxNumConsecutiveDTX-r16	Not present		
sl-SSB-PriorityNR-r16	1		
}			
lateNonCriticalExtension	Not present		
}			

– *SIB13*

Table 4.6.2-15: *SIB13*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SIB13-r16 ::= SEQUENCE {			
FFS			
}			

– *SIB14*

Table 4.6.2-16: *SIB14*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SIB14-r16 ::= SEQUENCE {			
FFS			
}			

4.6.2A Positioning System information blocks

– *PosSystemInformation-r16-IEs*

Table 4.6.2a-1: *PosSystemInformation-r16-IEs*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PosSystemInformation-r16-IEs ::= SEQUENCE {			
FFS			
}			

– *PosSI-SchedulingInfo*

Table 4.6.2a-2: *PosSI-SchedulingInfo*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PosSI-SchedulingInfo-r16 ::= SEQUENCE {			
FFS			
}			

– *SIBpos*

Table 4.6.2a-3: *SIBpos*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SIBpos-r16 ::= SEQUENCE {			
FFS			
}			

4.6.3 Radio resource control information elements

– *AdditionalSpectrumEmission*

Table 4.6.3-1: *AdditionalSpectrumEmission*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
AdditionalSpectrumEmission	0		

– *Alpha*

Table 4.6.3-2: Alpha

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
Alpha	alpha0		

– *AMF-Identifier*

Table 4.6.3-3: AMF-Identifier

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
AMF-Identifier	FFS		

– *ARFCN-ValueEUTRA*

Table 4.6.3-4: ARFCN-ValueEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ARFCN-ValueEUTRA	FFS		

– *ARFCN-ValueNR*

Table 4.6.3-5: ARFCN-ValueNR

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ARFCN-ValueNR	absoluteFrequencySSB as defined for the frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	DL_SSB
	absoluteFrequencyPointA as defined for the DL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	DL_PointA
	absoluteFrequencyPointA as defined for the UL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	UL_PointA
	sl-absoluteFrequencySSB as defined for the SL carrier	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	SL_SSB
	sl- AbsoluteFrequencyPointA as defined for the SL carrier	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	SL_PointA

Condition	Explanation
DL_SSB	IE absoluteFrequencySSB for downlink
SL_SSB	IE sl-absoluteFrequencySSB for sidelink
DL_PointA	IE absoluteFrequencyPointA for downlink
UL_PointA	IE absoluteFrequencyPointA for uplink
SL_PointA	IE sl-absoluteFrequencyPointA for sidelink

– *ARFCN-ValueUTRA-FDD*

Table 4.6.3-5A: ARFCN-ValueUTRA-FDD

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ARFCN-ValueUTRA-FDD-r16	FFS		

– *AvailabilityCombinationsPerCell*

Table 4.6.3-5B: AvailabilityCombinationsPerCell

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
AvailabilityCombinationsPerCell-r16 ::= SEQUENCE {			
FFS			
}			

– *AvailabilityIndicator*

Table 4.6.3-5C: AvailabilityIndicator

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
AvailabilityIndicator-r16 ::= SEQUENCE {			
FFS			
}			

– *BAP-Routing-ID*

Table 4.6.3-5D: BAP-Routing-ID

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BAP-Routing-ID-r16 ::= SEQUENCE {			
FFS			
}			

– *BeamFailureRecoveryConfig*

Table 4.6.3-6: BeamFailureRecoveryConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BeamFailureRecoveryConfig SEQUENCE {			
rootSequenceIndex-BFR	Set according to the PRACH-rootSequenceIndex given in Table 4.4.2-2		
rach-ConfigBFR	RACH-ConfigGeneric		
rsrp-ThresholdSSB	57	Actual value = 100 dBm	
candidateBeamRSList SEQUENCE (SIZE(1..maxNrofCandidateBeams)) OF PRACH-ResourceDedicatedBFR {	1 entry		
PRACH-ResourceDedicatedBFR[1] CHOICE {		entry 1	
ssb SEQUENCE {			SSB
ssb	SSB-Index for BFR		
ra-PreambleIndex	56		
}			
}			
csi-rs[1] SEQUENCE {			CSI-RS
csi-rs	NZP-CSI-RS-ResourceId for BFR		
ra-OccasionList	Not present	The RA occasion associated with the SSB that is QCLed with this CSI-RS is used	
ra-PreambleIndex	Not present	The preamble index associated with the SSB that is QCLed with CSI-RS is used	
}			
}			
ssb-perRACH-Occasion	one		
ra-ssb-OccasionMaskIndex	0		
recoverySearchSpaceId	searchSpaceId for BFR search space	The CORESET associated with the BFR search space can not be associated with another search space according to 38.331 [6]	
ra-Prioritization	RA-Prioritization		
beamFailureRecoveryTimer	ms200		
msg1-SubcarrierSpacing	SubcarrierSpacing		
}			

Condition	Explanation
SSB	SSB is used as reference signal for BFR
CSI-RS	CSI-RS is used as reference signal for BFR

– *BeamFailureRecoverySCellConfig*

Table 4.6.3-6AA: BeamFailureRecoverySCellConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BeamFailureRecoverySCellConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *BetaOffsets*

Table 4.6.3-6A: BetaOffsets

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BetaOffsets ::= SEQUENCE {			
betaOffsetACK-Index1	9		
betaOffsetACK-Index2	9		
betaOffsetACK-Index3	9		
betaOffsetCSI-Part1-Index1	6		
betaOffsetCSI-Part1-Index2	6		
betaOffsetCSI-Part2-Index1	6		
betaOffsetCSI-Part2-Index2	6		
}			

– *BH-RLC-ChannelConfig*

Table 4.6.3-6B: BH-RLC-ChannelConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BH-RLC-ChannelConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *BH-LogicalChannelIdentity*

Table 4.6.3-6C: BH-LogicalChannelIdentity

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BH-LogicalChannelIdentity-r16 ::= CHOICE {			
FFS			
}			

– *BH-LogicalChannelIdentity-Ext*

Table 4.6.3-6D: BH-LogicalChannelIdentity-Ext

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BH-LogicalChannelIdentity-Ext-r16	FFS		

– *BH-RLC-ChannelID***Table 4.6.3-6E: *BH-RLC-ChannelID***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BH-RLC-ChannelID-r16	FFS		

– *BSR-Config***Table 4.6.3-7: *BSR-Config***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BSR-Config ::= SEQUENCE {			
periodicBSR-Timer	sf1		
retxBSR-Timer	sf80		
logicalChannelSR-DelayTimer	Not present		
}			

– *BWP***Table 4.6.3-8: *BWP***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP ::= SEQUENCE {			
locationAndBandwidth	Set to value of locationAndBandwidth in Table 4.3.1.0D-1 for the bandwidth and subcarrier spacing under test		FR1
	Set to value of locationAndBandwidth in Table 4.3.1.0D-2 for the bandwidth and subcarrier spacing under test		FR2
subcarrierSpacing	SubcarrierSpacing		
cyclicPrefix	Not present		
}			

– *BWP-Downlink***Table 4.6.3-9: *BWP-Downlink***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP-Downlink ::= SEQUENCE {			
bwp-Id	BWP-Id with condition BWP-Id1		
bwp-Common	BWP-DownlinkCommon with condition BWP-Id1		
bwp-Dedicated	BWP-DownlinkDedicated		
}			

– *BWP-DownlinkCommon*

Table 4.6.3-10: *BWP-DownlinkCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP-DownlinkCommon ::= SEQUENCE {			
genericParameters	BWP		
pdccch-ConfigCommon CHOICE {			
setup	PDCCH-ConfigCommon		
	PDCCH-ConfigCommon with condition SCell_add		SCell_Add
	PDCCH-ConfigCommon with condition InitialBWP_SIB		InitialBWP_SIB
}			
pdccch-ConfigCommon	Not present		BWP-Id1
pdsch-ConfigCommon CHOICE {			
setup	PDSCH-ConfigCommon		
}			
}			

Condition	Explanation
InitialBWP_SIB	Configured via DownlinkConfigCommonSIB
BWP-Id1	Additional BWP 1

– *BWP-DownlinkDedicated*

Table 4.6.3-11: *BWP-DownlinkDedicated*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP-DownlinkDedicated ::= SEQUENCE {			
pdccch-Config CHOICE {			
setup	PDCCH-Config		
}			
pdsch-Config CHOICE {			
setu	PDSCH-Config		
}			
sps-Config	Not present		
radioLinkMonitoringConfig	Not present		
sps-ConfigToAddModList-r16	Not present		
sps-ConfigToReleaseList-r16	Not present		
sps-ConfigDeactivationStateList-r16	Not present		
beamFailureRecoverySCellConfig-r16	Not present		
sl-PDCCH-Config-r16	Not present		
sl-PDCCH-Config-r16 CHOICE {			SIDELINK
setup	PDCCH-Config		
}			
sl-V2X-PDCCH-Config-r16	Not present		
}			

Condition	Explanation
SIDELINK	Used for sidelink communication

– BWP-Id

Table 4.6.3-12: BWP-Id

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP-Id	0	Initial BWP	
	1		BWP-Id1

Condition	Explanation
BWP-Id1	Additional BWP 1

– BWP-Uplink

Table 4.6.3-13: BWP-Uplink

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP-Uplink ::= SEQUENCE {			
bwp-Id	BWP-Id with condition BWP-Id1		
bwp-Common	BWP-UplinkCommon		
bwp-Dedicated	BWP-UplinkDedicated		
}			

– BWP-UplinkCommon

Table 4.6.3-14: BWP-UplinkCommon

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP-UplinkCommon ::= SEQUENCE {			
genericParameters	BWP		
rach-ConfigCommon CHOICE {			
setup	RACH-ConfigCommon		
}			
rach-ConfigCommon	Not present		SUL_SUL AND (RF OR RRM)
pusch-ConfigCommon CHOICE {			
setup	PUSCH-ConfigCommon		
}			
pucch-ConfigCommon CHOICE {			
setup	PUCCH-ConfigCommon		
}			
}			

Condition	Explanation
SUL_SUL	On the SUL carrier when supplementary carrier is configured

– *BWP-UplinkDedicated*

Table 4.6.3-15: BWP-UplinkDedicated

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
BWP-UplinkDedicated ::= SEQUENCE {			
pucch-Config CHOICE {			
setup	PUCCH-Config		
}			
pucch-Config	Not present		SUL_NUL
pusch-Config	Not present		RESUME
pusch-Config CHOICE {			
setup	PUSCH-Config		
}			
configuredGrantConfig	Not present		
srs-Config	Not present		Short_DCI
	SRS-Config		
beamFailureRecoveryConfig	Not present		
sl-PUCCH-Config-r16	Not present		
sl-PUCCH-Config-r16 CHOICE {			SIDELINK
setup	PUCCH-Config		
}			
cp-ExtensionC2-r16	Not present		
cp-ExtensionC3-r16	Not present		
useInterlacePUCCH-PUSCH-r16	Not present		
pucch-ConfigurationList-r16	Not present		
lbt-FailureRecoveryConfig-r16	Not present		
configuredGrantConfigToAddModList-r16	Not present		
configuredGrantConfigToReleaseList-r16	Not present		
configuredGrantConfigType2DeactivationStateList-r16	Not present		
}			

Condition	Explanation
Short_DCI	Used in test scenarios requiring DCI formats 0-0 and 1-0 on USS
SUL_NUL	On the NUL carrier when supplementary carrier is configured
RESUME	Used in RRCResume Message
SIDELINK	Used for sidelink communication

– *CellAccessRelatedInfo*

Table 4.6.3-16: CellAccessRelatedInfo

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellAccessRelatedInfo ::= SEQUENCE {			
plmn-IdentityList	PLMN-IdentityInfoList		
cellReservedForOtherUse	Not present		
nprn-IdentityInfoList-r16	NPN-IdentityInfoList-r16		SNPN
}			

Condition	Explanation
SNPN	Standalone NPN cell

– *CellAccessRelatedInfo-EUTRA-5GC***Table 4.6.3-17: *CellAccessRelatedInfo-EUTRA-5GC***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellAccessRelatedInfo-EUTRA-5GC ::= SEQUENCE {			
FFS			
}			

– *CellAccessRelatedInfo-EUTRA-EPC***Table 4.6.3-18: *CellAccessRelatedInfo-EUTRA-EPC***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellAccessRelatedInfo-EUTRA-EPC ::= SEQUENCE {			
FFS			
}			

– *CellGroupConfig*

Table 4.6.3-19: *CellGroupConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE { cellGroupId	CellGroupId CellGroupId condition NR-DC_SCG		NR-DC_SCG
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig { RLC-BearerConfig[1]	1 entry RLC-BearerConfig with conditions AM and DRB2 RLC-BearerConfig with conditions AM and DRB2 and Re-establish_RLC	entry 1	EN-DC PSCell_change
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig { RLC-BearerConfig[1]	1 entry RLC-BearerConfig with condition SRB1	entry 1	SRB1
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig { RLC-BearerConfig[1]	2 entries RLC-BearerConfig with condition SRB2	entry 1	SRB2_DRB1
RLC-BearerConfig[2]	RLC-BearerConfig with conditions AM and DRB1	entry 2	
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig { RLC-BearerConfig[1]	2 entries RLC-BearerConfig with condition SRB2	entry 1	SRB2_DRB2
RLC-BearerConfig[2]	RLC-BearerConfig with conditions AM and DRB2	entry 2	
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig { RLC-BearerConfig[1]	1 entry RLC-BearerConfig with conditions AM and DRBn	entry 1 DRBn is allocated according to internal TTCN mapping	DRBn, NR-DC_SCG
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig { RLC-BearerConfig[1]	3 entries RLC-BearerConfig with conditions SRB1 and Re-establish_RLC	entry 1	PCell_change
RLC-BearerConfig[2]	RLC-BearerConfig with conditions SRB2 and Re-establish_RLC	entry 2	
RLC-BearerConfig[3]	RLC-BearerConfig with conditions AM, DRB1 and Re-establish_RLC	entry 3	
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig { RLC-BearerConfig[1]	1+n entries RLC-BearerConfig with condition SRB2 and RESUME	n is the number of DRBs established before RRC resume entry 1	RESUME
RLC-BearerConfig[k+1, k=1..n]	RLC-BearerConfig with condition DRBk and RESUME	entry [k+1, k=1..n]	

}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig {	1+n entries	n is the number of DRBs established before RRC re- establishment	REEST
RLC-BearerConfig[1]	RLC-BearerConfig with condition SRB2 and Re- establish RLC	entry 1	
RLC-BearerConfig[k+1, k=1..n]	RLC-BearerConfig with condition DRBk and Re- establish RLC	entry [k+1, k=1..n]	
}			
rlc-BearerToAddModList	Not present		
rlc-BearerToReleaseList	Not present		
mac-CellGroupConfig	MAC-CellGroupConfig Not present		SRB2_DRB1, MEAS, SRB2_DRB2, SCell_add
physicalCellGroupConfig	PhysicalCellGroupConfig Not present		SRB2_DRB1, MEAS, SRB2_DRB2, SCell_add
spCellConfig	Not present		SRB2_DRB1, SRB2_DRB2, SCell_add
spCellConfig SEQUENCE {			
servCellIndex	Not present ServCellIndex		EN-DC, EN- DC AND MEAS
	ServCellIndex with condition NR-DC_SCG		NR-DC_SCG
reconfigurationWithSync	Not present		
reconfigurationWithSync SEQUENCE {			EN-DC, PCell_chang e, PSCell_chan ge, NR- DC_SCG
spCellConfigCommon	ServingCellConfigCommo n		
newUE-Identity	RNTI-Value RNTI-Value with condition NR-DC_SCG		NR-DC_SCG
t304	ms1000		
rach-ConfigDedicated	Not present		
rach-ConfigDedicated CHOICE {			CFRA
uplink	RACH-ConfigDedicated		
supplementaryUplink	RACH-ConfigDedicated		SUL AND SIG
}			
}			
rlf-TimersAndConstants CHOICE {			
setup	RLF-TimersAndConstants		
}			
rlf-TimersAndConstants	Not present		MEAS, RESUME
rlmInSyncOutOfSyncThreshold	Not present		
spCellConfigDedicated	ServingCellConfig		EN-DC, SRB1, PCell_chang e, PSCell_chan ge, NR- DC_SCG,

			REEST
	Not present		
	ServingCellConfig with condition MEAS		MEAS
	ServingCellConfig with condition RESUME		RESUME
}			
sCellToAddModList	Not present		
sCellToAddModList SEQUENCE (SIZE (1..maxNrofSCells)) OF SCellConfig {	1 entry		SCell_add
SCellConfig[1] SEQUENCE {		entry 1	
sCellIndex	SCellIndex		
sCellConfigCommon	ServingCellConfigCommon with condition No_UL		
sCellConfigDedicated	ServingCellConfig with condition No_UL		
}			
}			
sCellToReleaseList	Not present		
reportUplinkTxDirectCurrent	Not present		
bap-Address-r16	Not present		
bh-RLC-ChannelToAddModList-r16	Not present		
bh-RLC-ChannelToReleaseList-r16	Not present		
f1c-TransferPath-r16	Not present		
simultaneousTCI-UpdateList1-r16	Not present		
simultaneousTCI-UpdateList2-r16	Not present		
simultaneousSpatial-UpdatedList1-r16	Not present		
simultaneousSpatial-UpdatedList2-r16	Not present		
uplinkTxSwitchingOption-r16	Not present		
uplinkTxSwitchingPowerBoosting-r16	Not present		
}			

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
CFRA	This condition applies when CFRA is configured
SUL	Supplementary Uplink
SRB1	Establishment of SRB1
SRB2_DRB1	Establishment of SRB2 and DRB1
SRB2_DRB2	Establishment of SRB2 and DRB2
DRBn	Establishment of DRBn
PCell_change	Intra-NR PCell change (standalone NR)
PSCell_change	NR PSCell change (EN-DC)
SCell_add	Add SCell
MEAS	A NR or EN-DC measurement is configured
NR-DC_SCG	Add SCG (NR-DC)
RESUME	Used in RRCResume Message
REEST	The first RRCReconfiguration message after successful completion of the RRC re-establishment procedure.

– *CellGroupId*

Table 4.6.3-20: *CellGroupId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellGroupId	0		
	1		EN-DC, NR-DC_SCG

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
NR-DC SCG	Add SCG (NR-DC)

– *CellIdentity*

Table 4.6.3-21: *CellIdentity*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellIdentity	Set to NR Cell Identifier defined in table 4.4.2-2	BIT STRING (SIZE (36))	

– *CellReselectionPriority*

Table 4.6.3-22: *CellReselectionPriority*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellReselectionPriority	FFS		

– *CellReselectionSubPriority*

Table 4.6.3-23: *CellReselectionSubPriority*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CellReselectionSubPriority	FFS		

– *CGI-InfoEUTRA*

Table 4.6.3-23A: *CGI-InfoEUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CGI-InfoEUTRA	FFS		

– *CGI-InfoEUTRALogging*

Table 4.6.3-23B: *CGI-InfoEUTRALogging*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CGI-InfoEUTRALogging ::= SEQUENCE {			
FFS			
}			

– *CGI-InfoNR*

Table 4.6.3-24: *CGI-InfoNR*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CGI-InfoNR	FFS		

– *CGI-Info-Logging*

Table 4.6.3-24A: CGI-Info-Logging

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CGI-Info-Logging-r16 ::= SEQUENCE {			
FFS			
}			

– *CLI-RSSI-Range*

Table 4.6.3-24B: CLI-RSSI-Range

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CLI-RSSI-Range-r16	FFS		

– *CodebookConfig*

Table 4.6.3-25: CodebookConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CodebookConfig ::= SEQUENCE {			
codebookType CHOICE {			
type1 SEQUENCE {			
subType CHOICE {			
type1-SinglePanel SEQUENCE {			
nrOfAntennaPorts CHOICE {			
moreThanTwo SEQUENCE {			
n1-n2 CHOICE {			
two-one-Type1-SinglePanel-Restriction	11111111		FR2
four-one-Type1-SinglePanel-Restriction	11111111 11111111		FR1
}			
type1-SinglePanel-			
codebookSubsetRestriction-i2	Not present		
}			
}			
type1-SinglePanel-ri-Restriction	11111111		
}			
}			
codebookMode	1		
}			
}			
}			

– *CommonLocationInfo*

Table 4.6.3-25A: CommonLocationInfo

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CommonLocationInfo-r16 ::= SEQUENCE {			
FFS			
}			

– *CondReconfigId***Table 4.6.3-25B: CondReconfigId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CondReconfigId-r16	1		

– *CondReconfigToAddModList***Table 4.6.3-25C: CondReconfigToAddModList**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CondReconfigToAddModList-r16 ::= SEQUENCE (SIZE (1.. maxNrofCondCells-r16)) OF CondReconfigToAddMod-r16 {	1 entry		
CondReconfigToAddMod-r16[1] ::= SEQUENCE {		entry 1	
condReconfigId-r16	CondReconfigId-r16		
condExecutionCond-r16 ::= SEQUENCE {			
MeasId [1]	1	identify a measurement configuration	
}			
condRRCReconfig-r16	RRCReconfiguration-HO	Table 4.8.1-1A	
}			

– *ConditionalReconfiguration***Table 4.6.3-25D: ConditionalReconfiguration**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ConditionalReconfiguration-r16 ::= SEQUENCE {			
attemptCondReconfig-r16	true		
condReconfigToRemoveList-r16	Not present		
condReconfigToAddModList-r16	CondReconfigToAddModList-r16		
}			

– *ConfiguredGrantConfig***Table 4.6.3-26: ConfiguredGrantConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ConfiguredGrantConfig ::= SEQUENCE {			
FFS			
}			

– *ConfiguredGrantConfigIndex***Table 4.6.3-26A: ConfiguredGrantConfigIndex**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ConfiguredGrantConfigIndex-r16	FFS		

– *ConfiguredGrantConfigIndexMAC*

Table 4.6.3-26B: ConfiguredGrantConfigIndexMAC

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ConfiguredGrantConfigIndexMAC-r16	FFS		

– *ConnEstFailureControl*

Table 4.6.3-27: ConnEstFailureControl

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ConnEstFailureControl ::= SEQUENCE {			
connEstFailCount	n1		
connEstFailOffsetValidity	s30		
connEstFailOffset	1		
}			

– *ControlResourceSet*

Table 4.6.3-28: ControlResourceSet

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ControlResourceSet ::= SEQUENCE {			
controlResourceSetId	ControlResourceSetId		
frequencyDomainResources	11110000 00000000 00000000 00000000 00000000 000000	CORESET to use the least significant 24 RBs of the BWP	
duration	2	SearchSpace duration of 2 symbols	
cce-REG-MappingType CHOICE {			
nonInterleaved	null		
}			
precoderGranularity	sameAsREG-bundle		
tci-StatesPDCCH-ToAddList	Not present		
tci-StatesPDCCH-ToReleaseList	Not present		
tci-PresentInDCI	Not present		
pdcch-DMRS-ScramblingID	Not present		
}			

– *ControlResourceSetId*

Table 4.6.3-29: ControlResourceSetId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ControlResourceSetId	1		
	0		Common0

Condition	Explanation
Common0	CommonCORESET#0

– *ControlResourceSetZero*

Table 4.6.3-30: ControlResourceSetZero

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ControlResourceSetZero	Set to CORESET#0 Index as defined for the frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	

– *CrossCarrierSchedulingConfig*

Table 4.6.3-31: CrossCarrierSchedulingConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CrossCarrierSchedulingConfig ::= SEQUENCE {			
FFS			
}			

– *CSI-AperiodicTriggerStateList*

Table 4.6.3-32: CSI-AperiodicTriggerStateList

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-AperiodicTriggerStateList ::= SEQUENCE (SIZE (1..maxNrOfCSI-AperiodicTriggers)) OF CSI-AperiodicTriggerState {	1 entry		
CSI-AperiodicTriggerState[1] SEQUENCE {		entry 1	
associatedReportConfigInfoList SEQUENCE (SIZE(1..maxNrofReportConfigPerAperiodicTrigger)) OF CSI-AssociatedReportConfigInfo {	1 entry		
CSI-AssociatedReportConfigInfo[1] SEQUENCE {		entry 1	
reportConfigId	CSI-ReportConfigId		
resourcesForChannel CHOICE {			
nzp-CSI-RS SEQUENCE {			
resourceSet	8		FR1
	16		FR2
qcl-info SEQUENCE (SIZE(1..maxNrofAP-CSI-RS-ResourcesPerSet)) OF TCI-StateId {	1 entry		
TCI-StateId[1]	TCI-StateId	entry 1	
}			
}			
}			
csi-IM-ResourcesforInterference	8		FR1
	16		FR2
nzp-CSI-RS-ResourcesforInterference	8		FR1
	16		FR2
}			
}			
}			
}			

– *CSI-FrequencyOccupation*

Table 4.6.3-33: CSI-FrequencyOccupation

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			
startingRB	0		
nrofRBs	160		FR1 AND BW60
	216		FR1 AND BW80
	108		FR1 AND BW40
	52		FR1 AND BW10
	276		FR1 AND BW100
	64		FR2 AND BW100
	52		TRS
	40		TRS AND ((FR1 AND BW15 AND SCS30) OR (FR1 AND BW30 AND SCS60))
	32		TRS AND ((FR1 AND BW25 AND SCS60) OR (FR2 AND BW50 AND SCS120))
	28		TRS AND FR1 AND BW5 AND SCS15
	24		TRS AND ((FR1 AND BW5 AND SCS30) OR (FR1 AND BW10 AND SCS30) OR (FR1 AND BW10 AND SCS60) OR (FR1 AND BW15 AND SCS60) OR (FR1 AND BW20 AND SCS60))
	64		
}			

Condition	Explanation
TRS	Tracking-Reference Signal

– *CSI-IM-Resource***Table 4.6.3-34: CSI-IM-Resource**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-Resource ::= SEQUENCE {			
csi-IM-ResourceId	CSI-IM-ResourceId		
csi-IM-ResourceElementPattern CHOICE {			
pattern1 SEQUENCE {			
subcarrierLocation-p1	s4		
symbolLocation-p1	3		FR1
	4		FR2
}			
}			
freqBand	CSI-FrequencyOccupation		
periodicityAndOffset	Not present		
}			

– *CSI-IM-ResourceId***Table 4.6.3-35: CSI-IM-ResourceId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceId	7		FR1
	31		FR2

– *CSI-IM-ResourceSet***Table 4.6.3-36: CSI-IM-ResourceSet**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSet ::= SEQUENCE {			
csi-IM-ResourceSetId	CSI-IM-ResourceSetId		
csi-IM-Resources SEQUENCE (SIZE(1..maxNrofCSI-IM-ResourcesPerSet)) OF CSI-IM-ResourceId {	1 entry		
CSI-IM-ResourceId[1]	CSI-IM-ResourceId	entry 1	
}			
}			

– *CSI-IM-ResourceSetId***Table 4.6.3-37: CSI-IM-ResourceSetId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSetId	0		

– *CSI-MeasConfig*

Table 4.6.3-38: *CSI-MeasConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource {	1 entry		
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource	entry 1	
}			
nzp-CSI-RS-ResourceToReleaseList	Not present		
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSet {	1 entry		
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet	entry 1	
}			
nzp-CSI-RS-ResourceSetToReleaseList	Not present		
csi-IM-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-Resources)) OF CSI-IM-Resource {	1 entry		
CSI-IM-Resource[1]	CSI-IM-Resource	entry 1	
}			
csi-IM-ResourceToReleaseList	Not present		
csi-IM-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourceSets)) OF CSI-SSB-ResourceSet {	1 entry		
CSI-IM-ResourceSet[1]	CSI-IM-ResourceSet	entry 1	
}			
csi-IM-ResourceSetToReleaseList	Not present		
csi-SSB-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourceSets)) OF CSI-SSB-ResourceSet {	1 entry		
CSI-SSB-ResourceSet[1]	CSI-SSB-ResourceSet	entry 1	
}			
csi-SSB-ResourceSetToReleaseList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	1 entry		
CSI-ResourceConfig[1]	CSI-ResourceConfig	entry 1	
}			
csi-ResourceConfigToReleaseList	Not present		
csi-ReportConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ReportConfigurations)) OF CSI-ReportConfig {	1 entry		
CSI-ReportConfig[1]	CSI-ReportConfig	entry 1	
}			
csi-ReportConfigToReleaseList	Not present		
reportTriggerSize	0		
aperiodicTriggerStateList CHOICE {			
setup	CSI-AperiodicTriggerStateList		
}			
semiPersistentOnPUSCH-TriggerStateList	Not present		
}			

– *CSI-ReportConfig*

Table 4.6.3-39: *CSI-ReportConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	CSI-ReportConfigId		
carrier	ServCellIndex		
resourcesForChannelMeasurement	CSI-ResourceConfigId		
csi-IM-ResourcesForInterference	CSI-ResourceConfigId		
nzp-CSI-RS-ResourcesForInterference	CSI-ResourceConfigId		
reportConfigType CHOICE {			
aperiodic SEQUENCE {			
reportSlotOffsetList SEQUENCE (SIZE (1..maxNrofUL-Allocations)) OF INTEGER {	1 entry		
INTEGER[1]	14	entry 1	
}			
}			
}			
reportQuantity CHOICE {			
cri-RI-PMI-CQI	NULL,		FR1
cri-RI-LI-PMI-CQI	NULL		FR2
}			
reportFreqConfiguration SEQUENCE {			
cqi-FormatIndicator	widebandCQI		
pmi-FormatIndicator	widebandPMI		
csi-ReportingBand	Not present		
}			
timeRestrictionForChannelMeasurements	notConfigured		
timeRestrictionForInterferenceMeasurements	notConfigured		
codebookConfig	CodebookConfig		
dummy	Not present		
groupBasedBeamReporting CHOICE {			
disabled SEQUENCE {			
nrofReportedRS	n1		
}			
}			
cqi-Table	table2		FR1
	table1		FR2
subbandSize	value2		
non-PMI-PortIndication	Not present		
}			

– *CSI-ReportConfigId*

Table 4.6.3-40: *CCSI-ReportConfigId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfigId	0		

– *CSI-ResourceConfig*

Table 4.6.3-41: CSI-ResourceConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	2 entries		
NZP-CSI-RS-ResourceSetId[1]	0	entry 1	
NZP-CSI-RS-ResourceSetId[2]	1	entry 2	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

– *CSI-ResourceConfigId*

Table 4.6.3-42: CSI-ResourceConfigId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfigId	0		

– *CSI-ResourcePeriodicityAndOffset*

Table 4.6.3-43: CSI-ResourcePeriodicityAndOffset

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots80	10		FR1
slots320	40		FR2
}			

– *CSI-RS-ResourceConfigMobility*

Table 4.6.3-44: CSI-RS-ResourceConfigMobility

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceConfigMobility ::= SEQUENCE {			
subcarrierSpacing	SubcarrierSpacing		
csi-RS-CellList-Mobility	FFS		
}			

– *CSI-RS-ResourceMapping*

Table 4.6.3-45: CSI-RS-ResourceMapping

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	1000		(FR1 AND TRS) OR (FR2 AND TRS)
row4	010		FR2
other	011110		FR1
}			
nrofPorts	p8		FR1
	p4		FR2
	p1		(FR1 AND TRS) OR (FR2 AND TRS)
firstOFDMSymbolInTimeDomain	3		FR1
	13		FR2
	4		(FR1 AND TRS) OR (FR2 AND TRS)
firstOFDMSymbolInTimeDomain2	Not present		
cdm-Type	fd-CDM2		
	noCDM		TRS
density CHOICE {			
one	NULL		
three	NULL		TRS
}			
freqBand	CSI-FrequencyOccupation		
}			

Condition	Explanation
TRS	Tracking-Reference Signal is configured.

– *CSI-SemiPersistentOnPUSCH-TriggerStateList*

Table 4.6.3-46: CSI-SemiPersistentOnPUSCH-TriggerStateList

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-SemiPersistentOnPUSCH-TriggerStateList ::= SEQUENCE {			
FFS			
}			

– *CSI-SSB-ResourceSet*

Table 4.6.3-47: CSI-SSB-ResourceSet

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-SSB-ResourceSet ::= SEQUENCE {			
csi-SSB-ResourceSetId	CSI-SSB-ResourceSetId		
csi-SSB-ResourceList SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourcePerSet)) OF SSB-Index {	1 entry		
SSB-Index[1]	SSB-Index	entry 1	
}			
}			

– *CSI-SSB-ResourceSetId*

Table 4.6.3-48: CSI-SSB-ResourceSetId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-SSB-ResourceSetId	0		

Table 4.6.3-48A: Void

– *DedicatedNAS-Message*

Table 4.6.3-49: DedicatedNAS-Message

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DedicatedNAS-Message	Set according to specific message content		

– *DMRS-DownlinkConfig*

Table 4.6.3-50: DMRS-DownlinkConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DMRS-DownlinkConfig ::= SEQUENCE {			
dmrs-Type	Not present	DMRS type 1	
dmrs-AdditionalPosition	pos1		FR1
	pos0		FR2
maxLength	Not present	len1	
scramblingID0	Not present		
scramblingID1	Not present		
phaseTrackingRS	Not present		FR1
phaseTrackingRS CHOICE {			FR2
setup	PTRS-DownlinkConfig		
}			
}			

– *DMRS-UplinkConfig*

Table 4.6.3-51: DMRS-UplinkConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DMRS-UplinkConfig ::= SEQUENCE {			
dmrs-Type	Not present	DMRS type 1	
dmrs-AdditionalPosition	pos1		FR1
	pos0		FR2
phaseTrackingRS	Not present		
phaseTrackingRS CHOICE {			PTRS_UL_CONFIG
setup	PTRS-UplinkConfig		
}			
maxLength	Not present	len1	
transformPrecodingDisabled SEQUENCE {			
scramblingID0	Not present		
scramblingID1	Not present		
}			
transformPrecodingEnabled	Not present		
}			

Condition	Explanation
PTRS_UL_CONFIG	When PTRS Uplink is configured

– *DownlinkConfigCommon*

Table 4.6.3-52: DownlinkConfigCommon

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommon ::= SEQUENCE {			
frequencyInfoDL	FrequencyInfoDL		
initialDownlinkBWP	BWP-DownlinkCommon		
	BWP-DownlinkCommon with condition SCell_add		SCell_Add
}			

– *DownlinkConfigCommonSIB*

Table 4.6.3-53: DownlinkConfigCommonSIB

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
frequencyInfoDL	FrequencyInfoDL-SIB		
initialDownlinkBWP	BWP-DownlinkCommon with condition InitialBWP_SIB		
bcch-Config SEQUENCE {			
modificationPeriodCoeff	n4		
}			
pcch-Config SEQUENCE {			
defaultPagingCycle	rf128		
nAndPagingFrameOffset CHOICE {			
halfT	0		
}			
ns	one		
firstPDCCH-MonitoringOccasionOfPO	Not present		
}			
}			

– *DownlinkPreemption*

Table 4.6.3-54: DownlinkPreemption

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DownlinkPreemption ::= SEQUENCE {			
FFS			
}			

– *DRB-Identity*

Table 4.6.3-55: DRB-Identity

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DRB-Identity	n		DRBn

Condition	Explanation
DRBn	DRB-Identity n

– *DRX-Config*

Table 4.6.3-56: DRX-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DRX-Config ::= SEQUENCE {			
drx-onDurationTimer CHOICE {			
milliSeconds	ms6		
}			
drx-InactivityTimer	ms1280		
drx-HARQ-RTT-TimerDL	56		
drx-HARQ-RTT-TimerUL	56		
drx-RetransmissionTimerDL	sl16		FR1
	sl64		FR2
drx-RetransmissionTimerUL	sl16		FR1
	sl64		FR2
drx-LongCycleStartOffset CHOICE {			
ms10240	0		
}			
shortDRX	not present		
drx-SlotOffset	0		
}			

– *DRX-ConfigSecondaryGroup*

Table 4.6.3-56A: DRX-ConfigSecondaryGroup

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
DRX-ConfigSecondaryGroup ::= SEQUENCE {			
FFS			
}			

– *FilterCoefficient*

Table 4.6.3-57: FilterCoefficient

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
FilterCoefficient	fc4		

– *FreqBandIndicatorNR*

Table 4.6.3-58: FreqBandIndicatorNR

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
FreqBandIndicatorNR	Operating band of the frequency as specified in Table 4.4.2-1		
	Secondary band under test		CA-InterBand

Condition	Explanation
CA-InterBand	Used in CA interBand test cases

– *FrequencyInfoDL*

Table 4.6.3-59: *FrequencyInfoDL*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
FrequencyInfoDL ::= SEQUENCE {			
absoluteFrequencySSB	ARFCN-ValueNR with condition DL_SSB		
frequencyBandList	MultiFrequencyBandListNR		
absoluteFrequencyPointA	ARFCN-ValueNR with condition DL_PointA		
scs-SpecificCarrierList SEQUENCE (SIZE (1..maxSCSs)) OF SCS-SpecificCarrier {	1 entry		
SCS-SpecificCarrier[1]	SCS-SpecificCarrier with condition DL_PointA	entry 1	
}			
}			

– *FrequencyInfoDL-SIB*

Table 4.6.3-60: *FrequencyInfoDL-SIB*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
FrequencyInfoDL-SIB ::= SEQUENCE {			
frequencyBandList	MultiFrequencyBandListNR-SIB		
offsetToPointA	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.		
scs-SpecificCarrierList SEQUENCE (SIZE (1..maxSCSs)) OF SCS-SpecificCarrier {	1 entry		
SCS-SpecificCarrier[1]	SCS-SpecificCarrier with condition DL_PointA	entry 1	
}			
}			

– *FrequencyInfoUL***Table 4.6.3-61: FrequencyInfoUL**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
FrequencyInfoUL ::= SEQUENCE {			
frequencyBandList	MultiFrequencyBandListNR		FDD
	Not present		TDD
absoluteFrequencyPointA	ARFCN-ValueNR with condition UL_PointA		FDD
	Not present		TDD
scs-SpecificCarriers SEQUENCE (SIZE (1..maxSCSs)) OF SCS-SpecificCarrier {	1 entry		
SCS-SpecificCarrier1	SCS-SpecificCarrier with condition UL_PointA	entry 1	
}			
additionalSpectrumEmission	AdditionalSpectrumEmission		
p-Max	P-Max		
frequencyShift7p5khz	Not present		
}			

– *FrequencyInfoUL-SIB***Table 4.6.3-62: FrequencyInfoUL-SIB**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
FrequencyInfoUL-SIB ::= SEQUENCE {			
frequencyBandList	MultiFrequencyBandListNR-SIB		FDD
	Not present		TDD
absoluteFrequencyPointA	ARFCN-ValueNR with condition UL_PointA		FDD
	Not present		TDD
scs-SpecificCarrierList SEQUENCE (SIZE (1..maxSCSs)) OF SCS-SpecificCarrier {	1 entry		
SCS-SpecificCarrier[1]	SCS-SpecificCarrier with condition UL_PointA	entry 1	
}			
p-Max	P-Max		
frequencyShift7p5khz	Not present		
}			

– *HighSpeedConfig***Table 4.6.3-62A: HighSpeedConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
HighSpeedConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *Hysteresis***Table 4.6.3-63: *Hysteresis***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
Hysteresis	4		

– *InvalidSymbolPattern***Table 4.6.3-63A: *InvalidSymbolPattern***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
InvalidSymbolPattern-r16 ::= SEQUENCE {			
FFS			
}			

– *I-RNTI-Value***Table 4.6.3-64: *I-RNTI-Value***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
I-RNTI-Value	SS arbitrarily selects a value between '00 0000 0001'H and 'FF FFFF FFFF'H.	BIT STRING (SIZE(40))	

– *LBT-FailureRecoveryConfig***Table 4.6.3-64A: *LBT-FailureRecoveryConfig***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
LBT-FailureRecoveryConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *LocationInfo***Table 4.6.3-64B: *LocationInfo***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
LocationInfo-r16 ::= SEQUENCE {			
FFS			
}			

– *LocationMeasurementInfo*

Table 4.6.3-65: LocationMeasurementInfo

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
LocationMeasurementInfo ::= CHOICE {			
eutra-RSTD SEQUENCE (SIZE (1..maxInterRAT-RSTD-Freq)) OF EUTRA-RSTD-Info {	1 entry		
EUTRA-RSTD-Info[1] SEQUENCE {		entry 1	
carrierFreq	ARFCN-ValueEUTRA		
measPRS-Offset	FFS		
}			
}			
}			

– *LogicalChannelConfig*

Table 4.6.3-66: LogicalChannelConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
LogicalChannelConfig ::= SEQUENCE {			
ul-SpecificParameters SEQUENCE {			
priority	1 3		SRB2
prioritisedBitRate	infinity		
bucketSizeDuration	ms50		
allowedServingCells	Not present		
allowedSCS-List	Not present		
maxPUSCH-Duration	Not present		
configuredGrantType1Allowed	Not present		
logicalChannelGroup	1 2 0		HI LO SRB1, SRB2, SRB3
schedulingRequestID	SchedulingRequestID		
logicalChannelSR-Mask	false		
logicalChannelSR-DelayTimerApplied	false		
bitRateQueryProhibitTimer	Not present		
}			
}			

Condition	Explanation
HI	Used for DRBs with high logical channel priority
LO	Used for DRBs with low logical channel priority
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
SRB3	Establishment of SRB3

– *LogicalChannelIdentity*

Table 4.6.3-67: LogicalChannelIdentity

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
LogicalChannelIdentity	1		SRB1
LogicalChannelIdentity	2		SRB2
LogicalChannelIdentity	3		SRB3
LogicalChannelIdentity	n+3		DRBn

Condition	Explanation
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
SRB3	Establishment of SRB3
DRBn	Establishment of DRBn; n=1..29

– *MAC-CellGroupConfig*

Table 4.6.3-68: MAC-CellGroupConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MAC-CellGroupConfig ::= SEQUENCE {			
drx-Config	Not present		
drx-Config CHOICE {			DRX
setup	DRX-Config		
}			
schedulingRequestConfig	SchedulingRequest-Config		
bsr-Config	BSR-Config		
tag-Config	TAG-Config		
phr-Config CHOICE {			
setup	PHR-Config		
}			
skipUplinkTxDynamic	false		
}			

Condition	Explanation
DRX	This condition applies when DRX is configured

– *MeasConfig*

Table 4.6.3-69: MeasConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasConfig ::= SEQUENCE {			
measObjectToRemoveList	Not present		
measObjectToAddModList	MeasObjectToAddModList		
reportConfigToRemoveList	Not present		
reportConfigToAddModList	ReportConfigToAddModList		
measIdToRemoveList	Not present		
measIdToAddModList	MeasIdToAddModList		
s-MeasureConfig	Not present		
quantityConfig	QuantityConfig		
measGapConfig	Not present		
measGapSharingConfig	Not present		
}			

– *MeasGapConfig*

Table 4.6.3-70: *MeasGapConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasGapConfig ::= SEQUENCE {			
gapFR2	Not present		
gapFR2 CHOICE {			GAP_FR2
setup SEQUENCE {			
gapOffset	159		
mgl	ms3dot5		
mgrp	ms160		
mgta	ms0		
}			
}			
gapFR1	Not present		
gapFR1 CHOICE {			GAP_FR1
setup SEQUENCE {			
gapOffset	39		
	9		SIG AND INTER-FREQ_ODD
mgl	ms6		
mgrp	ms40		
mgta	ms0		
}			
gapUE	Not present		GAP_FR1 OR GAP_FR2
gapUE CHOICE {			
setup SEQUENCE {			
gapOffset	39		
	9		SIG AND INTER-FREQ_ODD
mgl	ms6		
mgrp	ms40		
mgta	ms0		
}			
}			
}			

Condition	Explanation
GAP_FR1	Configuration for FR1 per-FR gaps
GAP_FR2	Configuration for FR2 per-FR gaps
INTER-FREQ_ODD	When the SFNoffset of inter frequency neighbour cell is odd number. SFNoffset is defined in TS 38.523-3 [23] Table 7.1.5.2-1

– *MeasGapSharingConfig*

Table 4.6.3-71: *MeasGapSharingConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasGapSharingConfig ::= SEQUENCE {			
gapSharingFR2	Not present		
}			

– *MeasId*

Table 4.6.3-72: *MeasId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasId	1		

– *MeasIdleConfig*

Table 4.6.3-72A: *MeasIdleConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasIdleConfigSIB-r16 ::= SEQUENCE {			
FFS			
}			

– *MeasIdToAddModList*

Table 4.6.3-73: *MeasIdToAddModList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasIdToAddModList ::= SEQUENCE (SIZE (1..maxNrofMeasId)) OF MeasIdToAddMod {	1 entry		
MeasIdToAddMod[1] SEQUENCE {		entry 1	
measId	MeasId		
measObjectId	MeasObjectId		
reportConfigId	ReportConfigId		
}			

– *MeasObjectCLI*

Table 4.6.3-73A: *MeasObjectCLI*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasObjectCLI-r16 ::= SEQUENCE {			
FFS			
}			

– *MeasObjectEUTRA*

Table 4.6.3-74: MeasObjectEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasObjectEUTRA ::= SEQUENCE {			
carrierFreq	Downlink EARFCN for Freq		
allowedmeasBandwidth	Set according to TS 36.508 [2] Table 4.4.3.4-1 for E-UTRA cell	row 'measurement Bandwidth'	
cellsToRemoveListEUTRAN	Not present		
cellsToAddModListEUTRAN	Not present		
blackCellsToRemoveListEUTRAN	Not present		
blackCellsToAddModListEUTRAN	Not present		
eutra-PresenceAntennaPort1	false		
	true	at least two cell-specific antenna ports are used in all neighbouring cells	All neighCells with port1
eutra-Q-OffsetRange	Not present		
widebandRSRQ-Meas	false		
}			

Condition	Explanation
All neighCells with port1	Used for all neighbouring cells with at least two cell-specific antenna ports

– *MeasObjectId*

Table 4.6.3-75: MeasObjectId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasObjectId	1		

– *MeasObjectNR*

Table 4.6.3-76: *MeasObjectNR*(Thres)

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasObjectNR ::= SEQUENCE {			
ssbFrequency	ARFCN-ValueNR with condition DL_SSB		
ssbSubcarrierSpacing	SubcarrierSpacing		
smtc1	SSB-MTC		
smtc2	Not present		
refFreqCSI-RS	Not present		
referenceSignalConfig SEQUENCE {			
ssb-ConfigMobility SEQUENCE {			
ssb-ToMeasure CHOICE {			
setup	SSB-ToMeasure		
}			
deriveSSB-IndexFromCell	false		FDD
	true		TDD
ss-RSSI-Measurement	Not present		
}			
csi-rs-ResourceConfigMobility	Not present		
}			
absThreshSS-BlocksConsolidation SEQUENCE {			
thresholdRSRP	Thres	Thres is an entry value into a mapping table in TS 38.133 [13].	
thresholdRSRQ	Not present		
thresholdSINR	Not present		
}			
absThreshCSI-RS-Consolidation	Not present		
nrofSS-BlocksToAverage	2		
nrofCSI-RS-ResourcesToAverage	Not present		
quantityConfigIndex	1		
offsetMO SEQUENCE {			
rsrpOffsetSSB	dB0		
rsrqOffsetSSB	dB0		
sinrOffsetSSB	dB0		
rsrpOffsetCSI-RS	dB0		
rsrqOffsetCSI-RS	dB0		
sinrOffsetCSI-RS	dB0		
}			
cellsToRemoveList	Not present		
cellsToAddModList	Not present		
blackCellsToRemoveList	Not present		
blackCellsToAddModList	Not present		
whiteCellsToRemoveList	Not present		
whiteCellsToAddModList	Not present		
freqBandIndicatorNR	FreqBandIndicatorNR		
}			

– *MeasObjectNR-SL***Table 4.6.3-76A: MeasObjectNR-SL**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasObjectNR-SL-r16 ::= SEQUENCE {			
tx-PoolMeasToRemoveList-r16	Not present		
tx-PoolMeasToAddModList-r16 SEQUENCE (SIZE (1..maxNrofSL-PoolToMeasureNR-r16)) OF SL-ResourcePoolID-r16{	1 entry		
SL-ResourcePoolID-r16[1]	SL-ResourcePoolID-r16	entry 1	
}			
}			

– *MeasObjectToAddModList***Table 4.6.3-77: MeasObjectToAddModList**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasObjectToAddModList ::= SEQUENCE (SIZE (1..maxNrofMeasId)) OF MeasObjectToAddMod {	1 entry		
MeasObjectToAddMod[1] SEQUENCE {		entry 1	
measObjectId	MeasObjectId		
measObject CHOICE {			
measObjectNR	MeasObjectNR		
}			
}			
}			

– *MeasObjectUTRA-FDD***Table 4.6.3-77A: MeasObjectUTRA-FDD**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasObjectUTRA-FDD-r16 ::= SEQUENCE {			
FFS			
}			

– *MeasResultCellListSFTD-NR***Table 4.6.3-78: MeasResultCellListSFTD-NR**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResultCellListSFTD-NR ::= SEQUENCE {			
FFS			
}			

– *MeasResultCellListSFTD-EUTRA*

Table 4.6.3-78A: *MeasResultCellListSFTD-EUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResultCellListSFTD-EUTRA ::= SEQUENCE {			
FFS			
}			

– *MeasResults*

Table 4.6.3-79: *MeasResults*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResults ::= SEQUENCE {			
measId	MeasId		
measResultServingMOList SEQUENCE (SIZE (1.. maxNrofServingCells)) OF MeasResultServMO {	1 entry		
MeasResultServMO[1] SEQUENCE {		entry 1	
servCellId	ServCellIndex		
measResultServingCell SEQUENCE {			
physCellId	PhysCellId		
measResult SEQUENCE {			
cellResults SEQUENCE {			
resultsSSB-Cell SEQUENCE {			
rsrp	Not checked		
rsrq	Not checked		
sinr	Not checked		
}			
resultsCSI-RS-Cell	Not present		
}			
rsIndexResults	Not present		
}			
cgi-Info	Not present		
}			
measResultBestNeighCell	Not present		
}			
measResultNeighCells	Not present		A1, A2
	Set according to specific message content		A3, A4, A5, A6
}			

Condition	Explanation
A1	If event trigger Id in corresponding Measurement Configuration was Event A1
A2	If event trigger Id in corresponding Measurement Configuration was Event A2
A3	If event trigger Id in corresponding Measurement Configuration was Event A3
A4	If event trigger Id in corresponding Measurement Configuration was Event A4
A5	If event trigger Id in corresponding Measurement Configuration was Event A5
A6	If event trigger Id in corresponding Measurement Configuration was Event A6

– *MeasResult2EUTRA*

Table 4.6.3-79A: *MeasResult2EUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResult2EUTRA ::= SEQUENCE {			
FFS			
}			

– *MeasResult2NR*

Table 4.6.3-79B: *MeasResult2NR*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResult2NR ::= SEQUENCE {			
FFS			
}			

– *MeasResultIdleEUTRA*

Table 4.6.3-79C: *MeasResultIdleEUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResultIdleEUTRA-r16 ::= SEQUENCE {			
FFS			
}			

– *MeasResultIdleNR*

Table 4.6.3-79D: *MeasResultIdleNR*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResultIdleNR-r16 ::= SEQUENCE {			
FFS			
}			

– *MeasResultSCG-Failure*

Table 4.6.3-80: *MeasResultSCG-Failure*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResultSCG-Failure ::= SEQUENCE {		<i>measResultPerMOList</i> for each <i>MeasObjectNR</i> for which a <i>measId</i> is configured (by the NR <i>RRCCongfiguration message</i>) and measurement results are available include an entry	
<i>measResultPerMOList</i> SEQUENCE (SIZE (1.. <i>maxFreq</i>)) OF <i>MeasResult2NR</i> {	<i>n</i> entries of <i>MeasResult2NR</i>	<i>MOList</i> [1] <i>n</i> denotes the number of non-serving frequencies being measured	
<i>MeasResult2NR</i> [1] SEQUENCE {		entry 1	
<i>ssbFrequency</i>	ARFCN-ValueNR with condition DL_SSB	the ARFCN if there is a <i>measId</i> configured with the <i>MeasObjectNR</i> and a <i>reportConfig</i> which has <i>rsType</i> set to <i>ssb</i>	
<i>refFreqCSI-RS</i>	INTEGER (0..3279165)	the ARFCN if there is a <i>measId</i> configured with the <i>MeasObjectNR</i> and a <i>reportConfig</i> which has <i>rsType</i> set to <i>csi-rs</i>	
<i>measResultServingCell</i> SEQUENCE {		if a serving cell is associated with the <i>MeasObjectNR</i>	
<i>physCellId</i>	INTEGER (0..1007)	the <i>physCellId</i> configured for this serving cell	
<i>measResult</i> SEQUENCE {			
<i>cellResults</i> SEQUENCE {			
<i>resultsSSB-Cell</i> SEQUENCE {			
<i>rsrp</i>	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
<i>rsrq</i>	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
<i>sinr</i>	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
<i>resultsCSI-RS-Cell</i> SEQUENCE {			
<i>rsrp</i>	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
<i>rsrq</i>	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
<i>sinr</i>	as specified in Table	Integer value for	

	4.6.3-172	SINR measurements	
}			
}			
rsIndexResults SEQUENCE {			
resultsSSB-Indexes SEQUENCE (SIZE (1..maxNrofSSBs)) OF ResultsPerSSB-Index {	<i>n</i> entires of ResultsPerSSB-Index	<i>ResultsPerSSB-IndexList</i>	
ResultsPerSSB-Index[1] SEQUENCE {		entry 1	
ssb-Index	SSB-Index	an SS-Block within an SS-Burst	
ssb-Results SEQUENCE {		<i>MeasQuantityResults</i>	
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
}			
}		<i>ResultsPerSSB-Index</i> entry [x] if any	
}			
resultsCSI-RS-Indexes SEQUENCE (SIZE (1..maxNrofCSI-RS)) OF ResultsPerCSI-RS-Index {	<i>n</i> entires of ResultsPerCSI-RS-Index	<i>ResultsPerCSI-RS-IndexList</i>	
ResultsPerCSI-RS-Index[1] SEQUENCE {		entry 1	
csi-RS-Index	INTEGER (0..maxNrofCSI-RS-ResourcesRRM-1)	CSI-RS resource index associated to the measurement information to be reported	
csi-RS-Results SEQUENCE {		<i>MeasQuantityResults</i>	
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
}			
}		<i>ResultsPerCSI-RS-Index</i> entry [x] if any	
}			
}			
}			
}			
measResultNeighCellListNR SEQUENCE (SIZE (1..maxCellReport)) OF MeasResultNR {	<i>n</i> entires of MeasResultNR	include the best measured cells, ordered such that the best cell is listed first, and based on measurements collected up to the moment the UE detected the failure	
MeasResultNR[1] SEQUENCE {		entry 1	
physCellId	INTEGER (0..1007)	the <i>physCellId</i>	

		configured for the measured cell	
measResult SEQUENCE {			
cellResults SEQUENCE {			
resultsSSB-Cell SEQUENCE {			
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
resultsCSI-RS-Cell SEQUENCE {			
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
}			
}			
}			
		MeasResultNR entry [x] if any	
}			
		MeasResult2NR entry [x] if any	
}			
		MOList [x] if any	
}			
}			

– *MeasResultsSL*

Table 4.6.3-80A: MeasResultsSL

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasResultsSL-r16 ::= SEQUENCE {			
measResultsListSL-r16 CHOICE {			
measResultNR-SL-r16 SEQUENCE {			
measResultListCBR-NR-r16 SEQUENCE (SIZE (1.. maxNrofSL-PoolToMeasureNR-r16)) OF MeasResultCBR-NR-r16 {	1 entry		
MeasResultCBR-NR-r16[1] SEQUENCE {		entry 1	
sl-poolReportIdentity-r16	SL-ResourcePoolID-r16		
sl-CBR-ResultsNR-r16	SL-CBR-r16		
}			
}			
}			
}			
}			

– *MeasTriggerQuantityEUTRA***Table 4.6.3-80B: *MeasTriggerQuantityEUTRA***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MeasTriggerQuantityEUTRA-r16 ::= SEQUENCE {			
FFS			
}			

– *MobilityStateParameters***Table 4.6.3-81: *MobilityStateParameters***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MobilityStateParameters ::= SEQUENCE {			
FFS			
}			

– *MsgA-ConfigCommon***Table 4.6.3-81A: *MsgA-ConfigCommon***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MsgA-ConfigCommonL-r16 ::= SEQUENCE {			
FFS			
}			

– *MsgA-PUSCH-Config***Table 4.6.3-81B: *MsgA-PUSCH-Config***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MsgA-PUSCH-Config-r16 ::= SEQUENCE {			
FFS			
}			

– *MultiFrequencyBandListNR***Table 4.6.3-82: *MultiFrequencyBandListNR***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MultiFrequencyBandListNR ::= SEQUENCE (SIZE (1..maxNrofMultiBands)) OF FreqBandIndicatorNR {	1 entry		
FreqBandIndicatorNR[1]	FreqBandIndicatorNR	entry 1	
}			

– *MultiFrequencyBandListNR-SIB*

Table 4.6.3-82A: MultiFrequencyBandListNR-SIB

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
MultiFrequencyBandListNR-SIB ::= SEQUENCE (SIZE (1.. maxNrofMultiBands)) OF NR-MultiBandInfo {	1 entry		
NR-MultiBandInfo[1] SEQUENCE {		entry 1	
freqBandIndicatorNR	FreqBandIndicatorNR		
nr-NS-PmaxList	NR-NS-PmaxList		
}			
}			

– *NeedForGapsConfigNR*

Table 4.6.3-82B: NeedForGapsConfigNR

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NeedForGapsConfigNR-r16 ::= SEQUENCE {			
FFS			
}			

– *NeedForGapsInfoNR*

Table 4.6.3-82C: NeedForGapsInfoNR

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NeedForGapsInfoNR-r16 ::= SEQUENCE {			
FFS			
}			

– *NextHopChainingCount*

Table 4.6.3-83: NextHopChainingCount

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NextHopChainingCount	0		

– *NG-5G-S-TMSI*

Table 4.6.3-84: NG-5G-S-TMSI

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NG-5G-S-TMSI	Set to the value of the NG-5G-S-TMSI of the UE	BIT STRING (SIZE(40))	

– *NPN-Identity*

Table 4.6.3-84AA: *NPN-Identity*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NPN-Identity-r16 ::= CHOICE {			
pni-npn-r16 SEQUENCE {			CAG
PLMN-Identity[1]	PLMN-Identity		
cag-IdentityList-r16 SEQUENCE (SIZE (1..maxNPN-r16)) OF CAG-IdentityInfo-r16 {	1 entry		
cag-Identity-r16[1]			
manualCAGselectionAllowed-r16	true		
}			
snpn-r16 SEQUENCE {			SNPN
plmn-Identity-r16	PLMN-Identity		
nid-List-r16[1]	FFS	NID is coded as a BITSTRING based on TS 38.508-1 Table [FFS].	
}			
}			

Condition	Explanation
CAG	PNI-NPN
SNPN	Standalone NPN cell

– *NPN-IdentityInfoList*

Table 4.6.3-84AB: *NPN-IdentityInfoList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NPN-IdentityInfoList-r16 ::= SEQUENCE (SIZE (1..maxNPN-r16)) OF NPN-IdentityInfo-r16 {	1 entry		
NPN-IdentityInfo-r16[1] SEQUENCE {			
nnp-IdentityList-r16 SEQUENCE (SIZE (1..maxNPN-r16)) OF NPN-Identity-r16 {	1 entry		
NPN-Identity-r16[1]	NPN-Identity with condition CAG		CAG
}	NPN-Identity with condition SNPN		SNPN
}			
trackingAreaCode-r16	TrackingAreaCode		
ranac-r16	RAN-AreaCode		
cellIdentity-r16	CellIdentity		
cellReservedForOperatorUse-r16	notReserved		
}			
}			

Condition	Explanation
CAG	PNI-NPN
SNPN	Standalone NPN cell

– *NR-NS-PmaxList***Table 4.6.3-84A: NR-NS-PmaxList**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NR-NS-PmaxList ::= SEQUENCE (SIZE (1..maxNrofMultiBands)) OF NR-NS-PmaxValue {	1 entry		
NR-NS-PmaxValue[1] SEQUENCE {		entry 1	
additionalPmax	Not present		
additionalSpectrumEmission	AdditionalSpectrumEmission		
}			
}			

– *NZP-CSI-RS-Resource***Table 4.6.3-85: NZP-CSI-RS-Resource**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp-CSI-RS-ResourceId	NZP-CSI-RS-ResourceId		
resourceMapping	CSI-RS-ResourceMapping		
powerControlOffset	-3		
powerControlOffsetSS	Not present		
scramblingId	ScramblingId		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-StateId		
}			

– *NZP-CSI-RS-ResourceId***Table 4.6.3-86: NZP-CSI-RS-ResourceId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceId	0		

– *NZP-CSI-RS-ResourceSet***Table 4.6.3-87: *NZP-CSI-RS-ResourceSet***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSet ::= SEQUENCE {			
nzp-CSI-ResourceSetId	NZP-CSI-RS-ResourceSetId		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	1 entry		
NZP-CSI-RS-ResourceId[1]	NZP-CSI-RS-ResourceId	entry 1	
}			
repetition	off		
aperiodicTriggeringOffset	Not present		TRS
trs-Info	Not present		
	true		TRS
}			

Condition	Explanation
TRS	Tracking-Reference Signal

– *NZP-CSI-RS-ResourceSetId***Table 4.6.3-88: *NZP-CSI-RS-ResourceSetId***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSetId	0		

– *P-Max***Table 4.6.3-89: *P-Max***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
P-Max	23		SA OR (EN-DC AND pc_dynamicPowerSharing)
	20		EN-DC AND (NOT pc_dynamicPowerSharing)

Condition	Explanation
SA	NR standalone test cases
EN-DC	E-UTRA-NR Dual Connectivity

– *PCI-List*Table 4.6.3-90: *PCI-List*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PCI-List ::= SEQUENCE {			
FFS			
}			

– *PCI-Range*Table 4.6.3-91: *PCI-Range*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PCI-Range ::= SEQUENCE {			
start	PhysCellId		
range	FFS		
}			

– *PCI-RangeElement*Table 4.6.3-92: *PCI-RangeElement*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PCI-RangeElement ::= SEQUENCE {			
FFS			
}			

– *PCI-RangeIndex*Table 4.6.3-93: *PCI-RangeIndex*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PCI-RangeIndex	0		

– *PCI-RangeIndexList*Table 4.6.3-94: *PCI-RangeIndexList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PCI-RangeIndexList ::= SEQUENCE {			
FFS			
}			

– *PDCCH-Config***Table 4.6.3-95: *PDCCH-Config***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
<i>PDCCH-Config</i> ::= SEQUENCE {			
controlResourceSetToAddModList	Not present		EN-DC
controlResourceSetToAddModList SEQUENCE(SIZE (1..3)) OF ControlResourceSet {	1 entry		
ControlResourceSet[1]	ControlResourceSet	entry 1	
}			
controlResourceSetToReleaseList	Not present		
searchSpacesToAddModList SEQUENCE(SIZE (1..10)) OF SearchSpace {	1 entry		
SearchSpace[1]	SearchSpace with condition USS	entry 1	
}			
searchSpacesToReleaseList	Not present		
downlinkPreemption	Not present		
tpc-PUSCH	Not present		
tpc-PUCCH	Not present		
tpc-SRS	Not present		
}			

– *PDCCH-ConfigCommon*

Table 4.6.3-96: PDCCH-ConfigCommon

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDCCH-ConfigCommon ::= SEQUENCE {			
controlResourceSetZero	ControlResourceSetZero Not present	Initial BWP	SCell_Add InitialBWP_SIB
commonControlResourceSet	ControlResourceSet Not present		EN-DC
searchSpaceZero	SearchSpaceZero Not present	Initial BWP	SCell_Add InitialBWP_SIB
commonSearchSpaceList SEQUENCE (SIZE (1..4)) OF SearchSpace {	2 entries		
SearchSpace[1]	SearchSpace with condition CSS	entry 1	
SearchSpace[2]	SearchSpace with condition SISS	entry 2	
}			
commonSearchSpaceList SEQUENCE (SIZE (1..4)) OF SearchSpace {	1 entry		EN-DC
SearchSpace[1]	SearchSpace with condition CSS	entry 1	
}			
commonSearchSpaceList	Not present		SCell_Add
searchSpaceSIB1	0 Not present		EN-DC, SCell_Add
searchSpaceOtherSystemInformation	SearchSpaceId with condition SISS Not present		EN-DC, SCell_Add
pagingSearchSpace	0 Not present		EN-DC, SCell_Add
ra-SearchSpace	SearchSpaceId with condition CSS Not present		SCell_Add
}			

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
SCell_Add	Add SCell
InitialBWP_SIB	Configured via DownlinkConfigCommonSIB

– *PDCCH-ConfigSIB1*

Table 4.6.3-97: PDCCH-ConfigSIB1

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDCCH-ConfigSIB1 ::= SEQUENCE {			
controlResourceSetZero	ControlResourceSetZero		
searchSpaceZero	SearchSpaceZero		
}			

– *PDCCH-ServingCellConfig***Table 4.6.3-98: PDCCH-ServingCellConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDCCH-ServingCellConfig ::= SEQUENCE {			
slotFormatIndicator	Not present		
}			

– *PDCP-Config***Table 4.6.3-99: PDCP-Config**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDCP-Config ::= SEQUENCE {			
drb SEQUENCE {			
discardTimer	infinity		
pdcp-SN-Size-UL	len18bits		
pdcp-SN-Size-DL	len18bits		
headerCompression CHOICE {			
notUsed	NULL		
}			
integrityProtection	Not present		
statusReportRequired	true	AM is default	
	Not present		UM
outOfOrderDelivery	Not present		
}			
drb	Not present		SRB, Split_SRB
moreThanOneRLC	Not present		
moreThanOneRLC SEQUENCE {			Split, Split_SRB, NR_split
primaryPath SEQUENCE {			
cellGroup	CellGroupId 0	MCG path	Split_SRB, NR_split
logicalChannel	LogicalChannelIdentity		
}			
ul-DataSplitThreshold	infinity		
	Not present		Split_SRB
pdcp-Duplication	false		
	Not present	one UL path	Split_SRB
}			
t-Reordering	Not present		
}			

Condition	Explanation
Split	More than one RLC
SRB	SRB
UM	RLC UM DRB
Split_SRB	SRB with more than one RLC
NR_split	MCG and split for NR-DC.

– *PDSCH-Config*

Table 4.6.3-100: *PDSCH-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPDSCH	0		
dmrs-DownlinkForPDSCH-MappingTypeA CHOICE {			
setup	DMRS-DownlinkConfig		
}			
dmrs-DownlinkForPDSCH-MappingTypeB	Not present		
tci-StatesToAddModList SEQUENCE(SIZE (1..	1 entry		
maxNrofTCI-States)) OF TCI-State {			
TCI-State[1]	TCI-State	entry 1	
}			
tci-StatesToReleaseList	Not present		
vrbs-ToPRB-Interleaver	Not present		
resourceAllocation	resourceAllocationType1		Used_for_Type0
	resourceAllocationType0		
pdsch-TimeDomainAllocationList	Not present		
pdsch-AggregationFactor	Not present		
rateMatchPatternToAddModList	Not present		
rateMatchPatternToReleaseList	Not present		
rateMatchPatternGroup1	Not present		
rateMatchPatternGroup2	Not present		
rbg-Size	config1		
mcs-Table	Not present	qam64 per default	
maxNrofCodeWordsScheduledByDCI	Not present		
prb-BundlingType CHOICE {			
staticBundling SEQUENCE {			
bundleSize	wideband		
}			
}			
zp-CSI-RS-ResourceToAddModList	Not present		
zp-CSI-RS-ResourceToReleaseList	Not present		
aperiodic-ZP-CSI-RS-ResourceSetsToAddModList	Not present		
aperiodic-ZP-CSI-RS-ResourceSetsToReleaseList	Not present		
sp-ZP-CSI-RS-ResourceSetsToAddModList	Not present		
sp-ZP-CSI-RS-ResourceSetsToReleaseList	Not present		
p-ZP-CSI-RS-ResourceSet	Not present		
}			

Condition	Explanation
Used_for_Type0	Used for RF performance test cases

– *PDSCH-ConfigCommon*

Table 4.6.3-101: *PDSCH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDSCH-ConfigCommon ::= SEQUENCE {			
pdsch-TimeDomainAllocationList	PDSCH-TimeDomainResourceAllocationList		
}			

– *PDSCH-ServingCellConfig*

Table 4.6.3-102: PDSCH-ServingCellConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDSCH-ServingCellConfig ::= SEQUENCE {			
codeBlockGroupTransmission	Not present		
xOverhead	Not present		
nrofHARQ-ProcessesForPDSCH	n16		
	Not present	Default value: 8 HARQ processes	SIG
pucch-Cell	Not present		
}			

– *PDSCH-TimeDomainResourceAllocationList*

Table 4.6.3-103: PDSCH-TimeDomainResourceAllocationList

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PDSCH-TimeDomainResourceAllocationList ::= SEQUENCE(SIZE(1..maxNrofDL-Allocations)) OF PDSCH-TimeDomainResourceAllocation {	2 entries		FR1
PDSCH-TimeDomainResourceAllocation[1]		entry 1	
SEQUENCE {			
k0	Not present		
mappingType	typeA		
startSymbolAndLength	53	Start symbol(S)=2, Length(L)=12	
}			
PDSCH-TimeDomainResourceAllocation[2]		entry 2	
SEQUENCE {			
k0	Not present		
mappingType	typeA		
startSymbolAndLength	72	S=2, L=6	
}			
}			
PDSCH-TimeDomainResourceAllocationList SEQUENCE (SIZE(1..maxNrofDL-Allocations)) OF PDSCH-TimeDomainResourceAllocation {	1 entry		FR2
PDSCH-TimeDomainResourceAllocation[1]		entry 1	
SEQUENCE {			
k0	Not present		
mappingType	typeA		
startSymbolAndLength	53	S=2, L=12	
}			
}			

– *PHR-Config***Table 4.6.3-104: *PHR-Config***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PHR-Config ::= CHOICE {			
setup SEQUENCE {			
phr-PeriodicTimer	sf10		
phr-ProhibitTimer	sf0		
phr-Tx-PowerFactorChange	dB1		
multiplePHR	false		MR-DC OR NR-CA
	true		
dummy	false		
Phr-Type2OtherCell	false		
phr-ModeOtherCG	real		
}			
}			

Condition	Explanation
MR-DC	EN-DC, NGEN-DC, NE-DC or NR-DC.
NR-CA	UL CA for NR

– *PhysCellId***Table 4.6.3-105: *PhysCellId***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PhysCellId	Set according to table 4.4.2-2 for the NR Cell.		

– *PhysicalCellGroupConfig*

Table 4.6.3-106: *PhysicalCellGroupConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PhysicalCellGroupConfig ::= SEQUENCE {			
harq-ACK-SpatialBundlingPUCCH	Not present		
harq-ACK-SpatialBundlingPUSCH	Not present		
p-NR-FR1	P-Max		
pdsch-HARQ-ACK-Codebook	dynamic		
tpc-SRS-RNTI	Not present		
tpc-PUCCH-RNTI	Not present		
tpc-PUSCH-RNTI	Not present		
sp-CSI-RNTI	Not present		
cs-RNTI	Not present		
dcp-Config-r16	Not present		
dcp-Config-r16 CHOICE {			DCP
setup SEQUENCE {			
ps-RNTI-r16	RNTI-Value		
ps-Offset-r16	120		
sizeDCI-2-6-r16	6		
ps-PositionDCI-2-6-r16	0		
ps-WakeUp-r16	Not present		
ps-TransmitPeriodicL1-RSRP-r16	Not present		
ps-TransmitOtherPeriodicCSI-r16	Not present		
}			
}			
harq-ACK-SpatialBundlingPUCCH-secondaryPUCCHgroup-r16	Not present		
harq-ACK-SpatialBundlingPUSCH-secondaryPUCCHgroup-r16	Not present		
pdsch-HARQ-ACK-Codebook-secondaryPUCCHgroup-r16	Not present		
p-NR-FR2-r16	Not present		
p-UE-FR2-r16	Not present		
nrdc-PCmode-FR1-r16	Not present		
nrdc-PCmode-FR2-r16	Not present		
pdsch-HARQ-ACK-Codebook-r16	Not present		
nfi-TotalDAI-Included-r16	Not present		
ul-TotalDAI-Included-r16	Not present		
pdsch-HARQ-ACK-OneShotFeedback-r16	Not present		
pdsch-HARQ-ACK-OneShotFeedbackNDI-r16	Not present		
pdsch-HARQ-ACK-OneShotFeedbackCBG-r16	Not present		
downlinkAssignmentIndexDCI-0-2-r16	Not present		
downlinkAssignmentIndexDCI-1-2-r16	Not present		
pdsch-HARQ-ACK-CodebookList-r16	Not present		
ackNackFeedbackMode-r16	Not present		
pdccch-BlindDetectionCA-CombIndicator-r16	Not present		
pdccch-BlindDetection2-r16	Not present		
pdccch-BlindDetection3-r16	Not present		
bdFactorR-r16	Not present		
}			

Condition	Explanation
DCP	This condition applies when DCP is configured

– *PLMN-Identity***Table 4.6.3-107: *PLMN-Identity***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PLMN-Identity ::= SEQUENCE {			
mcc SEQUENCE (SIZE (3)) OF MCC-MNC-Digit	See table 4.4.2-3		
mnc SEQUENCE (SIZE (2..3)) OF MCC-MNC-Digit	See table 4.4.2-3		
}			

– *PLMN-IdentityInfoList***Table 4.6.3-108: *PLMN-IdentityInfoList***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PLMN-IdentityInfoList ::= SEQUENCE (SIZE (1..maxPLMN)) OF PLMN-IdentityInfo {	1 entry		
PLMN-IdentityInfo[1] SEQUENCE {		entry 1	
plmn-IdentityList SEQUENCE (SIZE (1..maxPLMN)) OF PLMN-Identity {	1 entry		
PLMN-Identity[1]	PLMN-Identity	entry 1	
}			
trackingAreaCode	TrackingAreaCode		
ranac	RAN-AreaCode		
cellIdentity	CellIdentity		
cellReservedForOperatorUse	notReserved		
}			
}			

– *PLMN-IdentityList2***Table 4.6.3-108A: *PLMN-IdentityList2***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PLMN-IdentityList2-r16 ::= SEQUENCE {			
FFS			
}			

– *PRB-Id***Table 4.6.3-109: *PRB-Id***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PRB-Id	0 Set to value of the <i>L_RBs</i> - <i>nrofPRBs</i> where <i>L_RBs</i> is found in Table 4.3.1.0D-1 or Table 4.3.1.0D-2 for the bandwidth and SCS configured and <i>nrofPRBs</i> is defined for the corresponding <i>PUCCH-Resource</i> (1 otherwise).		secondHopP RB

Condition	Explanation
secondHopPRB	The IE secondHopPRB in PUCCH-Resource is now set.

– *PTRS-DownlinkConfig*

Table 4.6.3-110: PTRS-DownlinkConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PTRS-DownlinkConfig ::= SEQUENCE {			
frequencyDensity	Not present		
timeDensity	Not present		
epre-Ratio	0		
resourceElementOffset	Not present		
}			

– *PTRS-UplinkConfig*

Table 4.6.3-111: PTRS-UplinkConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PTRS-UplinkConfig ::= SEQUENCE {			
transformPrecoderDisabled SEQUENCE {			
frequencyDensity	Not present		
timeDensity	Not present		
maxNrofPorts	n1		
resourceElementOffset	Not present		
ptrs-Power	p00		
}			
transformPrecoderEnabled SEQUENCE {			
sampleDensity SEQUENCE (SIZE (5)) OF INTEGER {	5 entries		
INTEGER[1]	1	entry 1	
INTEGER[2]	8	entry 2	
INTEGER[3]	32	entry 3	
INTEGER[4]	32	entry 4	
INTEGER[5]	108	entry 5	
}			
timeDensityTransformPrecoding	Not present		
}			
}			

– *PUCCH-Config*

Table 4.6.3-112: *PUCCH-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-Config ::= SEQUENCE {			
resourceSetToAddModList SEQUENCE (SIZE (1..maxNrofPUCCH-ResourceSets)) OF PUCCH-ResourceSet {	2 entries		
PUCCH-ResourceSet[1] SEQUENCE {		entry 1	
pucch-ResourceSetId	0		
resourceList SEQUENCE (SIZE (0..maxNrofPUCCH-ResourcesPerSet)) OF PUCCH-ResourceId {	8 entries		
PUCCH-ResourceId[1]	0	entry 1	
PUCCH-ResourceId[2]	1	entry 2	
PUCCH-ResourceId[3]	2	entry 3	
PUCCH-ResourceId[4]	3	entry 4	
PUCCH-ResourceId[5]	4	entry 5	
PUCCH-ResourceId[6]	5	entry 6	
PUCCH-ResourceId[7]	6	entry 7	
PUCCH-ResourceId[8]	7	entry 8	
}			
maxPayloadSize	Not present		
}			
PUCCH-ResourceSet[2] SEQUENCE {		entry 2	
pucch-ResourceSetId	1		
resourceList SEQUENCE (SIZE (8..maxNrofPUCCH-ResourcesPerSet)) OF PUCCH-ResourceId {	8 entries		
PUCCH-ResourceId[1]	8	entry 1	
PUCCH-ResourceId[2]	9	entry 2	
PUCCH-ResourceId[3]	10	entry 3	
PUCCH-ResourceId[4]	11	entry 4	
PUCCH-ResourceId[5]	12	entry 5	
PUCCH-ResourceId[6]	13	entry 6	
PUCCH-ResourceId[7]	14	entry 7	
PUCCH-ResourceId[8]	15	entry 8	
}			
maxPayloadSize	Not present		
}			
}			
resourceSetToReleaseList	Not present		
resourceToAddModList SEQUENCE (SIZE (1..maxNrofPUCCH-Resources)) OF PUCCH-Resource {	16 entries		
PUCCH-Resource[1] SEQUENCE {		entry 1	
pucch-ResourceId	0		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	0		
}			
}			
}			
}			
PUCCH-Resource[2] SEQUENCE {		entry 2	
pucch-ResourceId	1		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		

secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	2		
}			
}			
PUCCH-Resource[3] SEQUENCE {		entry 3	
pucch-ResourceId	2		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	4		
}			
}			
PUCCH-Resource[4] SEQUENCE {		entry 4	
pucch-ResourceId	3		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	6		
}			
}			
PUCCH-Resource[5] SEQUENCE {		entry 5	
pucch-ResourceId	4		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	8		
}			
}			
PUCCH-Resource[6] SEQUENCE {		entry 6	
pucch-ResourceId	5		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	10		
}			
}			
}			

PUCCH-Resource[7] SEQUENCE {		entry 7	
pucch-ResourceId	6		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	12		
}			
}			
PUCCH-Resource[8] SEQUENCE {		entry 8	
pucch-ResourceId	7		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format1 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	14		
startingSymbolIndex	0		
timeDomainOCC	0		
}			
}			
PUCCH-Resource[9] SEQUENCE {		entry 9	
pucch-ResourceId	8		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		
nrofSymbols	2		
startingSymbolIndex	0		
}			
}			
PUCCH-Resource[10] SEQUENCE {		entry 10	
pucch-ResourceId	9		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		
nrofSymbols	2		
startingSymbolIndex	2		
}			
}			
PUCCH-Resource[11] SEQUENCE {		entry 11	
pucch-ResourceId	10		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		

nrofSymbols	2		
startingSymbolIndex	4		
}			
}			
PUCCH-Resource[12] SEQUENCE {		entry 12	
pucch-ResourceId	11		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		
nrofSymbols	2		
startingSymbolIndex	6		
}			
}			
}			
PUCCH-Resource[13] SEQUENCE {		entry 13	
pucch-ResourceId	12		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format2 SEQUENCE {			
nrofPRB	6		
nrofSymbols	2		
startingSymbolIndex	8		
}			
}			
}			
PUCCH-Resource[14] SEQUENCE {		entry 14	
pucch-ResourceId	13		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format2 SEQUENCE {			
nrofPRBsinitial	6		
nrofSymbols	2		
startingSymbolIndex	10		
}			
}			
}			
PUCCH-Resource[15] SEQUENCE {		entry 15	
pucch-ResourceId	14		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition secondHopPRB		
format CHOICE {			
format2 SEQUENCE {			
nrofPRB	6		
nrofSymbols	2		
startingSymbolIndex	12		
}			
}			
}			
PUCCH-Resource[16] SEQUENCE {		entry 16	
pucch-ResourceId	15		
startingPRB	PRB-Id		
intraSlotFrequencyHopping	enabled		
secondHopPRB	PRB-Id with condition		

	secondHopPRB		
format CHOICE {			
format3 SEQUENCE {			
nrofPRBs	1		
nrofSymbols	14		
startingSymbolIndex	0		
}			
}			
}			
resourceToReleaseList	Not present		
format1 CHOICE {			
setup SEQUENCE {			
interslotFrequencyHopping	enabled		
additionalDMRS	Not Present		
maxCodeRate	Not Present		
nrofSlots	Not present		
pi2BPSK	Not present		
simultaneousHARQ-ACK-CSI	Not Present		
}			
}			
format2 CHOICE {			
setup SEQUENCE {			
interslotFrequencyHopping	Not Present		
additionalDMRS	Not Present		
maxCodeRate	zeroDot25		
nrofSlots	Not present		
pi2BPSK	Not present		
simultaneousHARQ-ACK-CSI	True		
}			
}			
format3 CHOICE {			
setup SEQUENCE {			
interslotFrequencyHopping	enabled		
additionalDMRS	True		
maxCodeRate	zeroDot25		
nrofSlots	Not present		
pi2BPSK	Not present		
simultaneousHARQ-ACK-CSI	true		
}			
}			
format4	Not present		
schedulingRequestResourceToAddModList	1 entry		
SEQUENCE (SIZE (1..maxNrofSR-Resources)) OF			
SchedulingRequestResourceConfig {			
SchedulingRequestResourceConfig[1]	SchedulingRequestResourceConfig	entry 1	
}			
schedulingRequestResourceToReleaseList	Not present		
multi-CSI-PUCCH-ResourceList	Not present		
dl-DataToUL-ACK SEQUENCE (SIZE (1..8)) OF	8 entries		
INTEGER {			
INTEGER[1]	2	entry 1	
INTEGER[2]	3	entry 2	
INTEGER[3]	4	entry 3	
INTEGER[4]	5	entry 4	
INTEGER[5]	6	entry 5	
INTEGER[6]	7	entry 6	
INTEGER[7]	8	entry 7	
INTEGER[8]	9	entry 8	
}			
spatialRelationInfoToAddModList	Not present		
spatialRelationInfoToReleaseList	Not present		
pucch-PowerControl	PUCCH-PowerControl		
}			

– *PUCCH-ConfigCommon*

Table 4.6.3-113: *PUCCH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-ConfigCommon ::= SEQUENCE {			
pucch-ResourceCommon	0		
pucch-GroupHopping	enable		
hoppingId	Not present		
p0-nominal	-90		
}			

– *PUCCH-ConfigurationList*

Table 4.6.3-113A: *PUCCH-ConfigurationList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-ConfigurationList-r16 ::= SEQUENCE {			
FFS			
}			

– *PUCCH-PathlossReferenceRS-Id*

Table 4.6.3-114: *PUCCH-PathlossReferenceRS-Id*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-PathlossReferenceRS-Id	0		

– *PUCCH-PowerControl***Table 4.6.3-115: PUCCH-PowerControl**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-PowerControl ::= SEQUENCE {			
deltaF-PUCCH-f0	0		
deltaF-PUCCH-f1	0		
deltaF-PUCCH-f2	0		
deltaF-PUCCH-f3	0		
deltaF-PUCCH-f4	0		
p0-Set	Not present		
pathlossReferenceRSs SEQUENCE (SIZE (1..maxNrofPUCCH-PathlossReferenceRSs)) OF PUCCH-PathlossReferenceRS {	1 entry		
PUCCH-PathlossReferenceRS[1] SEQUENCE {		entry 1	
pucch-PathlossReferenceRS-Id	PUCCH-PathlossReferenceRS-Id		
referenceSignal CHOICE {			
ssb-Index	SSB-Index		
}			
}			
}			
twoPUCCH-PC-AdjustmentStates	Not present		
}			

– *PUCCH-SpatialRelationInfo***Table 4.6.3-116: PUCCH-SpatialRelationInfo**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-SpatialRelationInfo ::= SEQUENCE {			
pucch-SpatialRelationInfoId	1		
servingCellId	ServCellIndex		
referenceSignal CHOICE {			
ssb-Index	SSB-Index		
}			
pucch-PathlossReferenceRS-Id	PUCCH-PathlossReferenceRS-Id		
p0-PUCCH-Id	1		
closedLoopIndex	i0		
}			

– *PUCCH-SpatialRelationInfo-Id***Table 4.6.3-116A: PUCCH-SpatialRelationInfo-Id**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-SpatialRelationInfoId ::= SEQUENCE {			
FFS			
}			

– *PUCCH-TPC-CommandConfig*

Table 4.6.3-117: PUCCH-TPC-CommandConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-TPC-CommandConfig ::= SEQUENCE {			
FFS			
}			

– *PUSCH-Config*

Table 4.6.3-118: PUSCH-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPUSCH	Not present		
txConfig	Not Present		Short_DCI
	codebook		
dmrs-UplinkForPUSCH-MappingTypeA CHOICE {			
setup	DMRS-UplinkConfig		
}			
dmrs-UplinkForPUSCH-MappingTypeB	Not present		
pusch-PowerControl	PUSCH-PowerControl		
frequencyHopping	Not present		
frequencyHoppingOffsetLists	Not present		
resourceAllocation	resourceAllocationType1		
pusch-TimeDomainAllocationList	Not present		
pusch-AggregationFactor	Not present		
mcs-Table	Not present		
mcs-TableTransformPrecoder	Not present		
transformPrecoder	enabled		TRANSFORM_PRECODER_ENABLED
	Not present	TRANSFORM_PRECODER_DISABLED	
codebookSubset	Not present		Short_DCI
	nonCoherent		
maxRank	Not present		Short_DCI
	1		
	2		2TX_UL_MIMO
rbg-Size	Not present		
uci-OnPUSCH CHOICE {			
setup SEQUENCE {			
betaOffsets CHOICE {			
semiStatic	BetaOffsets		
}			
scaling	f1		
}			
}			
tp-pi2BPSK	Not present		
}			

Condition	Explanation
TRANSFORM_PRECODER_ENABLED	Transform precoding is enabled (DFT-s-OFDM UL waveform is configured)
2TX_UL_MIMO	UL-MIMO test cases with 2 Tx antenna ports
Short_DCI	Used in test scenarios requiring DCI formats 0-0 and 1-0 on USS

– *PUSCH-ConfigCommon*

Table 4.6.3-119: *PUSCH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUSCH-ConfigCommon ::= SEQUENCE {			
groupHoppingEnabledTransformPrecoding	Not present		
pusch-TimeDomainAllocationList	PUSCH-TimeDomainResourceAllocationList		
msg3-DeltaPreamble	1		
p0-NominalWithGrant	-90		
}			

– *PUSCH-PowerControl*

Table 4.6.3-120: *PUSCH-PowerControl*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUSCH-PowerControl ::= SEQUENCE {			
tpc-Accumulation	Not present		
msg3-Alpha	alpha08		
p0-NominalWithoutGrant	-90		
p0-AlphaSets SEQUENCE (SIZE (1..maxNrofP0-PUSCH-AlphaSets)) OF P0-PUSCH-AlphaSet {	1 entry		
P0-PUSCH-AlphaSet[1] SEQUENCE {		entry 1	
p0-PUSCH-AlphaSetId	0		
p0	0		
alpha	alpha08		
}			
}			
pathlossReferenceRSToAddModList SEQUENCE (SIZE (1..maxNrofPUSCH-PathlossReferenceRSs)) OF PUSCH-PathlossReferenceRS {	1 entry		
PUSCH-PathlossReferenceRS[1] SEQUENCE {		entry 1	
pusch-PathlossReferenceRS-Id	0		
referenceSignal CHOICE{			
ssb-Index	SSB-Index		
}			
}			
}			
pathlossReferenceRSToReleaseList	Not present		
twoPUSCH-PC-AdjustmentStates	Not present		
deltaMCS	Not present		
sri-PUSCH-MappingToAddModList SEQUENCE (SIZE (1..maxNrofSRI-PUSCH-Mappings)) OF SRI-PUSCH-PowerControl {	1 entry		
SRI-PUSCH-PowerControl[1] SEQUENCE {		entry 1	
sri-PUSCH-PowerControlId	0		
sri-PUSCH-PathlossReferenceRS-Id	0		
sri-P0-PUSCH-AlphaSetId	0		
sri-PUSCH-ClosedLoopIndex	i0		
}			
}			
sri-PUSCH-MappingToReleaseList	Not present		
}			

– *PUSCH-ServingCellConfig*

Table 4.6.3-121: *PUSCH-ServingCellConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUSCH-ServingCellConfig ::= SEQUENCE {			
codeBlockGroupTransmission	Not present		
rateMatching	Not present		
xOverhead	Not present		
}			

– *PUSCH-TimeDomainResourceAllocationList*

Table 4.6.3-122: *PUSCH-TimeDomainResourceAllocationList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUSCH-TimeDomainResourceAllocationList ::= SEQUENCE (SIZE(1..maxNrofUL-Allocations)) OF PUSCH-TimeDomainResourceAllocation {	2 entries		
PUSCH-TimeDomainResourceAllocation[1] SEQUENCE {		entry 1	
k2	4		
	2		(RF OR RRM) AND (FR1 AND (SCS15 OR SCS30)) OR (FR2 AND SCS60 AND (DL OR RRM))
	3		((RF AND DL) OR RRM) AND FR2 AND SCS120
	6		((RF AND DL) OR RRM) AND FR1 AND SCS60
	4		RF AND FR2 AND SCS60 AND UL
	8		RF_FR2_120 kHz_UL
mappingType	typeA		
startSymbolAndLength	27	Start symbol(S)=0, Length(L)=14	
}			
PUSCH-TimeDomainResourceAllocation[2] SEQUENCE {		entry 2 addressed by Msg3 PUSCH time resource allocation field of the Random Access Response acc. to TS 38.213 [22] Table 8.2-1.	
k2	Not present		
	2	K2+ Δ =4 acc. to TS 38.214 [21] Table 6.1.2.1.1-5 (NOTE 1)	FR1 AND SCS15
	6	K2+ Δ =9 acc. to TS 38.214 [21] Table 6.1.2.1.1-5 (NOTE 1)	FR1 AND SCS30
	3	K2+ Δ =9 acc. to TS 38.214 [21] Table 6.1.2.1.1-5 (NOTE 1)	FR2
mappingType	typeA		
startSymbolAndLength	27	Start symbol(S)=0, Length(L)=14	
}			
}			

NOTE 1: Values are chosen so that first slot of a TDD-UL-DL slot configuration period can be used for the Random

Access Response and the last slot (of the same or another period) for the corresponding Msg3.

Condition	Explanation
DL	RF Rx measurements.
UL	RF UL measurements.

– *PUSCH-TPC-CommandConfig*

Table 4.6.3-123: PUSCH-TPC-CommandConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUSCH-TPC-CommandConfig ::= SEQUENCE {			
tpc-Index	Not present		
tpc-IndexSUL	Not present		
targetCell	Not present		
}			

– *Q-OffsetRange*

Table 4.6.3-124: Q-OffsetRange

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
Q-OffsetRange	dB0		

– *Q-QualMin*

Table 4.6.3-125: Q-QualMin

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
Q-QualMin	FFS		

– *Q-RxLevMin*

Table 4.6.3-126: Q-RxLevMin

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
Q-RxLevMin	FFS		

filterCoefficientRS-SINR	FilterCoefficient		
}			
}			

Condition	Explanation
INTER-RAT	Configuration for EUTRA inter-RAT measurements

– *RACH-ConfigCommon*

Table 4.6.3-128: RACH-ConfigCommon

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RACH-ConfigCommon ::= SEQUENCE {			
rach-ConfigGeneric	RACH-ConfigGeneric		
totalNumberOfRA-Preambles	Not present		
ssb-perRACH-OccasionAndCB-PreamblesPerSSB CHOICE {			
one	n8		FR1
	n4		FR2
}			
groupBconfigured	Not present		
ra-ContentionResolutionTimer	sf64		
rsrp-ThresholdSSB	RSRP-Range		
rsrp-ThresholdSSB-SUL	Not present		
	RSRP-Range		SUL
prach-RootSequenceIndex CHOICE {			
l139	Set according to table 4.4.2-2 for the NR Cell.		
}			
msg1-SubcarrierSpacing	SubcarrierSpacing		
restrictedSetConfig	unrestrictedSet		
msg3-transformPrecoder	Not present	transform precoding is disabled for Msg3 PUSCH transmission and any PUSCH transmission scheduled with DCI format 0_0	
}			

Condition	Explanation
SUL	Supplementary uplink

– *RACH-ConfigCommonTwoStepRA*

Table 4.6.3-128A: RACH-ConfigCommonTwoStepRA

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RACH-ConfigCommonTwoStepRA-r16 ::= SEQUENCE {			
FFS			
}			

– *RACH-ConfigDedicated*

Table 4.6.3-129: RACH-ConfigDedicated

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RACH-ConfigDedicated ::= SEQUENCE {			
cfra SEQUENCE {			
occasions SEQUENCE {			
rach-ConfigGeneric	RACH-ConfigGeneric		
ssb-perRACH-Occasion	one		
}			
resources CHOICE {			
ssb SEQUENCE {			
ssb-ResourceList SEQUENCE (SIZE(1..maxRA-SSB-Resources)) OF CFRA-SSB-Resource {	1 entry		
CFRA-SSB-Resource[1] SEQUENCE {		entry 1	
ssb	SSB-Index		
ra-PreambleIndex	8		
}			
}			
ra-ssb-OccasionMaskIndex	0		
}			
}			
}			
}			
ra-Prioritization	Not present		
}			

– *RACH-ConfigGeneric*

Table 4.6.3-130: RACH-ConfigGeneric

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RACH-ConfigGeneric ::= SEQUENCE {			
prach-ConfigurationIndex	160		FR1
	149		FR2
msg1-FDM	four		FR1
	one		FR2
msg1-FrequencyStart	0		
zeroCorrelationZoneConfig	15		
preambleReceivedTargetPower	-118		
preambleTransMax	n7		
powerRampingStep	dB4		
ra-ResponseWindow	sl20		
	sl10		FR1 AND SCS15
}			

– *RACH-ConfigGenericTwoStepRA*

Table 4.6.3-130A: RACH-ConfigGenericTwoStepRA

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RACH-ConfigGenericTwoStepRA-r16 ::= SEQUENCE {			
FFS			
}			

–
 RA-Prioritization

Table 4.6.3-131: *RA-Prioritization*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RA-Prioritization	0		

*RadioBearerConfig***Table 4.6.3-132: RadioBearerConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
srb-ToAddModList	Not present		
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SRB-ToAddMod {	1 entry		SRB1
SRB-ToAddMod[1] SEQUENCE {		entry 1	
SRB-Identity	SRB-Identity with condition SRB1		
reestablishPDCP	Not present		
discardOnPDCP	Not present		
pdcpc-Config	Not present	Default	
}			
}			
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SRB-ToAddMod {	1 entry		SRB2, RESUME
SRB-ToAddMod[1] SEQUENCE {		entry 1	
SRB-Identity	SRB-Identity with condition SRB2		
reestablishPDCP	Not present true		RESUME, REEST
discardOnPDCP	Not present		
pdcpc-Config	Not present	Default	
}			
}			
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SRB-ToAddMod {	1 entry		SRB3
SRB-ToAddMod[1] SEQUENCE {		entry 1	
srb-Identity	SRB-Identity with condition SRB3		
reestablishPDCP	Not present		
discardOnPDCP	Not present		
pdcpc-Config	Not present	Default	
}			
}			
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SRB-ToAddMod {	2 entries		SRB_NR_PDCP
SRB-ToAddMod[1] SEQUENCE {		entry 1	
SRB-Identity	SRB-Identity with condition SRB1		
reestablishPDCP	Not present true		SRB_NR_PDCP AND Re-establish_PDCP
discardOnPDCP	Not present		
pdcpc-Config	Not present	Default	
}			
SRB-ToAddMod[2] SEQUENCE {		entry 2	
SRB-Identity	SRB-Identity with condition SRB2		
reestablishPDCP	Not present true		SRB_NR_PDCP AND Re-establish_PDCP
discardOnPDCP	Not present		
pdcpc-Config	Not present	Default	
}			
}			
srb3-ToRelease	Not present		

drb-ToAddModList	Not present		
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF DRB-ToAddMod {	1 entry		EN-DC_DRB
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
eps-BearerIdentity	6		
}			
drb-Identity	DRB-Identity using condition DRB2		
reestablishPDCP	Not present true		EN-DC_DRB AND Re- establish_PD CP
recoverPDCP	Not present true		EN-DC_DRB AND Recover_PD CP
pdcp-Config	PDCP-Config		
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF DRB-ToAddMod {	1 entry		MCG_NR_P DCP
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
eps-BearerIdentity	12	EPS Bearer Id of default MCG DRB	
}			
drb-Identity	8	DRB Id of default MCG DRB	
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		
}			
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF DRB-ToAddMod {	1 entry		DRB1
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config		
}			
drb-Identity	DRB-Identity using condition DRB1		
reestablishPDCP	Not present true		DRB1 AND Re- establish_PD CP
recoverPDCP	Not present true		DRB1 AND Recover_PD CP
pdcp-Config	PDCP-Config		
daps-Config-r16	Not present true		DRB1 AND DAPS_PDCP
}			
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF DRB-ToAddMod {	1 entry		DRB2
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config		
}			
drb-Identity	DRB-Identity using		

	condition DRB2		
reestablishPDCP	Not present		
	true		DRB2 AND Re-establish_PDCP
recoverPDCP	Not present		
	true		DRB2 AND Recover_PDCP
pdcp-Config	PDCP-Config		
daps-Config-r16	Not present		
}			
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF DRB-ToAddMod {	n entries	n is the number of DRBs established before RRC resume or RRC re-establishment	RESUME, REEST
DRB-ToAddMod[k, k=1..n] SEQUENCE {		entry [k, k=1..n]	
cnAssociation	Not present		
drb-Identity	DRB-Identity with condition DRBk		
reestablishPDCP	true		
recoverPDCP	Not present		
pdcp-Config	Not present		
daps-Config-r16	Not present		
}			
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF DRB-ToAddMod {	1 entry		DRBn
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config with condition NR-DC		
}			
drb-Identity	DRB-Identity with condition DRBn		
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		
	PDCP-Config with condition Split		Split
}			
}			
drb-ToReleaseList	Not present		
securityConfig	Not present		SRB1
securityConfig SEQUENCE {			
securityAlgorithmConfig	SecurityAlgorithmConfig		
keyToUse	master		
	secondary		SRB3, EN-DC_DRB, SecondaryKeys
}			
}			

Condition	Explanation
SRB3	Establishment of SRB3
MCG_NR_PDCP	EN-DC MCG DRB configured or reconfigured with NR PDCP
SRB_NR_PDCP	EN-DC SRB1 and SRB2 configured with NR PDCP
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
DRB1	Establishment of DRB1
DRB2	Establishment of DRB2
DRBn	Establishment of DRBn
EN-DC_DRB	EN-DC DRB configured on SCG
Re-establish_PDCP	Re-establishment of PDCP
Recover_PDCP	Recovery of PDCP
RESUME	Used in RRCResume Message
REEST	The first RRCReconfiguration message after successful completion of the RRC re-establishment procedure.
SecondaryKeys	NR-DC SCG or MCG DRB configured or reconfigured with secondary security keys
Split	Split PDCP: more than one RLC
DAPS_PDCP	Used when the bearer is configured as DAPS bearer

– *RadioLinkMonitoringConfig*

Table 4.6.3-133: RadioLinkMonitoringConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RadioLinkMonitoringConfig ::= SEQUENCE {			
failureDetectionResourcesToAddModList	1 entry		
SEQUENCE (SIZE(1..maxNrofFailureDetectionResources)) OF			
RadioLinkMonitoringRS {			
RadioLinkMonitoringRS[1] SEQUENCE {		entry 1	
radioLinkMonitoringRS-Id	RadioLinkMonitoringRS-Id		
purpose	rlf		
detectionResource CHOICE {			
ssb-Index	SSB-Index		
}			
}			
}			
failureDetectionResourcesToReleaseList	Not present		
beamFailureInstanceMaxCount	Not present		
beamFailureDetectionTimer	Not present		
}			

– *RadioLinkMonitoringRS-Id*

Table 4.6.3-134: RadioLinkMonitoringRS-Id

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RadioLinkMonitoringRS-Id	0		

– *RAN-AreaCode*

Table 4.6.3-135: *RAN-AreaCode*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RAN-AreaCode	1		

– *RateMatchPattern*

Table 4.6.3-136: *RateMatchPattern*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RateMatchPattern ::= SEQUENCE {			
rateMatchPatternId	RateMatchPatternId		
patternType CHOICE {			
controlResourceSet	ControlResourceSetId		
}			
subcarrierSpacing	SubcarrierSpacing		
dummy	semiStatic	Dummy IE value	
}			

– *RateMatchPatternId*

Table 4.6.3-137: *RateMatchPatternId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RateMatchPatternId	0		

– *RateMatchPatternLTE-CRS*

Table 4.6.3-138: *RateMatchPatternLTE-CRS*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RateMatchPatternLTE-CRS ::= SEQUENCE {			
FFS			
}			

– *ReferenceTimeInfo***Table 4.6.3-138A: ReferenceTimeInfo**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReferenceTimeInfo-r16 ::= SEQUENCE {			
time-r16 ::= SEQUENCE {			
refDays-r16	obtained from the local clock		
refSeconds-r16	obtained from the local clock		
refMilliSeconds-r16	obtained from the local clock		
refTenNanoSeconds-r16	obtained from the local clock		
}			
uncertainty-r16	not present		
timeInfoType-r16	localClock		
referenceSFN-r16	SFN of PCell		
}			

– *RejectWaitTime***Table 4.6.3-139: RejectWaitTime**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RejectWaitTime	1		

– *RepetitionSchemeConfig***Table 4.6.3-139A: RepetitionSchemeConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RepetitionSchemeConfig-r16 ::= CHOICE {			
FFS			
}			

– *ReportConfigId***Table 4.6.3-140: ReportConfigId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReportConfigId	1		

– *ReportConfigInterRAT*

Table 4.6.3-141: ReportConfigInterRAT (EUTRA-Thres, NR-Thres)

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReportConfigInterRAT ::= SEQUENCE {			
reportType CHOICE {			
periodical SEQUENCE {			PERIODICAL
reportInterval	ReportInterval		
reportAmount	infinity		
reportQuantityCell SEQUENCE {			
rsrp	true		
rsrq	true		
sinr	false		
}			
maxReportCells	8		
}			
eventTriggered SEQUENCE {			EVENT_B1 OR EVENT_B2
eventId CHOICE {			
eventB1 SEQUENCE {			EVENT_B1
b1-ThresholdEUTRA CHOICE {			
rsrp	EUTRA-Thres	INTEGER (0..97)	
}			
reportOnLeave	FALSE		
Hysteresis	0 (0 dB)	The actual value is field value * 0.5 dB	
timeToTrigger	ms0		
}			
eventB2 SEQUENCE {			EVENT_B2
b2-Threshold1 CHOICE {			
rsrp	NR-Thres	INTEGER(0..127)	
}			
b2-Threshold2EUTRA CHOICE {			
rsrp	EUTRA-Thres	INTEGER (0..97)	
}			
reportOnLeave	FALSE		
Hysteresis	3 (1.5dB)	The actual value is field value * 0.5 dB	
timeToTrigger	ms1024		
}			
}			
rsType	ssb		
reportInterval	ms120		
reportAmount	r2		
reportQuantity SEQUENCE {			
Rsrp	TRUE		
rsrq	TRUE		
sinr	FALSE		
}			
maxReportCells	8		
}			
reportCGI SEQUENCE {			CGI
cellForWhichToReportCGI	EUTRA-PhysCellId		
}			
}			
}			

Condition	Explanation
EVENT_B1	Configuration of Event B1
EVENT_B2	Configuration of Event B2
CGI	Configuration of CGI measurement
PERIODICAL	Configuration of periodical reporting

– *ReportConfigNR*

Table 4.6.3-142: *ReportConfigNR*(Thres1, Thres2)

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReportConfigNR ::= SEQUENCE {			
reportType CHOICE {			
periodical SEQUENCE {			PERIODICAL
rsType	ssb		
reportInterval	ReportInterval		
reportAmount	infinity		
reportQuantityCell SEQUENCE {			
rsrp	true		
rsrq	true		
sinr	false		
	true		pc_ss_SINR_Meas
}			
maxReportCells	8		
reportQuantityRS-Indexes	Not present		
maxNrofRS-IndexesToReport	Not present		
includeBeamMeasurements	false		
useWhiteCellList	false		
measRSSI-ReportConfig-r16	Not present		
includeCommonLocationInfo-r16	Not present		
includeBT-Meas-r16	Not present		
includeBT-Meas-r16 CHOICE {			MDT_BT
setup	BT-NameList		
}			
includeWLAN-Meas-r16	Not present		
includeWLAN-Meas-r16 CHOICE {			MDT_WLAN
setup	WLAN-NameList		
}			
includeSensor-Meas-r16	Not present		
includeSensor-Meas-r16 CHOICE {			MDT_SENSOR
setup	Sensor-NameList		
}			
ul-DelayValueConfig-r16	Not present		
ul-DelayValueConfig-r16 CHOICE {			MDT_DELAY
setup	UL-DelayValueConfig		
}			
reportAddNeighMeas-r16	Not present		
}			
eventTriggered SEQUENCE {			
eventId CHOICE {			
eventA1 SEQUENCE {			EVENT_A1
a1-Threshold CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
}			
eventA2 SEQUENCE {			EVENT_A2
a2-Threshold CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
}			

reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
}			
eventA3 SEQUENCE {			EVENT_A3
a3-Offset CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
eventA4 SEQUENCE {			EVENT_A4
a4-Threshold CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
eventA5 SEQUENCE {			EVENT_A5
a5-Threshold1 CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
a5-Threshold2 CHOICE {			
rsrp	Thres2	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
eventA6 SEQUENCE {			EVENT_A6
a6-Offset CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
}			
rsType	ssb		
reportInterval	ReportInterval		
reportAmount	r2		
reportQuantityCell SEQUENCE {			
rsrp	true		
rsrq	true		
sinr	false		

	true		pc_ss_SINR_Meas
}			
maxReportCells	8		
reportQuantityRS-Indexes	Not present		
maxNrofRS-IndexesToReport	Not present		
includeBeamMeasurements	false		
reportAddNeighMeas	Not present		
measRSSI-ReportConfig-r16	Not present		
useT312-r16	Not present		
includeCommonLocationInfo-r16	Not present		MDT
includeBT-Meas-r16	Not present		
includeBT-Meas-r16 CHOICE {			MDT_BT
setup	BT-NameList		
}			
includeWLAN-Meas-r16	Not present		
includeWLAN-Meas-r16 CHOICE {			MDT_WLAN
setup	WLAN-NameList		
}			
includeSensor-Meas-r16	Not present		
includeSensor-Meas-r16 CHOICE {			MDT_SENSOR
setup	Sensor-NameList		
}			
}			
reportCGI SEQUENCE {			CGI
cellForWhichToReportCGI	PhysCellId		
}			
condTriggerConfig SEQUENCE {			CHO, CPC
condEventId CHOICE {			
condEventA3 SEQUENCE {			CHO AND EVENT_A3
a3-Offset CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
}			
condEventA5 SEQUENCE {			CHO AND EVENT_A5
a5-Threshold1 CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
a5-Threshold2 CHOICE {			
rsrp	Thres2	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
}			
}			
rsType-r16	ssb		
}			
}			
}			

Condition	Explanation
EVENT_A1	Configuration of Event A1
EVENT_A2	Configuration of Event A2
EVENT_A3	Configuration of Event A3
EVENT_A4	Configuration of Event A4
EVENT_A5	Configuration of Event A5
EVENT_A6	Configuration of Event A6
PERIODICAL	Configuration of periodical reporting
CGI	Configuration of CGI measurement
CHO	Configuration of conditional handover
CPC	Conditional PScell change
MDT	Configuration of MDT
MDT_BT	Configuration of MDT including Bluetooth measurements
MDT_WLAN	Configuration of MDT including WLAN measurements
MDT_SENSOR	Configuration of MDT including Sensor measurements
MDT_DELAY	Configuration of UL PDCP Packet Delay per DRB

– *ReportConfigNR-SL*

Table 4.6.3-142A: ReportConfigNR-SL

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReportConfigNR-SL-r16 ::= SEQUENCE {			
reportType-r16 CHOICE {			
periodical-r16 SEQUENCE {			PERIODICAL
reportInterval-r16	ReportInterval		
reportAmount-r16	r2		
reportQuantity-r16 SEQUENCE {			
cbr-r16	true		
}			
eventTriggered-r16 SEQUENCE {			EVENT_C1, EVENT_C2
eventId-r16 CHOICE {			
eventC1 SEQUENCE {			EVENT_C1
c1-Threshold-r16	SL-CBR-r16		
hysteresis-r16	Hysteresis		
timeToTrigger-r16	TimeToTrigger		
}			
eventC2 SEQUENCE {			EVENT_C2
c2-Threshold-r16	SL-CBR-r16		
hysteresis-r16	Hysteresis		
timeToTrigger-r16	TimeToTrigger		
}			
}			
}			
}			
}			

Condition	Explanation
PERIODICAL	Configuration of periodical reporting
EVENT_C1	Configuration of Event C1
EVENT_C2	Configuration of Event C2

– *ReportConfigToAddModList*

Table 4.6.3-143: ReportConfigToAddModList

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReportConfigToAddModList ::= SEQUENCE(SIZE (1..maxReportConfigId)) OF ReportConfigToAddMod {	1 entry		
ReportConfigToAddMod[1] SEQUENCE {		entry 1	
reportConfigId	ReportConfigId		
reportConfig CHOICE {			
reportConfigNR	ReportConfigNR		
}			
}			
}			

– *ReportInterval*

Table 4.6.3-144: ReportInterval

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReportInterval	ms480		

– *ReselectionThreshold*

Table 4.6.3-145: ReselectionThreshold

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReselectionThreshold	FFS		

– *ReselectionThresholdQ*

Table 4.6.3-146: ReselectionThresholdQ

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ReselectionThresholdQ	FFS		

– *ResumeCause*

Table 4.6.3-147: ResumeCause

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ResumeCause	mt-Access		

– *RLC-BearerConfig*

Table 4.6.3-148: *RLC-BearerConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RLC-BearerConfig ::= SEQUENCE {			
logicalChannelIdentity	LogicalChannelIdentity with condition DRBn		DRBn
	LogicalChannelIdentity with condition SRB1		SRB1
	LogicalChannelIdentity with condition SRB2		SRB2
	LogicalChannelIdentity with condition SRB3		SRB3
servedRadioBearer CHOICE {			
srb-Identity	SRB-Identity with condition SRB1		SRB1
	SRB-Identity with condition SRB2		SRB2
	SRB-Identity with condition SRB3		SRB3
drb-Identity	DRB-Identity with condition DRBn		DRBn
}			
servedRadioBearer	Not present		RESUME
reestablishRLC	Not present		
	true		Re-establish_RLC, RESUME
rlc-Config	RLC-Config using condition AM		AM
	RLC-Config using condition UM.		UM
	Not present	Use default parameters as per TS 38.331 [6] clause 9.2.1	SRB1, SRB2, SRB3, RESUME
mac-LogicalChannelConfig	LogicalChannelConfig using condition HI		AM
	LogicalChannelConfig using condition LO		UM
	LogicalChannelConfig using condition SRBn	n= 1, 2, 3 for SRB1, SRB2, SRB3 resp.	SRB1, SRB2, SRB3, RESUME
}			

Condition	Explanation
AM	RLC AM DRB
UM	RLC UM DRB
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
SRB3	Establishment of SRB3
DRBn	Establishment of DRBn
Re-establish_RLC	Re-establishment of RLC
RESUME	Used in RRCResume Message

– RLC-Config

Table 4.6.3-149: RLC-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RLC-Config ::= CHOICE {			
am SEQUENCE {			AM
ul-AM-RLC SEQUENCE {			
sn-FieldLength	size18		
t-PollRetransmit	ms80		FR1
	ms30		FR2
pollPDU	p32768		
pollByte	kB750		
maxRetxThreshold	t8		
}			
dl-AM-RLC SEQUENCE {			
sn-FieldLength	size18		
t-Reassembly	ms80		FR1
	ms30		FR2
t-StatusProhibit	ms30		
}			
}			
um-Bi-Directional SEQUENCE {			UM
ul-UM-RLC SEQUENCE {			
sn-FieldLength	size12		pc_um_With LongSN
	size6		NOT pc_um_With LongSN AND pc_um_With ShortSN
}			
dl-UM-RLC SEQUENCE {			
sn-FieldLength	size12		pc_um_With LongSN
	size6		NOT pc_um_With LongSN AND pc_um_With ShortSN
t-Reassembly	ms80		FR1
	ms30		FR2
}			
}			
}			

Condition	Explanation
AM	RLC AM
UM	RLC UM

– *RLF-TimersAndConstants***Table 4.6.3-150: RLF-TimersAndConstants**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RLF-TimersAndConstants ::= SEQUENCE {			
t310	ms1000		
n310	n1		
n311	n1		
t311	ms1000		
}			

– *RNTI-Value***Table 4.6.3-151: RNTI-Value**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RNTI-Value	SS arbitrarily selects a value between '0001'H and 'FFEF'H		
	SS arbitrarily selects a value between '0001'H and 'FFEF'H different from the MCG RNTI-Value.		NR-DC_SCG

Condition	Explanation
NR-DC_SCG	Add SCG (NR-DC)

– *RSRP-Range***Table 4.6.3-152: RSRP-Range**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RSRP-Range	0	For measurements, 0 means L3 SS-RSRP<-156dBm according to Table 10.1.6.1-1 in TS 38.133 [13]. For thresholds, 0 means -156dBm.	

– *RSRQ-Range***Table 4.6.3-153: RSRQ-Range**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RSRQ-Range	0	For measurements, 0 means SS-RSRQ<-43dB according to Table 10.1.11.1-1 in TS 38.133 [14]. For thresholds, 0 means -43.5dB.	

– *RSSI-Range***Table 4.6.3-153A: RSSI-Range**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
RSSI-Range-r16	FFS		

– *SCellIndex***Table 4.6.3-154: SCellIndex**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SCellIndex	1		
	2		EN-DC

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity

– *SchedulingRequestConfig***Table 4.6.3-155: SchedulingRequestConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SchedulingRequestConfig ::= SEQUENCE {			
schedulingRequestToAddModList SEQUENCE (SIZE(1..maxNrofSR-ConfigPerCellGroup)) OF SSchedulingRequestToAddMod {	1 entry		
SchedulingRequestToAddMod[1] SEQUENCE {		entry 1	
schedulingRequestId	SchedulingRequestId		
sr-ProhibitTimer	Not present		
sr-TransMax	n16		
}			
}			
schedulingRequestToReleaseList	Not present		
}			

– *SchedulingRequestId***Table 4.6.3-156: SchedulingRequestId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SchedulingRequestId	0		

– *SchedulingRequestResourceConfig***Table 4.6.3-157: SchedulingRequestResourceConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SchedulingRequestResourceConfig ::= SEQUENCE {			
schedulingRequestResourceID	SchedulingRequestResourceID		
schedulingRequestID	SchedulingRequestId		
periodicityAndOffset CHOICE {			
sl10	9	With SCS = kHz15 results in repetition every 10 ms	SCS15
sl20	9	With SCS = kHz30 results in repetition every 10 ms	SCS30
sl40	19	With SCS = kHz60 results in repetition every 10 ms	FR1 AND SCS60
	9	With SCS = kHz60 results in repetition every 10 ms	FR2 AND SCS60
sl80	9	With SCS = kHz120 results in repetition every 10 ms	SCS120
}			
resource	0	ID of the PUCCH resource as configured by PUCCH-Config (Table 4.6.3-84)	
}			

– *SchedulingRequestResourceID***Table 4.6.3-158: SchedulingRequestResourceID**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SchedulingRequestResourceID	1		

– *ScramblingID***Table 4.6.3-159: ScramblingID**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ScramblingID	0		

– *SCS-SpecificCarrier*

Table 4.6.3-160: SCS-SpecificCarrier

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SCS-SpecificCarrier ::= SEQUENCE {			
offsetToCarrier	offsetToCarrier as defined for the DL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	DL_PointA
	offsetToCarrier as defined for the UL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	UL_PointA
	offsetToCarrier as defined for the SL frequency	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	SL_PointA
subcarrierSpacing	SubcarrierSpacing		
carrierBandwidth	carrierBandwidth as defined for the frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	
txDirectCurrentLocation	Not present		
}			

Condition	Explanation
DL_PointA	IE absoluteFrequencyPointA for downlink
UL_PointA	IE absoluteFrequencyPointA for uplink
SL_PointA	IE absoluteFrequencyPointA for sidelink

– *SDAP-Config*

Table 4.6.3-161: SDAP-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SDAP-Config ::= SEQUENCE {			
pdu-Session	The same value as the PDU session ID IE of the contained message		
sdap-HeaderDL	absent		
sdap-HeaderUL	present		
defaultDRB	true false		NR-DC
mappedQoS-FlowsToAdd SEQUENCE (SIZE (1..maxNrofQFIs)) OF QFI {	n entries		
QFI[n]	The list of QFIs of the Authorized QoS flow descriptions IE of the contained 5GSM message	entry n	
}			
mappedQoS-FlowsToRelease	Not present		
}			

Condition	Explanation
NR-DC	NR-NR Dual Connectivity

– *SearchSpace*

Table 4.6.3-162: SearchSpace

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SearchSpace ::= SEQUENCE {			
searchSpaceId	SearchSpaceId with condition CSS		CSS
	SearchSpaceId with condition USS		USS
	SearchSpaceId with condition SISS		SISS
controlResourceSetId	ControlResourceSetId		
	ControlResourceSetId with condition Common0		CSS, SISS
monitoringSlotPeriodicityAndOffset CHOICE {			
sl1	NULL		
sl10	5		SISS
}			
duration	Not present	1 slot per default	
	2		SISS
monitoringSymbolsWithinSlot	10000000000000		
nrofCandidates SEQUENCE {			
aggregationLevel1	n0		
aggregationLevel2	n4		FR1
	n3		FR2
aggregationLevel4	n2		
aggregationLevel8	n1		
aggregationLevel16	n0		
}			
searchSpaceType CHOICE {			
common SEQUENCE {			CSS, SISS
dcf-Format0-0-AndFormat1-0 SEQUENCE {			
}			
dcf-Format2-0	Not present		
dcf-Format2-1	Not present		
dcf-Format2-2	Not present		
dcf-Format2-3	Not present		
}			
ue-Specific SEQUENCE {			USS
dcf-Formats	formats0-0-And-1-0		Short_DCI
dcf-Formats	formats0-1-And-1-1		
}			
}			
}			

Condition	Explanation
CSS	Common SearchSpace
USS	UE-Specific SearchSpace
Short_DCI	Used in test scenarios requiring DCI formats 0-0 and 1-0 on USS
SISS	SearchSpace for SI

– *SearchSpaceId***Table 4.6.3-163: SearchSpaceId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SearchSpaceId	1		CSS
	2		USS
	3		SISS

Condition	Explanation
CSS	Common SearchSpace
USS	UE-Specific SearchSpace
SISS	SearchSpace for SI

– *SearchSpaceZero***Table 4.6.3-164: SearchSpaceZero**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SearchSpaceZero	0	Index addressing SearchSpace#0 parameter set in Tables 13.11 .. 13.15 of TS 38.213 [22]	

– *SecurityAlgorithmConfig***Table 4.6.3-165: SecurityAlgorithmConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SecurityAlgorithmConfig ::= SEQUENCE { cipheringAlgorithm	nea0		RF OR RRM
	Set according to PIXIT px_NR_CipheringAlgorithm	see TS 38.523-3 [23]	SIG
integrityProtAlgorithm	nia2		
	Set according to PIXIT px_NR_IntegrityProtAlgorithm	see TS 38.523-3 [23]	SIG
}			

– *SemiStaticChannelAccessConfig***Table 4.6.3-165A: SemiStaticChannelAccessConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SemiStaticChannelAccessConfig-r16 ::= SEQUENCE { FFS			
}			

– *Sensor-LocationInfo*

Table 4.6.3-165B: *Sensor-LocationInfo*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
Sensor-LocationInfo-r16 ::= SEQUENCE {			
FFS			
}			

– *ServCellIndex*

Table 4.6.3-166: *ServCellIndex*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ServCellIndex	0		
	1		EN-DC, NR-DC, SCG

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
NR-DC, SCG	Add SCG (NR-DC)

– *ServingCellConfig*

Table 4.6.3-167: *ServingCellConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
tdd-UL-DL-ConfigurationDedicated	Not present		
initialDownlinkBWP	BWP-DownlinkDedicated		
	Not present		MEAS, RESUME
downlinkBWP-ToReleaseList	Not present		
downlinkBWP-ToAddModList	Not present		
firstActiveDownlinkBWP-Id	BWP-Id		
	Not present		MEAS
bwp-InactivityTimer	Not present		
defaultDownlinkBWP-Id	BWP-Id		
	Not present		MEAS, RESUME
uplinkConfig	Not present		MEAS, No_UL
 uplinkConfig SEQUENCE {			
initialUplinkBWP	BWP-UplinkDedicated		
	BWP-UplinkDedicated with condition SUL_NUL		PUSCH_PU CCH_ON_S UL
	BWP-UplinkDedicated with condition RESUME		RESUME
uplinkBWP-ToReleaseList	Not present		
uplinkBWP-ToAddModList	Not present		
firstActiveUplinkBWP-Id	BWP-Id		
pusch-ServingCellConfig	Not present		RESUME
pusch-ServingCellConfig CHOICE {			
setup	PUSCH-ServingCellConfig		
}			
carrierSwitching	Not present		
powerBoostPi2BPSK	Not present		
uplinkChannelBW-PerSCS-List	Not present		
enablePL-RS-UpdateForPUSCH-SRS-r16	Not present		
enableDefaultBeamPL-ForPUSCH0-0-r16	Not present		
enableDefaultBeamPL-ForPUCCH-r16	Not present		
enableDefaultBeamPL-ForSRS-r16	Not present		
uplinkTxSwitching-r16	Not present		
mpr-PowerBoost-FR2-r16	Not present		
}			
supplementaryUplink	Not present		
supplementaryUplink SEQUENCE {			PUSCH_PU CCH_ON_S UL
initialUplinkBWP	BWP-UplinkDedicated		
	BWP-UplinkDedicated with condition RESUME		RESUME
uplinkBWP-ToReleaseList	Not present		
uplinkBWP-ToAddModList	Not present		
firstActiveUplinkBWP-Id	BWP-Id		
pusch-ServingCellConfig CHOICE {			
setup	PUSCH-ServingCellConfig		
}			
carrierSwitching	Not present		
powerBoostPi2BPSK	Not present		
uplinkChannelBW-PerSCS-List	Not present		
enablePL-RS-UpdateForPUSCH-SRS-r16	Not present		
enableDefaultBeamPL-ForPUSCH0-0-r16	Not present		
enableDefaultBeamPL-ForPUCCH-r16	Not present		
enableDefaultBeamPL-ForSRS-r16	Not present		

uplinkTxSwitching-r16	Not present		
mpr-PowerBoost-FR2-r16	Not present		
}			
pdccch-ServingCellConfig CHOICE {			
setup	PDCCH-ServingCellConfig		
}			
pdccch-ServingCellConfig	Not present		MEAS, RESUME
pdsch-ServingCellConfig CHOICE {			
setup	PDSCH-ServingCellConfig		
}			
pdsch-ServingCellConfig	Not present		MEAS, RESUME
csi-MeasConfig	Not present		
sCellDeactivationTimer	Not present		
crossCarrierSchedulingConfig	Not present		
tag-Id	0		
dummy1	Not present		
pathlossReferenceLinking	Not present		
servingCellMO	Not present		
	MeasObjectId		MEAS
}			

Condition	Explanation
PUSCH_PUCCH_ON_SUL	For the purpose of SUL test under condition that supplementary uplink is configured with both PUSCH and PUCCH on SUL carrier.
MEAS	A NR or EN-DC measurement is configured.
No_UL	No uplink CA
RESUME	Used in RRCResume Message

– *ServingCellConfigCommon*

Table 4.6.3-168: *ServingCellConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
<i>ServingCellConfigCommon</i> ::= SEQUENCE {			
physCellId	PhysCellId		
downlinkConfigCommon	DownlinkConfigCommon		
	DownlinkConfigCommon with condition SCell_add		SCell_add
uplinkConfigCommon	UplinkConfigCommon		
	Not present		No_UL
supplementaryUplinkConfig	Not present		
n-TimingAdvanceOffset	Not present		
ssb-PositionsInBurst CHOICE {			
shortBitmap	0100		FR1 AND SSB#1 AND (2.3GHz<FR EQ<=3GHz AND (FDD OR (TDD AND SCS15)) OR FREQ<=2.3G Hz)
	1000		FR1 AND SSB#0 AND (2.3GHz<FR EQ<=3GHz AND (FDD OR (TDD AND SCS15)) OR FREQ<=2.3G Hz)
mediumBitmap	01000000		FR1 AND SSB#1 AND (2.3GHz<FR EQ<=3GHz AND (TDD AND SCS30) OR FREQ>3GHz)
	10000000		FR1 AND SSB#0 AND (2.3GHz<FR EQ<=3GHz AND (TDD AND SCS30) OR FREQ>3GHz)
longBitmap	01000000000000000000 00000000000000000000 00000000000000000000 0		FR2 AND SSB#1
	10000000000000000000 00000000000000000000 00000000000000000000 0		FR2 AND SSB#0
}			
ssb-periodicityServingCell	ms20		
dmrs-TypeA-Position	pos2		
lte-CRS-ToMatchAround	Not present		
rateMatchPatternToAddModList	Not present		

rateMatchPatternToReleaseList	Not present		
ssbSubcarrierSpacing	SubcarrierSpacing	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1. Value SS block SCS.	
tdd-UL-DL-ConfigurationCommon	TDD-UL-DL-ConfigCommon		TDD
	Not present		FDD
ss-PBCH-BlockPower	0		
}			

Condition	Explanation
FREQ<=2.3GHz	Frequency range <= 2.3GHz
2.3GHz<FREQ<=3GHz	Frequency range > 2.3GHz and <= 3GHz
FREQ>3GHz	Frequency range > 3GHz
No UL	No uplink CA
SSB#N	Cell configured with SSB-Index set to N as defined in Table 4.4.2-2

– *ServingCellConfigCommonSIB*

Table 4.6.3-169: *ServingCellConfigCommonSIB*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommonSIB		
uplinkConfigCommon	UplinkConfigCommonSIB		
supplementaryUplink	Not present		
	UplinkConfigCommonSIB with condition SUL_SUL		SUL
n-TimingAdvanceOffset	Not present		
ssb-PositionsInBurst SEQUENCE {			
inOneGroup	'0100 0000'B	When carrier frequency is smaller than or equal to 3 GHz, only the 4 leftmost bits are valid	SSB#1
	'1000 0000'B		SSB#0
groupPresence	Not present		FR1
	'1000 0000'B		FR2
}			
ssb-PeriodicityServingCell	ms20		
tdd-UL-DL-ConfigurationCommon	TDD-UL-DL-ConfigCommon		TDD
	Not present		FDD
ss-PBCH-BlockPower	0		
}			

Condition	Explanation
SUL	Supplementary uplink
SSB#N	Cell configured with SSB-Index set to N as defined in Table 4.4.2-2

– *ShortI-RNTI-Value***Table 4.6.3-170: ShortI-RNTI-Value**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ShortI-RNTI-Value	SS arbitrarily selects a value between '00 0001'H and 'FF FFFF'H.	BIT STRING (SIZE(24))	

– *ShortMAC-I***Table 4.6.3-171: ShortMAC-I**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ShortMAC-I	The 16 least significant bits of the MAC-I calculated using the security configuration of the source PCell.		

– *SINR-Range***Table 4.6.3-172: SINR-Range**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SINR-Range	0	For measurements, 0 means SS-SINR<-23dB according to Table 10.1.16.1-1 in TS 38.133 [14]. For thresholds, 0 means -23dB.	

– *SI-RequestConfig***Table 4.6.3-172A: SI-RequestConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SI-RequestConfig ::= SEQUENCE {			
FFS			
}			

– *SI-SchedulingInfo***Table 4.6.3-173: SI-SchedulingInfo**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SI-SchedulingInfo ::= SEQUENCE {			
schedulingInfoList SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfo {	n entries See subclause 4.4.3.1		
SchedulingInfo[n] SEQUENCE {		entry n	
si-BroadcastStatus	broadcasting		
si-Periodicity	See subclause 4.4.3.1		
sib-MappingInfo SEQUENCE (SIZE (1..maxSIB)) OF SIB-TypeInfo {	n entries		
SIB-TypeInfo[1] SEQUENCE {		entry n	
type	See subclause 4.4.3.1		
valueTag	0		
areaScope	Not present		
}			
}			
}			
si-WindowLength	s80 s160		FR1 FR2
si-RequestConfig	Not present		
si-RequestConfigSUL	Not present		
systemInformationAreaID	'0000 0000 0000 0000 0000 0001'B		
}			

– *SK-Counter***Table 4.6.3-173A: SK-Counter**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SK-Counter	0		

– *SlotFormatCombinationsPerCell***Table 4.6.3-174: SlotFormatCombinationsPerCell**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SlotFormatCombinationsPerCell ::= SEQUENCE {			
FFS			
}			

– *SlotFormatIndicator***Table 4.6.3-175: SlotFormatIndicator**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SlotFormatIndicator ::= SEQUENCE {			
FFS			
}			

– *S-NSSAI***Table 4.6.3-176: S-NSSAI**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
S-NSSAI ::= CHOICE {			
FFS			
}			

– *SpeedStateScaleFactors***Table 4.6.3-177: SpeedStateScaleFactors**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SpeedStateScaleFactors ::= SEQUENCE {			
FFS			
}			

– *SPS-Config***Table 4.6.3-179: SPS-Config**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SPS-Config ::= SEQUENCE {			
FFS			
}			

– *SPS-ConfigIndex***Table 4.6.3-179A: SPS-ConfigIndex**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SPS-ConfigIndex-r16	FFS		

– *SPS-PUCCH-AN***Table 4.6.3-179B: SPS-PUCCH-AN**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SPS-PUCCH-AN-r16 ::= SEQUENCE {			
FFS			
}			

– *SPS-PUCCH-AN-List***Table 4.6.3-179C: SPS-PUCCH-AN-List**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SPS-PUCCH-AN-List-r16 ::= SEQUENCE {			
FFS			
}			

– *SRB-Identity***Table 4.6.3-180: SRB-Identity**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SRB-Identity	1		SRB1
	2		SRB2
	3		SRB3

Condition	Explanation
SRB1	SRB1
SRB2	SRB2
SRB3	SRB3

– *SRS-CarrierSwitching***Table 4.6.3-181: SRS-CarrierSwitching**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SRS-CarrierSwitching ::= SEQUENCE {			
FFS			
}			

– *SRS-Config*

Table 4.6.3-182: *SRS-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SRS-Config ::= SEQUENCE {			
srs-ResourceSetToReleaseList	Not present		
srs-ResourceSetToAddModList SEQUENCE (SIZE(0..maxNrofSRS-ResourceSets)) OF SRS-ResourceSet {	1 entry		
SRS-ResourceSet[1] SEQUENCE {		entry 1	
srs-ResourceSetId	0		
srs-ResourceIdList SEQUENCE (SIZE(1..maxNrofSRS-ResourcesPerSet)) OF SRS-ResourceId {	1 entry		
SRS-ResourceId[1]	0	entry 1	
}			
resourceType CHOICE {			
aperiodic SEQUENCE {			
aperiodicSRS-ResourceTrigger	1		
csi-RS	Not present		
slotOffset	7		FR1
	4		FR2
}			
}			
usage	codebook		
alpha	Alpha		
p0	0		
pathlossReferenceRS CHOICE {			
ssb-Index	SSB-Index		
}			
srs-PowerControlAdjustmentStates	Not present		
}			
srs-ResourceToReleaseList	Not present		
srs-ResourceToAddModList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-Resource {	1 entry		
SRS-Resource[1] SEQUENCE {		entry 1	
srs-ResourceId	0		
nrofSRS-Ports	ports2		2TX_UL_MI MO
	port1		
ptrs-PortIndex	Not present		
transmissionComb CHOICE {			
n2 SEQUENCE {			
combOffset-n2	0		
cyclicShift-n2	0		
}			
}			
resourceMapping SEQUENCE {			
startPosition	0		
nrofSymbols	n1		
repetitionFactor	n1		
}			
freqDomainPosition	0		
freqDomainShift	0		
freqHopping SEQUENCE {			
c-SRS	0		
	63		FR1_100MH Z
	17		FR2_100MH Z
b-SRS	0		

b-hop	0		
}			
groupOrSequenceHopping	groupHopping		
resourceType CHOICE {			
aperiodic SEQUENCE {			
}			
}			
sequenceId	0		
spatialRelationInfo SEQUENCE {	SRS-SpatialRelationInfo		
servingCellId	Not present		
referenceSignal CHOICE {			
ssb-Index	SSB-Index		
}			
}			
}			
tpc-Accumulation	Not present		
}			

Condition	Explanation
2TX UL MIMO	UL-MIMO test cases with 2 Tx antenna ports
FR1 100MHz	FR1 is used under the test. CBW is set to 100MHz.
FR2 100MHz	FR2 is used under the test. CBW is set to 100MHz.

– *SRS-RSRP-Range*

Table 4.6.3-182A: SRS-RSRP-Range

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SRS-RSRP-Range-r16	FFS		

– *SRS-TPC-CommandConfig*

Table 4.6.3-183: SRS-TPC-CommandConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SRS-TPC-CommandConfig ::= SEQUENCE {			
FFS			
}			

– *SSB-Index*

Table 4.6.3-184: SSB-Index

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SSB-Index	Set according to Table 4.4.2-2 for the NR Cell		

– *SSB-MTC*

Table 4.6.3-185: *SSB-MTC*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SSB-MTC ::= SEQUENCE {			
periodicityAndOffset CHOICE {			
sf20	0		
	10		SIG AND INTER-FREQ_ODD
}			
duration	sf2		FR1
	sf3		FR2
}			

Condition	Explanation
INTER-FREQ_ODD	When the (SFNoffset of inter frequency neighbour cell - SFNoffset of serving cell) is odd number. SFNoffset is defined in TS 38.523-3 [23] Table 7.1.5.2-1

Table 4.6.3-186: *SSB-MTC2*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SSB-MTC2 ::= SEQUENCE {			
FFS			
}			

– *SSB-PositionQCL-Relation*

Table 4.6.3-186A: *SSB-PositionQCL-Relation*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SSB-PositionQCL-Relation-r16	FFS		

– *SSB-ToMeasure*

Table 4.6.3-187: SSB-ToMeasure

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SSB-ToMeasure ::= CHOICE {			
shortBitmap	1100		FR1 AND (2.3GHz<FRE Q<=3GHz AND (FDD OR (TDD AND SCS15)) OR FREQ<=2.3G HZ)
mediumBitmap	11000000		FR1 AND (2.3GHz<FRE Q<=3GHz AND (TDD AND SCS30) OR FREQ>3GHz)
longBitmap	11000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000		FR2
}			

Condition	Explanation
FREQ<=2.3GHz	Frequency range <= 2.4GHz
2.3GHz<FREQ<=3GHz	Frequency range > 2.3GHz and <= 3GHz
FREQ>3GHz	Frequency range > 3GHz

– *SS-RSSI-Measurement*

Table 4.6.3-187A: SS-RSSI-Measurement

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SS-RSSI-Measurement ::= SEQUENCE {			
FFS			
}			

– *SubcarrierSpacing*

Table 4.6.3-188: SubcarrierSpacing

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SubcarrierSpacing	According to clause 6.2.3 for signalling test cases and clause 4.3.1 otherwise.		

– *TAG-Config*

Table 4.6.3-189: *TAG-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
TAG-Config ::= SEQUENCE {			
tag-ToReleaseList	Not present		
tag-ToAddModList SEQUENCE (SIZE (1..maxNrofTAGs)) OF TAG {	1 entry		
TAG[1] SEQUENCE {		entry 1	
tag-Id	0		
timeAlignmentTimer	infinity		
}			
}			
}			

– *TCI-State*

Table 4.6.3-190: *TCI-State*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
TCI-State ::= SEQUENCE {			
tci-StateId	TCI-StateId		
qcl-Type1 SEQUENCE {			
cell	Not present		
bwp-Id	Not present		
referenceSignal CHOICE {			
ssb	SSB-Index		
}			
qcl-Type	typeD		
}			
qcl-Type2	Not present		
}			

– *TCI-StateId*

Table 4.6.3-191: *TCI-StateId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
TCI-StateId	0		

– *TDD-UL-DL-ConfigCommon*

Table 4.6.3-192: TDD-UL-DL-ConfigCommon

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
TDD-UL-DL-ConfigCommon ::= SEQUENCE {			
referenceSubcarrierSpacing	SubcarrierSpacing		
pattern1 SEQUENCE {			
dl-UL-TransmissionPeriodicity	ms5		FR1
	ms0p625		SIG AND FR2
	ms2		RF AND FR2
nrofDownlinkSlots	7		(FR1 AND SCS30) OR (RF AND FR2 AND SCS120)
	3		(FR1 AND SCS15) OR (FR2 AND SCS60) OR (SIG AND FR2 AND SCS120)
	14		FR1 AND SCS60
nrofDownlinkSymbols	6		FR1 AND SCS30
	10		(FR1 AND SCS15) OR (SIG AND FR2 AND (SCS60 OR SCS120))
	12		(FR1 AND SCS60) OR (RF AND FR2 AND SCS120)
	4		RF AND FR2 AND SCS60
nrofUplinkSlots	2		FR1 AND SCS30
	1		(FR1 AND SCS15) OR (SIG AND FR2 AND (SCS60 OR SCS120))
	4		(FR1 AND SCS60) OR ((RF AND FR2 AND SCS60)
	8		RF AND FR2 AND SCS120
nrofUplinkSymbols	4		FR1 AND SCS30
	2		(FR1 AND SCS15) OR (SIG AND FR2 AND (SCS60 OR SCS120))
	8		FR1 AND SCS60

	0		RF AND FR2 AND (SCS60 OR SCS120)
}			
pattern2	Not present		
}			

– *TDD-UL-DL-ConfigDedicated*

Table 4.6.3-192A: TDD-UL-DL-ConfigDedicated

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
TDD-UL-DL-ConfigDedicated ::= SEQUENCE {			
FFS			
}			

– *TrackingAreaCode*

Table 4.6.3-193: TrackingAreaCode

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
TrackingAreaCode	See table 4.4.2-3	BIT STRING (SIZE (24))	

– *T-Reselection*

Table 4.6.3-194: T-Reselection

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
T-Reselection	FFS		

– *TimeToTrigger*

Table 4.6.3-195: TimeToTrigger

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
TimeToTrigger	ms320		

– *UAC-BarringInfoSetIndex*

Table 4.6.3-196: UAC-BarringInfoSetIndex

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UAC-BarringInfoSetIndex	FFS		

– *UAC-BarringInfoSetList***Table 4.6.3-197: UAC-BarringInfoSetList**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UAC-BarringInfoSetList	FFS		

– *UAC-BarringPerCatList***Table 4.6.3-198: UAC-BarringPerCatList**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UAC-BarringPerCatList	FFS		

– *UAC-BarringPerPLMN-List***Table 4.6.3-199: UAC-BarringPerPLMN-List**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UAC-BarringPerPLMN-List	FFS		

– *UE-TimersAndConstants***Table 4.6.3-200: UE-TimersAndConstants**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UE-TimersAndConstants ::= SEQUENCE {			
t300	ms1000		
t301	ms1000		
t310	ms1000		
n310	n1		
t311	ms30000		
n311	n1		
t319	ms1000		
}			

– *UL-DelayValueConfig***Table 4.6.3-200A: UL-DelayValueConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UL-DelayValueConfig-r16 ::= SEQUENCE {			
delay-DRBlist	Set according to specific message content		
}			

– *UplinkCancellation***Table 4.6.3-200B: UplinkCancellation**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UplinkCancellation-r16 ::= SEQUENCE {			
FFS			
}			

– *UplinkConfigCommon***Table 4.6.3-201: UplinkConfigCommon**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UplinkConfigCommon ::= SEQUENCE {			
frequencyInfoUL	FrequencyInfoUL		
initialUplinkBWP	BWP-UplinkCommon		
timeAlignmentTimerCommon	infinity		
}			

– *UplinkConfigCommonSIB***Table 4.6.3-202: UplinkConfigCommonSIB**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UplinkConfigCommonSIB SEQUENCE {			
frequencyInfoUL	FrequencyInfoUL-SIB		
initialUplinkBWP	BWP-UplinkCommon		
	BWP-UplinkCommon with confition SUL_SUL		SUL_SUL
timeAlignmentTimerCommon	infinity		
}			

Condition	Explanation
SUL_SUL	On the SUL carrier when supplementary carrier is configured

– *UplinkTxDirectCurrentList***Table 4.6.3-203: UplinkTxDirectCurrentList**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
UplinkTxDirectCurrentList ::= SEQUENCE (SIZE (1..maxNrofServingCells)) OF UplinkTxDirectCurrentCell {	1 entry		
UplinkTxDirectCurrentCell[1] SEQUENCE {		entry 1	
FFS			
}			
}			

– *ZP-CSI-RS-Resource*

Table 4.6.3-204: ZP-CSI-RS-Resource

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ZP-CSI-RS-Resource ::= SEQUENCE {			
zp-CSI-RS-ResourceId	ZP-CSI-RS-ResourceId		
resourceMapping	CSI-RS-ResourceMapping		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
}			

– *ZP-CSI-RS-ResourceSet*

Table 4.6.3-205: ZP-CSI-RS-ResourceSet

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ZP-CSI-RS-ResourceSet ::= SEQUENCE {			
zp-CSI-RS-ResourceSetId	ZP-CSI-RS-ResourceSetId		
zp-CSI-RS-ResourceIdList SEQUENCE (SIZE(1..maxNrofZP-CSI-RS-ResourcesPerSet)) OF ZP-CSI-RS-ResourceId {	1 entry		
ZP-CSI-RS-ResourceId[1]	FFS	entry 1	
}			
}			

– *ZP-CSI-RS-ResourceSetId*

Table 4.6.3-206: ZP-CSI-RS-ResourceSetId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
ZP-CSI-RS-ResourceSetId	FFS		

4.6.4 UE capability information elements

– *AccessStratumRelease*

Table 4.6.4-1: AccessStratumRelease

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
AccessStratumRelease	Same as indicated in TC applicability in TS 38.523-2 [19]		

– *BandCombinationList*

Table 4.6.4-2: BandCombinationList

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
BandCombinationList ::= SEQUENCE (SIZE (1..maxBandComb)) OF BandCombination {	At least 1 entry		
BandCombination[1] SEQUENCE {		entry 1	
bandList SEQUENCE (SIZE (1..maxSimultaneousBands)) OF BandParameters {	1 entry		
BandParameters[1] CHOICE {		entry 1	
extra SEQUENCE {			
bandEUTRA	FreqBandIndicatorEUTRA		
ca-BandwidthClassDL-EUTRA	Not checked		
ca-BandwidthClassUL-EUTRA	Not checked		
}			
nr SEQUENCE {			
bandNR	FreqBandIndicatorNR		
ca-BandwidthClassDL-NR	Not checked		
ca-BandwidthClassUL-NR	Not checked		
}			
}			
}			
featureSetCombination	Not checked		
ca-ParametersEUTRA	Not checked		
ca-ParametersNR	Not checked		
mrhc-Parameters	Not checked		
supportedBandwidthCombinationSet	BIT STRING (SIZE (1..32))		
powerClass-v1530	Not Checked		
}			
}			

– *BandCombinationListSidelinkEUTRA-NR*

Table 4.6.4-2A: BandCombinationListSidelinkEUTRA-NR

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
BandParametersSidelinkEUTRA-NR-r16 ::= SEQUENCE {			
FFS			
}			

– *CA-BandwidthClassEUTRA*

Table 4.6.4-3: CA-BandwidthClassEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
CA-BandwidthClassEUTRA	Not checked		

– *CA-BandwidthClassNR*

Table 4.6.4-4: CA-BandwidthClassNR

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
CA-BandwidthClassNR	Not checked		

– *CA-ParametersEUTRA*

Table 4.6.4-5: CA- ParametersEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
CA-ParametersEUTRA ::= SEQUENCE {			
multipleTimingAdvance	Not checked		
simultaneousRx-Tx	Not checked		
supportedNAICS-2CRS-AP	Not checked		
additionalRx-Tx-PerformanceReq	Not checked		
ue-CA-PowerClass-N	Not checked		
supportedBandwidthCombinationSetEUTRA-v1530	Not checked		
}			

– *CA-ParametersNR*

Table 4.6.4-6: CA- ParametersNR

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
CA-ParametersNR ::= SEQUENCE {			
dummy	Not checked		
parallelTxSRS-PUCCH-PUSCH	Not checked		
parallelTxPRACH-SRS-PUCCH-PUSCH	Not checked		
simultaneousRxTxInterBandCA	Not checked		
simultaneousRxTxSUL	Not checked		
diffNumerologyAcrossPUCCH-Group	Not checked		
diffNumerologyWithinPUCCH-GroupSmallerSCS	Not checked		
supportedNumberTAG	Not checked		
}			

– *CA-ParametersNRDC*

Table 4.6.4-6AA: CA- ParametersNRDC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
CA-ParametersNRDC ::= SEQUENCE {			
ca-ParametersNR-ForDC	Not checked		
ca-ParametersNR-ForDC-v1540	Not checked		
ca-ParametersNR-ForDC-v1550	Not checked		
ca-ParametersNR-ForDC-v1560	Not checked		
featureSetCombinationDC	Not checked		
}			

– *CarrierAggregationVariant*

Table 4.6.4-6AB: *CarrierAggregationVariant*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
CarrierAggregationVariant ::= SEQUENCE {			
FFS			
}			

– *CodebookParameters*

Table 4.6.4-6A: CodebookParameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
CodebookParameters ::= SEQUENCE {			
type1 SEQUENCE {			
singlePanel SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SupportedCSI-RS-Resource {	1 entry		
SupportedCSI-RS-Resource[1] SEQUENCE {		entry 1	
maxNumberTxPortsPerResource	Not checked		
maxNumberResourcesPerBand	Not checked		
totalNumberTxPortsPerBand	Not checked		
}			
}			
modes	Not checked		
maxNumberCSI-RS-PerResourceSet	Not checked		
}			
multiPanel SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SupportedCSI-RS-Resource {	1 entry		
SupportedCSI-RS-Resource[1] SEQUENCE {		entry 1	
maxNumberTxPortsPerResource	Not checked		
maxNumberResourcesPerBand	Not checked		
totalNumberTxPortsPerBand	Not checked		
}			
}			
modes	Not checked		
nrofPanels	Not checked		
maxNumberCSI-RS-PerResourceSet	Not checked		
}			
}			
type2 SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SupportedCSI-RS-Resource {	1 entry		
SupportedCSI-RS-Resource[1] SEQUENCE {		entry 1	
maxNumberTxPortsPerResource	Not checked		
maxNumberResourcesPerBand	Not checked		
totalNumberTxPortsPerBand	Not checked		
}			
}			
parameterLx	Not checked		
amplitudeScalingType	Not checked		
amplitudeSubsetRestriction	Not checked		
}			
type2-PortSelection SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SupportedCSI-RS-Resource {	1 entry		
SupportedCSI-RS-Resource[1] SEQUENCE {		entry 1	
maxNumberTxPortsPerResource	Not checked		
maxNumberResourcesPerBand	Not checked		
totalNumberTxPortsPerBand	Not checked		
}			
}			
parameterLx	Not checked		
amplitudeScalingType	Not checked		
}			
}			

– *FeatureSetCombination*

Table 4.6.4-7: FeatureSetCombination

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetCombination ::= SEQUENCE (SIZE (1..maxSimultaneousBands)) OF FeatureSetsPerBand {	1 entry		
FeatureSetsPerBand[1] SEQUENCE (SIZE (1..maxFeatureSetsPerBand)) OF FeatureSet {	1 entry	entry 1	
FeatureSet[1] CHOICE {		entry 1	
nr SEQUENCE {			
downlinkSetNR	Not checked		
uplinkSetNR	Not checked		
}			
}			
}			
}			

– *FeatureSetCombinationId*

Table 4.6.4-8: FeatureSetCombinationId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetCombinationId	Not checked		

– *FeatureSetDownlink*

Table 4.6.4-9: FeatureSetDownlink

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetDownlink ::= SEQUENCE {			
featureSetListPerDownlinkCC SEQUENCE (SIZE (1..maxNrofServingCells)) OF	1 entry		
FeatureSetDownlinkPerCC-Id {			
FeatureSetDownlinkPerCC-Id[1]	Not checked	entry 1	
}			
intraBandFreqSeparationDL	FreqSeparationClass		
scalingFactor	Not checked		
crossCarrierSchedulingDL-OtherSCS	Not checked		
scellWithoutSSB	Not checked		
csi-RS-MeasSCellWithoutSSB	Not checked		
dummy1	Not checked		
type1-3-CSS	Not checked		
pdcchMonitoringAnyOccasions	Not checked		
dummy2	Not checked		
ue-SpecificUL-DL-Assignment	Not checked		
searchSpaceSharingCA-DL	Not checked		
timeDurationForQCL SEQUENCE {			
scs-60kHz	Not checked		
scsh-120kHz	Not checked		
}			
pdsch- ProcessingType1-DifferentTB-PerSlot			
SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
dummy3	Not checked		
dummy4	Not checked		
dummy5	Not checked		
dummy6	Not checked		
dummy7	Not checked		
}			

– *FeatureSetDownlinkId*

Table 4.6.4-10: FeatureSetDownlinkId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetDownlinkId	Not checked		

– *FeatureSetDownlinkPerCC***Table 4.6.4-11: FeatureSetDownlinkPerCC**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetDownlinkPerCC ::= SEQUENCE {			
supportedSubcarrierSpacingDL	Not checked		
supportedBandwidthDL	SupportedBandwidth		
channelBW-90mhz	Not checked		
maxNumberMIMO-LayersPDSCH	MIMO-LayersDL		
supportedModulationOrderDL	ModulationOrder		
}			

– *FeatureSetDownlinkPerCC-Id***Table 4.6.4-12: FeatureSetDownlinkPerCC-Id**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetDownlinkPerCC-Id	Not checked		

– *FeatureSetEUTRA-DownlinkId***Table 4.6.4-13: FeatureSetEUTRA-DownlinkId**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetEUTRA-DownlinkId	Not checked		

– *FeatureSetEUTRA-UplinkId***Table 4.6.4-14: FeatureSetEUTRA-UplinkId**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetEUTRA-UplinkId	Not checked		

– *FeatureSets*

Table 4.6.4-15: *FeatureSets*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSets ::= SEQUENCE {			
featureSetsDownlink SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink {	1 entry		
FeatureSetDownlink[1]	FeatureSetDownlink	entry 1	
}			
featureSetsDownlinkPerCC SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC {	1 entry		
FeatureSetDownlinkPerCC[1]	FeatureSetDownlinkPerCC	entry 1	
}			
featureSetsUplink SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink {	1 entry		
FeatureSetUplink[1]	FeatureSetUplink	entry 1	
}			
featureSetsUplinkPerCC SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC {	1 entry		
FeatureSetUplinkPerCC[1]	FeatureSetUplinkPerCC	entry 1	
}			
}			

– *FeatureSetUplink*

Table 4.6.4-16: FeatureSetUplink

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetUplink ::= SEQUENCE {			
featureSetListPerUplinkCC SEQUENCE (SIZE (1.. maxNrofServingCells)) OF FeatureSetUplinkPerCC-Id	1 entry		
{			
FeatureSetUplinkPerCC-Id[1]	Not checked	entry 1	
}			
scalingFactor	Not checked		
crossCarrierSchedulingUL-OtherSCS	Not checked		
intraBandFreqSeparationUL	FreqSeparationClass		
searchSpaceSharingCA-UL	Not checked		
dummy1	Not checked		
supportedSRS-Resources SEQUENCE {			
maxNumberAperiodicSRS-PerBWP	Not Checked		
maxNumberAperiodicSRS-PerBWP-PerSlot	Not Checked		
maxNumberPeriodicSRS-PerBWP	Not Checked		
maxNumberPeriodicSRS-PerBWP-PerSlot	Not Checked		
maxNumberSemiPersistentSRS-PerBWP	Not Checked		
maxNumberSemiPersistentSRS-PerBWP-PerSlot	Not Checked		
maxNumberSRS-Ports-PerResource	Not Checked		
}			
twoPUCCH-Group	Not checked		
dynamicSwitchSUL	Not checked		
pusch-ProcessingType1-DifferentTB-PerSlot			
SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
dummy2	Not checked		
}			

– *FeatureSetUplinkId*

Table 4.6.4-17: FeatureSetUplinkId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetUplinkId	Not checked		

– *FeatureSetUplinkPerCC*

Table 4.6.4-18: FeatureSetUplinkPerCC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetUplinkPerCC ::= SEQUENCE {			
supportedSubcarrierSpacingUL	Not checked		
supportedBandwidthUL	SupportedBandwidth		
channelBW-90mhz	Not checked		
mimo-CB-PUSCH SEQUENCE {			
maxNumberMIMO-LayersCB-PUSCH	MIMO-LayersUL		
maxNumberSRS-ResourcePerSet	Not checked		
}			
maxNumberMIMO-LayersNonCB-PUSCH	MIMO-LayersUL		
supportedModulationOrderUL	ModulationOrder		
}			

– *FeatureSetUplinkPerCC-Id*

Table 4.6.4-19: FeatureSetUplinkPerCC-Id

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FeatureSetUplinkPerCC-Id	Not checked		

– *FreqBandIndicatorEUTRA*

Table 4.6.4-20: FreqBandIndicatorEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FreqBandIndicatorEUTRA	EUTRA Operating band under test		

– *FreqBandList*

Table 4.6.4-21: *FreqBandList*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FreqBandList ::= SEQUENCE (SIZE (1..maxBandsMRDC)) OF FreqBandInformation {	Number of entries depends on the conditions		
FreqBandInformation[1] CHOICE {		entry 1	EN-DC
bandInformationEUTRA SEQUENCE {			
bandEUTRA	FreqBandIndicatorEUTRA		
ca-BandwidthClassDL-EUTRA	Not checked		
ca-BandwidthClassUL-EUTRA	Not checked		
}			
FreqBandInformation[2] CHOICE {		entry 2	
bandInformationNR SEQUENCE {			
bandNR	FreqBandIndicatorNR		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
FreqBandInformation[3] CHOICE {		entry 3	EN-DC AND CA-InterBand
bandInformationNR SEQUENCE {			
bandNR	FreqBandIndicatorNR with condition CA-InterBand		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
FreqBandInformation[1] CHOICE {		entry 1	NR
bandInformationNR SEQUENCE {			
bandNR	FreqBandIndicatorNR		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
FreqBandInformation[2] CHOICE {		entry 2	NR AND CA-InterBand
bandInformationNR SEQUENCE {			
bandNR	FreqBandIndicatorNR with condition CA-InterBand		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
}			
}			

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
CA-InterBand	Used in NR CA Inter-band test cases
NR	NG-RAN NR Radio Access

– *FreqSeparationClass*

Table 4.6.4-22: FreqSeparationClass

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FreqSeparationClass	Not checked		

– *FreqSeparationClassDL-Only*

Table 4.6.4-22A: FreqSeparationClassDL-Only

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
FreqSeparationClassDL-Only-r16	FFS		

– *HighSpeedParameters*

Table 4.6.4-22B: HighSpeedParameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
HighSpeedParameters-r16 ::= SEQUENCE {			
FFS			
}			

– *IMS-Parameters*

Table 4.6.4-23: IMS-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
IMS-Parameters ::= SEQUENCE {			
ims-ParametersCommon SEQUENCE {			
voiceOverEUTRA-5GC	Not Checked		
}			
ims-ParametersFRX-Diff SEQUENCE {			
voiceOverNR	Not Checked		
}			
}			

– *InterRAT-Parameters*

Table 4.6.4-24: *InterRAT-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
InterRAT-Parameters ::= SEQUENCE {			
eutra SEQUENCE {			
supportedBandListEUTRA SEQUENCE (SIZE (1..maxBandsEUTRA)) OF FreqBandIndicatorEUTRA {	1 entry		
FreqBandIndicatorEUTRA[1]	FreqBandIndicatorEUTRA	entry 1	
}			
eutra-ParametersCommon SEQUENCE {			
mfbi-EUTRA	Not Checked		
modifiedMPR-BehaviorEUTRA	Not Checked		
multiNS-Pmax-EUTRA	Not Checked		
rs-SINR-MeasEUTRA	Not Checked		
ne-DC	Not Checked		
nr-HO-ToEN-DC-r16	Not Checked		>=Rel16
}			
eutra-ParametersXDD-Diff SEQUENCE {			
rsrqMeasWidebandEUTRA	Not Checked		
}			
}			

– *MAC-Parameters*

Table 4.6.4-25: *MAC-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
MAC-Parameters ::= SEQUENCE {			
mac-ParametersCommon SEQUENCE {			
lcp-Restriction	Not checked		
dummy	Not checked		
lch-ToSCellRestriction	Not checked		
}			
mac-ParametersXDD-Diff SEQUENCE {			
skipUplinkTxDynamic	Not checked		
logicalChannelSR-DelayTimer	Not checked		
longDRX-Cycle	Not checked		
shortDRX-Cycle	Not checked		
multipleSR-Configurations	Not checked		
multipleConfiguredGrants	Not checked		
}			
}			

– *MeasAndMobParameters*

Table 4.6.4-26: MeasAndMobParameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
MeasAndMobParameters ::= SEQUENCE {			
measAndMobParametersCommon SEQUENCE {			
supportedGapPattern	Not checked		
ssb-RLM	Not checked		
ssb-AndCSI-RS-RLM	Not checked		
}			
measAndMobParametersXDD-Diff SEQUENCE {			
intraAndInterF-MeasAndReport	Not checked		
eventA-MeasAndReport	Not checked		
}			
MeasAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			

– *MeasAndMobParametersMRDC*

Table 4.6.4-27: MeasAndMobParametersMRDC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
MeasAndMobParametersMRDC ::= SEQUENCE {			
measAndMobParametersMRDC-Common SEQUENCE {			
independentGapConfig	Not checked		
}			
measAndMobParametersMRDC-XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
measAndMobParametersMRDC-FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			

– *MIMO-Layers*

Table 4.6.4-28: MIMO-Layers

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
MIMO-LayersDL	Not checked		
MIMO-LayersUL	Not checked		

– *MIMO-ParametersPerBand*

Table 4.6.4-29: *MIMO-ParametersPerBand*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
MIMO-ParametersPerBand ::= SEQUENCE {			
tci-StatePDSCH SEQUENCE {			
maxNumberConfiguredTCIstatesPerCC	Not checked		
maxNumberActiveTCI-PerBWP	Not checked		
}			
additionalActiveTCI-StatePDCCH	Not checked		
pusch-TransCoherence	Not checked		
beamCorrespondenceWithoutUL-BeamSweeping	Not checked		
periodicBeamReport	Not checked		
aperiodicBeamReport	Not checked		
sp-BeamReportPUCCH	Not checked		
sp-BeamReportPUSCH	Not checked		
dummy1	Not checked		
maxNumberRxBeam	Not checked		
maxNumberRxTxBeamSwitchDL SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
scs-240kHz	Not checked		
}			
maxNumberNonGroupBeamReporting	Not checked		
groupBeamReporting	Not checked		
uplinkBeamManagement SEQUENCE {			
maxNumberSRS-ResourcePerSet	Not checked		
maxNumberSRS-ResourceSet	Not checked		
}			
maxNumberCSI-RS-BFD	Not checked		
maxNumbeSSB-BFD	Not checked		
maxNumberCSI-RS-SSB-CBD	Not checked		
dummy2	Not checked		
twoPortsPTRS-UL	Not checked		
dummy5	Not checked		
dummy3	Not checked		
beamReportTiming SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
ptrs-DensityRecommendationSetDL SEQUENCE {			
scs-15kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
}			
scs-30kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
}			
scs-60kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		

timeDensity2	Not checked		
timeDensity3	Not checked		
}			
scs-120kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
}			
}			
ptrs-DensityRecommendationSetUL SEQUENCE {			
scs-15kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
}			
scs-30kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
scs-60kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
scs-120kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
}			
dummy4	Not checked		
aperiodicTRS	Not checked		
}			

– *ModulationOrder***Table 4.6.4-30: *ModulationOrder***

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
ModulationOrder	Not checked		

– *MRDC-Parameters***Table 4.6.4-31: *MRDC-Parameters***

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
MRDC-Parameters ::= SEQUENCE {			
singleUL-Transmission	Not checked		
dynamicPowerSharingENDC	Not checked		
tdm-Pattern	Not checked		
ul-SharingEUTRA-NR	Not checked		
ul-SwitchingTimeEUTRA-NR	Not checked		
simultaneousRxTxInterBandENDC	Not checked		
asyncIntraBandENDC	Not checked		
}			

– *NRDC-Parameters*

Table 4.6.4-31A: *NRDC-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
NRDC-Parameters ::= SEQUENCE {			
measAndMobParametersNRDC	Not checked		
generalParametersNRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA	Not checked		
}			
fdd-Add-UE-NRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff			
SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			
}			
tdd-Add-UE-NRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff			
SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			
}			
fr1-Add-UE-NRDC-Capabilities SEQUENCE {	UE-MRDC- CapabilityAddFRX-Mode		
measAndMobParametersMRDC-FRX-Diff			
SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
fr2-Add-UE-NRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-FRX-Diff			
SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			

– *OLPC-SRS-Pos***Table 4.6.4-31B: OLPC-SRS-Pos**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
OLPC-SRS-Pos-r16 ::= SEQUENCE {			
FFS			
}			

– *PDCCP-Parameters***Table 4.6.4-32: PDCCP-Parameters**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
PDCCP-Parameters ::= SEQUENCE {			
supportedROHC-Profiles SEQUENCE {			
profile0x0000	Not checked		
profile0x0001	Not checked		
profile0x0002	Not checked		
profile0x0003	Not checked		
profile0x0004	Not checked		
profile0x0006	Not checked		
profile0x0101	Not checked		
profile0x0102	Not checked		
profile0x0103	Not checked		
profile0x0104	Not checked		
}			
maxNumberROHC-ContextSessions	Not checked		
uplinkOnlyROHC-Profiles	Not checked		
continueROHC-Context	Not checked		
outOfOrderDelivery	Not checked		
shortSN	Not checked		
pdcp-DuplicationSRB	Not checked		
pdcp-DuplicationMCG-OrSCG-DRB	Not checked		
}			

– *PDCCP-ParametersMRDC***Table 4.6.4-33: PDCCP-ParametersMRDC**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
PDCCP-ParametersMRDC ::= SEQUENCE {			
pdcp-DuplicationSplitSRB	Not checked		
pdcp-DuplicationSplitDRB	Not checked		
}			

Phy-Parameters

Table 4.6.4-34: *Phy-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
Phy-Parameters ::= SEQUENCE {			
phy-ParametersCommon SEQUENCE {			
csi-RS-CFRA-ForHO	Not checked		
dynamicPRB-BundlingDL	Not checked		
sp-CSI-ReportPUCCH	Not checked		
sp-CSI-ReportPUSCH	Not checked		
nzp-CSI-RS-IntefMgmt	Not checked		
type2-SP-CSI-Feedback-LongPUCCH	Not checked		
precoderGranularityCORESET	Not checked		
dynamicHARQ-ACK-Codebook	Not checked		
semiStaticHARQ-ACK-Codebook	Not checked		
spatialBundlingHARQ-ACK	Not checked		
dynamicBetaOffsetInd-HARQ-ACK-CSI	Not checked		
pucch-Repetition-F1-3-4	Not checked		
ra-Type0-PUSCH	Not checked		
dynamicSwitchRA-Type0-1-PDSCH	Not checked		
dynamicSwitchRA-Type0-1-PUSCH	Not checked		
pdsch-MappingTypeA	Not checked		
pdsch-MappingTypeB	Not checked		
interleavingVRB-ToPRB-PDSCH	Not checked		
interSlotFreqHopping-PUSCH	Not checked		
type1-PUSCH-RepetitionMultiSlots	Not checked		
type2-PUSCH-RepetitionMultiSlots	Not checked		
pusch-RepetitionMultiSlots	Not checked		
pdsch-RepetitionMultiSlots	Not checked		
downlinkSPS	Not checked		
configuredUL-GrantType1	Not checked		
configuredUL-GrantType2	Not checked		
pre-EmptIndication-DL	Not checked		
cbg-TransIndication-DL	Not checked		
cbg-TransIndication-UL	Not checked		
cbg-FlushIndication-DL	Not checked		
dynamicHARQ-ACK-CodeB-CBG-Retx-DL	Not checked		
rateMatchingResrcSetSemi-Static	Not checked		
rateMatchingResrcSetDynamic	Not checked		
bwp-SwitchingDelay	Not checked		
}			
phy-ParametersXDD-Diff SEQUENCE {			
dynamicSFI	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
}			
phy-ParametersFRX-Diff SEQUENCE {			
dynamicSFI	Not checked		
dummy1	Not checked		
twoFL-DMRS	Not checked		
dummy2	Not checked		
dummy3	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		
onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		

freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH- MultiPerSlot	Not checked		
uci-CodeBlockSegmentation	Not checked		
onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdcch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		
tpc-SRS-RNTI	Not checked		
absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		
almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
phy-ParametersFR1 SEQUENCE {			
pdcchMonitoringSingleOccasion	Not checked		
scs-60kHz	Not checked		
pdsch-256QAM-FR1	Not checked		
pdsch-RE-MappingFR1- PerSymbol	Not checked		
}			
phy-ParametersFR2 SEQUENCE {			
dummy	Not checked		
pdsch-RE-MappingFR2- PerSymbol	Not checked		
}			
}			

– *Phy-ParametersMRDC*

Table 4.6.4-35: *Phy-ParametersMRDC*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
Phy-ParametersMRDC ::= SEQUENCE {			
naics-Capability-List SEQUENCE (SIZE (1..maxNrofNAICS-Entries)) OF NAICS-Capability-Entry {	1 entry		
NAICS-Capability-Entry[1] SEQUENCE {		entry 1	
numberOfNAICS-CapableCC	Not checked		
numberOfAggregatedPRB	Not checked		
}			
}			
}			

– *PowSav-Parameters*

Table 4.6.4-35A: *PowSav-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
PowSav-Parameters-r16 ::= SEQUENCE {			
FFS			
}			

– *ProcessingParameters*

Table 4.6.4-36: *ProcessingParameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
ProcessingParameters ::= SEQUENCE {			
fallback	Not checked		
differentTB-PerSlot SEQUENCE {			
upto1	Not checked		
upto2	Not checked		
upto4	Not checked		
upto7	Not checked		
}			
}			

– *RAT-Type*

Table 4.6.4-37: *RAT-Type*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
RAT-Type	nr		
	eutra-nr		EN-DC

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity

RF-Parameters

Table 4.6.4-38: RF-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
RF-Parameters ::= SEQUENCE {			
supportedBandListNR SEQUENCE (SIZE (1..maxBands)) OF BandNR {	At least 1 entry		
BandNR[1] SEQUENCE {		entry 1	
bandNR	FreqBandIndicatorNR		
modifiedMPR-Behaviour	Not checked		
mimo-ParametersPerBand	Not checked		
extendedCP	Not checked		
multipleTCI	Not checked		
bwp-WithoutRestriction	Not checked		
bwp-SameNumerology	Not checked		
bwp-DiffNumerology	Not checked		
crossCarrierScheduling-SameSCS	Not checked		
pdsch-256QAM-FR2	Not checked		
pusch-256QAM	Not checked		
ue-PowerClass	Not checked		
rateMatchingLTE-CRS	Not checked		
channelBWs-DL CHOICE {			
fr1 SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
}			
fr2 SEQUENCE {			
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
}			
channelBWs-UL CHOICE {			
fr1 SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
}			
fr2 SEQUENCE {			
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
}			
}			
supportedBandCombinationList	Not checked		
appliedFreqBandListFilter	Not present		
	FreqBandList		FILTER_RE QUESTED
}			

Condition	Explanation
FILTER_REQUESTED	This condition shall be set to true when UE is requested to filter the information via 'capabilityRequestFilter' IE in the NR5GC UECapabilityEnquiry message or via 'requestedFreqBandsNR-MRDC' IE in the EN-DC UECapabilityEnquiry message

– *RF-ParametersMRDC***Table 4.6.4-39: RF-ParametersMRDC**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
RF-ParametersMRDC ::= SEQUENCE {			
supportedBandCombinationList	BandCombinationList		
appliedFreqBandListFilter	FreqBandList		
}			

– *RLC-Parameters***Table 4.6.4-40: RLC-Parameters**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
RLC-Parameters ::= SEQUENCE {			
am-WithShortSN	Not checked		
um-WithShortSN	Not checked		
um-WithLongSN	Not checked		
}			

– *SDAP-Parameters***Table 4.6.4-41: SDAP-Parameters**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SDAP-Parameters ::= SEQUENCE {			
as-ReflectiveQoS	Not checked		
}			

– *SidelinkParameters***Table 4.6.4-41A: SidelinkParameters**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SidelinkParameters-r16 ::= SEQUENCE {			
FFS			
}			

– *SON-Parameters***Table 4.6.4-41B: SON-Parameters**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SON-Parameters-r16 ::= SEQUENCE {			
FFS			
}			

– *SpatialRelationsSRS-Pos*

Table 4.6.4-41C: *SpatialRelationsSRS-Pos*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SpatialRelationsSRS-Pos-r16 ::= SEQUENCE {			
FFS			
}			

– *SRS-SwitchingTimeNR*

Table 4.6.4-42: *SRS-SwitchingTimeNR*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SRS-SwitchingTimeNR ::= SEQUENCE {			
switchingTimeDL	Not checked		
switchingTimeUL	Not checked		
}			

– *SRS-SwitchingTimeEUTRA*

Table 4.6.4-43: *SRS-SwitchingTimeEUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SRS-SwitchingTimeEUTRA ::= SEQUENCE {			
switchingTimeDL	Not checked		
switchingTimeUL	Not checked		
}			

– *SupportedBandwidth*

Table 4.6.4-44: *SupportedBandwidth*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SupportedBandwidth ::= CHOICE {			
fr1	Not checked		FR1
fr2	Not checked		FR2
}			

– *UE-BasedPerfMeas-Parameters*

Table 4.6.4-44A: *UE-BasedPerfMeas-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
UE-BasedPerfMeas-Parameters-r16 ::= SEQUENCE {			
FFS			
}			

– *UE-CapabilityRAT-ContainerList*

Table 4.6.4-45: UE-CapabilityRAT-ContainerList

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
UE-CapabilityRAT-ContainerList ::= SEQUENCE (SIZE (0.. maxRAT-CapabilityContainers)) OF UE-CapabilityRAT-Container {	1 entry		
UE-CapabilityRAT-Container[1] SEQUENCE {		entry 1	
rat-Type	RAT-Type		
ue-CapabilityRAT-Container	UE-NR-Capability		
ue-CapabilityRAT-Container	UE-MRDC-Capability		EN-DC
}			
}			

– *UE-CapabilityRAT-RequestList*

Table 4.6.4-46: UE-CapabilityRAT-RequestList

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
UE-CapabilityRAT-RequestList ::= SEQUENCE (SIZE (0.. maxRAT-CapabilityContainers)) OF UE-CapabilityRAT-Request {	1 entry		
UE-CapabilityRAT-Request[1] SEQUENCE {		entry 1	
rat-Type	RAT-Type		
capabilityRequestFilter	UE-CapabilityRequestFilter NR	OCTET STRING (CONTAINING UE-CapabilityRequestFilterNR)	
}			
}			

– *UE-CapabilityRequestFilterCommon*

Table 4.6.4-46A: UE-CapabilityRequestFilterCommon

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
UE-CapabilityRequestFilterCommon ::= SEQUENCE {			
mrdr-Request SEQUENCE {			
omitEN-DC	Not checked		
includeNR-DC	Not checked		
includeNE-DC	Not checked		
}			
}			

– *UE-CapabilityRequestFilterNR*

Table 4.6.4-47: *UE-CapabilityRequestFilterNR*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
UE-CapabilityRequestFilterNR ::= SEQUENCE {			
frequencyBandListFilter	FreqBandList		
nonCriticalExtension SEQUENCE {	Not present		
srs-SwitchingTimeRequest	Not present		
nonCriticalExtension SEQUENCE {			
srs-SwitchingTimeRequest	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *UE-MRDC-Capability*

Table 4.6.4-48: UE-MRDC-Capability

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
UE-MRDC-Capability ::= SEQUENCE {			
measAndMobParametersMRDC	Not checked		
phy-ParametersMRDC-v1530	Not checked		
rf-ParametersMRDC	RF-ParametersMRDC		
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA	Not checked		
}			
fdd-Add-UE-MRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			
}			
tdd-Add-UE-MRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			
}			
fr1-Add-UE-MRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
fr2-Add-UE-MRDC-Capabilities			
measAndMobParametersMRDC-FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
featureSetCombinations	Not checked		
pdcp-ParametersMRDC-v1530	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {			
UE-MRDC-Capability-v1560 SEQUENCE {			
receivedFilters	Not checked		
measAndMobParametersMRDC-v1560 SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff-v1560 SEQUENCE {			
sftd-MeasPSCell-NEDC	Not checked		
}			
}			

}			
fdd-Add-UE-MRDC-Capabilities-v1560 SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff-v1560			
SEQUENCE {			
sftd-MeasPSCell-NEDC	Not checked		
}			
}			
tdd-Add-UE-MRDC-Capabilities-v1560 SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff-v1560			
SEQUENCE {			
sftd-MeasPSCell-NEDC	Not checked		
}			
}			
nonCriticalExtension	Not checked		
}			
}			
}			

– *UE-NR-Capability*

Table 4.6.4-49: UE-NR-Capability

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
UE-NR-Capability ::= SEQUENCE {			
accessStratumRelease	AccessStratumRelease		
pdcp-Parameters	Not checked		
rlc-Parameters	Not checked		
mac-Parameters	Not checked		
phy-Parameters	Not checked		
rf-Parameters	RF-Parameters		
measAndMobParameters	Not checked		
fdd-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersXDD-Diff SEQUENCE {			
dynamicSFI	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
}			
mac-ParametersXDD-Diff SEQUENCE {			
skipUplinkTxDynamic	Not checked		
logicalChannelSR-DelayTimer	Not checked		
longDRX-Cycle	Not checked		
shortDRX-Cycle	Not checked		
multipleSR-Configurations	Not checked		
multipleConfiguredGrants	Not checked		
}			
measAndMobParametersXDD-Diff SEQUENCE {			
intraAndInterF-MeasAndReport	Not checked		
eventA-MeasAndReport	Not checked		
}			
}			
tdd-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersXDD-Diff SEQUENCE {			
dynamicSFI	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
}			
mac-ParametersXDD-Diff SEQUENCE {			
skipUplinkTxDynamic	Not checked		
logicalChannelSR-DelayTimer	Not checked		
longDRX-Cycle	Not checked		
shortDRX-Cycle	Not checked		
multipleSR-Configurations	Not checked		
multipleConfiguredGrants	Not checked		
}			
measAndMobParametersXDD-Diff SEQUENCE {			
intraAndInterF-MeasAndReport	Not checked		
eventA-MeasAndReport	Not checked		
}			
fr1-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersFRX-Diff SEQUENCE {			
dynamicSFI	Not checked		
oneFL-DMRS-TwoAdditionalDMRS	Not checked		
twoFL-DMRS	Not checked		
twoFL-DMRS-TwoAdditionalDMRS	Not checked		
oneFL-DMRS-ThreeAdditionalDMRS	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		

onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		
freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH	Not checked		
uci-CodeBlockSegmentation	Not checked		
onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdccch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		
tpc-SRS-RNTI	Not checked		
absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		
almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
measAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			
fr2-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersFRX-Diff SEQUENCE {	Not checked		
dynamicSFI	Not checked		
oneFL-DMRS-TwoAdditionalDMRS	Not checked		
twoFL-DMRS	Not checked		
twoFL-DMRS-TwoAdditionalDMRS	Not checked		
oneFL-DMRS-ThreeAdditionalDMRS	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		
onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		
freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH	Not checked		
uci-CodeBlockSegmentation	Not checked		
onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdccch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		
tpc-SRS-RNTI	Not checked		

absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		
almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
measAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			
featureSets	Not checked		
featureSetCombinations	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {			
fdd-Add-UE-NR-Capabilities-1530 SEQUENCE {			
eutra-ParametersXDD-Diff SEQUENCE {			
rsrqMeasWidebandEUTRA	Not checked		
}			
}			
tdd-Add-UE-NR-Capabilities-v1530 SEQUENCE {			
eutra-ParametersXDD-Diff SEQUENCE {			
rsrqMeasWidebandEUTRA Not Checked			
}			
}			
dummy	Not checked		
interRAT-Parameters	Not checked		
inactiveState	Not checked		
delayBudgetReporting	Not checked		
nonCriticalExtension SEQUENCE {			
sdap-Parameters	Not checked		
overheatingInd	Not checked		
ims-Parameters	Not checked		
fr1-Add-UE-NR-Capabilities-v1540 SEQUENCE {			
ims-ParametersFRX-Diff SEQUENCE {			
voiceOverNR	Not checked		
}			
}			
fr2-Add-UE-NR-Capabilities-v1540 SEQUENCE {			
ims-ParametersFRX-Diff SEQUENCE {			
voiceOverNR	Not checked		
}			
}			
fr1-fr2-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersFRX-Diff SEQUENCE {			
dynamicSFI	Not checked		
dummy1	Not checked		
twoFL-DMRS	Not checked		
dummy2	Not checked		
dummy3	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		
onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		

pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		
freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH- MultiPerSlot	Not checked		
uci-CodeBlockSegmentation	Not checked		
onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdccch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		
tpc-SRS-RNTI	Not checked		
absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		
almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
measAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			
nonCriticalExtension SEQUENCE {	Not checked		
reducedCP-Latency	Not checked		
nonCriticalExtension SEQUENCE {			
nrhc-Parameters	Not checked		
receivedFilters	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			
}			
}			

– *SharedSpectrumChAccessParamsPerBand*

Table 4.6.4-50: SharedSpectrumChAccessParamsPerBand

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	Value/remark	Comment	Condition
SharedSpectrumChAccessParamsPerBand-r16 ::= SEQUENCE {			
FFS			
}			

4.6.5 Other information elements

– *AbsoluteTimeInfo*

Table 4.6.5-0A: *AbsoluteTimeInfo*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
AbsoluteTimeInfo-r16	FFS		

– *AreaConfiguration*

Table 4.6.5-0B: *AreaConfiguration*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
AreaConfiguration-r16 ::= SEQUENCE {			
FFS			
}			

– *BT-NameList*

Table 4.6.5-0C: *BT-NameList*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
BT-NameList-r16 ::= SEQUENCE (SIZE (1..maxBT-Name-r16)) OF {	1 entry		
BT-Name-r16[1]	Set according to specific message content	OCTET STRING (SIZE (1..248))	
}			

– *EUTRA-AllowedMeasBandwidth*

Table 4.6.5-1: *EUTRA-AllowedMeasBandwidth*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-AllowedMeasBandwidth	Set according to TS 36.508 [2] Table 4.4.3.4-1 for E-UTRA cell	row 'measurement Bandwidth'	

– *EUTRA-MBSFN-SubframeConfigList*

Table 4.6.5-2: EUTRA-MBSFN-SubframeConfigList

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-MBSFN-SubframeConfigList ::= SEQUENCE (SIZE (1..maxMBSFN-Allocations)) OF EUTRA-MBSFN-SubframeConfig {	1 entry		
MBSFN-SubframeConfig[1] SEQUENCE {		entry 1	
radioframeAllocationPeriod	FFS		
radioframeAllocationOffset	FFS		
subframeAllocation1 CHOICE {			
oneFrame	FFS		
fourFrames	FFS		
}			
subframeAllocation2 CHOICE {			
oneFrame	FFS		
fourFrames	FFS		
}			
}			

– *EUTRA-MultiBandInfoList*

Table 4.6.5-3: EUTRA-MultiBandInfoList

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-MultiBandInfoList ::= SEQUENCE (SIZE (1..maxMultiBands)) OF EUTRA-MultiBandInfo {	1 entry		
EUTRA-MultiBandInfo[1] SEQUENCE {		entry 1	
eutra-FreqBandIndicator	FreqBandIndicatorEUTRA		
eutra-NS-PmaxList	EUTRA-NS-PmaxList		
}			

– *EUTRA-NS-PmaxList*

Table 4.6.5-4: EUTRA-NS-PmaxList

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-NS-PmaxList ::= SEQUENCE (SIZE (1..maxEUTRA-NS-Pmax)) OF EUTRA-NS-PmaxValue {	1 entry		
EUTRA-NS-PmaxValue[1] SEQUENCE {		entry 1	
additionalPmax	FFS		
additionalSpectrumEmission	FFS		
}			

– *EUTRA-PhysCellId***Table 4.6.5-5: EUTRA-PhysCellId**

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-PhysCellId	Set according to TS 36.508 [2] Table 4.4.2-1A for E-UTRA cell		

– *EUTRA-PhysCellIdRange***Table 4.6.5-6: EUTRA-PhysCellIdRange**

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-PhysCellIdRange ::= SEQUENCE {			
start	EUTRA-PhysCellId		
Range	FFS		
}			

– *EUTRA-PresenceAntennaPort1***Table 4.6.5-7: EUTRA-PresenceAntennaPort1**

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-PresenceAntennaPort1	FFS		

– *EUTRA-Q-OffsetRange***Table 4.6.5-8: EUTRA-Q-OffsetRange**

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
EUTRA-Q-OffsetRange	FFS		

Table 4.6.5-9: Void**Table 4.6.5-10: Void**– *IAB-IP-Address***Table 4.6.5-10A: IAB-IP-Address**

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
IAB-IP-Address-r16 ::= SEQUENCE {			
FFS			
}			

– *IAB-IP-AddressIndex*

Table 4.6.5-10B: *IAB-IP-AddressIndex*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
IAB-IP-AddressIndex-r16	FFS		

– *IAB-IP-Usage*

Table 4.6.5-10C: *IAB-IP-Usage*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
IAB-IP-Usage-r16	FFS		

– *LoggingDuration*

Table 4.6.5-10D: *LoggingDuration*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
LoggingDuration-r16	FFS		

– *LoggingInterval*

Table 4.6.5-10E: *LoggingInterval*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
LoggingInterval-r16	FFS		

– *LogMeasResultListBT*

Table 4.6.5-10F: *LogMeasResultListBT*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
LogMeasResultListBT-r16 ::= SEQUENCE {			
FFS			
}			

– *LogMeasResultListWLAN*

Table 4.6.5-10G: *LogMeasResultListWLAN*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
LogMeasResultListWLAN-r16 ::= SEQUENCE {			
FFS			
}			

– *OtherConfig*

Table 4.6.5-11: OtherConfig

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
OtherConfig ::=SEQUENCE {			
delayBudgetReportingConfig CHOICE{			
release	FFS		
setup SEQUENCE {			
delayBudgetReportingProhibitTimer	FFS		
}			
}			
}			

– *PhysCellIdUTRA-FDD*

Table 4.6.5-11A: PhysCellIdUTRA-FDD

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
PhysCellIdUTRA-FDD-r16	FFS		

– *RRC-TransactionIdentifier*

Table 4.6.5-12: RRC-TransactionIdentifier

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
RRC-TransactionIdentifier	0		

– *Sensor-NameList*

Table 4.6.5-13: Sensor-NameList

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
Sensor-NameList-r16 ::= SEQUENCE {			
measUncomBarPre-r16	Set according to specific message content		
measUeSpeed	Set according to specific message content		
measUeOrientation	Set according to specific message content		
}			

– *TraceReference*

Table 4.6.5-14: TraceReference

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
TraceReference-r16 ::= SEQUENCE {			
FFS			
}			

– *UE-MeasurementsAvailable-r16*

Table 4.6.5-15: UE-MeasurementsAvailable-r16

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
UE-MeasurementsAvailable-r16 ::= SEQUENCE {			
FFS			
}			

– *UTRA-FDD-Q-OffsetRange*

Table 4.6.5-16: UTRA-FDD-Q-OffsetRange

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
UTRA-FDD-Q-OffsetRange-r16 ::= SEQUENCE {			
FFS			
}			

– *VisitedCellInfoList*

Table 4.6.5-17: VisitedCellInfoList

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
VisitedCellInfoList-r16 ::= SEQUENCE {			
FFS			
}			

– *WLAN-NameList*

Table 4.6.5-18: WLAN-NameList

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	Value/remark	Comment	Condition
WLAN-NameList-r16 ::= SEQUENCE (SIZE (1..maxWLAN-Name-r16)) OF {	1 entry		
WLAN-Name-r16[1]	Set according to specific message content	OCTET STRING (SIZE (1..32))	
}			

4.6.6 Sidelink information elements

– *SL-BWP-Config*

Table 4.6.6-1: SL-BWP-Config

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-BWP-Config-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-BWP-ConfigCommon*

Table 4.6.6-2: *SL-BWP-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-BWP-ConfigCommon-r16 ::= SEQUENCE {			
sl-BWP-Generic-r16 SEQUENCE {			
sl-BWP-r16	BWP		
sl-LengthSymbols-r16	sym14	All symbols in slot are used for SL	
	sym12	All symbols in slot are used for SL	EXTENDED
sl-StartSymbol-r16	sym0		
sl-PSBCH-Config-r16	Not present		
sl-TxDirectCurrentLocation-r16	Not present		
}			
sl-BWP-PoolConfigCommon-r16	SL-BWP-PoolConfigCommon-r16		
}			

Condition	Explanation
EXTENDED	When cyclicPrefix is configured in sl-BWP-r16, i.e. extended CP is used

– *SL-BWP-PoolConfig*

Table 4.6.6-3: *SL-BWP-PoolConfig*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-BWP-PoolConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-BWP-PoolConfigCommon*

Table 4.6.6-4: SL-BWP-PoolConfigCommon

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-BWP-PoolConfigCommon-r16 ::= SEQUENCE {			
sl-RxPool-r16	Not present		
sl-RxPool-r16 SEQUENCE (SIZE (1..maxNrofRXPool-r16)) OF SL-ResourcePool-r16 {	1 entry		RXPOOL
SL-ResourcePool-r16[1]	SL-ResourcePool-r16	entry 1	
}			
sl-TxPoolSelectedNormal-r16	Not present		
sl-TxPoolSelectedNormal-r16 SEQUENCE (SIZE (1..maxNrofTXPool-r16)) OF SL-ResourcePoolConfig-r16 {	1 entry		SELECTED
SL-ResourcePoolConfig-r16[1] SEQUENCE {		entry 1	
sl-ResourcePoolID-r16	1	Index of the resource pool for normal case	
sl-ResourcePool-r16	SL-ResourcePool-r16		
}			
}			
sl-TxPoolExceptional-r16	Not present		
sl-TxPoolExceptional-r16 SEQUENCE {			EXCEPTIONAL
sl-ResourcePoolID-r16	2	Index of the resource pool used for normal case	
sl-ResourcePool-r16	SL-ResourcePool-r16 with condition EXCEPTIONAL		
}			

Condition	Explanation
RXPOOL	To configure Rx resource pool
SELECTED	To configure Tx resource pool for Mode 2 SL transmission
EXCEPTIONAL	To configure Tx resource pool for exceptional cases such as HO, re-establishment etc.

– *SL-CBR-PriorityTxConfigList*

Table 4.6.6-5: SL-CBR-PriorityTxConfigList

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-CBR-PriorityTxConfigList-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-CBR-CommonTxConfigList*

Table 4.6.6-6: SL-CBR-CommonTxConfigList

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-CBR-CommonTxConfigList-r16 ::= SEQUENCE {			
FFS			
}			

*SL-ConfigDedicatedNR***Table 4.6.6-7: *SL-ConfigDedicatedNR***

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {			
sl-PHY-MAC-RLC-Config-r16	Not present		
sl-PHY-MAC-RLC-Config-r16 SEQUENCE {			SCHEDULING, SELECTED
sl-ScheduledConfig-r16	Not present		
sl-ScheduledConfig-r16 CHOICE {			SCHEDULING
setup	SL-ScheduledConfig-r16		
}			
sl-UE-SelectedConfig-r16	Not present		
sl-UE-SelectedConfig-r16 CHOICE {			SELECTED
setup	SL-UE-SelectedConfig-r16		
}			
sl-FreqInfoToReleaseList-r16	Not present		
sl-FreqInfoToAddModList-r16	Not present		
sl-FreqInfoToAddModList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-FreqConfig-r16 {	1 entry		SCHEDULING, SELECTED
SL-FreqConfig-r16[1]	SL-FreqConfig-r16	entry 1	
}			
sl-RLC-BearerToReleaseList-r16	Not present		
sl-RLC-BearerToAddModList-r16	Not present		
sl-RLC-BearerToAddModList-r16 SEQUENCE (SIZE (1..maxSL-LCID-r16)) OF SL-RLC-BearerConfig-r16 {	1 entry		SL_DRB
SL-RLC-BearerConfig-r16[1]	SL-RLC-BearerConfig-r16	entry 1	
}			
sl-MaxNumConsecutiveDTX-r16	Not present		
sl-CSI-Acquisition-r16	Not present		
sl-CSI-SchedulingRequestId-r16	Not present		
	enabled		SL_CSI_REPORT
sl-SSB-PriorityNR-r16	1		
networkControlledSyncTx-r16	off	UE doesn't send SL SSB by default	
}			
sl-RadioBearerToReleaseList-r16	Not present		
sl-RadioBearerToAddModList-r16	Not present		
sl-RadioBearerToAddModList-r16 SEQUENCE (SIZE (1..maxNrofSLRB-r16)) OF SL-RadioBearerConfig-r16 {	1 entry		SL_DRB
SL-RadioBearerConfig-r16[1]	SL-RadioBearerConfig-r16		
}			
sl-MeasConfigInfoToReleaseList-r16	Not present		
sl-MeasConfigInfoToAddModList-r16	Not present		
sl-MeasConfigInfoToAddModList-r16 SEQUENCE (SIZE (1..maxNrofSL-Dest-r16)) OF SL-MeasConfigInfo-r16 {	1 entry		SL_MEAS
SL-MeasConfigInfo-r16[1]	SL-MeasConfigInfo-r16		
}			
t400-r16	ms2000		
}			

Condition	Explanation
SCHEDULING	To configure UE performing mode 1 SL transmission
SELECTED	To configure UE performing mode 2 SL transmission
SL_DRB	To establish SL DRB
SL_MEAS	To configure UE performing measurements based on RS sent by peer UE
SL_CSI_REPORT	To configure UE performing SL CSI reporting

– *SL-ConfiguredGrantConfig*

Table 4.6.6-8: SL-ConfiguredGrantConfig

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-ConfiguredGrantConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-DestinationIdentity*

Table 4.6.6-9: SL-DestinationIdentity

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-DestinationIdentity-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-FreqConfig*

Table 4.6.6-10: SL-FreqConfig

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-FreqConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-FreqConfigCommon*

Table 4.6.6-11: SL-FreqConfigCommon

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-FreqConfigCommon-r16 ::= SEQUENCE {			
sl-SCS-SpecificCarrierList-r16 SEQUENCE (SIZE (1..maxSCSs)) OF SCS-SpecificCarrier {	1 entry		
SCS-SpecificCarrier[1]	SCS-SpecificCarrier with condition SL_PointA	entry 1	
}			
sl-AbsoluteFrequencyPointA-r16	ARFCN-ValueNR with condition SL_PointA		
sl-AbsoluteFrequencySSB-r16	ARFCN-ValueNR with condition SL_SSB		
frequencyShift7p5khzSL-r16	Not present		
valueN-r16	0		
sl-BWP-List-r16 SEQUENCE (SIZE (1..maxNrofSL-BWPs-r16)) OF SL-BWP-ConfigCommon-r16 {	1 entry		
SL-BWP-ConfigCommon-r16[1]	SL-BWP-ConfigCommon-r16		
}			
sl-SyncPriority-r16	gnss		
sl-NbAsSync-r16	Not present		
sl-SyncConfigList-r16	SL-SyncConfigList-r16		
}			

– *SL-LogicalChannelConfig*

Table 4.6.6-12: SL-LogicalChannelConfig

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-LogicalChannelConfig-r16 ::= SEQUENCE {			
sl-Priority-r16	1		
sl-PrioritisedBitRate-r16	infinity		
sl-BucketSizeDuration-r16	ms50		
sl-ConfiguredGrantType1Allowed-r16	Not present		
sl-HARQ-FeedbackEnabled-r16	enabled		
sl-AllowedCG-List-r16	Not present		
sl-AllowedSCS-List-r16	Not present		
sl-MaxPUSCH-Duration-r16	Not present		
sl-LogicalChannelGroup-r16	1	Avoiding using LCG #0, which is reserved for SL SRB	
	5	Avoiding using LCG #0, which s reserved for SL SRB	LO
sl-SchedulingRequestId-r16	SchedulingRequestId		
sl-LogicalChannelSR-DelayTimerApplied-r16	Not present		
}			

Condition	Explanation
LO	LCG of the lower priority logical channels mapped to SL DRBs

– *SL-MeasConfigCommon*

Table 4.6.6-13: *SL-MeasConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-MeasConfigCommon-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-MeasConfigInfo*

Table 4.6.6-14: *SL-MeasConfigInfo*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-MeasConfigInfo-r16 ::= SEQUENCE {			
sl-DestinationIndex-r16	0	The first destination UE reported in sl-TxResourceReqList in SidelinkUEInformationNR	
sl-MeasConfig-r16 SEQUENCE {			
sl-MeasObjectToRemoveList-r16	Not present		
sl-MeasObjectToAddModList-r16	SL-MeasObjectList-r16		
sl-ReportConfigToRemoveList-r16	Not present		
sl-ReportConfigToAddModList-r16	SL-ReportConfigList-r16 with condition PERIODICAL		
sl-MeasIdToRemoveList-r16	Not present		
sl-MeasIdToAddModList-r16	SL-MeasIdList-r16		
sl-QuantityConfig-r16	SL-QuantityConfig-r16		
}			
}			

– *SL-MeasIdList*

Table 4.6.6-15: *SL-MeasIdList*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-MeasIdList-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-MeasObjectList*

Table 4.6.6-16: *SL-MeasObjectList*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-MeasObjectList-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-PDCP-Config***Table 4.6.6-17: SL-PDCP-Config**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-PDCP-Config-r16 ::= SEQUENCE {			
sl-DiscardTimer-r16	infinity		
sl-PDCP-SN-Size-r16	len12bits		
sl-OutOfOrderDelivery	Not present		
}			

– *SL-PSBCH-Config***Table 4.6.6-18: SL-PSBCH-Config**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-PSBCH-Config-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-PSSCH-TxConfigList***Table 4.6.6-19: SL-PSSCH-TxConfigList**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-PSSCH-TxConfigList-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-QoS-FlowIdentity***Table 4.6.6-20: SL-QoS-FlowIdentity**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-QoS-FlowIdentity-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-QoS-Profile***Table 4.6.6-21: SL-QoS-Profile**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-QoS-Profile-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-QuantityConfig***Table 4.6.6-22: SL-QuantityConfig**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-QuantityConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-RadioBearerConfig***Table 4.6.6-23: SL-RadioBearerConfig**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-RadioBearerConfig-r16 ::= SEQUENCE {			
slrb-Uu-ConfigIndex-r16	SLRB-Uu-ConfigIndex-r16		
sl-SDAP-Config-r16	SL-SDAP-Config-r16		
sl-PDCP-Config-r16	SL-PDCP-Config-r16		
sl-TransRange-r16	Not present		
}			

– *SL-ReportConfigList***Table 4.6.6-24: SL-ReportConfigList**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-ReportConfigList-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-ResourcePool***Table 4.6.6-25: *SL-ResourcePool***

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-ResourcePool-r16 ::= SEQUENCE {			
sl-PSCCH-Config-r16 CHOICE {			
setup SEQUENCE {			
sl-TimeResourcePSCCH-r16	n2		
sl-FreqResourcePSCCH-r16	n10		
sl-DMRS-ScrambleID-r16	0		
sl-NumReservedBits-r16	2		
}			
}			
sl-PSSCH-Config-r16 CHOICE {			
setup SEQUENCE {			
sl-PSSCH-DMRS-TimePatternList-r16	2 entries		
SEQUENCE (SIZE (1..3)) OF INTEGER (2..4) {			
INTEGER[1]	2	entry 1	
INTEGER[2]	4	entry 2	
}			
sl-BetaOffsets2ndSCI-r16 SEQUENCE (SIZE (4))	4 entries		
OF SL-BetaOffsets-r16 {			
SL-BetaOffsets-r16[k, k=1..4]	1	entry k	
}			
sl-Scaling-r16	f1		
}			
}			
sl-PSFCH-Config-r16	Not present		
sl-PSFCH-Config-r16 CHOICE {			SL_HARQ
setup SEQUENCE {			
sl-PSFCH-Period-r16	sl4		
sl-PSFCH-RB-Set-r16	bitstring of length n, The leftmost p*floor(m/p)*floor(n/m) bits are set to "1" and the rest are set to "0"	Note 1, Note 2, Note 3	
sl-NumMuxCS-Pair-r16	n2		
sl-MinTimeGapPSFCH-r16	sl2		
sl-PSFCH-HopID-r16	Not present	Default frequency hopping ID 0 is used	
sl-PSFCH-CandidateResourceType-r16	startSubCH		
}			
}			
sl-SyncAllowed-r16 SEQUENCE {			
gnss-Sync-r16	true		
gnbEnb-Sync-r16	true		
ue-Sync-r16	true		
}			
sl-SubchannelSize-r16	n10		
dummy	Not present		
sl-StartRB-Subchannel-r16	0	start RB of BWP	
sl-NumSubchannel-r16	floor(n/m)	Note 1, Note 2	
sl-Additional-MCS-Table-r16	Not present		
sl-ThreshS-RSSI-CBR-r16	0	actual value is -112 dBm	
sl-TimeWindowSizeCBR-r16	slot100		
sl-TimeWindowSizeCR-r16	slot1000		
sl-PTRS-Config-r16	Not present		
sl-UE-SelectedConfigRP-r16 SEQUENCE {			
sl-CBR-PriorityTxConfigList-r16	SL-CBR-PriorityTxConfigList-r16		
sl-ThresPSSCH-RSRP-List-r16	SL-ThresPSSCH-RSRP-		

	List-r16		
sl-MultiReserveResource-r16	Not present		
sl-MaxNumPerReserve-r16	n2		
sl-SensingWindow-r16	ms100		
sl-SelectionWindowList-r16 SEQUENCE (SIZE (8)) OF SL-SelectionWindowConfig-r16 {	8 entries		
SL-SelectionWindowConfig-r16[k, k=1..8]		entry k	
SEQUENCE {			
sl-Priority-r16	k		
sl-SelectionWindow-r16	n10		
}			
}			
sl-ResourceReservePeriodList-r16	Not present		
sl-RS-ForSensing-r16	pssch		
}			
sl-RxParametersNcell-r16	Not present		
sl-ZoneConfigMCR-List-r16	Not present		
sl-FilterCoefficient-r16	fc4		
sl-RB-Number-r16	10*floor(n/10)	Note 1	
sl-PreemptionEnable-r16	Not present		
sl-PriorityThreshold-UL-URLLC-r16	Not present		
sl-PriorityThreshold-r16	Not present		
sl-X-Overhead-r16	Not present	Default value n0 is used	
sl-PowerControl-r16	Not present		
sl-TxPercentageList-r16 SEQUENCE (SIZE (8)) OF SL-TxPercentageConfig-r16 {	8 entries		
SL-TxPercentageConfig-r16[k, k=1..8] SEQUENCE {		entry k	
sl-Priority-r16	k		
sl-TxPercentage-r16	p50		
}			
}			
sl-MinMaxMCS-List-r16	Not present		
sl-TimeResource-r16	111111100	First 8 of every 10 logical slots	
	000000011	Last 2 of every 10 logical slots	EXCEPTION AL
}			

Note 1: n is the bandwidth of active SL BWP (in RB). n is determined in Table 4.3.1.0D-1 and Table 4.3.1.0D-2 for FR1 and FR2 respectively.

Note 2: m is subchannel size configured by sl-SubchannelSize-r16.

Note 3: p is the PSFCH period configured by sl-PSFCH-Period-r16

Condition	Explanation
SL_HARQ	To enable SL HARQ feedback
EXCEPTIONAL	For exceptional resource pool

– SL-RLC-BearerConfig

Table 4.6.6-26: SL-RLC-BearerConfig

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-RLC-BearerConfig-r16 ::= SEQUENCE {			
sl-RLC-BearerConfigIndex-r16	SL-RLC-BearerConfigIndex-r16		
sl-ServedRadioBearer-r16	SLRB-Uu-ConfigIndex-r16		
sl-RLC-Config-r16	SL-RLC-Config-r16		
sl-MAC-LogicalChannelConfig-r16	SL-LogicalChannelConfig-r16		
}			

– *SL-RLC-BearerConfigIndex*

Table 4.6.6-27: *SL-RLC-BearerConfigIndex*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-RLC-BearerConfigIndex-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-RLC-Config*

Table 4.6.6-28: *SL-RLC-Config*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-RLC-Config-r16 ::= CHOICE {			
sl-AM-RLC-r16 SEQUENCE {			AM
sl-SN-FieldLengthAM-r16	size12		
sl-T-PollRetransmit-r16	ms80		
sl-PollPDU-r16	p32768		
sl-PollByte-r16	kB750		
sl-MaxRetxThreshold-r16	t8		
}			
sl-UM-RLC-r16 SEQUENCE {			UM
sl-SN-FieldLengthUM-r16	size6		
}			
}			

Condition	Explanation
AM	RLC AM
UM	RLC UM

– *SL-ScheduledConfig*

Table 4.6.6-29: *SL-ScheduledConfig*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-ScheduledConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-SDAP-Config*

Table 4.6.6-30: *SL-SDAP-Config*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-SDAP-Config-r16 ::= SEQUENCE {			
sl-SDAP-Header-r16	present		
sl-DefaultRB-r16	true		
sl-MappedQoS-Flows-r16	Not present	All PC5 QoS flows are mapped to default SL DRB	
sl-CastType-r16	Unicast		
}			

– *SL-SyncConfig***Table 4.6.6-31: SL-SyncConfig**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-SyncConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-ThresPSSCH-RSRP-List***Table 4.6.6-32: SL-ThresPSSCH-RSRP-List**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-ThresPSSCH-RSRP-List-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-TxPower***Table 4.6.6-33: SL-TxPower**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-TxPower-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-TypeTxSync***Table 4.6.6-34: SL-TypeTxSync**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-TypeTxSync-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-UE-SelectedConfig***Table 4.6.6-35: SL-UE-SelectedConfig**

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-UE-SelectedConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SL-ZoneConfig*

Table 4.6.6-36: *SL-ZoneConfig*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SL-ZoneConfig-r16 ::= SEQUENCE {			
FFS			
}			

– *SLRB-Uu-ConfigIndex*

Table 4.6.6-37: *SLRB-Uu-ConfigIndex*

Derivation Path: TS 38.331 [6], clause 6.3.5			
Information Element	Value/remark	Comment	Condition
SLRB-Uu-ConfigIndex-r16 ::= SEQUENCE {			
FFS			
}			

4.7 Default 5GC NAS message and information elements contents

4.7.0 General

4.7.0.1 Interpretation of IE presence and values

For Uplink NAS messages, the following terms and their meanings shall be used to determine how to test specific IEs:

- "Not present": test cases fail if IE is present.
- "Present but contents not checked": test cases fail if IE is not present. No requirements regarding contents of the IE.
- "If present: contents not checked": IE may or may not be present. No requirements regarding contents of the IE.
- "If present: <specific values>": IE may or may not be present. If present, its contents shall be as specified.
- "<specific values>": test cases fail if IE is not present. Its contents shall be as specified.
- "Present if <condition>: contents not checked: test cases fail if condition is fulfilled and IE is not present. Contents of IE are not checked, even if present.
- "Present if <condition>: <specific values>": test cases fail if condition is fulfilled and IE is not present. When IE shall be present, its contents shall be as specified.

4.7.0.2 Security protected 5GS NAS messages

In subclause 4.7.1, all 5GS NAS messages are described in the plain 5GS NAS message format.

When a 5GS NAS message is security protected, the message shall be contained by SECURITY PROTECTED 5GS NAS MESSAGE unless contained by another NAS message.

The default contents of SECURITY PROTECTED 5GS NAS MESSAGE message is defined in table 4.7.1-28.

4.7.1 Contents of 5GMM messages

– Authentication request

Table 4.7.1-1: AUTHENTICATION REQUEST

Derivation Path: 24.501 clause 8.2.1			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication request message identity	'0101 0110'B		
ngKSI			
NAS key set identifier	An arbitrarily selected value between '000'B and '110'B, different from the valid NAS key set identifier of the UE if such a value exists.		
TSC	'0'B	native security context (for KSI _{AMF})	
Spare half octet	'0000'B		
ABBA	'0000 0000 0000 0000'B		
Authentication parameter RAND (5G authentication challenge)	Not Present		EAP-AKA
	An arbitrarily selected 128 bits value		5G-AKA
Authentication parameter AUTN (5G authentication challenge)	Not Present		EAP-AKA
	128 bits value generated according to TS 24.501 [28] subclause 9.11.3.15		5G-AKA
EAP message	Not Present		5G-AKA
EAP message	EAP-request/AKA'-challenge	See Table 4.7.3.2-01	EAP-AKA

Condition	Explanation
EAP_AKA	EAP based primary authentication and key agreement procedure
5G-AKA	5G AKA based primary authentication and key agreement procedure

NOTE: Within a test execution this message is sent without integrity protection before NAS security mode control procedure has been successfully completed; and sent integrity protected and ciphered within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed. SS does not maintain information for 5GS NAS security mode control procedure after a TC is completed.

– *Authentication response*

Table 4.7.1-2: AUTHENTICATION RESPONSE

Derivation Path: 24.501 clause 8.2.2			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	5GMM		
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication response message identity	'0101 0111'B		
Authentication response parameter	16 octets RES* value calculated according to TS 24.501 [28] subclause 9.11.3.17		5G-AKA
	Not Present		EAP-AKA
EAP message	EAP-response/AKA'-challenge	See Table 4.7.3.2-02	EAP-AKA

Condition	Explanation
EAP-AKA	EAP based primary authentication and key agreement procedure
5G-AKA	5G AKA based primary authentication and key agreement procedure

NOTE: When sent in response to an AUTHENTICATION REQUEST message which is not integrity protected and not ciphered, the AUTHENTICATION RESPONSE message is sent integrity protected when a valid security context exists and without integrity protection and ciphering otherwise.

– *Authentication result*

Table 4.7.1-3: AUTHENTICATION RESULT

Derivation Path: 24.501 clause 8.2.3			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	5GMM		
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication result message identity	'0101 1010'B		
ngKSI	The same value as the last AUTHENTICATION REQUEST message		
Spare half octet	'0000'B		
EAP message	EAP-Success	See Table 4.7.3.2-03	
ABBA	'0000 0000 0000 0000'B		

NOTE: The security protection of this message is the same as the previous AUTHENTICATION REQUEST message.

– *Authentication failure*

Table 4.7.1-4: AUTHENTICATION FAILURE

Derivation Path: 24.501 clause 8.2.4			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	5GMM		
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication failure message identity	'0101 1001'B		
5GMM cause	Present but contents not checked		
Authentication failure parameter	If present: contents not checked		

NOTE: The security protection of this message is the same as the previous AUTHENTICATION REQUEST message.

– *Authentication reject*

Table 4.7.1-5: AUTHENTICATION REJECT

Derivation Path: 24.501 clause 8.2.5			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	5GMM		
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication reject message identity	'0101 1000'B		
EAP message	Not present		
EAP message	EAP-Response/AKA-Authentication-Reject	See Table 4.7.3.2-04	EAP-AKA

Condition	Explanation
EAP-AKA	EAP based primary authentication and key agreement procedure

NOTE: This message is sent without integrity protection.

– *Registration request*

Table 4.7.1-6: REGISTRATION REQUEST

Derivation Path: 24.501 clause 8.2.6			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration request message identity	'0100 0001'B		
5GS registration type			
5GS registration type value	'001'B	Initial registration	
	'010'B		MOBILITY
	'011'B		PERIODIC
	'100'B		EMERGENCY
FOR	Present but contents not checked		
FOR	'1'B	Follow-on request pending	EMERGENCY
ngKSI	Present but contents not checked		
5GS mobile identity	Present but contents not checked		
Non-current native NAS key set identifier	If present: contents not checked		NON_CLEAR EXT_IE
5GMM capability	If present: contents not checked		NON_CLEAR EXT_IE
UE security capability	If present: contents not checked		
Requested NSSAI	If present: contents not checked		NON_CLEAR EXT_IE
Last visited registered TAI	If present: contents not checked		NON_CLEAR EXT_IE
S1 UE network capability	If present: contents not checked		NON_CLEAR EXT_IE
Uplink data status	If present: contents not checked		NON_CLEAR EXT_IE
PDU session status	If present: contents not checked		NON_CLEAR EXT_IE
MICO indication	If present: contents not checked		NON_CLEAR EXT_IE
UE status	If present: contents not checked		
Additional GUTI	If present: contents not checked		
Allowed PDU session status	If present: contents not checked		NON_CLEAR EXT_IE
UE's usage setting	If present: contents not checked		NOT pc_IMS AND NON_CLEAR EXT_IE
UE's usage setting	Present but contents not checked		NON_CLEAR EXT_IE
Requested DRX parameters	If present: contents not checked		NON_CLEAR EXT_IE
EPS NAS message container	If present: contents not checked		
UE radio capability ID	If present: contents not checked		pc_5GC_RACS AND NON_CLEAR EXT_IE

LADN indication	If present: contents not checked		NON_CLEARTEXT_IE
Payload container type	If present: contents not checked		NON_CLEARTEXT_IE
Payload container	If present: contents not checked		NON_CLEARTEXT_IE
Network slicing indication	If present: contents not checked		NON_CLEARTEXT_IE
5GS update type	If present: contents not checked		NON_CLEARTEXT_IE
Mobile station classmark 2	If present: contents not checked		NON_CLEARTEXT_IE
Supported codecs	If present: contents not checked		NON_CLEARTEXT_IE
NAS message container	The complete, ciphered, REGISTRATION REQUEST message including all IEs.		CIPHERED_MESSAGE
EPS bearer context status	If present: contents not checked		NON_CLEARTEXT_IE
Requested extended DRX parameters	If present: contents not checked		NON_CLEARTEXT_IE
T3324 value	If present: contents not checked		NON_CLEARTEXT_IE
UE radio capability ID	If present: contents not checked		NON_CLEARTEXT_IE
Requested mapped NSSAI	If present: contents not checked		NON_CLEARTEXT_IE
Additional information requested	If present: contents not checked		NON_CLEARTEXT_IE
Requested WUS assistance information	If present: contents not checked		NON_CLEARTEXT_IE
N5GC indication	If present: contents not checked		NON_CLEARTEXT_IE
Requested NB-N1 mode DRX parameters	If present: contents not checked		NON_CLEARTEXT_IE

Condition	Explanation
INITIAL	Initial registration
MOBILITY	Mobility registration updating
PERIODIC	Periodic registration updating
EMERGENCY	Emergency registration
NON_CLEARTEXT_IE	An information element that is not allowed to be sent in cleartext and shall only be included in the complete REGISTRATION REQUEST message in the NAS message container IE.
CIPHERED_MESSAGE	If any of the IEs marked with the condition NON_CLEARTEXT_IE is present, and the UE has a valid 5G NAS security context, this condition applies.

NOTE: This message is sent integrity protected when a valid security context exists otherwise sent without integrity protection, including only cleartext IEs.

– *Registration accept*

Table 4.7.1-7: REGISTRATION ACCEPT

Derivation Path: 24.501 clause 8.2.7			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration accept message identity	'0100 0010'B		
5GS registration result			
5GS registration result value	'001'B	3GPP access	
SMS allowed	'0'B	SMS over NAS not allowed	
5G-GUTI	See Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
Equivalent PLMNs	Not Present		
TAI list			
Length of tracking area identity list contents	'0000 0111'B	7 octets	
Partial tracking area identity list 1			
Number of elements	'0 0000'B	1 element	
Type of list	'00'B	list of TACs belonging to one PLMN, with non-consecutive TAC values	
MCC	See Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
MNC	See Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
TAC 1	See Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
Allowed NSSAI			
S-NSSAI			
Length of S-NSSAI contents	'0000 0001'B	SST	
SST	'0000 0001'B	SST value 1 (eMBB)	SST_eMBB
SST	'0000 0010'B	SST value 2 (URLLC)	SST_URLLC
SST	'0000 0011'B	SST value 3 (MIoT)	SST_MIoT
SST	'0000 0100'B	SST value 4 (V2X)	SST_V2X
Rejected NSSAI	Not Present		
Configured NSSAI	Not Present		
5GS network feature support	'0000 1101 0000 0000'B	IMS voice over PS session supported over 3GPP access, Emergency services supported in NR connected to 5GCN and E-UTRA connected to 5GCN. All other features set to "not supported" including the 'Interworking without N26 interface not	

		supported'.	
PDU session status	The same value as the PDU session status IE of the most recently received REGISTRATION REQUEST message		
PDU session reactivation result	Not Present		
PDU session reactivation result error cause	Not Present		
LADN information	Not Present		
MICO indication	Not Present		
Network slicing indication	Not Present		
Service area list	Not Present		
T3512 value			INITIAL
Timer value	'0 0000'B		
Unit	'111'B	value indicates that the timer is deactivated	
T3512 value	Not Present		
Non-3GPP de-registration timer value	Not Present		
T3502 value	Not Present		
Emergency number list	Not Present		
Extended emergency number list	Not Present		
SOR Transparent container	Not Present		
EAP message	Not Present		
NSSAI inclusion mode	Not Present		
Operator-defined access category definitions	Not Present		
Negotiated DRX parameters	Not Present		
Non-3GPP NW policies	Not Present		
UE radio capability ID	The same value as received in UE radio capability ID; if any of the REGISTRATION REQUEST message		pc_5GC_RA CS
EPS bearer context status	The same value as the EPS bearer context status IE of the most recently received REGISTRATION REQUEST message		
Negotiated extended DRX parameters	Not Present		
T3447 value	Not Present		
T3448 value	Not Present		
T3324 value	Not Present		
UE radio capability ID	Not Present		
UE radio capability ID deletion indication	Not Present		
Pending NSSAI	Not Present		
Ciphering key data	Not Present		
CAG information list	Not Present		
Truncated 5G-S-TMSI configuration	Not Present		
Negotiated WUS assistance information	Not Present		
Negotiated NB-N1 mode DRX parameters	Not Present		

Condition	Explanation
INITIAL	Initial registration

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Registration complete*

Table 4.7.1-8: REGISTRATION COMPLETE

Derivation Path: 24.501 clause 8.2.8			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration complete message identity	'0100 0011'B		
SOR transparent container	If present: contents not checked		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Registration reject*

Table 4.7.1-9: REGISTRATION REJECT

Derivation Path: 24.501 clause 8.2.9			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration reject message identity	'0100 0100'B		
5GMM cause	Set according to specific message content		
T3346 value	Not Present		
T3502 value	Not Present		
EAP message	Not Present		
Rejected NSSAI	Not Present		
CAG information list	Not Present		

NOTE: This message is sent without integrity protection before the secure exchange of NAS messages has been established and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after the secure exchange of NAS messages has been established.

– *UL NAS transport*

Table 4.7.1-10: UL NAS TRANSPORT

Derivation Path: 24.501 clause 8.2.10			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
UL NAS TRANSPORT message identity	'0110 0111'B		
Payload container type	Set according to specific message content		
Payload container type	'0001'B	N1 SM information	INITIAL_PDU_REQUEST
Spare half octet	'0000'B		
Payload container	Set according to specific message content		
Payload container	PDU SESSION ESTABLISHMENT REQUEST message		INITIAL_PDU_REQUEST
PDU session ID	If present: contents not checked		
PDU session ID	Same PDU session ID as defined in the PDU SESSION ESTABLISHMENT REQUEST message in the Payload container		INITIAL_PDU_REQUEST
Old PDU session ID	If present: contents not checked		
Request type	If present: contents not checked		
Request type	'001'B	initial request	INITIAL_PDU_REQUEST
S-NSSAI	If present: contents not checked		
DNN	If present: contents not checked	(NOTE 1)	
Additional information	If present: contents not checked		
MA PDU session information	If present: contents not checked		
Release assistance indication	If present: contents not checked		
NOTE 1: Although the contents of the IE is not required to be verified for PASS/FAIL purposes, the provided information shall be taken into account e.g. for the building the content of messages and allowing for specific UE behaviour as specified in Table 4.8.4-1.			

Condition	Explanation
INITIAL_PDU_REQUEST	The UL NAS TRANSPORT message is used to transport a PDU SESSION ESTABLISHMENT REQUEST message to establish a new PDU session.

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *DL NAS transport***Table 4.7.1-11: DL NAS TRANSPORT**

Derivation Path: 24.501 clause 8.2.11			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
DL NAS TRANSPORT message identity	'0110 1000'B		
Payload container type	Set according to specific message content		
Payload container type	'0001'B	N1 SM information	5GSM_MESSAGE
Spare half octet	'0000'B		
Payload container	Set according to specific message content		
Payload container	5GSM message		5GSM_MESSAGE
PDU session ID	Not Present		
PDU session ID	Set to the same value as the PDU session ID of the 5GSM message in the Payload container.		5GSM_MESSAGE
Additional information	Not Present		
5GMM cause	Not Present		
Back-off timer value	Not Present		

Condition	Explanation
5GSM_MESSAGE	The DL NAS TRANSPORT message is used to transport a 5GSM message

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *De-registration request (UE originating de-registration)***Table 4.7.1-12: DEREGISTRATION REQUEST_1**

Derivation Path: 24.501 clause 8.2.12			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration request message identity	'0100 0101'B		
De-registration type			
Switch off	'0'B '1'B		NORMAL SWITCH_OFF
Re-registration required	'0'B		
Access type	'01'B	3GPP access	
ngKSI	Present but contents not checked		
5GS mobile identity	Present but contents not checked		

Condition	Explanation
NORMAL	Normal de-registration
SWITCH_OFF	Switch off

NOTE: If this message is sent as an initial NAS message, it is sent with integrity protection but without ciphering. Otherwise it is sent without integrity protection and ciphering before SS has started the ciphering and integrity and ciphered protected after SS has started the ciphering.

– *De-registration accept (UE originating de-registration)*

Table 4.7.1-13: DEREGISTRATION ACCEPT_1

Derivation Path: 24.501 clause 8.2.13			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration accept message identity	'0100 0110'B		

NOTE: This message is sent using the same security protection as in the previous DETACH REQUEST message received from the UE.

– *De-registration request (UE terminated de-registration)*

Table 4.7.1-14: DEREGISTRATION REQUEST_2

Derivation Path: 24.501 clause 8.2.14			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration request message identity	'0100 0111'B		
De-registration type	Set according to specific message content		
Spare half octet	'0000'B		
5GMM cause	Not Present		
T3346 value	Not Present		
Rejected NSSAI	Not Present		
CAG information list	Not Present		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *De-registration accept (UE terminated de-registration)*

Table 4.7.1-15: DEREGISTRATION ACCEPT_2

Derivation Path: 24.501 clause 8.2.15			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration accept message identity	'0100 1000'B		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Service request*

Table 4.7.1-16: SERVICE REQUEST

Derivation Path: 24.501 clause 8.2.16			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Service request message identity	'0100 1100'B		
ngKSI			
NAS key set identifier	The valid NAS key set identifier of the UE		
TSC	'0'B	native security context (for KSI _{AMF})	
Service type	'0010'B	mobile terminated services	
5G-S-TMSI	The valid 5G-S-TMSI of the UE		
Uplink data status	If present: contents not checked		NON_CLEARTEXT_IE
PDU session status	If present: contents not checked		NON_CLEARTEXT_IE
Allowed PDU session status	If present: contents not checked		NON_CLEARTEXT_IE
NAS message container	If present, the complete, ciphered, SERVICE REQUEST message including all IEs.		CIPHERED_MESSAGE

Condition	Explanation
NON_CLEARTEXT_IE	An information element that is not allowed to be sent in cleartext and shall only be included in the complete SERVICE REQUEST message in the NAS message container IE. NOTE: This condition is only applicable if the SERVICE REQUEST message is sent as an initial NAS message.
CIPHERED_MESSAGE	If any of the IEs marked with the condition NON_CLEARTEXT_IE is present, this condition applies. NOTE: This condition is only applicable if the SERVICE REQUEST message is sent as an initial NAS message.

NOTE: This message is sent without integrity protection, including only cleartext IEs, before NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after NAS security mode control procedure has been successfully completed

– *Service accept*

Table 4.7.1-17: SERVICE ACCEPT

Derivation Path: 24.501 clause 8.2.17			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Service accept message identity	'0100 1110'B		
PDU session status	Not Present		
PDU session reactivation result	Not Present		
PDU session reactivation result error cause	Not Present		
EAP message	Not Present		
T3448 value	Not Present		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Service reject*

Table 4.7.1-18: SERVICE REJECT

Derivation Path: 24.501 clause 8.2.18			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Service reject message identity	'0100 1101'B		
5GMM cause	The value is set according to specific message content		
PDU session status	Not Present		
T3346 value	Not Present		
EAP message	Not Present		
T3448 value	Not Present		
CAG information list	Not Present		

NOTE: This message is sent without integrity protection before NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after NAS security mode control procedure has been successfully completed

– *Configuration update command*

Table 4.7.1-19: CONFIGURATION UPDATE COMMAND

Derivation Path: 24.501 clause 8.2.19			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Configuration update command message identity	'0101 0100'B		
Configuration update indication	Not Present		
5G-GUTI	Not Present		
TAI list	Not Present		
Allowed NSSAI	Not Present		
Service area list	Not Present		
Full name for network	Not Present		
Short name for network	Not Present		
Local time zone	Not Present		
Universal time and local time zone	Not Present		
Network daylight saving time	Not Present		
LADN information	Not Present		
MICO indication	Not Present		
Network slicing indication	Not Present		
Configured NSSAI	Not Present		
Rejected NSSAI	Not Present		
Operator-defined access category definitions	Not Present		
SMS indication	Not Present		
T3447 value	Not Present		
CAG information list	Not Present		
UE radio capability ID	Not Present		
UE radio capability ID deletion indication	Not Present		
5GS registration result	Not Present		
Truncated 5G-S-TMSI configuration	Not Present		
Additional configuration indication	Not Present		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Configuration update complete*

Table 4.7.1-20: CONFIGURATION UPDATE COMPLETE

Derivation Path: 24.501 clause 8.2.20			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Configuration update complete message identity	'0101 0101'B		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Identity request*

Table 4.7.1-21: IDENTITY REQUEST

Derivation Path: 24.501 clause 8.2.21			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Identity request message identity	'0101 1011'B		
Identity type	Set according to specific message contents		
Spare half octet	'0000'B		

NOTE: This message is sent without integrity protection before 5GS NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed.

– *Identity response*

Table 4.7.1-22: IDENTITY RESPONSE

Derivation Path: 24.501 clause 8.2.22			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Identity response message identity	0101 1100'B		
Mobile identity	Present but contents not checked		

NOTE: This message is sent without integrity protection before 5GS NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed.

– *Notification*

Table 4.7.1-23: NOTIFICATION

Derivation Path: 24.501 clause 8.2.23			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Notification message identity	'0110 0101'B		
Access type	'01'B	3GPP access	
Spare half octet	'0000'B		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Notification response***Table 4.7.1-24: NOTIFICATION RESPONSE**

Derivation Path: 24.501 clause 8.2.24			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Notification response message identity	'0110 0110'B		
PDU session status	If present: contents not checked		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Security mode command*

Table 4.7.1-25: SECURITY MODE COMMAND

Derivation Path: 24.501 clause 8.2.25			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Security mode command message identity	'0101 1101'B		
Selected NAS security algorithms			
Type of ciphering algorithm	Set according to PIXIT px_NAS_5GC_CipheringAlgorithm for default ciphering algorithm		
Type of ciphering algorithm	'0000'B	5G encryption algorithm 5G EAO (null ciphering algorithm)	For RF
Type of integrity protection algorithm	Set according to PIXIT px_NAS_5GC_IntegrityProtAlgorithm for default integrity protection algorithm	This value should not be equal to the null integrity algorithm.	
ngKSI			
NAS key set identifier	The valid NAS key set identifier		
TSC	'0'B	native security context (for KSI _{AMF})	
Spare half octet	'0000'B		
Replayed UE security capabilities	Set according to the received UE security capabilities		
IMEISV request	Not Present		
Selected EPS NAS security algorithms	Not Present		
Selected EPS NAS security algorithms			UE_S1_SUPPORTED
Type of ciphering algorithm	Set according to PIXIT px_NAS_CipheringAlgorithm for default ciphering algorithm	The px_NAS_CipheringAlgorithm PIXIT is defined in TS 36.523-3 [x]	
Type of integrity protection algorithm	Set according to PIXIT px_NAS_IntegrityProtAlgorithm for default integrity protection algorithm	The px_NAS_IntegrityProtAlgorithm is defined in TS 36.523-3 [x]	
Additional 5G security information	Not Present		
Additional 5G security information			NO_VALID_SS_SECURITY_CONTEXT
RINMR	'1'B	Retransmission of the initial NAS message requested	
HDP	'0'B	K _{AMF} derivation is not required	
EAP message	Not Present		
EAP message	EAP-Success	See Table 4.7.3.2-03	EAP-AKA
ABBA	'0000 0000 0000 0000'B		EAP-AKA
Replayed S1 UE security capabilities	Not Present		

Replayed S1 UE security capabilities	Set according to the received UE security capabilities in the last REGISTRATION REQUEST message		UE_S1_SUPPORTED

Condition	Explanation
NO_VALID_SS_SECURITY_CONTEXT	If the SS doesn't have a valid security context
EAP_AKA	EAP based primary authentication and key agreement procedure
For RF	Used for RF/RRM test cases
UE_S1_SUPPORTED	The UE indicated support of S1 in the last REGISTRATION REQUEST message

NOTE: This message is always sent integrity protected with new 5GS NAS security context.

– *Security mode complete*

Table 4.7.1-26: SECURITY MODE COMPLETE

Derivation Path: 24.501 clause 8.2.26			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Security mode complete message identity	'0101 1110'B		
IMEISV	Not present		
NAS message container	Not present		
	Complete initial NAS message		RINMR_INDICATED
non-IMEISV PEI	Not present		

Condition	Explanation
RINMR_INDICATED	The SS requested retransmission of the initial NAS message in the last SECURITY MODE COMMAND

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message with new 5GS NAS security context.

– *Security mode reject*

Table 4.7.1-27: SECURITY MODE REJECT

Derivation Path: 24.501 clause 8.2.27			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Security mode reject message identity	'0101 1111'B		
5GMM cause	The value is set according to specific message content		

NOTE: This message is sent without integrity protection before 5GS NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed.

– *Security protected 5GS NAS message*

Table 4.7.1-28: SECURITY PROTECTED 5GS NAS MESSAGE

Derivation Path: 24.501 clause 8.2.28			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	5GMM		
Security header type	'0001'B	Integrity protected	UNCIPHERED
	'0010'B	Integrity protected and ciphered	CIPHERED
	'0011'B	Integrity protected with new 5G NAS security context	UNCIPHERED-NEW
	'0100'B	Integrity protected and ciphered with new 5G NAS security context	CIPHERED-NEW
Spare half octet	'0000'B		
Message authentication code	The calculated value of MAC-I for this message.	The value of MAC-I is calculated by SS using Sequence number sent by UE.	SENT-BY-SS
	The same value as the XMAC-I value calculated by SS.		SENT-BY-UE
Sequence number	The internal counter of the SS		SENT-BY-SS
	Any allowed value		SENT-BY-UE
Plain 5GS NAS message	Set according to specific message content		

Condition	Explanation
UNCIPHERED	This condition applies to unciphered NAS message exchange
CIPHERED	This condition applies to ciphered NAS message exchange
UNCIPHERED-NEW	This condition applies to unciphered NAS message exchange with new 5G NAS security context
CIPHERED-NEW	This condition applies to ciphered NAS message exchange with new 5G NAS security context
SENT-BY-SS	Use for the message sent from SS to UE
SENT-BY-UE	Use for the message sent from UE to SS

– *5GMM status*

Table 4.7.1-29: 5GMM STATUS

Derivation Path: 24.501 clause 8.2.29			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	5GMM		
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
5GMM STATUS message identity	'0110 0100'B		
5GMM cause	'0110 1111'B	Protocol error, unspecified	SENT-BY-SS
	Present but contents not checked		SENT-BY-UE

Condition	Explanation
SENT-BY-SS	Use for the message sent from SS to UE
SENT-BY-UE	Use for the message sent from UE to SS

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Control plane service request*

Table 4.7.1-30: CONTROL PLANE SERVICE REQUEST

Derivation Path: 24.501 clause 8.2.30			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Control plane service request message identity	'0100 1111'B		
Control plane service type	'001'B	mobile terminated request	
ngKSI			
NAS key set identifier	The valid NAS key set identifier of the UE		
TSC	'0'B	native security context (for KSI _{AMF})	
CIoT small data container	If present: contents not checked		NON_CLEAR TEXT_IE
Payload container type	If present: contents not checked		NON_CLEAR TEXT_IE
Payload container	If present: contents not checked		NON_CLEAR TEXT_IE
PDU session ID	If present: contents not checked		NON_CLEAR TEXT_IE
PDU session status	If present: contents not checked		NON_CLEAR TEXT_IE
Release assistance indication	If present: contents not checked		NON_CLEAR TEXT_IE
Uplink data status	If present: contents not checked		NON_CLEAR TEXT_IE
NAS message container	If present: contents not checked		CIPHERED_MESSAGE
Additional information	If present: contents not checked		NON_CLEAR TEXT_IE

Condition	Explanation
NON_CLEARTEXT_IE	An information element that is not allowed to be sent in cleartext and shall only be included in the complete CONTROL PLANE SERVICE REQUEST message in the NAS message container IE. NOTE: This condition is only applicable if the CONTROL PLANE SERVICE REQUEST message is sent as an initial NAS message.
CIPHERED_MESSAGE	If any of the IEs marked with the condition NON_CLEARTEXT_IE is present, this condition applies. NOTE: This condition is only applicable if the CONTROL PLANE SERVICE REQUEST message is sent as an initial NAS message.

NOTE: This message is sent without integrity protection, including only cleartext IEs, before NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after NAS security mode control procedure has been successfully completed

– *Network slice-specific authentication command*

Table 4.7.1-31: NETWORK SLICE-SPECIFIC AUTHENTICATION COMMAND

Derivation Path: 24.501 clause 8.2.31			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
NETWORK SLICE-SPECIFIC AUTHENTICATION COMMAND message identity	'0101 0000'B		
S-NSSAI	Set according to specific message content		
EAP message	FFS		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Network slice-specific authentication complete*

Table 4.7.1-32: NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE

Derivation Path: 24.501 clause 8.2.32			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE message identity	'0101 0001'B		
S-NSSAI	Set according to specific message content		
EAP message	FFS		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Network slice-specific authentication result***Table 4.7.1-33: NETWORK SLICE-SPECIFIC AUTHENTICATION RESULT**

Derivation Path: 24.501 clause 8.2.33			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0111 1110'B	5GS mobility management messages	
Security header type	'0000'B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE message identity	'0101 0010'B		
S-NSSAI	Set according to specific message content		
EAP message	FFS		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

4.7.2 Contents of 5GSM messages

– PDU session establishment request

Table 4.7.2-1: PDU SESSION ESTABLISHMENT REQUEST

Derivation Path: 24.501 clause 8.3.1			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	Any value according to TS 24.501 [25] subclause 9.4		
PTI	Any value from 1 to 254		
PDU SESSION ESTABLISHMENT REQUEST message identity	'1100 0001'B		
Integrity protection maximum data rate	Present but contents not checked		
PDU session type	Any value between '001'B, '010'B and '011'B	The allowed values are respectively IPv4, IPv6 and IPv4v6	
SSC mode	If present: contents not checked		
5GSM capability	If present: contents not checked		
Maximum number of supported packet filters	If present: contents not checked		
Always-on PDU session requested	If present: contents not checked		
SM PDU DN request container	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked	The SS shall remember if this IE is present and its contents because this affects subsequent SS behaviour, e.g. coding of PDU SESSION ESTABLISHMENT ACCEPT.	
IP header compression configuration	If present: contents not checked		
DS-TT Ethernet port MAC address	If present: contents not checked		
UE-DS-TT residence time	If present: contents not checked		
Port management information container	If present: contents not checked		
Ethernet header compression configuration	If present: contents not checked		
Suggested interface identifier	If present: contents not checked		

– *PDU session establishment accept*

Table 4.7.2-2: PDU SESSION ESTABLISHMENT ACCEPT

Derivation Path: 24.501 clause 8.3.2			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PDU SESSION ESTABLISHMENT ACCEPT message identity	'1100 0010'B		
Selected PDU session type	'001'B		IPv4
	'010'B		IPv6
	'011'B		IPv4v6
Selected SSC mode	'001'B	SSC mode 1	
Authorized QoS rules	5GC QoS rule of the entry in Table 4.8.4-1 which has been determined by the DNN IE in the UL NAS TRANSPORT message which carried the corresponding PDU SESSION ESTABLISHMENT REQUEST or by pc_APN_Default_Configuration if the DNN IE was not present		
Session AMBR			
Unit for Session-AMBR for downlink	'000 00101'	Value is incremented in multiples of 256 Kbps	
Session-AMBR for downlink	'0000 0000 0000 0100'B	1024 Kbps	
Unit for Session-AMBR for uplink	'000 00101'	Value is incremented in multiples of 256 Kbps	
Session-AMBR for uplink	'0000 0000 0000 0100'B	1024 Kbps	
5GSM cause	Not Present		
PDU address			IPv4
Length of PDU address contents	5 octets		
PDU type value	'001'B	IPv4	
PDU address information	IPv4 address	The SS provides a valid IPv4 address	NOT IPv4-DHCP
	0.0.0.0	DHCPv4 is to be used to allocate the IPv4 address	IPv4-DHCP
PDU address			IPv6
Length of PDU address contents	9 octets		
PDU type value	'010'B	IPv6	
PDU address information	IPv6 interface identifier	The SS provides a valid IPv6 interface identifier	
PDU address			IPv4v6
Length of PDU address contents	13 octets		
PDU type value	'011'B	IPv4v6	

PDU address information (Octets 4 to 11)	IPv6 interface identifier	The SS provides a valid IPv6 interface identifier	
PDU address information (Octets 12 to 15)	IPv4 address	The SS provides a valid IPv4 address	NOT IPv4-DHCP
	0.0.0.0	DHCPv4 is to be used to allocate the IPv4 address	IPv4-DHCP
RQ timer value	Not Present		
S-NSSAI			
Length of S-NSSAI contents	'0000 0001'B	SST	
SST	'0000 0001'B	SST value 1 (eMBB)	SST_eMBB
SST	'0000 0010'B	SST value 2 (URLLC)	SST_URLLC
SST	'0000 0011'B	SST value 3 (MIoT)	SST_MIoT
SST	'0000 0100'B	SST value 4 (V2X)	SST_V2X
Always-on PDU session indication	Not Present		
Always-on PDU session indication			
APSI	'0'B	Always-on PDU session not allowed	Always_On_Requested
APSI	'1'B	Always-on PDU session required	Always_On_Requested AND SST_URLLC
Mapped EPS bearer contexts	Not Present		
Mapped EPS bearer contexts			Interworking_with_EPS
Mapped EPS bearer context			
EPS bearer identity	The same value as the one specified in the Reference QoS flow referred to from the Reference QoS rule indicated in the IE Authorized QoS rules		
Operation code	'001'B	Create new EPS bearer	
E bit	'1'B	Parameters list is included	
Number of EPS parameters	'0001'B	1 parameter	
Mapped EPS QoS parameters	EPC default bearer context of the entry in Table 4.8.4-1 which has been determined by the DNN IE in the UL NAS TRANSPORT message which carried the corresponding PDU SESSION ESTABLISHMENT REQUEST or by pc_APN_Default_Configuration if the DNN IE was not present		
EAP message	Not Present		
Authorized QoS flow descriptions	The QoS flow referred to in the relevant Authorized QoS rules IE		
Extended protocol configuration options	Not Present		
Extended protocol configuration options			P-CSCF_IPv6 OR P-CSCF_IPv4
Container ID 1	'0001'H		P-CSCF_IPv6

Length of container ID 1 contents		Length value determined by test implementation	
Container ID 1 contents	IPv6 address	P-CSCF IPv6 Address	
Container ID 2	'000C'H		P-CSCF_IPv4
Length of container ID 2 contents		Length value determined by test implementation	
Container ID 2 contents	IPv4 address	P-CSCF IPv4 Address	
DNN	The DNN/APN ID of the entry in Table 4.8.4-1 which has been determined by the DNN IE in the UL NAS TRANSPORT message which carried the corresponding PDU SESSION ESTABLISHMENT REQUEST or by pc_APN_Default_Configuration if the DNN IE was not present		
5GSM network feature support	Not Present		
Serving PLMN rate control	Not Present		
ATSSS container	Not Present		
Control plane only indication	Not Present		
IP header compression configuration	Not Present		
Ethernet header compression configuration	Not Present		

Condition	Explanation
IPv4	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the PDU session type = '001'B
IPv6	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the PDU session type = '010'B
IPv4v6	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the PDU session type = '011'B
IPv4-DHCP	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the IE Extended protocol configuration options contains a configuration protocol option = '000BH' ("IPv4 address allocation via DHCPv4", length of contents = 0). Note: This condition is used in conjunction with IPv4 or IPv4v6 as indicated in the "PDU address information" just above.
Always_On_Requested	If the last PDU SESSION ESTABLISHMENT REQUEST message included the Always-on PDU session requested IE
P-CSCF_IPv6	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message the IE Extended protocol configuration options contains a configuration protocol option = '0001H' ("P-CSCF IPv6 Address Request", length of contents = 0)
P-CSCF_IPv4	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message the IE Extended protocol configuration options contains a configuration protocol option = '000CH' ("P-CSCF IPv4 Address Request", length of contents = 0)
Interworking_with_EPS	If the UE has indicated support of S1, then the SS shall include this IE to provide details for the interworking with EPS being supported for a PDU session. This requirement is set up for the purpose of facilitating the test description. It is not mandatory for the Network to support Mapped EPS bearer contexts.

– *PDU session establishment reject*

Table 4.7.2-3: PDU SESSION ESTABLISHMENT REJECT

Derivation Path: 24.501 clause 8.3.3			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PDU SESSION ESTABLISHMENT REJECT message identity	'1100 0011'B		
5GSM cause	The value is set according to specific message content		
Back-off timer value	Not Present		
Allowed SSC mode	Not Present		
EAP message	Not Present		
Extended protocol configuration options	Not Present		
Re-attempt indicator	Not Present		
5GSM congestion re-attempt indicator	Not Present		

– *PDU session authentication command*

Table 4.7.2-4: PDU SESSION AUTHENTICATION COMMAND

Derivation Path: 24.501 clause 8.3.4			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	Set according to specific message content		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION AUTHENTICATION COMMAND message identity	'1100 0101'B		
EAP message	FFS	See TS 24.501 [25] subclause 9.11.2.2	
Extended protocol configuration options	Not Present		

– *PDU session authentication complete*

Table 4.7.2-5: PDU SESSION AUTHENTICATION COMPLETE

Derivation Path: 24.501 clause 8.3.5			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION AUTHENTICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION AUTHENTICATION COMPLETE message identity	'1100 0110'B		
EAP message	FFS	See TS 24.501 [25] subclause 9.11.2.2	
Extended protocol configuration options	If present: contents not checked		

– *PDU session authentication result*

Table 4.7.2-6: PDU SESSION AUTHENTICATION RESULT

Derivation Path: 24.501 clause 8.3.6			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION AUTHENTICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION AUTHENTICATION RESULT message identity	'1100 0111'B		
EAP message	FFS	See TS 24.501 [25] subclause 9.11.2.2	
Extended protocol configuration options	Not Present		

– *PDU session modification request*

Table 4.7.2-7: PDU SESSION MODIFICATION REQUEST

Derivation Path: 24.501 clause 8.3.7			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	Any value from 1 to 254		
PDU SESSION MODIFICATION REQUEST message identity	'1100 1001'B		
5GSM capability	If present: contents not checked		
5GSM cause	If present: contents not checked		
Maximum number of supported packet filters	If present: contents not checked		
Always-on PDU session requested	If present: contents not checked		
Integrity protection maximum data rate	If present: contents not checked		
Requested QoS rules	If present: contents not checked		
Requested QoS flow descriptions	If present: contents not checked		
Mapped EPS bearer contexts	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		
Port management information container	If present: contents not checked		
IP header compression configuration	If present: contents not checked		
Ethernet header compression configuration	If present: contents not checked		

– *PDU session modification reject*

Table 4.7.2-8: PDU SESSION MODIFICATION REJECT

Derivation Path: 24.501 clause 8.3.8			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION MODIFICATION REQUEST message.		
PTI	The value indicated in PDU SESSION MODIFICATION REQUEST message.		
PDU SESSION MODIFICATION REJECT message identity	'1100 1010'B		
5GSM cause	Set according to specific message content.		
Back-off timer value	Not Present		
Extended protocol configuration options	Not Present		
Re-attempt indicator	Not Present		
5GSM congestion re-attempt indicator	Not Present		

– *PDU session modification command*

Table 4.7.2-9: PDU SESSION MODIFICATION COMMAND

Derivation Path: 24.501 clause 8.3.9			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	Set according to specific message content.		
PDU session ID	The value indicated in PDU SESSION MODIFICATION REQUEST message.		UE_Initiated_Modification
PTI	'0000 0000'B	No procedure transaction identity assigned	
PTI	The value indicated in PDU SESSION MODIFICATION REQUEST message.		UE_Initiated_Modification
PDU SESSION MODIFICATION COMMAND message identity	'1100 1011'B		
5GSM cause	Not Present		
Session AMBR	Not Present		
RQ timer value	Not Present		
Always-on PDU session indication	Not Present		
Always-on PDU session indication			
APSI	'0'B	Always-on PDU session not allowed	Always_On_Requested
APSI	'1'B	Always-on PDU session required	Always_On_Requested AND SST URLLC
Authorized QoS rules	Not Present		
Mapped EPS bearer contexts	Not Present		
Authorized QoS flow descriptions	Not Present		
Extended protocol configuration options	Not Present		
ATSSS container	Not Present		
IP header compression configuration	Not Present		
Port management information container	Not Present		
Serving PLMN rate control	Not Present		
Ethernet header compression configuration	Not Present		

Condition	Explanation
Always_On_Requested	If the last PDU SESSION MODIFICATION REQUEST message included the Always-on PDU session requested IE
UE_Initiated_Modification	If this message was triggered by a PDU SESSION MODIFICATION REQUEST message sent by the UE

– *PDU session modification complete*

Table 4.7.2-10: PDU SESSION MODIFICATION COMPLETE

Derivation Path: 24.501 clause 8.3.10			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION MODIFICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PTI	The value indicated in PDU SESSION MODIFICATION REQUEST message.		UE_Initiated_Modification
PDU SESSION MODIFICATION COMPLETE message identity	'1100 1100'B		
Extended protocol configuration options	If present: contents not checked		
Port management information container	If present: contents not checked		

Condition	Explanation
UE_Initiated_Modification	If this message was triggered by a PDU SESSION MODIFICATION REQUEST message sent by the UE

– *PDU session modification command reject*

Table 4.7.2-11: PDU SESSION MODIFICATION COMMAND REJECT

Derivation Path: 24.501 clause 8.3.11			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION MODIFICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION MODIFICATION COMMAND REJECT message identity	'1100 1101'B		
5GSM cause	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		

– *PDU session release request*

Table 4.7.2-12: PDU SESSION RELEASE REQUEST

Derivation Path: 24.501 clause 8.3.12			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	Any value from 1 to 254		
PDU SESSION RELEASE REQUEST message identity	'1101 0001'B		
5GSM cause	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		

– *PDU session release reject*

Table 4.7.2-13: PDU SESSION RELEASE REJECT

Derivation Path: 24.501 clause 8.3.13			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION RELEASE REQUEST message.		
PTI	The value indicated in PDU SESSION RELEASE REQUEST message.		
PDU SESSION RELEASE REJECT message identity	'1101 0010'B		
5GSM cause	Set according to specific message content.		
Extended protocol configuration options	Not Present		

– *PDU session release command*

Table 4.7.2-14: PDU SESSION RELEASE COMMAND

Derivation Path: 24.501 clause 8.3.14			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	Set according to specific message content.		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION RELEASE COMMAND message identity	'1101 0011'B		
5GSM cause	'0001 1010'B	Insufficient resources	
Back-off timer value	Not Present		
EAP message	Not Present		
5GSM congestion re-attempt indicator	Not Present		
Extended protocol configuration options	Not Present		
Access type	Not Present		

– *PDU session release complete*

Table 4.7.2-15: PDU SESSION RELEASE COMPLETE

Derivation Path: 24.501 clause 8.3.15			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION RELEASE COMMAND message.		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION RELEASE COMPLETE message identity	'1101 0100'B		
5GSM cause	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		

5GSM status

Table 4.7.2-16: 5GSM STATUS

Derivation Path: 24.501 clause 8.3.16			
Information Element	Value/remark	Comment	Condition
Extended protocol discriminator	'0010 1110'B	5GS session management messages	
PDU session ID	Set according to specific message content.		
PTI	Set according to specific message content.		
5GSM STATUS message identity	'1101 0110'B		
5GSM cause	Set according to specific message content.		

4.7.3 Contents of EAP-AKA' messages

For all the message definitions below, the acceptable order and syntax of attributes and fields within these attributes must be according to IETF RFCs where those attributes have been defined. Typically the order of attributes is not significant, but there could be well defined exceptions where the order is important.

The contents of the messages described in the present Annex is not complete - only the attributes required to be checked or generated by SS are listed here. The messages sent by the UE may contain additional attributes which are not checked and must thus be ignored by SS.

4.7.3.1 EAP-AKA' message attributes

Table 4.7.3.1-1: AT_RANDOM_Def

Derivation Path: IETF RFC 4187 [30] clause 10.6			
Information Element	Value/remark	Comment	Condition
AT_RANDOM	'0000 0001'B	1	
Length	'0000 0101'B	5	
Reserved	'0000 0000 0000 0000'B		
RAND	An arbitrarily selected 128 bits value		

Table 4.7.3.1-2: AT_AUTN_Def

Derivation Path: IETF RFC 4187 [30] clause 10.7			
Information Element	Value/remark	Comment	Condition
AT_AUTN	'0000 0010'B	2	
Length	'0000 0101'B	5	
Reserved	'0000 0000 0000 0000'B		
AUTN	128 bits value generated according to TS 24.501 [28] subclause 9.11.3.15		

Table 4.7.3.1-3: AT_KDF_Def

Derivation Path: IETF RFC 5448 [31] clause 3.3			
Information Element	Value/remark	Comment	Condition
AT_KDF	'0001 1000'B	24	
Length	'0000 0001'B	1	
KDF	'0000 0000 0000 0001'	1: EAP_AKA'	

Table 4.7.3.1-4: AT_KDF_INPUT_Def

Derivation Path: IETF RFC 5448 [31] clause 3.2			
Information Element	Value/remark	Comment	Condition
AT_KDF_INPUT	'0001 0111'B	23	
Length	Set to the Length of attribute AT_KDF_INPUT in 4 bytes		
Actual Network Name Length	Set to the actual length of 'Network Name' in bytes excluding any appended all zero bytes at end		
Network Name	Value generated according to TS 24.501 [28] clause 9.12.1 and shall be a multiple of 4 bytes (appended with 1,2 or 3 bytes of all zero bits when necessary)		

Table 4.7.3.1-5: AT_MAC_Def

Derivation Path: IETF RFC 4187 [30] clause 10.15			
Information Element	Value/remark	Comment	Condition
AT_MAC	'0000 1011'B	11	
Length	'0000 0101'B	5	
Reserved	'0000 0000 0000 0000'B		
MAC	128 bits value generated according to RFC 4187 [30] subclause 10.15		

Table 4.7.3.1-6: AT_RES_Def

Derivation Path: IETF RFC 4187 [30] clause 10.08			
Information Element	Value/remark	Comment	Condition
AT_RES	'0000 0011'B	3	
Length	Set to Length of AT_RES attribute in 4 bytes.	1 byte	
RES_LENGTH	Set to the actual length of 'RES' in bytes excluding any appended all zero bytes at end		
RES	RES* value calculated according to TS 24.501 [28] clause 9.11.3.17, possibly appended with 1,2 or 3 bytes of all zero bits to make length multiple of 4 bytes.		

Table 4.7.3.1-7: AT_AUTS_Def

Derivation Path: IETF RFC 4187 [30] clause 10.08			
Information Element	Value/remark	Comment	Condition
AT_AUTS	'0000 0100'B	4	
Length	'0000 0100'B	4	
AUTS	14 octets RES* value not checked		

Table 4.7.3.1-8: AT_PERMANENT_ID_Def

Derivation Path: IETF RFC 4187 [30] clause 10.2			
Information Element	Value/remark	Comment	Condition
AT_PERMANENT_ID_REQ	'0000 1010'B	10	
Length	'0000 0001'B	1	
Reserved	'0000 0000 0000 0000'B		

Table 4.7.3.1-9: AT_ANY_ID_REQ_Def

Derivation Path: IETF RFC 4187 [30] clause 10.3			
Information Element	Value/remark	Comment	Condition
AT_ANY_ID_REQ	'0000 1101'B	13	
Length	'0000 0001'B	1	
Reserved	'0000 0000 0000 0000'B		

Table 4.7.3.1-10: AT_FULLAUTH_ID_Def

Derivation Path: IETF RFC 4187 [30] clause 10.4			
Information Element	Value/remark	Comment	Condition
AT_FULLAUTH_ID_REQ	'0001 0001'B	17	
Length	'0000 0001'B	1	
Reserved	'0000 0000 0000 0000'B		

Table 4.7.3.1-11: AT_IDENTITY_Def

Derivation Path: IETF RFC 4187 [30] clause 10.5			
Information Element	Value/remark	Comment	Condition
AT_IDENTITY	'0000 1110'B	14	
Length	Set to the Length of AT_IDENTITY attribute in 4 bytes		
Actual Identity Length	Set to the actual length of 'identity' in bytes excluding any appended all zero bytes at end		
Identity	Value generated according to TS 24.501 [28] clause 9.11.3.4 and shall be a multiple of 4 bytes (appended with 1,2 or 3 bytes of all zero bits when necessary)		

Table 4.7.3.1-12: AT_NOTIFICATION_Def

Derivation Path: IETF RFC 4187 [30] clause 10.19			
Information Element	Value/remark	Comment	Condition
AT_NOTIFICATION	'0000 1100'B	12	
Length	'0000 0001'B	1	
Notification Code	16 bits value generated according to RFC 4187 [30] subclause 10.19.		

4.7.3.2 EAP-AKA' messages

Table 4.7.3.2-1: EAP-Request/AKA'-Challenge

Derivation Path: IETF RFC 4187 [30] clause 9.3, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	1	Request	
Length	Set to length of EAP packet		
Data			
AT_RAND	AT_RAND_Def		
AT_AUTN	AT_AUTN_Def		
AT_KDF	AT_KDF_Def		
AT_KDF_INPUT	AT_KDF_INPUT_Def		
AT_MAC	AT_MAC_Def		

Table 4.7.3.2-2: EAP-Response/AKA'-Challenge

Derivation Path: IETF RFC 4187 [30] clause 9.4, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	2	Response	
Length	Set to length of EAP packet		
Data			
AT_Res	AT_Res_Def		
AT_MAC	AT_MAC_Def		

Table 4.7.3.2-3: EAP-Success

Derivation Path: IETF RFC 4187 [30] clause 6.3.4, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	3	Success	
Length	Set to length of EAP packet		
Data	Not present	Specific attributes not present	

Table 4.7.3.2-4: EAP-Response/AKA-Authentication-Reject

Derivation Path: IETF RFC 4187 [30] clause 9.5, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	4	Failure	
Length	Set to length of EAP packet		
Data	Not checked		

Table 4.7.3.2-5: EAP-Response/AKA-Synchronization-Failure

Derivation Path: IETF RFC 4187 [30] clause 9.6, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	4	Failure	
Length	Set to length of EAP packet		
Data			
AT_AUTS	AT_AUTS_Def		

Table 4.7.3.2-6: EAP-Failure

Derivation Path: IETF RFC 4187 [30] clause 6.3.3, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	4	Failure	
Length	Set to length of EAP packet		
Data	Not present	Specific attributes not present	

Table 4.7.3.2-7: EAP-Request/AKA-Identity

Derivation Path: IETF RFC 4187 [30] clause 9.1, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	1	Request	
Length	Set to length of EAP packet		
Data			
AT_PERMANENT_ID_REQ	AT_PERMANENT_ID_REQ_Def		SS requests that the UE send its permanent identity.
AT_ANY_ID_REQ	AT_ANY_ID_REQ_Def		SS does not specify which kind of an identity the UE should return.
AT_FULLAUTH_ID_REQ	AT_FULLAUTH_ID_REQ_Def		SS requests either the permanent identity or a pseudonym identity.

Table 4.7.3.2-8: EAP-Response/AKA-Identity

Derivation Path: IETF RFC 4187 [30] clause 9.2, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	2	Response	
Length	Set to length of EAP packet		
Data			
AT_IDENTITY	AT_IDENTITY_Def		

Table 4.7.3.2-9: EAP-Request/AKA-Notification

Derivation Path: IETF RFC 4187 [30] clause 9.10, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	1	Request	
Length	Set to length of EAP packet		
Data			
AT_NOTIFICATION	AT_NOTIFICATION_Def		

Table 4.7.3.2-10: EAP-Response/AKA-Notification

Derivation Path: IETF RFC 4187 [30] clause 9.11, RFC 3748 [32] clause 4			
Information Element	Value/remark	Comment	Condition
Code	2	Response	
Length	Set to length of EAP packet		
Data	Not present	Specific attributes not present	

4.7.4 Contents of V2X messages

– *MANAGE UE POLICY COMMAND*

Table 4.7.4-1: MANAGE UE POLICY COMMAND

Derivation Path: TS 24.501 Table D.5.1.1.1			
Information Element	Value/remark	Comment	Condition
PTI	Any value from 1 to 254		
MANAGE UE POLICY COMMAND message identity	'0000 0001'B	MANAGE UE POLICY COMMAND message	
UE policy section management list	FFS		

– *MANAGE UE POLICY COMPLETE*

Table 4.7.4-2: MANAGE UE POLICY COMPLETE

Derivation Path: TS 24.501 Table D.5.2.1.1			
Information Element	Value/remark	Comment	Condition
PTI	The same value as the value set in MANAGE UE POLICY COMMAND message.		
MANAGE UE POLICY COMPLETE message identity	'0000 0010'B	MANAGE UE POLICY COMPLETE message	

– *MANAGE UE POLICY COMMAND REJECT*

Table 4.7.4-3: MANAGE UE POLICY COMMAND REJECT

Derivation Path: TS 24.501 Table D.5.3.1.1			
Information Element	Value/remark	Comment	Condition
PTI	The same value as the value set in MANAGE UE POLICY COMMAND message.		
MANAGE UE POLICY COMMAND REJECT message identity	'0000 0011'B	MANAGE UE POLICY COMMAND REJECT message	
UE policy section management result	FFS		

– *UE STATE INDICATION*

Table 4.7.4-4: UE STATE INDICATION

Derivation Path: TS 24.501 Table D.5.4.1.1			
Information Element	Value/remark	Comment	Condition
PTI	Any value from 1 to 254		
UE STATE INDICATION message identity	'0000 0100'B		
UPSI list	FFS		
UE policy classmark	FFS		
UE OS Id	FFS		

– *UE POLICY PROVISIONING REQUEST*

Table 4.7.4-5: UE POLICY PROVISIONING REQUEST

Derivation Path: TS 24.587 Table 7.2.1.1.1			
Information Element	Value/remark	Comment	Condition
PTI	Any value from 1 to 254		
UE POLICY PROVISIONING REQUEST message identity	'0000 0101'B		
Requested UE policies	FFS		

– *UE POLICY PROVISIONING REJECT*

Table 4.7.4-6: UE POLICY PROVISIONING REJECT

Derivation Path: TS 24.587 Table 7.2.2.1.1			
Information Element	Value/remark	Comment	Condition
PTI	The same value as the value set in UE POLICY PROVISIONING REQUEST message.		
UE POLICY PROVISIONING REJECT message identity	'0000 0110'B		
UPDS cause	FFS		

– *DIRECT LINK ESTABLISHMENT REQUEST*

Table 4.7.4-7: DIRECT LINK ESTABLISHMENT REQUEST

Derivation Path: TS 24.587 Table 7.3.1.1.1			
Information Element	Value/remark	Comment	Condition
DIRECT LINK ESTABLISHMENT REQUEST message identity	FFS		
Sequence number	FFS		
V2X service identifiers	FFS		
Source user info	FFS		
UE security capabilities	FFS		
UE PC5 unicast signalling security policy	FFS		
Key establishment information container	FFS		
Nonce_1	FFS		
MSBs of KNRP-sess ID	FFS		
Target user info	FFS		
KNRP ID	FFS		

– *DIRECT LINK ESTABLISHMENT ACCEPT*

Table 4.7.4-8: DIRECT LINK ESTABLISHMENT ACCEPT

Derivation Path: TS 24.587 Table 7.3.2.1.1			
Information Element	Value/remark	Comment	Condition
DIRECT LINK ESTABLISHMENT ACCEPT message identity	FFS		
Sequence number	FFS		
Source user info	FFS		
QoS flow descriptions	FFS		
Configuration of UE PC5 unicast user plane security protection	FFS		
IP address configuration	FFS		
Link local IPv6 address	FFS		

– *DIRECT LINK MODIFICATION REQUEST*

Table 4.7.4-9: DIRECT LINK MODIFICATION REQUEST

Derivation Path: TS 24.587 Table 7.3.4.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK MODIFICATION ACCEPT*

Table 4.7.4-10: DIRECT LINK MODIFICATION ACCEPT

Derivation Path: TS 24.587 Table 7.3.5.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK RELEASE REQUEST*

Table 4.7.4-11: DIRECT LINK RELEASE REQUEST

Derivation Path: TS 24.587 Table 7.3.6.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK RELEASE ACCEPT*

Table 4.7.4-12: DIRECT LINK RELEASE ACCEPT

Derivation Path: TS 24.587 Table 7.3.7.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK KEEPALIVE REQUEST*

Table 4.7.4-13: DIRECT LINK KEEPALIVE REQUEST

Derivation Path: TS 24.587 Table 7.3.8.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK KEEPALIVE RESPONSE*

Table 4.7.4-14: DIRECT LINK KEEPALIVE RESPONSE

Derivation Path: TS 24.587 Table 7.3.9.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK AUTHENTICATION REQUEST*

Table 4.7.4-15: DIRECT LINK AUTHENTICATION REQUEST

Derivation Path: TS 24.587 Table 7.3.10.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK AUTHENTICATION RESPONSE*

Table 4.7.4-16: DIRECT LINK AUTHENTICATION RESPONSE

Derivation Path: TS 24.587 Table 7.3.11.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK AUTHENTICATION REJECT*

Table 4.7.4-17: DIRECT LINK AUTHENTICATION REJECT

Derivation Path: TS 24.587 Table 7.3.12.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK SECURITY MODE COMMAND*

Table 4.7.4-18: DIRECT LINK SECURITY MODE COMMAND

Derivation Path: TS 24.587 Table 7.3.13.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK SECURITY MODE COMPLETE*

Table 4.7.4-19: DIRECT LINK SECURITY MODE COMPLETE

Derivation Path: TS 24.587 Table 7.3.14.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK SECURITY MODE REJECT*

Table 4.7.4-20: DIRECT LINK SECURITY MODE REJECT

Derivation Path: TS 24.587 Table 7.3.15.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK REKEYING REQUEST*

Table 4.7.4-21: DIRECT LINK REKEYING REQUEST

Derivation Path: TS 24.587 Table 7.3.16.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK REKEYING RESPONSE*

Table 4.7.4-22: DIRECT LINK REKEYING RESPONSE

Derivation Path: TS 24.587 Table 7.3.17.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK IDENTIFIER UPDATE REQUEST*

Table 4.7.4-23: DIRECT LINK IDENTIFIER UPDATE REQUEST

Derivation Path: TS 24.587 Table 7.3.18.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK IDENTIFIER UPDATE ACCEPT*

Table 4.7.4-24: DIRECT LINK IDENTIFIER UPDATE ACCEPT

Derivation Path: TS 24.587 Table 7.3.19.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK IDENTIFIER UPDATE ACK*

Table 4.7.4-25: DIRECT LINK IDENTIFIER UPDATE ACK

Derivation Path: TS 24.587 Table 7.3.20.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK IDENTIFIER UPDATE REJECT*

Table 4.7.4-26: DIRECT LINK IDENTIFIER UPDATE REJECT

Derivation Path: TS 24.587 Table 7.3.21.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK MODIFICATION REJECT*

Table 4.7.4-27: DIRECT LINK MODIFICATION REJECT

Derivation Path: TS 24.587 Table 7.3.22.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

– *DIRECT LINK ESTABLISHMENT REJECT*

Table 4.7.4-28: DIRECT LINK ESTABLISHMENT REJECT

Derivation Path: TS 24.587 Table 7.3.23.1.1			
Information Element	Value/remark	Comment	Condition
FFS			

4.7.5 V2X information elements

4.7.5.1 V2X information elements of MANAGE UE POLICY COMMAND message

– *UE policy section management list*

Table 4.7.5.1-1: UE policy section management list

Derivation Path: TS 24.501 Figure D.6.2.1			
Information Element	Value/remark	Comment	Condition
UE policy section management list IEI	FFS		
Length of UE policy section management list contents	Set to the actual length of 'UE policy section management list contents' in bytes		
UE policy section management list contents	See Table 4.7.5.1-2		

– *UE policy section management list contents*

Table 4.7.5.1-2: UE policy section management list contents

Derivation Path: TS 24.501 Figure D.6.2.2			
Information Element	Value/remark	Comment	Condition
UE policy section management sublist (PLMN-1)	See Table 4.7.5.1-3		
UE policy section management sublist (PLMN-2)	FFS		

– *UE policy section management sublist*

Table 4.7.5.1-3: UE policy section management sublist

Derivation Path: TS 24.501 Figure D.6.2.3			
Information Element	Value/remark	Comment	Condition
Length of UE policy section management sublist	Set to the actual length of 'UE policy section management sublist' in bytes		
PLMN ID	Set to the PLMN value used in the test case		
UE policy section management sublist contents	See Table 4.7.5.1-4		

– *UE policy section management sublist contents*

Table 4.7.5.1-4: UE policy section management sublist contents

Derivation Path: TS 24.501 Figure D.6.2.4			
Information Element	Value/remark	Comment	Condition
Instruction 1	See Table 4.7.5.1-5		
Instruction 2	FFS		

– *Instruction*

Table 4.7.5.1-5: Instruction

Derivation Path: TS 24.501 Figure D.6.2.5			
Information Element	Value/remark	Comment	Condition
Instruction contents length	Set to the actual length of 'Instruction contents' in bytes		
UPSC	FFS		
UE policy section contents	See Table 4.7.5.1-6		

– *UE policy section contents*

Table 4.7.5.1-6: UE policy section contents

Derivation Path: TS 24.501 Figure D.6.2.6			
Information Element	Value/remark	Comment	Condition
UE policy part 1	See Table 4.7.5.1-7		
UE policy part 2	FFS		

– *UE policy part*

Table 4.7.5.1-7: UE policy part

Derivation Path: TS 24.501 Figure D.6.2.7			
Information Element	Value/remark	Comment	Condition
UE policy part contents length	Set to the actual length of 'UE policy part contents' in bytes		
Spare	'0000'B		
UE policy part type	'0001'B		URSP
	'0010'B		ANDSP
	'0011'B		V2XP
UE policy part contents	See Table 4.7.5.4-1		V2XP

4.7.5.2 V2X information elements of MANAGE UE POLICY COMMAND REJECT message

– UE policy section management result

Table 4.7.5.2-1: UE policy section management result

Derivation Path: TS 24.501 Figure D.6.3.1			
Information Element	Value/remark	Comment	Condition
UE policy section management result IEI	FFS		
Length of UE policy section management result contents	Set to the actual length of 'UE policy section management result contents' in bytes		
UE policy section management result contents	See Table 4.7.5.2-2		

– UE policy section management result contents

Table 4.7.5.2-2: UE policy section management result contents

Derivation Path: TS 24.501 Figure D.6.3.2			
Information Element	Value/remark	Comment	Condition
UE policy section management subresult (PLMN 1)	See Table 4.7.5.2-3		
UE policy section management subresult (PLMN 2)	FFS		

– UE policy section management subresult

Table 4.7.5.2-3: UE policy section management subresult

Derivation Path: TS 24.501 Figure D.6.3.3			
Information Element	Value/remark	Comment	Condition
Number of results	FFS		
PLMN ID	Set according to parameter given in test case		
UE policy section management subresult contents	See Table 4.7.5.2-4		

– UE policy section management subresult contents

Table 4.7.5.2-4: UE policy section management subresult contents

Derivation Path: TS 24.501 Figure D.6.3.4			
Information Element	Value/remark	Comment	Condition
Result 1	See Table 4.7.5.2-5		
Result 2	FFS		

– Result

Table 4.7.5.2-5: Result

Derivation Path: TS 24.501 Figure D.6.3.5			
Information Element	Value/remark	Comment	Condition
UPSC	FFS		
Failed instruction order	FFS		
Cause	FFS		

4.7.5.3 V2X information elements for UE STATE INDICATION message

– *UPSI list***Table 4.7.5.3-1: UPSI list**

Derivation Path: TS 24.501 Figure D.6.4.1			
Information Element	Value/remark	Comment	Condition
UPSI list IEI	FFS		
Length of UPSI list contents	Set to the actual length of 'UPSI list contents' in bytes		
UPSI sublist (PLMN 1)	See Table 4.7.5.3-2		
UPSI sublist (PLMN 2)	FFS		

– *UPSI sublist***Table 4.7.5.3-2: UPSI sublist**

Derivation Path: TS 24.501 Figure D.6.4.2			
Information Element	Value/remark	Comment	Condition
Length of UPSI sublist	Set to the actual length of 'UPSI sublist' in bytes		
PLMN ID	Set according to parameter given in test case		
UPSC 1	FFS		
UPSC 2	FFS		

– *UE policy classmark***Table 4.7.5.3-3: UE policy classmark**

Derivation Path: TS 24.501 Figure D.6.5.1			
Information Element	Value/remark	Comment	Condition
Policy information IEI	FFS		
Length of Policy information contents	Set to the actual length of 'Policy information contents' in bytes		
Spare	'0000 000'B		
SupportANDSP	'0'B		

– *UE OS Id***Table 4.7.5.3-4: UE OS Id**

Derivation Path: TS 24.501 Figure D.6.6.1			
Information Element	Value/remark	Comment	Condition
OS Id IEI	FFS		
Length of OS Id information contents	Set to the actual length of 'OS Id information contents' in bytes		
OS Id_1	FFS		
OS Id_2	FFS		

4.7.5.4 V2X information elements for UE policy part

– *UE policy part when UE policy part type = {V2XP}*

Table 4.7.5.4-1: UE policy part when UE policy part type = {V2XP}

Derivation Path: TS 24.588 Figure 5.2.1.1			
Information Element	Value/remark	Comment	Condition
UE policy part contents length	Set to the actual length of 'UE policy part contents' in bytes		
Spare	'0000'B		
UE policy part type	'0001'B	UE policy part type={ V2XP }	
UE policy part contents={V2XP contents}	See Table 4.7.5.4-2		

– *V2XP contents*

Table 4.7.5.4-2: V2XP contents

Derivation Path: TS 24.588 Figure 5.2.1.2			
Information Element	Value/remark	Comment	Condition
V2XP info #1	See Table 4.7.5.4-3		
V2XP info #2	FFS		

– *V2XP info*

Table 4.7.5.4-3: V2XP info

Derivation Path: TS 24.588 Figure 5.3.1.1			
Information Element	Value/remark	Comment	Condition
Spare	'0000'B		
V2XP info type	'0001'B	UE policies for V2X communication over PC5	
Length of V2XP info contents	Set to the actual length of 'V2XP info contents' in bytes		
V2XP info contents	See Table 4.7.5.5-1		

4.7.5.5 V2X information elements of UE policies for V2X communication over PC5

– *V2XP info = {UE policies for V2X communication over PC5}*

Table 4.7.5.5-1: V2XP info = {UE policies for V2X communication over PC5}

Derivation Path: TS 24.588 Figure 5.3.1.1			
Information Element	Value/remark	Comment	Condition
Spare	'0000'B		
V2XP info type	'0001'B	UE policies for V2X communication over PC5	
Length of V2XP info contents	Set to the actual length of 'V2XP info contents' in bytes		
Validity timer	FFS		
VSITPMRI	'1'B	'V2X service identifier to PC5 RAT and Tx profiles mapping rules' is present	
Spare	'000 0000'B		
Served by E-UTRA or served by NR	See Table 4.7.5.5-2		
Not served by E-UTRA and not served by NR	See Table 4.7.5.5-6		
V2X service identifier to PC5 RAT and Tx profiles mapping rules	See Table 4.7.5.5-12		
Privacy config	See Table 4.7.5.5-15		
V2X communication over PC5 in E-UTRA-PC5	See Table 4.7.5.5-19		
V2X communication over PC5 in NR-PC5	See Table 4.7.5.5-31		

– *Served by E-UTRA or served by NR*

Table 4.7.5.5-2: Served by E-UTRA or served by NR

Derivation Path: TS 24.588 Figure 5.3.1.2			
Information Element	Value/remark	Comment	Condition
Length of served by E-UTRA or served by NR contents	Set to the actual length of 'served by E-UTRA or served by NR contents' in bytes		
Authorized PLMN and RATs combinations	See Table 4.7.5.5-3		

– *Authorized PLMN and RATs combinations*

Table 4.7.5.5-3: Authorized PLMN and RATs combinations

Derivation Path: TS 24.588 Figure 5.3.1.3			
Information Element	Value/remark	Comment	Condition
Length of authorized PLMN and RATs combinations contents	Set to the actual length of 'authorized PLMN and RATs combinations contents' in bytes		
Authorized PLMN and RATs combination 1	See Table 4.7.5.5-4		
Authorized PLMN and RATs combination 2	FFS		

– *Authorized PLMN and RATs combination*

Table 4.7.5.5-4: Authorized PLMN and RATs combination

Derivation Path: TS 24.588 Figure 5.3.1.4			
Information Element	Value/remark	Comment	Condition
PLMN ID	Set according to parameter given in test case		
EPIEN	FFS		
NPIEN	FFS		
Spare	'00 0000'B		

– *PLMN ID*

Table 4.7.5.5-5: PLMN ID

Derivation Path: TS 24.588 Figure 5.3.1.5			
Information Element	Value/remark	Comment	Condition
MCC digit 2	Set according to parameter given in test case		
MCC digit 1	Set according to parameter given in test case		
MNC digit 3	Set according to parameter given in test case		
MCC digit 3	Set according to parameter given in test case		
MNC digit 2	Set according to parameter given in test case		
MNC digit 1	Set according to parameter given in test case		

– *Not served by E-UTRA and not served by NR*

Table 4.7.5.5-6: Not served by E-UTRA and not served by NR

Derivation Path: TS 24.588 Figure 5.3.1.6			
Information Element	Value/remark	Comment	Condition
Length of not served by E-UTRA and not served by NR contents	Set to the actual length of 'not served by E-UTRA and not served by NR contents' in bytes		
EPIEN	FFS		
NPIEN	FFS		
Spare	'00 000'B		
VPNENNI	FFS		
E-UTRA radio parameters per geographical area list	See Table 4.7.5.5-7		
NR radio parameters per geographical area list	See Table 4.7.5.5-7		

– *Radio parameters per geographical area list*

Table 4.7.5.5-7: Radio parameters per geographical area list

Derivation Path: TS 24.588 Figure 5.3.1.7			
Information Element	Value/remark	Comment	Condition
Length of radio parameters per geographical area list contents	Set to the actual length of 'radio parameters per geographical area list contents' in bytes		
Radio parameters per geographical area info 1	See Table 4.7.5.5-8		
Radio parameters per geographical area info 2	FFS		

– *Radio parameters per geographical area info*

Table 4.7.5.5-8: Radio parameters per geographical area info

Derivation TS 24.588 Figure 5.3.1.8			
Information Element	Value/remark	Comment	Condition
Length of radio parameters per geographical area contents	Set to the actual length of 'radio parameters per geographical area contents' in bytes		
Geographical area	See Table 4.7.5.5-9		
Radio parameters	See Table 4.7.5.5-11		
MI	FFS		
Spare	'000 0000'B		

– *Geographical area*

Table 4.7.5.5-9: Geographical area

Derivation Path: TS 24.588 Figure 5.3.1.9			
Information Element	Value/remark	Comment	Condition
Length of geographical area contents	Set to the actual length of 'geographical area contents' in bytes		
Coordinate 1	See Table 4.7.5.5-10		
Coordinate 2	FFS		

– *Coordinate area*

Table 4.7.5.5-10: Coordinate area

Derivation Path: TS 24.588 Figure 5.3.1.10			
Information Element	Value/remark	Comment	Condition
Latitude	FFS		
Longitude	FFS		

– *Radio parameters*

Table 4.7.5.5-11: Radio parameters

Derivation Path: TS 24.588 Figure 5.3.1.11			
Information Element	Value/remark	Comment	Condition
Length of radio parameters contents	Set to the actual length of 'radio parameters contents' in bytes		
Radio parameters contents	See Table 4.10.1.1-1: SL-V2X-Preconfiguration in TS 36.508 [2]		E-UTRAN V2X
	See Table 4.10.1-1: SL-PreconfigurationNR		NR V2X

– *V2X service identifier to PC5 RAT and Tx profiles mapping rules*

Table 4.7.5.5-12: V2X service identifier to PC5 RAT and Tx profiles mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.12			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to PC5 RAT and Tx profiles mapping rules contents	Set to the actual length of 'UE policy part contents' in bytes		
V2X service identifier to PC5 RAT and Tx profiles mapping rule 1	See Table 4.7.5.5-13		
V2X service identifier to PC5 RAT and Tx profiles mapping rule 2	FFS		

– *V2X service identifier to PC5 RAT and Tx profiles mapping rule*

Table 4.7.5.5-13: V2X service identifier to PC5 RAT and Tx profiles mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.13			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to PC5 RAT and Tx profiles mapping rule contents	Set to the actual length of 'V2X service identifier to PC5 RAT and Tx profiles mapping rule contents' in bytes		
V2X service identifiers	See Table 4.7.5.5-14		
Spare	'0000 00'B		
PC5 RAT	'00'B	E-UTRA-PC5	
	'01'B	NR-PC5	
Length of E-UTRA-PC5 Tx profiles	Set to the actual length of 'E-UTRA-PC5 Tx profiles' in bytes		
E-UTRA-PC5 Tx profiles	FFS	Refer to IE v2x-TxProfileList in TS 36.331	
Length of NR-PC5 Tx profiles	Set to the actual length of 'NR-PC5 Tx profiles' in bytes		
NR-PC5 Tx profiles	FFS		

– *V2X service identifiers*

Table 4.7.5.5-14: V2X service identifiers

Derivation Path: TS 24.588 Figure 5.3.1.14			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifiers contents	Set to the actual length of 'V2X service identifiers contents' in bytes		
V2X service identifier 1	FFS		
V2X service identifier 2	FFS		

– *Privacy config*

Table 4.7.5.5-15: Privacy config

Derivation Path: TS 24.588 Figure 5.3.1.15			
Information Element	Value/remark	Comment	Condition
Length of privacy config contents	Set to the actual length of 'privacy config contents' in bytes		
V2X services requiring privacy	See Table 4.7.5.5-16		
Privacy timer	FFS		

– *V2X services requiring privacy*

Table 4.7.5.5-16: V2X services requiring privacy

Derivation Path: TS 24.588 Figure 5.3.1.16			
Information Element	Value/remark	Comment	Condition
Length of V2X services requiring privacy contents	Set to the actual length of 'V2X services requiring privacy contents' in bytes		
V2X service requiring privacy 1	See Table 4.7.5.5-17		
V2X service requiring privacy 2	FFS		

– *V2X service requiring privacy*

Table 4.7.5.5-17: V2X service requiring privacy

Derivation Path: TS 24.588 Figure 5.3.1.17			
Information Element	Value/remark	Comment	Condition
Length of V2X service requiring privacy contents	Set to the actual length of 'V2X service requiring privacy contents' in bytes		
V2X service identifiers	FFS		
Geographical areas	See Table 4.7.5.5-18		

– *Geographical areas*

Table 4.7.5.5-18: Geographical areas

Derivation Path: TS 24.588 Figure 5.3.1.18			
Information Element	Value/remark	Comment	Condition
Length of geographical areas contents	Set to the actual length of 'geographical areas contents' in bytes		
Geographical area 1	FFS		
Geographical area 2	FFS		

– *V2X communication over PC5 in E-UTRA-PC5*

Table 4.7.5.5-19: V2X communication over PC5 in E-UTRA-PC5

Derivation Path: TS 24.588 Figure 5.3.1.19			
Information Element	Value/remark	Comment	Condition
Length of V2X communication over PC5 in E-UTRA-PC5 contents	Set to the actual length of 'V2X communication over PC5 in E-UTRA-PC5 contents' in bytes		
DDL2II	FFS		
VSIEFMRI	FFS		
VSAPI	FFS		
PPMR	FFS		
Spare	'0000'B		
V2X service identifier to destination layer-2 ID mapping rules	See Table 4.7.5.5-20		
PPPP to PDB mapping rules	See Table 4.7.5.5-22		
V2X service identifier to V2X E-UTRA frequency mapping rules	See Table 4.7.5.5-24		
V2X services authorized for PPPR	See Table 4.7.5.5-29		
Default destination layer-2 ID	FFS		

– *V2X service identifier to destination layer-2 ID mapping rules*

Table 4.7.5.5-20: V2X service identifier to destination layer-2 ID mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.20			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID mapping rules contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID mapping rules contents' in bytes		
V2X service identifier to destination layer-2 ID mapping rule 1	See Table 4.7.5.5-21		
V2X service identifier to destination layer-2 ID mapping rule 2	FFS		

– *V2X service identifier to destination layer-2 ID mapping rule*

Table 4.7.5.5-21: V2X service identifier to destination layer-2 ID mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.21			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID mapping rule contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID mapping rule contents' in bytes		
V2X service identifiers	FFS		
Destination layer-2 ID	FFS		

– *PPPP to PDB mapping rules*

Table 4.7.5.5-22: PPPP to PDB mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.22			
Information Element	Value/remark	Comment	Condition
Length of PPPP to PDB mapping rules contents	Set to the actual length of 'PPPP to PDB mapping rules contents' in bytes		
PPPP to PDB mapping rule 1	See Table 4.7.5.5-23		
PPPP to PDB mapping rule 2	FFS		

– *PPPP to PDB mapping rule*

Table 4.7.5.5-23: PPPP to PDB mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.23			
Information Element	Value/remark	Comment	Condition
Spare	'0000 0'B		
PPPP	FFS		
PDB	FFS		

– *V2X service identifier to V2X E-UTRA frequency mapping rules*

Table 4.7.5.5-24: V2X service identifier to V2X E-UTRA frequency mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.24			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to V2X E-UTRA frequency mapping rules contents	Set to the actual length of 'V2X service identifier to V2X E-UTRA frequency mapping rules contents' in bytes		
V2X service identifier to V2X E-UTRA frequency mapping rule 1	See Table 4.7.5.5-25		
V2X service identifier to V2X E-UTRA frequency mapping rule 2	FFS		

– *V2X service identifier to V2X E-UTRA frequency mapping rule*

Table 4.7.5.5-25: V2X service identifier to V2X E-UTRA frequency mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.25			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to V2X E-UTRA frequency mapping rule contents	Set to the actual length of 'V2X service identifier to V2X E-UTRA frequency mapping rule contents' in bytes		
V2X service identifiers	FFS		
V2X E-UTRA frequencies with geographical areas list	See Table 4.7.5.5-26		

– *V2X E-UTRA frequencies with geographical areas list*

Table 4.7.5.5-26: V2X E-UTRA frequencies with geographical areas list

Derivation Path: TS 24.588 Figure 5.3.1.26			
Information Element	Value/remark	Comment	Condition
Length of V2X E-UTRA frequencies with geographical areas list contents	Set to the actual length of 'V2X E-UTRA frequencies with geographical areas list contents' in bytes		
V2X E-UTRA frequencies with geographical areas info 1	See Table 4.7.5.5-27		
V2X E-UTRA frequencies with geographical areas info 2	FFS		

– *V2X E-UTRA frequencies with geographical areas info*

Table 4.7.5.5-27: V2X E-UTRA frequencies with geographical areas info

Derivation Path: TS 24.588 Figure 5.3.1.27			
Information Element	Value/remark	Comment	Condition
Length of V2X E-UTRA frequencies with geographical areas info contents	Set to the actual length of 'V2X E-UTRA frequencies with geographical areas info contents' in bytes		
V2X E-UTRA frequencies	See Table 4.7.5.5-28		
Geographical areas	FFS		

– *V2X E-UTRA frequencies*

Table 4.7.5.5-28: V2X E-UTRA frequencies

Derivation Path: TS 24.588 Figure 5.3.1.28			
Information Element	Value/remark	Comment	Condition
Length of V2X E-UTRA frequencies contents	Set to the actual length of 'V2X E-UTRA frequencies contents' in bytes		
V2X E-UTRA frequency 1	FFS		
V2X E-UTRA frequency 2	FFS		

– *V2X services authorized for PPPR*

Table 4.7.5.5-29: V2X services authorized for PPPR

Derivation Path: TS 24.588 Figure 5.3.1.29			
Information Element	Value/remark	Comment	Condition
Length of V2X services authorized for PPPR contents	Set to the actual length of 'V2X services authorized for PPPR contents' in bytes		
V2X service authorized for PPPR 1	See Table 4.7.5.5-30		
V2X service authorized for PPPR 2	FFS		

– *V2X service authorized for PPPR*

Table 4.7.5.5-30: V2X service authorized for PPPR

Derivation Path: TS 24.588 Figure 5.3.1.30			
Information Element	Value/remark	Comment	Condition
Length of V2X service authorized for PPPR contents	Set to the actual length of 'V2X service authorized for PPPR contents' in bytes		
V2X service identifiers	FFS		
Spare	'0000 0'B		
PPPR	FFS		

– *V2X communication over PC5 in NR-PC5*

Table 4.7.5.5-31: V2X communication over PC5 in NR-PC5

Derivation Path: TS 24.588 Figure 5.3.1.31			
Information Element	Value/remark	Comment	Condition
Length of V2X communication over PC5 in NR-PC5 contents	Set to the actual length of 'V2X communication over PC5 in NR-PC5 contents' in bytes		
DDL2IBI	FFS		
VSINFMRI	FFS		
Spare	'00 0000'B		
V2X service identifier to V2X NR frequency mapping rules	See Table 4.7.5.5-32		
V2X service identifier to destination layer-2 ID for broadcast mapping rules	See Table 4.7.5.5-37		
V2X service identifier to destination layer-2 ID for groupcast mapping rules	See Table 4.7.5.5-39		
V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules	See Table 4.7.5.5-41		
V2X service identifier to PC5 QoS parameters mapping rules	See Table 4.7.5.5-43		
AS configuration	See Table 4.7.5.5-45		
Default destination layer-2 ID for broadcast	FFS		
NR-PC5 unicast security policies	See Table 4.7.5.5-49		
V2X service identifier to default mode of communication mapping rules	See Table 4.7.5.5-52		

- *V2X service identifier to V2X NR frequency mapping rules*

Table 4.7.5.5-32: V2X service identifier to V2X NR frequency mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.32			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to V2X NR frequency mapping rules contents	Set to the actual length of 'V2X service identifier to V2X NR frequency mapping rules contents' in bytes		
V2X service identifier to V2X NR frequency mapping rule 1	See Table 4.7.5.5-33		
V2X service identifier to V2X NR frequency mapping rule 2	FFS		

- *V2X service identifier to V2X NR frequency mapping rule*

Table 4.7.5.5-33: V2X service identifier to V2X NR frequency mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.33			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to V2X NR frequency mapping rule contents	Set to the actual length of 'V2X service identifier to V2X NR frequency mapping rule contents' in bytes		
V2X service identifiers	FFS		
V2X NR frequencies with geographical areas list	See Table 4.7.5.5-34		

- *V2X NR frequencies with geographical areas list*

Table 4.7.5.5-34: V2X NR frequencies with geographical areas list

Derivation Path: TS 24.588 Figure 5.3.1.34			
Information Element	Value/remark	Comment	Condition
Length of V2X NR frequencies with geographical areas list contents	Set to the actual length of 'V2X NR frequencies with geographical areas list contents' in bytes		
V2X NR frequencies with geographical areas info 1	See Table 4.7.5.5-35		
V2X NR frequencies with geographical areas info 2	FFS		

- *V2X NR frequencies with geographical areas info*

Table 4.7.5.5-35: V2X NR frequencies with geographical areas info

Derivation Path: TS 24.588 Figure 5.3.1.35			
Information Element	Value/remark	Comment	Condition
Length of V2X NR frequencies with geographical areas info contents	Set to the actual length of 'V2X NR frequencies with geographical areas info contents' in bytes		
V2X NR frequencies	See Table 4.7.5.5-36		
Geographical areas	FFS		

– *V2X NR frequencies*

Table 4.7.5.5-36: V2X NR frequencies

Derivation Path: TS 24.588 Figure 5.3.1.36			
Information Element	Value/remark	Comment	Condition
Length of V2X NR frequencies contents	Set to the actual length of 'V2X NR frequencies contents' in bytes		
V2X NR frequency 1	FFS		
V2X NR frequency 2	FFS		

– *V2X service identifier to destination layer-2 ID for broadcast mapping rules*

Table 4.7.5.5-37: V2X service identifier to destination layer-2 ID for broadcast mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.37			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID for broadcast mapping rules contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID for broadcast mapping rules contents' in bytes		
V2X service identifier to destination layer-2 ID for broadcast mapping rule 1	See Table 4.7.5.5-38		
V2X service identifier to destination layer-2 ID for broadcast mapping rule 2	FFS		

– *V2X service identifier to destination layer-2 ID for broadcast mapping rule*

Table 4.7.5.5-38: V2X service identifier to destination layer-2 ID for broadcast mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.38			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID for broadcast mapping rule contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID for broadcast mapping rule contents' in bytes		
V2X service identifiers	FFS		
Destination layer-2 ID for broadcast	FFS		

– *V2X service identifier to destination layer-2 ID for groupcast mapping rules*

Table 4.7.5.5-39: V2X service identifier to destination layer-2 ID for groupcast mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.39			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID for groupcast mapping rules contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID for groupcast mapping rules contents' in bytes		
V2X service identifier to destination layer-2 ID for groupcast mapping rule 1	See Table 4.7.5.5-40		
V2X service identifier to destination layer-2 ID for groupcast mapping rule 2	FFS		

– *V2X service identifier to destination layer-2 ID for groupcast mapping rule*

Table 4.7.5.5-40: V2X service identifier to destination layer-2 ID for groupcast mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.40			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID for groupcast mapping rule contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID for groupcast mapping rule contents' in bytes		
V2X service identifiers	FFS		
Destination layer-2 ID for groupcast	FFS		

– *V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules*

Table 4.7.5.5-41: V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.41			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules contents' in bytes		
V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule 1	See Table 4.7.5.5-42		
V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule 2	FFS		

– *V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule*

Table 4.7.5.5-42: V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.42			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule contents	Set to the actual length of 'V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule contents' in bytes		
V2X service identifiers	FFS		
Destination layer-2 ID for unicast initial signalling	FFS		

– *V2X service identifier to PC5 QoS parameters mapping rules*

Table 4.7.5.5-43: V2X service identifier to PC5 QoS parameters mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.43			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to PC5 QoS parameters mapping rules contents	Set to the actual length of 'V2X service identifier to PC5 QoS parameters mapping rules contents' in bytes		
V2X service identifier to PC5 QoS parameters mapping rule 1	See Table 4.7.5.5-44		
V2X service identifier to PC5 QoS parameters mapping rule 2	FFS		

– *V2X service identifier to PC5 QoS parameters mapping rule*

Table 4.7.5.5-44: V2X service identifier to PC5 QoS parameters mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.46			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to PC5 QoS parameters mapping rule contents	Set to the actual length of 'V2X service identifier to PC5 QoS parameters mapping rule contents' in bytes		
V2X service identifiers	FFS		
GFBRI	FFS		
MFBRI	FFS		
PLAMBRI	FFS		
RI	FFS		
Spare	'0000'B		
PQI	FFS		
Guaranteed flow bit rate	FFS		
Maximum flow bit rate	FFS		
Per-link aggregate maximum bit rate	FFS		
Range	FFS		

– *AS configuration*

Table 4.7.5.5-45: AS configuration

Derivation Path: TS 24.588 Figure 5.3.1.46a			
Information Element	Value/remark	Comment	Condition
Length of AS configuration contents	Set to the actual length of 'AS configuration contents' in bytes		
SLRB mapping rules	See Table 4.7.5.5-46		

– *SLRB mapping rules*

Table 4.7.5.5-46: SLRB mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.47			
Information Element	Value/remark	Comment	Condition
Length of SLRB mapping rules contents	Set to the actual length of 'SLRB mapping rules contents' in bytes		
SLRB mapping rule 1	See Table 4.7.5.5-47		
SLRB mapping rule 2	FFS		

– *SLRB mapping rule*

Table 4.7.5.5-47: SLRB mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.48			
Information Element	Value/remark	Comment	Condition
Length of SLRB mapping rule contents	Set to the actual length of 'SLRB mapping rule contents' in bytes		
PC5 QoS profile	See Table 4.7.5.5-48		
Length of SLRB	Set to the actual length of 'SLRB' in bytes		
SLRB	FFS		

– *PC5 QoS profile*

Table 4.7.5.5-48: PC5 QoS profile

Derivation Path: TS 24.588 Figure 5.3.1.49			
Information Element	Value/remark	Comment	Condition
Length of PC5 QoS profile contents	Set to the actual length of 'PC5 QoS profile contents' in bytes		
GFBRI	FFS		
MFBRI	FFS		
PLAMBRI	FFS		
RI	FFS		
PLOI	FFS		
AWI	FFS		
MDBVI	FFS		
Spare	'0'B		
PQI	FFS		
Guaranteed flow bit rate	FFS		
Maximum flow bit rate	FFS		
Per-link aggregate maximum bit rate	FFS		
Range	FFS		
Spare	'0000 0'B		
Priority level	FFS		
Averaging window	FFS		
Maximum data burst volume	FFS		

– *NR-PC5 unicast security policies*

Table 4.7.5.5-49: NR-PC5 unicast security policies

Derivation Path: TS 24.588 Figure 5.3.1.50			
Information Element	Value/remark	Comment	Condition
Length of NR-PC5 unicast security policies contents	Set to the actual length of 'NR-PC5 unicast security policies contents' in bytes		
NR-PC5 unicast security policy 1	See Table 4.7.5.5-50		
NR-PC5 unicast security policy 2	FFS		

– *NR-PC5 unicast security policy*

Table 4.7.5.5-50: NR-PC5 unicast security policy

Derivation Path: TS 24.588 Figure 5.3.1.51			
Information Element	Value/remark	Comment	Condition
Length of NR-PC5 unicast security policy contents	Set to the actual length of 'NR-PC5 unicast security policy contents' in bytes		
V2X service identifiers	FFS		
Security policy	See Table 4.7.5.5-51		
Geographical areas	FFS		

– *Security policy*

Table 4.7.5.5-51: Security policy

Derivation Path: TS 24.588 Figure 5.3.1.52			
Information Element	Value/remark	Comment	Condition
Spare	'0'B		
Signalling ciphering policy	FFS		
Spare	'0'B		
Signalling integrity protection policy	FFS		
Spare	'0'B		
User plane ciphering policy	FFS		
Spare	'0'B		
User plane integrity protection policy	FFS		

– *V2X service identifier to default mode of communication mapping rules*

Table 4.7.5.5-52: V2X service identifier to default mode of communication mapping rules

Derivation Path: TS 24.588 Figure 5.3.1.53			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to default mode of communication mapping rules contents	'Set to the actual length of 'V2X service identifier to default mode of communication mapping rules contents' in bytes		
V2X service identifier to default mode of communication mapping rule 1	See Table 4.7.5.5-53		
V2X service identifier to default mode of communication mapping rule 2	FFS		

– *V2X service identifier to default mode of communication mapping rule*

Table 4.7.5.5-53: V2X service identifier to default mode of communication mapping rule

Derivation Path: TS 24.588 Figure 5.3.1.54			
Information Element	Value/remark	Comment	Condition
Length of V2X service identifier to default mode of communication mapping rule contents	'Set to the actual length of 'V2X service identifier to default mode of communication mapping rule contents' in bytes		
V2X service identifiers	FFS		
Spare	'0000 00'B		
DMC	FFS		

4.7A Default TC message and information element contents

This clause contains the default values of common TC (Test Control, see [11]) messages and information elements, which apply to all test cases unless otherwise specified. All the messages and information elements are listed in alphabetical order.

4.7A.1 Test mode messages

- *ACTIVATE TEST MODE* with the following exception:
 - The supported test modes for 5GS are limited to those specified in subclause 38.509 [11] 5.3.4.

Same as TS 36.508 [2], Table 4.7A-1.

- *ACTIVATE TEST MODE COMPLETE*

Same as TS 36.508 [2], Table 4.7A-2.

- *DEACTIVATE TEST MODE*

Same as TS 36.508 [2], Table 4.7A-5.

- *DEACTIVATE TEST MODE COMPLETE*

Same as TS 36.508 [2], Table 4.7A-6.

4.7A.2 Test loop messages

- *CLOSE UE TEST LOOP*

Same as TS 36.508 [2], Table 4.7A-3 with the following exception:

- The supported test modes for 5GS are limited to those specified in subclause 38.509 [11] 5.3.4.

- *CLOSE UE TEST LOOP COMPLETE*

Same as TS 36.508 [2], Table 4.7A-4.

- *OPEN UE TEST LOOP*

Same as TS 36.508 [2], Table 4.7A-7.

- **OPEN UE TEST LOOP COMPLETE**

Same as TS 36.508 [2], Table 4.7A-8.

4.7A.3 Beamlock messages

- **ACTIVATE BEAMLOCK**

This message is only sent in the direction SS to UE, embedded in a RRC *DLInformationTransfer* message.

Table 4.7A.3-1: ACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.1			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 0 0		
UE Beamlock test Function	0 0 0 0 0 0 0 1		Tx Only
UE Beamlock test Function	0 0 0 0 0 0 1 0		Rx Only
UE Beamlock test Function	0 0 0 0 0 1 1 1		Tx and Rx

Condition	Explanation
Tx Only	Activation UE beamlock function for Tx only
Rx Only	Activation UE beamlock function for Rx only
Tx and Rx	Activation UE beamlock function for both Tx and Rx

- **ACTIVATE BEAMLOCK COMPLETE**

This message is only sent in the direction UE to SS, embedded in a RRC *ULInformationTransfer* message.

Table 4.7A.3-2: ACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.2			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 0 1		

- **DEACTIVATE BEAMLOCK**

This message is only sent in the direction SS to UE, embedded in a RRC *DLInformationTransfer* message.

Table 4.7A.3-3: DEACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.3			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1 0		

- *DEACTIVATE BEAMLOCK COMPLETE*

This message is only sent in the direction UE to SS, embedded in a RRC *ULInformationTransfer* message.

Table 4.7A.3-4: DEACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.4			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1 1		

4.7A.4 UE SS-RSRP per receiver branch reporting messages

- *SS-RSRPB REPORT REQUEST*

FFS

- *SS-RSRPB REPORT RESPONSE*

FFS

4.7A.5 UE Positioning messages

- *RESET UE POSITIONING STORED INFORMATION*

FFS

- *UPDATE UE LOCATION INFORMATION*

FFS

4.7A.6 NSSAI delete messages

- *NSSAI DELETE REQUEST*

This message is only sent in the direction SS to UE, embedded in a RRC *DLInformationTransfer* message.

Table 4.7A.6-1: NSSAI DELETE REQUEST

Derivation Path: 38.509 clause 6.7.1			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 0 0 0 1 1 0		
Delete NSSAI type	Set according to specific message contents		
Configured NSSAI	Set according to specific message contents		
Allowed NSSAI	Set according to specific message contents		

- *NSSAI DELETE RESPONSE*

This message is only sent in the direction UE to SS, embedded in a RRC *ULInformationTransfer* message.

Table 4.7A.6-2: NSSAI DELETE RESPONSE

Derivation Path: 38.509 clause 6.7.2			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 1 1 1		

4.8 Reference configurations

4.8.1 Radio configurations

– *RRCReconfiguration-DRB(n, m)*

Table 4.8.1-1: RRCReconfiguration-DRB (n, m)

Derivation Path: Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig-DRB(n,m)		
secondaryCellGroup	CellGroupConfig-DRB(n,m)		
}			
}			
}			

– *RRCReconfiguration-HO*

Table 4.8.1-1A: RRCReconfiguration-HO

Derivation Path: Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig with conditions SRB_NR_PDCP and DRBn and Re-establish PDCP		RBConfig_KeyChange
	RadioBearerConfig with conditions DRBn and Recover PDCP		RBConfig_NoKeyChange
secondaryCellGroup	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with conditions PCell_change	OCTET STRING (CONTAINING CellGroupConfig)	
masterKeyUpdate	Not present		
masterKeyUpdate SEQUENCE {			RBConfig_KeyChange
keySetChangeIndicator	false	Horizontal key derivation	
nextHopChainingCount	NextHopChainingCount		
nas-Container	Not present		
}			
}			
}			
}			
}			

Condition	Explanation
RBConfig_KeyChange	RadioBearerConfig to perform Intra-NR handover with security key change
RBConfig_NoKeyChange	RadioBearerConfig to perform Intra-NR handover without security key change

– *RRCReconfiguration-SRB2-DRB(n, m)*

Table 4.8.1-1B: RRCReconfiguration-SRB2-DRB(n, m)

Derivation Path: Table 4.6.1-13 with condition NR.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig-SRB2-DRB(n,m)		
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig-SRB2-DRB(n, m)	OCTET STRING (CONTAINING CellGroupConfig)	
}			
}			
}			
}			

– *RRCReconfiguration-NR-DC-DRB*

Table 4.8.1-1CA: RRCReconfiguration-NR-DC-DRB

Derivation Path: Table 4.6.1-13 with condition NR-DC.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	Not present		
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup	Not present		
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
radioBearerConfig2	RadioBearerConfig with condition DRB(n+m+1) and SecondaryKeys	OCTET STRING (CONTAINING RadioBearerConfig) DRB(n,m) already configured on MCG	MCG(s) and SCG
	RadioBearerConfig with condition DRB(n+m +1) and Split and SecondaryKeys	OCTET STRING (CONTAINING RadioBearerConfig) DRB(n,m) already configured on MCG	MCG(s) and split
}			
}			
}			
}			
}			
}			

– *RRCReconfiguration-Speech*

Table 4.8.1-1C: RRCReconfiguration-Speech

Derivation Path: Table 4.6.1-13 with condition NR.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig-Speech		
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig-DRB(0.1)	OCTET STRING (CONTAINING CellGroupConfig)	
}			
}			
}			
}			

– *CellGroupConfig-DRB(n, m)*

Table 4.8.1-2: CellGroupConfig-DRB(n, m)

Derivation Path: Table 4.6.3-19: CellGroupConfig (the same conditions are applicable as for table 4.6.3-19).			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE { rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig {	n+m entries	BID is the total number of established DRBs in the UE, before applying the contents of this IE	
RLC-BearerConfig[k, k=1..n]	RLC-BearerConfig with conditions AM and DRBj (with j=BID+k)	entry (1..n+1)	n>0
RLC-BearerConfig[k, k=n+1..n+m]	RLC-BearerConfig with conditions UM and DRBj (with j=BID+k)	entry (n+1..n+m)	m>0
}			
}			

Condition	Explanation
n>0	n is greater than zero
m>0	m is greater than zero

– *CellGroupConfig-SRB3*

Table 4.8.1-2A: CellGroupConfig-SRB3

Derivation Path: Table 4.6.3-19: CellGroupConfig with condition EN-DC.			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE { rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig {	2 entries		
RLC-BearerConfig[1]	RLC-BearerConfig with conditions AM and DRB2	entry 1	
RLC-BearerConfig[2]	RLC-BearerConfig with condition SRB3	entry 2	
}			
}			

– *CellGroupConfig-SRB2-DRB(n, m)*

Table 4.8.1-2B: CellGroupConfig-SRB2-DRB(n, m)

Derivation Path: Table 4.6.3-19: CellGroupConfig			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF RLC-BearerConfig {	1+n+m entries		
RLC-BearerConfig[1]	RLC-BearerConfig with condition SRB2	entry 1	
RLC-BearerConfig[k, k=2..n+1]	RLC-BearerConfig with conditions AM and DRBj	entry (2..n+1) j is allocated according to internal TTCN mapping	n>0
...		...	
RLC-BearerConfig[k, k=n+2..n+m+1]	RLC-BearerConfig with conditions UM and DRBj	entry (n+2..n+m+1) j is allocated according to internal TTCN mapping	m>0
}			
mac-CellGroupConfig	Not present		
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			

– *RadioBearerConfig-DRB (n, m)*

Table 4.8.1-3: RadioBearerConfig-DRB (n, m)

Derivation Path: Table 4.6.3-132 and condition EN-DC.			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF DRB-ToAddMod {	n+m entries	BID is the total number of established DRBs in the UE, before applying the contents of this IE	
DRB-ToAddMod[k=1..n+m] SEQUENCE {		entry (1..n+m)	
cnAssociation CHOICE {			
eps-BearerIdentity	l, l=BID+5..BID+4+n+m		
}			
drb-Identity	l, l=BID+1..BID+n+m		
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		k <= n
	PDCP-Config with condition UM		k > n
}			
}			
}			
}			

– *RadioBearerConfig-SRB2-DRB (n, m)*

Table 4.8.1-4: RadioBearerConfig-SRB2-DRB (n, m)

Derivation Path: Table 4.6.3-132 and condition SRB2.			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB))	n+m entries		
OF DRB-ToAddMod {			
DRB-ToAddMod[k=1..n+m] := SEQUENCE {		entry (1..n+m)	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config	SDAP-Config is configured according to internal TTCN mapping	
}			
drb-Identity	j	j is allocated according to internal TTCN mapping	
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcip-Config	PDCP-Config		(1<k <= n) OR (k=1 AND NOT NR_split)
	PDCP-Config with condition UM		k > n
	PDCP-Config with condition NR_split		k=1 AND NR_split
}			
}			
}			
}			

– *RadioBearerConfig-Speech*

Table 4.8.1-5: RadioBearerConfig-Speech

Derivation Path: Table 4.6.3-132 and condition SRB2.			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB))	1 entry		
OF DRB-ToAddMod {			
DRB-ToAddMod[1] SEQUENCE {			
cnAssociation CHOICE {			
sdap-Config SEQUENCE {	SDAP-Config		
defaultDRB	false		
}			
}			
drb-Identity	j	j is allocated according to internal TTCN mapping	
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcip-Config	PDCP-Config with condition UM		
}			
}			
}			

4.8.2 5GC configurations

4.8.2.1 Reference QoS rules

Table 4.8.2.1-1: Reference QoS rule #1

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 0001'B	1 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'1'B	The QoS rule is the default QoS rule.	
Number of packet filters	'0001'B	1 packet filters	
Packet filter list	See table 4.8.2.2-1	Packet filter list #1	
QoS rule precedence	'1111 1111'B	255 (unique per PDU session; If the default QoS rule contains a match-all packet filter, then the highest precedence value shall be used for the default QoS rule.)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0001'B	QFI 1 (Table 4.8.2.3-1)	

Table 4.8.2.1-2: Reference QoS rule #2

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 0010'B	2 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'1'B	The QoS rule is the default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-1	Packet filter list #1	
QoS rule precedence	'1111 1111'B	255 (unique per PDU session; If the default QoS rule contains a match-all packet filter, then the highest precedence value shall be used for the default QoS rule.)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0010'B	QFI 2 (Table 4.8.2.3-2)	

Table 4.8.2.1-3: Reference QoS rule #3

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 0011'B	3 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'0'B	The QoS rule is the non-default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-2	Packet filter list #2	
QoS rule precedence	'0000 0011'B	3 (unique per PDU session)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0001'B	QFI 1 (Table 4.8.2.3-1)	

Table 4.8.2.1-4: Reference QoS rule #4

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 0100'B	4 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'1'B	The QoS rule is the default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-3	Packet filter list #3	
QoS rule precedence	'0000 00100'B	4 (unique per PDU session)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0010'B	QFI 2 (Table 4.8.2.3-2)	

Table 4.8.2.1-4a: Reference QoS rule #4a

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 1111'B	15 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'0'B	The QoS rule is the non-default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-3a	Packet filter list #3a	
QoS rule precedence	'0000 1111'B	15 (unique per PDU session)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0100'B	QFI 4 (Table 4.8.2.3-2a)	

Table 4.8.2.1-5: Reference QoS rule #5

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 0101'B	5 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'0'B	The QoS rule is the non-default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-4	Packet filter list #4	
QoS rule precedence	'0000 0101'B	5 (unique per PDU session)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0101'B	QFI 5 (Table 4.8.2.3-3)	

Table 4.8.2.1-6: Reference QoS rule #6

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 0110'B	6 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'0'B	The QoS rule is the non-default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-5	Packet filter list #5	
QoS rule precedence	'0000 0110'B	6 (unique per PDU session)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0110'B	QFI 6 (Table 4.8.2.3-4)	

Table 4.8.2.1-7: Reference QoS rule #7

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			IMS_VOICE
QoS rule identifier	'0000 0011'B	3 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'0'B	The QoS rule a non-default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-6	Packet filter list #6	
QoS rule precedence	'0000 0001'B	1 (unique per PDU session)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 0111'B	QFI 7 (Table 4.8.2.3-5)	
QoS rule			IMS_VIDEO
QoS rule identifier	'0000 0100'B	4 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'0'B	The QoS rule a non-default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-7	Packet filter list #7	
QoS rule precedence	'0000 001'B	2 (unique per PDU session)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 1000'B	QFI 8 (Table 4.8.2.3-6)	

Condition	Explanation
IMS_VOICE	If this QoS rule is used to setup an IMS voice session
IMS_VIDEO	If this QoS rule is used to setup an IMS video session

Table 4.8.2.1-8: Reference QoS rule #8

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
QoS rules			
QoS rule			
QoS rule identifier	'0000 0111'B	7 (unique per PDU session)	
Rule operation code	'001'B	Create new QoS rule	
DQR bit	'1'B	The QoS rule is the default QoS rule.	
Number of packet filters	'0001'B	1 packet filter	
Packet filter list	See table 4.8.2.2-1	Packet filter list #1	
QoS rule precedence	'1111 1111'B	255 (unique per PDU session; If the default QoS rule contains a match-all packet filter, then the highest precedence value shall be used for the default QoS rule.)	
Spare bit	'0'B		
Segregation	'0'B	Spare	
QoS flow identifier (QFI)	'00 1001'B	QFI 9 (Table 4.8.2.3-7)	

4.8.2.2 Reference packet filters

Table 4.8.2.2-1: Packet filter list #1

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	'0000'B	Id 0	
Component type 1 ID	'0000 0001'B	Match-all type	

Table 4.8.2.2-2: Packet filter list #2

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	'0010'B	Id 2	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix length type	remoteIPv6
Component type 1 Value	10.10.10.2 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C002 C0C0:C0C0:C0C0:C0C0/64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-3: Packet filter list #3

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	'0011'B	Id 3	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix length type	remoteIPv6
Component type 1 Value	10.10.10.3 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C003 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-3a: Packet filter list #3a

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	'1111'B	Id 15	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix length type	remoteIPv6
Component type 1 Value	10.10.10.30 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C030 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-4: Packet filter list #4

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	'0100'B	Id 4	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix length type	remoteIPv6
Component type 1 Value	10.10.10.4 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C004 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-5: Packet filter list #5

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	'0101'B	Id 5	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix length type	remoteIPv6
Component type 1 Value	10.10.10.5 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C005 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-6: Packet filter list #6

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	0110'B	Id 6	
Component type 1 ID	0 1 0 1 0 0 0 1	Remote port range type	
Component type 1 Value	media port	SS speech media port as used in the SDP negotiation (RTP remote port); see Note 1	
	media port + 1	RTCP remote port; see Note 1	
Component type 2 ID	0 0 1 1 0 0 0 0	Protocol identifier/Next header type	
Component type 2 Value	17	UDP	
Note 1: According to TS 26.114 [45] and RFC 4566 [46] a "media port" can be understood as the transport port to which a media stream is sent.			

Table 4.8.2.2-7: Packet filter list #7

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	Value/remark	Comment	Condition
Packet filter list			
Packet filter direction	'11'B	bidirectional	
Packet filter identifier	0111'B	Id 7	
Component type 1 ID	0 1 0 1 0 0 0 1	Remote port range type	
Component type 1 Value	media port	SS video media port as used in the SDP negotiation (RTP remote port); see Note 1	
	media port + 1	RTCP remote port; see Note 1	
Component type 2 ID	0 0 1 1 0 0 0 0	Protocol identifier/Next header type	
Component type 2 Value	17	UDP	
Note 1: According to TS 26.114 [45] and RFC 4566 [46] a "media port" can be understood as the transport port to which a media stream is sent.			

4.8.2.3 Reference QoS flow descriptions

Table 4.8.2.3-1: Reference QoS flow #1

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 0001'B	QFI 1	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
Number of parameters	'00 0010'B	2 parameters	Interworking_ with_EPS
5QI	'0000 1001'B	5QI 9	
EPS bearer identity	Any not yet assigned value different to '5'		Interworking_ with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

Table 4.8.2.3-2: Reference QoS flow #2

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 0010'B	QFI 2	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
Number of parameters	'00 0010'B	2 parameters	Interworking_ with_EPS
5QI	'0000 0101'B	5QI 5	
EPS bearer identity	5	EBI 5	Interworking_ with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

Table 4.8.2.3-2a: Reference QoS flow #2a

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 0100'B	QFI 4	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
5QI	'0000 0101'B	5QI 5	

Table 4.8.2.3-3: Reference QoS flow #3

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 0101'B	QFI 5	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
5QI	'0000 0101'B	5QI 5	

Table 4.8.2.3-4: Reference QoS flow #4

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 0110'B	QFI 6	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
5QI	'0000 0101'B	5QI 5	

Table 4.8.2.3-5: Reference QoS flow #5

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 0111'B	QFI 7	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
Number of parameters	'00 0010'B	2 parameters	Interworking_ with_EPS
5QI	5QI 1	5QI 1	
EPS bearer identity	'0000 011 'B	EBI 6	Interworking_ with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

Table 4.8.2.3-6: Reference QoS flow #6

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 1000'B	QFI 8	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
Number of parameters	'00 0010'B	2 parameters	Interworking_ with_EPS
5QI	'0000 0010'B	5QI 2	
EPS bearer identity	'0000 0111 'B	EBI 7	Interworking_ with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

Table 4.8.2.3-7: Reference QoS flow #7

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
QoS flow description			
QFI	'00 1001'B	QFI 9	
Operation code	'001'B	Create new QoS flow description	
E bit	'1'B	Parameters list is included	
Number of parameters	'00 0001'B	1 parameter	
5QI	'101 0010'B	5QI 82	

4.8.3 Common test UICC and USIM parameters

This clause defines default parameters for programming the elementary files of the test UICC when running conformance test cases defined in 3GPP TS 38.523-1[12].

4.8.3.1 General

See clause 4.9.1 in 3GPP TS 36.508 [2] for the definition of test algorithm for

- authentication via EPC;
- authentication via 5GC using 5G AKA based primary authentication and key agreement procedure.
- authentication via 5GC using EAP-AKA' based primary authentication and key agreement procedure, further the Derivation of MSK, EMSK and other keys shall be as derived as clause 3.3 of IETF RFC 5448 [31], using Key derivation function HMAC-SHA-256 algorithm.

4.8.3.2 Default parameters for the test USIM and ISIM

Same as clause 4.9.2 in 3GPP TS 36.508 [2] for

- authentication via EPC;
- authentication via 5GC using 5G AKA based primary authentication and key agreement procedure.
- authentication via 5GC using EAP-AKA' based primary authentication and key agreement procedure.

4.8.3.3 Default settings for the Elementary Files (EFs)

Same as clause 4.9.3 in 3GPP TS 36.508 [2] for

- authentication via EPC;
- authentication via 5GC using 5G AKA based primary authentication and key agreement procedure
- authentication via 5GC using EAP-AKA' based primary authentication and key agreement procedure.

4.8.3.3.1 Modified contents of the USIM Elementary Files

Table 4.8.3.3.1-1: EF_{UST} (USIM Service Table)

Services		Activated	Version	Condition
Service n°122	5GS Mobility Management Information	Optional		5GC
Service n°123	5GS Security Parameters	Optional		5GC
Service n°124	Subscription identifier privacy support	Optional		5GC
Service n°125	SUCI calculation by the USIM	Optional		5GC
Service n°126	UAC Access Identities Configuration	Optional		5GC
Service n°127	Control plane-based steering of UE in VPLMN	Optional		5GC
Service n°128	Call control on PDU Session by USIM	Optional		
Service n°129	5GS Operator PLMN List	Optional		
Note: Only 5GS related services indicated				

Condition	Explanation
5GC	Authentication via 5GC

4.8.3.3.2 Contents of Elementary Files at the DF_{5GS} level

This clause defines the default contents of Elementary Files (EF) that are specific for 5GS and which are grouped in Data File (DF) structure 5GS.

EF_{5GS3GPPLOC} (5GS 3GPP location information)

File size: 20 Bytes

Default values: Bytes 1 to 13 (HEX): FF FF FF FF FF FF FF FF FF FF FF FF FF (5G-GUTI)

Bytes 14 to 19 (HEX): 42 F6 18 FF FF FE (Last visited registered TAI in 5GS for 3GPP access)

Byte 20 (BIN): 00000001 (5GS update status for 3GPP access = "5U2 not updated")

Bytes 14 to 19: TAI-MCC = 246 (bytes 14 to 15) and TAI-MNC = 81 (byte 16) are frequently used. The TAC (bytes 17 to 19) is set to "FF FF FE" since this, in conjunction with byte 20 setting of "01", is used to ensure that the UE performs registration at the beginning of a test.

Bytes in this file (e.g. GUTI in bytes 1 to 13) may be updated as a result of a registration attempt by the UE.

EF_{5GSN3GPPLOC} (5GS non-3GPP location information)

File size: 20 Bytes

Default values: Bytes 1 to 13 (HEX): FF FF FF FF FF FF FF FF FF FF FF FF FF (5G-GUTI)

Bytes 14 to 19 (HEX): 42 F6 18 FF FF FE (Last visited registered TAI in 5GS for non-3GPP access)

Byte 20 (BIN): 00000001 (5GS update status for non-3GPP access = "5U2 not updated")

Bytes 14 to 19: TAI-MCC = 246 (bytes 14 to 15) and TAI-MNC = 81 (byte 16) are frequently used. The TAC (bytes 17 to 19) is set to "FF FF FE" since this, in conjunction with byte 20 setting of "01", is used to ensure that the UE performs registration at the beginning of a test.

Bytes in this file (e.g. GUTI in bytes 1 to 13) may be updated as a result of a registration attempt by the UE.

EF_{5GS3GPPNSC} (5GS 3GPP Access NAS Security Context)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

EF_{5GSN3GPPNSC} (5GS non-3GPP Access NAS Security Context)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

EF_{5GAUTHKEYS} (5G authentication keys)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

EF_{UAC_AIC} (UAC Access Identities Configuration)

The programming of this EF is a test house option.

EF_{SUCI_Calc_Info} (Subscription Concealed Identifier Calculation Information EF)

The programming of this EF is a test house option.

EF_{OPL5G} (5GS Operator PLMN List)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

4.8.3.3.3 Default settings of UICC and USIM for V2X**EF_{UST} (USIM Service Table):**

Same as clause 4.9.3.4 of TS 36.508 [2].

EF_{VST} (V2X Service Table)

If service n°119 is "available" in the USIM Service Table, this file shall be present. This EF indicates the coding of the V2X management objects and which V2X services are available.

File size: 2 Bytes

Default values: Bytes 1 to 2 (HEX): 01 02

Coding of the V2X management objects is according to 3GPP TS 24.588 [113].

Service n°2 V2X policy configuration data over PC5 is supported.

NOTE: The default value for NR support of V2X services is different from that for LTE V2X in clause 4.9.3.4 of TS 36.508 [2].

EF_{V2XP_PC5} (V2X data policy over PC5)

If service n°2 is "available" in EF_{VST}, this file shall be present. This EF contains V2X in 5GS UE policies over PC5. The format of the V2X in 5GS UE policies over PC5 are specified in 3GPP TS 24.588 [113].

The V2X in 5GS UE policies over PC5 contents:

Description	Value	M/O	Length (bytes)
V2X data policy over PC5 Tag	'A0'	M	1
Length	Note 1	M	Note 2
Validity timer	FFS	M	X1
Indicator bits	FFS	M	1
Served by E-UTRA or served by NR Tag	'80'	M	1
Length	X2	M	Note 2
Served by E-UTRA or served by NR information	FFS	M	X2
Not served by E-UTRA and not served by NR Tag	'81'	O	1
Length	X3	O	Note 2
Not served by E-UTRA and not served by NR information	FFS	O	X3
V2X service identifier to Tx profiles mapping rules Tag	'82'	O	1
Length	X4	O	Note 2
V2X service identifier to Tx profiles mapping rules information	FFS		X4
Privacy config Tag	'83'	O	1
Length	X5	O	Note 2
Privacy config information	FFS		X5
V2X communication over PC5 in E-UTRA Tag	'84'	O	1
Length	X6	O	Note 2
V2X communication over PC5 in E-UTRA information	FFS	O	X6
V2X communication over PC5 in NR Tag	'85'	O	1
Length	X7	O	Note 2
V2X communication over PC5 in NR Information	FFS	O	X7
Note 1: This is the total size of the constructed TLV object.			
Note 2: The length is coded according to ISO/IEC 8825-1 [35].			

4.8.4 DNN/APN configurations

The present subclause provides DNN/APN configurations required for flexible PDU/PDN handling. Table 4.8.4-1 provides configurations for the types on DNN/APN handled in the present version of the test specification. If in the future new PDU types need to be handled, then new DNN/APN configuration(s) may be added.

Table 4.8.4-1: DNN/APN configurations

Configurations	Config #1	Config #2	Config #3
DNN/APN type	internet	ims	FFS
DNN/APN ID	pc_APN_ID_Internet	pc_APN_ID_IMS	FFS
5GC QoS rule	Reference QoS rule #1 as specified in subclause 4.8.2.1.	Reference QoS rule #2 as specified in subclause 4.8.2.1.	Reference QoS rule #8 as specified in subclause 4.8.2.1.
EPC default bearer context	Reference default EPS bearer context #1 as specified in TS 36.508 [10], Table 6.6.1-1.	Reference default EPS bearer context #2 as specified in TS 36.508 [10], Table 6.6.1-1.	N/A
EPC dedicated bearer context	Reference dedicated EPS bearer context #1 as specified in TS 36.508 [10], Table 6.6.2-1.	Reference dedicated EPS bearer context #4 as specified in TS 36.508 [10], Table 6.6.2-1.	N/A
IP address allocation	Yes	Yes	Yes
IMS registration	No	Yes NOTE 1	No
SST condition (NOTE 2)	SST_eMBB	SST_eMBB	SST_URLLC
NOTE 1: For PDN establishment the Procedure for IMS signalling according to TS 36.508 [2], subclause 4.5A.3 applies; for PDU establishment the Procedure for IMS signalling according to TS 34.229-5 [47], Annex A.2 applies.			
NOTE 2: The possible values of the SST condition are defined in Table 4.6.0.1-5.			

Editor's Note: It is FFS how to determine DNN for URLLC.

4.9 Test procedures

4.9.1 Test procedure to check user plane connectivity on DRB#n

This procedure aims at checking whether the UE User Plane Access Stratum is capable of exchanging data on DRB#n (#n is the DRB Id specified in the test case when the present procedure is called). In case the UE supports IP, it is also checked that the UE IP stack is connected to the UE User Plane Access Stratum.

Table 4.9.1-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Steps 1a1 to 1c2 describe behaviour that depends on the UE implementation; the "lower case letter" identifies a step sequence that take place depending on the UE implementation.	-	-	-	-
1a1	IF (pc_IP_Ping = TRUE AND pc_IPv4 = TRUE) THEN, the SS sends an ICMP Echo request to the IPv4 address assigned to the UE on DRB#n.	<--	ICMP ECHO REQUEST (NOTE 3)	-	-
1a2	Check: Does the UE send an ICMP Echo reply on DRB#n?	-->	ICMP ECHO REPLY	-	P
1b1	ELSE IF (pc_IP_Ping = TRUE AND (pc_IPv4 = FALSE AND pc_IPv6 = TRUE)) THEN, the SS sends an ICMPv6 Echo request to the IPv6 address assigned to the UE on DRB#n.	<--	ICMPv6 ECHO REQUEST (NOTE 3)	-	-
1b2	Check: Does the UE send an ICMPv6 Echo reply on DRB#n?	-->	ICMPv6 ECHO REPLY	-	P
1c1	ELSE, the SS transmits one IP Packet to verify data path on DRB#n. See NOTE 1, 2.	-	-	-	-
1c2	Check: Does UE send the IP Packet on DRB#n in the uplink?	-	-	-	P
NOTE 1: A Test Loop is assumed to already have been closed. NOTE 2: When DRB#n is a dedicated bearer, the IP Packet shall match the packet filters as configured for DRB#n. When DRB#n is a default bearer, the IP Packet shall match none of the dedicated bearers associated to DRB#n (if any). (NOTE 4) NOTE 3: When DRB#n is a dedicated bearer, the source address of the ICMP/ICMPv6 ECHO REQUEST shall be the same as the remote address of the DL/UL packet filters. When DRB#n is a default bearer, the source address of the ICMP/ICMPv6 ECHO REQUEST shall be different than the remote address of the DL/UL packet filters for an associated dedicated bearer (if any). (NOTE 4) NOTE 4: For 5GC QoS rules and the associated packet filters are specified in clause 4.8.2. For EPC the TFTs and associated packet filters are specified in clause 6.6.2 of TS 36.508 [2] and the IP packet shall be as according to clause 7.14.2 of TS 36.523-3 [41].					

Table 4.9.1-1A: Test procedure sequence for Data path check for CA tests

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Step 1 is only performed if SCell is not yet activated.	-	-	-	-
1	The SS transmits an Activation MAC control element to activate SCell.	<--	MAC PDU (Activation (C ₁ =1))		
-	EXCEPTION: Steps 2a1 to 2c2 describe behaviour that depends on the UE implementation; the "lower case letter" identifies a step sequence that take place depending on the UE implementation.	-	-	-	-
2a1	IF (pc_IP_Ping = TRUE AND pc_IPv4 = TRUE) THEN, the SS sends an ICMP Echo request to the IPv4 address assigned to the UE on DRB#n on the SCell.	<--	ICMP ECHO REQUEST (NOTE 3)	-	-
2a2	Check: Does the UE send an ICMP Echo reply on DRB#n on the SpCell?	-->	ICMP ECHO REPLY	-	P
2b1	ELSE IF (pc_IP_Ping = TRUE AND (pc_IPv4 = FALSE AND pc_IPv6 = TRUE)) THEN, the SS sends an ICMPv6 Echo request to the IPv6 address assigned to the UE on DRB#n on the SCell.	<--	ICMPv6 ECHO REQUEST (NOTE 3)	-	-
2b2	Check: Does the UE send an ICMPv6 Echo reply on DRB#n on the SpCell?	-->	ICMPv6 ECHO REPLY	-	P
2c1	ELSE, the SS transmits one IP Packet to verify data path on DRB#n on the SCell. See NOTE 1, 2.	-	-	-	-
2c2	Check: Does UE send the IP Packet on DRB#n in the uplink on the SpCell?	-	-	-	P
NOTE 1: A Test Loop is assumed to already have been closed.					
NOTE 2: When DRB#n is a dedicated bearer, the IP Packet shall match the packet filters as configured for DRB#n. When DRB#n is a default bearer, the IP Packet shall match none of the dedicated bearers associated to DRB#n (if any). (NOTE 4)					
NOTE 3: When DRB#n is a dedicated bearer, the source address of the ICMP/ICMPv6 ECHO REQUEST shall be the same as the remote address of the DL/UL packet filters. When DRB#n is a default bearer, the source address of the ICMP/ICMPv6 ECHO REQUEST shall be different than the remote address of the DL/UL packet filters for an associated dedicated bearer (if any). (NOTE 4)					
NOTE 4: For 5GC QoS rules and the associated packet filters are specified in clause 4.8.2. For EPC the TFTs and associated packet filters are specified in clause 6.6.2 of TS 36.508 [2] and the IP packet shall be as according to clause 7.14.2 of TS 36.523-3 [41].					

4.9.2 Test procedure to activate UE Beamlock Test Function (UBF)

4.9.2.1 Initiation

UE is operating in FR2 in RRC_CONNECTED state.

4.9.2.2 Procedure

Table 4.9.2.2-1: Test procedure Sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	SS request UE to activate UE beamlock function.	<--	ACTIVATE BEAMLOCK	-	-
2	UE confirms that UE beamlock function is activated	-->	ACTIVATE BEAMLOCK COMPLETE	-	-

4.9.2.3 Specific Message contents

Table 4.9.2.3-1: ACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.1			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 0 0		
UE Beamlock test Function	0 0 0 0 0 0 1		Tx Only
UE Beamlock test Function	0 0 0 0 0 1 0		Rx Only
UE Beamlock test Function	0 0 0 0 0 1 1		Tx and Rx

Condition	Explanation
Tx Only	Activation UE beamlock function for Tx only
Rx Only	Activation UE beamlock function for Rx only
Tx and Rx	Activation UE beamlock function for both Tx and Rx

Table 4.9.2.3-2: ACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.2			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1		

4.9.3 Test procedure to deactivate UE Beamlock Test Function (UBF)

4.9.3.1 Initiation

UE is operating in FR2 in RRC_CONNECTED state with UE beamlock test function activated.

4.9.3.2 Procedure

Table 4.9.3.2-1: Test procedure Sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	SS request UE to deactivate UE beamlock function.	<--	DEACTIVATE BEAMLOCK	-	-
2	UE confirms that UE beamlock function is activated	-->	DEACTIVATE BEAMLOCK COMPLETE	-	-

4.9.3.3 Specific Message contents

Table 4.9.3.3-1: DEACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.3			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 1 0		

Table 4.9.3.3-2: DEACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.4			
Information Element	Value/remark	Comment	Condition
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1 1		

4.9.4 Test procedure to check that UE is in state 5GC RRC_IDLE on a certain NR/NGC cell

4.9.4.1 Scope

This procedure aims at checking whether the UE is in state 5GC RRC_IDLE on a certain cell (as specified in the test case).

4.9.4.2 Procedure description

4.9.4.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.4.2.2 Procedure

Table 4.9.4.2.2-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	Step 1 of Generic procedure for bringing the UE in RRC_CONNECTED state with connectivity NR as specified in Table 4.5.4.2-3 is performed.	-	-	-	-
2	Check: Does the UE transmit an <i>RRCSetupRequest</i> message on the cell specified in the test case?	-->	NR RRC: <i>RRCSetupRequest</i>	-	P
3-8	Steps 3-8 of Generic procedure for bringing the UE in RRC_CONNECTED state with connectivity NR as specified in Table 4.5.4.2-3 are performed.	-	-	-	-
-	EXCEPTION: Step 9a1 describes a step sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
9a1	IF ' <i>connected without release</i> ' is not present THEN the SS transmits an <i>RRCRelease</i> message to release RRC connection and move the UE to RRC_IDLE.	<--	NR RRC: <i>RRCRelease</i>	-	-

4.9.4.2.3 Specific Message content

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.5 Test procedure to check that UE is camped on a new NR/NGC cell belonging to a new TA

4.9.5.1 Scope

This procedure aims at checking whether the UE performs a mobility registration updating (Tracking Area (TA) update) procedure when it camps on a new cell (as specified in the test case) belonging to a new TA.

4.9.5.2 Procedure description

4.9.5.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.5.2.2 Procedure sequence

Table 4.9.5.2.2-1: Test procedure sequence mobility registration updating (TA update)

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	The UE transmits an <i>RRCSetupRequest</i> message.	-->	NR RRC: <i>RRCSetupRequest</i>	-	-
2	SS transmit an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
3	The UE transmits an <i>RRCSetupComplete</i> message to confirm the successful completion of the connection establishment and a REGISTRATION REQUEST message indicating "mobility registration updating" is sent to update the registration of the actual tracking area.	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: REGISTRATION REQUEST	-	-
4	SS sends a REGISTRATION ACCEPT message containing a 5G-GUTI. (NOTE 1, NOTE 2)	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: REGISTRATION ACCEPT	-	-
5	Check: Does the UE send a REGISTRATION COMPLETE?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: REGISTRATION COMPLETE	-	P
-	EXCEPTION: Step 6a1 describes a step sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
6a1	IF 'connected without release' is not present THEN the SS transmits an <i>RRCRelease</i> message to release RRC connection and move the UE to RRC_IDLE.	<--	NR RRC: <i>RRCRelease</i>	-	-
NOTE 1: If a PDU session status IE was included in the REGISTRATION REQUEST message then the SS includes a PDU session status IE in the REGISTRATION ACCEPT message indicating that all the PDU sessions are active.					
NOTE 2: If the UE has indicated S1 mode supported then the SS shall indicate in the 5GS network feature support IE in the REGISTRATION ACCEPT message the IWK N26 bit set to "interworking without N26 not supported". The setting of the "interworking without N26 not supported" has been chosen to ensure that the UE is operating in the single-registration mode allowing for a clearly pre-determined UE behaviour.					

4.9.5.2.3 Specific Message content

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.6 Test procedures for Switch off / Power off UE

4.9.6.1 Switch off / Power off procedure in RRC_IDLE

Table 4.9.6.1-1: Switch off procedure in RRC_IDLE

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [36] pc_SwitchOnOff or [37] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE, IF pc_USIM_Removal THEN remove the USIM (Note 1)	-	-
1a2	UE transmits an <i>RRCSetupRequest</i> message.	-->	RRC: <i>RRCSetupRequest</i>
1a3	SS transmit an <i>RRCSetup</i> message.	<--	RRC: <i>RRCSetup</i>
-	EXCEPTION: Steps 1a4Aa1 to 1a4Aa6 specify optional behaviour if the UE has previously performed IMS registration	-	-
1a4Aa1	The UE transmits an <i>RRCSetupComplete</i> message to confirm the successful completion of the connection establishment and to initiate the IMS signalling procedure by including the SERVICE REQUEST message.	-->	RRC: <i>RRCSetupComplete</i> 5GMM: SERVICE REQUEST
1a4Aa2	The SS transmits a <i>SecurityModeCommand</i> message to activate AS security.	<--	RRC: <i>SecurityModeCommand</i>
1a4Aa3	The UE transmits a <i>SecurityModeComplete</i> message and establishes the initial security configuration.	-->	RRC: <i>SecurityModeComplete</i>
1a4Aa4	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB.	<--	RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT
-	EXCEPTION: In parallel to the event described in step 1a4Aa5 below, the generic test procedure in TS 34.229-5 [47] Annex A.11 may be performed.	-	-
1a4Aa5	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	RRC: <i>RRCReconfigurationComplete</i>
1a4Aa6	The UE transmits a DEREGISTRATION REQUEST message	-	5GMM: DEREGISTRATION REQUEST
-	EXCEPTION: Step 1a4Ab1 below specifies the behaviour if the UE has not previously performed IMS registration	-	-
1a4Ab1	The UE transmits an <i>RRCSetupComplete</i> message including the DEREGISTRATION REQUEST message.	-->	RRC: <i>RRCSetupComplete</i> 5GMM: DEREGISTRATION REQUEST
1a4	Void	-	-
1a5	The SS transmits an <i>RRCRelease</i> message	<--	RRC: <i>RRCRelease</i>
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE.			
Note 2: Power off is used when UE don't support switch off or USIM removal, in which case no UE originated deregistration procedure is expected.			

4.9.6.2 Switch off / Power off procedure in RRC_INACTIVE

4.9.6.2.1 Procedure

Table 4.9.6.2.1-1: Switch off procedure in RRC_INACTIVE

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [36] pc_SwitchOnOff or [37] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE, IF pc_USIM_Removal THEN remove the USIM (Note 1)	-	-
1a2	UE transmits an <i>RRCResumeRequest</i> message.	-->	NR RRC: <i>RRCResumeRequest</i>
1a3	SS transmit an <i>RRCResume</i> message.	<--	NR RRC: <i>RRCResume</i>
-	EXCEPTION: Steps 1a4Aa1 to 1a4Aa6 specify optional behaviour if the UE has previously performed IMS registration	-	-
1a4Aa1	The UE transmits an <i>RRCResumeComplete</i> message to confirm the successful completion of the connection establishment and to initiate the IMS signalling procedure by including the SERVICE REQUEST message.	-->	RRC: <i>RRCResumeComplete</i> 5GMM: SERVICE REQUEST
1a4Aa2	The SS transmits a <i>SecurityModeCommand</i> message to activate AS security.	<--	RRC: <i>SecurityModeCommand</i>
1a4Aa3	The UE transmits a <i>SecurityModeComplete</i> message and establishes the initial security configuration.	-->	RRC: <i>SecurityModeComplete</i>
1a4Aa4	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB.	<--	RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT
-	EXCEPTION: In parallel to the event described in step 1a4Aa5 below, the generic test procedure in TS 34.229-5 [47] Annex A.11 may be performed.	-	-
1a4Aa5	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	RRC: <i>RRCReconfigurationComplete</i>
1a4Aa6	The UE transmits a DEREGISTRATION REQUEST message	-	5GMM: DEREGISTRATION REQUEST
-	EXCEPTION: Step 1a4Ab1 below specifies the behaviour if the UE has not previously performed IMS registration	-	-
1a4	Void	-	-
1a5	The SS transmits an <i>RRCRelease</i> message	<--	NR RRC: <i>RRCRelease</i>
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE.			
Note 2: Power off is used when UE don't support switch off or USIM removal, in which case no UE originated deregistration procedure is expected.			

4.9.6.2.2 Specific Message contents

Table 4.9.6.2.2-1: RRCResumeRequest

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	Value/remark	Comment	Condition
RRCResumeRequest ::= SEQUENCE {			
rrcResumeRequest SEQUENCE {			
resumeIdentity	Not checked		
resumeMAC-I	Not checked		
resumeCause	Not checked		
spare	Not checked		
}			
}			

4.9.6.3 Switch off / Power off procedure in RRC_CONNECTED

Table 4.9.6.3-1: Switch off procedure in RRC_CONNECTED

Step	Procedure	Message Sequence	
		U - S	Message
1a1-1a3	Void	-	-
2-4	Void	-	-
-	EXCEPTION: Steps 5a1 to 5b1 describe behaviour that depends on the UE implementation; the "lower case letter" identifies a step sequence that take place if a particular implementation is under test.	-	-
5a1	IF pc_SwitchOnOff THEN switch off UE, IF pc_USIM_Removal THEN remove the USIM (Note 1)		
-	EXCEPTION : Step 5a1Aa1 to 5a1Aa2 below specifies optional behaviour if the UE has previously performed IMS registration	-	-
5a1Aa1	The UE may perform the generic test procedure described in TS 34.229-5 [47] Annex A.11	-	-
5a2	The UE transmits a DEREGISTRATION REQUEST message.	-->	5GMM: DEREGISTRATION REQUEST
5a3	The SS transmits an RRCRelease message.	<--	NR RRC: <i>RRCRelease</i>
5b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE. Note 2: Power off is used when UE don't support switch off or USIM removal, in which case no UE originated deregistration procedure is expected.			

4.9.6.3A Switch off / Power off procedure in RRC_CONNECTED with T3540 started

Table 4.9.6.3A-1: Switch off procedure in RRC_CONNECTED with T3540 started

Step	Procedure	Message Sequence	
		U - S	Message
1	SS starts timer1 = T3540 (10 sec).	-	-
2	The SS locally releases the RRC connection.	-	-
3	SS waits for Timer1 expires. NOTE: On expiry of T3540 UE shall locally release the established N1 NAS signalling connection	-	-
4	The generic procedure as described in Table 4.9.6.1-1: Switch off procedure in RRC_IDLE take place.	-	-

4.9.6.4 Switch off / Power off procedure in State DEREGISTERED

Table 4.9.6.4-1: Switch off procedure in State DEREGISTERED

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [36] pc_SwitchOnOff or [37] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE (Note 1)	-	-
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE.			
Note 2: Power off is used when UE don't support switch off or USIM removal.			

4.9.6.5 Switch off / Power off procedure in WLAN Ipsec_SA_Established

Table 4.9.6.5-1: Switch off procedure in Ipsec_SA_Established

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [30] pc_SwitchOnOff or [31] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE (Note 1)	-	-
1a2	The UE transmits a DEREGISTRATION REQUEST message.	-->	5GMM: DEREGISTRATION REQUEST
1a3	The generic procedure for SS-requested IPsec Secure tunnel disconnection, specified in subclause 4.5A.5, takes place performing disconnection of security association	-	-
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE.			
Note 2: Power off is used when UE don't support switch off or USIM removal, in which case no UE originated deregistration procedure is expected.			

4.9.7 Test procedure for UE for Tracking area updating / Inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode

4.9.7.1 Scope

This procedure aims at verifying that the UE performs a Tracking Area Update (TAU) procedure when it performs inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE.

The procedure provides different security context handling options based on the condition parameters defined in Table 4.9.7.1-1.

Table 4.9.7.1-1: Condition parameters

Condition	Explanation
new security context	When this parameter is present the SS will establish and take into account a new security context.
existing EPS security context	When this parameter is present the SS will take into account an existing EPS security context. A prerequisite for using this condition is the existence of an EPS security context
NOTE 1: If none of the defined condition parameters is present when the procedure is referred to then the SS will apply mapped 5G security context. A prerequisite for using this condition is the existence of 5G security context.	

4.9.7.2 Procedure description

4.9.7.2.1 Initial conditions

System Simulator:

- 1 E-UTRA cell connected to EPC, default parameters, system information combination 31 as defined in TS 36.508 [2], subclause 4.4.3.1.1.

NOTE: Details about the NGC cell from which the UE will move to the E-UTRA cell are to be specified in the test.

User Equipment:

- The Test UICC shall be inserted. It shall provide relevant details on the EPC and 5GC.

All details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.7.2.2 Procedure sequence

Table 4.9.7.2.2-1: Test procedure sequence UE Tracking area updating / inter-system change from N1 mode to S1 mode in EMM-IDLE mode

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	The UE transmits an <i>RRConnectionRequest</i> message on the cell specified in the test case.	-->	RRC: <i>RRConnectionRequest</i>	-	-
2	SS transmits an <i>RRConnectionSetup</i> message.	<--	RRC: <i>RRConnectionSetup</i>	-	-
3	The UE transmits an <i>RRConnectionSetupComplete</i> message to confirm the successful completion of the connection establishment and a TRACKING AREA UPDATE REQUEST message is sent to update the registration of the actual tracking area. For some consequences related to the content of the TRACKING AREA UPDATE REQUEST message see the Notes in Table 4.9.7.2.3-1.	-->	RRC: <i>RRConnectionSetupComplete</i> NAS: TRACKING AREA UPDATE REQUEST	-	-
-	EXCEPTION: Steps 4a1-4b2 describe a step sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
4a1	IF ' <i>new security context</i> ' THEN the SS transmits an AUTHENTICATION REQUEST message to initiate the EPS authentication and AKA procedure.	<--	RRC: <i>DLInformationTransfer</i> NAS: AUTHENTICATION REQUEST	-	-
4a2	The UE transmits an AUTHENTICATION RESPONSE message and establishes mutual authentication.	-->	RRC: <i>ULInformationTransfer</i> NAS: AUTHENTICATION RESPONSE	-	-
4a3	The SS transmits a NAS SECURITY MODE COMMAND message to activate NAS security.	<--	RRC: <i>DLInformationTransfer</i> NAS: SECURITY MODE COMMAND	-	-
4a4	The UE transmits a NAS SECURITY MODE COMPLETE message and establishes the initial security configuration.	-->	RRC: <i>ULInformationTransfer</i> NAS: SECURITY MODE COMPLETE	-	-
4b1	IF ' <i>existing EPS security context</i> ' THEN the SS transmits a NAS SECURITY MODE COMMAND message to activate NAS security.	<--	RRC: <i>DLInformationTransfer</i> NAS: SECURITY MODE COMMAND	-	-
4b2	The UE transmits a NAS SECURITY MODE COMPLETE message and establishes the initial security configuration.	-->	RRC: <i>ULInformationTransfer</i> NAS: SECURITY MODE COMPLETE	-	-
-	EXCEPTION: If none of the branches 4a or 4b takes place then the SS shall apply mapped 5G security context, otherwise the SS shall apply the security context depending on the branch.	-	-	-	-
5	SS responds with TRACKING AREA UPDATE ACCEPT message.	<--	RRC: <i>DLInformationTransfer</i> NAS: TRACKING AREA UPDATE ACCEPT	-	-
6	Check: Does the UE transmit TRACKING AREA UPDATE COMPLETE?	-->	RRC: <i>ULInformationTransfer</i> NAS: TRACKING AREA UPDATE COMPLETE	-	P
7a1	Void	-	-	-	-
-	EXCEPTION: Steps 8a1 to 8b2a8 describe a step sequence depending on test case scenario; the left-most "lower case letter" identifies a step sequence that take place if the test procedure is called in a particular scenario. (NOTE 1)	-	-	-	-
8a1	IF <i>Interworking without N26 interface supported</i> THEN	-	-	-	-

	The generic procedure for UE-requested PDN connection establishment, specified in subclause 4.5A.2B, takes place performing establishment of UE-requested PDN connection(s) with ExpectedNumberOfNewPDNConnections = pc_noOf_PDNsSameConnection.				
-	EXCEPTION: Steps 8a2a1 to 8a2b1 describe a step sequence depending on test case scenario; the right-most "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
8a2a1	IF pc_noOf_PDNsNewConnection>0 THEN the SS transmits an <i>RRCCConnectionRelease</i> message to release RRC connection and moves the UE to RRC_IDLE.	<--	RRC: <i>RRCCConnectionRelease</i>	-	-
8a2a2	The procedure E-UTRA RRC_IDLE Unrestricted nr PDN Extension as specified in Table 4.5.2.2-6 takes place.	-	-	-	-
8a2b1	ELSE IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCCConnectionRelease</i> message to release RRC connection and move to E-UTRA RRC_IDLE (State 2).	<--	RRC: <i>RRCCConnectionRelease</i>	-	-
8b1	ELSE (i.e. 'Interworking without N26 interface not supported') The generic procedure for UE-requested PDN connection establishment, specified in subclause 4.5A.2B, takes place performing establishment of UE-requested PDN connection(s) with ExpectedNumberOfNewPDNConnections = pc_noOf_PDNsSameConnection with the exception that IF step 2b1, Table 4.5A.2B.2.2-2 takes place THEN the SS shall not assign Fail but continue with the next step in the test sequence not expecting any additional connection establishment to take place (NOTE 2).	-	-	-	-
-	EXCEPTION: Steps 8b2a1 to 8b2b1 describe a step sequence depending on test case scenario; the right-most "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
8b2a1	IF pc_noOf_PDNsNewConnection>0 THEN the SS transmits an <i>RRCCConnectionRelease</i> message to release RRC connection and moves the UE to RRC_IDLE.	<--	RRC: <i>RRCCConnectionRelease</i>	-	-
8b2a2	The procedure E-UTRA RRC_IDLE Unrestricted nr PDN Extension as specified in table 4.5.2.2-6 takes place. For the referred in step 7, Table 4.5.2.2-6, generic procedure for UE-requested PDN connection establishment, specified in subclause 4.5A.2B, IF step 2b1, Table 4.5A.2B.2.2-2 takes place THEN the SS shall not assign Fail but continue with the next step in the test sequence not expecting any additional connection establishment to take place (NOTE 2).	-	-	-	-
8b2b1	ELSE IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCCConnectionRelease</i> message to release RRC connection and move to E-UTRA RRC_IDLE (State 2).	<--	RRC: <i>RRCCConnectionRelease</i>	-	-

NOTE 1:	The NWK will indicate whether Interworking without N26 interface is supported in the REGISTRATION ACCEPT message, IE '5GS network feature support', IWK N26 bit. Consequently which branch would the procedure sequence go through will depend on the content of the REGISTRATION ACCEPT message applicable to e.g. the test case which calls the present test procedure.
NOTE 2:	Depending on UE implementation and/or NWK behaviour, the UE may transfer some PDU sessions into PDN connections without re-establishing those utilising the relevant mapped QoS provided in the PDU SESSION ESTABLISHMENT ACCEPT message when the UE was on the NR cell. This will result in the number of established PDNs, if any, being lower than the pc_noOf_PDNsSameConnection or the pc_noOf_PDNsNewConnection which the UE will establish upon initial attach to the EPS.

4.9.7.2.3 Specific Message content

Default message contents as specified in TS 36.508 [2] with the following exceptions.

Table 4.9.7.2.3-1: TRACKING AREA UPDATE REQUEST (Step 3, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-27, condition NR.			
Information Element	Value/remark	Comment	Condition
EPS update type			
EPS update type Value	'000'B or '001'B or '010'B	'TA updating' or 'combined TA/LA updating' or 'combined TA/LA updating with IMSI attach'	
"Active" flag	Any value		
NAS key set identifier	the eKSI indicating the 5G NAS security context value assigned at the initial registration when the UE entered N1		
Old GUTI	GUTI, mapped from the 5G-GUTI assigned at the initial registration when the UE entered N1		
Additional GUTI	Not present or any allowed value		
Last visited registered TAI	The TAI the last visited E-UTRA Cell belonged to, if any. Not included if the UE does not have last stored EPC TAI.		
UE radio capability information update needed	'1'B	UE radio capability information update needed	First-N1-to-S1
EPS bearer context status	Present, Content not checked	EBI corresponding to active PDN connections (transferred PDU Sessions) need to be set to 1 (NOTE 2)	
Old GUTI type	"Native GUTI"		
UE status	"UE is in 5GMM-REGISTERED state"		
NOTE 1: The message shall be integrity protected using the 5GS security context available in the UE.			
NOTE 2: There will be no PDN connection establishment nor explicit bearer configuration for the transferred PDU sessions. This means that the UE has created locally the default bearer context and the dedicated bearer context(s) based on the parameters of the mapped bearer contexts or the associations between QoS flow and mapped bearer in the PDU session. Although the contents of the IE is not required to be verified for PASS/FAIL purposes, the provided information shall be taken into account for building any subsequent RRC Reconfiguration message, and can be used e.g. for SS configuration purposes as well.			

Condition	Explanation
First-N1-to-S1	First N1 to S1 transition following UE registration in N1 mode

Table 4.9.7.2.3-2: AUTHENTICATION REQUEST (Step 4a1, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-7.			
Information Element	Value/remark	Comment	Condition
NAS key set identifier _{ASME}			
NAS key set identifier	An arbitrarily selected value between '000'B and '110'B, different from the valid NAS key set identifier of the UE if such a value exists.	Value shall be different to the 5G NAS security context value if there is one assigned	

Table 4.9.7.2.3-3: SECURITY MODE COMMAND (Step 4a3, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-19.			
Information Element	Value/remark	Comment	Condition
NAS key set identifier _{ASME}			
NAS key set identifier	The 4G NAS key set identifier assigned in step 4a1.		

Table 4.9.7.2.3-4: SECURITY MODE COMMAND (Step 4b1, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-19.			
Information Element	Value/remark	Comment	Condition
NAS key set identifier _{ASME}			
NAS key set identifier	The 4G NAS key set identifier assigned in the latest Authentication procedure.		

Table 4.9.7.2.3-5: TRACKING AREA UPDATE ACCEPT (Step 5, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-24, condition NR.			
Information Element	Value/remark	Comment	Condition
EPS network feature support	The IWK N26 (octet 4, bit 7) set to '1'		<i>Interworking without N26 interface supported</i>

4.9.8 Procedure for Registration Reject

4.9.8.1 Scope

The purpose of this procedure is to reject the registration request, with a specific cause value, which may allow fields to be cleared in the USIM.

4.9.8.2 Procedure description

4.9.8.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.8.2.2 Procedure sequence

Table 4.9.8.2.2-1: Procedure for Registration Reject

St	Procedure	Message Sequence	
		U – S	Message
1	The UE transmits an <i>RRCSetupRequest</i> message.	-->	NR RRC: <i>RRCSetupRequest</i>
2	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>
3	The UE transmits an <i>RRCSetupComplete</i> message and a REGISTRATION REQUEST message.	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: REGISTRATION REQUEST
4	The SS transmits an AUTHENTICATION REQUEST message including EAP-Request/AKA'-Challenge or 5G AKA Challenge.	<--	5GMM: AUTHENTICATION REQUEST
5	The UE transmits an AUTHENTICATION RESPONSE message including EAP-Response/AKA'-Challenge or 5G AKA Response.	-->	5GMM: AUTHENTICATION RESPONSE
6	The SS transmits a SECURITY MODE COMMAND message including EAP-Success if EAP-AKA' used.	<--	5GMM: SECURITY MODE COMMAND
7	The UE transmits a SECURITY MODE COMPLETE message.	-->	5GMM: SECURITY MODE COMPLETE
8	The SS transmits a REGISTRATION REJECT message with the cause value set to <i>Reject Cause</i> .	<--	5GMM: REGISTRATION REJECT
9	The SS transmits an <i>RRCRelease</i> message	<--	RRC: <i>RRCRelease</i>
10	Test procedure for Switch off / Power off in State DEREGISTERED as specified in subclause 4.9.6.4		

4.9.8.2.3 Specific message contents

Table 4.9.8.2.3-1: REGISTRATION REJECT

Derivation Path: table 4.7.1-9			
Information Element	Value/remark	Comment	Condition
5GMM cause	Set according to <i>Reject Cause</i>	<i>Reject Cause</i> set to #6 Illegal ME as default	

4.9.9 Test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode

4.9.9.1 Scope

This procedure aims at verifying that the UE performs a Mobility and periodic registration update procedure when it performs inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE.

4.9.9.2 Procedure description

4.9.9.2.1 Initial conditions

System Simulator:

- 1 NGC Cell connected to 5GC, default parameters, system information combination NR-6 as defined in subclause 4.4.3.1.2.

NOTE: Details about the E-UTRA cell from which the UE will move to the NGC cell are to be specified in the test.

User Equipment:

- The Test UICC shall be inserted. It shall provide relevant details on the EPC and 5GC.

All details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.9.2.2 Procedure sequence

Table 4.9.9.2.2-1: Test procedure sequence UE Tracking area updating / inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1-3	Steps 1-3 from the mobility and periodic registration update procedure as described in Table 4.9.5.2.2-1 are performed. For some consequences related to the content of the REGISTRATION REQUEST message sent in step 1 see the Notes in Table 4.9.9.2.3-1.	-	-	-	-
4	The SS transmits a DLInformationTransfer message and an AUTHENTICATION REQUEST message.	<--	NR RRC: DLInformationTransfer 5GMM: AUTHENTICATION REQUEST	-	-
5	The UE transmits an ULInformationTransfer message and an AUTHENTICATION RESPONSE message.	-->	NR RRC: ULInformationTransfer 5GMM: AUTHENTICATION RESPONSE	-	-
6	The SS transmits a DLInformationTransfer message and a SECURITY MODE COMMAND message.	<--	NR RRC: DLInformationTransfer 5GMM: SECURITY MODE COMMAND	-	-
7	The UE transmits an ULInformationTransfer message and a SECURITY MODE COMPLETE message.	-->	NR RRC: ULInformationTransfer 5GMM: SECURITY MODE COMPLETE	-	-
8	The SS transmits a SecurityModeCommand message.	<--	NR RRC: SecurityModeCommand	-	-
9	The UE transmits a SecurityModeComplete message.	-->	NR RRC: SecurityModeComplete	-	-
10-11	Steps 4-5 of Table 4.9.5.2.2-1 of the generic procedure are performed.	-	-	-	-
12a1-13a1	Void	-	-	-	-
-	EXCEPTION: Steps 14a1 to 14b2b1 describe a step sequence depending on test case scenario; the "lower case letter" identifies a step sequence that take place if the test procedure is called in a particular scenario. (NOTE 1)	-	-	-	-
14a1	IF <i>Interworking without N26 interface supported</i> THEN The generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2, takes place performing establishment of UE-requested PDU session(s) with ExpectedNumberOfNewPDUSessions = pc_noOf_PDUsSameConnection. The UE may attempt to transfer some of the existing in S1 PDN connection(s) in which case in the PDU SESSION ESTABLISHMENT REQUEST message the request type shall be set to "existing PDU session" (NOTE 3).	-	-	-	-
-	EXCEPTION: Steps 14a2a1 to 14a2b1 describe a step sequence depending on test case scenario; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
14a2a1	IF pc_noOf_PDUsNewConnection > 0 THEN the SS transmits an <i>RRCRelease</i> message to release RRC connection and moves the UE to RRC_IDLE.	<--	NR RRC: <i>RRCRelease</i>	-	-
14a2a	The procedure NR RRC_IDLE Extension as	-	-	-	-

2	specified in table 4.5.2.2-4 takes place.				
14a2b 1	ELSE IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCConnectionRelease</i> message to release RRC connection and move the UE to RRC_IDLE.	<--	NR RRC: <i>RRCRelease</i>	-	-
-	EXCEPTION: In parallel to the events described in step 14b1 below, the steps specified in Table 4.9.2.2-2 may take place.	-	-	-	-
14b1	ELSE (i.e. 'Interworking without N26 interface not supported') The generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2, takes place performing establishment of UE-requested PDU session(s) with ExpectedNumberOfNewPDUSessions = pc_noOf_PDUsSameConnection with the exception that IF step 2b1, Table 4.5A.2.2.2-2 takes place THEN the SS shall not assign Fail but continue with the next step in the test sequence not expecting any additional session establishment to take place (NOTE 2).	-	-	-	-
-	EXCEPTION: Steps 14b2a1 to 14b2b1 describe a step sequence depending on test case scenario; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
14b2a 1	IF pc_noOf_PDUsNewConnection > 0 THEN the SS transmits an <i>RRCRelease</i> message to release RRC connection and move the UE to RRC_IDLE.	<--	NR RRC: <i>RRCRelease</i>	-	-
14b2a 2	The procedure NR RRC_IDLE Extension as specified in Table 4.5.2.2-4 takes place. For the referred in step 8, Table 4.5.2.2-4, generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2, IF step 2b1, Table 4.5A.2.2.2-2 takes place THEN the SS shall not assign Fail but continue with the next step in the test sequence not expecting any additional session establishment to take place (NOTE 2).	-	-	-	-
14b2b 1	ELSE IF <i>connected without release</i> is not present THEN, the SS transmits an <i>RRCRelease</i> message to release RRC connection and move the UE to RRC_IDLE.	<--	NR RRC: <i>RRCRelease</i>	-	-
NOTE 1: The NWK will indicated whether Interworking without N26 interface is supported in the REGISTRATION ACCEPT message, IE '5GS network feature support', IWK N26 bit. Consequently which branch would the procedure sequence go through will depend on the content of the REGISTRATION ACCEPT message applicable to e.g. the test case which calls the present test procedure. NOTE 2: Depending on UE implementation and/or NWK behaviour, the UE may transfer some PDN connections into PDU sessions without re-establishing them with the relevant mapping provided in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message. This will result in the number of connection modifications, if any, being lower than the pc_noOf_PDUsSameConnection or the pc_noOf_PDUsNewConnection which the UE will establish upon initial attach to the 5GS. NOTE 3: Since the MME does not provide the UE with the mapped PDU session for a PDN connection, the UE does not know whether interworking to 5GS is supported for a PDN connection for which the UE assigned a PDU Session identity before attempting to transfer the PDN connection from S1 mode to N1 mode. It is up to UE implementation to decide which PDN connection(s) to be attempted to transfer from S1 mode to N1 mode, e.g. based on UE policy or UE local configuration. (see TS 24.501 [22], subclause 6.1.4.2)					

Table 4.9.9.2.2-2: Parallel behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
-	EXCEPTION: Step 1 describe a step sequence depending on test case scenario; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action. NOTE 2, NOTE 3	-	-	-	-
1	IF this is the first time in a test case that the UE moves from S1 to N1 THEN the generic procedure for Procedure for UE-requested PDU session modification after the first S1 to N1 mode change / Single-registration mode with N26, specified in subclause 4.5A.2C, takes place with ExpectedNumberOfPDUSessionModifications=(pc_noOf_PDUsSameConnection+pc_noOf_PDUsNewConnection), with the exception that IF step 2b1, Table 4.5A.2C.2.2-2 takes place THEN the SS shall not assign Fail but continue with the next step in the test sequence not expecting any additional session modifications to take place (NOTE 1).				
NOTE 1: Depending on UE implementation and/or NWK behaviour, the UE may transfer with modification some PDN connections into PDU sessions without re-establishing them with the relevant mapping provided in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message. This will result in the number of session modifications, if any, being lower than the pc_noOf_PDUsSameConnection+pc_noOf_PDUsNewConnection. NOTE 2: Whether this is the first time in a test case that the UE moves from S1 to N1 depends on the test scenario (including what happens in the preamble of the test). NOTE 3: It is assumed that the PDU session modification for all transferred PDUs will happen on the same connection with the mobility and periodic registration update procedure. NOTE 4: For PDN connections which will be transferred, tests calling the present procedure shall ensure that: - For each PDN connection established during the UE registration to the EPS, the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message which corresponds to the default EPS bearer of the PDN connectivity being activated, contains the Protocol configuration options IE or the Extended protocol configuration options IE with mapped 5GS PDU a session-AMBR and QoS rule(s).					

4.9.9.2.3 Specific Message content

Table 4.9.9.2.3-1: REGISTRATION REQUEST (step 1, Table 4.9.9.2.2-1; step 3, Table 4.9.5.2.2-1)

Derivation Path: Table 4.7.1-6.			
Information Element	Value/remark	Comment	Condition
5GS registration type	'00xxx010'	mobility registration updating x - not checked	
ngKSI			
NAS key set identifier	KSI _{AMF} that was created when the UE last registered to 5GCN '111'B	No key	Registered_P previously_on 5GCN Not_Registered_Previously_on 5GCN
TSC	'0'B	native security context (for KSI _{AMF})	Registered_P previously_on 5GCN
	Not applicable	TSC does not apply for NAS key set identifier value "111"	Not_Registered_Previously_on 5GCN
5GS mobile identity	5G-GUTI mapped from the 4G-GUTI assigned when the UE last registered to EPC E-UTRA		
Non-current native NAS key set identifier	Not present		
5GMM capability	'0000 0xx1'	S1 mode supported x - not checked	
Last visited registered TAI	The TAI the last visited NGC Cell belonged to, if any. Not included if the UE does not have last stored 5GC TAI.		
S1 UE network capability			
All octets with the exception of octet 8, bit 8 and octet 9, bit 6	Not checked		
Extended protocol configuration options (ePCO) (octet 8, bit 8)	'1'	Extended protocol configuration options IE supported	
N1 mode supported (N1mode) (octet 9, bit 6)	'1'	N1 mode supported	
PDU session status	Any allowed value	(NOTE 1)	
UE status	"UE is in EMM-REGISTERED state"		
Additional GUTI	5G-GUTI assigned when the UE last registered to 5GC N		Registered_P previously_on 5GCN
	Not present		Not_Registered_Previously_on 5GCN
EPS NAS message container	TRACKING AREA UPDATE REQUEST message	See Table 4.9.9.2.3-2	
EPS bearer context status	Not present	(NOTE 2)	

NOTE 1:	The UE includes the PDU session status IE indicating the status of the PDU session(s) mapped during the inter-system change from S1 mode to N1 mode from the PDN connection(s) for which the EPS indicated that interworking to 5GS is supported, if any. This means that the UE has created locally the default bearer context and the dedicated bearer context(s) based on the parameters of the mapped bearer contexts or the associations between QoS flow and mapped bearer in the PDN connection. Although the contents of the IE is not required to be verified for PASS/FAIL purposes, the provided information shall be taken into account for building any subsequent RRC Reconfiguration message, and can be used e.g. for SS configuration purposes as well.
NOTE 2:	The UE is assumed NOT to have locally deactivated EPS bearer context(s) for which interworking to 5GS is supported while the UE was in S1 mode without notifying the network.

Condition	Explanation
Not_Registered_Previously_on_5GCN	UE has not_registered_previously_on_5GCN. UE does not have valid 5G NAS security context and 5G-GUTI.
Registered_Previously_on_5GCN	UE has registered_previously_on_5GCN. UE have valid 5G NAS security context and 5G-GUTI

Table 4.9.9.2.3-2: TRACKING AREA UPDATE REQUEST (Table 4.9.9.2.3-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-27.			
Information Element	Value/remark	Comment	Condition
EPS update type			
EPS update type Value	'000'B	TA updating	
"Active" flag	'0'B	No Bearer Establishment requested	
NAS key set identifier	the eKSI for the current EPS security context		
TSC	'0'B '1'B		Mapped EPS security context
Old GUTI	4G-GUTI assigned when the UE last registered to EPC E-UTRA		
UE network capability	Not present		
Last visited registered TAI	Not present		
DRX parameter	Not present		
UE radio capability information update needed	Not present		
EPS bearer context status	Not present		
MS network capability	Not present		
Old location area identification	Not present		
TMSI status	Not present		
Mobile station classmark 2	Not present		
Mobile station classmark 3	Not present		
Supported Codecs	Not present		
Additional update type	Not present		
Voice domain preference and UE's usage setting	Not present		
Old GUTI type	Not present		
Device properties	Not present		
MS network feature support	Not present		
TMSI based NRI container	Not present		
T3324 value	Not present		
T3412 extended value	Not present		
Extended DRX parameters	Not present		
UE additional security capability	Not present		
UE status	Not present		
Additional information requested	Not present		
NOTE: The message shall be integrity protected using the current EPS security context.			

Condition	Explanation
Mapped EPS security context	When explicitly specified by the test case in which the message is used.

Table 4.9.9.2.3-3: REGISTRATION ACCEPT (step 10, Table 4.9.9.2.2-1; step 4, Table 4.9.5.2.2-1)

Derivation Path: Table 4.7.1-7.			
Information Element	Value/remark	Comment	Condition
5GS network feature support	The IWK N26 (octet 4, bit 7) set to '1'		<i>Interworking without N26 interface supported</i>

4.9.10 Test procedure to check that the UE is in RRC_CONNECTED state

4.9.10.1 Scope

This procedure aims at checking whether the UE is in the RRC_CONNECTED state.

4.9.10.2 Procedure description

4.9.10.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.10.2.2 Procedure

Table 4.9.10.2.2-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	The SS sends <i>UECapabilityEnquiry</i> message to the UE.	<--	NR RRC: <i>UECapabilityEnquiry</i>	-	-
2	Check: Does the UE send a <i>UECapabilityInformation</i> message?	-->	NR RRC: <i>UECapabilityInformation</i>		P

4.9.10.2.3 Specific Message content

None.

4.9.11 Test Procedure for IMS Emergency call establishment in 5GC with IMS emergency registration

4.9.11.1 Scope

This procedure aims at verifying the UE establishment of IMS Emergency call in 5GC when the UE is in 5GMM-IDLE and when IMS emergency registration is required e.g. under Normal Service conditions.

4.9.11.2 Procedure description

4.9.11.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The Test UICC shall be inserted. It shall provide Emergency Numbers.

The procedure assumes that the UE is in test state 1N-A, subclause 4.4A.2 on the NR Cell. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.11.2.2 Procedure sequence

Table 4.9.11.2.2-1: Test procedure sequence UE IMS Emergency call establishment in 5GC with IMS emergency registration

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	The UE transmits an <i>RRCSetupRequest</i> message with 'establishmentCause' set to 'emergency'.	-->	NR RRC: <i>RRCSetupRequest</i>	-	P
2	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
3	The UE transmits an <i>RRCSetupComplete</i> message and a SERVICE REQUEST message with 'Service type' set to 'emergency services'.	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: SERVICE REQUEST	-	P
4	The SS transmits a <i>SecurityModeCommand</i> message.	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
5	The UE transmits a <i>SecurityModeComplete</i> message.	-->	NR RRC: <i>SecurityModeComplete</i>	-	-
6	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB.	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT	-	-
7	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
8	The UE transmits an UL NAS TRANSPORT message with 'Request type' set to 'initial emergency request', and, a PDU SESSION ESTABLISHMENT REQUEST.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST	-	P
-	EXCEPTION: In parallel to the events described in steps 9-10 below the events specified in steps 1a1 to 2 of Table 4.9.11.2.2-2 take place.	-	-	-	-
9	The SS transmits an <i>RRCReconfiguration</i> message and an PDU SESSION ESTABLISHMENT ACCEPT	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT	-	-
10	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
-	EXCEPTION: In parallel to the events described in steps 11-13 below the events specified in steps 3 of Table 4.9.11.2.2-2 take place.	-	-	-	-
11	The SS transmits an <i>RRCReconfiguration</i> message and an PDU SESSION MODIFICATION COMMAND	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
12	The UE transmits an <i>RRCReconfigurationComplete</i> message	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
13	The UE transmits a <i>ULInformationTransfer</i> message and an PDU SESSION MODIFICATION COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P

Table 4.9.11.2.2-2: IMS signalling and Emergency call establishment

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Step 1a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
1a1	The generic procedure for IP address allocation in the user plane specified in subclause 4.5A.3 takes place.	-	-	-	-
2	Generic Test Procedure for IMS Emergency registration / 5GS as defined in TS 34.229-5 [47], annex A.3 is performed.	-	-	-	-
3	Generic test procedure for setting up IMS Emergency Voice Call / 5G as defined in TS 34.229-5 [47], annex A.6 is performed.	-	-	-	-

4.9.11.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

Table 4.9.11.2.3-1: SIB1 (at any time prior and during the procedure, Table 4.9.11.2.2-1)

Derivation Path: Table 4.6.1-28.			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
ims-EmergencySupport	Present	true	
}			

Table 4.9.11.2.3-2: RRCSetupRequest (step 1, Table 4.9.11.2.2-1)

Derivation Path: Table 4.6.1-23.			
Information Element	Value/remark	Comment	Condition
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	emergency		
}			
}			

Table 4.9.11.2.3-3: SERVICE REQUEST (step 3, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.1-16.			
Information Element	Value/remark	Comment	Condition
Service type	'0011'B	emergency services	

Table 4.9.11.2.3-4: UL NAS TRANSPORT (step 8, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.1-10, condition INITIAL_PDU_REQUEST.			
Information Element	Value/remark	Comment	Condition
Request type	'011'B	initial emergency request	
S-NSSAI	Not Present		
DNN	Not Present		

Table 4.9.11.2.3-5: PDU SESSION ESTABLISHMENT REQUEST (step 8, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.2-1.			
Information Element	Value/remark	Comment	Condition
PDU session ID	A value that is not currently being used by another PDU session		
PTI	A value currently not used		
SSC mode	'001'B	SSC mode 1	

Table 4.9.11.2.3-6: DL NAS TRANSPORT (step 9, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.1-11, condition 5GSM_MESSAGE.

Table 4.9.11.2.3-7: PDU SESSION ESTABLISHMENT ACCEPT (step 9, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	Value/remark	Comment	Condition
Selected SSC mode	'001'B	SSC mode 1	
Authorized QoS rules	Reference QoS rule #2 as defined in Table 4.8.2.1-2.		
Authorized QoS flow descriptions	Reference QoS flow #2 as defined in Table 4.8.2.3-2.		

Table 4.9.11.2.3-8: RRCReconfiguration (step 9, Table 4.9.11.2.2-1)

Derivation Path: Table 4.8.1-1: RRCReconfiguration-DRB (1, 0)

Table 4.9.11.2.3-9: PDU SESSION MODIFICATION COMMAND (step 11, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	Value/remark	Comment	Condition
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #7 as defined in Table 4.8.2.1-7 using condition IMS_VOICE.		
Authorized QoS flow descriptions	Reference QoS flow #5 as defined in Table 4.8.2.3-5.		

Table 4.9.11.2.3-10: RRCReconfiguration (step 11, Table 4.9.11.2.2-1)

Derivation Path: 4.8.1-1C RRCReconfiguration-Speech

4.9.12 Generic Test Procedure for IMS Emergency call establishment in 5GC without IMS emergency registration

4.9.12.1 Scope

This procedure aims at verifying the UE establishment of IMS Emergency call in 5GC without the need for IMS emergency registration to take place beforehand e.g. under Limited Service or SIM/USIM not available, the SIM/USIM is considered invalid by the UE conditions.

4.9.12.2 Procedure description

4.9.12.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters unless specified otherwise. PLMN/TAI which the cell belongs to, shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it

User Equipment:

- Whether the Test UICC shall be inserted or not, and, its settings e.g. in regard to the provision of Emergency Numbers, shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.12.2.2 Procedure sequence

Table 4.9.12.2.2-1: Test procedure sequence UE IMS Emergency call establishment in 5GC without IMS emergency registration

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	Check: Does the UE transmits an <i>RRCSetupRequest</i> message with 'establishmentCause' set to 'emergency'?	-->	NR RRC: <i>RRCSetupRequest</i>	-	P
2	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
3	Check: Does the UE transmits an <i>RRCSetupComplete</i> message and a REGISTRATION REQUEST message with 'Service type' set to 'emergency services'?	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: REGISTRATION REQUEST	-	P
4	The SS transmits a <i>DLInformationTransfer</i> message and a SECURITY MODE COMMAND message with 'Selected NAS security algorithms' set to "null integrity protection algorithm" (5G-IA0), "null ciphering algorithm" (5G-EA0).	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: SECURITY MODE COMMAND	-	-
5	The UE transmits an <i>ULInformationTransfer</i> message and a SECURITY MODE COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: SECURITY MODE COMPLETE	-	P
6	The SS transmits a <i>SecurityModeCommand</i> message with cipheringAlgorithm set to 'NULL' ciphering algorithm (nea0) and integrityProtAlgorithm set to 'NULL' integrity protection algorithm (nia0).	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
7	The UE transmits a <i>SecurityModeComplete</i> message.	-->	NR RRC: <i>SecurityModeComplete</i>	-	P
8	The SS transmits a <i>UECapabilityEnquiry</i> message.	<--	NR RRC: <i>UECapabilityEnquiry</i>	-	-
9	The UE transmits a <i>UECapabilityInformation</i> message.	-->	NR RRC: <i>UECapabilityInformation</i>	-	-
10	The SS transmits a <i>DLInformationTransfer</i> message and a REGISTRATION ACCEPT message.	<--	NR RRC: <i>DLInformationTransfer</i> 5GMM: REGISTRATION ACCEPT	-	-
11	The UE transmits an <i>ULInformationTransfer</i> message and a REGISTRATION COMPLETE message.	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: REGISTRATION COMPLETE	-	-
12	Void	-	-	-	-
13	Check: Does the UE transmits an UL NAS TRANSPORT message with 'Request type' set to 'initial emergency request', and, a PDU SESSION ESTABLISHMENT REQUEST?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST	-	P
-	EXCEPTION: In parallel to the events described in steps 14-15 below the events specified in steps 1a1 to 2 of Table 4.9.12.2.2-2 take place.	-	-	-	-
14	The SS transmits an <i>RRCReconfiguration</i> message and an PDU SESSION ESTABLISHMENT ACCEPT	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT	-	-
15	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
-	EXCEPTION: In parallel to the events described in steps 16-18 below the events specified in steps 3 of Table 4.9.12.2.2-2 take place.	-	-	-	-
16	The SS transmits an <i>RRCReconfiguration</i> message and an PDU SESSION MODIFICATION COMMAND	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
17	The UE transmits an <i>RRCReconfigurationComplete</i> message	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-

18	Check: Does the UE transmits a ULInformationTransfer message and an PDU SESSION MODIFICATION COMPLETE message?	-->	NR RRC: ULInformationTransfer 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P

Table 4.9.12.2.2-2: IMS signalling and Emergency call establishment

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Step 1a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
1a1	The generic procedure for IP address allocation in the user plane specified in subclause 4.5A.3 takes place.	-	-	-	-
2	Generic test procedure for setting up IMS Emergency Voice Call as defined in TS 34.229-5 [47] annex A.6 is performed.	-	-	-	-

4.9.12.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

NOTE: Some of the specific message contents provided below assume that the UE is in the state 5GMM-DEREGISTERED.LIMITED-SERVICE or 5GMM-REGISTERED.LIMITED-SERVICE (e.g. the selected cell over 3GPP access is in a forbidden PLMN or is in a forbidden tracking area respectively), or, in 5GMM-DEREGISTERED.NO-SUPI as defined in TS 24.501 [28], subclauses 5.1.3.2.1.3.3 and 5.1.3.2.1.3.6 respectively. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

Table 4.9.12.2.3-1: SIB1 (at any time prior and during the procedure, Table 4.9.12.2.2-1)

Derivation Path: Table 4.6.1-28.			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
ims-EmergencySupport	Present	true	
}			

Table 4.9.12.2.3-2: RRCSetupRequest (step 1, Table 4.9.12.2.2-1)

Derivation Path: Table 4.6.1-23.			
Information Element	Value/remark	Comment	Condition
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	emergency		
}			
}			

Table 4.9.12.2.3-3: REGISTRATION REQUEST (step 3, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-6, condition EMERGENCY.

Table 4.9.12.2.3-4: SECURITY MODE COMMAND (step 4, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-25.			
Information Element	Value/remark	Comment	Condition
Selected NAS security algorithms			
Type of ciphering algorithm	5G-EA0	null ciphering algorithm	
Type of integrity protection algorithm	5G-IA0	null integrity protection algorithm	
ngKSI			
NAS key set identifier	'000'B		

Table 4.9.12.2.3-5: SecurityModeCommand (step 6, Table 4.9.12.2.2-1)

Derivation Path: Table 4.6.1-25.			
Information Element	Value/remark	Comment	Condition
SecurityModeCommand ::= SEQUENCE {			
criticalExtensions CHOICE {			
securityModeCommand SEQUENCE {			
securityConfigSMC SEQUENCE {			
securityAlgorithmConfig SEQUENCE {			
cipheringAlgorithm	nea0	'NULL' ciphering algorithm	
integrityProtAlgorithm	nia0	'NULL' integrity protection algorithm	
}			
}			
}			
}			
}			

Table 4.9.12.2.3-6: REGISTRATION ACCEPT (step 10, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-7, condition EMERGENCY.

Table 4.9.12.2.3-7: UL NAS TRANSPORT (step 13, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-10, condition INITIAL_PDU_REQUEST.			
Information Element	Value/remark	Comment	Condition
Request type	'011'B	initial emergency request	
S-NSSAI	Not Present		
DNN	Not Present		

Table 4.9.12.2.3-8: PDU SESSION ESTABLISHMENT REQUEST (step 13, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.2-1.			
Information Element	Value/remark	Comment	Condition
PDU session ID	A value that is not currently being used by another PDU session		
PTI	A value currently not used		
SSC mode	'001'B	SSC mode 1	

Table 4.9.12.2.3-9: DL NAS TRANSPORT (step 14, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-11, condition 5GSM_MESSAGE.

Table 4.9.12.2.3-10: PDU SESSION ESTABLISHMENT ACCEPT (step 14, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	Value/remark	Comment	Condition
Selected SSC mode	'001'B	SSC mode 1	
Authorized QoS rules	Reference QoS rule #2 as defined in Table 4.8.2.1-2.		
Authorized QoS flow descriptions	Reference QoS flow #2 as defined in Table 4.8.2.3-2.		

Table 4.9.12.2.3-11: RRCReconfiguration (step 14, Table 4.9.12.2.2-1)

Derivation Path: Table 4.8.1-1: RRCReconfiguration-DRB (1, 0)

Table 4.9.12.2.3-12: PDU SESSION MODIFICATION COMMAND (step 16, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	Value/remark	Comment	Condition
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #7 as defined in Table 4.8.2.1-7 using condition IMS_VOICE.		
Authorized QoS flow descriptions	Reference QoS flow #5 as defined in Table 4.8.2.3-5.		

Table 4.9.12.2.3-13: RRCReconfiguration (step 16, Table 4.9.12.2.2-1)

Derivation Path: 4.8.1-1C RRCReconfiguration-Speech

4.9.12A Test Procedure for IMS MO Emergency call release

4.9.12A.1 Scope

This procedure aims at verifying the UE initiated release of an ongoing IMS Emergency call in 5GC

4.9.12A.2 Procedure description

4.9.12A.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The Test UICC shall be inserted. It shall provide Emergency Numbers.

The procedure assumes that the UE is in test state 3N-A, subclause 4.4A.2 on the NR Cell with an active IMS emergency call. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.12A.2.2 Procedure sequence

Table 4.9.12A.2.2-1: Test procedure sequence IMS MO Emergency call release

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1-3	Generic test procedure for MO Release of Voice Call / 5GS, as defined in Annex A.7 of TS 34.229-5 [47], is performed.	-	-	-	-
4	The SS transmits a <i>RRCReconfiguration</i> message and a PDU SESSION RELEASE COMMAND message.	<--	NR RRC: <i>RRCReconfiguration</i> NR NAS: PDU SESSION RELEASE COMMAND	-	-
4A	The UE transmits a <i>RRCReconfigurationComplete</i>	-	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
5	Check: Does the UE transmit a PDU SESSION RELEASE COMPLETE message?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION RELEASE COMPLETE	-	P

4.9.12A.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

Table 4.9.12A.2.3-1: *RRCReconfiguration* (step 4, Table 4.9.12A.2.2-1)

Derivation Path: Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
<i>RRCReconfiguration</i> ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
drb-ToReleaseList SEQUENCE (SIZE (1..maxDRB)) OF DRB-Identity {	2 entries		
DRB-Identity[1]	DRB-Identity linked to the IMS emergency signalling bearer	entry 1	
DRB-Identity[2]	DRB-Identity linked to the IMS emergency speech bearer	entry 2	
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE (1..maxLC-ID)) OF LogicalChannelIdentity {	2 entries		
logicalChannelIdentity[1]	Same value as drb-Identity[1] above	entry 1	
logicalChannelIdentity[2]	Same value as drb-Identity[2] above	entry 2	
}			
}			
}			
}			
}			
}			

Table 4.9.12A.2.3-2: PDU SESSION RELEASE COMMAND (step 4, Table 4.9.12A.2.2-1)

Derivation Path: Table 4.7.1-14.			
Information Element	Value/remark	Comment	Condition
PDU session ID	Set according to the Emergency session ID.		
5GSM cause	'0010 0100'B	Regular deactivation	

4.9.12B Test Procedure for IMS MT Emergency call release

4.9.12B.1 Scope

This procedure aims at verifying the network initiated release of an ongoing IMS Emergency call in 5GC

4.9.12B.2 Procedure description

4.9.12B.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The Test UICC shall be inserted. It shall provide Emergency Numbers.

The procedure assumes that the UE is in test state 3N-A, subclause 4.4A.2 on the NR Cell with an active IMS emergency call. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.12B.2.2 Procedure sequence

Table 4.9.12B.2.2-1: Test procedure sequence IMS MT Emergency call release

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1-2	Generic test procedure for MT release of speech call, steps 1-2, as defined in Annex A.8 of TS 34.229-5 [47] is performed.	-	-	-	-
3	The SS transmits a <i>RRCReconfiguration</i> message and a PDU SESSION RELEASE COMMAND message.	<--	NR RRC: <i>RRCReconfiguration</i> NR NAS: PDU SESSION RELEASE COMMAND	-	-
3A	The UE transmits a <i>RRCReconfigurationComplete</i>	-	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
4	Check: Does the UE transmit a PDU SESSION RELEASE COMPLETE message?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION RELEASE COMPLETE	-	P

4.9.12B.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

Table 4.9.12B.2.3-1: RRCReconfiguration (step 3, Table 4.9.12B.2.2-1)

Derivation Path: Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
drb-ToReleaseList SEQUENCE (SIZE (1..maxDRB)) OF DRB-Identity {	2 entries		
DRB-Identity[1]	DRB-Identity linked to the IMS emergency signalling bearer	entry 1	
DRB-Identity[2]	DRB-Identity linked to the IMS emergency speech bearer	entry 2	
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE (1..maxLC-ID)) OF LogicalChannelIdentity {	2 entries		
LogicalChannelIdentity[1]	Same value as drb-Identity[1] above	entry 1	
LogicalChannelIdentity[2]	Same value as drb-Identity[2] above	entry 2	
}			
}			
}			
}			
}			
}			

Table 4.9.12B.2.3-2: PDU SESSION RELEASE COMMAND (step 3, Table 4.9.12B.2.2-1)

Derivation Path: Table 4.7.1-14.			
Information Element	Value/remark	Comment	Condition
PDU session ID	Set according to the Emergency session ID.		
5GSM cause	'0010 0100'B	Regular deactivation	

4.9.13 Test procedure for no response to paging

4.9.13.1 Scope

This procedure aims at checking that the UE ignores paging messages with a specified identity.

4.9.13.2 Procedure description

4.9.13.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.13.2.2 Procedure sequence

Table 4.9.13.2.2-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits a paging message using the NG-5G-S-TMSI which is specified in the referring test step, and on the cell which is specified in the referring test step.	<--	<i>Paging</i>	-	-
2	Check: Does the UE send an <i>RRCSetupRequest</i> message on the cell where the paging was transmitted within the next 3s?	-->	<i>RRCSetupRequest</i>	-	F

4.9.13.3 Specific Message content

None.

4.9.14 Void

4.9.15 Generic Test Procedure for IMS MO speech call establishment in 5GC

4.9.15.1 Scope

The purpose of this procedure is to establish an IMS MO speech call.

4.9.15.2 Procedure description

4.9.15.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The UE is in state 1N-A and registered to the IMS.

4.9.15.2.2 Procedure sequence

Table 4.9.15.2.2-1: IMS MO speech call establishment in 5GC

St	Procedure	Message Sequence		TP	Verdict
		U – S	Message		
1	Make the UE attempt an IMS speech call.	-	-	-	-
2	Check: Does the UE transmit an <i>RRCSetupRequest</i> message with 'establishmentCause' set to 'mo-VoiceCall'?	-->	NR RRC: <i>RRCSetupRequest</i>	-	P
3	SS transmit an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
4	Check: Does the UE transmit an <i>RRCSetupComplete</i> message to confirm the successful completion of the connection establishment and to initiate the session management procedure by including the SERVICE REQUEST message?	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: SERVICE REQUEST	-	P
5	The SS transmits a <i>SecurityModeCommand</i> message to activate AS security.	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
6	Check: Does the UE transmit a <i>SecurityModeComplete</i> message and establish the initial security configuration?	-->	NR RRC: <i>SecurityModeComplete</i>	-	P
7	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB(s).	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT	-	-
-	EXCEPTION: In parallel to step 8 below, the steps specified in Table 4.9.15.2.2-2 take place.	-	-	-	-
8	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
-	EXCEPTION: Steps 9a1 to 9b4 describe behaviour that depends on UE configuration; the "lower case letter" identifies a step sequence that takes place if such configuration was conducted.	-	-	-	-
9a1-9a4	IF the UE is configured to use preconditions THEN steps 2-5 of Annex A.4.1 of TS 34.229-5 [47] take place.	-	-	-	-
9b1-9b4	ELSE steps 2-5 of Annex A.4.2 of TS 34.229-5 [47] take place.	-	-	-	-
10	The SS transmits an <i>RRCReconfiguration</i> message and a PDU SESSION MODIFICATION COMMAND message.	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
11	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
12	Check: Does the UE transmit a <i>ULInformationTransfer</i> message, an UL NAS TRANSPORT message and a PDU SESSION MODIFICATION COMPLETE message?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P
-	EXCEPTION: Steps 13a1 to 13b8 describe behaviour that depends on UE configuration; the "lower case letter" identifies a step sequence that takes place if such configuration was conducted.	-	-	-	-
13a1-13a7	IF the UE is configured to use preconditions THEN steps 6-12 of Annex A.4.1 of TS 34.229-5 [47] take place.	-	-	-	-
13b1-13b3	ELSE steps 6-8 of Annex A.4.2 of TS 34.229-5 [47] take place.	-	-	-	-

Table 4.9.15.2.2-2: Parallel Behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on UE configuration; the "lower case letter" identifies a step sequence that takes place if such configuration was conducted.	-	-	-	-
1a1	IF the UE is configured to use preconditions THEN step 1 of Annex A.4.1 of TS 34.229-5 [47] takes place.	-	-	-	-
1b1	ELSE step 1 of Annex A.4.2 of TS 34.229-5 [47] takes place.	-	-	-	-

4.9.15.3 Specific message contents

Table 4.9.15.3-1: RRCSetupRequest (step 2, Table 4.9.15.2.2-1)

Derivation Path: Table 4.6.1-23			
Information Element	Value/remark	Comment	Condition
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	mo-VoiceCall		
}			
}			

Table 4.9.15.3-2: SERVICE REQUEST (step 4, Table 4.9.15.2.2-1)

Derivation Path: Table 4.7.1-16			
Information Element	Value/remark	Comment	Condition
Service type			
Service type value	'0001'B	data	

Table 4.9.15.3-3: PDU SESSION MODIFICATION COMMAND (step 10, Table 4.9.15.2.2-1)

Derivation Path: Table 4.7.2-2			
Information Element	Value/remark	Comment	Condition
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #7 as defined in Table 4.8.2.1-7 using condition IMS_VOICE.		
Authorized QoS flow descriptions	Reference QoS flow #5 as defined in Table 4.8.2.3-5.		

Table 4.9.15.3-4: RRCReconfiguration (step 10, Table 4.9.15.2.2-1)

Derivation Path: Table 4.8.1-1C			

4.9.16 Generic Test Procedure for IMS MT speech call establishment in 5GC

4.9.16.1 Scope

The purpose of this procedure is to establish an IMS MT speech call.

4.9.16.2 Procedure description

4.9.16.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The UE is in state 1N-A and registered to the IMS.

4.9.16.2.2 Procedure sequence

Table 4.9.16.2.2-1: IMS MT speech call establishment in 5GC

St	Procedure	Message Sequence		TP	Verdict
		U – S	Message		
1	The SS transmits a <i>Paging</i> message.	<--	NR RRC: <i>Paging</i>	-	-
2	Check: Does the UE transmit an <i>RRCSetupRequest</i> message with 'establishmentCause' set to 'mt-Access'?	-->	NR RRC: <i>RRCSetupRequest</i>	-	P
3	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
4	Check: Does the UE transmit an <i>RRCSetupComplete</i> message and a SERVICE REQUEST message?	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: SERVICE REQUEST	-	P
5	The SS transmits a <i>SecurityModeCommand</i> message.	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
6	The UE transmits a <i>SecurityModeComplete</i> message.	-->	NR RRC: <i>SecurityModeComplete</i>	-	-
7	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB(s). The <i>RRCReconfiguration</i> message is configured using <i>RRCReconfiguration-SRB2-DRB(n, m)</i> where n and m are the number of DRB(s) configured with RLC-AM and RLC-UM respectively.	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT	-	-
8	Check: Does the UE transmit an <i>RRCReconfigurationComplete</i> message?	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	P
-	EXCEPTION: Steps 9a1 to 9b5 describe behaviour that depends on UE configuration; the "lower case letter" identifies a step sequence that takes place if such configuration was conducted.	-	-	-	-
9a1-9a5	IF the UE is configured to use preconditions THEN steps 1-5 of Annex A.5.1 of TS 34.229-5 [47] take place.	-	-	-	-
9b1-9b5	ELSE steps 1-5 of Annex A.5.2 of TS 34.229-5 [47] take place.	-	-	-	-
10	The SS transmits an <i>RRCReconfiguration</i> message and a PDU SESSION MODIFICATION COMMAND message.	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
11	The UE transmits an <i>RRCReconfigurationComplete</i> message	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
12	Check: Does the UE transmit a <i>ULInformationTransfer</i> message, an UL NAS TRANSPORT message and an PDU SESSION MODIFICATION COMPLETE message?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P
-	EXCEPTION: Steps 13a1 to 13b7 describe behaviour that depends on UE configuration; the "lower case letter" identifies a step sequence that takes place if such configuration was conducted.	-	-	-	-
13a1-13a7	IF the UE is configured to use preconditions THEN steps 6-12 of Annex A.5.1 of TS 34.229-5 [47] take place.	-	-	-	-
13b1-13b5	ELSE steps 6-10 of Annex A.5.2 of TS 34.229-5 [47] take place.	-	-	-	-

4.9.16.3 Specific message contents

Table 4.9.16.3-1: RRCSetupRequest (step 2, Table 4.9.16.2.2-1)

Derivation Path: Table 4.6.1-23			
Information Element	Value/remark	Comment	Condition
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	mt-Access		
}			
}			

Table 4.9.16.3-2: SERVICE REQUEST (step 4, Table 4.9.16.2.2-1)

Derivation Path: Table 4.7.1-16			
Information Element	Value/remark	Comment	Condition
Service type			
Service type value	'0010'B	Mobile Terminated Services	

Table 4.9.16.3-3: PDU SESSION MODIFICATION COMMAND (step 10, Table 4.9.16.2.2-1)

Derivation Path: Table 4.7.2-2			
Information Element	Value/remark	Comment	Condition
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #7 as defined in Table 4.8.2.1-7 using condition IMS_VOICE.		
Authorized QoS flow descriptions	Reference QoS flow #5 as defined in Table 4.8.2.3-5.		

Table 4.9.16.3-4: RRCReconfiguration (step 10, Table 4.9.16.2.2-1)

Derivation Path: Table 4.8.1-1C			

4.9.17 Generic Test Procedure for IMS MO call release in 5GC

4.9.17.1 Scope

The purpose of this procedure is to make a UE initiated release of an ongoing IMS speech call.

4.9.17.2 Procedure description

4.9.17.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The UE is in state 3N-A on the NR Cell with an active IMS call.

4.9.17.2.2 Procedure sequence

Table 4.9.17.2.2-1: IMS MO speech call release in 5GC

St	Procedure	Message Sequence		TP	Verdict
		U – S	Message		
1-2	Generic test procedure for MO release of speech call, steps 1-2, as defined in annex A.7 of TS 34.229-5 [47] are performed.	-	-	-	-
3	The SS transmits an <i>RRCReconfiguration</i> message and an PDU SESSION MODIFICATION COMMAND	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
4	The UE transmits an <i>RRCReconfigurationComplete</i> message	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
5	Check: Does the UE transmit a <i>ULInformationTransfer</i> message, an UL NAS TRANSPORT message and an PDU SESSION MODIFICATION COMPLETE message?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P

4.9.17.2.3 Specific message contents

Table 4.9.17.2.3-1: *RRCReconfiguration* (step 3, Table 4.9.17.2.2-1)

Derivation Path: Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
<i>RRCReconfiguration</i> ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
drb-ToReleaseList SEQUENCE (SIZE (1..maxDRB)) OF DRB-Identity {	1 entry		
DRB-Identity[1]	DRB-Identity linked to the IMS speech bearer	entry 1	
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE (1..maxLC-ID)) OF LogicalChannelIdentity {	1 entry		
LogicalChannelIdentity[1]	Same value as drb-Identity[1] above	entry 1	
}			
}			
}			
}			
}			
}			

Table 4.9.17.2.3-2: PDU SESSION MODIFICATION COMMAND (step 3, Table 4.9.17.2.2-1)

Derivation Path: Table 4.7.1-14.			
Information Element	Value/remark	Comment	Condition
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #2 as defined in Table 4.8.2.1-2.		
Authorized QoS flow descriptions	Reference QoS flow #2 as defined in Table 4.8.2.3-2.		

4.9.18 Generic Test Procedure for IMS MT call release in 5GC

4.9.18.1 Scope

The purpose of this procedure is to make the network release an ongoing IMS speech call.

4.9.18.2 Procedure description

4.9.18.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The UE is in state 3N-A on the NR Cell with an active IMS call.

4.9.18.2.2 Procedure sequence

Table 4.9.18.2.2-1: IMS MT speech call release in 5GC

St	Procedure	Message Sequence		TP	Verdict
		U – S	Message		
1-2	Generic test procedure for MT release of speech call, steps 1-2, as defined in annex A.8 of TS 34.229-5 [47] are performed.	-	-	-	-
3	The SS transmits an <i>RRCReconfiguration</i> message and an PDU SESSION MODIFICATION COMMAND	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
4	The UE transmits an <i>RRCReconfigurationComplete</i> message	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	-
5	Check: Does the UE transmit a <i>ULInformationTransfer</i> message, an UL NAS TRANSPORT message and an PDU SESSION MODIFICATION COMPLETE message?	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P

4.9.18.2.3 Specific message contents

Table 4.9.18.2.3-1: RRCReconfiguration (step 3, Table 4.9.18.2.2-1)

Derivation Path: Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
drb-ToReleaseList SEQUENCE (SIZE (1..maxDRB)) OF DRB-Identity {	1 entry		
DRB-Identity[1]	DRB-Identity linked to the IMS speech bearer	entry 1	
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE (1..maxLC-ID)) OF LogicalChannelIdentity {	1 entry		
LogicalChannelIdentity[1]	Same value as drb-Identity[1] above		
}			
}			
}			
}			
}			
}			

Table 4.9.18.2.3-2: PDU SESSION MODIFICATION COMMAND (step 3, Table 4.9.18.2.2-1)

Derivation Path: Table 4.7.1-14.			
Information Element	Value/remark	Comment	Condition
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #2 as defined in Table 4.8.2.1-2.		
Authorized QoS flow descriptions	Reference QoS flow #2 as defined in Table 4.8.2.3-2.		

4.9.19 Generic Test Procedure for IMS MO SMS in 5GC

4.9.19.1 Scope

The purpose of this procedure is to transmit an IMS MO SMS.

4.9.19.2 Procedure description

4.9.19.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The UE is in state 1N-A and registered to the IMS.

4.9.19.2.2 Procedure sequence

Table 4.9.19.2.2-1: IMS MO SMS in 5GS

St	Procedure	Message Sequence		TP	Verdict
		U – S	Message		
1	Make the UE attempt an IMS MO SMS	-	-	-	-
2	The UE transmits an <i>RRCSetupRequest</i> message with 'establishmentCause' set to 'mo-SMS'.	-->	NR RRC: <i>RRCSetupRequest</i>	-	P
3	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
4	The UE transmits an <i>RRCSetupComplete</i> message to confirm the successful completion of the connection establishment and to initiate the session management procedure by including the SERVICE REQUEST message.	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: SERVICE REQUEST	-	P
5	The SS transmits a <i>SecurityModeCommand</i> message to activate AS security.	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
6	The UE transmits a <i>SecurityModeComplete</i> message and establish the initial security configuration.	-->	NR RRC: <i>SecurityModeComplete</i>	-	P
7	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB(s).	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT	-	-
8	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	P
9-16	The steps 1-8 from the expected sequence defined in Annex A.13 of TS 34.229-5 [47] of IMS MO SMS / 5GS take place.	-	-	-	-

4.9.19.3 Specific message contents

Table 4.9.19.3-1: *RRCSetupRequest* (step 2, Table 4.9.19.2.2-1)

Derivation Path: 38.508-1 [4], Table 4.6.1-23			
Information Element	Value/remark	Comment	Condition
<i>RRCSetupRequest</i> ::= SEQUENCE {			
<i>rrcSetupRequest</i> SEQUENCE {			
establishmentCause	mo-SMS		
}			
}			

Table 4.9.19.3-2: SERVICE REQUEST (step 4, Table 4.9.19.2.2-1)

Derivation Path: 38.508-1 [4], Table 4.7.1-16			
Information Element	Value/remark	Comment	Condition
Service type			
Service type value	'0001'B	data	

4.9.20 Generic Test Procedure for IMS MT SMS in 5GC

4.9.20.1 Scope

The purpose of this procedure is to receive an IMS MT SMS.

4.9.20.2 Procedure description

4.9.20.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The UE is in state 1N-A and registered to the IMS.

4.9.20.2.2 Procedure sequence

Table 4.9.20.2.2-1: IMS MT SMS in 5GS

St	Procedure	Message Sequence		TP	Verdict
		U – S	Message		
1	The SS transmits a <i>Paging</i> message.	<--	NR RRC: <i>Paging</i>	-	-
2	The UE transmits an <i>RRCSetupRequest</i> message with 'establishmentCause' set to 'mt-Access'.	-->	NR RRC: <i>RRCSetupRequest</i>	-	P
3	The SS transmits an <i>RRCSetup</i> message.	<--	NR RRC: <i>RRCSetup</i>	-	-
4	The UE transmits an <i>RRCSetupComplete</i> message and a SERVICE REQUEST message.	-->	NR RRC: <i>RRCSetupComplete</i> 5GMM: SERVICE REQUEST	-	P
5	The SS transmits a <i>SecurityModeCommand</i> message.	<--	NR RRC: <i>SecurityModeCommand</i>	-	-
6	The UE transmits a <i>SecurityModeComplete</i> message.	-->	NR RRC: <i>SecurityModeComplete</i>	-	-
7	The SS transmits an <i>RRCReconfiguration</i> message and a SERVICE ACCEPT message to establish SRB2 and DRB(s). The <i>RRCReconfiguration</i> message is configured using <i>RRCReconfiguration-SRB2-DRB(n, m)</i> where n and m are the number of DRB(s) configured with RLC-AM and RLC-UM respectively.	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: SERVICE ACCEPT	-	-
8	The UE transmits an <i>RRCReconfigurationComplete</i> message.	-->	NR RRC: <i>RRCReconfigurationComplete</i>	-	P
9-12	The steps 1-4 from the expected sequence defined in Annex A.14 of TS 34.229-5 [47] IMS MT SMS / 5GS take place.	-	-	-	-

4.9.20.3 Specific message contents

Table 4.9.20.3-1: *RRCSetupRequest* (step 2, Table 4.9.20.2.2-1)

Derivation Path: 38.508-1 [4], Table 4.6.1-23			
Information Element	Value/remark	Comment	Condition
<i>RRCSetupRequest</i> ::= SEQUENCE {			
<i>rrcSetupRequest</i> SEQUENCE {			
establishmentCause	mt-Access		
}			
}			

Table 4.9.20.3-2: SERVICE REQUEST (step 4, Table 4.9.20.2.2-1)

Derivation Path: 38.508-1 [4], Table 4.7.1-16			
Information Element	Value/remark	Comment	Condition
Service type			
Service type value	'0010'B	Mobile Terminated Services	

4.9.21 Procedure for PDU Session Release

4.9.21.1 Scope

The purpose of this procedure is to release both the PDU session and the user plane resources.

4.9.21.2 Procedure description

4.9.21.2.1 Initial conditions

The UE is in state 3N-A with PDU SESSION ACTIVE as per Table 4.4A.2-3. If this is a UE triggered PDU Session Release, this will be specified in the test case together with the sending of a PDU SESSION RELEASE REQUEST by the UE.

4.9.21.2.2 Procedure sequence

Table 4.9.21.2.2-1: Procedure for PDU Session Release

St	Procedure	Message Sequence	
		U – S	Message
1	The SS transmits an <i>RRCReconfiguration</i> message and a PDU SESSION RELEASE COMMAND	<--	NR RRC: <i>RRCReconfiguration</i> 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION RELEASE COMMAND
1A	The UE transmits a <i>RRCReconfigurationComplete</i>	-	NR RRC: <i>RRCReconfigurationComplete</i>
2	The UE transmits a PDU SESSION RELEASE COMPLETE message	-->	NR RRC: <i>ULInformationTransfer</i> 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION RELEASE COMPLETE

4.9.21.3 Specific message contents

The NAS message contents will be as specified in the test case.

Table 4.9.21.3-1: RRCReconfiguration (step 1, Table 4.9.21.2.2-1)

Derivation Path: Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
drb-ToReleaseList SEQUENCE (SIZE (1..maxDRB)) OF DRB-Identity {	1 entry		
DRB-Identity[1]	DRB-Identity linked to the PDU Session to be released		
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE (1..maxLC-ID)) OF LogicalChannelIdentity {	1 entry		
logicalChannelIdentity[1]	Same value as drb-Identity[1] above		
}			
}			
}			
}			
}			
}			

4.10 Reference configuration for V2X

4.10.1 Pre-configuration for V2X

– *SL-PreconfigurationNR*

Table 4.10.1-1: *SL-PreconfigurationNR*

Derivation Path: TS 38.331 [6], clause 9.3			
Information Element	Value/remark	Comment	Condition
SL-PreconfigurationNR-r16 ::= SEQUENCE {			
sidelinkPreconfigNR-r16 SEQUENCE {			
sl-PreconfigFreqInfoList-r16 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF {	1 entry		
SL-FreqConfigCommon-r16[0]	SL-FreqConfigCommon-r16		
}			
sl-PreconfigNR-AnchoredCarrierFreqList-r16	Not present		
sl-PreconfigEUTRA-AnchoredCarrierFreqList-r16	Not present		
sl-RadioBearerPreConfigList-r16 SEQUENCE (SIZE (1..maxNrofSLRB-r16)) OF {	1 entry		
SL-RadioBearerConfig-r16[0]	SL-RadioBearerConfig-r16		
}			
sl-RLC-BearerPreConfigList-r16 SEQUENCE (SIZE (1..maxSL-LCID-r16)) OF {	1 entry		
SL-RLC-BearerConfig-r16[0]	SL-RLC-BearerConfig-r16		
}			
sl-MeasPreConfig-r16	SL-MeasConfigCommon-r16		
sl-OffsetDFN-r16	Not present		
t400-r16	ms1000		
sl-MaxNumConsecutiveDTX-r16	n32		
sl-SSB-PriorityNR-r16	1		
sl-PreconfigGeneral-r16 SEQUENCE {			
sl-TDD-Configuration-r16	TDD-UL-DL-ConfigCommon		
reservedBits-r16	00		
}			
sl-UE-SelectedPreConfig-r16	SL-UE-SelectedConfig-r16		
sl-CSI-Acquisition-r16	Not present		
sl-RoHC-Profiles-r16	Not present		
sl-MaxCID-r16	Not present	default value 15 is used	
}			
}			

5 Test environments for RF test

5.0 General

5.0.1 Single PDU configuration for RF testing

For RF and performance test case execution on 5G SA UE's defined in TS 38.521-1 [14], TS 38.521-2 [15], TS 38.521-4 [17], IMS shall not be considered and UE's shall be able use RRC (IDLE, CONNECTED) preambles defined in TS 38.508-1 clause 4.5. Before entering RRC_CONNECTED or RRC_IDLE state during initial conditions or test procedure, it is recommended that UE is pre-configured with only 1 PDU (non-IMS) along with appropriate settings to ensure UE operates and stays on NR cell.

For EN-DC settings the corresponding requirement holds that IMS shall not be considered and it is recommended that UE is pre-configured with only 1PDU/1 PDN.

5.1 Requirements of test equipment

5.1.1 Requirements for transmission and reception tests

5.1.1.1 Requirements common for conducted and OTA tests

No common RF test environment requirements are specified in addition to the common requirements described in clause 4.2.

5.1.1.2 Requirements for conducted tests

No common RF test environment requirements are specified in addition to the common requirements described in clause 4.2.

5.1.1.3 Requirements for OTA tests

Editor's Note:

- The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.
- The permitted test methods for transmission and reception test are DFF, DFF with simplification for centre of beam measurements, IFF and NFTF and are described in TR 38.810[24]. The minimum requirements for each test setup are described in the following clauses.
- For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled to account for single polarization System Simulator (SS) in the test environment. The UE under test may transmit with dual polarization.

5.1.1.3.1 DFF and DFF with simplification for centre of beam measurements

- Far-field measurement system in an anechoic chamber.
 - The minimum far-field distance R for a traditional far field anechoic chamber can be calculated based on the following equation: $R > \frac{2D^2}{\lambda}$, where D is the diameter of the smallest sphere that encloses the radiating parts of the DUT.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- For DFF(without simplification), a positioning system such that the angle between the link antenna and the DUT has at least two axes of freedom and maintains a polarization reference; this positioning system for the link antenna is in addition to the positioning system for the measurement antenna and provides for an angular relationship independently controllable from the measurement antenna.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1 UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.
- Maximum permitted test system uncertainty is specified in Annex F in 38.521-2[15].

5.1.1.3.2 IFF

- Indirect Far field of Compact Antenna Test Range(CATR) with quiet zone diameter at least D.
- The CATR system does not require a measurement distance of $R > \frac{2D^2}{\lambda}$ to achieve a plane wave as in a standard far field range.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.
- Maximum permitted test system uncertainty is specified in Annex F in 38.521-2[15].

5.1.1.3.3 NFTF

- Radiated Near Field UE beam pattern are measured and based on the NFTF mathematical transform, the final metric such as EIRP is the same as the metric for the DFF setup
- A positioning system such as the angle between the dual-polarized measurement/link antenna and the DUT has at least two axes of freedom and maintains a polarization reference
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.
- Maximum permitted test system uncertainty is specified in Annex F in 38.521-2[15].

5.1.2 Requirements for performance tests

5.1.2.1 Void

5.1.2.2 Void

5.1.2.3 Requirements for OTA test method

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to OTA test environment for performance tests.

- The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.
- For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled to account for single polarization System Simulator (SS) in the test environment. The UE under test may transmit with dual polarization.

5.2 Reference test conditions

5.2.1 Signal levels

5.2.1.1 Signal Levels for conducted testing

For NR FR1 cell, the downlink power settings are specified in TS 38.521-1[14] and TS 38.521-3[16].

The uncertainty value is specified in TS 38.521-1 [14] Annex F or in TS 38.521-2 [15] Annex F.

5.2.1.2 Signal Levels for OTA testing

5.2.1.2.1 Downlink Signal Levels

For E-UTRA cell in EN-DC with FR2 NR, the downlink power settings are specified in clause 4.7 of TS 38.521-3[16].

For FR2 NR cell, the downlink power settings are specified in Annex C.0 of TS 38.521-2[15] and Annex C.0 of TS 38.521-3[16].

5.3 Void

Editor's Note: Reserved for future use.

5.4 Default NG-RAN RRC message and information elements contents

5.4.1 Radio resource control information elements

As defined in clause 4.6.3 with the following exceptions:

For Tx test cases in which Power Class 3 UEs verifying Power Class 3 requirements, refer to Table 5.4.1-1; For Tx test cases in which Power Class 2 UEs verifying Power Class 2 requirements, refer to Table 5.4.1-2.

Table 5.4.1-1: P-Max-PC3

Derivation Path: Table 4.6.3-89			
Information Element	Value/remark	Comment	Condition
P-Max	Not present		SA
	23		EN-DC

Table 5.4.1-2: P-Max-PC2

Derivation Path: Table 4.6.3-89			
Information Element	Value/remark	Comment	Condition
P-Max	Not present		SA
	26		EN-DC

Condition	Explanation
SA	NR standalone RF tests cases
EN-DC	EN-DC RF tests cases specified in 38.521-3

Table 5.4.1-3: Void

Table 5.4.1-4: PUSCH-Config

Derivation Path: Clause 4.6.3 Table 4.6.3-118			
Information Element	Value/remark	Comment	Condition
PUSCH-Config ::= SEQUENCE {			
maxRank	2		2TX_UL_MIMO
	1		ULFPTx_Mode1 or ULFPTx_Mode2 or ULFPTx_ModeFull
ul-FullPowerTransmission-r16	Not present		2TX_UL_MIMO
	fullpowerMode1		ULFPTx_Mode1
	fullpowerMode2		ULFPTx_Mode2
	fullpower		ULFPTx_ModeFull
}			

Condition	Explanation
2TX_UL_MIMO	UL-MIMO test cases with 2 Tx antenna ports
ULFPTx_Mode1	UL-MIMO test cases with UEs supporting UL full power transmission Mode-1
ULFPTx_Mode2	UL-MIMO test cases with UEs supporting UL full power transmission Mode-2
ULFPTx_ModeFull	UL-MIMO test cases with UEs supporting UL full power transmission Mode-full power

CSI-RS for Tracking

Table 5.4.1-5: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	1000		TRS
}			
firstOFDMSymbolInTimeDomain	6	$l_0 = 6$ for CSI-RS resource 1 and 3	TRS AND FR1
	10	$l_0 = 10$ for CSI-RS resource 2 and 4	TRS AND FR1
	8	$l_0 = 8$ for CSI-RS resource 1	TRS AND FR2
	12	$l_0 = 12$ for CSI-RS resource 2	TRS AND FR2
nrofPorts	p1		TRS
Cdm-Type	noCDM		TRS
Density CHOICE{			
three	Null		TRS
}			
freqBand	CSI-FrequencyOccupation		TRS
}			

Condition	Explanation
TRS	Tracking-Reference Signal

Table 5.4.1-6: CSI-ResourcePeriodicityAndOffset for TRS

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots10	0	SCS 15kHz, CSI-RS resource 1 and 2	TRS AND FR1_15kHz
	1	SCS 15kHz, CSI-RS resource 3 and 4	TRS AND FR1_15kHz
Slots20	1	SCS 30kHz, CSI-RS resource 1 and 2	TRS AND FR1_30kHz
	2	SCS 30kHz, CSI-RS resource 3 and 4	TRS AND FR1_30kHz
Slots40	2	SCS 60kHz, FR1, CSI-RS resource 1 and 2	TRS AND FR1_60kHz
	3	SCS 60kHz, FR1, CSI-RS resource 3 and 4	TRS AND FR1_60kHz
Slots80	40	SCS 60kHz, FR2, CSI-RS resource 1 and 2	TRS AND FR2_60kHz
Slots160	80	SCS 120kHz, CSI-RS resource 1 and 2	TRS AND FR2_120kHz
}			

Condition	Explanation
FR1_15kHz	FR1 is used under the test. SCS is set to 15kHz.
FR1_30kHz	FR1 is used under the test. SCS is set to 30kHz.
FR1_60kHz	FR1 is used under the test. SCS is set to 60kHz.
FR2_60kHz	FR2 is used under the test. SCS is set to 60kHz.
FR2_120kHz	FR2 is used under the test. SCS is set to 120kHz.
TRS	Tracking-Reference Signal

Table 5.4.1-7: CSI-MeasConfig for TRS

Derivation Path: TS 38.508-1 Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource {	2 entries in case of FR2 4 entries in case of FR1	2 entries in case of FR2 4 entries in case of FR1	
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource for TRS (1)	entry 1 CSI-RS resource 1	
NZP-CSI-RS-Resource[2]	NZP-CSI-RS-Resource for TRS (2)	entry 2 CSI-RS resource 2	
NZP-CSI-RS-Resource[3]	NZP-CSI-RS-Resource for TRS (3)	entry 3 CSI-RS resource 3	FR1
NZP-CSI-RS-Resource[4]	NZP-CSI-RS-Resource for TRS (4)	entry 4 CSI-RS resource 4	FR1
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSet {	1 entry		
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet for TRS	entry 1	
}			
csi-IM-ResourceToAddModList	Not present		
csi-IM-ResourceSetToAddModList	Not present		
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	1 entry		
CSI-ResourceConfig[1]	CSI-ResourceConfig for TRS	entry 1	
}			
reportTriggerSize	Not present		
aperiodicTriggerStateList SetupRelease	Not present		
}			

Table 5.4.1-8: NZP-CSI-RS-Resource for TRS

Derivation Path: 38.508-1 Table 4.6.3-85			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
NZP-CSI-RS-ResourceId	0 1 2 3	CSI-RS resource 1 CSI-RS resource 2 CSI-RS resource 3 CSI-RS resource 4	
CSI-RS-ResourceMapping	CSI-RS-ResourceMapping for TRS		Content conditioned by the CSI-RS resource #
powerControlOffset	0		
powerControlOffsetSS	db0		
scramblingID	ScramblingId		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for TRS		Content conditioned by the CSI-RS resource #
qcl-InfoPeriodicCSI-RS	TCI-StateId		
}			

Table 5.4.1-9: NZP-CSI-RS-ResourceSet for TRS

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSet ::= SEQUENCE {			
nzp_CSI_ResourceSetId	0		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	2 entries in case of FR2 4 entries in case of FR1		
NZP-CSI-RS-ResourceId[1]	0	entry 1 CSI-RS resource 1	
NZP-CSI-RS-ResourceId[2]	1	entry 2 CSI-RS resource 2	
NZP-CSI-RS-ResourceId[3]	2	entry 3 CSI-RS resource 3	FR1
NZP-CSI-RS-ResourceId[4]	3	entry 4 CSI-RS resource 4	FR1
}			
repetition	off		
aperiodicTriggeringOffset	Not present		
trs_Info	true		
}			

Table 5.4.1-10: CSI-ResourceConfig for TRS

Derivation Path: TS 38.508-1 Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	0	entry 1	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

PDCCH Configuration

PDCCH-config

Table 5.4.1-16: PDCCH ControlResourceSet

Derivation Path: Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
frequencyDomainResources	11111111 00000000 00000000 00000000 00000000 000000	CORESET to use the least significant 48 RBs of the BWP	RFACS AND AL8
	11111111 11111111 00000000 00000000 00000000 000000	CORESET to use the least significant 96 RBs of the BWP	RFACS AND AL16

Condition	Explanation
RFACS	Used in RF Adjacent Channel Selectivity testing
AL8	PDCCH aggregationLevel 8 is configured
AL16	PDCCH aggregationLevel 16 is configured

Table 5.4.1-17: PDCCH Search Space

Derivation Path: Table 4.6.3-162			
Information Element	Value/remark	Comment	Condition
nrofCandidates SEQUENCE {			
aggregationLevel1	n2		RFACS
aggregationLevel8	n2		RFACS
aggregationLevel16	n2		RFACS
}			
}			

Condition	Explanation
RFACS	Used in RF Adjacent Channel Selectivity testing

5.4.2 Radio resource control information elements for Demodulation Performance and CSI reporting tests

As defined in clause 4.6.3 with the following exceptions:

Table 5.4.2-1: Void

Table 5.4.2-2: Void

Table 5.4.2-3a: Void

Table 5.4.2-3: Void

Table 5.4.2-4: Void

Table 5.4.2-4A: Void

Table 5.4.2-5 to -20: Void

5.4.2.0 Parameters common to all Demod and CSI tests

Physical layer parameters

Table 5.4.2.0-1: Physical layer parameters for DCI format 1_1

Derivation Path: Table 4.3.6.1.2.2-1			
Parameter	Value	Value in binary	Condition
PUCCH resource indicator	<i>PUCCH-ResourceID</i> [1] = 0 in <i>pucch-ResourceSetID</i> [1] or <i>PUCCH-ResourceID</i> [1] = 8 in <i>pucch-ResourceSetID</i> [2] as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213)	'000'B	FR1
	<i>PUCCH-ResourceID</i> [5] = 12 in <i>pucch-ResourceSetID</i> [2] as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213)	'100'B	FR2_SCS60kHz
	<i>PUCCH-ResourceID</i> [7] = 14 in <i>pucch-ResourceSetID</i> [2] as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213)	'110'B	FR2_SCS120kHz
PDSCH-to-HARQ_feedback timing indicator	K_1 slots as specified in 9.2.3 in TS 38.213 Specific to each TDD UL-DL pattern and as defined in Annex A.1.2, A.1.3 of TS 38.521-4		

Common Serving Parameters

ServingCellConfigCommon

Table 5.4.2.0-2: ServingCellConfigCommon

Derivation Path: Table 4.6.3-168			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommon ::= SEQUENCE {			
physCellId	PhysCellId		
downlinkConfigCommon	DownlinkConfigCommon		
ssb-PositionsInBurst CHOICE {			
shortBitmap	1000		FR1 AND SSB#0 AND (2.4GHz<FREQ<=3GHz AND (FDD OR (TDD AND SCS15)) OR FREQ<=2.4GHz)
mediumBitmap	10000000		FR1 AND SSB#0 AND (2.4GHz<FREQ<=3GHz AND (TDD AND SCS30) OR FREQ>3GHz)
}			
ssb-periodicityServingCell	ms20		
dmrs-TypeA-Position	pos2		
subcarrierSpacing	SubcarrierSpacing according to test case id		
tdd-UL-DL-ConfigurationCommon	TDD-UL-DL-ConfigCommon		
	Not present		FR1.30-1A FR2.120-1A FR1.FDD
ss-PBCH-BlockPower	0		
}			

Condition	Explanation
FREQ<=2.4GHz	Frequency range <= 2.4GHz
2.4GHz<FREQ<=3GHz	Frequency range > 2.4GHz and <= 3GHz
FREQ>3GHz	Frequency range > 3GHz
FR1.30-1A	TDD UL-DL pattern FR1.30-1A is used. Ref Annex A.1.2 of TS 38.521-4
FR2.120-1A	TDD UL-DL pattern FR2.120-1A is used. Ref Annex A.1.3 of TS 38.521-4
SSB#N	Cell configured with SSB-Index set to N as defined in Table 4.4.2-2

TDD-UL-DL-Config

Table 5.4.2.0-3: TDD-UL-DL-Config

Derivation Path: Table 4.6.3-192			
Information Element	Value/remark	Comment	Condition
TDD-UL-DL-ConfigCommon ::= SEQUENCE {			
referenceSubcarrierSpacing	SubcarrierSpacing		
pattern1 SEQUENCE {			
dl-UL-TransmissionPeriodicity	ms5		FR1.15-1, FR1.30-1
	ms2p5		FR1.30-2, FR1.30-3
	ms3		FR1.30-4
	ms2		FR1.30-5
	ms1		FR1.30-6 FR2.60-1
	ms0p625		FR2.120.1
	ms0p5		FR2.120.2
nrofDownlinkSlots	7		FR1.30-1
	3		FR1.15-1 FR1.30-2 FR1.30-3 FR1.30-4 FR2.120.1
	1		FR1.30-5 FR1.30-6
	2		FR2.60-1 FR2.120.2
nrofDownlinkSymbols	6		FR1.30-1 FR1.30-4
	10		FR1.15-1 FR1.30-2 FR1.30-3 FR1.30-6 FR2.120.1
	12		FR1.30-5
	11		FR2.60-1 FR2.120.2
nrofUplinkSlots	2		FR1.30-1 FR1.30-4 FR1.30-5
	1		FR1.15-1 FR1.30-2 FR1.30-3 FR2.60-1 FR2.120.1 FR2.120.2
	0		FR1.30-6
nrofUplinkSymbols	4		FR1.30-1 FR1.30-4 FR1.30-5
	0		FR1.30-6 FR2.60-1 FR2.120.2
	2		FR1.15-1 FR1.30-2 FR1.30-3 FR2.60-1 FR2.120.1 FR2.120.2
}			
pattern2	Not present		FR1.15-1, FR1.30-1 FR1.30-2

			FR1.30-5 FR2.60-1 FR2.120.1 FR2.120.2
pattern2 SEQUENCE {			
dl-UL-TransmissionPeriodicity	ms2p5		FR1.30-3
	ms2		FR1.30-4
	ms1		FR1.30-6
nrofDownlinkSlots	2		FR1.30-3
	4		FR1.30-4
	0		FR1.30-6
nrofDownlinkSymbols	10		FR1.30-3
	0		FR1.30-4
	12		FR1.30-6
nrofUplinkSlots	2		FR1.30-3
	0		FR1.30-4
	1		FR1.30-6
nrofUplinkSymbols	2		FR1.30-3
	0		FR1.30-4 FR1.30-6
}			
}			

Condition	Explanation
FR1.15-1	TDD UL-DL pattern FR1.15-1 is used. Ref Annex A.1.2 of TS 38.521-4
FR1.30-1	TDD UL-DL pattern FR1.30-1 is used. Ref Annex A.1.2 of TS 38.521-4
FR1.30-2	TDD UL-DL pattern FR1.30-2 is used. Ref Annex A.1.2 of TS 38.521-4
FR1.30-3	TDD UL-DL pattern FR1.30-3 is used. Ref Annex A.1.2 of TS 38.521-4
FR1.30-4	TDD UL-DL pattern FR1.30-4 is used. Ref Annex A.1.2 of TS 38.521-4
FR1.30-5	TDD UL-DL pattern FR1.30-5 is used. Ref Annex A.1.2 of TS 38.521-4
FR1.30-6	TDD UL-DL pattern FR1.30-6 is used. Ref Annex A.1.2 of TS 38.521-4
FR2.60-1	TDD UL-DL pattern FR2.60-1 is used. Ref Annex A.1.3 of TS 38.521-4
FR2.120-1	TDD UL-DL pattern FR2.120-1 is used. Ref Annex A.1.3 of TS 38.521-4
FR2.120-2	TDD UL-DL pattern FR2.120-2 is used. Ref Annex A.1.3 of TS 38.521-4

PDCCH Configuration

PDCCH-ConfigCommon

Table 5.4.2.0-4: PDCCH-ConfigCommon

Derivation Path: Table 4.6.3-96			
Information Element	Value/remark	Comment	Condition
PDCCH-ConfigCommon ::= SEQUENCE {			
searchSpaceZero	4		FDD FR1.30-1 FR1.30-2 FR1.30-3 FR1.30-4
	2		FR1.30-5 FR1.30-6
commonSearchSpaceList SEQUENCE (SIZE (1..4))	1 entry	1 search space for both SA and NSA	
OF SearchSpace {			
SearchSpace [1]	SearchSpace with condition CSS	entry 1	
}			
searchSpaceOtherSystemInformation	Not present		
}			

Condition	Explanation
CSS	Common SearchSpace

ServingCellConfig

Table 5.4.2.0-5: ServingCellConfig

Derivation Path: Table 4.6.3-167			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
csi-MeasConfig CHOICE {			
setup	csi-MeasConfig		
}			

PDCCH-config

Table 5.4.2.0-6: PDCCH-ControlResourceSet

Derivation Path: Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
ControlResourceSet ::= SEQUENCE {			
controlResourceSetId	ControlResourceSetId		
frequencyDomainResources	Table 5.2-2 for tested channel bandwidth and subcarrier spacing		
Duration	2	SearchSpace duration of 2 symbols	DEMOM_FR 1, CSI_FR1, CSI_FR2
	1	SearchSpace duration of 1 symbols	DEMOM_FR 2, PDCCH_FR1, PDCCH_FR2
cce-REG-MappingType CHOICE {			
nonInterleaved	Null		
}			
precoderGranularity	sameAsREG-bundle		
tci-StatesPDCCH-ToAddList SEQUENCE(SIZE (1..maxNrofTCI-StatesPDCCH)) OF TCI-StateId {	1 entry		
TCI-StateId[1]	0	entry 1 TCI State #0	
	1	TCI State #1	
}			
}			

Condition	Explanation
DEMOM_FR1	DEMOM testing in FR1.
DEMOM_FR2	DEMOM testing in FR2.
PDCCH_FR1	PDCCH testing in FR1
PDCCH_FR2	PDCCH testing in FR2
CSI_FR1	CSI testing in FR1
CSI_FR2	CSI testing in FR2

Table 5.4.2.0-7: PDCCH Search Space

Derivation Path: Table 4.6.3-162			
Information Element	Value/remark	Comment	Condition
SearchSpace ::= SEQUENCE {			
monitoringSlotPeriodicityAndOffset CHOICE {			
sl1	NULL		
}			
monitoringSymbolsWithinSlot	1000000000000000	Starting symbol 0	
nrofCandidates SEQUENCE {			
aggregationLevel1	n0		
aggregationLevel2	n0		
aggregationLevel4	n0		
aggregationLevel8	n1	AL8	
aggregationLevel16	n0		
}			
searchSpaceType CHOICE {			
common SEQUENCE {			
ue-Specific SEQUENCE {			
dci-Formats	formats0-1-And-1-1	DCI Format 1_1	
}			
}			
}			
}			

NRP-CSI-RS for Tracking

NRP-CSI-RS-Resource

Table 5.4.2.0-8: NRP-CSI-RS-Resource for TRS

Derivation Path: Table 4.6.3-85			
Information Element	Value/remark	Comment	Condition
NRP-CSI-RS-Resource ::= SEQUENCE {			
nrp-CSI-RS-ResourceId	0	CSI-RS resource 1	
	1	CSI-RS resource 2	
	2	CSI-RS resource 3	
	3	CSI-RS resource 4	
resourceMapping	CSI-RS-ResourceMapping for TRS		
powerControlOffset	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for TRS		
qcl-InfoPeriodicCSI-RS	TCI-StateId 0		
}			

CSI-RS-ResourceMapping

Table 5.4.2.0-9: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	0001	k ₀ =0 for CSI-RS resource 1,2,3,4	TRS
}			
firstOFDMSymbolInTimeDomain	6	l ₀ = 6 for CSI-RS resource 1 and 3	TRS
	10	l ₀ = 10 for CSI-RS resource 2 and 4	TRS
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	TRS
Cdm-Type	noCDM		TRS
Density CHOICE{			
three	Null		TRS
}			
freqBand	CSI-FrequencyOccupation		TRS
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.0-10: CSI-ResourcePeriodicityAndOffset for TRS

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots20	10	Periodicity 20 slots and offset 10 for CSI-RS resource 1 and 2	SCS 15KHz
slots20	11	Periodicity 20 slots and offset 11 for CSI-RS resource 3 and 4	SCS 15 kHz
Slots40	20	Periodicity 40 slots and offset 20 for CSI-RS resource 1 and 2	SCS 30 kHz
Slots40	21	Periodicity 40 slots and offset 21 for CSI-RS resource 3 and 4	SCS 30 kHz
Slots80	40	Periodicity 80 slots and offset 40 for CSI-RS resource 1 and 2	SCS 60 kHz
Slots80	41	Periodicity 80 slots and offset 41 for CSI-RS resource 3 and 4	SCS 60 kHz
Slots160	80	Periodicity 160 slots and offset 80 for CSI-RS resource 1 and 2	SCS 120 kHz
Slots160	81	Periodicity 160 slots and offset 81 for CSI-RS resource 3 and 4	SCS 120 kHz
}			

CSI-FrequencyOccupation

Table 5.4.2.0-11: CSI-FrequencyOccupation for TRS

Derivation Path: Table 4.6.3-33			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52	BW 10 MHz SCS 15kHz	TRS
	52	BW 20 MHz SCS 30kHz	TRS
	108	BW 40 MHz SCS 30kHz	TRS
	68	BW 100 MHz SCS 120 kHz	TRS
}			

NZP-CSI-RS-ResourceSet

Table 5.4.2.0-12: NZP-CSI-RS-ResourceSet for TRS

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSet ::= SEQUENCE {			
nzp_CSI_ResourceSetId	0		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	4 entries		FR1, FR2
NZP-CSI-RS-ResourceId[1]	0	entry 1 CSI-RS resource 1	
NZP-CSI-RS-ResourceId[2]	1	entry 2 CSI-RS resource 2	
NZP-CSI-RS-ResourceId[3]	2	entry 3 CSI-RS resource 3	
NZP-CSI-RS-ResourceId[4]	3	entry 4 CSI-RS resource 4	
}			
repetition	off		
aperiodicTriggeringOffset	Not present		
trs_Info	true		
}			

CSI-ResourceConfig

Table 5.4.2.0-13: CSI-ResourceConfig for TRS

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	0	entry 1	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

NZP CSI-RS for CSI Acquisition

NZP-CSI-RS-Resource

Table 5.4.2.0-14: NZP-CSI-RS-Resource

Derivation Path: Table 4.6.3-85			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			DEMOD_FR 1 DEMOD_FR 2
nzp-CSI-RS-ResourceId	4	CSI-RS resource 5	
resourceMapping	CSI-RS-ResourceMapping		
powerControlOffset	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-State #1		
}			

CSI-RS-ResourceMapping

Table 5.4.2.0-15: CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000001	K0 = 0, row3, 2Tx test cases	
row4	001	K0 = 0, 4Tx test cases	
}			
nrofPorts	P2	2Tx test cases	
firstOFDMSymbolInTimeDomain	P4	4Tx test cases	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	CSI-FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.0-16: CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots20	0		SCS 15kHz
Slots40	0		SCS 30kHz
Slots80	0		SCS 60kHz
Slots160	0		SCS 120kHz
}			

CSI-FrequencyOccupation

Table 5.4.2.0-17: CSI-FrequencyOccupation for CSI Acquisition

Derivation Path: Table 4.6.3-33			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52		BW 10 MHz SCS 15kHz
	52		BW 20 MHz SCS 30kHz
	108		BW 40 MHz SCS 30kHz
	68		BW 100MHz SCS 120kHz
}			

NZIP-CRS-RS-ResourceSet

Table 5.4.2.0-18: NZP-CRS-RS-ResourceSet for CSI Acquisition

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
NZIP-CRS-RS-ResourceSet ::= SEQUENCE {			
nzp_CRS_ResourceSetId	1		
nzp-CRS-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CRS-RS-ResourcesPerSet)) OF NZP-CRS-RS-ResourceId {	1 entry		FR1, FR2
NZIP-CRS-RS-ResourceId[1]	4	entry 1 CSI-RS resource 5	
}			
repetition	off		
aperiodicTriggeringOffset	Not present		
trs_Info	Not present		
}			

CSI-ResourceConfig

Table 5.4.2.0-19: CSI-ResourceConfig for CSI Acquisition

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	1		
csi-RS-ResourceSetList CHOICE {			
nzp-CRS-RS-SSB SEQUENCE {			
nzp-CRS-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CRS-RS-ResourceSetsPerConfig)) OF NZP-CRS-RS-ResourceSetId {	1 entry		
NZIP-CRS-RS-ResourceSetId[1]	1	entry 1	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

ZP CSI-RS for CSI Acquisition

ZP-CSI-RS-Resource

Table 5.4.2.0-20: ZP-CSI-RS-Resource

Derivation Path: Table 4.6.3-204			
Information Element	Value/remark	Comment	Condition
ZP-CSI-RS-Resource ::= SEQUENCE {			DEMOD_FR 1 DEMOD_FR 2
zp-CSI-RS-ResourceId	ZP-CSI-RS-ResourceId		
resourceMapping	ZP CSI-RS-ResourceMapping		
periodicityAndOffset	ZP CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-State #1		
}			

CSI-RS-ResourceMapping

Table 5.4.2.0-21: ZP CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000100	K0 = 4	
}			
nrofPorts	p4		
firstOFDMSymbolInTimeDomain	12	l0 = 12	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	ZP CSI-FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.0-22: ZP CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots20	0		SCS 15kHz
Slots40	0		SCS 30kHz
Slots80	0		SCS 60kHz
Slots160	0		SCS 120kHz
}			

CSI-FrequencyOccupation

Table 5.4.2.0-23: ZP CSI-FrequencyOccupation

Derivation Path: Table 4.6.3-33			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52		BW 10 MHz SCS 15kHz
	52		BW 20 MHz SCS 30kHz
	108		BW 40 MHz SCS 30kHz
	68		BW 100 MHz SCS 120kHz
}			

PDSCH DMRS Configuration

DMRS-DownlinkConfig

Table 5.4.2.0-24: DMRS-DownlinkConfig

Derivation Path: Table 4.6.3-50			
Information Element	Value/remark	Comment	Condition
DMRS-DownlinkConfig ::= SEQUENCE {			
dmrs-Type	Type 1		
dmrs-AdditionalPosition	pos1		
maxLength	len1		
phaseTrackingRS	Not present		DEMOD_FR 1
phaseTrackingRS SEQUENCE {			DEMOD_FR 2
epr-Ratio	0		
resourceElementOffset	Offset10		
}			
}			

PDSCH Configuration

PDSCH-ServingCellConfig

Table 5.4.2.0-25: PDSCH-ServingCellConfig

Derivation Path: Table 4.6.3-102			
Information Element	Value/remark	Comment	Condition
PDSCH-ServingCellConfig ::= SEQUENCE {			
codeBlockGroupTransmission	Not present		
xOverhead	Not present		
xOverhead	xOh6		DEMOD_FR 2
nrofHARQ-ProcessesForPDSCH	Set according to the test id	Typically n4 for FDD, n8 for TDD	
pucch-Cell	Not present		
}			

PDSCH-Config

Table 5.4.2.0-26: PDSCH-Config

Derivation Path: Table 4.6.3-100			
Information Element	Value/remark	Comment	Condition
PDSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPDSCH	0		
dmrs-DownlinkForPDSCH-MappingTypeA CHOICE {			
Setup	DMRS-DownlinkConfig		
}			
tci-StatesToAddModList SEQUENCE(SIZE (1..maxNrofTCI-States)) OF TCI-State {	2 entries		
TCI-State[1] SEQUENCE {		entry 1	
tci-StateId	TCI-StateId 0		
qcl-type1 SEQUENCE {	QCL Type is Type1		
Cell	not present		
Bwp-id	Not present	BWP ID	
referenceSignal	Ssb : 0	SSB # 0	
Qcl-Type	Type C		
}			
qcl-type2 SEQUENCE {	QCL Type is Type2		DEMOD_FR 2
Cell	not present		
Bwp-id	Not present	BWP ID	
referenceSignal	Ssb : 0	SSB # 0	
Qcl-Type	Type D		
}			
}			
TCI-State[2] SEQUENCE {		entry 2	
tci-StateId	TCI-StateId 1		
qcl-type1 {	QCL Type is Type1		
Cell	Not present		
Bwp-id	0	BWP ID	
referenceSignal	csi-rs : 0	CSI-RS # 0	
Qcl-Type	Type A		
}			
qcl-type2 SEQUENCE {	QCL Type is Type2		DEMOD_FR 2
Cell	Not present		
Bwp-id	0	BWP ID	
referenceSignal	csi-rs : 0	CSI-RS # 0	
Qcl-Type	Type D		
}			
}			
vrb-ToPRB-Interleaver	Not present		
resourceAllocation	resourceAllocationType0		
pdsch-AggregationFactor	Not present		
rbg-Size	config2	The UE ignores this field if <i>resourceAllocation</i> is set to <i>resourceAllocationType1</i> (see TS 38.214 [21], clause 5.1.2.2.1).	
prb-BundlingType CHOICE {			
staticBundling SEQUENCE {			
bundleSize	Not present	PRB Bundling size of 2	
}			
}			
ZP-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNRP-CSI-RS-Resources)) OF NRP-CSI-RS-Resource {	1 entry		

ZP-CSI-RS-Resource[1]	ZP-CSI-RS-Resource	entry 1	
}			
p-ZP-CSI-RS-ResourceSet	p-ZP-CSI-RS-ResourceSet		
}			

PDSCH-TimeDomainResourceAllocationList

Table 5.4.2.0-27: PDSCH-TimeDomainResourceAllocationList

Derivation Path: Table 4.6.3-103			
Information Element	Value/remark	Comment	Condition
PDSCH-TimeDomainResourceAllocationList ::= SEQUENCE(SIZE(1..maxNrofDL-Allocations)) OF PDSCH-TimeDomainResourceAllocation {	2 entries		FR1
PDSCH-TimeDomainResourceAllocation[1] SEQUENCE {		entry 1	
K0	Not present		
mappingType	typeA		
startSymbolAndLength	44	Start symbol(S)=2, Length(L)=4	For Slot i, if mod(i, 10) = 7 for i from {0,...,39}
}			
PDSCH-TimeDomainResourceAllocation[2] SEQUENCE {		entry 2	
K0	Not present		
mappingType	typeA		
startSymbolAndLength	53	Start symbol(S)=2, Length(L)=12	For Slot i, if mod(i, 10) = {0,1,2,3,4,5,} for i from {1,...,39}
}			
}			
PDSCH-TimeDomainResourceAllocationList ::= SEQUENCE(SIZE(1..maxNrofDL-Allocations)) OF PDSCH-TimeDomainResourceAllocation {	3 entries		FR2
PDSCH-TimeDomainResourceAllocation[1] SEQUENCE {		entry 1	
K0	Not present		
mappingType	typeA		
startSymbolAndLength	53	Start symbol(S)=2, Length(L)=12	
}			
PDSCH-TimeDomainResourceAllocation[2] SEQUENCE {		entry 2	
K0	Not present		
mappingType	typeA		
startSymbolAndLength	96	Start symbol(S)=1, Length(L)=9	
}			
PDSCH-TimeDomainResourceAllocation[3] SEQUENCE {		entry 3	
K0	Not present		
mappingType	typeA		
startSymbolAndLength	40	Start symbol(S)=1, Length(L)=13	
}			
}			

CRS for Rate Matching

RateMatchPatternLTE-CRS

Table 5.4.2.0-28: RateMatchPatternLTE-CRS

Derivation Path: Table 4.6.3-138			
Information Element	Value/remark	Comment	Condition
RateMatchPatternLTE-CRS ::= SEQUENCE {			TC 5.2.2.1.4-2 and TC 5.2.3.1.4-2 of TS 38.521-4
carrierFreqDL	LTE EARFCN		
carrierBandwidthDL	n50	10MHz	
nrofCRS-Ports	n4		
v-Shift	n0		
}			

CSI-RS for beam refinement

NZP-CSI-RS-Resource

Table 5.4.2.0-29: NZP-CSI-RS-Resource

Derivation Path: Table 4.6.3-85			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			DEMOD_FR 2
nzp-CSI-RS-ResourceId	5	CSI-RS resource 6	Beam refinement
	6	CSI-RS resource 7	Beam refinement
resourceMapping	CSI-RS-ResourceMapping		
powerControlOffset	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-State #1		
}			

CSI-RS-ResourceMapping

Table 5.4.2.0-30: CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			DEMOD_FR2
frequencyDomainAllocation CHOICE {			
row1	0001	K0 = 0, row1 for resource 1 and 2	
}			
nrofPorts	p1		
firstOFDMSymbolInTimeDomain	8	I0 = 8 for resource 1	
	9	I0 = 9 for resource 2	
cdm-Type	noCDM		
density CHOICE {			
three	NULL		
}			
freqBand	CSI-FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.0-31: CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			DEMOD_FR2
Slots80	0		SCS 60kHz
Slots160	0		SCS 120kHz
}			

CSI-FrequencyOccupation

Table 5.4.2.0-32: CSI-FrequencyOccupation for beam refinement

Derivation Path: Table 4.6.3-33			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			DEMOD_FR2
nrofRBs	68		BW 100MHz SCS 120kHz
}			

NZP-CSI-RS-ResourceSet

Table 5.4.2.0-33: NZP-CSI-RS-ResourceSet for beam refinement

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSet ::= SEQUENCE {			DEMOD_FR 2
nzp_CSI_ResourceSetId	2		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	2 entries		
NZP-CSI-RS-ResourceId[1]	5	entry 1 CSI-RS resource 6	
NZP-CSI-RS-ResourceId[2]	6	entry 1 CSI-RS resource 7	
}			
repetition	off		
aperiodicTriggeringOffset	Not present		
trs_Info	Not present		
}			

CSI-ResourceConfig

Table 5.4.2.0-34: CSI-ResourceConfig for beam refinement

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	2		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	2	entry 1	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

CSI-RS for beam management

NZP-CSI-RS-Resource

Table 5.4.2.0-35: NZP-CSI-RS-Resource for beam management

Derivation Path: Table 4.6.3-85			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			PDCCH_FR2
nzp-CSI-RS-ResourceId	4	CSI-RS resource 5	
	5	CSI-RS resource 6	
resourceMapping	CSI-RS-ResourceMapping for beam management		
powerControlOffset	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for beam management		
qcl-InfoPeriodicCSI-RS	TCI-State #1		
}			

CSI-RS-ResourceMapping

Table 5.4.2.0-36: CSI-RS-ResourceMapping for beam management

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			PDCCH_FR2
frequencyDomainAllocation CHOICE {			
row1	0001	K0 = 0, row1 for resource 1 and 2	
}			
nrofPorts	p1		
firstOFDMSymbolInTimeDomain	8	I0 = 8 for resource 1	
	9	I0 = 9 for resource 2	
cdm-Type	noCDM		
density CHOICE {			
three	NULL		
}			
freqBand	CSI-FrequencyOccupation for beam management		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.0-37: CSI-ResourcePeriodicityAndOffset for beam management

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			PDCCH_FR2
Slots80	0		SCS 60kHz
Slots160	0		SCS 120kHz
}			

CSI-FrequencyOccupation

Table 5.4.2.0-38: CSI-FrequencyOccupation for beam management

Derivation Path: Table 4.6.3-33			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			PDCCH_FR2
nrofRBs	68		BW 100MHz SCS 120kHz
}			

NZP-CSI-RS-ResourceSet

Table 5.4.2.0-39: NZP-CSI-RS-ResourceSet for beam management

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSet ::= SEQUENCE {			PDCCH_FR2
nzp_CSI_ResourceSetId	1		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	2 entries		
NZP-CSI-RS-ResourceId[1]	4	entry 1 CSI-RS resource 5	
NZP-CSI-RS-ResourceId[2]	5	entry 1 CSI-RS resource 6	
}			
repetition	off		
aperiodicTriggeringOffset	Not present		
trs_Info	Not present		
}			

CSI-ResourceConfig

Table 5.4.2.0-40: CSI-ResourceConfig for beam management

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	1		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	1	entry 1	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

5.4.2.1 Message contents for PDSCH Demodulation requirements

ZP CSI-RS for CSI Acquisition

p-ZP-CSI-RS-ResourceSet

Table 5.4.2.1-0: p-ZP-CSI-RS-ResourceSet

Derivation Path: TS 38.331 [6], clause 6.3.2.			
Information Element	Value/remark	Comment	Condition
p-ZP-CSI-RS-ResourceSet CHOICE {			
setup	ZP-CSI-RS-ResourceSet		
}			

Table 5.4.2.1-1: ZP-CSI-RS-ResourceSet

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
p-ZP-CSI-RS-ResourceSet ::= SEQUENCE {			
zp_CSI-RS_ResourceSetId	0		
zp-CSI-RS-ResourceIdList SEQUENCE (SIZE (1..maxNrofZP-CSI-RS-ResourcesPerSet)) OF ZP-CSI-RS-ResourceId {		1 entry	
ZP-CSI-RS-ResourceId[1]	0	entry 1 ZP CSI-RS resource 1	
}			
}			

CSI-MeasConfig

Table 5.4.2.1-2: CSI-MeasConfig

Derivation Path: Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource {	n entries	dependent on test condition	
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource for TRS (1)	entry 1 CSI-RS resource 1	
NZP-CSI-RS-Resource[2]	NZP-CSI-RS-Resource for TRS (2)	entry 2 CSI-RS resource 2	
NZP-CSI-RS-Resource[3]	NZP-CSI-RS-Resource for TRS (3)	entry 3 CSI-RS resource 3	
NZP-CSI-RS-Resource[4]	NZP-CSI-RS-Resource for TRS (4)	entry 4 CSI-RS resource 4	
NZP-CSI-RS-Resource[5]	NZP-CSI-RS-Resource for CSI Acquisition	entry 5 CSI-RS resource 5	
NZP-CSI-RS-Resource[6]	CSI-RS-Resource for beam refinement	entry 5 CSI-RS resource 6	DEMOD_FR 2
NZP-CSI-RS-Resource[7]	CSI-RS-Resource for beam refinement	entry 5 CSI-RS resource 7	DEMOD_FR 2
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSetId {	n entries	dependent on test condition	
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet for TRS	entry 1	
NZP-CSI-RS-ResourceSet[2]	NZP-CSI-RS-ResourceSet for CSI Acquisition	entry 2	
NZP-CSI-RS-ResourceSet[3]	CSI-RS-ResourceSet for beam refinement	entry 3	DEMOD_FR 2
}			
csi-IM-ResourceToAddModList	Not present		
csi-IM-ResourceSetToAddModList	Not present		
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	n entries	dependent on test condition	
CSI-ResourceConfig[1]	CSI-ResourceConfig for TRS	entry 1	
CSI-ResourceConfig[2]	CSI-ResourceConfig for CSI Acquisition	entry 2	
CSI-ResourceConfig[2]	CSI-ResourceConfig for beam refinement	entry 3	DEMOD_FR 2
}			
}			

5.4.2.2 Message contents for PDCCH Demodulation requirements

NZP-CSI-RS for Tracking

CSI-RS-ResourceMapping

Table 5.4.2.2-1: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	0001	$k_0=0$ for CSI-RS resource 1,2,3,4	TRS
}			
firstOFDMSymbolInTimeDomain	4	$l_0 = 4$ for CSI-RS resource 1 and 3	TRS
	8	$l_0 = 8$ for CSI-RS resource 2 and 4	TRS
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	TRS
Cdm-Type	noCDM		TRS
Density CHOICE{			
three	Null		TRS
}			
freqBand	CSI-FrequencyOccupation		TRS
}			

CSI-MeasConfig

Table 5.4.2.2-2: CSI-MeasConfig

Derivation Path: Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource {	n entries	Dependent on test condition	
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource for TRS (1)	entry 1 CSI-RS resource 1	
NZP-CSI-RS-Resource[2]	NZP-CSI-RS-Resource for TRS (2)	entry 2 CSI-RS resource 2	
NZP-CSI-RS-Resource[3]	NZP-CSI-RS-Resource for TRS (3)	entry 3 CSI-RS resource 3	
NZP-CSI-RS-Resource[4]	NZP-CSI-RS-Resource for TRS (4)	entry 4 CSI-RS resource 4	
NZP-CSI-RS-Resource[5]	NZP-CSI-RS-Resource for beam management (5)	entry 4 CSI-RS resource 5	PDCCH_FR2
NZP-CSI-RS-Resource[6]	NZP-CSI-RS-Resource for beam management (6)	entry 4 CSI-RS resource 6	PDCCH_FR2
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet for TRS	entry 1	
NZP-CSI-RS-ResourceSet[2]	NZP-CSI-RS-ResourceSet for beam management	entry 1	PDCCH_FR2
}			
csi-IM-ResourceToAddModList	Not present		
csi-IM-ResourceSetToAddModList	Not present		
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	1 entry		
CSI-ResourceConfig[1]	CSI-ResourceConfig	entry 1	
CSI-ResourceConfig[2]	CSI-ResourceConfig for beam management	entry 1	PDCCH_FR2
}			
}			

PDSCH Configuration

PDSCH-Config

Table 5.4.2.2-3: PDSCH-Config

Derivation Path: Table 4.6.3-100			
Information Element	Value/remark	Comment	Condition
PDSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPDSCH	0		
dmrs-DownlinkForPDSCH-MappingTypeA CHOICE {			
Setup	DMRS-DownlinkConfig		
}			
tci-StatesToAddModList SEQUENCE(SIZE (1..maxNrofTCI-States)) OF TCI-State {	2 entries		
TCI-State[1] SEQUENCE {		entry 1	
tci-StateId	TCI-StateId 0		
qcl-type1 SEQUENCE {	QCL Type is Type1		
Cell	Not Present		
Bwp-id	Not present	BWP ID	
referenceSignal	Ssb : 0	SSB # 0	
Qcl-Type	Type C		
}			
qcl-type2 SEQUENCE {	QCL Type is Type2		
Cell	Not Present		
Bwp-id	Not present	BWP ID	
referenceSignal	Ssb : 0	SSB # 0	
Qcl-Type	Type D		
}			
}			
TCI-State[2] SEQUENCE {		entry 2	
tci-StateId	TCI-StateId 1		
qcl-type1 SEQUENCE {	QCL Type is Type1		
Cell	Not Present		
Bwp-id	0	BWP ID	
referenceSignal	csi-rs : 0	CSI-RS # 0	
Qcl-Type	Type A		
}			
qcl-type2 SEQUENCE {	QCL Type is Type2		
Cell	Not Present		
Bwp-id	0	BWP ID	
referenceSignal	csi-rs : 0	CSI-RS # 0	
Qcl-Type	Type D		
}			
}			
}			
vrb-ToPRB-Interleaver	Not present		
resourceAllocation	resourceAllocationType0		
pdsch-AggregationFactor	Not present		
prb-BundlingType CHOICE {			
staticBundling SEQUENCE {			
bundleSize	Not present	PRB Bundling size of 2	
}			
}			
}			

5.4.2.3 Message contents for Sustained downlink data rate requirements

Physical layer parameters

Table 5.4.2.3-1: Physical layer parameters for DCI format 1_1

Derivation Path: Table 5.4.2.0-1

Common Serving Parameters

ServingCellConfigCommon

Table 5.4.2.3-2: ServingCellConfigCommon

Derivation Path: Table 5.4.2.0-2

TDD-UL-DL-Config

Table 5.4.2.3-3: TDD-UL-DL-Config

Derivation Path: Table 5.4.2.0-3

PDCCH Configuration

PDCCH-ConfigCommon

Table 5.4.2.3-4: *PDCCH-ConfigCommon*

Derivation Path: Table 5.4.2.0-4

ServingCellConfig

Table 5.4.2.3-5: *ServingCellConfig*

Derivation Path: Table 5.4.2.0-5

PDCCH-config

Table 5.4.2.3-6: PDCCH-ControlResourceSet

Derivation Path: Table 5.4.2.0-6			
Information Element	Value/remark	Comment	Condition
ControlResourceSet ::= SEQUENCE {			
controlResourceSetId	ControlResourceSetId		
frequencyDomainResources	xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxx	TS 38.521-4 Table 5.2-2 for tested channel bandwidth and subcarrier spacing	
duration	1	SearchSpace duration of 1 symbol	SDR_FR1, SDR_FR2
cce-REG-MappingType CHOICE {			
nonInterleaved	NULL		
}			
precoderGranularity	sameAsREG-bundle		
tci-StatesPDCCH-ToAddList	Not present	SearchSpace seen from all TCI states	
tci-StatesPDCCH-ToAddList SEQUENCE(SIZE (1..maxNrofTCI-StatesPDCCH)) OF TCI-StateId {	1 entry		MBWP
TCI-StateId[1]	0	QCL ssb 0	
	1	QCL csi-rs 0	
}			
}			

Condition	Explanation
SDR_FR1	SDR testing in FR1.
SDR_FR2	SDR testing in FR2.

Table 5.4.2.3-7: PDCCH Search Space

Derivation Path: Table 5.4.2.0-7			
Information Element	Value/remark	Comment	Condition
SearchSpace ::= SEQUENCE {			
monitoringSlotPeriodicityAndOffset CHOICE {			
sl1	NULL		
}			
duration	Not present	1 slot per default	
monitoringSymbolsWithinSlot	1000000000000000	Starting symbol 0	
nrofCandidates SEQUENCE {			
aggregationLevel1	n0		
aggregationLevel2	n2	1 for UL, 1 for DL	CORESET_g e_24_RBs
	n0		
aggregationLevel4	n2	1 for UL, 1 for DL	CORESET_g e_48_RBs
	n0		
aggregationLevel8	n2	1 for UL, 1 for DL	CORESET_g e_96_RBs
	n0		
aggregationLevel16	n0		
}			
searchSpaceType CHOICE {			
ue-Specific SEQUENCE {			USS
dci-Formats	formats0-1-And-1-1	DCI Format 1_1	
}			
}			
}			

Condition	Explanation
CORESET_ge 24 RBs	5MHz in scs15; 10MHz, 15MHz in scs30.
CORESET_ge 48 RBs	10MHz in scs15; 20MHz in scs30.
CORESET_ge 96 RBs	15MHz and above in scs15; 25MHz and above in scs30.

NZP-CSI-RS for Tracking

NZP-CSI-RS-Resource

Table 5.4.2.3-8: NZP-CSI-RS-Resource for TRS

Derivation Path: Table 5.4.2.0-8			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp-CSI-RS-ResourceId	0	CSI-RS resource 1	
	1	CSI-RS resource 2	
	2	CSI-RS resource 3	
	3	CSI-RS resource 4	
resourceMapping	CSI-RS-ResourceMapping for TRS		
powerControlOffset	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-StateId 0	QCL ssb 0	
}			

CSI-RS-ResourceMapping

Table 5.4.2.3-9: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 5.4.2.0-9			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	1000	k ₀ =3, row1	2TX, 4TX
}			
firstOFDMSymbolInTimeDomain	6	l ₀ =6 for CSI-RS resource 1 and 3	
	10	l ₀ =10 for CSI-RS resource 2 and 4	
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	2TX, 4TX
cdm-Type	noCDM		
density CHOICE{			
three	Null		
}			
freqBand	CSI-FrequencyOccupation for TRS		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.3-10: CSI-ResourcePeriodicityAndOffset for TRS

Derivation Path: Table 5.4.2.0-10

CSI-FrequencyOccupation

Table 5.4.2.3-11: CSI-FrequencyOccupation for TRS

Derivation Path: Table 5.4.2.0-11			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52	BW 10MHz SCS 15kHz, BW 20MHz SCS 30kHz	
	108	BW 20MHz SCS 15kHz	
	276	BW 100MHz SCS 30kHz	
}			

NZP-CSI-RS-ResourceSet

Table 5.4.2.3-12: NZP-CSI-RS-ResourceSet for TRS

Derivation Path: Table 5.4.2.0-12

CSI-ResourceConfig

Table 5.4.2.3-13: CSI-ResourceConfig for TRS

Derivation Path: Table 5.4.2.0-13

NZP CSI-RS for CSI Acquisition

NZP-CSI-RS-Resource

Table 5.4.2.3-14: NZP-CSI-RS-Resource for CSI Acquisition

Derivation Path: Table 5.4.2.0-14			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp-CSI-RS-ResourceId	4	CSI-RS resource 5	
resourceMapping	CSI-RS-ResourceMapping		
powerControlOffset	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-StateId 1	QCL csi-rs 0	
}			

CSI-RS-ResourceMapping

Table 5.4.2.3-15: CSI-RS-ResourceMapping for CSI Acquisition

Derivation Path: Table 5.4.2.0-15			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000100	k ₀ =4, row3	2TX
row4	010	k ₀ =4, row4	4TX
}			
nrofPorts	p2		2TX
	p4		4TX
firstOFDMSymbolInTimeDomain	12	l ₀ =12	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	CSI-FrequencyOccupation for CSI Acquisition		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.3-16: CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 5.4.2.0-16

CSI-FrequencyOccupation

Table 5.4.2.3-17: CSI-FrequencyOccupation for CSI Acquisition

Derivation Path: Table 5.4.2.0-17			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52		BW 10MHz SCS 15kHz, BW 20MHz SCS 30kHz
	108		BW 20MHz SCS 15kHz
	276		BW 100MHz SCS 30kHz
}			

NZP-CSI-RS-ResourceSet

Table 5.4.2.3-18: NZP-CSI-RS-ResourceSet for CSI Acquisition

Derivation Path: Table 5.4.2.0-18

CSI-ResourceConfig

Table 5.4.2.3-19: CSI-ResourceConfig for CSI Acquisition

Derivation Path: Table 5.4.2.0-19

ZP CSI-RS for CSI Acquisition

ZP-CSI-RS-Resource

Table 5.4.2.3-20: ZP-CSI-RS-Resource

Derivation Path: Table 5.4.2.0-20			
Information Element	Value/remark	Comment	Condition
ZP-CSI-RS-Resource ::= SEQUENCE {			
zp-CSI-RS-ResourceId	ZP-CSI-RS-ResourceId		
resourceMapping	ZP CSI-RS-ResourceMapping		
periodicityAndOffset	ZP CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-StateId 1	QCL csi-rs 0	
}			

CSI-RS-ResourceMapping

Table 5.4.2.3-21: ZP CSI-RS-ResourceMapping

Derivation Path: Table 5.4.2.0-21			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row4	001	k ₀ =0, row4	2TX, 4TX
}			
nrofPorts	p4		2TX, 4TX
firstOFDMSymbolInTimeDomain	12	l ₀ =12	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	ZP CSI-FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.3-22: ZP CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 5.4.2.0-22

CSI-FrequencyOccupation

Table 5.4.2.3-23: ZP CSI-FrequencyOccupation

Derivation Path: Table 5.4.2.0-23			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52		BW 10MHz SCS 15kHz, BW 20MHz SCS 30kHz
	108		BW 20MHz SCS 15kHz
	276		BW 100MHz SCS 30kHz
}			

PDSCH DMRS Configuration

DMRS-DownlinkConfig

Table 5.4.2.3-24: DMRS-DownlinkConfig

Derivation Path: Table 5.4.2.0-24

PDSCH Configuration

PDSCH-ServingCellConfig

Table 5.4.2.3-25: PDSCH-ServingCellConfig

Derivation Path: Table 5.4.2.0-25

PDSCH-Config

Table 5.4.2.3-26: PDSCH-Config

Derivation Path: Table 5.4.2.0-26			
Information Element	Value/remark	Comment	Condition
PDSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPDSCH	0		
dmrs-DownlinkForPDSCH-MappingTypeA CHOICE {			
setup	DMRS-DownlinkConfig		
}			
tci-StatesToAddModList SEQUENCE(SIZE (1..maxNrofTCI-States)) OF TCI-State {	2 entries		
TCI-State[1] SEQUENCE {		entry 1	
tci-StateId	0	TCI-StateId 0	
qcl-type1 SEQUENCE {			
cell	0		
bwp-id	Not present	BWP_ID	
referenceSignal	ssb		
ssb	0		
qcl-Type	typeC		
}			
qcl-type2 SEQUENCE {			SDR_FR2
cell	0		
bwp-id	Not present	BWP_ID	
referenceSignal	ssb		
ssb	0		
qcl-Type	typeD		
}			
}			
TCI-State[2] SEQUENCE {		entry 2	
tci-StateId	1	TCI-StateId 1	
qcl-type1 {			
cell	0		
bwp-id	0	BWP ID	
referenceSignal	csi-rs		
csi-rs	0		
qcl-Type	typeA		
}			
qcl-type2 SEQUENCE {			SDR_FR2
cell	0		
bwp-id	0	BWP ID	
referenceSignal	csi-rs		
csi-rs	0		
qcl-Type	typeD		
}			
}			
vrb-ToPRB-Interleaver	Not present		
resourceAllocation	resourceAllocationType0		
pdsch-AggregationFactor	Not present		
rbg-Size	config1	The UE ignores this field if <i>resourceAllocation</i> is set to <i>resourceAllocationType1</i> (see TS 38.214 [21], clause 5.1.2.2.1).	
prb-BundlingType CHOICE {			
staticBundling SEQUENCE {			
bundleSize	wideband		SDR_FR1, SDR_FR2
}			
}			
ZP-CSI-RS-ResourceToAddModList SEQUENCE	1 entry		

(SIZE (1..maxNrofNzp-Csi-Rs-Resources)) OF Nzp-Csi-Rs-Resource {			
ZP-Csi-Rs-Resource[1]	ZP-Csi-Rs-Resource	entry 1	
}			
p-ZP-Csi-Rs-ResourceSet	p-ZP-Csi-Rs-ResourceSet		
}			

PDSCH-TimeDomainResourceAllocationList

Table 5.4.2.3-27: PDSCH-TimeDomainResourceAllocationList

Derivation Path: Table 5.4.2.0-27			
Information Element	Value/remark	Comment	Condition
PDSCH-TimeDomainResourceAllocationList ::= SEQUENCE(SIZE(1..maxNrofDL-Allocations)) OF PDSCH-TimeDomainResourceAllocation {	2 entries		
PDSCH-TimeDomainResourceAllocation[1]		entry 1	
SEQUENCE {			
k0	Not present		
mappingType	typeA		
startSymbolAndLength	44	Start symbol(S)=2, Length(L)=4	SDR_FR1
	96	Start symbol(S)=1, Length(L)=9	SDR_FR2
}			
PDSCH-TimeDomainResourceAllocation[2]		entry 2	
SEQUENCE {			
k0	Not present		
mappingType	typeA		
	40	Start symbol(S)=1, Length(L)=13	SDR_FR1, SDR_FR2
}			
}			

– *SecurityAlgorithmConfig*

Table 5.4.2.3-A1: SecurityAlgorithmConfig

Derivation Path: Table 4.6.3-165			
Information Element	Value/remark	Comment	Condition
SecurityAlgorithmConfig ::= SEQUENCE {			
cipheringAlgorithm	nea0		
	nea2		SDR_FR1, SDR_FR2
integrityProtAlgorithm	nia2		
}			

– *Security mode command*

Table 5.4.2.3-A2: SECURITY MODE COMMAND

Derivation Path: Table 4.7.1-25			
Information Element	Value/remark	Comment	Condition
Selected NAS security algorithms			
Type of ciphering algorithm	'0000'B	5G encryption algorithm 5G EA0 (null ciphering algorithm)	SDR_FR1, SDR_FR2
Type of integrity protection algorithm	Set according to PIXIT px_NAS_5GC_IntegrityProtAlgorithm for default integrity protection algorithm	This value should not be equal to the null integrity algorithm.	
Selected EPS NAS security algorithms	Not Present		
Selected EPS NAS security algorithms			UE_S1_SUPORTED
Type of ciphering algorithm	'0000'B	EPS encryption algorithm EEA0 (null ciphering algorithm)	SDR_FR1, SDR_FR2
Type of integrity protection algorithm	Set according to PIXIT px_NAS_IntegrityProtAlgorithm for default integrity protection algorithm		

5.4.2.4 Message contents for CQI reporting requirements

NZP-CSI-RS for Tracking

CSI-RS-ResourceMapping

Table 5.4.2.4-1: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	0001	k ₀ =0 for CSI-RS resource 1,2,3,4	TRS
}			
firstOFDMSymbolInTimeDomain	4	l ₀ = 4 for CSI-RS resource 1 and 3	TRS
	8	l ₀ = 8 for CSI-RS resource 2 and 4	TRS
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	TRS
Cdm-Type	noCDM		TRS
Density CHOICE{			
three	Null		TRS
}			
freqBand	CSI-FrequencyOccupation		TRS
}			

NZP CSI-RS for CSI Acquisition

CSI-RS-ResourceMapping

Table 5.4.2.4-2: CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	001000	K0 = 6, row3,	
}			
nrofPorts	P2		
firstOFDMSymbolInTimeDomain	13	l0 = 13	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	CSI-FrequencyOccupation		
}			

ZP CSI-RS for CSI Acquisition

CSI-RS-ResourceMapping

Table 5.4.2.4-3: ZP CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000100	K0 = 4	FR1
row4	100	K0=8	FR2
}			
nrofPorts	P4		
firstOFDMSymbolInTimeDomain	9	l0 = 9	FR1
	13	l0 = 13	FR2
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	ZP CSI-FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.4-4: ZP CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots5	1		FR1_FDD
slot10	1		FR1_TDD
slot8	1		FR2
}			

p-ZP-CSI-RS-ResourceSet

Table 5.4.2.4-5: p-ZP-CSI-RS-ResourceSet

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
p-ZP-CSI-RS-ResourceSet ::= SEQUENCE {			
zp_CSI-RS_ResourceSetId	0		
zp-CSI-RS-ResourceIdList SEQUENCE (SIZE (1..maxNrofZP-CSI-RS-ResourcesPerSet)) OF ZP-CSI-RS-ResourceId{	1 entry		
ZP-CSI-RS-ResourceId[1]	0	entry 1 ZP CSI-RS resource 1	
}			
}			

CSI-IM Configuration

CSI-IM-Resource

Table 5.4.2.4-6: CSI-IM-Resource

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-Resource ::= SEQUENCE {			
csi-IM-ResourceId	CSI-IM-ResourceId		
csi-IM-ResourceElementPattern CHOICE {			
pattern0 SEQUENCE {			FR1
subcarrierLocation-p0	s4		
symbolLocation-p0	9		
}			
pattern1 SEQUENCE {			FR2
subcarrierLocation-p1	s8		
symbolLocation-p1	13		
}			
}			
freqBand	CSI-FrequencyOccupation		
periodicityAndOffset	Not present		
}			

CSI-IM-ResourceId

Table 5.4.2.4-7: CSI-IM-ResourceId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceId	0		

CSI-IM-ResourceSet

Table 5.4.2.4-8: CSI-IM-ResourceSet

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSet ::= SEQUENCE {			
csi-IM-ResourceSetId	CSI-IM-ResourceSetId		
csi-IM-Resources SEQUENCE (SIZE(1..maxNrofCSI-IM-ResourcesPerSet)) {	1 entry		
CSI-IM-ResourceId[1]	CSI-IM-ResourceId		
}			
}			

CSI-IM-ResourceSetId

Table 5.4.2.4-9: CSI-IM-ResourceSetId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSetId	0		

CSI-IM-ResourceConfig

Table 5.4.2.4-10: CSI-IM-ResourceConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId		
csi-RS-ResourceSetList CHOICE {			
csi-IM-ResourceSetList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSetsPerConfig)) OF CSI-IM-ResourceSetId {	1 entry		
csi-IM-ResourceSetId[0]	0		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

CSI-MeasConfig

Table 5.4.2.4-11: CSI-MeasConfig

Derivation Path: Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource {	n entries	n=5 for FR1 n=7 for FR2	
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource for TRS (1)	entry 1 CSI-RS resource 1	
NZP-CSI-RS-Resource[2]	NZP-CSI-RS-Resource for TRS (2)	entry 2 CSI-RS resource 2	
NZP-CSI-RS-Resource[3]	NZP-CSI-RS-Resource for TRS (3)	entry 3 CSI-RS resource 3	
NZP-CSI-RS-Resource[4]	NZP-CSI-RS-Resource for TRS (4)	entry 4 CSI-RS resource 4	
NZP-CSI-RS-Resource[5]	NZP-CSI-RS-Resource for CSI Acquisition	entry 5 CSI-RS resource 5	
NZP-CSI-RS-Resource[6]	CSI-RS-Resource for beam refinement	entry 6 CSI-RS resource 6	FR2
NZP-CSI-RS-Resource[7]	CSI-RS-Resource for beam refinement	entry 7 CSI-RS resource 7	FR2
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSet {	n entries	n=2 for FR1 n=3 for FR2	
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet for TRS	entry 1	
NZP-CSI-RS-ResourceSet[2]	NZP-CSI-RS-ResourceSet for CSI Acquisition	entry 2	
NZP-CSI-RS-ResourceSet[3]	NZP-CSI-RS-ResourceSet for beam refinement	entry 3	FR2
}			
csi-IM-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-Resources)) OF CSI-IM-Resource {	1 entry		
CSI-IM-Resource[1]	CSI-IM-Resource		
}			
csi-IM-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSets)) OF CSI-IM-ResourceSet {	1 entry		
CSI-IM-ResourceSet[1]	CSI-IM-ResourceSet		
}			
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	n entries	n=3 for FR1 n=4 for FR2	
CSI-ResourceConfig[1]	CSI-ResourceConfig for TRS	entry 1	
CSI-ResourceConfig[2]	CSI-ResourceConfig for CSI Acquisition	entry 2	
CSI-ResourceConfig[3]	CSI-IM-ResourceConfig	entry 3	
CSI-ResourceConfig[4]	CSI-ResourceConfig for beam refinement	entry 4	FR2
}			
}			

CSI-ReportConfig

Table 5.4.2.4-12: CSI-ReportConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	CSI-ReportConfigId		
carrier	ServCellIndex		
resourcesForChannelMeasurement	CSI-ResourceConfigId for CSI Acquisition		
csi-IM-ResourcesForInterference	CSI-ResourceConfigId for CSI-IM		
nzp-CSI-RS-ResourcesForInterference	not present		
reportConfigType CHOICE {			
periodic SEQUENCE {			
reportSlotConfig	CSI-ReportPeriodicityAndOffset		
pucch-CSI-ResourceList SEQUENCE (SIZE (1..maxNrofBWPs)) OF PUCCH-CSI-Resource {			
PUCCH-CSI-Resource [1]	PUCCH-CSI-Resource		
}			
}			
reportQuantity CHOICE {			
cri-RI-PMI-CQI	NULL		FR1, FR2
}			
reportFreqConfiguration SEQUENCE {			
cqi-FormatIndicator	widebandCQI		
pmi-FormatIndicator	widebandPMI		
csi-ReportingBand CHOICE {			
subbands7	'1111111'B		FR1
subbands9	'11111111'B		FR2
}			
}			
timeRestrictionForChannelMeasurements	notConfigured		
timeRestrictionForInterferenceMeasurements	notConfigured		
codebookConfig	CodebookConfig		
dummy	Not present		
groupBasedBeamReporting CHOICE {			
disabled SEQUENCE {			
nrofReportedRS	not present		
}			
}			
cqi-Table	table2		FR1
	table1		FR2
subbandSize	value2		
non-PMI-PortIndication	Not present		
}			

CSI-ReportPeriodicityAndOffset

Table 5.4.2.4-13: CSI-ReportPeriodicityAndOffset

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ReportPeriodicityAndOffset ::= CHOICE {			
slots10	9		FR1_TDD
slots5	0		FR1_FDD
slot8	3		FR2
}			

PUCCH-CSI-Resource

Table 5.4.2.4-14: PUCCH-CSI-Resource

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-CSI-Resource ::= SEQUENCE {			
uplinkBandwidthPartId	BWP-id		FR1, FR2
pucch-Resource	8		FR1
	14		FR2
}			

CodebookConfig

Table 5.4.2.4-15: CodebookConfig

Derivation Path: Table 4.6.3-25			
Information Element	Value/remark	Comment	Condition
CodebookConfig ::= SEQUENCE {			
codebookType CHOICE {			
type1 SEQUENCE {			
subType CHOICE {			
type1-SinglePanel SEQUENCE {			
nrOfAntennaPorts CHOICE {			
two SEQUENCE {			
twoTX-CodebookSubsetRestriction	'010000'B		
}			
}			
type1-SinglePanel-ri-Restriction	'11111111'B		
}			
}			
codebookMode	1		
}			
}			
}			

5.4.2.5 Message contents for PMI reporting requirements

NZP-CSI-RS for Tracking

CSI-RS-ResourceMapping

Table 5.4.2.5-1: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	0001	$k_0=0$ for CSI-RS resource 1,2,3,4	TRS
}			
firstOFDMSymbolInTimeDomain	4	$l_0 = 4$ for CSI-RS resource 1 and 3	TRS
	8	$l_0 = 8$ for CSI-RS resource 2 and 4	TRS
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	TRS
cdm-Type	noCDM		TRS
density CHOICE{			
three	Null		TRS
}			
freqBand	CSI-FrequencyOccupation		TRS
}			

NZP CSI-RS for CSI Acquisition

CSI-RS-ResourceMapping

Table 5.4.2.5-2: CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row3	001000	$K_0 = 6$, row3	2Tx
row4	001	$K_0 = 0$, row4	4Tx
other	001100	$K_0 = 4$, $K_1 = 6$, row8	8Tx
}			
nrofPorts	p2		2Tx
	p4		4Tx
	p8		8Tx
firstOFDMSymbolInTimeDomain	13	$l_0 = 13$	2Tx, 4Tx
	5	$l_0 = 5$	8Tx
cdm-Type	fd-CDM2		2Tx, 4Tx
	cdm4-FD2-TD2		8Tx
density CHOICE {			
one	NULL		
}			
freqBand	CSI-FrequencyOccupation		
}			

Condition	Explanation
2Tx	For test cases using 2 CSI-RS ports for NZP-CSI-RS for CSI acquisition.
4Tx	For test cases using 4 CSI-RS ports for NZP-CSI-RS for CSI acquisition.
8Tx	For test cases using 8 CSI-RS ports for NZP-CSI-RS for CSI acquisition.

ZP CSI-RS for CSI Acquisition

CSI-RS-ResourceMapping

Table 5.4.2.5-3: ZP CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000100	K0 = 4	FR1
row4	100	K0 = 8	FR2
}			
nrofPorts	p4		
firstOFDMSymbolInTimeDomain	9	I0 = 9	FR1
	13	I0 = 13	FR2
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	ZP CSI-FrequencyOccupation		
}			

Table 5.4.2.5-4: Void

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.5-4A: ZP CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots5	1		FR1_FDD
slot10	1		FR1_TDD
slot8	1		FR2
}			

Table 5.4.2.5-5: Void

p-ZP-CSI-RS-ResourceSet

Table 5.4.2.5-5A: p-ZP-CSI-RS-ResourceSet

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
p-ZP-CSI-RS-ResourceSet ::= SEQUENCE {			
zp_CSI-RS_ResourceSetId	0		
zp-CSI-RS-ResourceIdList SEQUENCE (SIZE (1..maxNrofZP-CSI-RS-ResourcesPerSet)) OF ZP-CSI-RS-ResourceId{	1 entry		
ZP-CSI-RS-ResourceId[1]	0	entry 1 ZP CSI-RS resource 1	
}			
}			

CSI-ResourceConfig

Table 5.4.2.5-6: CSI-ResourceConfig for CSI Acquisition

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	1		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	1	entry 1	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	aperiodic		
}			

CSI-IM Configuration

CSI-IM-Resource

Table 5.4.2.5-7: CSI-IM-Resource

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-Resource ::= SEQUENCE {			
csi-IM-ResourceId	CSI-IM-ResourceId		
csi-IM-ResourceElementPattern CHOICE {			FR1
pattern0 SEQUENCE {			
subcarrierLocation-p0	s4		
symbolLocation-p0	9		
}			
pattern1 SEQUENCE {			FR2
subcarrierLocation-p1	s8		
symbolLocation-p1	13		
}			
}			
freqBand	CSI-FrequencyOccupation		
periodicityAndOffset	Not present		
}			

CSI-IM-ResourceId

Table 5.4.2.5-8: CSI-IM-ResourceId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceId	0		

CSI-IM-ResourceSet

Table 5.4.2.5-9: CSI-IM-ResourceSet

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSet ::= SEQUENCE {			
csi-IM-ResourceSetId	CSI-IM-ResourceSetId		
csi-IM-Resources SEQUENCE (SIZE(1..maxNrofCSI-IM-ResourcesPerSet)) {	1 entry		
CSI-IM-ResourceId[1]	CSI-IM-ResourceId	entry 1	
}			
}			

CSI-IM-ResourceSetId

Table 5.4.2.5-10: CSI-IM-ResourceSetId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSetId	0		

CSI-IM-ResourceConfig

Table 5.4.2.5-11: CSI-IM-ResourceConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId		
csi-RS-ResourceSetList CHOICE {			
csi-IM-ResourceSetList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSetsPerConfig)) OF CSI-IM-ResourceSetId {	1 entry		
csi-IM-ResourceSetId[0]	0		
}			
}			
bwp-Id	BWP-Id		
resourceType	aperiodic		
}			

CSI-MeasConfig

Table 5.4.2.5-12: CSI-MeasConfig

Derivation Path: Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource {	n entries	n=5 for FR1 n=7 for FR2	
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource for TRS (1)	entry 1 CSI-RS resource 1	
NZP-CSI-RS-Resource[2]	NZP-CSI-RS-Resource for TRS (2)	entry 2 CSI-RS resource 2	
NZP-CSI-RS-Resource[3]	NZP-CSI-RS-Resource for TRS (3)	entry 3 CSI-RS resource 3	
NZP-CSI-RS-Resource[4]	NZP-CSI-RS-Resource for TRS (4)	entry 4 CSI-RS resource 4	
NZP-CSI-RS-Resource[5]	NZP-CSI-RS-Resource for CSI Acquisition	entry 5 CSI-RS resource 5	
NZP-CSI-RS-Resource[6]	CSI-RS-Resource for beam refinement	entry 6 CSI-RS resource 6	FR2
NZP-CSI-RS-Resource[7]	CSI-RS-Resource for beam refinement	entry 7 CSI-RS resource 7	FR2
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSet {	n entries	n=2 for FR1 n=3 for FR2	
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet for TRS	entry 1	
NZP-CSI-RS-ResourceSet[2]	NZP-CSI-RS-ResourceSet for CSI Acquisition	entry 2	
NZP-CSI-RS-ResourceSet[3]	NZP-CSI-RS-ResourceSet for beam refinement	entry 3	FR2
}			
csi-IM-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-Resources)) OF CSI-IM-Resource {	1 entry		
CSI-IM-Resource[1]	CSI-IM-Resource		
}			
csi-IM-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSets)) OF CSI-IM-ResourceSet {	1 entry		
CSI-IM-ResourceSet[1]	CSI-IM-ResourceSet		
}			
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	n entries	n=3 for FR1 n=4 for FR2	
CSI-ResourceConfig[1]	CSI-ResourceConfig for TRS	entry 1	
CSI-ResourceConfig[2]	CSI-ResourceConfig for CSI Acquisition	entry 2	
CSI-ResourceConfig[3]	CSI-IM-ResourceConfig	entry 3	
CSI-ResourceConfig[4]	CSI-ResourceConfig for beam refinement	entry 4	FR2
}			
}			

CSI-ReportConfig

Table 5.4.2.5-13: CSI-ReportConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	CSI-ReportConfigId		
carrier	ServCellIndex		
resourcesForChannelMeasurement	CSI-ResourceConfigId for CSI Acquisition		
csi-IM-ResourcesForInterference	CSI-ResourceConfigId for CSI-IM		
nzp-CSI-RS-ResourcesForInterference	not present		
reportConfigType CHOICE {			
aperiodic SEQUENCE {			
reportSlotOffsetList SEQUENCE {	2 entry		
reportSlotOffsetList[1]	4		FR1_FDD_4 Tx
	5		FR1_FDD_8 Tx
	8		FR1_TDD
	6		FR2
reportSlotOffsetList[2]	4		FR1_FDD_4 Tx
	5		FR1_FDD_8 Tx
	8		FR1_TDD
	6		FR2
}			
}			
reportQuantity CHOICE {			
cri-RI-PMI-CQI	NULL		
}			
reportFreqConfiguration SEQUENCE {			
cqi-FormatIndicator	widebandCQI		
pmi-FormatIndicator	widebandPMI		
csi-ReportingBand CHOICE {			FR1
subbands7	'1111111'B		
}			
csi-ReportingBand CHOICE {			FR2
subbands9	'111111111'B		
}			
}			
timeRestrictionForChannelMeasurements	notConfigured		
timeRestrictionForInterferenceMeasurements	notConfigured		
codebookConfig	CodebookConfig		
dummy	Not present		
groupBasedBeamReporting CHOICE {			
disabled SEQUENCE {			
nrofReportedRS	not present		
}			
}			
cqi-Table	table1		
subbandSize	value2		
non-PMI-PortIndication	Not present		
}			

CodebookConfig

Table 5.4.2.5-14: CodebookConfig

Derivation Path: Table 4.6.3-25			
Information Element	Value/remark	Comment	Condition
CodebookConfig ::= SEQUENCE {			
codebookType CHOICE {			
type1 SEQUENCE {			
subType CHOICE {			
type1-SinglePanel SEQUENCE {			
nrOfAntennaPorts CHOICE {			
two SEQUENCE {			2Tx
twoTX-CodebookSubsetRestriction	'001111'B		
}			
moreThanTwo SEQUENCE {			4Tx, 8Tx
n1-n2 CHOICE {			
two-one-Type1-SinglePanel-Restriction	'11111111'B		
}			
type1-SinglePanel-			
codebookSubsetRestriction-i2	Not present		
}			
}			
type1-SinglePanel-ri-Restriction	'11111111'B		2Tx
	'00000001'B		4Tx
	'00000010'B		8Tx
}			
codebookMode	1		
}			
}			
}			

CSI-AperiodicTriggerStateList

Table 5.4.2.5-15: CSI-AperiodicTriggerStateList

Derivation Path: Table 4.6.3-32			
Information Element	Value/remark	Comment	Condition
CSI-AperiodicTriggerStateList ::= SEQUENCE (SIZE (1..maxNrOfCSI-AperiodicTriggers)) OF CSI-AperiodicTriggerState {	1 entry		
CSI-AperiodicTriggerState[1] SEQUENCE {		entry 1	
associatedReportConfigInfoList SEQUENCE (SIZE(1..maxNrOfReportConfigPerAperiodicTrigger)) OF CSI-AssociatedReportConfigInfo {	1 entry		
CSI-AssociatedReportConfigInfo[1] SEQUENCE {		entry 1	
reportConfigId	0		
resourcesForChannel CHOICE {			
nzp-CSI-RS SEQUENCE {			
resourceSet	1		
qcl-info SEQUENCE (SIZE(1..maxNrOfAP-CSI-RS-ResourcesPerSet)) OF TCI-StateId {	1 entry		
TCI-StateId[1]	1	entry 1	
}			
}			
}			
csi-IM-ResourcesforInterference	1		
nzp-CSI-RS-ResourcesforInterference	Not present		
}			
}			
}			
}			

Physical layer parameters

Table 5.4.2.5-16: Physical layer parameters for DCI format 1_1

Derivation Path: Table 4.3.6.1.2.2-1			
Parameter	Value	Value in binary	Condition
PUCCH resource indicator	<i>PUCCH-ResourceId</i> [1] = 8 in <i>pucch-ResourceSetID</i> [2] as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213)	'110'B	

PUSCH-TimeDomainResourceAllocationList

Table 5.4.2.5-17: PUSCH-TimeDomainResourceAllocationList

Derivation Path: Table 5.4.2.0-27				
Information Element	Value/remark	Comment	Condition	
PUSCH-TimeDomainResourceAllocationList ::= SEQUENCE (SIZE(1..maxNrofUL-Allocations)) OF PUSCH-TimeDomainResourceAllocation {	2 entries			
PUSCH-TimeDomainResourceAllocation[1]		entry 1		
SEQUENCE {				
startSymbolAndLength	55	Start symbol(S)=0, Length(L)=12		
}				
PUSCH-TimeDomainResourceAllocation[2]		entry 2		
SEQUENCE {				
startSymbolAndLength	55	Start symbol(S)=0, Length(L)=12		
}				
}				

5.4.2.6 Message contents for RI reporting requirements

NZP-CSI-RS for Tracking

CSI-RS-ResourceMapping

Table 5.4.2.6-1: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45				
Information Element	Value/remark	Comment	Condition	
CSI-RS-ResourceMapping ::= SEQUENCE {				
frequencyDomainAllocation CHOICE {				
row1	0001	$k_0=0$ for CSI-RS resource 1,2,3,4	TRS	
}				
firstOFDMSymbolInTimeDomain	4	$l_0 = 4$ for CSI-RS resource 1 and 3	TRS	
	8	$l_0 = 8$ for CSI-RS resource 2 and 4	TRS	
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	TRS	
cdm-Type	noCDM		TRS	
density CHOICE{				
three	Null		TRS	
}				
freqBand	CSI-FrequencyOccupation		TRS	
}				

NZP CSI-RS for CSI Acquisition

CSI-RS-ResourceMapping

Table 5.4.2.6-2: CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row4	001	K0 = 0, row4	4Tx
other	001000	K0 = 6, row3	2Tx
}			
nrofPorts	p4		4Tx
	p2		2Tx
firstOFDMSymbolInTimeDomain	13	I0 = 13	2Tx, 4Tx
cdm-Type	fd-CDM2		2Tx, 4Tx
density CHOICE {			
one	NULL		
}			
freqBand	CSI-FrequencyOccupation		
}			

Condition	Explanation
2Tx	For test cases using 2 CSI-RS ports for NZP-CSI-RS for CSI acquisition.
4Tx	For test cases using 4 CSI-RS ports for NZP-CSI-RS for CSI acquisition.

Table 5.4.2.6-3: CSI-ResourcePeriodicityAndOffset for CSI Acquisition

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots5	1		FDD
Slots10	1		TDD
}			

ZP CSI-RS for CSI Acquisition

CSI-RS-ResourceMapping

Table 5.4.2.6-4: ZP CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000100	K0 = 4, row5	
}			
nrofPorts	p4		
firstOFDMSymbolInTimeDomain	9	I0 = 9	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	ZP CSI-FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2.6-5: ZP CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots5	1		FDD
Slots10	1		TDD
}			

PDSCH-Config

Table 5.4.2.6-6: PDSCH-Config

Derivation Path: Table 4.6.3-100			
Information Element	Value/remark	Comment	Condition
PDSCH-Config ::= SEQUENCE {			
p-ZP-CSI-RS-ResourceSetsToAddModList	p-ZP-CSI-RS-ResourceSet		
}			

p-ZP-CSI-RS-ResourceSet

Table 5.4.2.6-7: p-ZP-CSI-RS-ResourceSet

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
p-ZP-CSI-RS-ResourceSetsToAddModList ::= SEQUENCE {			
zp_CSI-RS_ResourceSetId	0		
zp-CSI-RS-ResourceIdList SEQUENCE (SIZE (1..maxNrofZP-CSI-RS-ResourcesPerSet)) OF ZP-CSI-RS-ResourceId{	1 entry		
ZP-CSI-RS-ResourceId[1]	0	entry 1 ZP CSI-RS resource 1	
}			
}			

CSI-ResourceConfig

Table 5.4.2.6-8: CSI-ResourceConfig for CSI Acquisition

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	1		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	1	entry 1	
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

CSI-IM Configuration

CSI-IM-Resource

Table 5.4.2.6-9: CSI-IM-Resource

Derivation Path: Table 4.6.3-34			
Information Element	Value/remark	Comment	Condition
CSI-IM-Resource ::= SEQUENCE {			
csi-IM-ResourceId	CSI-IM-ResourceId		
csi-IM-ResourceElementPattern CHOICE {			
Pattern0 SEQUENCE {			
subcarrierLocation-p0	s4		
symbolLocation-p0	9		FR1
}			
}			
freqBand	CSI-FrequencyOccupation		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
}			

Table 5.4.2.6-10: CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots5	1		FDD
Slots10	1		TDD
}			

CSI-IM-ResourceId

Table 5.4.2.6-11: CSI-IM-ResourceId

Derivation Path: Table 4.6.3-35			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceId	0		

CSI-IM-ResourceSet

Table 5.4.2.6-12: CSI-IM-ResourceSet

Derivation Path: Table 4.6.3-36			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSet ::= SEQUENCE {			
csi-IM-ResourceSetId	CSI-IM-ResourceSetId		
csi-IM-Resources SEQUENCE (SIZE(1..maxNrofCSI-IM-ResourcesPerSet)) {	1 entry		
CSI-IM-ResourceId[1]	CSI-IM-ResourceId	entry 1	
}			
}			

CSI-IM-ResourceSetId

Table 5.4.2.6-13: CSI-IM-ResourceSetId

Derivation Path: Table 4.6.3-37			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSetId	0		

CSI-IM-ResourceConfig

Table 5.4.2.6-14: CSI-IM-ResourceConfig

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId		
csi-RS-ResourceSetList CHOICE {			
csi-IM-ResourceSetList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSetsPerConfig)) OF CSI-IM-ResourceSetId {	1 entry		
csi-IM-ResourceSetId[0]	0		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

CSI-MeasConfig

Table 5.4.2.6-15: CSI-MeasConfig

Derivation Path: Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource {	5 entries		
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource for TRS (1)	entry 1 CSI-RS resource 1	
NZP-CSI-RS-Resource[2]	NZP-CSI-RS-Resource for TRS (2)	entry 2 CSI-RS resource 2	
NZP-CSI-RS-Resource[3]	NZP-CSI-RS-Resource for TRS (3)	entry 3 CSI-RS resource 3	
NZP-CSI-RS-Resource[4]	NZP-CSI-RS-Resource for TRS (4)	entry 4 CSI-RS resource 4	
NZP-CSI-RS-Resource[5]	NZP-CSI-RS-Resource for CSI Acquisition	entry 5 CSI-RS resource 5	
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSet {	2 entries		
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet for TRS	entry 1	
NZP-CSI-RS-ResourceSet[2]	NZP-CSI-RS-ResourceSet for CSI Acquisition	entry 2	
}			
csi-IM-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-Resources)) OF CSI-IM-Resource {	1 entry		
CSI-IM-Resource[1]	CSI-IM-Resource		
}			
csi-IM-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSets)) OF CSI-IM-ResourceSet {	1 entry		
CSI-IM-ResourceSet[1]	CSI-IM-ResourceSet		
}			
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	3 entries		
CSI-ResourceConfig[1]	CSI-ResourceConfig for TRS	entry 1	
CSI-ResourceConfig[2]	CSI-ResourceConfig for CSI Acquisition	entry 2	
CSI-ResourceConfig[3]	CSI-IM-ResourceConfig	entry 3	
}			
}			

CSI-ReportConfig

Table 5.4.2.6-16: CSI-ReportConfig

Derivation Path: Table 4.6.3-39			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	CSI-ReportConfigId		
carrier	ServCellIndex		
resourcesForChannelMeasurement	CSI-ResourceConfigId for CSI Acquisition		
csi-IM-ResourcesForInterference	CSI-ResourceConfigId for CSI-IM		
nzp-CSI-RS-ResourcesForInterference	not present		
reportConfigType CHOICE {			
periodic SEQUENCE {			
reportSlotConfig	CSI-ReportPeriodicityAndOffset		
pucch-CSI-ResourceList SEQUENCE (SIZE (1..maxNrofBWPs)) OF PUCCH-CSI-Resource {			
PUCCH-CSI-Resource [1]	PUCCH-CSI-Resource		
}			
}			
reportQuantity CHOICE {			
cri-RI-PMI-CQI	NULL,		FR1
}			
reportFreqConfiguration SEQUENCE {			
cqi-FormatIndicator	widebandCQI		
pmi-FormatIndicator	widebandPMI		
csi-ReportingBand CHOICE {			
subbands7	'1111111'B		
}			
}			
timeRestrictionForChannelMeasurements	notConfigured		
timeRestrictionForInterferenceMeasurements	notConfigured		
codebookConfig	CodebookConfig		
dummy	Not present		
groupBasedBeamReporting CHOICE {			
disabled SEQUENCE {			
nrofReportedRS	not present		
}			
}			
cqi-Table	table2		FR1
subbandSize	value2		
non-PMI-PortIndication	Not present		
}			

CodebookConfig

Table 5.4.2.6-17: CodebookConfig

Derivation Path: Table 4.6.3-25			
Information Element	Value/remark	Comment	Condition
CodebookConfig ::= SEQUENCE {			
codebookType CHOICE {			
type1 SEQUENCE {			
subType CHOICE {			
type1-SinglePanel SEQUENCE {			
nrOfAntennaPorts CHOICE {			
two SEQUENCE {			2Tx
twoTX-CodebookSubsetRestriction	'010000'B		Fixed rank2, 2x2, 2x4
	'010011'B		Follow rank, 2x2, 2x4
	'000011'B		Fixed rank1, 2x2, 2x4
}			
moreThanTwo SEQUENCE {			4Tx
n1-n2 CHOICE {			
two-one-Type1-SinglePanel-Restriction	'11111111'B		4x4
}			
}			
type1-SinglePanel-ri-Restriction	'11111111'B		2x2, 2x4
	'00000010'B		Fixed rank2, 4x4
	'00001111'B		Follow RI, 4x4
}			
}			
codebookMode	1		
}			
}			
}			

CSI-ReportPeriodicityAndOffset

Table 5.4.2.4-18: CSI-ReportPeriodicityAndOffset

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
CSI-ReportPeriodicityAndOffset ::= CHOICE {			
slots10	9		FR1_TDD
slots5	0		FR1_FDD
}			

PUCCH-CSI-Resource

Table 5.4.2.4-19: PUCCH-CSI-Resource

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
PUCCH-CSI-Resource ::= SEQUENCE {			
uplinkBandwidthPartId	BWP-id		FR1
pucch-Resource	8		FR1
}			

5.5 Common procedures for RF testing

5.5.1 Procedure to configure SCC for NR RF CA testing

5.5.1.1 Scope

The purpose of this procedure is to establish one or more SCC for NR CA testing.

5.5.1.2 Procedure description

5.5.1.2.1 Initial conditions

UE is operating in NR RRC_CONNECTED state on NR Cell 1 without any SCell configured.

System Simulator:

- SS configures the number of SCells used by the test case using NR parameters for NR Cell 2 for SCC1, NR Cell 3 for SCC2, NR Cell 4 for SCC3 etc. as specified in Table 4.4.2-2.
- System information combination NR-2 as defined in clause 4.4.3.1.2 is used in all NR cells.

5.5.1.2.2 Procedure sequence

Table 5.5.1.2.2-1: Procedure to configure SCC

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits an RRCReconfiguration message including sCellToAddModList with SCell addition for the SCC under test.	<--	NR RRC: RRCReconfiguration	-	-
2	The UE transmits an RRCReconfigurationComplete message.	-->	NR RRC: RRCReconfigurationComplete	-	-

5.5.1.2.3 Specific message contents

Table 5.5.1.2.3-1: RRCReconfiguration-SCell(n)

Derivation Path: Table 4.6.1-13 with condition SCell_add			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig-SCell(n)	n is number of SCC to be added.	
}			
}			
}			
}			

Table 5.5.1.2.3-2: CellGroupConfig-SCell(n) (Table 5.5.1.2.3-1)

Derivation Path: Table 4.6.3-19 with condition SCell_add			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
sCellToAddModList SEQUENCE (SIZE (1..maxNrofSCells)) OF SCellConfig {	n entries	n the number of SCC to be added	
SCellConfig[k, k=1..n] SEQUENCE {		entry (1..n)	
sCellIndex			
sCellConfigCommon	ServingCellConfigCommon with condition SCell_add		
}			
}			

5.5.2 Procedure to configure SCC for EN-DC RF CA testing

5.5.2.1 Scope

The purpose of this procedure is to establish one or more SCC for EN-DC CA testing.

5.5.2.2 Procedure description

5.5.2.2.1 Initial conditions

The UE is in RRC_CONNECTED state.

5.5.2.2.2 Procedure sequence

Table 5.5.2.2-1: Procedure to configure SCC

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits an <i>RRCCONNECTIONRECONFIGURATION</i> message using n.	<--	RRC: <i>RRCCONNECTIONRECONFIGURATION</i>	-	-
2	The UE transmits an <i>RRCCONNECTIONRECONFIGURATIONCOMPLETE</i> message.	-->	RRC: <i>RRCCONNECTIONRECONFIGURATIONCOMPLETE</i>	-	-
-	EXCEPTION: Steps 3a1 to 3a3 describe the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
3a1-3a3	IF E-UTRA SCC > 0, same as TS 36.508 [2] table 5.2A.4-1, steps 1-3.	-	-	-	-
Note 1: n > 0 in step 1.					

5.5.2.2.3 Specific message contents

Table 5.5.2.2.3-1: RRCReconfiguration (step 1, Table 5.5.2.2-1)

Derivation Path: Table 4.6.1-13 with condition EN-DC_SCell_add			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
secondaryCellGroup	CellGroupConfig (n)	n is number of SCC to be added.	
}			
}			
}			

Table 5.5.2.2.3-2: CellGroupConfig (n) (Table 5.5.2.2.3-1)

Derivation Path: Table 4.6.1-13 with condition SCell_add			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
sCellToAddModList SEQUENCE (SIZE (1..maxNrofSCells)) OF SCellConfig {	n entries	n is equal to the number of SCCs to be added	
SCellConfig[k, k=1..n]		entry (1..n)	
sCellIndex			
sCellConfigCommon	ServingCellConfigCommon with condition SCell_add		
sCellConfigDedicated	ServingCellConfig		
}			
}			
}			

6 Test environments for Signalling test

6.1 Requirements of test equipment

6.1.1 Requirements common for conducted and OTA tests

The requirements of test equipment specified in this subclause apply to Signalling test cases defined in TS 38.523-1 [12], in addition to the common requirements of test equipment specified in clause 4.2 of this specification.

Test equipment shall be able to simulate cells of Radio Access Technologies NR and E-UTRA, The number of cells to be simulated simultaneously by the test equipment shall not exceed the resources specified in Table 6.1-1

Table 6.1-1: Maximum resources in terms of number / configuration of cells to be simulated simultaneously in a test setup

Simulation of	Max. number of cells (NR)		Max. number of cells (E-UTRA)
	Conducted	OTA	
NR single-mode networks (FDD or TDD)	4 cells	FFS	n/a
NR dual-mode networks (FDD and TDD)	4 cells	FFS	n/a
NR networks involving Carrier Aggregation	4 cells	FFS	n/a
NR dual connectivity (NR-DC)	4 cells	FFS	n/a
NR dual connectivity (EN-DC)	4 cells	FFS	2 cells
NR dual connectivity (EN-DC) involving Carrier Aggregation	4 cells	FFS	2 cells
Mixed E-UTRA / NR networks	4 cells	FFS	2 cells
Note 1: No differentiation between cell configuration types (as defined in clause 6.3.1) here, because these types are only relevant to specific test cases and their TTCN-3 implementation.			
Note 2: Only network scenarios specified in clauses 4.4.1 and 6.3.2.1 have been covered.			
Note 3: In case of Carrier Aggregation, each cell can act as a SpCell, an SCell, or a standalone cell (not used as a CA component carrier).			
Note 4: In order to support test case requirements for conducted and OTA test methods, the number of active cells at any given time should be minimised in order to ensure maximum re use of SS Tx/Rx resources.			

Exceptions to the requirements outlined above are possible but need special evidence to be provided explicitly in the test case prose and should be allowed only if the test case purpose cannot be met otherwise.

Due to limited power level range for FR2 OTA test methods, when defining test cases requirements, care shall be taken to ensure that the number of active cells is minimised as this has an impact to have distinguishable power level difference. Cells that are used in initial parts of test cases and are no longer required for the rest of the procedure shall be clearly defined as Non-suitable "Off" cell to facilitate re use of SS Tx/Rx resources

6.1.2 Requirements for conducted test method

No requirements are specified in addition to the common requirements described in clause 4.2 and clause 6.1.1.

6.1.3 Requirements for OTA test method

6.1.3.1 General

Editor's Note: The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.

The DFF or IFF based OTA test methodologies, defined in Annex B.1 should be used for Signalling test.

NOTE: For single cell test cases, usage of NF test methodology is not precluded.

Clause 6.1.3.2 describes a sample OTA measurement test setup and clause 6.1.3.3 describes approaches to select a UE orientation.

For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled to account for single polarization System Simulator (SS) in the test environment. The UE under test may transmit with dual polarization. This approach also applies to calibration stage..

6.1.3.2 Sample OTA Measurement Test Setup

Please refer to Figure 6.1.3.2-1 for a sample OTA measurement test setup.

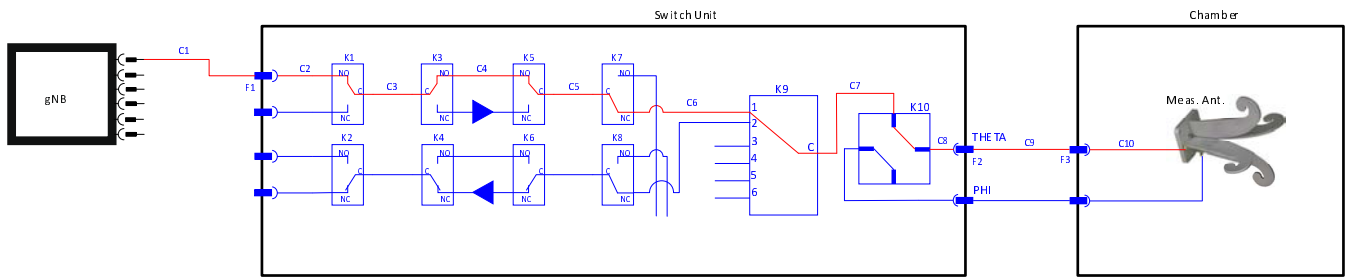


Figure 6.1.3.2-1: Sample OTA measurement setup

NOTE: Figure 6.1.3.2-1 is for illustrative purposes only.

For 5G NR signalling test cases, depending on the dynamic range of measurements the system complexity can be reduced. In the switch unit, as shown in Figure 6.1.3.2-1, the switches K7, K8, K9, K10 can be removed. The amplifier (PA/LNA) is optional. For the "single cell" and "multiple cell" test cases, the gNB emulator can be directly connected to the feed horn.

6.1.3.3 Procedure for selecting UE Orientation and for calibration

Set calibrated power level at the centre of the quiet zone for each polarization individually [FFS].

Before starting the test, the UE orientation with which the test system can provide a wide enough dynamic range to perform the test scenarios needs to be identified in order to obtain sufficient link budget.

The UE orientation can be determined by either of the approaches below:

- Approach 1: UE vendor declares the direction in which the measurement has to be made. In this case, the declaration confirms that the Rx Beam peak conditions in FR2 specified in TS 38.133 [13] Annex B are met
- Approach 2: Perform an Rx-beam peak search

For Approach 2 an Rx beam peak search needs to be performed as per the procedure in TS 38.521-2 [15] Annex K, which finds the direction in which Rx Beam peak conditions in FR2 specified in TS 38.133 [13] Annex B are met.

RSRP measurements can be configured by SS in X2NR meas configurations using FFS preambles in NSA (Ex - RRC_Connected with connectivity parameter E-UTRA with MCG Only bearer established and meas config enabled for event B1 (Ex-per TC 8.2.3.1.1 of TS 38.523-1)) and FFS preambles in SA modes.

When signal level calibrated with a reference antenna (only applicable to single-cell test cases without thresholds):

- The RSRP reported from the DUT is within $[\pm \text{FFSdB}]$ of expected RSRP mentioned in Table 6.2.2.2-1.

When signal level calibrated with the RSRP-based calibration:

- Before starting the tests, Rx-beam peak directions need to be determined using Approach 1 or Approach 2 above. Rx beam peak direction may depend on the operating band under test. If Rx-beam peak directions for all the operating bands required for test scenarios are identical, three different levels in Table 6.2.2.2-2 can be used in the test scenarios.
- Rx-beam peak directions are decided to be 'identical', if the detected beam peak positions are direct neighbours on the measurement grid.

If Rx-beam peak directions are identical:

1. Position the UE so that the Rx beam peak direction is aligned towards the measurement antenna.
2. Make the UE report SS-RSRP at each frequency used in the test scenarios, while setting the downlink SS power at the centre of the quiet zone to -82dBm/SCS. Here, the SS-RSRP reported levels are denoted as $P_{\text{RSRP}}(f)$.
3. Calculate 'Delta(NRf)' for each carrier frequency used in the test case, using the equation: $\text{Delta}(\text{NRf}) = P_{\text{RSRP}}(f) + 82$.

6.1.3.4 Handling of Thresholds

Where a threshold value is specified in the test case (value identified as $TH_{\text{test case}}$) it is signalled to the UE with a value TH_{sig} according to table 6.1.3.4-1.

Table 6.1.3.4-1: Handling of signalled threshold values

Type of Threshold	Signalled value	Comment
Absolute	$TH_{\text{sig}}(f) = TH_{\text{test case}} + \Delta(NRf)$	$\Delta(NRf)$ value according to the frequency of the cell being compared to the threshold
Relative, intra-frequency	$TH_{\text{sig}}(f) = TH_{\text{test case}}$	
Relative, inter-frequency	$a3\text{-Offset}_{\text{sig}} = a3\text{-Offset}_{\text{test case}} + \Delta(NRf_n) - \Delta(NRf_p)$	$\Delta(NRf_p)$ is the Delta value for the SpCell frequency $\Delta(NRf_n)$ is the Delta value for the neighbour cell frequency
Relative, inter-frequency, Event A6	$a6\text{-Offset}_{\text{sig}} = a6\text{-Offset}_{\text{test case}} + \Delta(NRf_n) - \Delta(NRf_s)$	$\Delta(NRf_s)$ is the Delta value for the SCell frequency $\Delta(NRf_n)$ is the Delta value for the neighbour cell frequency

6.1.4 Requirements for timer tolerances

The timer tolerances specified for the test environment in this subclause apply to all Signalling test cases defined in TS 38.523-1 [12] unless otherwise specified.

All the timers used during testing are within a tolerance margin given by the equation below. If for a specific test a different tolerance value is required, then this should be specified in the relevant test document (i.e. the document where the test is described).

Timer tolerance = 10%.

6.2 Reference test conditions

6.2.1 Physical Channel Allocations

6.2.1.1 Antennas

If the UE has two or more Rx antennas, the same downlink signal is applied to each one, except if MIMO is tested. All UE Rx antennas shall be connected.

If the UE has one Rx antenna, the downlink signal is applied to it.

6.2.1.2 Downlink physical channels and physical signals

In general for signalling test cases the power allocation for downlink physical channels and signals is specified in relation to a reference cell power.

Unless specifically specified otherwise in a signalling test case prose, all cells use only one beam.

In case of only one beam per cell this reference cell power is the EPRE of the secondary synchronization signal (SSS) and referred to as “SS/PBCH SSS EPRE”.

In case of more than one beam per cell the power levels of the different SS/PBCH blocks may be different what makes it difficult to specify the EPREs of other physical channels and signals relative to the EPRE of any SSS. Therefore for multiple beams test cases the power levels are specified relative to the reference cell power.

For single beam per cell test cases the power allocation of downlink physical channels for signalling test cases is specified in table 6.2.1.2-1, for multiple beams per cell test cases the power allocation is specified in table 6.2.1.2-2.

Table 6.2.1.2-1: Power allocation for OFDM symbols and reference signals for signalling test cases (single beam)

Parameter	Unit	Value	Comment
SSS transmit power	dBm/SCS	Test specific (Note 1)	referred to as "SS/PBCH SSS EPRE"
EPRE ratio of PSS to SSS	dB	0	
EPRE ratio of PBCH DMRS to SSS	dB	0	
EPRE ratio of PBCH to PBCH DMRS	dB	0	
EPRE ratio of PDCCH DMRS to SSS	dB	0	
EPRE ratio of PDCCH to PDCCH DMRS	dB	0	
EPRE ratio of PDSCH DMRS to SSS	dB	0	
EPRE ratio of PDSCH to PDSCH DMRS	dB	-3	To reduce interference from PDSCH of intra-frequency neighbour cells.
EPRE ratio of PTRS to PDSCH	dB	3	i.e. the EPRE ratio of PTRS to SSS is 0dB

Note 1: Power level chosen to align with cell power level as specified in clause 6.2.2.

Table 6.2.1.2-2: Power allocation for OFDM symbols and reference signals for signalling test cases (multiple beam)

Parameter	Unit	Value	Comment
Reference cell power $EPRE_{CellRef}$	dBm/SCS	Test specific (Note 1)	
EPRE ratio of $SSS_{SSB\#N}$ to $EPRE_{CellRef}$	dB	Test specific (Note 2)	power of SSS within SSB with index N
EPRE ratio of $PSS_{SSB\#N}$ to $SSS_{SSB\#N}$	dB	0	power of PSS within SSB with index N
EPRE ratio of $PBCH\ DMRS_{SSB\#N}$ to $SSS_{SSB\#N}$	dB	0	power of PBCH DMRS within SSB with index N
EPRE ratio of $PBCH_{SSB\#N}$ to $PBCH\ DMRS_{SSB\#N}$	dB	0	power of PBCH within SSB with index N
EPRE ratio of PDCCH DMRS to $EPRE_{CellRef}$	dB	0	(Note 3)
EPRE ratio of PDCCH to PDCCH DMRS	dB	0	
EPRE ratio of PDSCH DMRS to $EPRE_{CellRef}$	dB	0	(Note 3)
EPRE ratio of PDSCH to PDSCH DMRS	dB	-3	To reduce interference from PDSCH of intra-frequency neighbour cells.
EPRE ratio of PTRS to PDSCH	dB	3	i.e. the EPRE ratio of PTRS to $EPRE_{CellRef}$ is 0dB
EPRE ratio of $CSI-RS_N$ to $EPRE_{CellRef}$	dB	Test specific (Note 2)	power of CSI-RS with index N; CSI-RS configured if required by a test case in TS 38.523-1 [12]

Note 1: Power level chosen to align with cell power level as specified in clause 6.2.2.

Note 2: Test cases may specify "OFF" in which case the attenuation shall result in an absolute EPRE value being equal or less than the power level specified for a non-suitable "Off" cell in clause 6.2.2.

Note 3: In general the UE cannot distinguish from which beam DL data is sent $\Rightarrow$ PDCCH and PDSCH are considered as cell specific rather than beam specific.

6.2.2 Signal levels

6.2.2.1 Signal Levels for conducted testing

For NR FR1 cell, the downlink power settings in Table 6.2.2.1-1 and 6.2.2.1-2 are used unless otherwise specified in a test case.

Table 6.2.2.1-1: Default Downlink power levels for FR1 NR cell (5MHz – 25MHz)

	SCS(kHz)	Unit	Channel bandwidth				
			5MHz	10MHz	15MHz	20MHz	25MHz
Channel BW Power	15	dBm	-63	-60	-58	-57	-56
	30	dBm	-67	-63	-61	-60	-59
	60	dBm	N/A	-67	-65	-63	-62
SS/PBCH SSS EPRE	All	dBm/SCS (Note 3)	-88	-88	-88	-88	-88
Note 1: The channel bandwidth powers are informative, based on -88 dBm/ SCS(SubCarrier Spacing) SS/PBCH SSS EPRE, then scaled according to the number of RBs and rounded to the nearest integer dBm value. Full RE allocation with no boost or deboost is assumed. Note 2: The power level is specified at each UE Rx antenna. Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with the same power spectrum density of -88 dBm/SCS(SubCarrier Spacing).							

Table 6.2.2.1-2: Default Downlink power levels for FR1 NR cell (30MHz – 100MHz)

	SCS(kHz)	Unit	Channel bandwidth						
			30MHz	40MHz	50MHz	60MHz	80MHz	90MHz	100MHz
Channel BW Power	15	dBm	-55	-54	-53	N/A	N/A	N/A	N/A
	30	dBm	-58	-57	-56	-55	-54	-53	-53
	60	dBm	-61	-60	-59	-58	-57	-56	-56
SS/PBCH SSS EPRE	All	dBm/SCS (Note 3)	-88	-88	-88	-88	-88	-88	-88
Note 1: The channel bandwidth powers are informative, based on -88dBm/SCS(SubCarrier Spacing) SS/PBCH SSS EPRE, then scaled according to the number of RBs and rounded to the nearest integer dBm value. Full RE allocation with no boost or deboost is assumed. Note 2: The power level is specified at each UE Rx antenna. Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with a power spectrum density of -88dBm/SCS(SubCarrier Spacing).									

With simultaneous transmission of 24 RBs, a maximum of -78dBm/SCS SS/PBCH SSS EPRE can be allocated as cell power level.

The default settings of suitable cells and non-suitable cells for NR are specified in table 6.2.2.1-3.

Cells which are expected to be undetectable for UE under test shall fulfil the condition of non-suitable "Off" cell in table 6.2.2.1-3.

Table 6.2.2.1-3: Default settings of suitable / non-suitable cells

Power level type	NR (Note 1-3)		E-UTRAN
	Unit	Power level	
Serving cell	dBm/SCS	-88	Table 6.2.2.1-1 [2]
Suitable neighbour intra-frequency cell	dBm/SCS	-94	Table 6.2.2.1-1 [2]
Suitable neighbour inter-frequency cell	dBm/SCS	-99	Table 6.2.2.1-1 [2]
Non-suitable cell	dBm/SCS	-115	Table 6.2.2.1-1 [2]
Non-suitable "Off" cell	dBm/SCS	≤ -145	Table 6.2.2.1-1 [2]
Note 1: The power level is specified in terms of SS/PBCH SSS EPRE instead of RSRP as RSRP is a measured value and cannot be directly controlled by the Full RE allocation with no boost or deboost is assumed. SS. Note 2: The power level is specified at each UE Rx antenna. Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with the same power spectrum density of -88dBm/SCS. Note 4: The default settings assume that the UE is making relative measurements of neighbour cells compared to the serving cell.			

The default signal level uncertainty is specified in table 6.2.2.1-4 for any level specified, unless a tighter uncertainty is specified by a test case in TS 38.523-1 [12].

Table 6.2.2.1-4: SS signal level uncertainty

	Absolute signal level uncertainty for each cell	Relative signal level uncertainty between multiple cells
Intra-frequency	+/-3 dB at each test port	+/-3 dB
Inter-frequency	+/-3 dB at each test port	See Note 1
Note 1: For Inter-frequency cells the relative signal level uncertainty between multiple cells is determined by the absolute uncertainty of each cell, and does not have any additional constraint.		

SS/PBCH SSS EPRE setting should be equal to or higher than -115 dBm except for Non-suitable "Off" cell. The figure is chosen to ensure that for all bands the DL signal is within the RSRP measurement range specified in TS 38.133 [13], taking into account the SS default absolute signal level uncertainty.

NOTE: (The power spectral density of a white noise source; specified in TS 38.133 [13]) can be assumed to be -Infinity [dBm/SCS] for all intra and inter frequency test cases. It is applicable to both idle mode and connected mode in TS 38.523-1 [12], unless otherwise specified in specific test cases.

6.2.2.1.1 Measurement accuracy and side conditions

RSRP measurement accuracy in RRC_CONNECTED state is specified in table 6.2.2.1.1-1, derived from TS 38.133 [13] clauses 10.1.2 and 10.1.4 selecting Normal condition with maximum I_0 less than -50 dBm/BW_{Channel}. The ranges and side conditions in TS 38.133 [13] clauses 10.1.2 and 10.1.4 apply. This measurement accuracy is applicable to connected mode test cases specified in TS 38.523-1 [12]. For the serving cell and suitable neighbour cells, the following side conditions shall be satisfied including the effect of signal level uncertainty.

- RSRP $\geq$ -124 dBm
- RSRP $\hat{E}_s/I_{ot} >$ -6 dB
- I_0 : 117.5 dBm/SCS for 15kHz SCS and -114.5 dBm/SCS for 15kHz SCS dBm/SCS ... -50 dBm/BWChannel (for absolute and relative RSRP measurement accuracy).

RSRP measurement accuracy in RRC_CONNECTED state is specified in table 6.2.2.1.1-1, derived from TS 38.133 [13] clauses 10.1.2 and 10.1.4 selecting Normal condition.

Table 6.2.2.1.1-1: RSRP measurement accuracy in RRC_CONNECTED state

	Absolute RSRP measurement accuracy	Relative RSRP measurement accuracy
Intra-frequency	+/-8 dB	+/-3 dB
Inter-frequency	+/-8 dB	+/-4.5 dB

6.2.2.2 Signal Levels for OTA testing

Editor's Note: It is FFS whether some or all of the restrictions listed in the working assumptions below will be removed.

The power levels defined in this clause are based on the following assumptions:

- No more than one E-UTRA cell is configured in the test case and this E-UTRA cell uses an uncalibrated OTA link with no power level change.
- No more than one NR FR1 cell is configured in the test case and this NR FR1 cell uses an uncalibrated OTA link with no power level change.
- AWGN is not configured in the test case

For NR FR2 cell, the downlink power settings in Table 6.2.2.2-1 are used unless otherwise specified in a test case.

Table 6.2.2.2-1: Default Downlink power levels for FR2 NR cell (50MHz - 400MHz)

	SCS(kHz)	Unit	Channel bandwidth			
			50MHz	100MHz	200MHz	400MHz
Channel BW Power	60	dBm	FFS	FFS	FFS	FFS
	120	dBm	-57	-57	-57	-57
SS/PBCH SSS EPRE	All	dBm/SCS	-82	-82	-82	-82
Note 1: The channel bandwidth powers are informative, based on -82 dBm/SCS SS/PBCH SSS EPRE, then scaled according to the number of RBs and rounded to the nearest integer dBm value. A maximum RE allocation of 24 simultaneously transmitted RBs with no boost or deboost is assumed.						
Note 2: The power level is specified at the centre of quiet zone.						

The default settings of suitable cells and non-suitable cells for NR FR2 are specified in table 6.2.2.2-2.

NR FR2 cells which are expected to be undetectable for UE under test shall fulfil the condition of non-suitable "Off" cell in table 6.2.2.2-2.

Table 6.2.2.2-2: Default settings of suitable / non-suitable FR2 NR cells

Power level type	NR (Note 1-3)	
	Unit	Power level
Serving cell	dBm/SCS	-82
Suitable neighbour intra-frequency cell	dBm/SCS	-91
Suitable neighbour inter-frequency cell	dBm/SCS	-91
Non-suitable cell	dBm/SCS	-100
Non-suitable "Off" cell	dBm/SCS	≤-139
Note 1: The power level is specified in terms of SS/PBCH SSS EPRE instead of RSRP as RSRP is a measured value and cannot be directly controlled by the SS.		
Note 2: The power level is specified at the centre of quiet zone.		
Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with the same power spectrum density in dBm/SCS (SubCarrier Spacing).		

For E-UTRA cell with FR2 NR, since the LTE OTA link is uncalibrated in the signalling test setup, the table 6.2.2.2-3 provides only suggestive value. It is left to the TE vendor to ensure that LTE cell power level fulfils the cell selection criteria.

Table 6.2.2.2-3: Default Downlink power levels for E-UTRA cells with NR FR2

	Unit	Channel bandwidth					
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
Number of RBs		6	15	25	50	75	100
Channel BW Power	dBm	-77	-73	-71	-68	-66	-65
RS EPRE	dBm/15kHz	-96	-96	-96	-96	-96	-96
Note 1: The channel bandwidth powers are informative, based on -96 dBm/15kHz RS_EPRES, then scaled according to the number of RBs and rounded to the nearest integer dBm value. Full RE allocation with no boost or deboost is assumed.							
Note 2: The power level is specified at the centre of quiet zone.							

The default settings of suitable cells and non-suitable cells for E-UTRA with FR2 NR are specified in table 6.2.2.2-4.

E-UTRA Cells with FR2 NR which are expected to be undetectable for UE under test shall fulfil the condition of non-suitable "Off" cell in table 6.2.2.2-4.

Table 6.2.2.2-4: Default settings of suitable / non-suitable E-UTRA cells with NR FR2

Power level type	E-UTRAN (Note 1-2)	
	Unit	Power level
Serving cell	dBm/15KHz	-96
Suitable neighbour intra-frequency cell	dBm/15KHz	TBD
Suitable neighbour inter-frequency cell	dBm/15KHz	TBD
Non-suitable cell	dBm/15KHz	TBD
Non-suitable "Off" cell	dBm/15KHz	TBD
Note 1: The power level is specified in terms of cell-specific RS EPRE instead of RSRP as RSRP is a measured value and cannot be directly controlled by the SS.		
Note 2: The power level is specified at the centre of quiet zone.		

The Test system default signal level uncertainty is specified in tables 6.2.2.2-5 and 6.2.2.2-6 for any level specified, unless a tighter uncertainty is specified by a test case in TS 38.523-1 [12].

Table 6.2.2.2-5: SS Absolute FR2 NR signal level uncertainty

	Absolute signal level uncertainty
At each frequency	+/-6 dB at centre of the quiet zone

Table 6.2.2.2-6: SS Relative FR2 NR signal level uncertainty

	Relative signal level uncertainty between any two SS EPRE levels at the same frequency
At each frequency	+/-2.0 dB

For NR cell in FR1 with FR2 NR, since the NR FR1 OTA link is uncalibrated in the signalling test setup, -88dBm/SCS should be applied as defined in the table 6.2.2.1-1 and table 6.2.2.1-2. -88dBm/SCS is suggested value and it is left to the TE vendor to ensure that NR cell power level fulfils the cell selection criteria.

The default settings of suitable cells and non-suitable cells for NR in FR1 with FR2 NR are specified in table 6.2.2.2-7.

NR Cells in FR1 with FR2 NR which are expected to be undetectable for UE under test shall fulfil the condition of non-suitable "Off" cell in table 6.2.2.2-7.

Table 6.2.2.2-7: Default settings of suitable / non-suitable NR cells in FR1 with NR FR2

Power level type	NR (Note 1-2)	
	Unit	Power level
Serving cell	dBm/SCS	-88
Suitable neighbour intra-frequency cell	dBm/SCS	TBD
Suitable neighbour inter-frequency cell	dBm/SCS	TBD
Non-suitable cell	dBm/SCS	TBD
Non-suitable "Off" cell	dBm/SCS	TBD
Note 1: The power level is specified in terms of SS/PBCH SSS EPRE instead of RSRP as RSRP is a measured value and cannot be directly controlled by the SS.		
Note 2: The power level is specified at the centre of quiet zone.		

6.2.3 Default test frequencies

Editor's note: For FR2 test frequencies using 100 MHz default channel bandwidth it is FFS if 100MHz channel bandwidth can be used for FR2 multicell protocol testing.

6.2.3.1 Test frequencies for NR standalone signalling testing

The default channel bandwidth for signalling test is specified per NR band. The test frequencies are defined so that no frequency overlapping takes place, in order to avoid unnecessary inter-frequency interference.

For signalling test cases, the mapping of frequency ranges to NR test frequencies are as follows:

- for band with only one test frequency (e.g. n51): Low Range (NRf1);
- for band with up to two test frequencies: Low Range (NRf1) and High Range (NRf2);
- for band with up to three test frequencies: Low Range (NRf1), Mid Range (NRf2) and High Range (NRf3);
- for band with up to four test frequencies: Low Range (NRf1), Mid Low Range (NRf2), Mid High Range (NRf3) and High Range (NRf4);

The signalling test frequencies NRf5, NRf6, NRf7 are mapped respectively as NRf1, NRf2, NRf3 on the operating band for inter-band.

The test frequencies, subcarrier spacing, default channel bandwidth, SS/PBCH block and CORESET#0 parameters for signalling is specified in Table 6.2.3.1-1 (FDD FR1 BW 5MHz), Table 6.2.3.1-2 (FDD FR1 BW 10MHz), Table 6.2.3.1-3 (TDD FR1 BW 5MHz), Table 6.2.3.1-4 (TDD FR1 BW 10MHz), Table 6.2.3.1-4A (TDD FR1 BW 60MHz), Table 6.2.3.1-5 (TDD FR1 BW 100MHz), Table 6.2.3.1-6 (TDD FR2 BW 100MHz) and Table 6.2.3.1-7 (NR FDD FR1 SUL bands).

Table 6.2.3.1-1: Test frequencies for NR FDD FR1 bands using 5 MHz channel bandwidth

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA[ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n5	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.15 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	878.2	175640	873.79	174758	12	15	2197	175730	0	1	2 (4)	17
					Mid-High	884.8	176960	878.23	175646	24		2212	176930	8	1	0 (0)	25
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.5 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	833.2	166640	824.47	164894	36	-	-	-	-	-	-	-
					Mid-High	839.8	167960	817.03	163406	114	-	-	-	-	-	-	-
n8	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.8 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	937.5	187500	933.09	186618	12	15	2343	187470	8	1	0 (0)	13
					Mid-High	947.5	189500	940.93	188186	24		2368	189410	0	0	0 (0)	24
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.8 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	892.5	178500	883.77	176754	36	-	-	-	-	-	-	-
					Mid-High	902.5	180500	879.73	175946	114	-	-	-	-	-	-	-
n12	15	5	25	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.12 for bandwidth=5 MHz and SCS=15 kHz.											
				Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.12 for bandwidth=5 MHz and SCS=15 kHz.											
n14	15	5	25	Downlink Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.14 for bandwidth=5 MHz and SCS=15 kHz.											
					Low, High	Same values as for Low and High range in clause 4.3.1.1.1.14 for bandwidth=5 MHz and SCS=15 kHz.											
n20	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.20 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	801.8	160360	797.39	159478	12	15	2003	160330	8	1	0 (0)	13
					Mid-High	810.2	162040	803.63	160726	24		2024	162010	8	1	0 (0)	25
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.20 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	842.8	168560	834.07	166814	36	-	-	-	-	-	-	-
					Mid-High	851.2	170240	828.43	165686	114	-	-	-	-	-	-	-
n26	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.26 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	871.5	174300	867.09	173418	12	15	2178	174270	8	1	0 (0)	13
					Mid-High	881.5	176300	874.93	174986	24		2203	176210	0	0	0 (0)	24
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.26 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	826.5	165300	817.77	163554	36	-	-	-	-	-	-	-
					Mid-High	836.5	167300	813.73	162746	114	-	-	-	-	-	-	-
n29	15	5	25	Downlink (SDL)	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.29 for bandwidth=5 MHz and SCS=15 kHz.											
n30	15	5	25	Downlink Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.30 for bandwidth=5 MHz and SCS=15 kHz.											
					Low, High	Same values as for Low and High range in clause 4.3.1.1.1.30 for bandwidth=5 MHz and SCS=15 kHz.											

n70	15	5	25	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.70 for DL bandwidth=5 MHz, UL bandwidth=5 MHz and SCS=15 kHz.											
				Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.70 for DL bandwidth=5 MHz, UL bandwidth=5 MHz and SCS=15 kHz.											
n71	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.71 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	629.5	125900	625.09	125018	12	15	1573	125810	0	0	0 (0)	12
					Mid-High	639.5	127900	632.93	126586	24		1598	127930	4	1	1 (2)	27
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.71 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	675.5	135100	666.77	133354	36	-	-	-	-	-	-	-
					Mid-High	685.5	137100	662.73	132546	114	-	-	-	-	-	-	-
n76	15	5	25	Downlink (SDL)	Low	Same values as for Low range in clause 4.3.1.1.1.76 for bandwidth=5 MHz and SCS=15 kHz.											
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 6.2.3.1-2: Test frequencies for NR FDD FR1 bands using 10 MHz channel bandwidth

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFreque ncyPoin tA[ARF CN]	offsetTo Carrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k _{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
n1	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.1 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2131.7	426340	2124.86	424972	12	15	5321	425770	2	0	0 (0)	12
					Mid-High	2148.3	429660	2139.3	427860	24		5364	429150	10	1	0 (0)	25
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.1 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1941.7	388340	1930.54	386108	36	-	-	-	-	-	-	-
					Mid-High	1958.3	391660	1933.1	386620	114	-	-	-	-	-	-	-
n2	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1951.7	390340	1944.86	388972	12	15	4871	389770	2	0	0 (0)	12
					Mid-High	1968.3	393660	1959.3	391860	24		4914	393150	10	1	0 (0)	25
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1871.7	374340	1860.54	372108	36	-	-	-	-	-	-	-
					Mid-High	1888.3	377660	1863.1	372620	114	-	-	-	-	-	-	-
n3	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.3 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1831.7	366340	1824.86	364972	12	15	4571	365770	2	0	0 (0)	12
					Mid-High	1853.3	370660	1844.3	368860	24		4625	370090	2	0	0 (0)	24
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.3 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1736.7	347340	1725.54	345108	36	-	-	-	-	-	-	-
					Mid-High	1758.3	351660	1733.1	346620	114	-	-	-	-	-	-	-
n7	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.7 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2645	529000	2638.16	527632	12	15	6605	528490	10	1	0 (0)	13
					Mid-High	2665	533000	2656	531200	24		6658	532610	2	1	2 (4)	29
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.7 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2525	505000	2513.84	502768	36	-	-	-	-	-	-	-
					Mid-High	2545	509000	2519.8	503960	114	-	-	-	-	-	-	-
n25	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.25 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1953.3	390660	1946.46	389292	12	15	4878	390270	2	1	2 (4)	17
					Mid-High	1971.7	394340	1962.7	392540	24		4924	393890	6	1	1 (2)	27
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.25 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1873.3	374660	1862.14	372428	36	-	-	-	-	-	-	-
					Mid-High	1891.7	378340	1866.5	373300	114	-	-	-	-	-	-	-
n28	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.28 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	774.7	154940	767.86	153572	12	15	1930	154370	2	0	0 (0)	12
					Mid-High	786.3	157260	777.3	155460	24		1959	156750	10	1	0 (0)	25
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.28 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	719.7	143940	708.54	141708	36	-	-	-	-	-	-	-
					Mid-High	731.3	146260	706.1	141220	114	-	-	-	-	-	-	-

n65	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.65 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2141.7	428340	2134.86	426972	12	15	5349	427950	2	1	2 (4)	17
					Mid-High	2168.3	433660	2159.3	431860	24		5414	433210	6	1	1 (2)	27
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.65 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1951.7	390340	1940.54	388108	36	-	-	-	-	-	-	-
					Mid-High	1978.3	395660	1953.1	390620	114	-	-	-	-	-	-	-
n66	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.66 for DL bandwidth=10 MHz, UL bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2141.7	428340	2134.86	426972	12	15	5349	427950	2	1	2 (4)	17
					Mid-High	2168.3	433660	2159.3	431860	24		5414	433210	6	1	1 (2)	27
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.66 for DL bandwidth=10 MHz, UL bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1741.7	348340	1730.54	346108	36	-	-	-	-	-	-	-
					Mid-High	1768.3	353660	1743.1	348620	114	-	-	-	-	-	-	-
n74	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.74 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	1491	298200	1484.16	296832	12	15	3720	297630	2	0	0 (0)	12
					Mid-High	1502	300400	1493	298600	24		3749	300010	2	1	2 (4)	29
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.74 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	1443	288600	1431.84	286368	36	-	-	-	-	-	-	-
					Mid-High	1454	290800	1428.8	285760	114	-	-	-	-	-	-	-
n75	15	10	52	Downlink (SDL) Note 2	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.75 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1462	292400	1455.16	291032	12	15	-	291824	31	-	0	-
					Mid-High	1487	297400	1478	295600	24		-	296824	31	-	0	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	
Note 2: FR1 carrier without any coreset is indicated in the MIB by setting $k_{SSB}=31$, controlResourceSetZero=0 and searchSpaceZero = 0 (TS 38.213 [22], clause 13).																	

Table 6.2.3.1-3: Test frequencies for NR TDD FR1 bands using 5 MHz channel bandwidth

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs]	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n34	15	5	25	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.12 for bandwidth=5 MHz and SCS=15 kHz.											
n51	15	5	25	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.51 for bandwidth=5 MHz and SCS=15 kHz.											
n53	15	5	25	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.53 for bandwidth=5 MHz and SCS=15 kHz.											

Table 6.2.3.1-4: Test frequencies for NR TDD FR1 bands using 10 MHz channel bandwidth

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolut eFreque ncyPoin tA[ARF CN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
n38	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.38 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2588.3	517660	2581.46	516292	12	30	6470	517690	10	0	1 (6)	18
					Mid-High	2601.7	520340	2592.7	518540	24		6505	520370	10	0	1 (6)	30
n39	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.39 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1895	379000	1888.16	377632	12	30	4736	378970	2	3	0 (2)	17
					Mid-High	1905	381000	1896	379200	24		4761	380910	6	1	0 (2)	27
n40	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.40 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2335	467000	2328.16	465632	12	30	5839	467090	6	2	1 (6)	20
					Mid-High	2365	473000	2356	471200	24		5914	473090	6	2	1 (6)	32
n48	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.48 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	3601.665	640111	3594.825	639655	12	30	7917	640128	5	1	1 (6)	19
					Mid-High	3648.33	643222	3639.33	642622	24		7949	643200	2	2	0 (2)	28
n50	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.50 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1462	292400	1455.16	291032	12	30	3655	292370	2	3	0 (2)	17
					Mid-High	1487	297400	1478	295600	24		3716	297370	2	3	0 (2)	29
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22] for all bands in the table. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 6.2.3.1-4A: Test frequencies for NR TDD FR1 bands using 60 MHz channel bandwidth

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA[ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n41	30	60	162	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.41 for bandwidth=60 MHz and SCS=30 kHz.											

Table 6.2.3.1-5: Test frequencies for NR TDD FR1 bands using 100 MHz channel bandwidth

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequencyPointA[ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequencySSB [ARFCN]	k _{SSB}	Offset Carrier CORESET#0 [RBs]	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n77	30	100	273	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.77 for bandwidth=100 MHz and SCS=30 kHz.											
					Mid-Low	3616.68	641112	3563.22	637548	12	30	7896	638112	12	0	1 (1)	26
					Mid-High	3883.32	658888	3825.54	655036	24		8081	655872	20	0	0 (0)	48
n78	30	100	273	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.78 for bandwidth=100 MHz and SCS=30 kHz.											
					Mid-Low	3483.33	632222	3429.87	628658	12	30	7804	629280	22	0	3 (3)	30
					Mid-High	3616.68	641112	3558.9	637260	24		7896	638112	12	0	1 (1)	50
n79	30	100	273	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.79 for bandwidth=100 MHz and SCS=30 kHz.											
					Mid-Low	4616.67	707778	4563.21	704214	12	30	8592	704928	18	6	1 (4)	38
					Mid-High	4783.35	718890	4725.57	715038	24		8720	717216	18	54	1 (4)	160
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22] for all bands in the table except for band n79 where Table 13-6 apply. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 6.2.3.1-6: Test frequencies for NR TDD FR2 bands using 100 MHz channel bandwidth

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF re quency PointA[A RFCN]	offsetTo Carrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF re quency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs]) Note 1	offsetToP ointA (SIB1) [PRBs] Note 1
n257	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	27516.6	2071109	27451.8	2070029	12	120	22444	2070811	7	6	1 (4)	44
					Mid-High	28483.32	2087221	28401.24	2085853	24		22500	2086939	3	7	1 (4)	70
n258	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	25350	2034999	25285.2	2033919	12	120	22318	2034523	2	3	0 (0)	30
					Mid-High	26400	2052499	26317.92	2051131	24		22379	2052091	0	2	1 (4)	60
n259	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.3 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	40850.04	2293333	40785.24	2292253	12	120	23215	2292859	3	3	0 (0)	30
					Mid-High	42150	2314999	42067.92	2313631	24		23290	2314459	6	0	0 (0)	48
n260	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	38016.6	2246109	37951.8	2245029	12	120	23051	2245627	11	2	0 (0)	28
					Mid-High	38983.32	2262221	38901.24	2260853	24		23107	2261755	7	3	0 (0)	54
n261	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	27800.04	2075833	27735.24	2074753	12	120	22460	2075419	9	1	1 (4)	34
					Mid-High	28050	2079999	27967.92	2078631	24		22474	2079451	2	0	0 (0)	48
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 6.2.3.1-7: Test frequencies for NR FDD FR1 SUL bands

NR Band	SCS [kHz]	CBW [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	AbsoluteFrequencyPointA [ARFCN]	offsetToCarrier [Carrier PRBs]
n80	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.80-1 for bandwidth=10 MHz and SCS=15 kHz.				
n81	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.81-1 for bandwidth=10 MHz and SCS=15 kHz.				
n82	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.82-1 for bandwidth=10 MHz and SCS=15 kHz.				
n83	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.83-1 for bandwidth=10 MHz and SCS=15 kHz.				
n84	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.84-1 for bandwidth=10 MHz and SCS=15 kHz.				
n86	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.86-1 for bandwidth=10 MHz and SCS=15 kHz.				

6.2.3.2 Test frequencies for EN-DC band combinations for signalling testing

6.2.3.2.1 General

The default channel bandwidths for EN-DC signalling test are specified per NR and E-UTRA band. The test frequencies are defined so that no frequency overlapping takes place, in order to avoid unnecessary inter-frequency interference.

6.2.3.2.2 E-UTRA 1CC and NR 1CC

For EN-DC Inter-band case with E-UTRA 1CC and NR 1CC (one E-UTRA band and one NR band) the EN-DC configurations are specified in clause 4.3.1.4.1.2 for EN-DC with NR FR1 and 4.3.1.5.1.2 for EN-DC with NR FR2.

The E-UTRA and NR test frequencies are specified in TS 36.508 [2], clause 6.2.3.1 for the E-UTRA band (E-UTRA f1, f2, f3 and f4); and in clause 6.2.3.1 for the NR band (NRf1, NRf2, NRf3, NRf4) and for the secondary NR band (NRf5, NRf6, NRf7) of the secondary EN-DC inter-band configuration.

For EN-DC Intra-band Contiguous case with E-UTRA 1CC and NR 1CC the EN-DC configurations and the test frequencies are specified in Table 6.2.3.2-1.

For EN-DC Intra-band Non-Contiguous with E-UTRA 1CC and NR 1CC case the EN-DC configurations and test frequencies are specified in Table 6.2.3.2-2.

For EN-DC Intra-Band Contiguous and EN-DC Intra-Band Non-Contiguous cases with E-UTRA 1CC and NR 1CC the mapping of frequency ranges to NR test frequencies NRf1, NRf2, NRf3, and NRf4 to PSCell; and to E-UTRA test frequencies f1, f2, f3, and f4 for PCell are as follows:

- for band combinations with only one test frequency: Low Range (NRf1, f1);
- for band combinations with up to two frequencies: Low Range (NRf1, f1), High Range (NRf2, f2);
- for band combinations with up to three frequencies: Mid Range (NRf3, f3), Low Range (NRf1, f1) and High Range (NRf2, f2);
- for band combinations with up to four frequencies: Mid-Low Range (NRf3, f3), High Range (NRf2, f2), Low Range (NRf1, f1) and Mid-High Range (NRf4, f4).

Table 6.2.3.2.2-1: Test frequencies for EN-DC Intra-band Contiguous configurations with E-UTRA 1CC and NR 1CC

EN-DC channel bandwidth combination	CC	Band width [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs])	offsetToPointA (SIB1) [PRBs]
DC_(n)41AA	E-UTRA CC1	20	100	Downlink & Uplink	Low, High	Same values as for Low and High range values in Table 4.3.1.4.2.41.1-2 (SCS 30 kHz, 30 kHz NR raster and NR CC at the band edges) and EN-DC channel bandwidth combination “E-UTRA: 20MHz + NR: 60MHz”.											
	NR CC1	60	162	Downlink & Uplink	Low, High												
DC_(n)71AA	E-UTRA CC1	5	25	Downlink	Low, Mid, High	Same values as for Low, Mid and High range values in Table 4.3.1.4.2.71.1-1 (SCS 15 kHz, 100 kHz NR raster and NR CC at the band edges) and EN-DC channel bandwidth combination “E-UTRA: 5MHz + NR: 5MHz”.											
				Uplink	Low, Mid, High												
	NR	5	25	Downlink	Low, Mid, High												
	CC1			Uplink	Low, Mid, High												

Table 6.2.3.2.2-2: Test frequencies for EN-DC Intra-Band Non-Contiguous configurations with E-UTRA 1CC and NR 1CC

EN-DC channel bandwidth combination	CC	Band width [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteFrequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteFrequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs])	offsetToPointA (SIB1) [PRBs]
DC_41A_n41A	E-UTRA CC1	20	100	Downlink & Uplink	Low	Same values as for Test Frequency ID = "Low with maxWgap (NR – E-UTRA)" in Table 4.3.1.4.41.1-1 with NR SCS=30 kHz and CBW=60MHz; and E-UTRA CBW=20 MHz.											
	NR CC1	60	162	Downlink & Uplink	Low												

6.2.3.2.3 E-UTRA 1CC and NR CA 2CC

For EN-DC Inter-band case with E-UTRA 1CC and NR CA 2CC the EN-DC configurations are specified in clauses 4.3.1.4.1.2 (two bands) and 4.3.1.4.1.3 (three bands) for EN-DC and NR CA 2CC with FR1 bands, 4.3.1.5.1.2 (two bands) and 4.3.1.5.1.3 (three bands) for EN-DC with NR CA 2CC with FR2 bands and 4.3.1.6.1.2 for EN-DC and NR CA 2CC with FR1 and FR2 bands.

For EN-DC Inter-band case (3 bands), the E-UTRA test frequencies are specified in TS 36.508 [2], clause 6.2.3.1 for the E-UTRA band (E-UTRA f1) and the NR test frequencies are specified in clause 6.2.3.1 for the NR band used as PSCell (NRf1, NRf2, NRf3, NRf4) and for the NR band used as SCell (NRf5, NRf6, NRf7).

For EN-DC Inter-band case (2 bands) with NR Intra-band contiguous CA 2CC and NR Intra-band non-contiguous CA 2CC, the E-UTRA test frequencies are specified in TS 36.508 [2], clause 6.2.3.1 for the E-UTRA band (E-UTRA f1) and the NR test frequencies are specified in clause 6.2.3.4 for the NR CA CC1 used as PSCell (NRf1, NRf3) and for the NR CA CC2 used as SCell (NRf2, NRf4).

For EN-DC Intra-band Contiguous case with E-UTRA 1CC and NR CA 2CC the EN-DC configurations and the test frequencies are specified in Table 6.2.3.2.3-1.

For EN-DC Intra-band Non-Contiguous case with E-UTRA 1CC and NR 2CC the EN-DC configurations and test frequencies are specified in Table 6.2.3.2.3-2.

For EN-DC Intra-Band Contiguous and EN-DC Intra-Band Non-Contiguous cases with E-UTRA 1CC and NR CA 2CC the mapping of frequency ranges to NR test frequencies NRf1 for PSCell (CC1) and NRf2 for SCell (CC2); and to E-UTRA test frequency f1 for PCell is:

- for band combinations with only one test frequency: Low Range (NRf1=CC1, NRf2=CC2, f1); and
- for band combinations with up to two frequencies: Low Range (NRf1=CC1, NRf2=CC2, f1), High Range (NRf3=CC1, NRf4=CC2, f2).

Editor's note: No EN-DC Intra-band Contiguous configurations with NR CA 2CC have yet been introduced in TS 38.101-3.

Table 6.2.3.2.3-1: Test frequencies for EN-DC Intra-band Contiguous configurations with E-UTRA 1CC and NR CA 2CC

FFS

Editor's note: No EN-DC Intra-band Non-Contiguous configurations with NR CA 2CC have yet been introduced in TS 38.101-3.

Table 6.2.3.3-2: Test frequencies for EN-DC Intra-Band Non-Contiguous configurations with E-UTRA 1CC and NR CA 2CC

FFS

6.2.3.3 Test frequencies for NR and E-UTRA Inter-RAT signalling testing

For NR and E-UTRA Inter-RAT testing, it is assumed that the NR and E-UTRA bands under test are different in order to avoid unnecessary interferences:

- for NR bands, the frequencies NRf1, NRf2, NRf3 and NRf4 are mapped as per clause 6.2.3.1
- for E-UTRA bands, the signalling test frequencies E-UTRA f1, E-UTRA f2, E-UTRA f3 and E-UTRA f4 are mapped respectively on f1, f2, f3 and f4 as per TS 36.508 [2] clause 6.2.3.1.

6.2.3.4 Test frequencies for NR CA configurations for signalling testing

The default channel bandwidths for NR CA signalling test are specified per NR band. The test frequencies are defined so that no frequency overlapping takes place, in order to avoid unnecessary inter-frequency interference.

For NR CA Inter-band case (2 bands) the NR CA configurations are specified in clause 4.3.1.1.2 and NR test frequencies are specified in clause 6.2.3.1 for the NR band used as PCell (NRf1, NRf2, NRf3, NRf4) and for the NR band used as SCell (NRf5, NRf6, NRf7).

For NR CA Intra-band Contiguous case (2 CCs) the NR CA configurations and the test frequencies are specified in Table 6.2.3.4-1 for FR1 and in Table 6.2.3.4-2 for FR2. For NR CA Intra-band Non-Contiguous (2 CCs) case the NR CA configurations and test frequencies are specified in Table 6.2.3.4-3 for FR1 and in Table 6.2.3.4-4 for FR2.

For NR CA Intra-Band Contiguous case (2 CCs) and NR CA Intra-Band Non-Contiguous case (2 CCs) the mapping of frequency ranges to NR test frequencies NRf1, NRf2, NRf3, and NRf4 and PCell (CC1) and SCell (CC2) are as follows:

- for Intra-band configurations with only one test frequency: Low Range (NRf1=CC1 and NRf2=CC2); and
- for Intra-band configurations with up to two frequencies: Low Range (NRf1=CC1 and NRf2=CC2), High Range (NRf3=CC1 and NRf4=CC2).

Table 6.2.3.4-1: Test frequencies for NR CA Intra-band Contiguous configurations with FR1

NR CA configuration	CC	CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs])	offsetToP ointA (SIB1) [PRBs]
CA_n41C	CC1, CC2	60+60	162+162	Downlink & Uplink	Low	Same values as for Low range in Table 4.3.1.1.3.41.1-1 for CBW combination 60+60 and SCS=30 kHz.											
CA_n66B	CC1	10+	52+	Downlink	Low	Same values as for Low range in Table 4.3.1.1.3.66.1-1 for CBW combination 10+15 and SCS=15 kHz.											
	CC2	15	79	& Uplink	High												
CA_n78C	CC1, CC2	100+100	273+273	Downlink & Uplink	Low	Same values as for Low and High ranges in Table 4.3.1.1.3.78.1-1 for CBW combination 100+100 and SCS=30 kHz.											
					High												

Table 6.2.3.4-2: Test frequencies for NR CA Intra-band Contiguous configurations with FR2

NR CA configuration	CC	CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs])	offsetToP ointA (SIB1) [PRBs]
CA_n257G	CC1, CC2	100+100	66+66	Downlink & Uplink	Low	Same values as for Low and High ranges in Table 4.3.1.2.3.1.6-3 for CBW combination 100+100 and SCS=120 kHz.											
					High												
CA_n260G	CC1, CC2	100+100	66+66	Downlink & Uplink	Low	Same values as for Low and High ranges in Table 4.3.1.2.3.4.6-2 for CBW combination 100+100 and SCS=120 kHz.											
					High												
CA_n261G	CC1, CC2	100+100	66+66	Downlink & Uplink	Low	Same values as for Low and High ranges in Table 4.3.1.2.3.5.6-2 for CBW combination 100+100 and SCS=120 kHz.											
					High												

Table 6.2.3.4-3: Test frequencies for NR CA Intra-Band Non-Contiguous configurations with FR1

NR CA configuration	CC	CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs])	offsetToP ointA (SIB1) [PRBs]
CA_n66(2A)	CC1, CC2	10+10	52+52	Downlink & Uplink	Low High	Same values as for Low and High ranges in Table 4.3.1.1.5.66-1 for CBW combination 10+10.											

Table 6.2.3.4-4: Test frequencies for NR CA Intra-Band Non-Contiguous configurations with FR2

NR CA configuration	CC	CBW [MHz]	carrier Bandwidth [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA [ARFCN]	offset ToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORES ET#0 [RBs]	CORES ET#0 Index (Offset [RBs])	offsetToP ointA (SIB1) [PRBs]
CA_n261(2A)	CC1 CC2	100 100	66 66	Downlink & Uplink	Low High	Same values as for Low and High ranges in Table 4.3.1.2.4.5.1-1 for CBW combination 100+100 and SCS=120 kHz.											

6.2.3.5 Test frequencies for MFBI signalling testing

For signalling test cases, the mapping of MFBI frequency ranges to NR test frequencies are as follows: Low Range (NRf1), Mid Range (NRf2) and High Range (NRf3).

The test frequencies, subcarrier spacing, default channel bandwidth, SS/PBCH block and CORESET#0 parameters for signalling are specified in Table 6.2.3.5-1.

Table 6.2.3.5-1: Test frequencies for MFBI NR bands in FR1

NR Band	MFBI overla pping NR Band	SCS [kHz]	Band width [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrie r centre [ARFCN]	point A [MHz]	absolut eFreque ncyPoin tA[ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSC N	absolut eFreque ncySSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs]	CORE SET#0 Index (Offset [RBs])	offsetTo PointA (SIB1) [PRBs]
n2	n25	15	10	52	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
					Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
n25	n2	15	10	52	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
					Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
n38	n41	15	10	52	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.38 for bandwidth=10 MHz and SCS=15 kHz.											
n41	n38	15	10	52	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.38 for bandwidth=10 MHz and SCS=15 kHz.											
n77	n78	30	100	273	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.78 for bandwidth=100 MHz and SCS=30 kHz.											
n78	n77	30	100	273	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.78 for bandwidth=100 MHz and SCS=30 kHz.											

Table 6.2.3.5-2: Test frequencies for MFBI NR bands in FR2

NR Band	MFBI overlapping NR Band	SCS [kHz]	Band width [MHz]	carrier Band width [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF requency PointA[ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF requency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index (Offset [RBs]) Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n257	n258	120	100	66	Downlink & Uplink	Low	26557.08	2055117	26509.56	2054325	0	120	22388	2054683	0	1 (4)	1	8
				Mid		27006.36	2062605	26811.96	2059365	102	22414		2062171	0	1 (4)	1	212	
				High		27438.36	2069805	26665.08	2056917	504	22439		2069371	0	1 (4)	1	1016	
n257	n261	120	100	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
n258	n257	120	100	66	Downlink & Uplink	Low	26557.08	2055117	26509.56	2054325	0	120	22388	2054683	11	0	1 (4)	8
						Mid	27006.36	2062605	26811.96	2059365	102		22414	2062171	11	0	1 (4)	212
						High	27438.36	2069805	26665.08	2056917	504		22439	2069371	11	0	1 (4)	1016
n261	n257	120	100	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																		
Note 2: The parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to the parameter $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.																		

6.2.3.6 Test frequencies for NR DC configurations for signalling testing

The default channel bandwidths for NR DC signalling test are specified per NR band. The test frequencies are defined so that no frequency overlapping takes place, in order to avoid unnecessary inter-frequency interference.

For NR DC (2 bands, 2CC) the NR DC configurations are specified in clause 4.3.1.3.2.1 for 1CC FR1 and 1CC FR2. NR test frequencies are specified in clause 6.2.3.1 for the NR band used as PCell (NRf1, NRf2, NRf3, NRf4) and for the NR band used as PSCell (NRf5, NRf6, NRf7).

For NR DC with NR intra-band contiguous CA (2 bands, 3CC) the NR DC configurations are specified in clause 4.3.1.3.2.1 for 1CC FR1 and 2CC FR2. NR test frequencies are specified in clause 6.2.3.1 for the NR FR1 band used as PCell (NRf1) and in Table 6.2.3.4-2 for NR intra-band contiguous CA as PSCell (CC1, NRf5) and SCell (CC2, NRf6).

6.3 Reference system configurations

6.3.1 Cell configurations

Editor's Note: To define different types of SS cell configurations. It may be similar as defined in 3GPP TS 36.508 [2], clause 6.3.3 and 6.3.4 i.e. full, minimum uplink, broadcast only and virtual cell configuration. But details are FFS and depending on different connectivity options (MR-DC and SA).

6.3.1.1 Intra-frequency neighbouring cell list in SIB3 for NR cells

Intra-frequency neighbouring cell list for signalling test cases is defined in table 6.3.1.1-1. This table is referred to in the default contents of IE *intraFreqNeighCellList* in *SIB3* defined in table 4.6.2-2.

Table 6.3.1.1-1: Intra-frequency neighbouring cell lists for NR cells

cell ID	Test Frequency	intra-frequency neighbouring cell list			
		number of entries	physCellId[n]		
			1	1	3
NR Cell 1	NRf1	3	NR Cell 2	NR Cell 4	NR Cell 11
NR Cell 2	NRf1	3	NR Cell 1	NR Cell 4	NR Cell 11
NR Cell 4	NRf1	3	NR Cell 1	NR Cell 2	NR Cell 11
NR Cell 11	NRf1	3	NR Cell 1	NR Cell 2	NR Cell 4
NR Cell 3	NRf2	1	NR Cell 23	-	-
NR Cell 23	NRf2	1	NR Cell 3	-	-

Editor's Note: The intra-frequency NR neighbouring cell list for signalling NAS test cases when cells are on same PLMN is FFS.

6.3.1.2 Inter-frequency carrier frequency list in SIB4 for NR cells

Inter-frequency NR carrier frequency list for signalling test cases is defined in table 6.3.1.2-1. This table is referred to in the default contents of IE *interFreqCarrierFreqList* in *SIB4* defined in table 4.6.2-3.

Table 6.3.1.2-1: Inter-frequency carrier frequency lists for NR cells

cell ID	Test Frequency	interFreqCarrierFreqList			
		number of entries	dl-CarrierFreq[n]		
			1	2	3
NR Cell 1 NR Cell 2 NR Cell 4 NR Cell 11	NRf1 (Note 2)	3	NRf2	NRf3	NRf5
NR Cell 3 NR Cell 23	NRf2 (Note 2)	3	NRf1	NRf3	NRf5
NR Cell 6	NRf3 (Note 2)	3	NRf1	NRf2	NRf5
NR Cell 10	NRf5 (Note 3)	3	NRf1	NRf2	NRf3
Note 1: Depending on the Band under test, NRf3 may not be applicable. Note 2: In case of Test frequency NRf1, NRf2 and NRf3, dl-CarrierFreq NRf5 as part of inter-frequency list is applicable only in case of multi-band scenarios. Note 3: Test frequency NRf5 is applicable only in case of multi-band scenarios.					

Editor's Note: The inter-frequency NR carrier frequency list for signalling NAS test cases when cells are on same PLMN is FFS.

6.3.1.3 E-UTRA carrier frequency list in SIB5 for NR cells

The frequency mapping of E-UTRA cells are defined as per TS 36.508 [2] clause 4.4.2 and TS 36.508 [2] clause 6.3.2 for NGC NAS test cases, E-UTRA frequency mapping is according to clause 6.2.3.3. E-UTRA carrier frequency list for signalling test cases is defined in table 6.3.1.3-1. This table is referred to in the default contents of IE *carrierFreqListEUTRA* in *SIB5* defined in table 4.6.2-4.

Table 6.3.1.3-1: E-UTRA carrier frequency lists for NR cells

interFreqCarrierFreqList	
number of entries	carrierFreq[n]
	1
1	E-UTRA f1
2	E-UTRA f2
3	E-UTRA f3
4	E-UTRA f4
Note 1: E-UTRAf1, E-UTRAf2, E-UTRAf3, E-UTRAf4 are according to clause 6.2.3.3 Note 2: Depending on the Band under test, E-UTRA f2 or E-UTRA f3 or E-UTRA f4 may not be applicable.	

Table 6.3.1.3-2: Void

6.3.2 Default configurations for NAS test cases

The default configurations specified in this subclause apply only to NAS test cases. They apply to all NAS test cases unless otherwise specified.

6.3.2.1 Simulated network scenarios for NAS test cases

Simulated network scenarios for NAS test cases to be tested are specified in the pre-test conditions of each individual test case.

Any combination is allowed with the following restrictions:

- NGC Cell B shall not be used if NGC Cell D is used
- a maximum 3 cells on the same frequency can be used, i.e. only 3 cells out of NGC Cell A, NGC Cell B, NGC Cell C and NGC Cell D may be used simultaneously in each individual test case when cells in the test case are in different PLMNs (refer to Table 6.3.2.2-3).

6.3.2.2 Simulated NAS cells

Simulated NAS cells and default NAS parameters are specified in Table 6.3.2.2-1. Unless otherwise specified in a test case, default radio parameters of the NAS cells are specified as per Table 6.3.2.2-2.

Unless otherwise specified, the default parameters specified in clause 4.4.2 will also apply to all NAS cells.

Table 6.3.2.2-1: Default NAS parameters for simulated NAS cells

NAS cell ID	Tracking Area			TA# list (Note 1)	5G-GUTI (Note 2)			5G-TMSI
	TA#	PLMN			AMF Identifier			
		MCC	MNC		AMF Region ID	AMF Set ID	AMF Pointer	
NGC Cell A	TAI-1	(Note 3)		1	TAI-1	254	1	Arbitrarily selected according to TS 23.003 subclause 2.10.1 [26].
NGC Cell B	TAI-2	(Note 3)		2	TAI-2	254	1	
NGC Cell C	TAI-3	(Note 3)		3	TAI-3	252	1	
NGC Cell D	TAI-4	(Note 3)		4	TAI-4	252	1	
NGC Cell E	TAI-12	002	101	3	TAI-12	244	1	
NGC Cell F	TAI-11	003	101	2	TAI-11	239	1	
NGC Cell G	TAI-7	(Note 4)	02	1	TAI-7	238	1	
NGC Cell H	TAI-8	(Note 4)	02	2	TAI-8	237	1	
NGC Cell I	TAI-9	002	101	1	TAI-9	244	1	
NGC Cell J	TAI-10	003	101	1	TAI-10	236	1	
Note 1:	The value(s) in the column TA# list indicates TAI(s) included in the response messages of the registration procedure for initial access or mobility (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.							
Note 2:	The value in the column 5G-GUTI indicates GUTI included in the response messages of the registration procedure (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.							
Note 3:	Set to the same Mobile Country Code and Mobile Network Code stored in EF _{IMSI} on the test USIM card (subclause 4.8.3).							
Note 4:	Set to the same Mobile Country Code stored in EF _{IMSI} on the test USIM card (subclause 4.8.3).							

Table 6.3.2.2-2: Default radio parameters for simulated NAS cells when cells are in same PLMN and access stratum is NR

NAS cell ID	Frequency	NR Cell ID (Note 1)
NGC Cell A	NRf1	NR Cell 1
NGC Cell B	NRf1	NR Cell 2
NGC Cell C	NRf1	NR Cell 4
NGC Cell D	NRf1	NR Cell 11
NGC Cell E	NA	NA
NGC Cell F	NRf2	NR Cell 3
NGC Cell G	NA	NA
NGC Cell H	NA	NA
NGC Cell I	NA	NA
NGC Cell J	NRf2	NR Cell 12
Note 1: Default NR parameters for simulated NR cells are as specified in Table 4.4.2-2.		
Note 2: For signalling tests, simultaneous co-existence of NGC Cells B and D is not allowed (in line with Table 4.4.2-1)		

Table 6.3.2.2-3: Default PLMN and radio parameters for simulated NAS cells when cells are in different PLMNs and access stratum is NR

NAS cell ID	PLMN	Frequency	NR Cell ID (Note 1)
NGC Cell A	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 1
NGC Cell B	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 2
NGC Cell C	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 4
NGC Cell D	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 11
NGC Cell E	MCC=002 MNC=101	NRf2	NR Cell 3
NGC Cell F	MCC=003 MNC=101	NRf4	NR Cell 14
NGC Cell G	MCC = MCC in USIM MNC=02	NRf2	NR Cell 12
NGC Cell H	MCC = MCC in USIM MNC=02	NRf2	NR Cell 23
NGC Cell I	MCC=002 MNC=101	NRf3	NR Cell 6
NGC Cell J	MCC=002 MNC=101	NRf3	NR Cell 13
Note 1: Default NR parameters for simulated NR cells are as specified in Table 4.4.2-2			
Note 2: for signalling tests, simultaneous co-existence of NGC Cells B and D is not allowed (In line with Table 4.4.2-1)			

6.4 Signalling Test Case specific USIM Configurations

6.4.1 General

The default USIM fields are specified in section 4.8.3. Specific USIM fields are set according to the USIM configuration specified in the tables below. PLMN settings are defined in TS 36.523-1 [42] Table 6.0.1-1.

Note: Changes to any existing USIM configuration can be done only if the change WILL NOT HAVE IMPACT on any of the tests which are referring to the configuration! To establish whether this might be the case, the test case author needs to review all tests in all RAN5 test specifications, which refer to the particular USIM configuration e.g. all test cases in TS 38.523-1 [12].

Table 6.4.1-1: USIM Configuration 1

USIM field	Priority	Value	Access Technology Identifier
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{PLMNwAcT}	1 2 3	Default PLMN17 PLMN16 Remaining mandatory entries use default values	Default All specified NG-RAN
EF _{OPLMNwAcT}	1	PLMN15 Remaining defined entries use default values	All specified
EF _{HPLMNwAcT}	1	PLMN1	NG-RAN
EF _{UST}		Services 20, 42, 43 and 74 are supported. Service 71 is not supported (there is no EHPLMN list).	
EF _{HPPLMN}		1 (6 minutes)	

Table 6.4.1-2: USIM Configuration 2

USIM field	Priority	Value	Access Technology Identifier
EF _{5GS3GPPLOC}		PLMN4	
EF _{PLMNwAcT}		Empty	
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{UST}		Service n°71 and n°74 are "available"	
EF _{EHPLMN}	1 2	PLMN15 PLMN1	
EF _{LRPLMNSI}		01	

Table 6.4.1-3: USIM Configuration 3

USIM field	Priority	Value	Access Technology Identifier
EF _{5GS3GPPLOC}		PLMN4	
EF _{PLMNwAcT}		Empty	
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{UST}		Service n°74 is "available"	
EF _{EHPLMN}		Empty	
EF _{LRPLMNSI}		01	

Table 6.4.1-4: USIM configuration 4

USIM field	Priority	Value	Access Technology Identifier
EF _{EHPLMN}	1	PLMN1 Remaining mandatory entries use default values	
EF _{PLMNwAcT}	1	PLMN2 Remaining mandatory entries use default values	NG-RAN
EF _{OPLMNwAcT}	1	PLMN3 Remaining mandatory entries use default values	NG-RAN
EF _{UST}		Services 20, 42 and 71 are supported.	

Table 6.4.1-5: USIM configuration 5

USIM field	Priority	Value	Access Technology Identifier
EF _{5GS3GPPLOC}		PLMN4 (See preamble)	
EF _{PLMNwAcT}		Empty	
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{UST}		Service 71 is not supported Service 74 is supported.	
EF _{LRPLMNSI}		00	
EF _{EHPLMN}		0xFF..FF	

Table 6.4.1-6: USIM configuration 6

USIM field	Priority	Value	Access Technology Identifier
EF _{5GS3GPPLOC1}		PLMN1 (See preamble)	
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN3.	
EF _{PLMNwAcT}	1	PLMN1 Remaining mandatory entries use default values	NG-RAN
EF _{OPLMNwAcT}	1 2	PLMN2 PLMN4 Remaining defined entries use default values	NG-RAN NG-RAN
EF _{UST}		Service 71 is not supported	

Table 6.4.1-7: USIM configuration 7

USIM field	Priority	Value	Access technology	Comment
E.F _{PLMNwAcT}	1 2	PLMN13 PLMN13	NG-RAN E-UTRAN	
EF _{OPLMNwAcT}	1 2 3	PLMN2 PLMN14 PLMN13	All E-UTRAN NG-RAN	

Table 6.4.1-8: USIM configuration 8

USIM field	Priority	Value	Access technology	Comment
EF _{OPLMNwAcT}	1 2 3 4	PLMN15 PLMN15 PLMN17 PLMN16	NG-RAN E-UTRAN E-UTRAN NG-RAN	

Table 6.4.1-9: USIM configuration 9

USIM field	Priority	Value	Access technology	Comment
EF _{PLMNwAcT}	1 2	PLMN1 PLMN15	NG-RAN E-UTRAN	
EF _{HPPLMN}		1(=6 min)		The HPLMN Search Period on the USIM shall be set to 6 minutes.

Table 6.4.1-10: USIM configuration 10

USIM field	Priority	Value	Access Technology Identifier
EF _{OPLMNwAcT}	1 2 3	PLMN14 PLMN13 PLMN2 Remaining defined entries use default values	NG-RAN NG-RAN NG-RAN
EF _{UST}		Service n°127 is "available"	
EF _{HPPLMN}		1(=6 min)	

Table 6.4.1-11: USIM configuration 11

USIM field	Priority	Value	Access Technology Identifier
EF _{5GS3GPPLOC1}		PLMN15 (See preamble)	
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1	
EF _{PLMNwACT}	1	Default	Default
	2	PLMN16	NG-RAN
		Remaining defined entries use default values	Default
EF _{OPLMNwACT}	1	PLMN15	NG-RAN
		Remaining defined entries use default values	Default
EF _{HPLMNwACT}	1	PLMN1	NG-RAN
EF _{UST}		Services 20, 42, 43, 74 and 96 are supported. Service 71 is not supported (there is no EHPLMN list)	
EF _{HPPLMN}		1 (6 minutes)	
EF _{NASCONFIG}		MinimumPeriodicSearchTimer set to 7 minutes	

Table 6.4.1-12: USIM configuration 12

USIM field	Priority	Value	Access technology	Comment
EF _{PLMNwACT}		3GPP TS 31.102, Annex E		The EF is empty.
EF _{OPLMNwACT}	1	PLMN2	NG-RAN	
	2	PLMN13	E-UTRAN	
	3	PLMN13	NG-RAN	

Table 6.4.1-13: USIM configuration 13

USIM field	Priority	Value	Access technology	Comment
EF _{OPLMNwACT}	1	PLMN2	NG-RAN	
	2	PLMN2	E-UTRAN	
	3	PLMN13	NG-RAN	

Table 6.4.1-14: Void**Table 6.4.1-15: USIM Configuration 15**

USIM field	Priority	Value	Access Technology Identifier
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{FPLMN}		PLMN2	

Table 6.4.1-16: Void

Table 6.4.1-17: USIM Configuration 17

USIM field	Priority	Value	Access Technology Identifier
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{PLMNwAcT}	1	PLMN1	NG-RAN
EF _{UST}		Service n°126 is "available".	
EF _{EHPLMN}		PLMN1	
EF _{UAC_AIC} and EF _{ACC}		For Bits b4 and b8 in byte 1 of EF _{ACC} (defined in TS 31.102 clause 4.2.15), only single bit is set to 1. Bits b1 and b2 in byte 1 of EF _{UAC_AIC} (defined in TS 31.102 clause 4.4.11.7), and all remaining bits of EF _{ACC} and EF _{UAC_AIC} are set to 0.	

Table 6.4.1-18: USIM Configuration 18

USIM field	Priority	Value	Access Technology Identifier
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{PLMNwAcT}	1	PLMN2	NG-RAN
EF _{HPLMNwAcT}	1	PLMN1	NG-RAN
EF _{UST}		Service n°126 (for UAC Access Identities Configuration) defined in TS 31.102 clause 4.2.8 is declared "available"	
EF _{UAC_AIC}		Bit b1 in byte 1 defined in TS 31.102 clause 4.4.11.7 is set to 1 and bit b2 in byte 1 is set to 0.	
EF _{ACC}		For Bit b1 in byte 2 defined in TS 31.102 clause 4.2.15, only single bit set to 1. All remaining bits of byte 1 and byte 2 are set to 0.	

Table 6.4.1-19: USIM Configuration 19

USIM field	Priority	Value	Access Technology Identifier
EF _{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF _{PLMNwAcT}	1	PLMN2	NG-RAN
EF _{HPLMNwAcT}	1	PLMN1	NG-RAN
EF _{UST}		Service n°126 (for UAC Access Identities Configuration) defined in TS 31.102 clause 4.2.8 is declared "available"	
EF _{UAC_AIC}		Bit b2 in byte 1 defined in TS 31.102 clause 4.4.11.7 is set to 1 and bit b1 in byte 1 is set to 0.	
EF _{ACC}		For Bit b2 in byte 2 defined in TS 31.102 clause 4.2.15, only single bit set to 1. All remaining bits of byte 1 and byte 2 are set to 0.	

Table 6.4.1-20: USIM Configuration 20

USIM field	Priority	Value	Access Technology Identifier
EF _{FECC}		144, 117	

Table 6.4.1-21: USIM configuration 21

USIM field	Priority	Value	Access Technology Identifier
EF _{OPLMNwACT}	1	PLMN14	NG-RAN
	2	PLMN13	NG-RAN
	3	PLMN2	NG-RAN
		Remaining defined entries use default values	
EF _{UST}		Service n°127 is not "available"	
EF _{HPPLMN}		1(=6 min)	

Table 6.4.1-22: USIM Configuration 22

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		Service n°19 and n°51 defined in TS 31.102 clause 4.2.8 is declared "service not available"	

7 Test environments for RRM tests

7.0 General

7.0.1 Single PDU configuration for RRM testing

For RRM test case execution on 5G SA UEs defined in TS 38.533 [18] 7.1 Requirements, IMS shall not be considered and UE's shall be able use RRC (IDLE, CONNECTED) preambles defined in TS 38.508-1 Section 4.5. Before entering RRC_CONNECTED or RRC_IDLE state during initial conditions or test procedure, it is recommended that UE is pre-configured with only 1 PDU (non-IMS) along with appropriate settings to ensure UE operates and stays on NR cell.

For EN-DC settings the corresponding requirement holds that IMS shall not be considered and it is recommended that UE is pre-configured with only 1PDU/1 PDN.

7.1 Test equipment requirements

7.1.1 Void

7.1.2 Void

7.1.3 Requirements for OTA test method

7.1.3.1 General

Editor's Note:

- The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.

For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled to account for single polarization System Simulator (SS) in the test environment. The UE under test may transmit with dual polarization.

7.1.3.2 RRM baseline setup

The RRM baseline setup shall fulfil the capabilities detailed in this section.

The following permitted test setups are considered for OTA RRM testing:

- DFF test setup as described in Clause B.2.2.
- Simplified DFF test setup as described in Clause B.2.3.
- IFF test setup as described in Clause B.2.4.
- Enhanced IFF test setup based in the IFF test setup described in Clause B.2.4, with the enhancements described in this clause.
- IFF+DFF Hybrid test setup as described in Clause B.2.2 for DFF TRxP(s) and B.2.4 for IFF TRxP(s), with the enhancements described in this clause.

7.1.3.2.1 General description

TRxPs and Cells:

- Up to 2 NR transmission reception points TRxPs are emulated.

Support of interworking scenarios

- For test scenarios involving both, LTE and NR FR2 carriers, the test setup shall be capable to provide LTE link to the DUT. The emulated LTE cell provides a stable LTE signal without precise propagation modelling or path loss control between it and the DUT. No performance verification for and relative to LTE carriers is supported.
- For test scenarios involving both, NR FR1 and NR FR2 carriers, the test setup shall be capable to provide NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control. No performance verification for and relative to NR FR1 carriers is supported.

Antennas, polarization, simultaneously active AoAs:

- N dual-polarized antennas transmitting the signals from the emulated gNB sources to the DUT.
- The antennas transmit into the test zone in such a way that signal polarization does not prevent the DUT receiving a consistent, predictable power level.
- $N \geq N_{\text{MAX\_AoAs}}$, where $N_{\text{MAX\_AoAs}}$ is the maximum number of simultaneously active (emulating signal) angles of arrival AoAs. The $N_{\text{MAX\_AoAs}}$ for the different permitted test methods is:
 - For UE RRM baseline measurement setup based on DFF, the supported $N_{\text{MAX\_AoAs}} = 2$.
 - For UE RRM baseline measurement setup based on simplified DFF, the supported $N_{\text{MAX\_AoAs}} = 1$.
 - For UE RRM baseline measurement setup based on IFF, the supported $N_{\text{MAX\_AoAs}} = 1$.
 - For UE RRM baseline measurement setup based on enhanced IFF, the supported $N_{\text{MAX\_AoAs}} = 2$.
 - For UE RRM baseline measurement setup based on IFF+DFF, the supported $N_{\text{MAX\_AoAs}} = 2$.

Angular Relationship:

- A positioning system such that an angular relationship with two axes of freedom is provided between the DUT and the test system antennas (or the setup should provide equivalent functionality).
- For $N_{\text{MAX\_AoAs}} = 2$ the setup shall enable following relative angular relationships between the $N_{\text{MAX\_AoAs}}$ simultaneously active AoAs: 30°, 60°, 90°, 120° and 150°.
- For single active probe scenarios, in case that step change of AoA is required, the setup shall enable following relative angular change between initial and target AoA: 30°, 60°, 90°, 120° and 150°.

Wanted and noise (AWGN) signals can be transmitted from one or both active probes. Test description will define the exact signal/noise/SNR/SINR level per TRxP at the reference point.

Multiple DL transmission antenna ports:

- In case of multiple DL transmission antenna ports are required for RRM testing, the different antenna ports are mapped to different polarizations.

Measurement Uncertainty:

- The threshold MU for the equivalence framework for RRM will be based on direct far field (DFF) test method for $D \leq 5$ cm and on indirect far field (IFF) test method for $D > 5$ cm. If the MTSU for the IFF test method for $D \leq 5$ cm is finalized before DFF, the IFF MTSU shall be used as provisional threshold MU until DFF is completed.

7.1.3.2.2 Applicability criteria

The applicability criteria for the RRM measurement setup based on DFF is described in B.2.2.1.

The applicability criteria for the RRM measurement setup based on simplified DFF is described in B.2.3.1.

The applicability criteria for the RRM measurement setup based on IFF is described in B.2.4.1.

The applicability criteria for the RRM measurement setup based on enhanced IFF is described in B.2.4.1:

The applicability criteria for the RRM measurement setup based on IFF+DFF follows DFF as described in B.2.2.1:

7.1.3.2.3 Measurement distance and quiet zone

For RRM baseline measurement setup based on DFF:

- The measurement distance defined for the DFF UE RF test method described in B.2.2.4 applies.
- A DFF measurement setup has the centre of the Quiet Zone (QZ) located at the centre of the rotational axes (of DUT and measurement antenna). For the RRM measurement baseline setup based on DFF, the vertices of the N probes have to be aligned to the resulting centre of the QZ. The centre of the QZ is taken as the reference point for MU definition for each probe. The same QZ size as for DFF UE RF test method described in B.2.2.2 applies.

For RRM baseline measurement setup based on simplified DFF:

- The measurement distance defined for the simplified DFF UE RF test method described in B.2.3.4 applies.
- The same QZ size and definition as for simplified DFF UE RF test method described in B.2.3.2 applies.

For RRM baseline measurement setup based on IFF:

- The measurement distance defined for the IFF UE RF test method described in B.2.4.4 applies.
- The Quiet Zone definition for the IFF UE RF test method described in B.2.4.2 applies.

For RRM baseline measurement setup based on enhanced IFF:

- The measurement distance defined for the IFF UE RF test method described in B.2.4.4 applies.
- An IFF measurement setup has the centre of the Quiet Zone (QZ) located at the centre of the rotational axes (of DUT). For the RRM measurement baseline setup based on IFF, the reflectors have to be aligned to transmit a plane wave to the resulting centre of the QZ. The centre of the QZ is taken as the reference point for MU definition for each reflector. The QZ is a sphere of radius R. The size of the QZ defined in B.2.4.2 applies.

For RRM baseline measurement setup based on IFF+DFF:

- For IFF TRxPs, the measurement distance defined for the IFF UE RF test method described in B.2.4.4 applies.
- For DFF TRxPs, the measurement distance defined for the DFF UE RF test method described in B.2.2.4 applies.
- An IFF+DFF measurement setup has the centre of the Quiet Zone (QZ) located at the centre of the rotational axes (of DUT). For the RRM measurement baseline setup based on IFF+DFF, IFF reflectors have to be aligned to transmit a plane wave to the resulting centre of the QZ, and the vertices of the DFF probes have to be aligned to the resulting centre of the QZ. The centre of the QZ is taken as the reference point for MU definition for each reflector or probe. The QZ is a sphere of radius R. The size of the QZ defined in B.2.4.2 applies for IFF TRxPs and B.2.2.2 for DFF TRxPs.

7.1.3.2.4 Quality of the quiet zone

For RRM, the quality of the quiet zone validation defined in Annex O of TS 38.521-2 [15] needs to assess only the single-directional EIRP and EIS metrics. For measurement setups with multiple probes, the QoQZ procedure needs to be performed with all probes present and in the conditions used for RRM testing.

The quality of the quiet zone for the RRM measurement setup based on DFF is described in B.2.2.3. The QoQZ validation needs to be performed only with the reference probe P0.

The quality of the quiet zone for the RRM measurement setup based on simplified DFF is described in B.2.3.3.

The quality of the quiet zone for the RRM measurement setup based on IFF is described in B.2.4.3.

The quality of the quiet zone for the RRM measurement setup based on enhanced IFF is described in B.2.4.3. The QoQZ validation needs to be performed only with the reference reflector, P0, if same sized IFF reflectors are used..

The quality of the quiet zone for the RRM measurement setup based on IFF+DFF is described in B.2.4.3 for IFF probes and in B.2.2.3 for DFF probes. The QoQZ validation needs to be performed only with the one probe among all DFF probes and one probe among all IFF probes.

7.2 Reference test conditions

7.2.1 Signal levels

7.2.1.1 Void

7.2.1.2 Void

7.2.2 Physical layer parameters

7.2.2.1 Downlink physical layer parameters

As defined in clause 4.3.6 with the following exceptions:

Table 7.2.2.1-1: Physical layer parameters for DCI format 1_1

Derivation Path: Table 4.3.6.1.2.2-1		
Parameter	Value	Value in binary
PUCCH resource indicator	<i>PUCCH-ResourceId</i> [1] = 0 in pucch-ResourceSetID[1] as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213 [22])	"000"

7.2.3 Default test frequencies

7.2.3.1 Default test frequencies FR1 NR operating bands

For FR1 NR operating bands the test frequencies for RRM testing are specified in clause 4.3.1.1.

7.2.3.2 Default test frequencies FR2 operating bands

7.2.3.2.1 Reference test frequencies for NR operating band n257

Table 7.2.3.2.1-1: Test frequencies for NR operating band n257 (SCS 120 kHz, ΔF_{Raster} 120 kHz, SSB SCS=120kHz, kSSB=0 and Offset(RBs)=0)

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index
Downlink & Uplink	Mid	28015.68	2079427	27968.16	2078635	0	120	22472	2078875	0	0	2

CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled by resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 7.2.3.2.1-2: Test frequencies for NR operating band n257 (SCS 240 kHz, ΔF_{Raster} 120 kHz, SSB SCS=240kHz, kSSB=0 and Offset(RBs)=0)

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute Frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute Frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CORESET#0 Index
Downlink & Uplink	Mid	28001.28	2079187	27953.76	2078395	0	240	22472	2078875	0	0	2

CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-10 in TS 38.213 [22]. The value of CORESET#0 Index is signalled by resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

7.2.3.2.2

Reference test frequencies for NR operating band n258

**Table 7.2.3.2.2-1: Test frequencies for NR operating band n258 (SCS 120 kHz, ΔF_{Raster} 120 kHz SSB
SCS=120kHz, kSSB=0 and Offset(RBs)=0)**

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF frequency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CO E Ir (C [F N
Downlink & Uplink	Mid	25890.24	2044003	25842.72	2043211	0	120	22349	2043451	0	0	(

CoreSET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled as resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

**Table 7.2.3.2.2-2: Test frequencies for NR operating band n258 (SCS 240 kHz, ΔF_{Raster} 120 kHz, SSB
SCS=240kHz, kSSB=0 and Offset(RBs)=0)**

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF frequency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CO E Ir (C [F N
Downlink & Uplink	Mid	25893.12	2044051	25845.6	2043259	0	240	22350	2043739	0	0	2

CoreSET#0 Index and the associated CORESET#0 Offset refers to Table 13-10 in TS 38.213 [22]. The value of CORESET#0 Index is signalled as resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

7.2.3.2.3

Reference test frequencies for NR operating band n259

**Table 7.2.3.2.3-1: Test frequencies for NR operating band n259 (SCS 120 kHz, ΔF_{Raster} 120 kHz SSB
SCS=120kHz, kSSB=0 and Offset(RBs)=0)**

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF frequency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CO E Ir (C [F N
Downlink & Uplink	Mid	41511.36	2304355	41463.84	2303563	0	120	23253	2303803	0	0	(

CoreSET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled as resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 7.2.3.2.3-2: Test frequencies for NR operating band n259 (SCS 120 kHz, ΔF_{Raster} 120 kHz, SSB SCS=240kHz, kSSB=0 and Offset(RBs)=0)

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	Carrier Frequency [MHz]
Downlink & Uplink	Mid	41514.24	2304403	41466.72	2303611	0	240	23254	2304091	0	0	41514.24

CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-10 in TS 38.213 [22]. The value of CORESET#0 Index is signalled by resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Carrier Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

7.2.3.2.4 Reference test frequencies for NR operating band n260

Table 7.2.3.2.4-1: Test frequencies for NR operating band n260 (SCS 120 kHz, ΔF_{Raster} 120 kHz SSB SCS=120kHz, kSSB=0 and Offset(RBs)=0)

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	Carrier Frequency [MHz]
Downlink & Uplink	Mid	38504.64	2254243	38457.12	2253451	0	120	23079	2253691	0	0	38504.64

CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled by resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Carrier Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 7.2.3.2.4-2: Test frequencies for NR operating band n260 (SCS 120 kHz, ΔF_{Raster} 120 kHz, SSB SCS=240kHz, kSSB=0 and Offset(RBs)=0)

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absolute frequency PointA [ARFCN]	offsetToCarrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absolute frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	Carrier Frequency [MHz]
Downlink & Uplink	Mid	38507.52	2254291	38460	2253499	0	240	23080	2253979	0	0	38507.52

CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-10 in TS 38.213 [22]. The value of CORESET#0 Index is signalled by resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Carrier Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

7.2.3.2.5 Reference test frequencies for NR operating band n261

Table 7.2.3.2.5-1: Test frequencies for NR operating band n261 (SCS 120 kHz, ΔF_{Raster} 120 kHz SSB SCS=120kHz, kSSB=0 and Offset(RBs)=0)

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF frequency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CO E Ir (C [F N
Downlink & Uplink	Low	27929.28	2077987	27881.76	2077195	0	120	22467	2077435	0	0	(

CoreSET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled by resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

Table 7.2.3.2.5-2: Test frequencies for NR operating band n261 (SCS 120 kHz, ΔF_{Raster} 120 kHz, SSB SCS=240kHz, kSSB=0 and Offset(RBs)=0)

Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	absoluteF frequency PointA [ARFCN]	offsetToC arrier [Carrier PRBs]	SS block SCS [kHz]	GSCN	absoluteF frequency SSB [ARFCN]	k_{SSB}	Offset Carrier CORESET#0 [RBs] Note 2	CO E Ir (C [F N
Downlink & Uplink	Mid	27932.16	2078035	27884.64	2077243	0	240	22468	2077723	0	0	2

CoreSET#0 Index and the associated CORESET#0 Offset refers to Table 13-10 in TS 38.213 [22]. The value of CORESET#0 Index is signalled by resourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR2.

Parameter Offset Carrier CORESET#0 specifies the offset from the lowest subcarrier of the carrier and the lowest subcarrier of CORESET#0. It corresponds to $\Delta F_{\text{OffsetCORESET-0-Carrier}}$ in Annex C expressed in number of common RBs.

7.3 Default NG-RAN RRC message and information elements contents for RRM

7.3.0 General definitions

This section defines general concepts and conditions used in the RRM message contents in clause 7.3:

- CSI-RS for Tracking, CSI reporting and beam management

Table 7.3.0-1: Definitions of CSI-RS for Tracking, CSI reporting and beam management

Type	Short version	Explanation
CSI-RS for tracking	TRS	Corresponds to TRS.X.Y FDD/TDD RMCs in TS 38.533 [18]
CSI-RS for BM	BM	Corresponds to CSI-RS.X.2 FDD/TDD RMCs in TS 38.533 [18]
CSI-RS for CSI reporting	CSI	Corresponds to CSI-RS.X.1 FDD/TDD RMCs in TS 38.533 [18]
CSI-RS for IM	CSI-IM	CSI-IM resources for CSI reporting. Needed when CSI-RS.X.1 FDD/TDD RMCs are configured.

Editor's Note: The message contents for CSI-RS.X.3/4 FDD/TDD RMCs in TS 38.533 [18] are not yet defined.

7.3.1 Radio resource control information elements for RRM

As defined in clause 4.6.3 with the following exceptions:

– *TDD-UL-DL-ConfigCommon*

Table 7.3.1-1: TDD-UL-DL-ConfigCommon

Derivation Path: Table 4.6.3-192			
Information Element	Value/remark	Comment	Condition
TDD-UL-DL-ConfigCommon ::= SEQUENCE {			
referenceSubcarrierSpacing	SubcarrierSpacing		
pattern1 SEQUENCE {			
dl-UL-TransmissionPeriodicity	ms0p625		TDDConf.3.1
nrofDownlinkSlots	3		TDDConf.2.1, TDDConf.3.1
	1		TDDConf.1.1
nrofDownlinkSymbols	10		TDDConf.1.1, TDDConf.3.1
	6		TDDConf.2.1
nrofUplinkSlots	2		TDDConf.1.1
	1		TDDConf.3.1
	4		TDDConf.2.1
nrofUplinkSymbols	4		TDDConf.2.1
	2		TDDConf.1.1, TDDConf.3.1
dl-UL-TransmissionPeriodicity-v1530	Not present ms4		TDDConf.1.1, TDDConf.2.1
}			
pattern2	Not present		
pattern2 SEQUENCE {			TDDConf.1.1, TDDConf.2.1
dl-UL-TransmissionPeriodicity	ms1		TDDConf.1.1, TDDConf.2.1
nrofDownlinkSlots	1		TDDConf.1.1
	2		TDDConf.2.1
nrofDownlinkSymbols	0		TDDConf.1.1, TDDConf.2.1
nrofUplinkSlots	0		TDDConf.1.1, TDDConf.2.1
nrofUplinkSymbols	0		TDDConf.1.1, TDDConf.2.1
}			
}			

Condition	Explanation
TDDConf.1.1	TDD UL/DL configuration for SCS=15kHz
TDDConf.2.1	TDD UL/DL configuration for SCS=30kHz
TDDConf.3.1	TDD UL/DL configuration for SCS=120kHz

– *FilterCoefficient*

Table 7.3.1-2: FilterCoefficient

Derivation Path: Table 4.6.3-57			
Information Element	Value/remark	Comment	Condition
FilterCoefficient	fc0	L3 filtering is not used	

– *SSB-MTC*

Table 7.3.1-3: SSB-MTC

Derivation Path: Table 4.6.3-185			
Information Element	Value/remark	Comment	Condition
SSB-MTC ::= SEQUENCE {			
periodicityAndOffset CHOICE {			
sf20	0		SMTC.1, SMTC.2
sf20	10		SMTC.4, SMTC.5
sf160	0		SMTC.3
}			
duration	sf1		SMTC.1, SMTC.3, SMTC.4
	sf5		SMTC.2, SMTC.5
}			

Condition	Explanation
SMTC.n	SMTC pattern n as defined in 38.533 Annex A.4

– *SubcarrierSpacing*

Table 7.3.1-3a: SubcarrierSpacing

Derivation Path: Table 4.6.3-188			
Information Element	Value/remark	Comment	Condition
ssbSubcarrierSpacing	kHz15		SSB.1 FR1, SSB.3 FR1 or SSB.5 FR1
	kHz30		SSB.2 FR1, SSB.4 FR1 or SSB.6 FR1
	kHz120		SSB.1 FR2, SSB.3 FR2, SSB.5 FR2 or SSB.7 FR2
	kHz240		SSB.2 FR2, SSB.4 FR2, SSB.6 FR2 or SSB.8 FR2

Condition	Explanation
SSB.n FR1	SSB RMC n for FR1 as defined in 38.533 Annex A.3.1
SSB.n FR2	SSB RMC n for FR2 as defined in 38.533 Annex A.3.2

- *ServingCellConfigCommon*

Table 7.3.1-4: *ServingCellConfigCommon*

Information Element	Value/remark	Comment	Condition
ServingCellConfigCommon ::= SEQUENCE {			
ssb-PositionsInBurst CHOICE {			
shortBitmap	1000	1 SS Block in low FR1 frequencies	LOW_FREQ
	1100	2 SS Blocks in low FR1 frequencies	2SSB AND LOW_FREQ
mediumBitmap	10000000	1 SS Block in high FR1 frequencies	HIGH_FREQ
	11000000	2 SS Blocks in high FR1 frequencies	2SSB AND HIGH_FREQ
longBitmap	10000000000000000000 00000000000000000000 00000000000000000000 0	1 SS Block in FR2	FR2
	11000000000000000000 00000000000000000000 00000000000000000000 0	2 SS Blocks in FR2	2SSB AND FR2
}			
ssb-periodicityServingCell	ms20		
ssbSubcarrierSpacing	kHz15		
	kHz30		SCS30kHz
	kHz120		FR2
}	kHz240		FR2 AND SCS240kHz

Condition	Explanation
LOW_FREQ	Frequency <= 2.4 GHz for TDD or Frequency <= 3 GHz for FDD
HIGH_FREQ	FR1 and (Frequency > 2.4 GHz for TDD or Frequency > 3 GHz for FDD or CASE_C)
2SSB	The SSB pattern as defined in TS 38.533 [18] Annex A.3.1 contain 2 SSBs within a burst
SCS30kHz	The SSB pattern as defined in TS 38.533 [18] Annex A.3.1 is for 30 kHz SCS
SCS240kHz	The SSB pattern as defined in TS 38.533 [18] Annex A.3.1 is for 240 kHz SCS

- *ServingCellConfigCommonSIB*

Table 7.3.1-5: *ServingCellConfigCommonSIB-RRM*

Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
ssb-PositionsInBurst SEQUENCE {			
inOneGroup	'1000 0000'B	When carrier frequency <= 3 GHz for FDD or <= 2.4 GHz for TDD, only the 4 leftmost bits are valid;	2SSB
	'1100 0000'B		
groupPresence	Not present		
	'1000 0000'B		FR2
}			
}			

Condition	Explanation
FR2	Frequency range 2
2SSB	For configuration with 2 SS Blocks

CSI-MeasConfig

Table 7.3.1-6: CSI-MeasConfig for RRM

Derivation Path: Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig ::= SEQUENCE { nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP- CSI-RS-Resource {	$n_1+n_2+n_3+n_4+n_5$ entries	$n_1=1$ if CSI-RS for CSI is configured in test case, $n_1=0$ otherwise; $n_2=2$ if CSI-RS for BM is configured in test case, $n_2=0$ otherwise; $n_3=4$ if TRS is configured in test case, $n_3=0$ otherwise; $n_4=4$ if second resource set of TRS is configured in test case, $n_4=0$ otherwise; $n_5=2$ if aperiodic CSI-RS for BM is configured in test case, $n_5=0$ otherwise;	
NZP-CSI-RS-Resource[k, k=1.. n_1]	NZP-CSI-RS-Resource for CSI	entry 1	$n_1>0$
NZP-CSI-RS-Resource[k, k= n_1+1 .. n_1+n_2]	NZP-CSI-RS-Resource for BM (k- n_1-1)	entry ...	$n_2>0$
NZP-CSI-RS-Resource[k, k= n_1+n_2+1 .. $n_1+n_2+n_3$]	NZP-CSI-RS-Resource for TRS (k- n_1-n_2)	entry ...	$n_3>0$
NZP-CSI-RS-Resource[k, k= $n_1+n_2+n_3+1$.. $n_1+n_2+n_3+n_4$]	NZP-CSI-RS-Resource for TRS (k- $n_1-n_2-n_3$) with condition SECOND_SET	entry ...	$n_4>0$
NZP-CSI-RS-Resource[k, k= $n_1+n_2+n_3+n_4+1$.. $n_1+n_2+n_3+n_4+n_5$]	NZP-CSI-RS-Resource for BM (k- $n_1-n_2-n_3-n_4$) with condition APERIODIC	entry ...	$n_5>0$
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSet {	$m_1+m_2+m_3+m_4+m_5$ entries	$m_i=1$ if $n_i>0$, $m_i=0$ otherwise	
NZP-CSI-RS-ResourceSet[k, k=1.. m_1]	NZP-CSI-RS-ResourceSet for CSI	entry 1	$n_1>0$
NZP-CSI-RS-ResourceSet[k, k= m_1+1 .. m_1+m_2]	NZP-CSI-RS-ResourceSet for BM	entry ...	$n_2>0$
NZP-CSI-RS-ResourceSet[k, k= m_1+m_2+1 .. $m_1+m_2+m_3$]	NZP-CSI-RS-ResourceSet for TRS	entry ...	$n_3>0$
NZP-CSI-RS-ResourceSet[k, k= $m_1+m_2+m_3+1$.. $m_1+m_2+m_3+m_4$]	NZP-CSI-RS-ResourceSet for TRS with condition SECOND_SET	entry ...	$n_4>0$
NZP-CSI-RS-ResourceSet[k, k= $m_1+m_2+m_3+m_4+1$.. $m_1+m_2+m_3+m_4+m_5$]	NZP-CSI-RS-ResourceSet for BM with condition APERIODIC	entry ...	$n_5>0$
}			
csi-IM-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-Resources)) OF CSI-IM-Resource {	1 entry		$n_1>0$
CSI-IM-Resource[1]	CSI-IM-Resource-RRM	entry 1	
}			
csi-IM-ResourceToAddModList	Not present		$n_1=0$

csi-IM-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSets)) OF CSI-IM-ResourceSet {	1 entry		$n_1 > 0$
CSI-IM-ResourceSet[1]	CSI-IM-ResourceSet-RRM	entry 1	
}			
csi-IM-ResourceSetToAddModList	Not present		$n_1 = 0$
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig {	$p_1 + m_2 + m_3 + m_5$ entries	$p_1 = m_1 + 1$ if $n_1 > 0$, $p_1 = 0$ otherwise.	
CSI-ResourceConfig[k, k=1..m ₁]	CSI-ResourceConfig for CSI	entry 1	$n_1 > 0$
CSI-ResourceConfig[k, k=p ₁]	CSI-ResourceConfig for CSI-IM	entry ...	$n_1 > 0$
CSI-ResourceConfig[k, k=p ₁ +1.. p ₁ +m ₂]	CSI-ResourceConfig for BM	entry ...	$n_2 > 0$
CSI-ResourceConfig[k, k= p ₁ +m ₂ +1.. p ₁ +m ₂ +m ₃]	CSI-ResourceConfig for TRS	entry ...	$n_3 > 0$ and $n_4 = 0$
	CSI-ResourceConfig for TRS with condition SECOND_SET		$n_4 > 0$
CSI-ResourceConfig[k, k= p ₁ +m ₂ +m ₃ +1.. p ₁ +m ₂ +m ₃ +m ₅]	CSI-ResourceConfig for BM with condition APERIODIC	entry ...	$n_5 > 0$
}			
csi-ReportConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ReportConfigurations)) OF CSI-ReportConfig {	$m_1 + m_2 + m_5$ entries		
CSI-ReportConfig[k, k=1..m ₁]	CSI-ReportConfig for CSI	entry 1	$n_1 > 0$
CSI-ReportConfig[k, k=m ₁ +1.. m ₁ +m ₂]	CSI-ResourceConfig for BM	entry ...	$n_2 > 0$
CSI-ReportConfig[k, k=m ₁ +m ₂ +1.. m ₁ +m ₂ +m ₅]	CSI-ResourceConfig for BM with condition APERIODIC	entry ...	$n_5 > 0$
}			
reportTriggerSize	Not present		
	1		$n_5 > 0$
aperiodicTriggerStateList CHOICE {	Not present		
setup	CSI-AperiodicTriggerStateList		$n_5 > 0$
}			
}			

– *NZP-CSI-RS-Resource for TRS*

Table 7.3.1-7: NZP-CSI-RS-Resource for TRS(Id)

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
NZP-CSI-RS-ResourceId	NZP-CSI-RS-ResourceId for TRS(Id)		
	NZP-CSI-RS-ResourceId for TRS(Id) with Condition SECOND_SET		SECOND_SET
CSI-RS-ResourceMapping	CSI-RS-ResourceMapping for TRS(Id)		
	CSI-RS-ResourceMapping for TRS(Id) with condition SECOND_SET		SECOND_SET
powerControlOffsetSS	db-3		
scramblingID	PhysCellId	PCI of the cell sending the TRS	
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for TRS(Id)		
qcl-InfoPeriodicCSI-RS	TCI-StateId-RRM(2)		
}			

Condition	Explanation
SECOND_SET	For resource belong to the second resource set for TRS, only applies to FR2 test

– *NZP-CSI-RS-Resource for CSI*

Table 7.3.1-7A: NZP-CSI-RS-Resource for CSI

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp-CSI-RS-ResourceId	NZP-CSI-RS-ResourceId for CSI		
resourceMapping	CSI-RS-ResourceMapping for CSI		
powerControlOffset	0		
powerControlOffsetSS	db0		
scramblingID	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for CSI		
qcl-InfoPeriodicCSI-RS	TCI-StateId-RRM(0)		
}			

– *NZP-CSI-RS-Resource for BM*

Table 7.3.1-7B: NZP-CSI-RS-Resource for BM(Id)

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp-CSI-RS-ResourceId	NZP-CSI-RS-ResourceId for BM (Id)		
	NZP-CSI-RS-ResourceId for BM (Id) with condition APERIODIC		APERIODIC
resourceMapping	CSI-RS-ResourceMapping for BM (Id)		
powerControlOffset	0		
powerControlOffsetSS	db0		
scramblingID	0		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for BM		
	Not present		APERIODIC
qcl-InfoPeriodicCSI-RS	TCI-StateId-RRM(Id)		
	Not present		APERIODIC
}			

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *NZP-CSI-RS-Resource for TRS*

Table 7.3.1-7C: NZP-CSI-RS-ResourceId for TRS(Id)

Derivation Path: Table 4.6.3-86			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceId	n+Id-1	n is the first NZP-CSI-RS-ResourceId allocated for TRS resource set. Value of n is left to internal implementation Id = 1,2,3,4	
	n+Id+3		SECOND_SET

Condition	Explanation
SECOND_SET	For the second TRS resource set configured in test, only applies to FR2 test

– *NZP-CSI-RS-ResourceId for CSI*

Table 7.3.1-7D: NZP-CSI-RS-ResourceId for CSI

Derivation Path: Table 4.6.3-86			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceId	n	n is the NZP-CSI-RS-ResourceId allocated for CSI-RS for CSI report. Value of n is left to internal implementation	

– *NZP-CSI-RS-ResourceId for BM*

Table 7.3.1-7E: NZP-CSI-RS-ResourceId for BM(Id)

Derivation Path: Table 4.6.3-86			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceId	n+Id	n is the first NZP-CSI-RS-ResourceId allocated for CSI-RS for BM. Value of n is left to internal implementation Id = 0,1	
	m+Id	m is the first NZP-CSI-RS-ResourceId allocated for aperiodic CSI-RS for BM. Value of m is left to internal implementation Id = 0,1	APERIODIC

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *CSI-RS-ResourceMapping for TRS*

Table 7.3.1-8: CSI-RS-ResourceMapping for TRS(Id)

Derivation Path: Table 4.6.3-45 with condition TRS			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE { frequencyDomainAllocation CHOICE {			
row1	0001	k ₀ =0 for CSI-RS resource 1,2,3,4	
}			
firstOFDMSymbolInTimeDomain	5	l ₀ = 5 for CSI-RS resource 1 and 3	(Id = 1 or 3) AND FR1
	9	l ₀ = 9 for CSI-RS resource 2 and 4	(Id = 2 or 4) AND FR1
	1		(Id = 1 or 3) AND FR2
	2		(Id = 1 or 3) AND FR2 AND SECOND_SET
	5		(Id = 2 or 4) AND FR2
	6		(Id = 1 or 3) AND FR2 AND SECOND_SET
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	
freqBand	CSI-FrequencyOccupation-RRM		
}			

Condition	Explanation
SECOND_SET	For the second resource set for TRS configured in test, only applies to FR2 test

– *CSI-RS-ResourceMapping for CSI*

Table 7.3.1-8A: CSI-RS-ResourceMapping for CSI

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE { frequencyDomainAllocation CHOICE {			
other	000001		
}			
nrofPorts	p2		FR1
	p1		FR2
firstOFDMSymbolInTimeDomain	5		
freqBand	CSI-FrequencyOccupation-RRM		
}			

– *CSI-RS-ResourceMapping for BM*

Table 7.3.1-8B: CSI-RS-ResourceMapping for BM (Id)

Derivation Path: Table 4.6.3-45			
Information Element	Value/remark	Comment	Condition
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	0001		
}			
nrofPorts	p1		
firstOFDMSymbolInTimeDomain	6		Id = 0
	10		Id = 1
cdm-Type	noCDM		
density CHOICE {			
three	NULL		
}			
freqBand	CSI-FrequencyOccupation-RRM		
}			

– *CSI-ResourcePeriodicityAndOffset for TRS*

Table 7.3.1-9: CSI-ResourcePeriodicityAndOffset for TRS(Id)

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots80	40		(Id = 1 or 3) AND SCS120
	41		(Id = 2 or 4) AND SCS120
slots40	20	Periodicity 40 slots and offset 20 for CSI-RS resource 1 and 2	(Id = 1 or 3) AND SCS30
	21	Periodicity 40 slots and offset 21 for CSI-RS resource 3 and 4	(Id = 2 or 3) AND SCS30
slots20	10	Periodicity 20 slots and offset 10 for CSI-RS resource 1 and 2	(Id = 1 or 3) AND SCS15
	11	Periodicity 20 slots and offset 11 for CSI-RS resource 3 and 4	(Id = 2 or 4) AND SCS15
}			

– *CSI-ResourcePeriodicityAndOffset for CSI*

Table 7.3.1-9A: CSI-ResourcePeriodicityAndOffset for CSI

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots5	1		SCS15
slots10	2		SCS30
slots40	8		SCS120
}			

– *CSI-ResourcePeriodicityAndOffset for BM*

Table 7.3.1-9B: CSI-ResourcePeriodicityAndOffset for BM

Derivation Path: Table 4.6.3-43			
Information Element	Value/remark	Comment	Condition
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots10	1		SCS15
slots20	2		SCS30
slots80	8		SCS120
}			

– *CSI-FrequencyOccupation*

Table 7.3.1-10: CSI-FrequencyOccupation-RRM

Derivation Path: Table 4.6.3-33			
Information Element	Value/remark	Comment	Condition
CSI-FrequencyOccupation ::= SEQUENCE { startingRB	$4 \cdot \text{floor}(n/4)$	n is the start RB of active BWP floor() means rounding down to the nearest integer startingRB can only be multiple of 4	
nrofRBs	$\max(4 \cdot \text{ceil}(n/4 - \text{floor}(n/4) + m/4), 24)$	m is the bandwidth of active BWP ceil() means rounding up to the nearest integer Bandwidth of CSI-RS used in RRM test is required to be same as active BWP according to 38.133. nrofRBs shall be no less than 24 and shall be multiple of 4	
}			

– *NZP-CSI-RS-ResourceSet for TRS*

Table 7.3.1-11: NZP-CSI-RS-ResourceSet for TRS

Derivation Path: Table 4.6.3-87 with Condition TRS			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp_CSI_ResourceSetId	NZP-CSI-RS-ResourceSetId-TRS		
	NZP-CSI-RS-ResourceSetId-TRS with condition SECOND_SET		SECOND_SET
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	4 entries		
NZP-CSI-RS-ResourceId[1]	NZP-CSI-RS-ResourceId for TRS(1)	entry 1	
NZP-CSI-RS-ResourceId[2]	NZP-CSI-RS-ResourceId for TRS(2)	entry 2	
NZP-CSI-RS-ResourceId[3]	NZP-CSI-RS-ResourceId for TRS(3)	entry 3	
NZP-CSI-RS-ResourceId[4]	NZP-CSI-RS-ResourceId for TRS(4)	entry 4	
}			
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	4 entries		SECOND_SET
NZP-CSI-RS-ResourceId[1]	NZP-CSI-RS-ResourceId for TRS(1) with condition SECOND_SET	entry 1	
NZP-CSI-RS-ResourceId[2]	NZP-CSI-RS-ResourceId for TRS(2) with condition SECOND_SET	entry 2	
NZP-CSI-RS-ResourceId[3]	NZP-CSI-RS-ResourceId for TRS(3) with condition SECOND_SET	entry 3	
NZP-CSI-RS-ResourceId[4]	NZP-CSI-RS-ResourceId for TRS(4) with condition SECOND_SET	entry 4	
}			
}			

Condition	Explanation
SECOND_SET	For the second TRS resource set configured in test, only applies to FR2 test

– *NZP-CSI-RS-ResourceSet for CSI*

Table 7.3.1-11A: NZP-CSI-RS-ResourceSet for CSI

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp_CSI_ResourceSetId	NZP-CSI-RS-ResourceSetId-CSI		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	1 entry		
NZP-CSI-RS-ResourceId[1]	NZP-CSI-RS-ResourceId for CSI	entry 1	
}			
repetition	Not present		
}			

– *NZP-CSI-RS-ResourceSet for BM***Table 7.3.1-11B: NZP-CSI-RS-ResourceSet for BM**

Derivation Path: Table 4.6.3-87			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSet ::= SEQUENCE { nzp-CSI-ResourceSetId	NZP-CSI-RS-ResourceSetId-BM		
	NZP-CSI-RS-ResourceSetId-BM with condition APERIODIC		APERIODIC
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId {	2 entries		
NZP-CSI-RS-ResourceId[1]	NZP-CSI-RS-ResourceId for BM (0)	entry 1	
	NZP-CSI-RS-ResourceId for BM (0) with condition APERIODIC		APERIODIC
NZP-CSI-RS-ResourceId[2]	NZP-CSI-RS-ResourceId for BM (1)	entry 2	
	NZP-CSI-RS-ResourceId for BM (1) with condition APERIODIC		APERIODIC
}			
aperiodicTriggeringOffset	4		APERIODIC
}			

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *NZP-CSI-RS-ResourceSetId for TRS***Table 7.3.1-11C: NZP-CSI-RS-ResourceSetId-TRS**

Derivation Path: Table 4.6.3-88			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSetId	n	n is the first NZP-CSI-RS-ResourceSetId allocated for TRS resource set. Value of n is left to internal implementation	
	n+1		SECOND_SET

Condition	Explanation
SECOND_SET	For the second TRS resource set configured in test, only applies to FR2 test

– *NZP-CSI-RS-ResourceSetId for CSI*

Table 7.3.1-11D: NZP-CSI-RS-ResourceSetId-CSI

Derivation Path: Table 4.6.3-88			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSetId	n	n is the NZP-CSI-RS-ResourceSetId allocated for resource set of CSI-RS for CSI reporting. Value of n is left to internal implementation	

– *NZP-CSI-RS-ResourceSetId for BM*

Table 7.3.1-11E: NZP-CSI-RS-ResourceSetId-BM

Derivation Path: Table 4.6.3-88			
Information Element	Value/remark	Comment	Condition
NZP-CSI-RS-ResourceSetId	n	n is the NZP-CSI-RS-ResourceSetId allocated for resource set of CSI-RS for BM. Value of n is left to internal implementation	
	m	m is the NZP-CSI-RS-ResourceSetId allocated for resource set of aperiodic CSI-RS for BM. Value of m is left to internal implementation	APERIODIC

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *CSI-ResourceConfig for TRS*

Table 7.3.1-12: CSI-ResourceConfig for TRS

Derivation Path: TS 38.508-1 Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId-TRS		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	NZP-CSI-RS-ResourceSetId-TRS		
}			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	2 entries		SECOND_SET
NZP-CSI-RS-ResourceSetId[1]	NZP-CSI-RS-ResourceSetId-TRS	entry 1	
NZP-CSI-RS-ResourceSetId[2]	NZP-CSI-RS-ResourceSetId-TRS with condition SECOND_SET	entry 2	
}			
}			
bwp-Id	BWP-Id of active BWP		
}			
}			

Condition	Explanation
SECOND_SET	For the second resource set for TRS configured in test, only applies to FR2 test

– *CSI-ResourceConfig for CSI*

Table 7.3.1-12A: CSI-ResourceConfig for CSI

Derivation Path: TS 38.508-1 Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId-CSI		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	NZP-CSI-RS-ResourceSetId-CSI	entry 1	
}			
}			
}			
bwp-Id	BWP-Id of active BWP		
}			

– *CSI-ResourceConfig for BM*

Table 7.3.1-12B: CSI-ResourceConfig for BM

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId-BM		
	CSI-ResourceConfigId-BM with condition APERIODIC		APERIODIC
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId {	1 entry		
NZP-CSI-RS-ResourceSetId[1]	NZP-CSI-RS-ResourceSetId-BM		
	NZP-CSI-RS-ResourceSetId-BM with condition APERIODIC		APERIODIC
}			
}			
}			
bwp-Id	BWP-Id of active BWP		
resourceType	aperiodic		APERIODIC
}			

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *CSI-ResourceConfig for CSI-IM*

Table 7.3.1-12BA: CSI-ResourceConfig for CSI-IM

Derivation Path: Table 4.6.3-41			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId-CSI-IM		
csi-RS-ResourceSetList CHOICE {			
csi-IM-ResourceSetList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSetsPerConfig)) OF CSI-IM-ResourceSetId {	1 entry		
CSI-IM-ResourceSetId[1]	CSI-IM-ResourceSetId-RRM	entry 1	
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

– *CSI-ResourceConfigId for TRS*

Table 7.3.1-12C: CSI-ResourceConfigId-TRS

Derivation Path: Table 4.6.3-42			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfigId	n	n is the CSI-ResourceConfigId allocated for resource config of TRS. Value of n is left to internal implementation	

– *CSI-ResourceConfigId for CSI*

Table 7.3.1-12D: CSI-ResourceConfigId-CSI

Derivation Path: Table 4.6.3-42			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfigId	n	n is the CSI-ResourceConfigId allocated for resource config of CSI-RS for CSI reporting. Value of n is left to internal implementation	

– *CSI-ResourceConfigId for BM*

Table 7.3.1-12E: CSI-ResourceConfigId-BM

Derivation Path: Table 4.6.3-42			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfigId	n	n is the CSI-ResourceConfigId allocated for resource config of CSI-RS for BM. Value of n is left to internal implementation	
	m	m is the CSI-ResourceConfigId allocated for resource config of aperiodic CSI-RS for BM. Value of m is left to internal implementation	APERIODIC

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *CSI-ResourceConfigId-CSI-IM*

Table 7.3.1-12EA: CSI-ResourceConfigId-CSI-IM

Derivation Path: Table 4.6.3-42			
Information Element	Value/remark	Comment	Condition
CSI-ResourceConfigId	n	n is the first CSI-ResourceConfigId allocated for CSI-IM resource configuration Value of n is left to internal implementation	

– *CSI-ReportConfig for CSI*

Table 7.3.1-12F: CSI-ReportConfig for CSI

Derivation Path: Table 4.6.3-39			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	CSI-ReportConfigId-CSI		
resourcesForChannelMeasurement	CSI-ResourceConfigId-CSI		
csi-IM-ResourcesForInterference	CSI-ResourceConfigId-CSI-IM		
nzp-CSI-RS-ResourcesForInterference	Not present		
reportConfigType CHOICE {			
periodic	Set according to parameters given in test cases		
}			
}			

– *CSI-ReportConfig for BM*

Table 7.3.1-12G: CSI-ReportConfig for BM

Derivation Path: Table 4.6.3-39			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	CSI-ReportConfigId-BM		
	CSI-ReportConfigId-BM with condition APERIODIC		APERIODIC
resourcesForChannelMeasurement	CSI-ResourceConfigId-BM		
	CSI-ResourceConfigId-BM with condition APERIODIC		APERIODIC
reportConfigType CHOICE {			
periodic	Set according to parameters given in test cases		
aperiodic SEQUENCE {			APERIODIC
reportSlotOffsetList SEQUENCE (SIZE (1..maxNrofUL-Allocations)) OF {	1 entry		
INTEGER[1]	8		
}			
}			
reportQuantity CHOICE {			
cri-RSRP	NULL		
}			
}			

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *CSI-ReportConfigId for CSI*

Table 7.3.1-12H: CSI-ReportConfigId-CSI

Derivation Path: Table 4.6.3-40			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfigId	n	n is the CSI-ReportConfigId allocated for report config of CSI-RS for CSI. Value of n is left to internal implementation	

– *CSI-ReportConfigId for BM***Table 7.3.1-12I: CSI-ReportConfigId-BM**

Derivation Path: Table 4.6.3-40			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfigId	n	n is the CSI-ReportConfigId allocated for report config of CSI-RS for BM. Value of n is left to internal implementation	
	m	m is the CSI-ReportConfigId allocated for report config of aperiodic CSI-RS for BM. Value of m is left to internal implementation	APERIODIC

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *CSI-AperiodicTriggerStateList***Table 7.3.1-12J: CSI-AperiodicTriggerStateList**

Derivation Path: Table 4.6.3-32			
Information Element	Value/remark	Comment	Condition
CSI-AperiodicTriggerStateList ::= SEQUENCE (SIZE (1..maxNrOfCSI-AperiodicTriggers)) OF SEQUENCE {	1 entry		
associatedReportConfigInfoList[1] SEQUENCE (SIZE(1..maxNrOfReportConfigPerAperiodicTrigger)) OF SEQUENCE {	1 entry		
reportConfigId[1]	CSI-ReportConfigId-BM with condition APERIODIC		
resourcesForChannel[1] CHOICE {			
nzp-CSI-RS SEQUENCE {			
resourceSet	NZP-CSI-RS-ResourceSetId-BM with condition APERIODIC		
qcl-info SEQUENCE (SIZE(1..maxNrOfAP-CSI-RS-ResourcesPerSet)) OF {	2 entries		
TCI-StateId[1]	TCI-StateId-RRM(0)	QCL Type C+D to SSB #0	
TCI-StateId[2]	TCI-StateId-RRM(1)	QCL Type C+D to SSB #1	
}			
}			
}			
csi-IM-ResourcesForInterference[1]	Not present		
nzp-CSI-RS-ResourcesForInterference[1]	Not present		
}			
}			

– *RACH-ConfigCommon*

Table 7.3.1-13: RACH-ConfigCommon

Derivation Path: TS 38.508-1 Table 4.6.3-128			
Information Element	Value/remark	Comment	Condition
RACH-ConfigCommon ::= SEQUENCE {			
rach-ConfigGeneric	RACH-ConfigGeneric		
totalNumberOfRA-Preambles	48		
ssb-perRACH-OccasionAndCB-PreamblesPerSSB CHOICE {			
oneFourth	n48		
}			
groupBconfigured	Not present		
ra-ContentionResolutionTimer	sf48		
rsrp-ThresholdSSB	51		
rsrp-ThresholdSSB-SUL	Not present		
prach-RootSequenceIndex CHOICE {			
l139	Set according to table 4.4.2-2 for the NR Cell.		
}			
msg1-SubcarrierSpacing	SubcarrierSpacing		
restrictedSetConfig	unrestrictedSet		
msg3-transformPrecoder	Not present	transform precoding is disabled for Msg3 PUSCH transmission and any PUSCH transmission scheduled with DCI format 0_0	
}			

– *RACH-ConfigGeneric*

Table 7.3.1-14: RACH-ConfigGeneric

Derivation Path: TS 38.508-1 Table 4.6.3-130			
Information Element	Value/remark	Comment	Condition
RACH-ConfigGeneric ::= SEQUENCE {			
prach-ConfigurationIndex	102		FR1
	190		FR2
msg1-FDM	one		
msg1-FrequencyStart	0		
zeroCorrelationZoneConfig	11		
preambleReceivedTargetPower	-120		
preambleTransMax	n6		
powerRampingStep	dB2		
ra-ResponseWindow	sl10		
}			

ControlResourceSet

Table 7.3.1-15: ControlResourceSet

Derivation Path: Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
ControlResourceSet ::= SEQUENCE {			
controlResourceSetId	ControlResourceSetId		
duration	2		FR1
	1		FR2
cce-REG-MappingType CHOICE {			
nonInterleaved	Null		
interleaved ::= SEQUENCE {			CCR
reg-BundleSize	n6		
interleaverSize	n2		
shiftIndex	0		
}			
tci-StatesPDCCH-ToAddList SEQUENCE(SIZE (1..maxNrofTCI-StatesPDCCH)) OF TCI-StateId {	1 entry		
TCI-StateId[1]	TCI-StateId-RRM(0)	TCI State #0, QCLed to SSB index #0	
	TCI-StateId-RRM(2)	TCI State #2, QCLed to TRS resource #4 in the first resource set	TRS
}			
}			

Condition	Explanation
CCR	When Control Channel RMC is configured
TRS	When at least one TRS resource set is configured.

SchedulingRequestResourceConfig

Table 7.3.1-16: SchedulingRequestResourceConfig

Derivation Path: Table 4.6.3-157			
Information Element	Value/remark	Comment	Condition
SchedulingRequestResourceConfig ::= SEQUENCE {			
periodicityAndOffset CHOICE {			
sl10	7	With SCS = kHz15 results in repetition every 10 ms	SCS_15kHz
sl20	7	With SCS = kHz30 results in repetition every 10 ms	SCS_30kHz
}			
}			

Condition	Explanation
SCS_15kHz	SCS=15kHz for frequency of the cell according to clause 6.2.3 for signalling test cases and clause 4.3.1 otherwise
SCS_30kHz	SCS=30kHz for frequency of the cell according to clause 6.2.3 for signalling test cases and clause 4.3.1 otherwise

- *SearchSpace***Table 7.3.1-17: SearchSpace**

Derivation Path: Table 4.6.3-162			
Information Element	Value/remark	Comment	Condition
SearchSpace ::= SEQUENCE {			
monitoringSlotPeriodicityAndOffset CHOICE {			
sl10	1		SISS
}			
}			

Condition	Explanation
SISS	SearchSpace for SI

- *PDSCH-Config***Table 7.3.1-18: PDSCH-Config**

Derivation Path: Table 4.6.3-100			
Information Element	Value/remark	Comment	Condition
PDSCH-Config ::= SEQUENCE {			
tcI-StatesToAddModList SEQUENCE(SIZE (1..maxNrofTCI-States)) OF TCI-State {	1+n ₁ +n ₂ +n ₃ entries	n ₁ = 1 if SSB configuration used in test case contains two SSBs in a burst, n ₁ = 0 otherwise n ₂ = 1 if TRS is configured in test case, n ₁ = 0 otherwise n ₃ = 1 if two resource sets of TRS are configured in test case, n ₃ = 0 otherwise	
TCI-State[1]	TCI-State(0)	entry 1 QCLeD to SSB index #0	
TCI-State[k, k=2..1+n ₁]	TCI-State(1)	entry ... QCLeD to SSB index #1	SECOND_SSB
TCI-State[k, k=2+n ₁ ..1+n ₁ +n ₂]	TCI-State(2)	entry ... QCLeD to TRS resource #4 in the first resource set	TRS
TCI-State[k, k=2+n ₁ +n ₂ ..1+n ₁ +n ₂ +n ₃]	TCI-State(3)	entry ... QCLeD to TRS resource #4 in the second resource set	SECOND_SET
}			
}			

Condition	Explanation
SECOND_SSB	SSB configuration used in test case contain two SSBs in a burst
TRS	One resource set for TRS is configured in test case
SECOND_SET	Two resource sets for TRS are configured in test case, only applies to FR2.

– *TCI-State*

Table 7.3.1-19: *TCI-State*(Id)

Derivation Path: Table 4.6.3-190			
Information Element	Value/remark	Comment	Condition
TCI-State ::= SEQUENCE {			
tci-StateId	TCI-StateId-RRM(Id)		
qcl-Type1 SEQUENCE {			
bwp-Id	BWP-Id of the active BWP		Id = 2 or 3
referenceSignal CHOICE {			
ssb	SSB-Index of SSB #0		Id = 0
	SSB-Index of SSB #1		Id = 1
csi-rs	NZP-CSI-RS-ResourceId for TRS (4)		Id = 2
	NZP-CSI-RS-ResourceId for TRS (4) with condition SECOND SET		Id = 3
}			
qcl-Type	typeC		Id = 0 or 1
	typeA		Id = 2 or 3
}			
qcl-Type2	Not present		
qcl-Type2 SEQUENCE {			FR2
cell	Not present		
bwp-Id	Not present		Id = 0 or 1
	BWP-Id of the active BWP		Id = 2 or 3
referenceSignal CHOICE {			
ssb	SSB-Index of SSB #0		Id = 0
	SSB-Index of SSB #1		Id = 1
csi-rs	NZP-CSI-RS-ResourceId for TRS (4)		Id = 2
	NZP-CSI-RS-ResourceId for TRS (4) with condition SECOND SET		Id = 3
}			
qcl-Type	typeD		
}			
}			

– *TCI-StateId*

Table 7.3.1-20: *TCI-StateId*(Id)

Derivation Path: Table 4.6.3-191			
Information Element	Value/remark	Comment	Condition
TCI-StateId	n+Id	n is the first TCI-StateId allocated for TCI-State configured in RRM test. Value of n is left to internal implementation Id = 0,1,2,3	

– *PUSCH-Config*

Table 7.3.1-21: *PUSCH-Config*

Derivation Path: Table 4.6.3-118			
Information Element	Value/remark	Comment	Condition
PUSCH-Config ::= SEQUENCE {			
pusch-TimeDomainAllocationList CHOICE {			APERIODIC
setup	PUSCH-TimeDomainResourceAllocationList-BM		
}			
}			
}			

Condition	Explanation
APERIODIC	For aperiodic CSI-RS resources

– *PUSCH-TimeDomainResourceAllocationList*

Table 7.3.1-22: *PUSCH-TimeDomainResourceAllocationList-BM*

Derivation Path: Table 4.6.3-122			
Information Element	Value/remark	Comment	Condition
PUSCH-TimeDomainResourceAllocationList ::= SEQUENCE (SIZE(1..maxNrofUL-Allocations)) OF SEQUENCE {	1 entry	same number of entries as reportSlotOffsetList in Table 7.3.1-12G	
k2[1]	4	Same with k2 configured in reportSlotOffsetList in Table 7.3.1-12G	
mappingType[1]	typeA		
startSymbolAndLength[1]	27	Start symbol(S)=0, Length(L)=14	
}			

– *ServingCellConfig*

Table 7.3.1-23: *ServingCellConfig*

Derivation Path: Table 4.6.3-167			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
csi-MeasConfig CHOICE {			
setup	csi-MeasConfig		
}			

– *CSI-IM-Resource-RRM*

Table 7.3.1-24: CSI-IM-Resource-RRM

Derivation Path: Table 4.6.3-34			
Information Element	Value/remark	Comment	Condition
CSI-IM-Resource ::= SEQUENCE {			
csi-IM-ResourceId	CSI-IM-ResourceId-RRM		
csi-IM-ResourceElementPattern CHOICE {			
pattern1 SEQUENCE {			
subcarrierLocation-p1	s8		
symbolLocation-p1	4		
}			
}			
freqBand	CSI-FrequencyOccupation-RRM		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for CSI		
}			

– *CSI-IM-ResourceId-RRM*

Table 7.3.1-25: CSI-IM-ResourceId-RRM

Derivation Path: Table 4.6.3-35			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceId	n	n is the first CSI-IM-ResourceId allocated for CSI-IM resource. Value of n is left to internal implementation	

– *CSI-IM-ResourceSet-RRM*

Table 7.3.1-26: CSI-IM-ResourceSet-RRM

Derivation Path: Table 4.6.3-36			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSet ::= SEQUENCE {			
csi-IM-ResourceSetId	CSI-IM-ResourceSetId-RRM		
csi-IM-Resources SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourcesPerSet)) OF CSI-IM-ResourceId {	1 entry		
CSI-IM-ResourceId[1]	CSI-IM-ResourceId-RRM	entry 1	
}			
}			

– *CSI-IM-ResourceSetId-RRM*

Table 7.3.1-27: CSI-IM-ResourceSetId-RRM

Derivation Path: Table 4.6.3-37			
Information Element	Value/remark	Comment	Condition
CSI-IM-ResourceSetId	n	n is the first CSI-IM-ResourceSetId allocated for CSI-IM resource set. Value of n is left to internal implementation	

– *SSB-Index*

Table 7.3.1-28: SSB-Index

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	Value/remark	Comment	Condition
SSB-Index	0		
	1		SECOND_SSB

Condition	Explanation
SECOND_SSB	SSB configuration used in test case contain two SSBs in a burst

– *CSI-SSB-ResourceSet*

Table 7.3.1-29: CSI-SSB-ResourceSet

Derivation Path: Table 4.6.3-47			
Information Element	Value/remark	Comment	Condition
CSI-SSB-ResourceSet ::= SEQUENCE {			
csi-SSB-ResourceSetId	CSI-SSB-ResourceSetId		
csi-SSB-Resource SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourcePerSet)) OF SSB-Index {	1 entry		
SSB-Index[1]	SSB-Index	entry 1	
}			
csi-SSB-Resource SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourcePerSet)) OF SSB-Index {	2 entries		SECOND_SSB
SSB-Index[1]	SSB-Index	entry 1	
SSB-Index[2]	SSB-Index with condition SECOND_SSB	entry 2	
}			
}			

Condition	Explanation
SECOND_SSB	SSB configuration used in test case contain two SSBs in a burst

7.4 FFS

Void.

7.5 Common procedures for RRM testing

7.5.1 Procedure to configure SCC(s) for NR RRM CA testing

Same procedure as described in clause 5.5.1.

7.5.2 Procedure to configure SCC(s) for EN-DC RRM CA testing

Same procedure as described in clause 5.5.1.

Annex A (informative): Connection Diagrams

A.1 Definition of Terms

System Simulator or SS – A device or system, that is capable of generating simulated Node B signalling and analysing UE signalling responses on one or more RF channels, in order to create the required test environment for the UE under test. It will also include the following capabilities:

1. Measurement and control of the UE Tx output power through TPC commands
2. Measurement of Throughput
3. Measurement of signalling timing and delays
4. Ability to simulate UTRAN and/or E-UTRAN and/or GERAN signalling

Test System – A combination of devices brought together into a system for the purpose of making one or more measurements on a UE in accordance with the test case requirements. A test system may include one or more System Simulators if additional signalling is required for the test case. The following diagrams are all examples of Test Systems.

NOTE 1: The above terms are logical definitions to be used to describe the test methods used in the documents TS 38.521-1, TS 38.521-2, TS 38.521-3, TS 38.523-1 and TS 38.533 in practice, real devices called 'System Simulators' may also include additional measurement capabilities or may only support those features required for the test cases they are designed to perform.

NOTE 2: Components in the connection diagrams:

The components in the connection diagrams represent ideal components. They are intended to display the wanted signal flow. They don't mandate real implementations.

Connection: Each connection is displayed as a one or two sided arrow, showing the intended signal flow. In some cases, for some tests, some connections shown may not be necessary (for example UL RX connection for a second cell).

Circulator: The signal, entering one port, is conducted to the adjacent port, indicated by the arrow. The attenuation among the above mentioned ports is ideally 0 and the isolation among the other ports is ideally ∞ .

Splitter: a splitter has one input and 2 or more outputs. The signal at the input is equally divided to the outputs. The attenuation from input to the outputs is ideally 0 and the isolation between the outputs is ideally ∞ .

Combiner: a combiner has one output and 2 or more inputs. The signals at the inputs are conducted to the output, all with the same, ideally 0 attenuation. The isolation between the inputs is ideally ∞ .

Switch: contacts a sink (or source) alternatively to two or more sources (or sinks).

Fader: The fader has one input and one output. The MIMO fading channel is represented by several single faders (e.g. 8 in case of a MIMO antenna configuration 4x2) The correlation among the faders is described in TS 36.521-1 clause B.2.2. In some cases, for some tests, diagrams with fader(s) are referenced when no fading is required; in this case the fader(s) is omitted.

Attenuator: TBD

Test Equipment Part (TE): is the section of the connection diagram focused including a combination of devices to perform one or several measurements on a UE depending on the test requirements specified in 3GPP TS 38.101-1 [7], 3GPP TS 38.101-2 [8] and 3GPP TS 38.101-3 [9]. The basic TE is the system simulator to enable the connection between the gNB (and the eNB, if NSA mode) and the DUT. The number of cells, the number of streams per cell and how to combine them, channel and propagations conditions, etc. are also part of the TE. Other instruments as external spectrum analyser, interferer generators, external faders or external AWGN generators can be also considered part of the TE, as these instruments allow to measure a test requirement or to set the UE under certain conditions.

DUT Part (UE): for conducted measurement this section is focused on the number of physical antenna connectors and how to combine in the DUT. For radiated measurement this section shows the connections needed to translate the UL/DL streams to the radiated part.

A.2 General considerations on Connections Diagram

In order to improve the maintainability and the readability of this section and to make easy to identify the whole connection diagram to use per each test case, several considerations have been used for this section:

- The whole connection diagram to use for a specific test has been split in Test Equipment (TE) and User Equipment (UE) parts.
- The same connection diagram will be used for SA and NSA, where the LTE link is specified in each connection diagram (TE and UE) with a dashed line (and this part will be only used for NSA).
- To obtain the whole connection diagram required per each test case is necessary to specify the TE part required for each measurement and the UE part will depend on the UE antenna implementation.

A.3 Setup Diagrams

A.3.1 Test Equipment Parts for Conducted Measurements

A.3.1.1 Basic Transmitter/Receiver tests

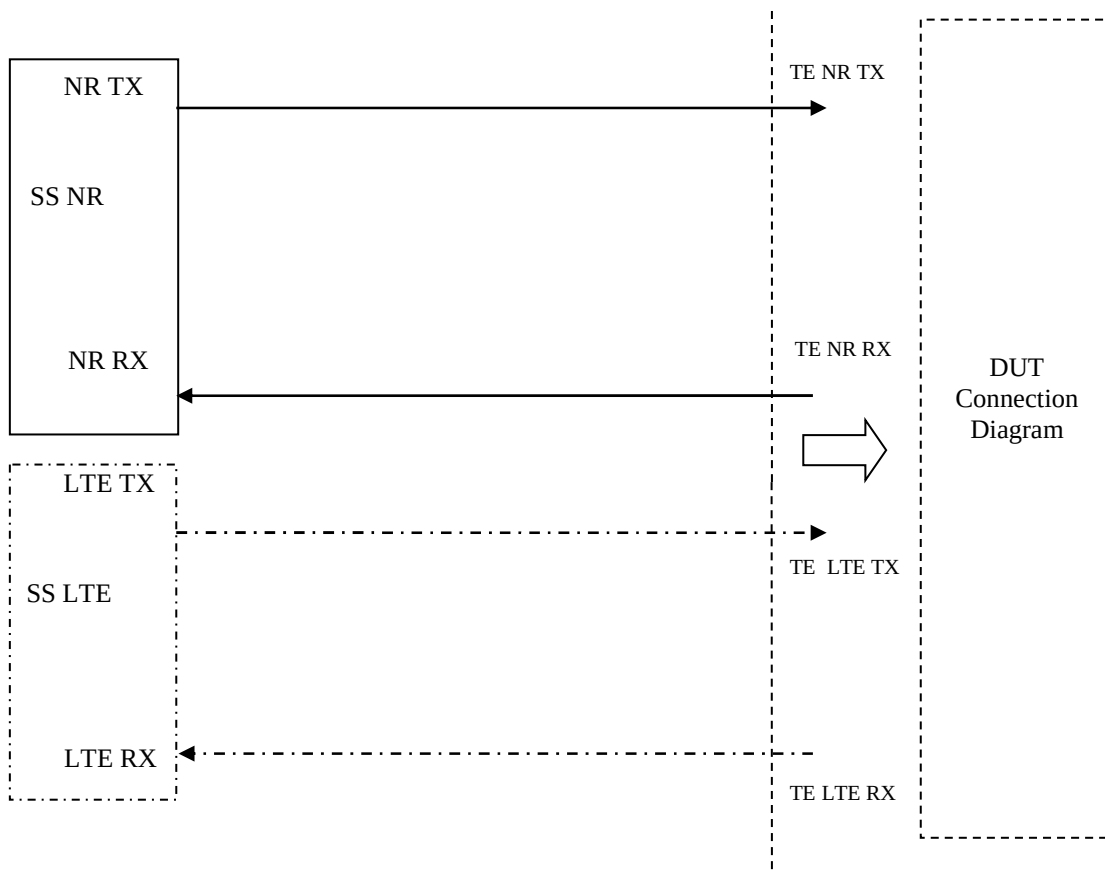


Figure A.3.1.1.1: Test Equipment connection for basic single cell, RX and TX tests

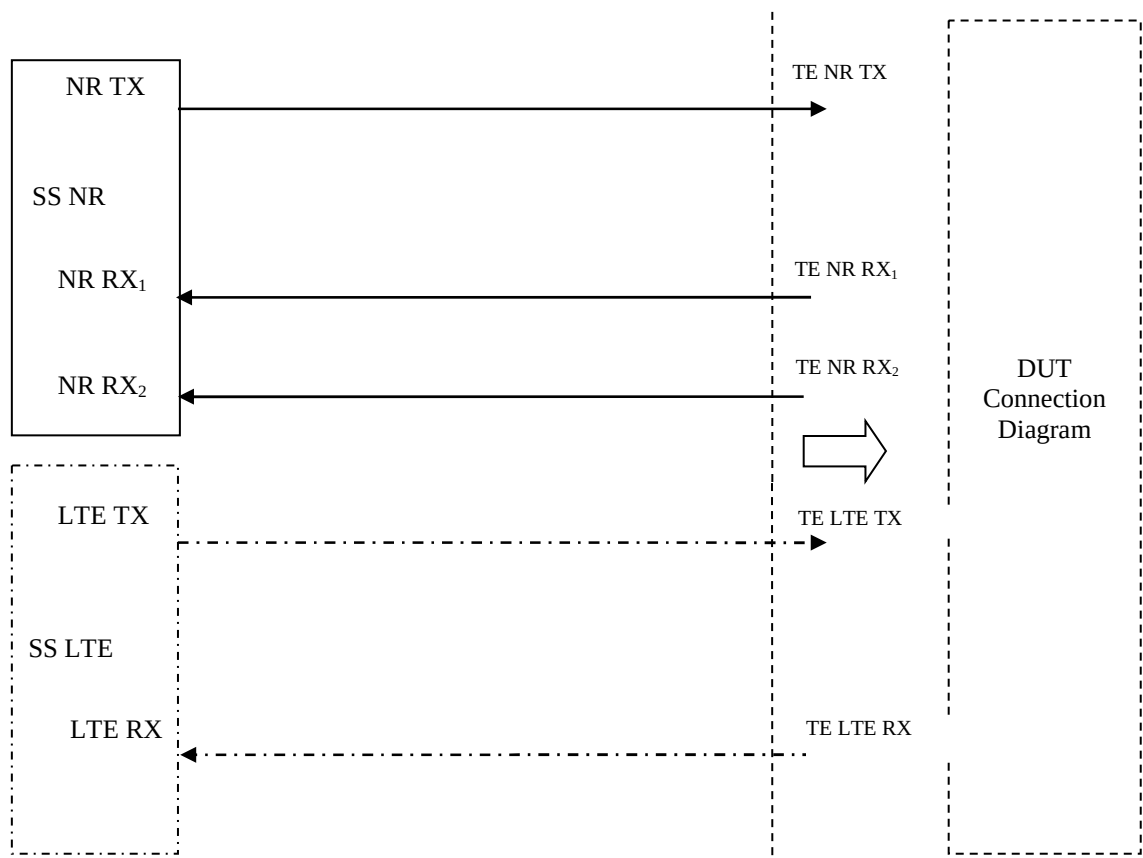


Figure A.3.1.1.2: Test Equipment connection for single cell, RX and TX tests for NR UL MIMO

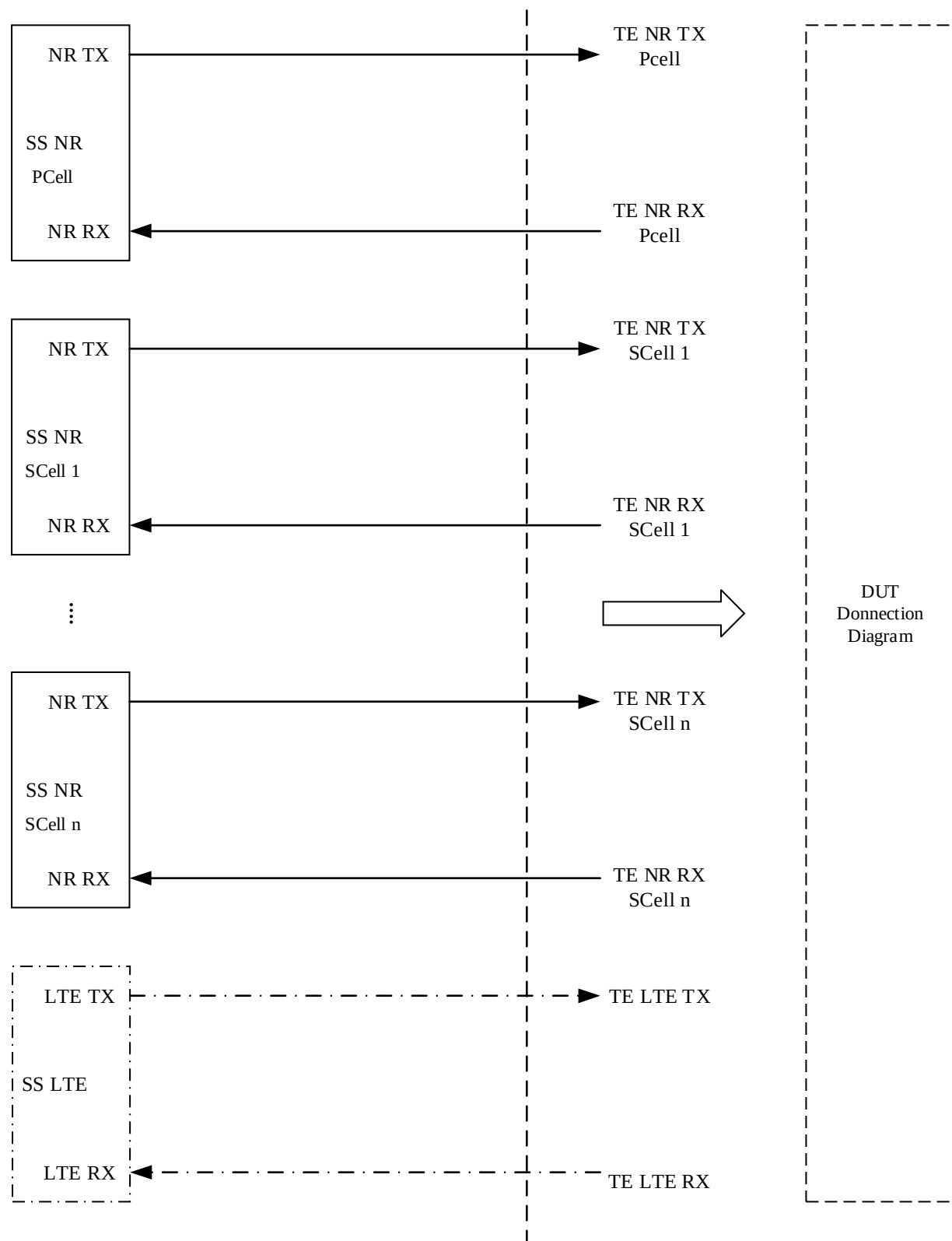


Figure A.3.1.1.3: Test Equipment connection for NR CA, basic RX and TX tests

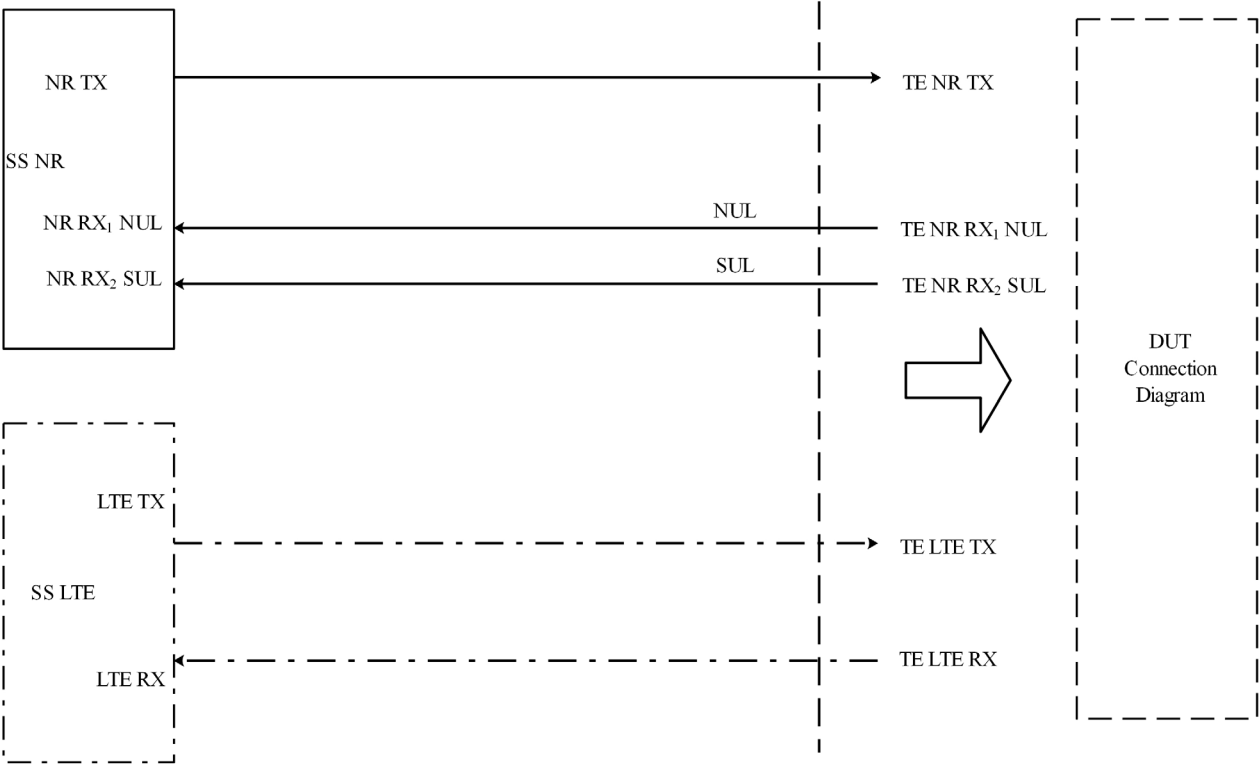


Figure A.3.1.1.4: Test Equipment connection for NR SUL, basic RX and TX tests

A.3.1.2 Transmitter tests using Spectrum Analyser

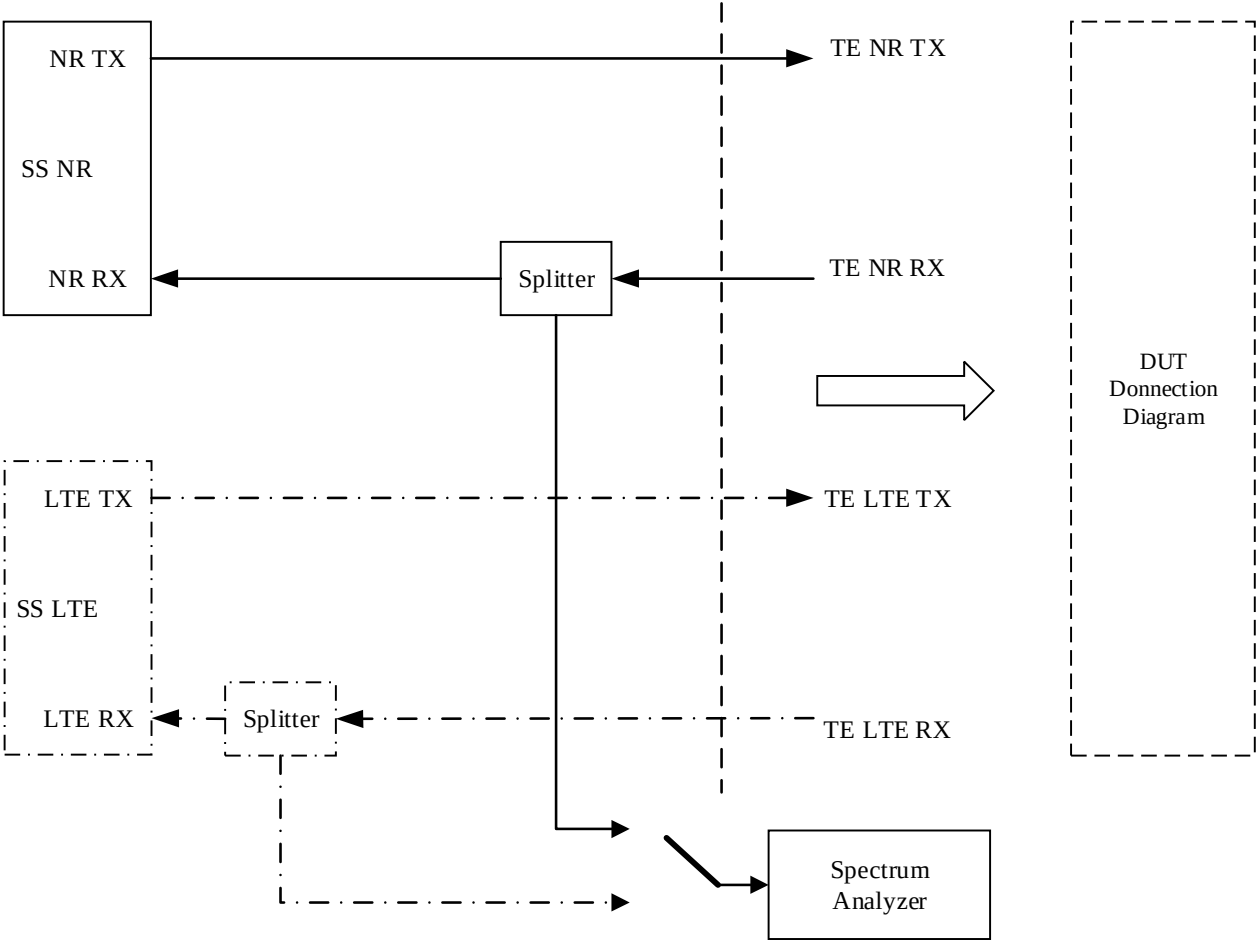


Figure A.3.1.2.1: Test Equipment connection for TX-tests with additional Spectrum Analyzer

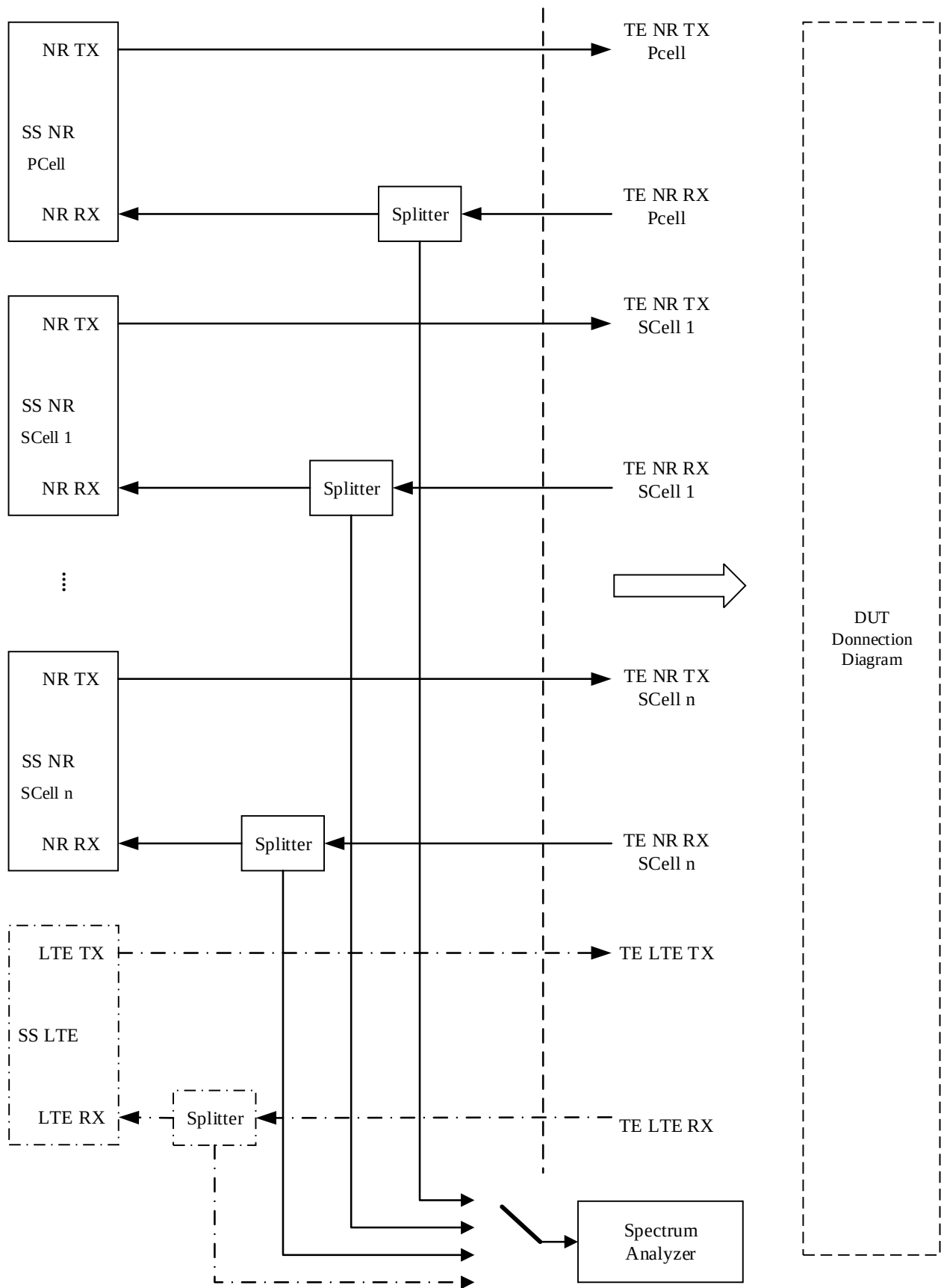


Figure A.3.1.2.3: Test Equipment connection for NR CA TX-tests with additional Spectrum Analyser

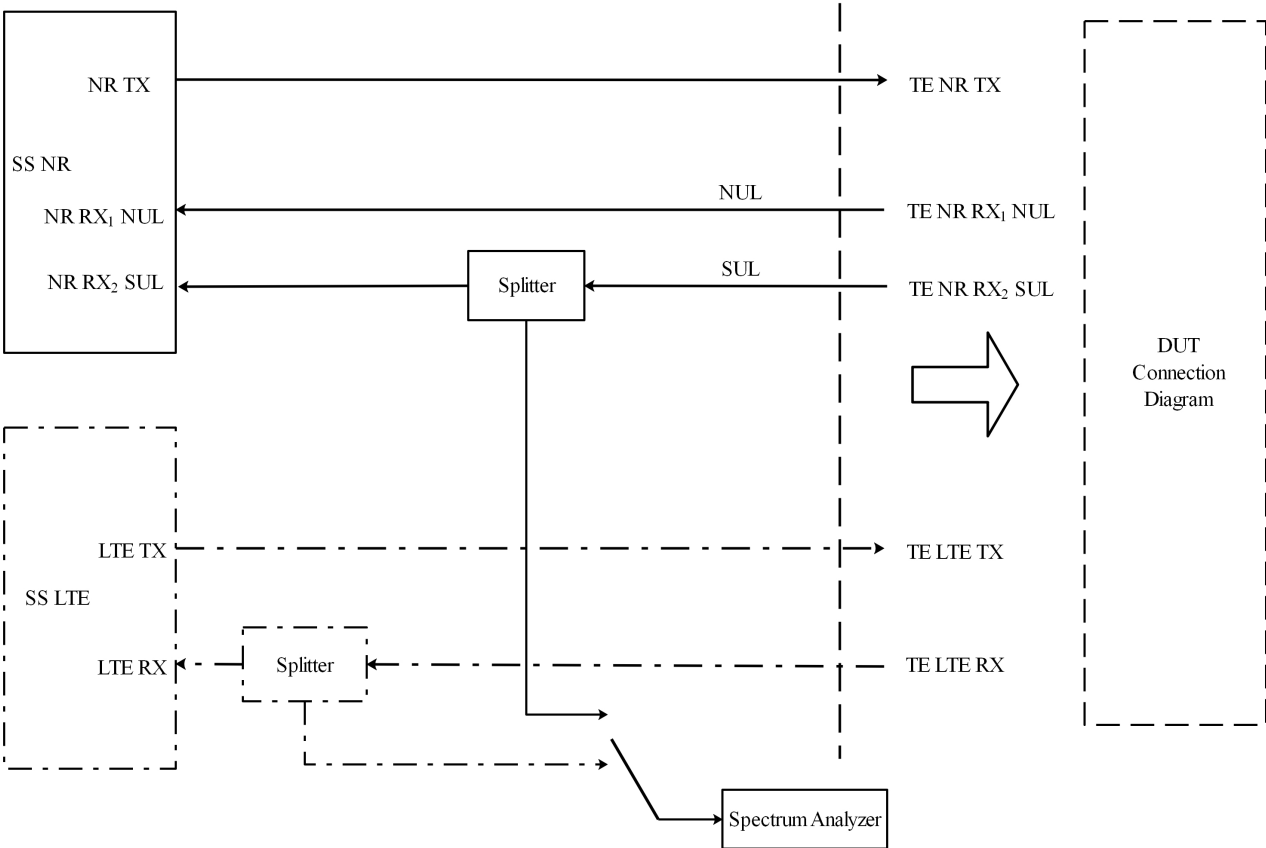


Figure A.3.1.2.4: Test Equipment connection for NR SUL TX-tests with additional Spectrum Analyzer

A.3.1.3 Transmitter tests using Spectrum Analyser and Signal Generator

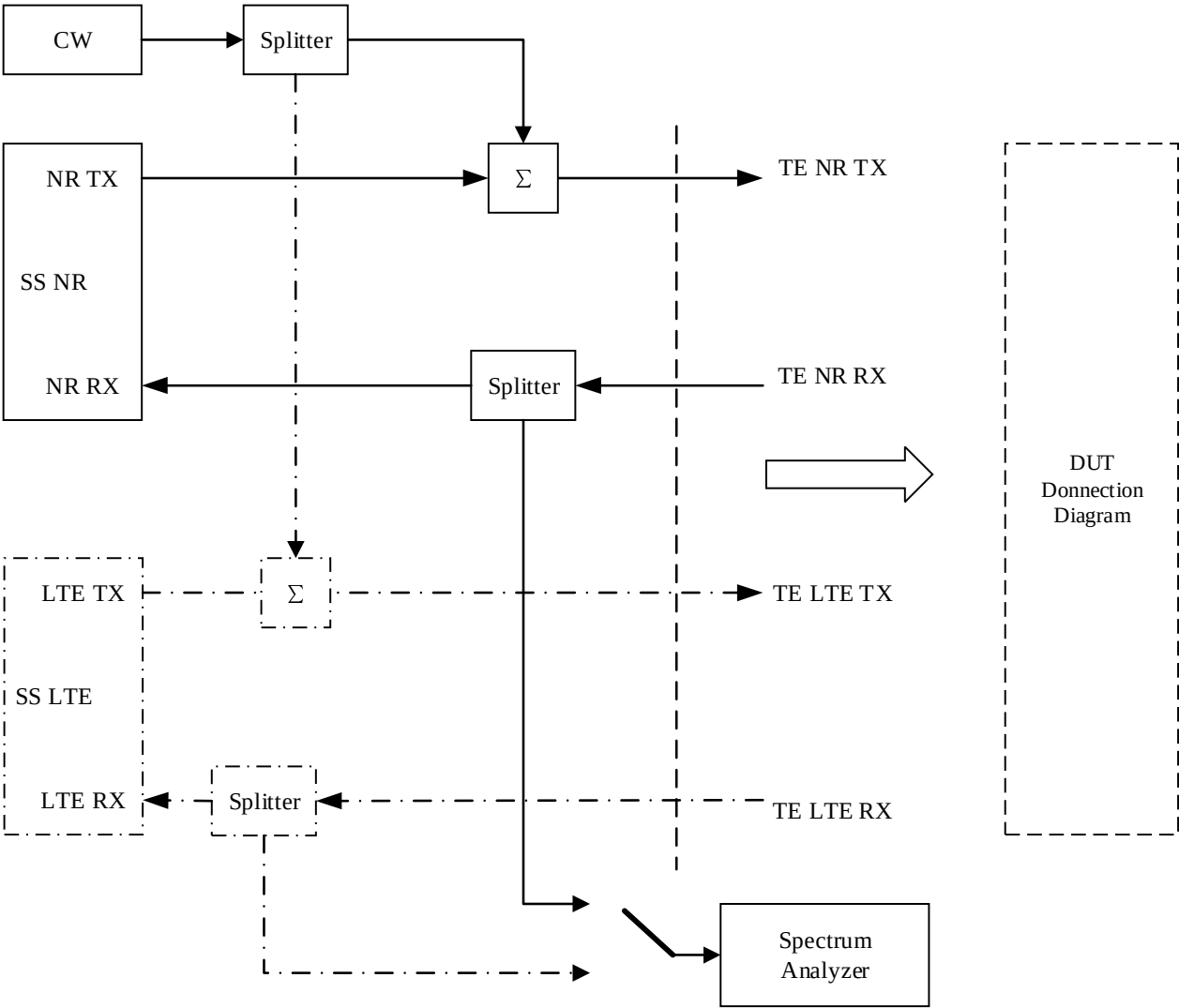


Figure A.3.1.3.1: Test Equipment connection for Transmitter tests with CW Interference and spectrum analyser

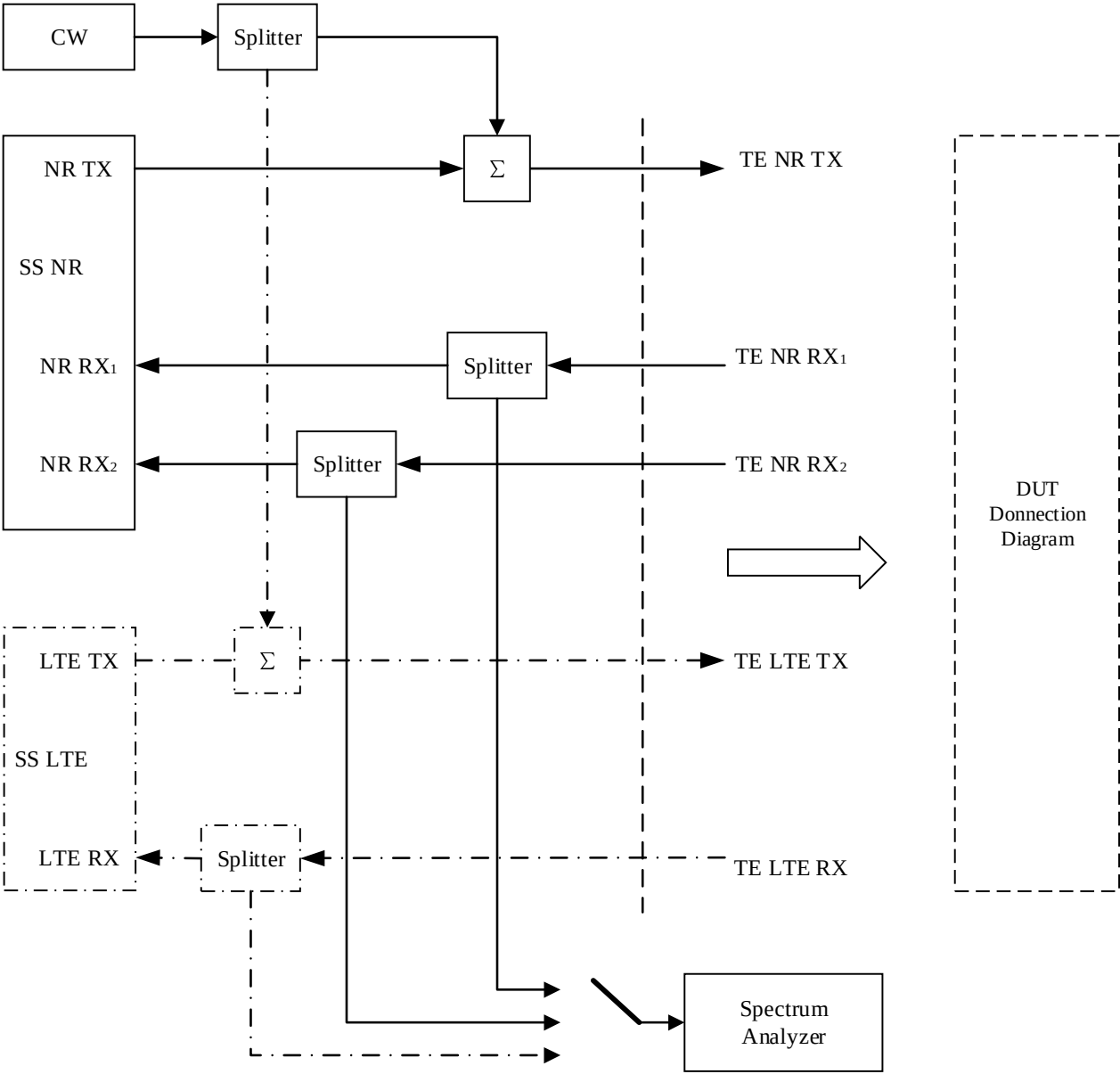


Figure A.3.1.3.2: Test Equipment connection for Transmitter tests for UL MIMO with CW Interference and spectrum analyser

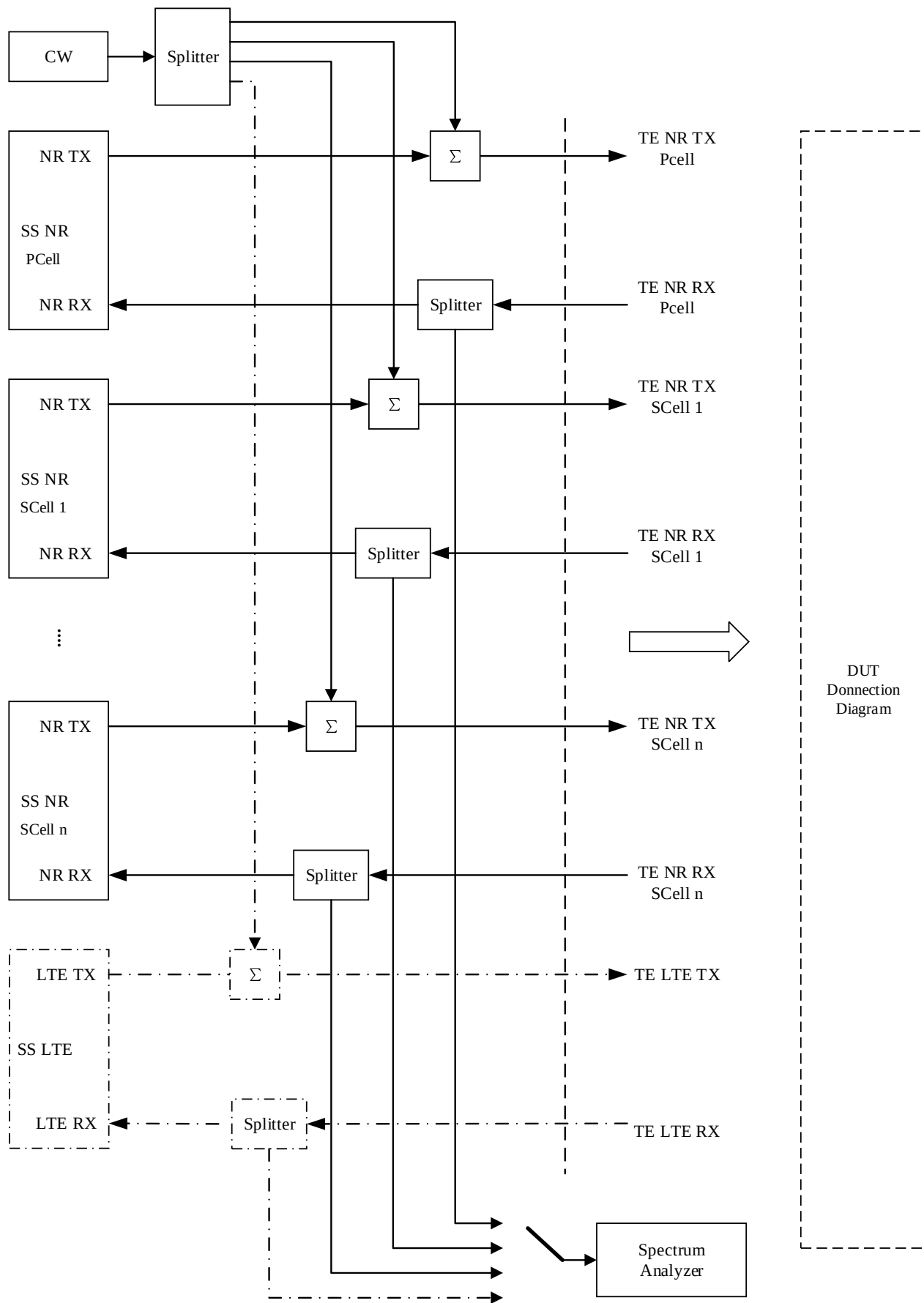


Figure A.3.1.3.3: Test Equipment connection for NR CA Transmitter tests with CW Interference and spectrum analyser

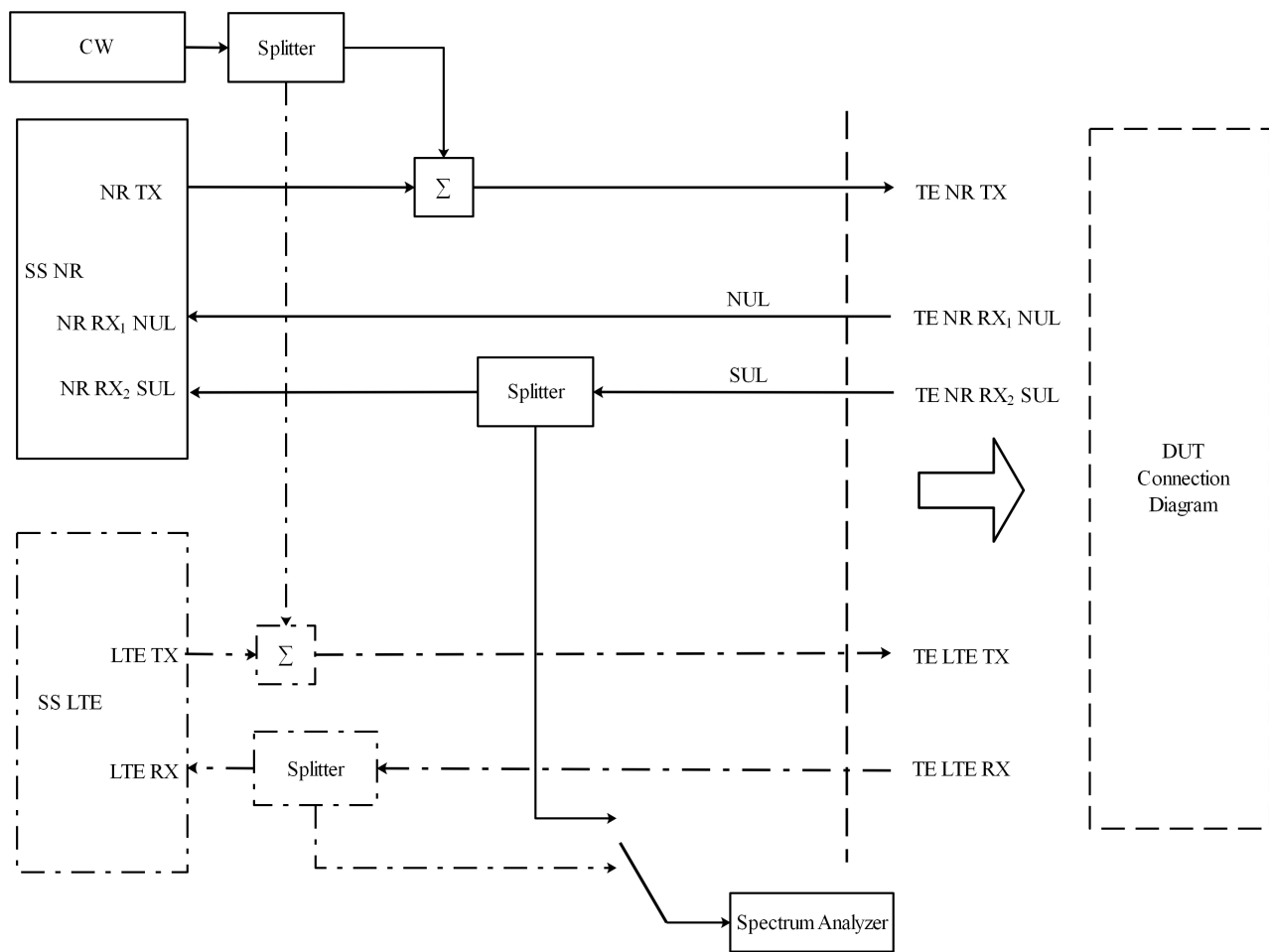


Figure A.3.1.3.4: Test Equipment connection for Transmitter tests for SUL with CW Interference and spectrum analyzer

A.3.1.4 Receiver tests using Signal Generator

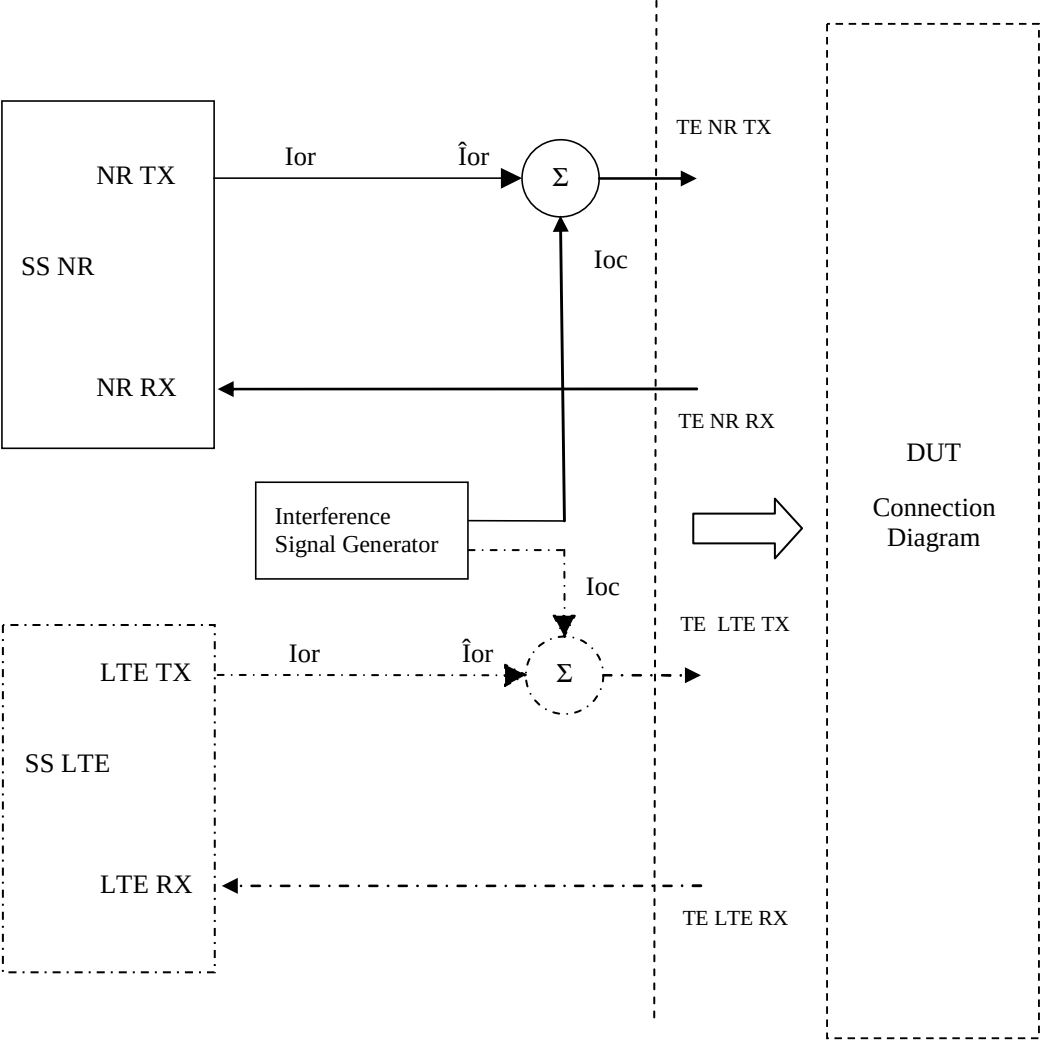


Figure A.3.1.4.1: Test Equipment connection for Receiver tests with Modulated Interference

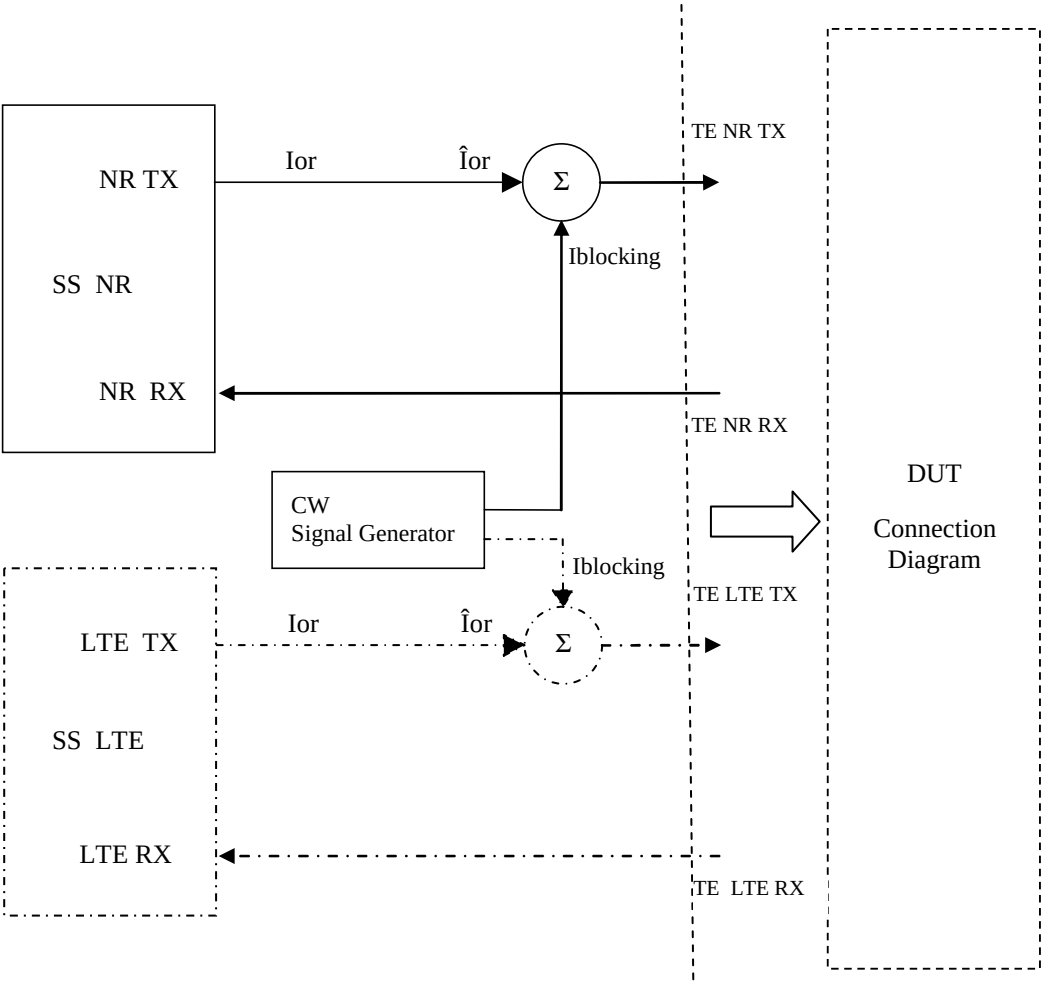


Figure A.3.1.4.2: Test Equipment connection for Receiver tests with CW Interference

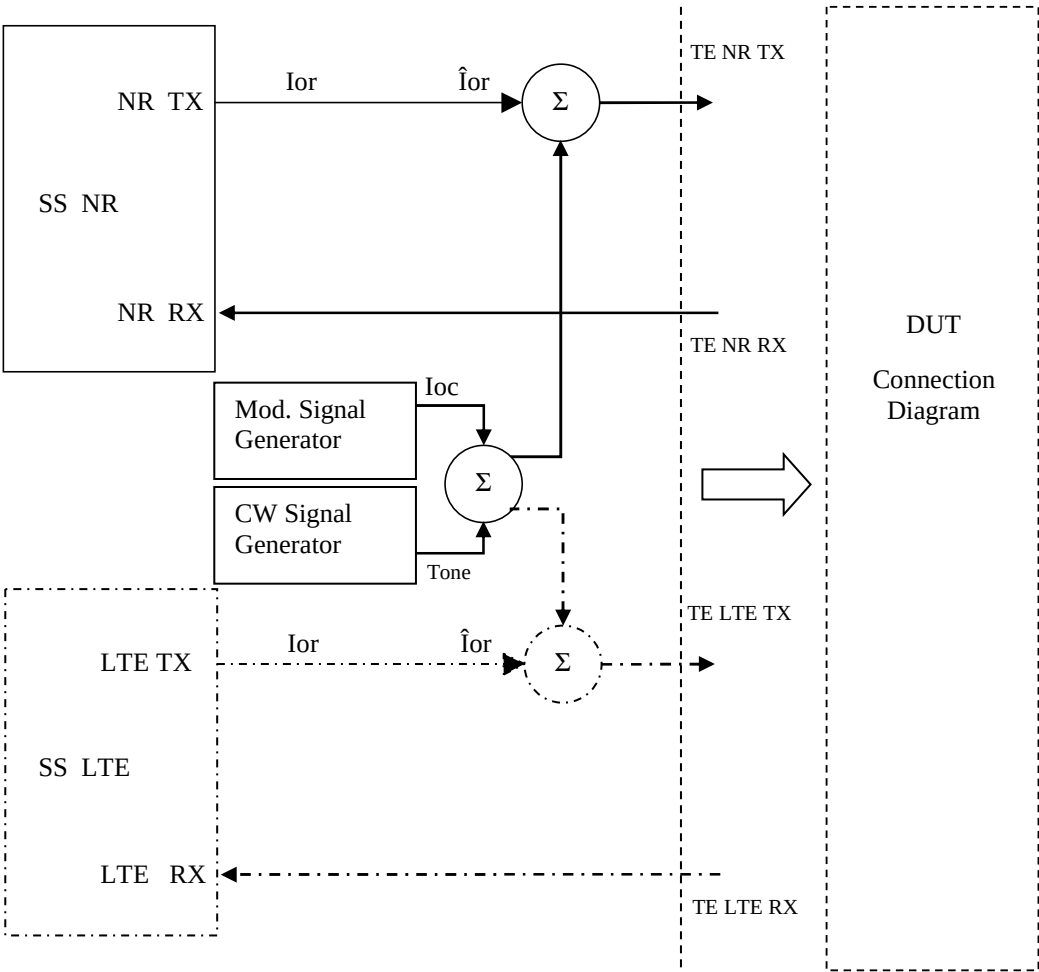


Figure A.3.1.4.3: Test Equipment connection for Receiver tests both Modulated and additional CW Interference signal

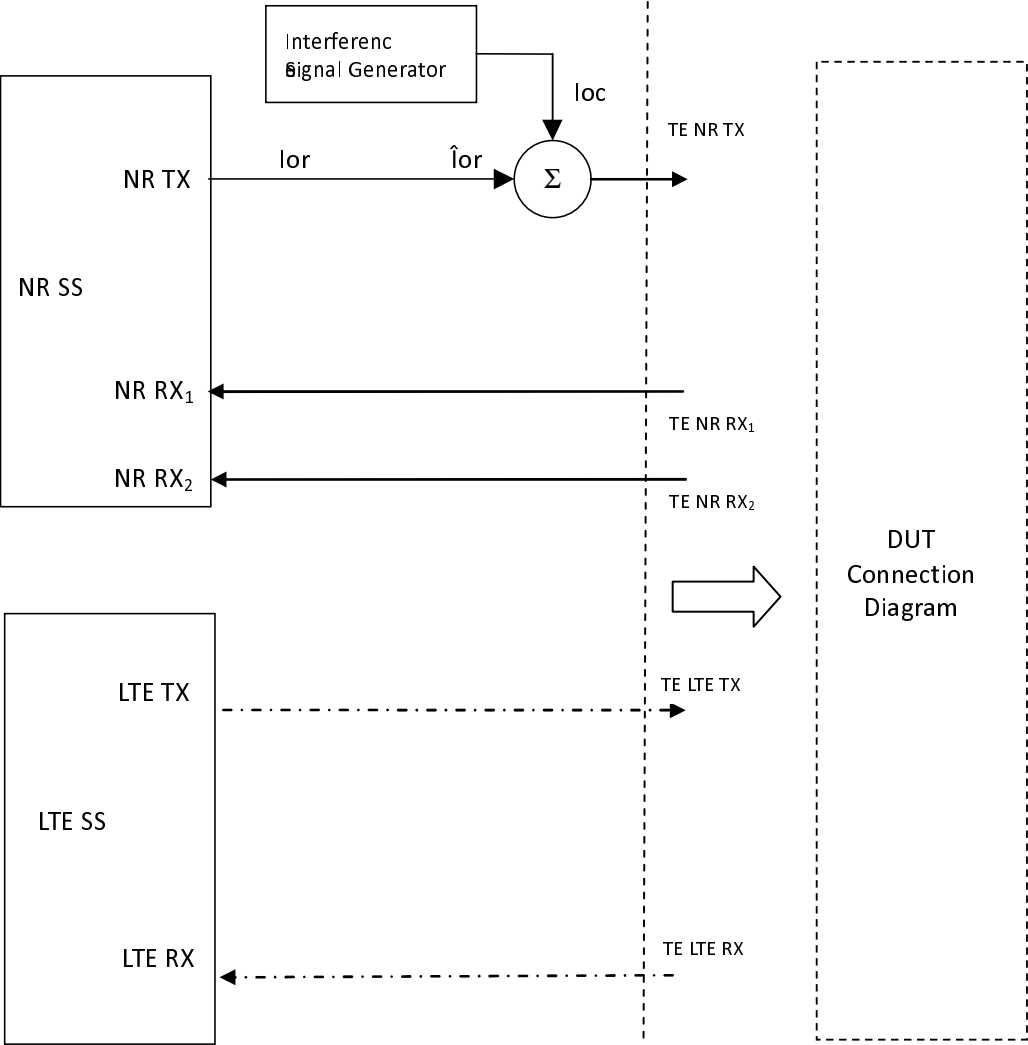


Figure A.3.1.4.4: Test Equipment connection for Receiver tests for UL MIMO with Modulated Interference

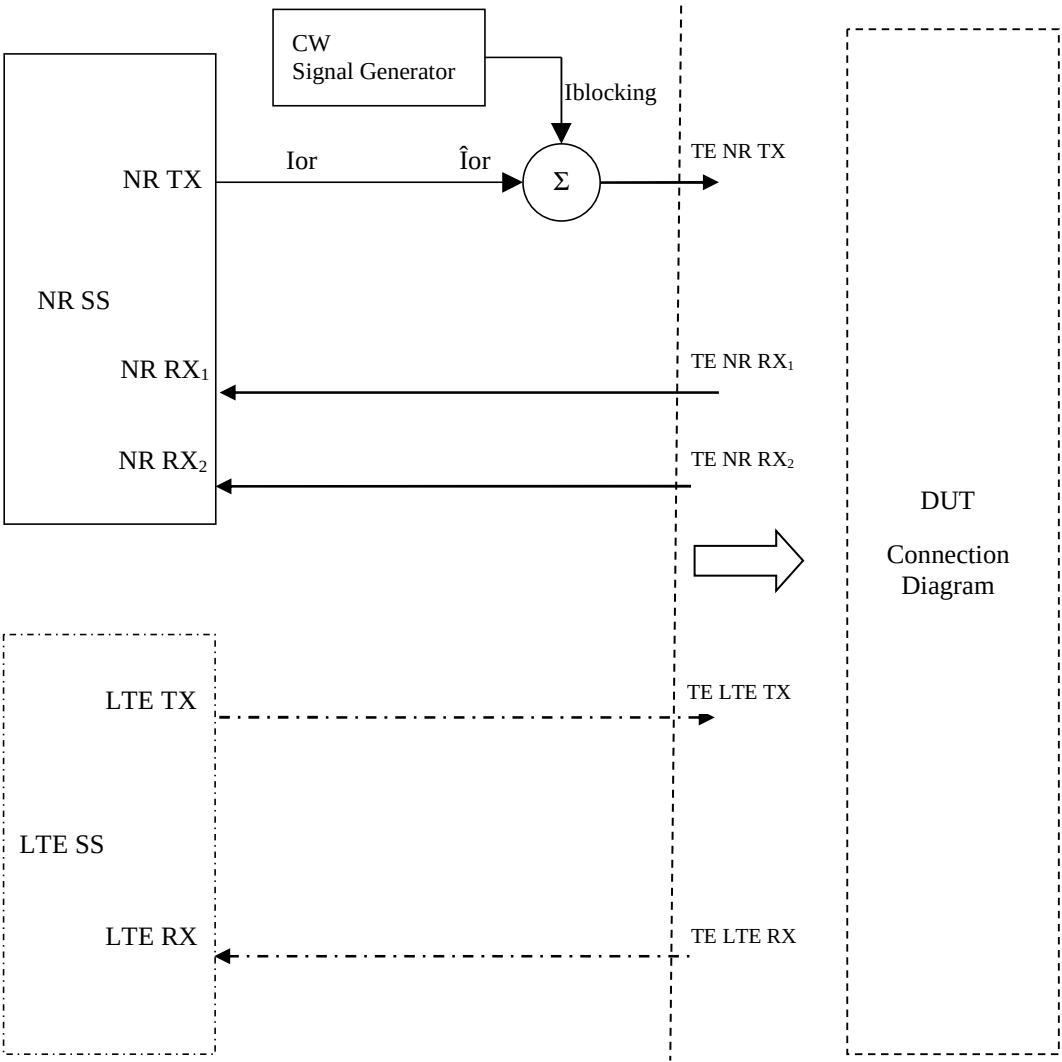


Figure A.3.1.4.5: Test Equipment connection for Receiver tests for UL MIMO with CW Interference

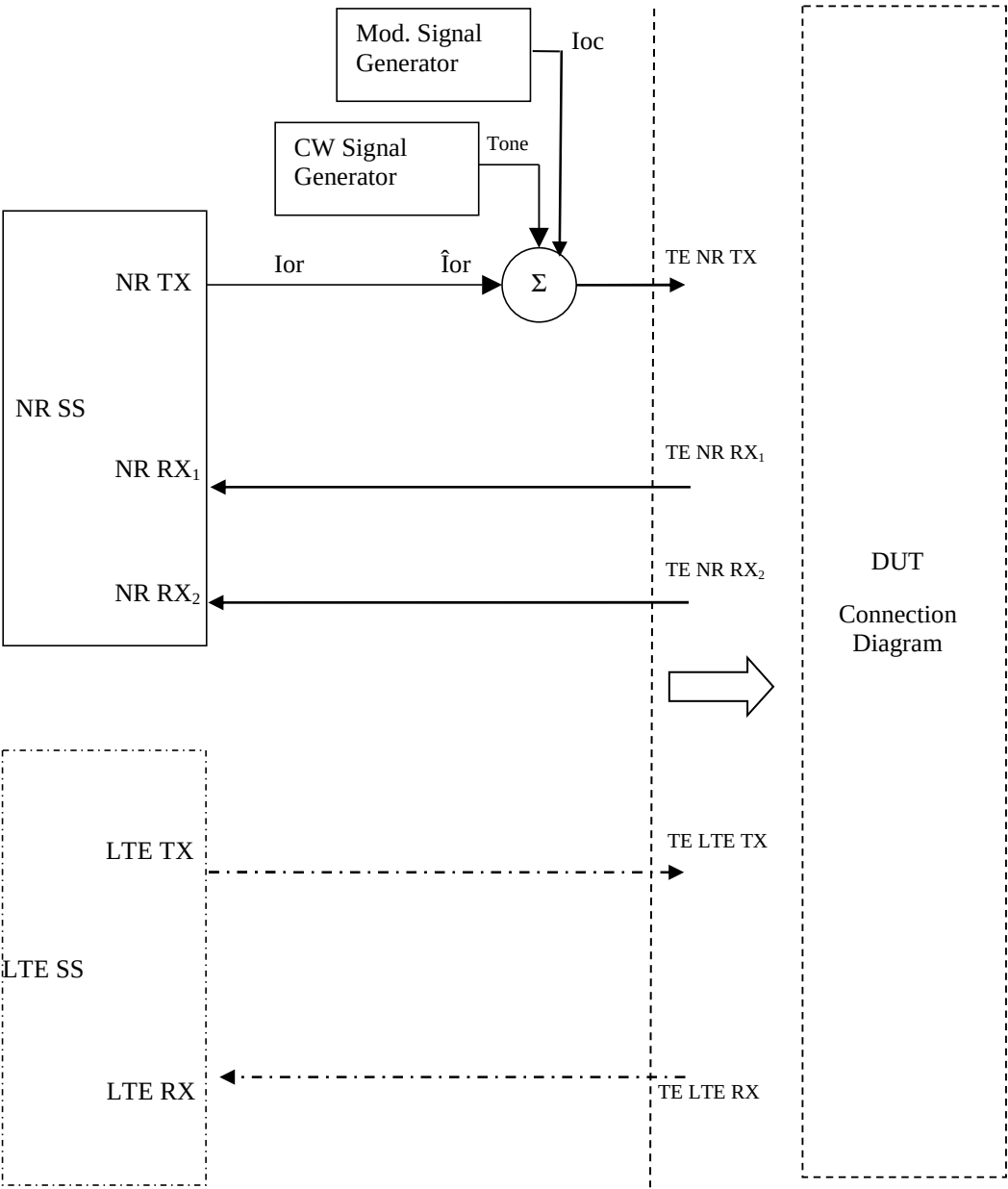


Figure A.3.1.4.6: Test Equipment connection for Receiver tests for UL MIMO with both Modulated and additional CW Interference signal

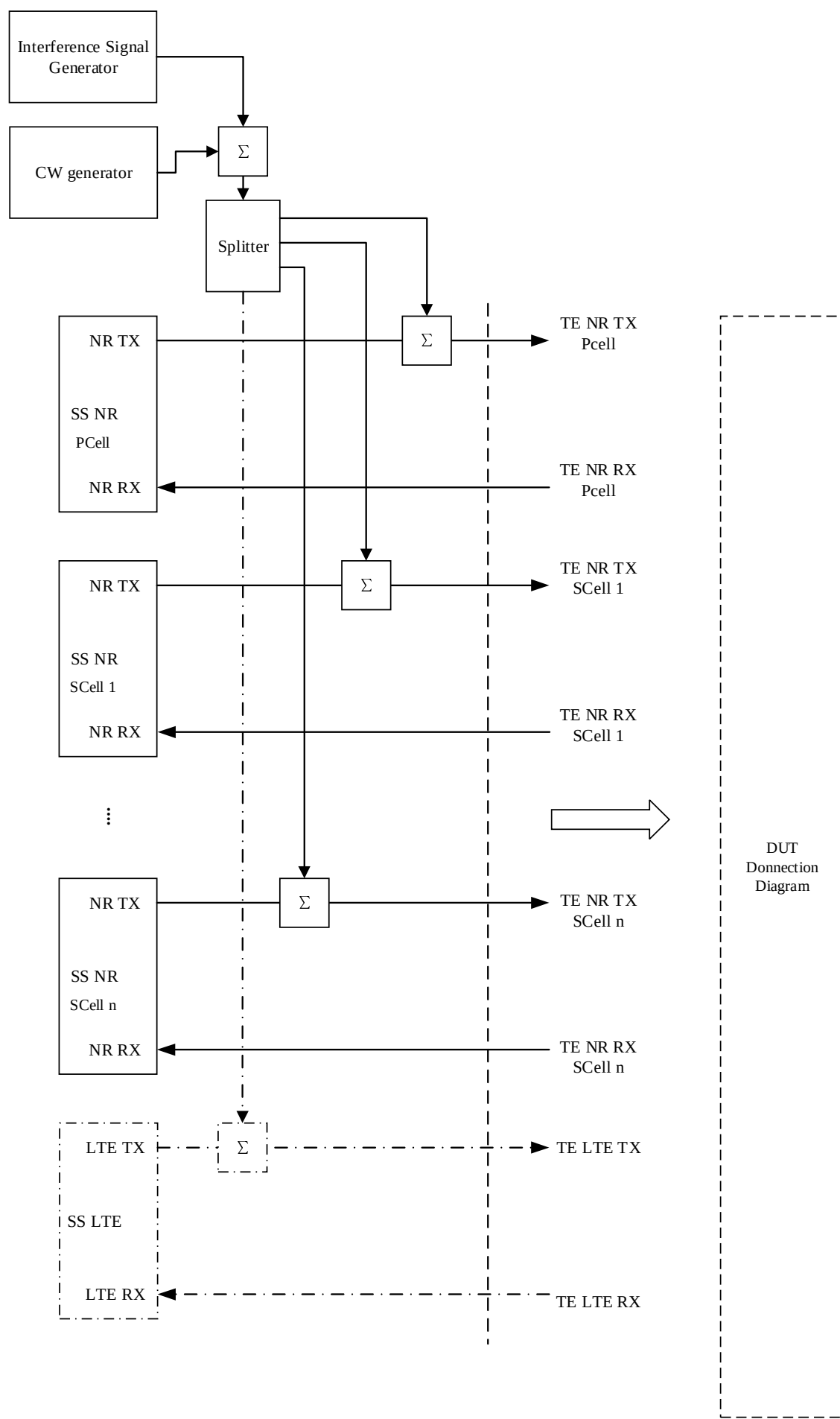


Figure A.3.1.4.7: Test Equipment connection for NR CA Receiver tests with additional Modulated Interference signal and/or CW Interference signal

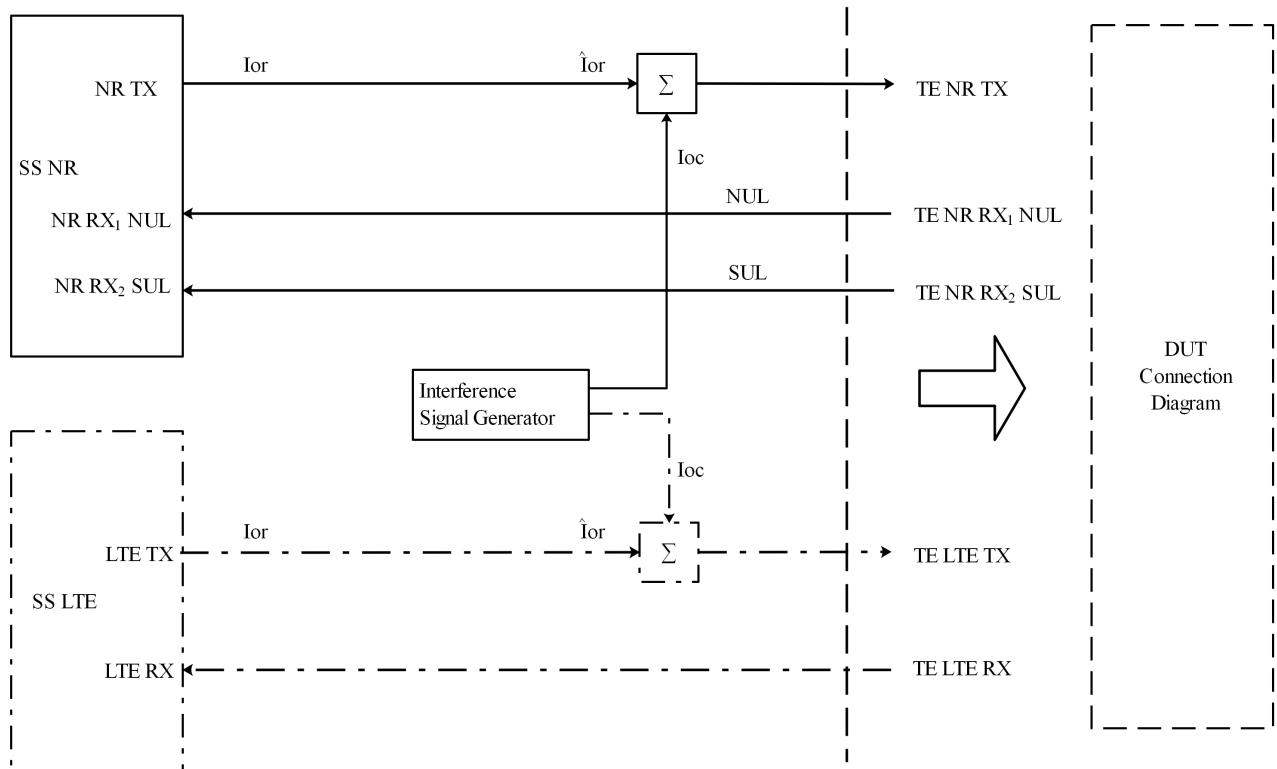


Figure A.3.1.4.8: Test Equipment connection for NR SUL Receiver tests with Modulated Interference

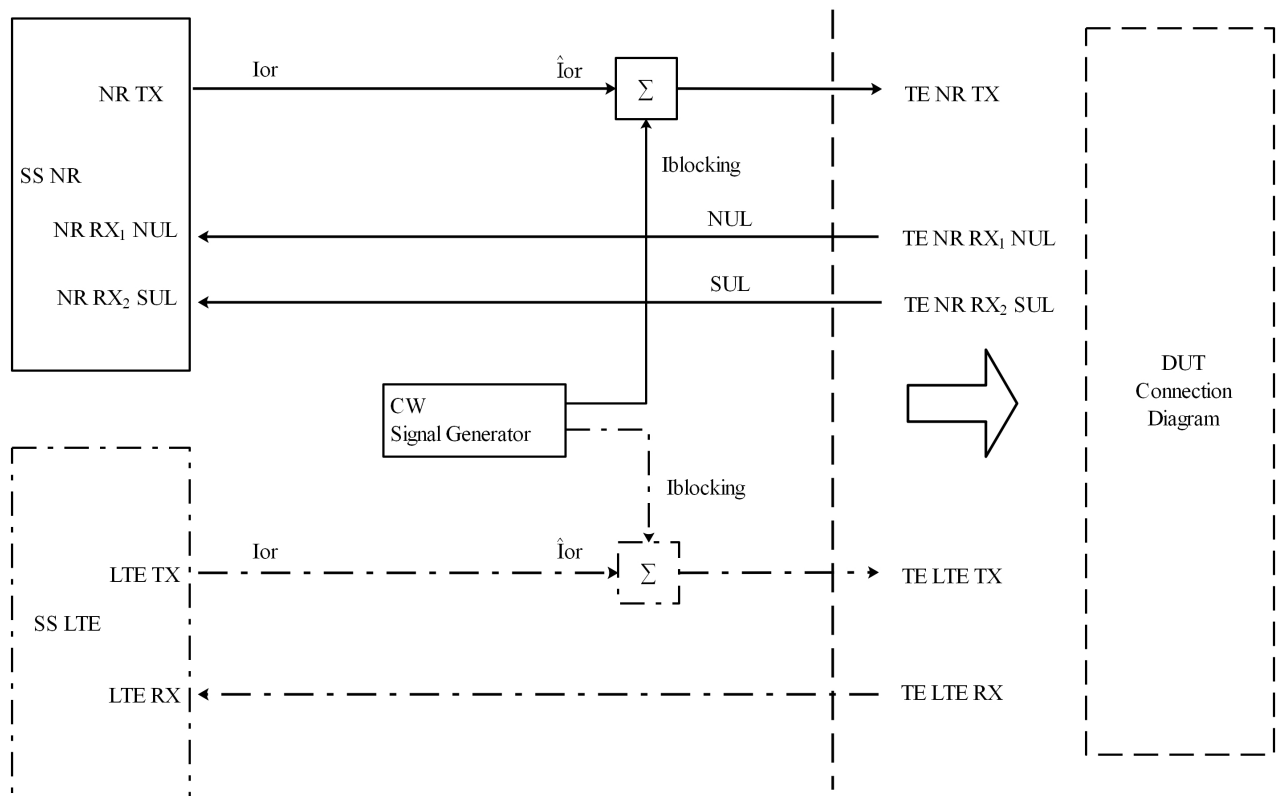


Figure A.3.1.4.9: Test Equipment connection for NR SUL Receiver tests with CW Interference

A.3.1.5 Receiver tests using Spectrum Analyser

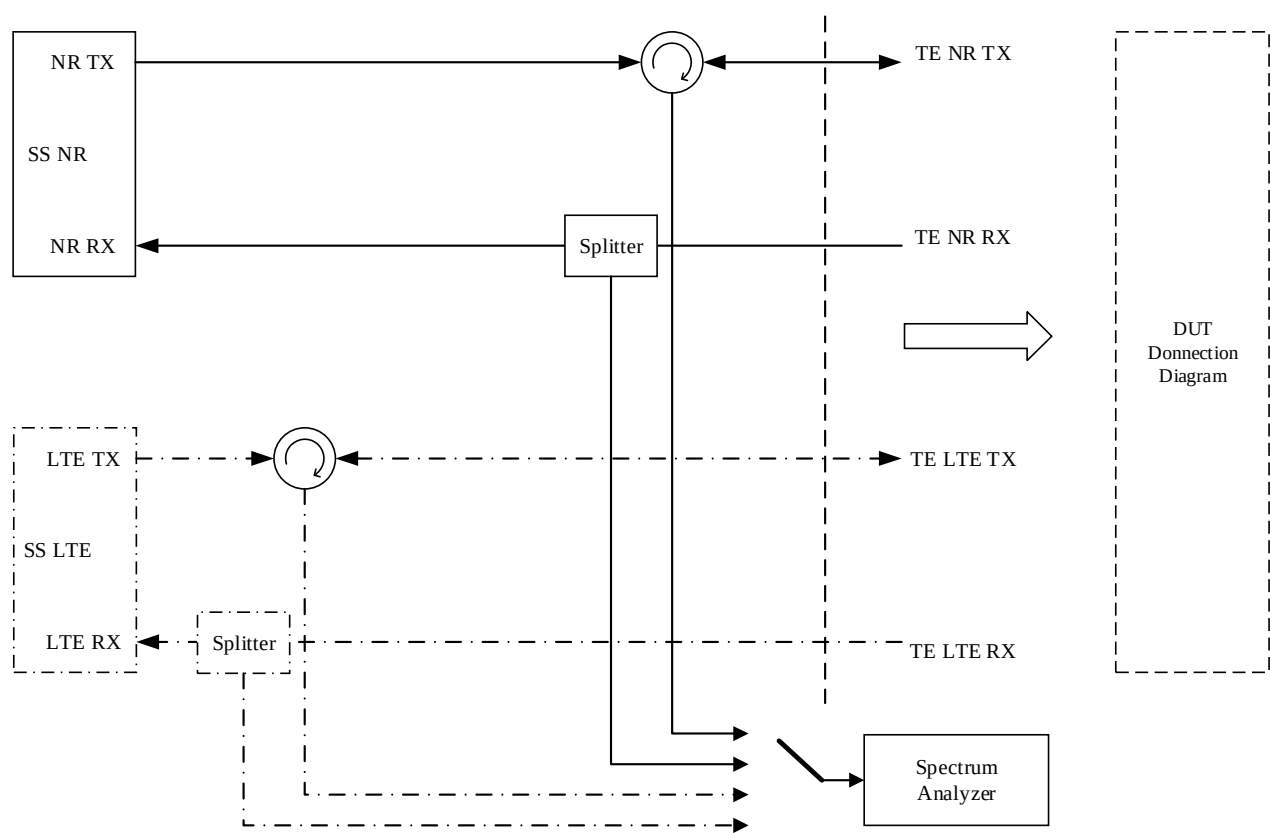


Figure A.3.1.5.1: Test Equipment connection for RX-tests with additional Spectrum Analyzer

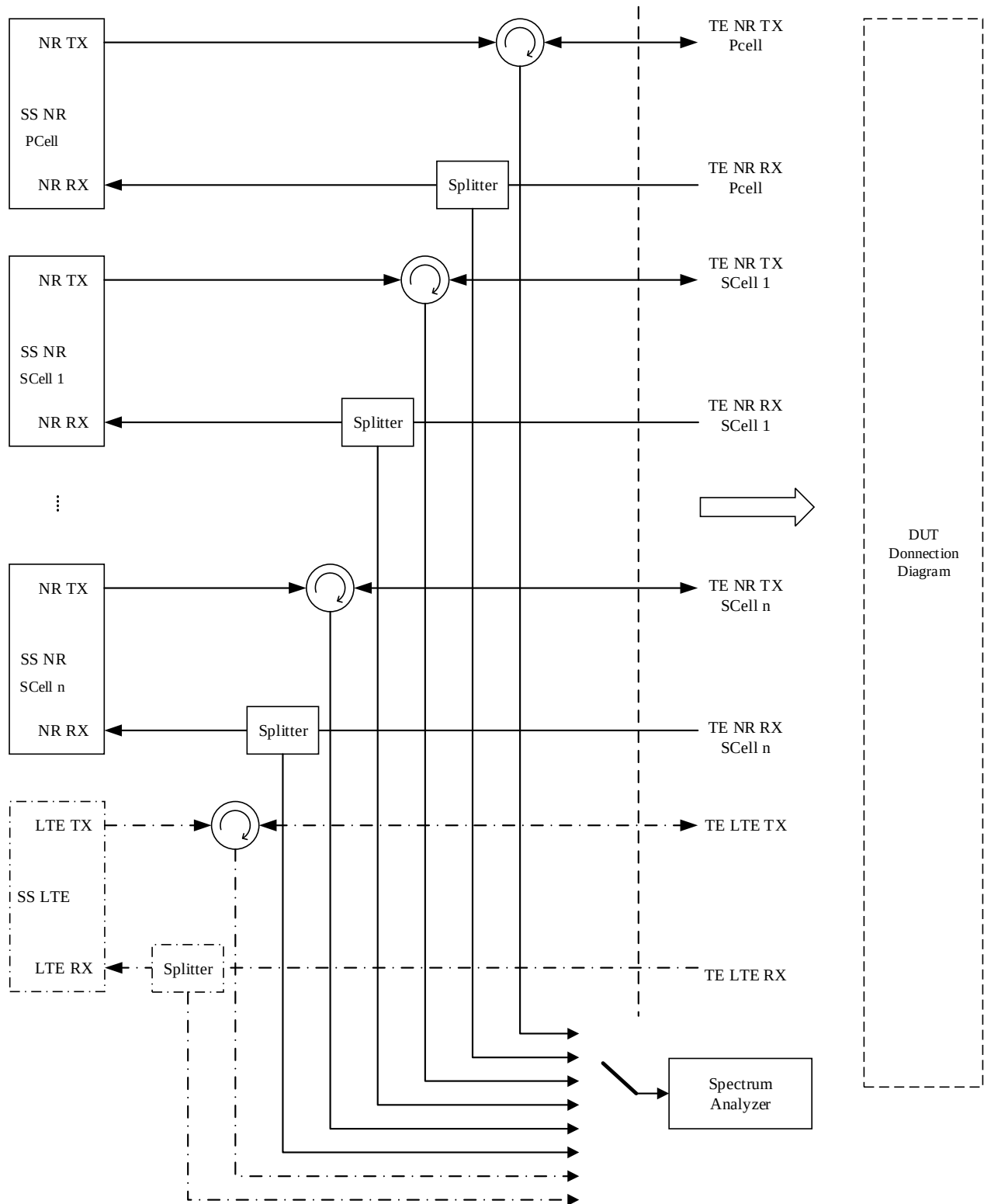


Figure A.3.1.5.2: Test Equipment connection for NR CA RX-tests with additional Spectrum Analyzer

A.3.1.6 Receiver Performance tests

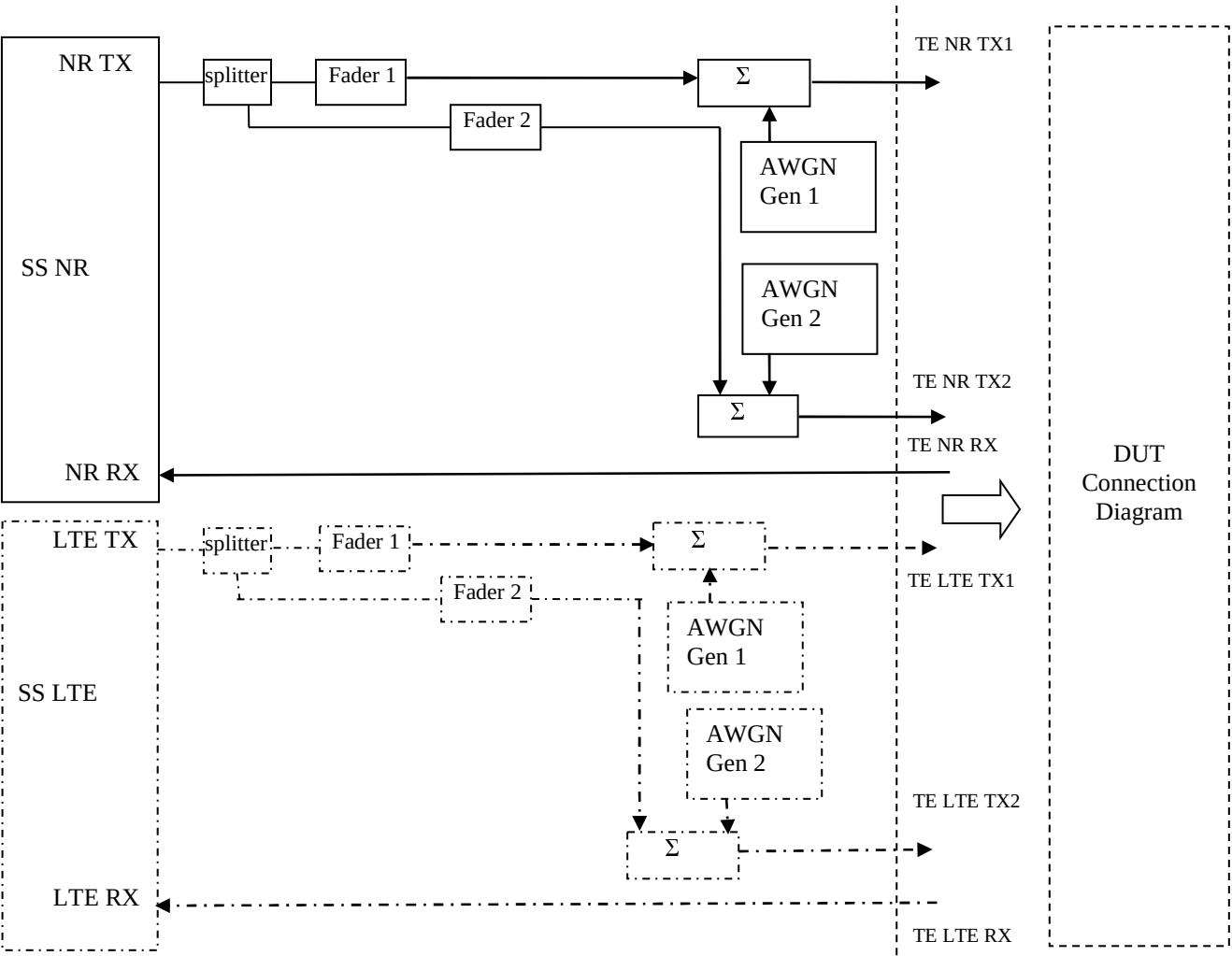


Figure A.3.1.6.1: Test Equipment connection for Receiver Performance tests with antenna configuration 1x2

A.3.1.7 Demodulation Performance and CSI reporting tests

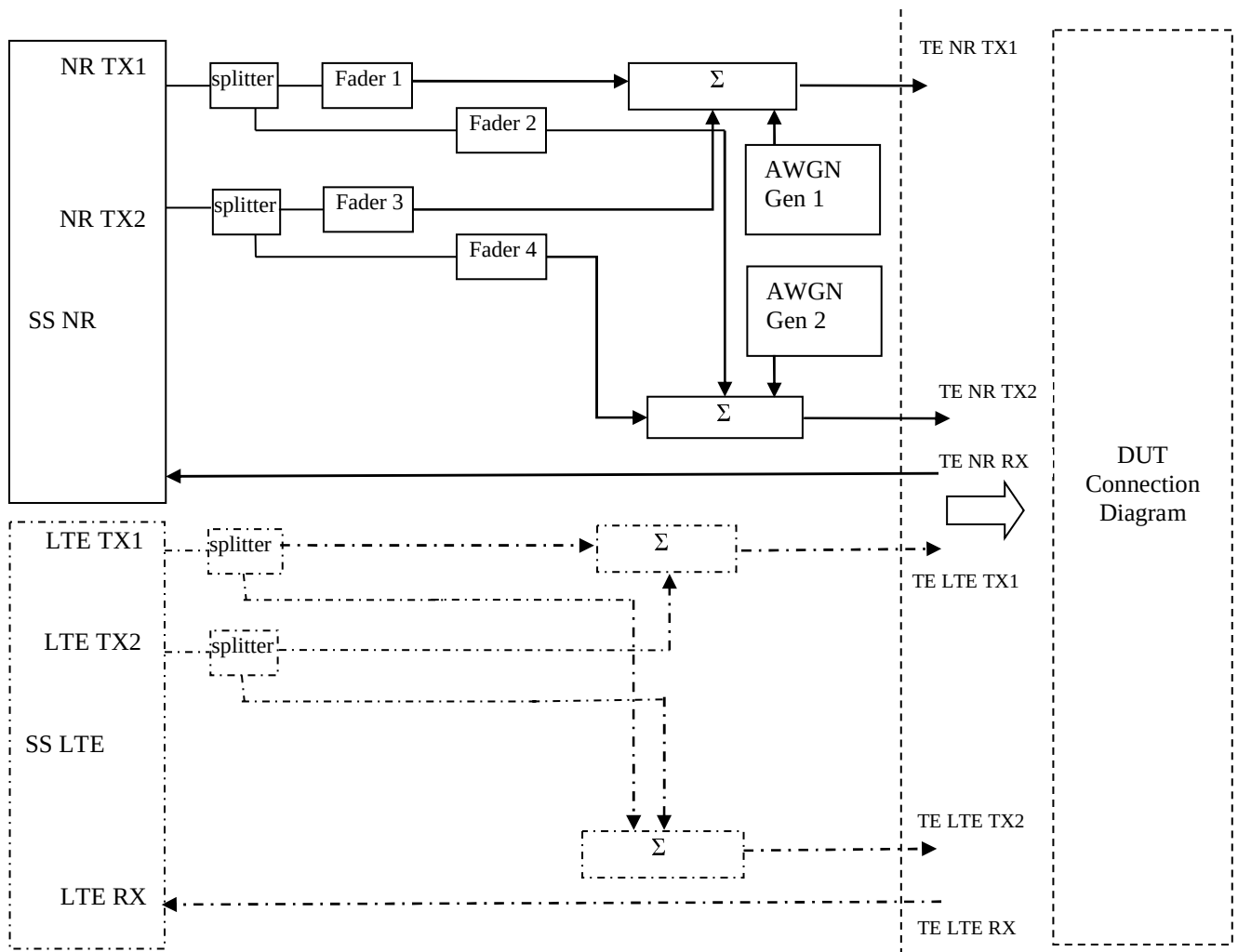


Figure A.3.1.7.1: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 2x2

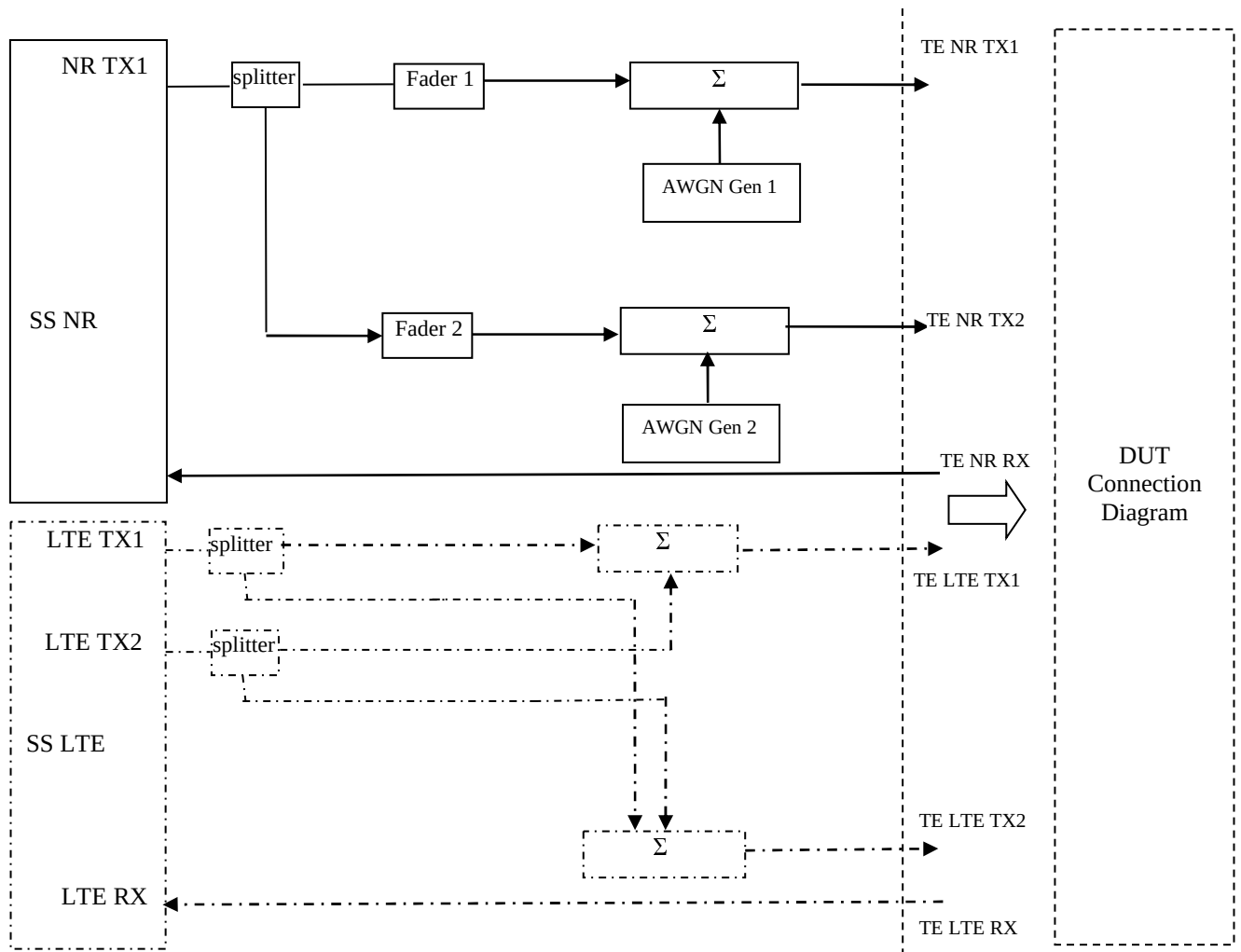


Figure A.3.1.7.2: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 1x2

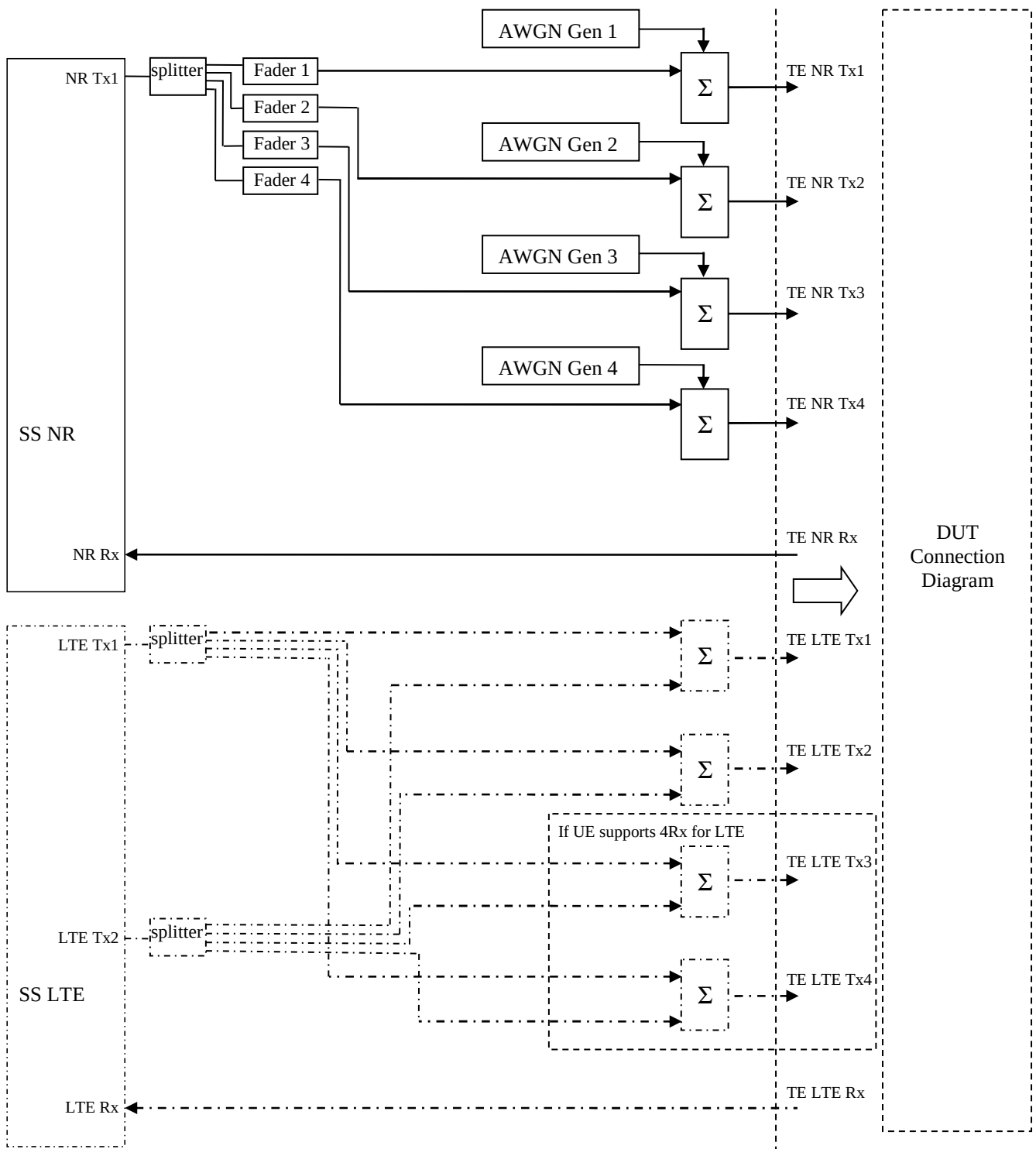


Figure A.3.1.7.3: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 1x4

(Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx)

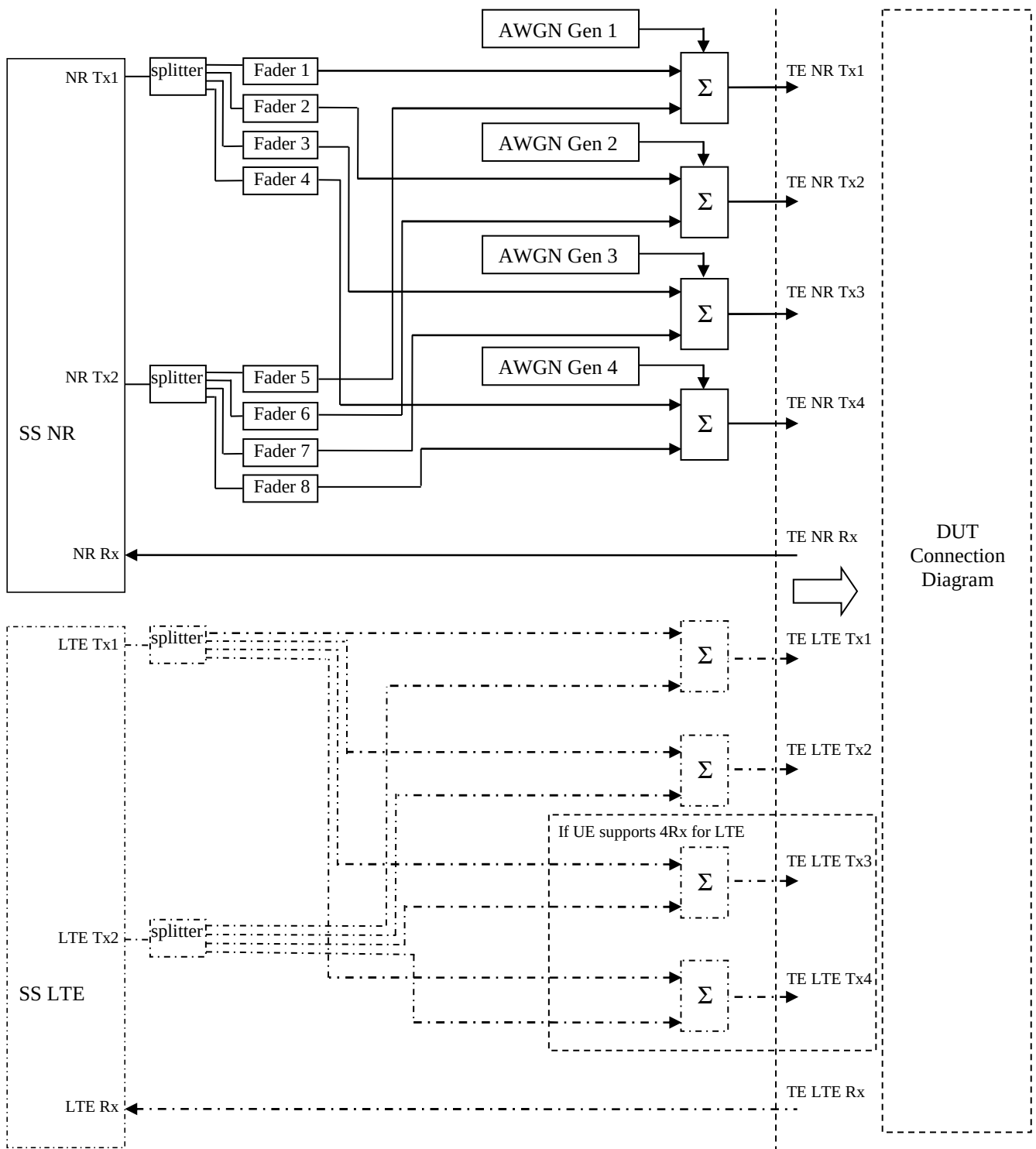


Figure A.3.1.7.4: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 2x4

(Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx)

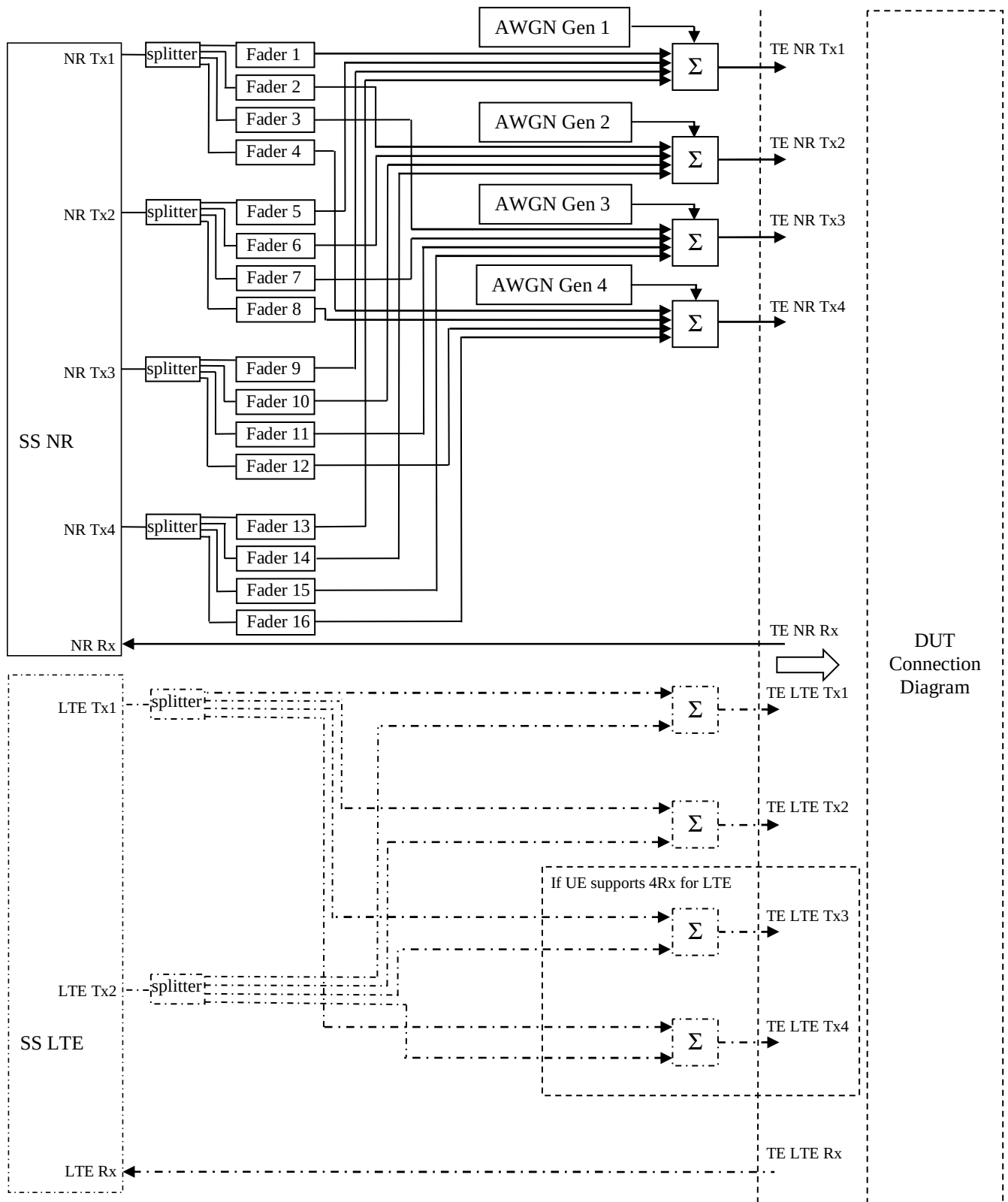


Figure A.3.1.7.5: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 4x4
 (Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx)

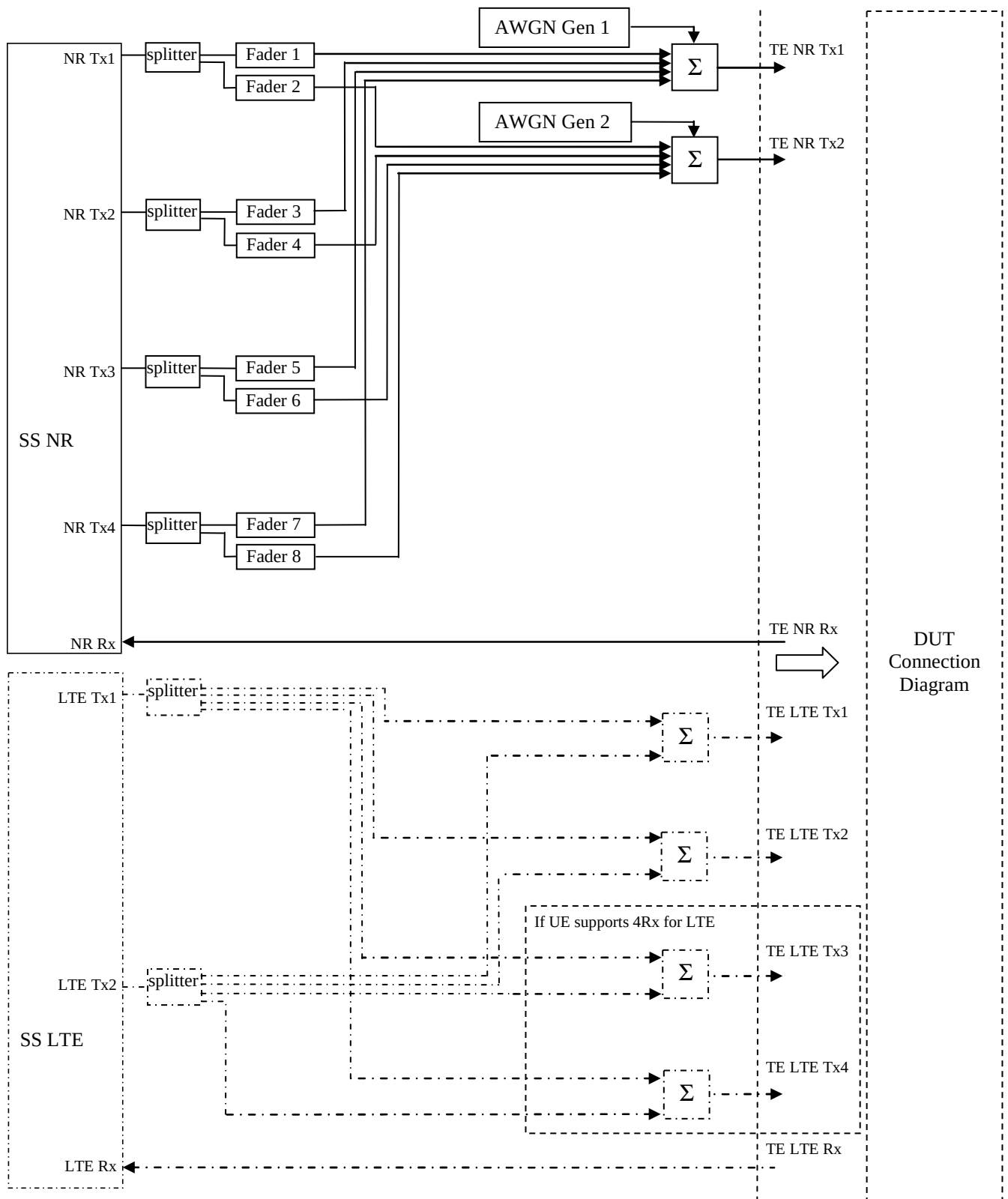


Figure A.3.1.7.6: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 4x2

Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx.

A.3.1.8 RRM tests with more than one NR cell

The figures in this section represent connection diagrams for test cases with more than one NR cell. The parameters in the connection diagram, e.g. the number of cells n or the value of the phase rotator φ_i shall be defined by the test cases.

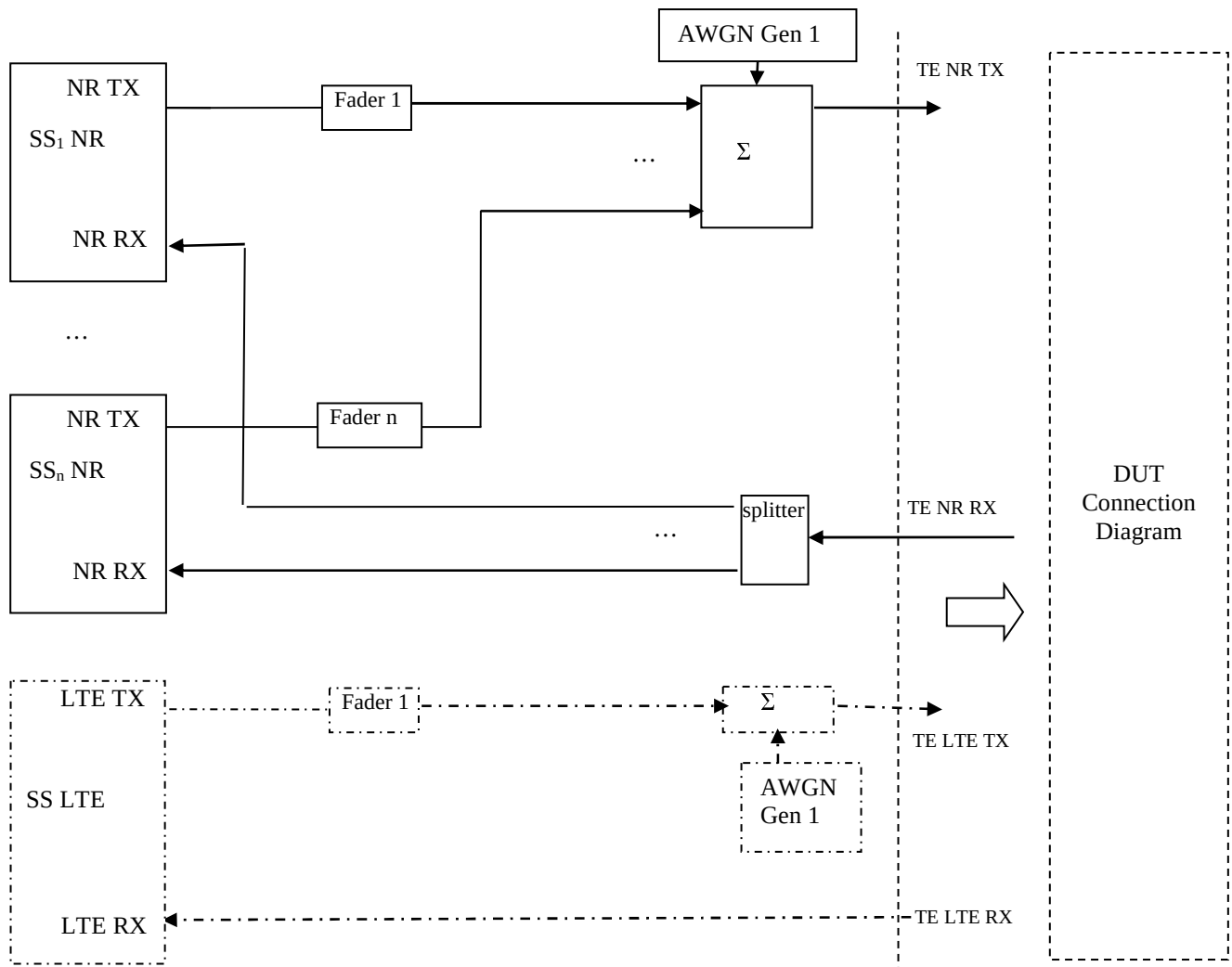


Figure A.3.1.8.1: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x1

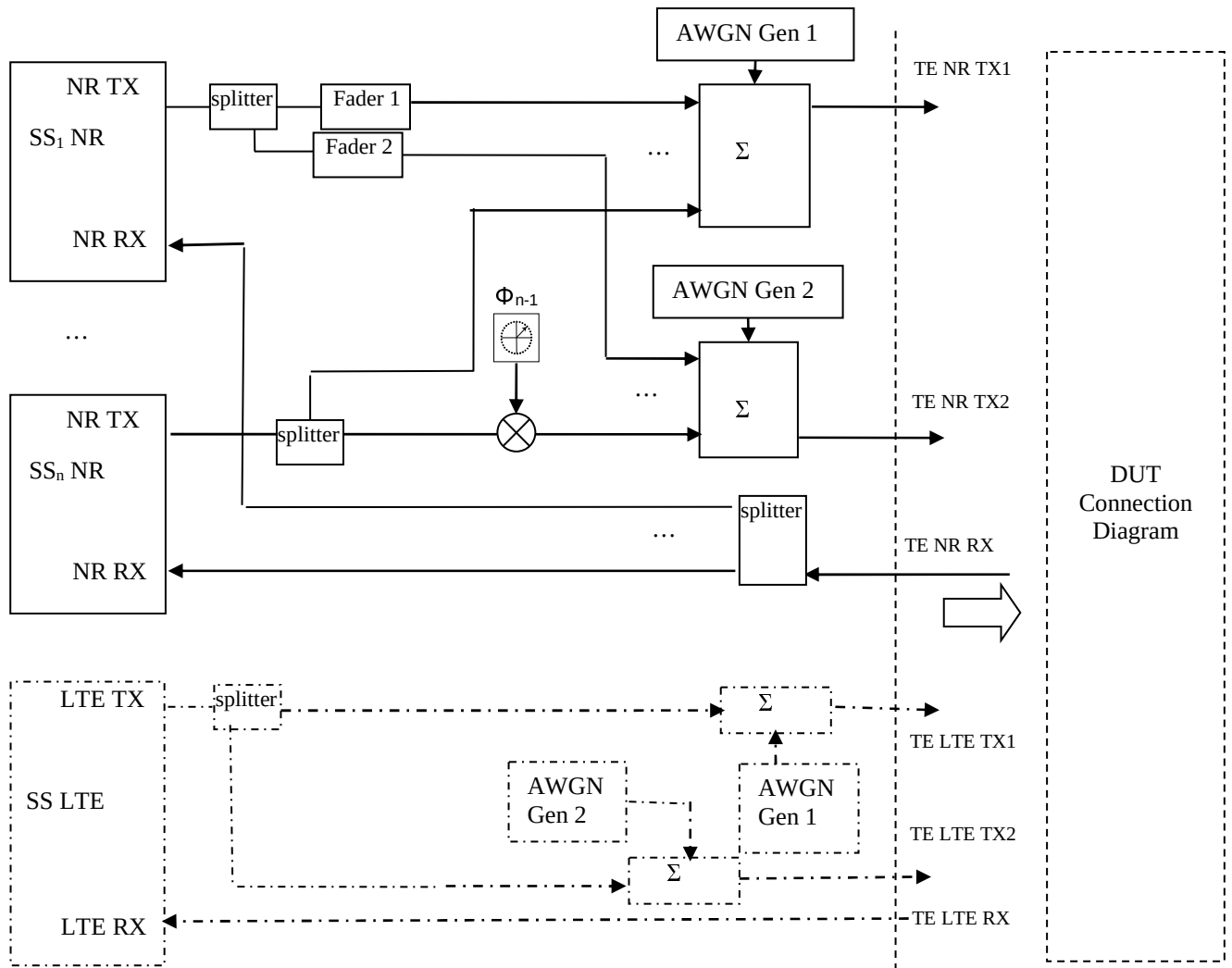


Figure A.3.1.8.2: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x2

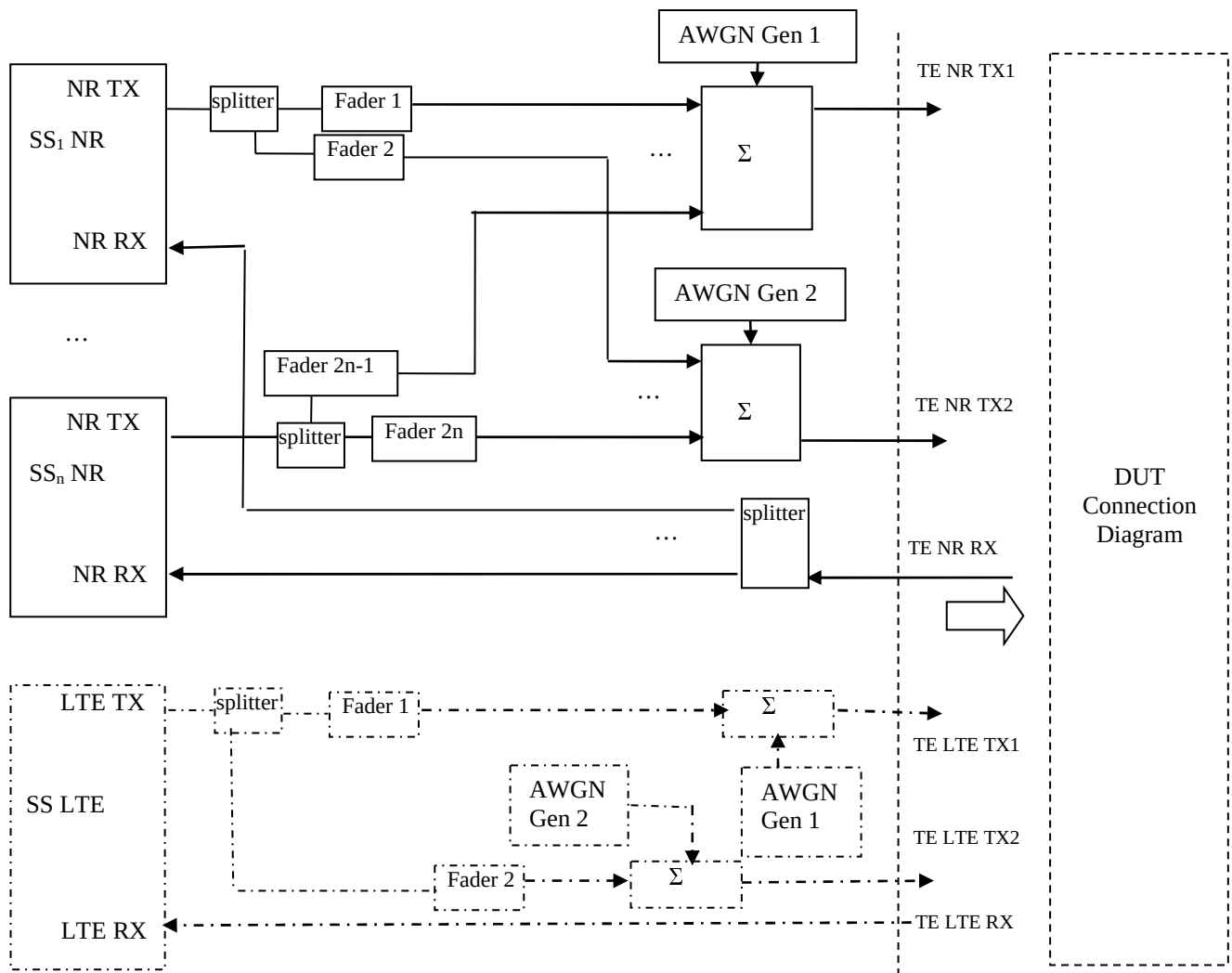


Figure A.3.1.8.3: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x2 and fading

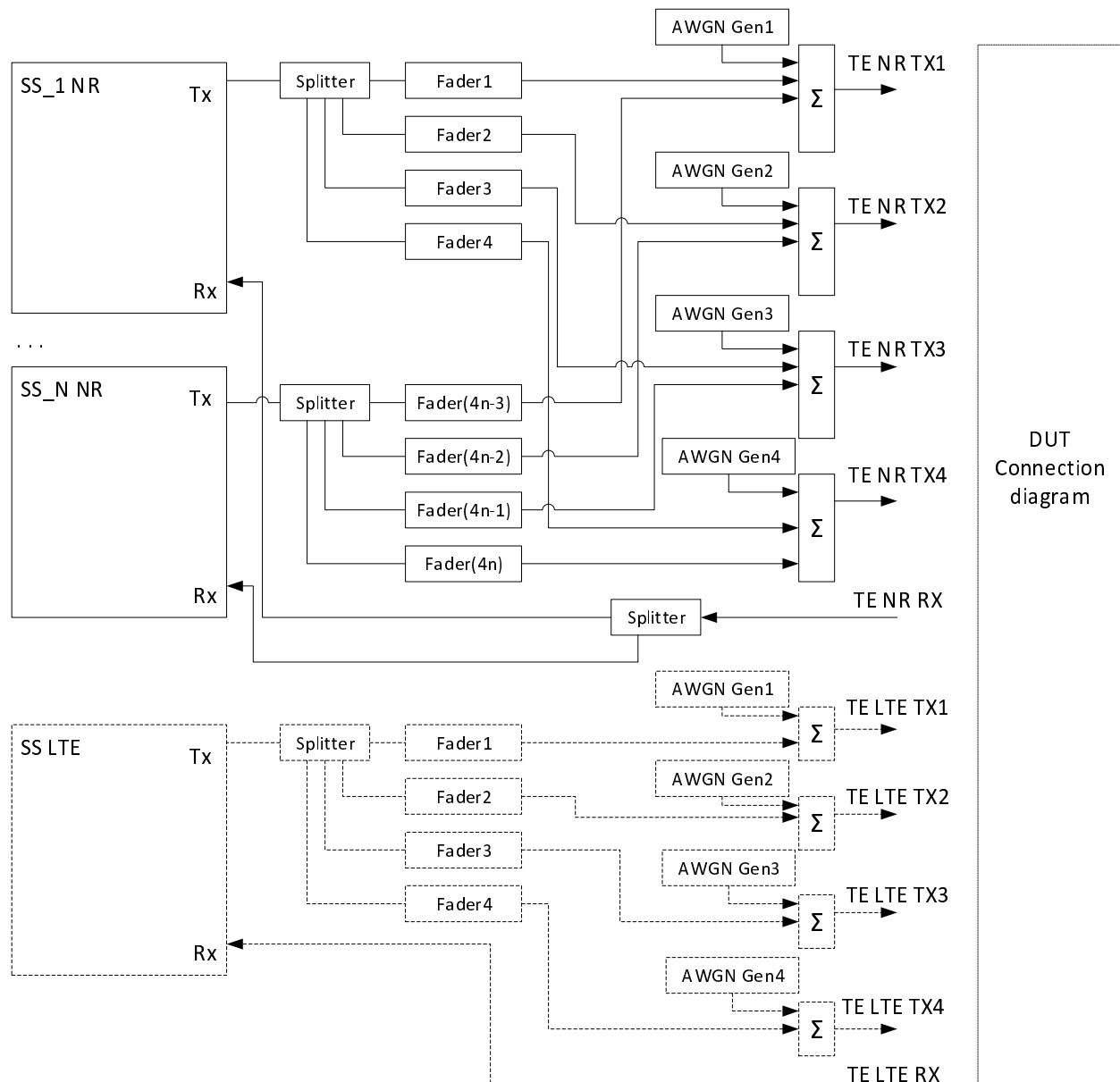


Figure A.3.1.8.4: Test Equipment connection for tests with more than one NR cell for 4Rx capable UEs with fading

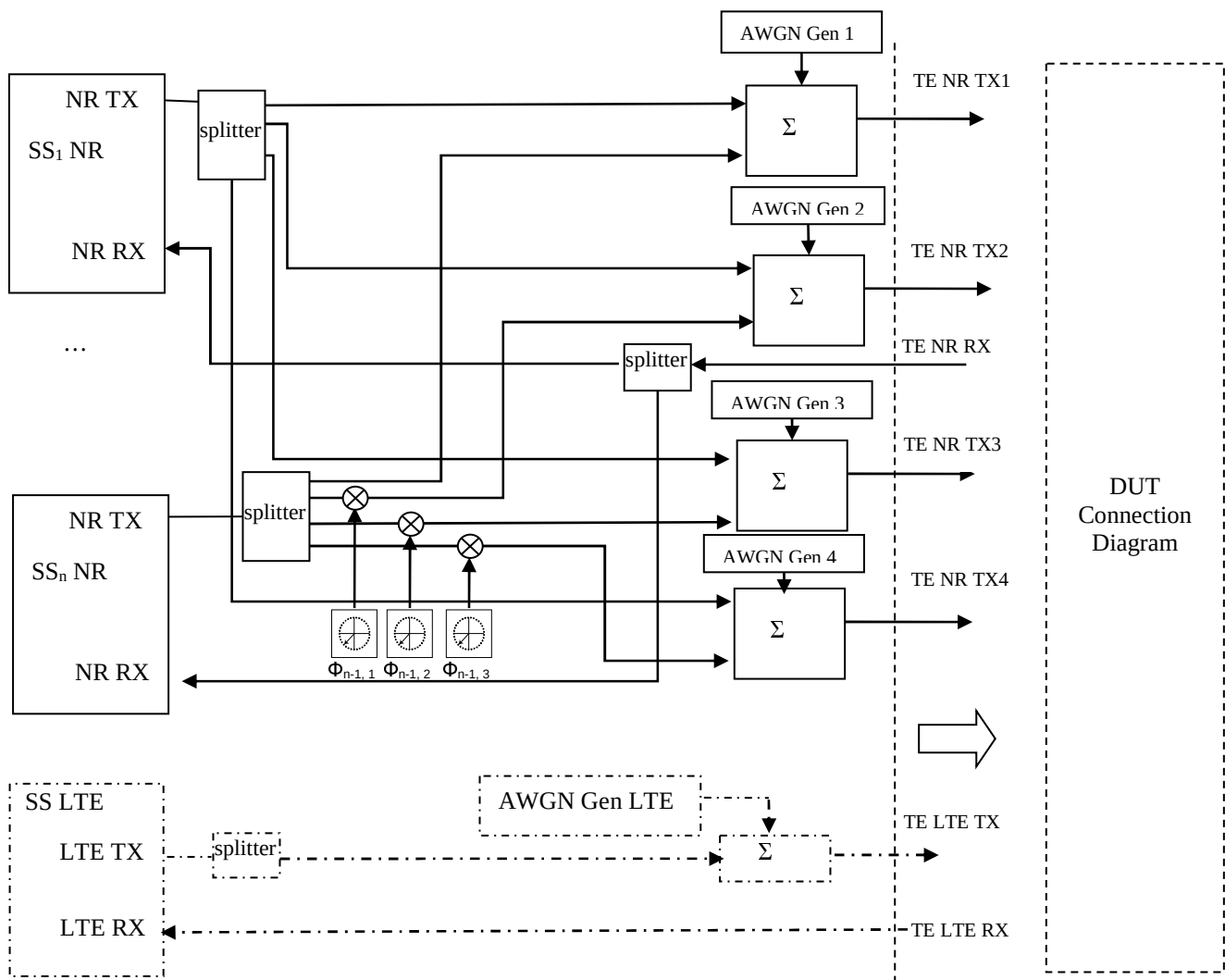


Figure A.3.1.8.5: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x4

A.3.2 User Equipment Parts for Conducted Measurements

A.3.2.1 General

The User Equipment part is focused on the number of physical antenna connectors and how to combine in the DUT. Depending on the DUT implementation only one of the following connection diagrams applies. These connection diagrams are examples of User equipment parts.

A.3.2.2 One Antenna Connector

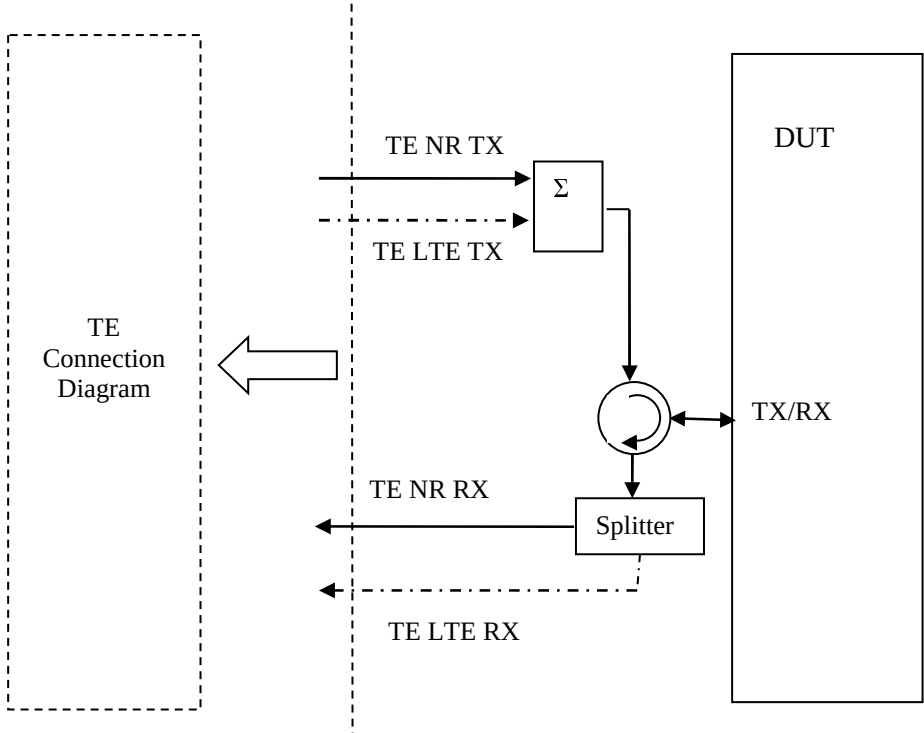


Figure A.3.2.2.1: User Equipment connection for single basic cell

A.3.2.3 Two Antenna Connectors

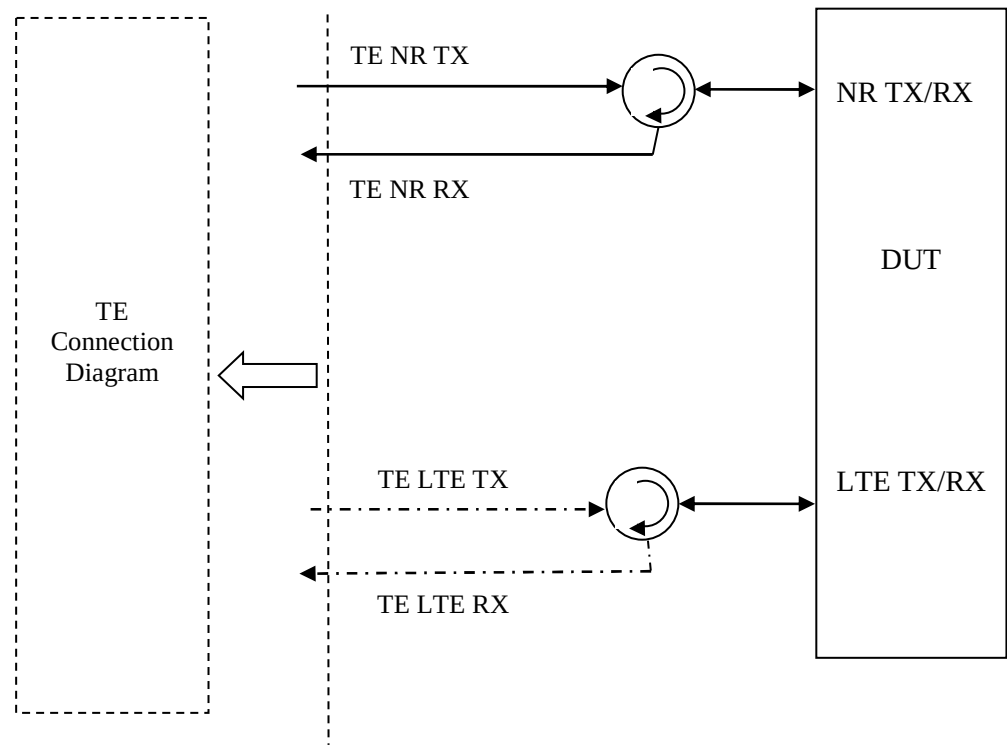


Figure A.3.2.3.1: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors

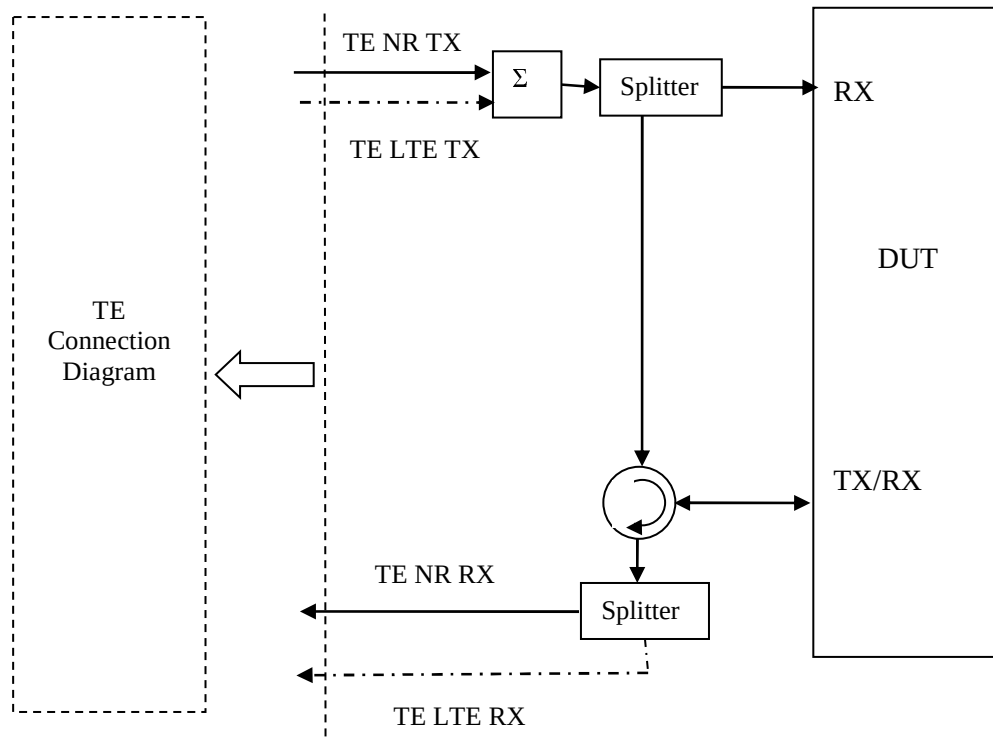


Figure A.3.2.3.2: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells

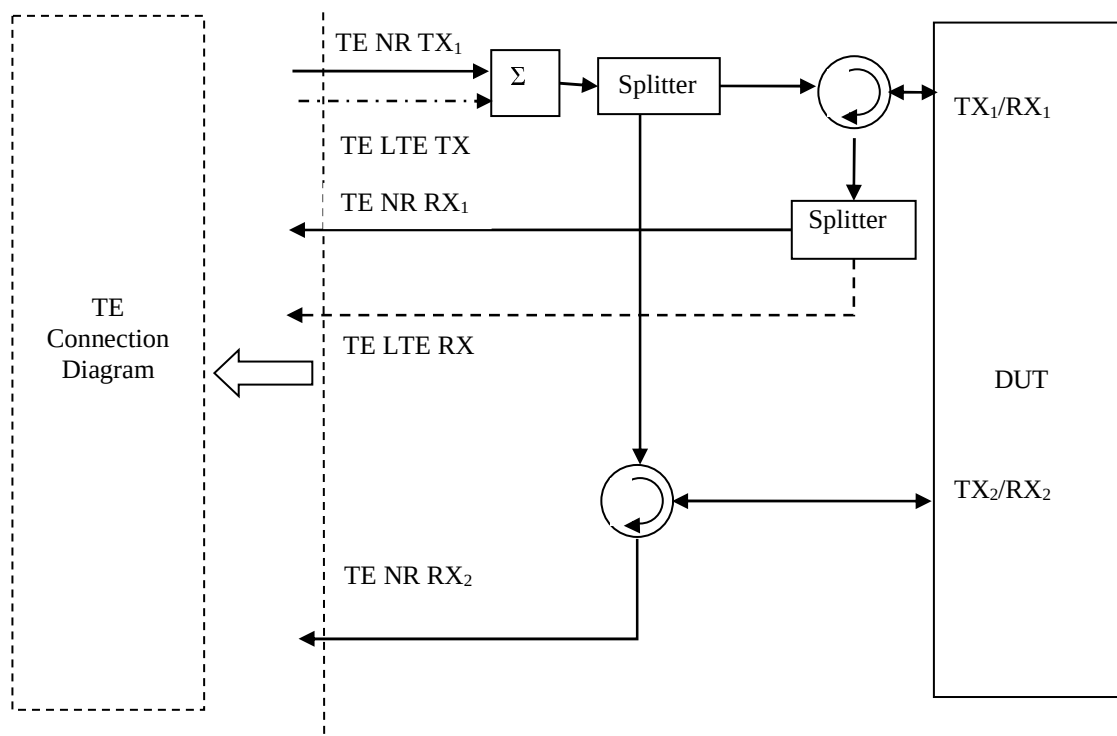


Figure A.3.2.3.3: 2 Tx User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells and 2TX UL MIMO supported

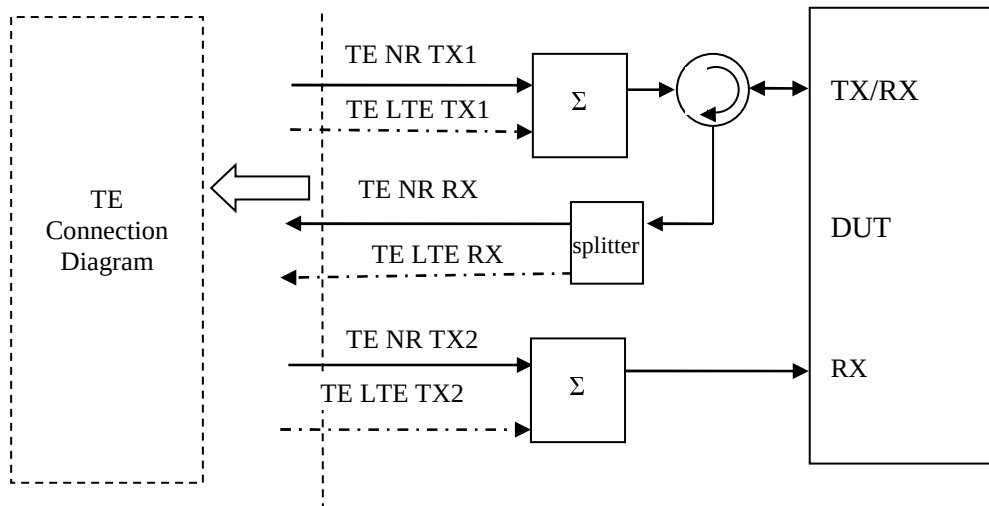


Figure A.3.2.3.4: User Equipment connection for UEs with NR and LTE RxTx and Rx antenna at same connectors

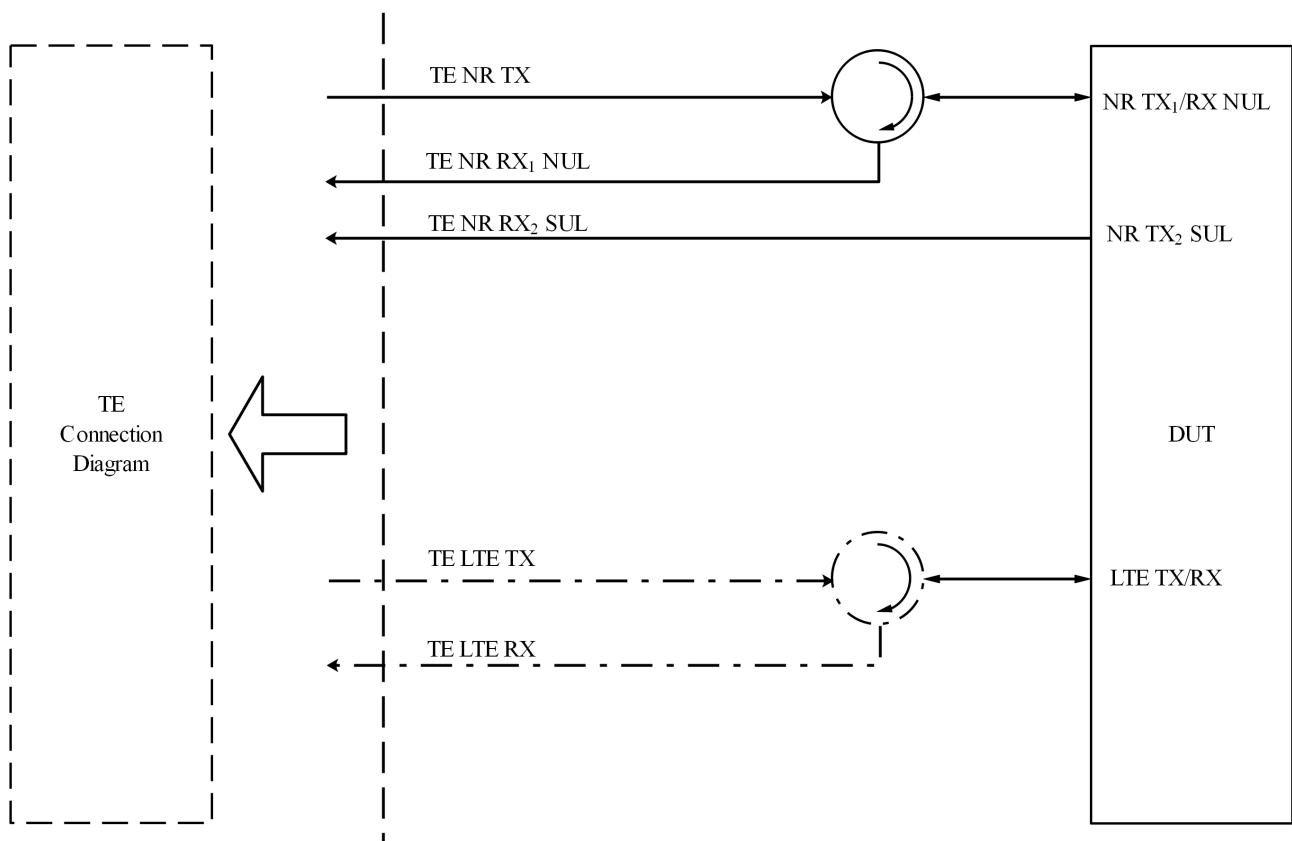


Figure A.3.2.3.5: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors with NR SUL and NR NUL transmitted on separate antenna connectors

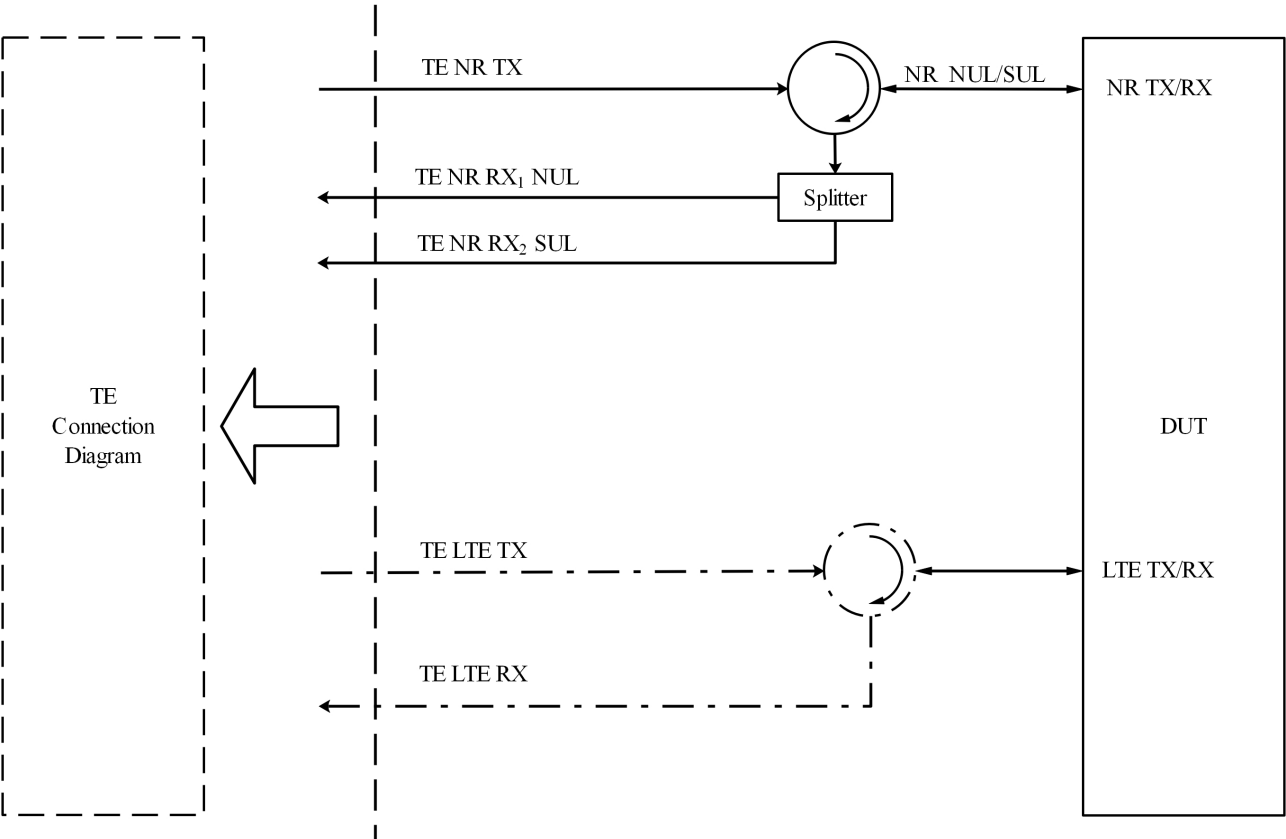


Figure A.3.2.3.6: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors with NR SUL and NR NUL transmitted on the same antenna connector

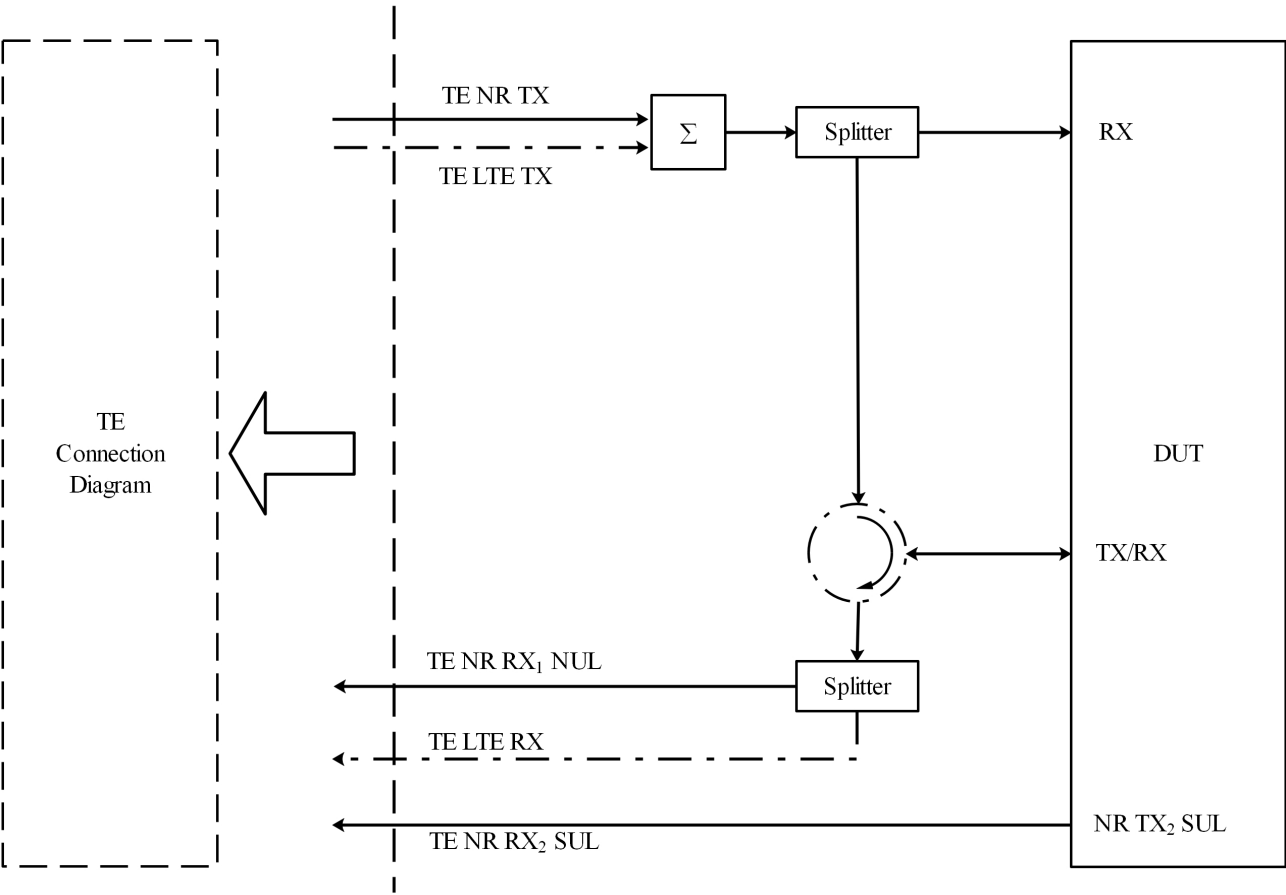


Figure A.3.2.3.7: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells with NR SUL and NR NUL transmitted on separate antenna connectors

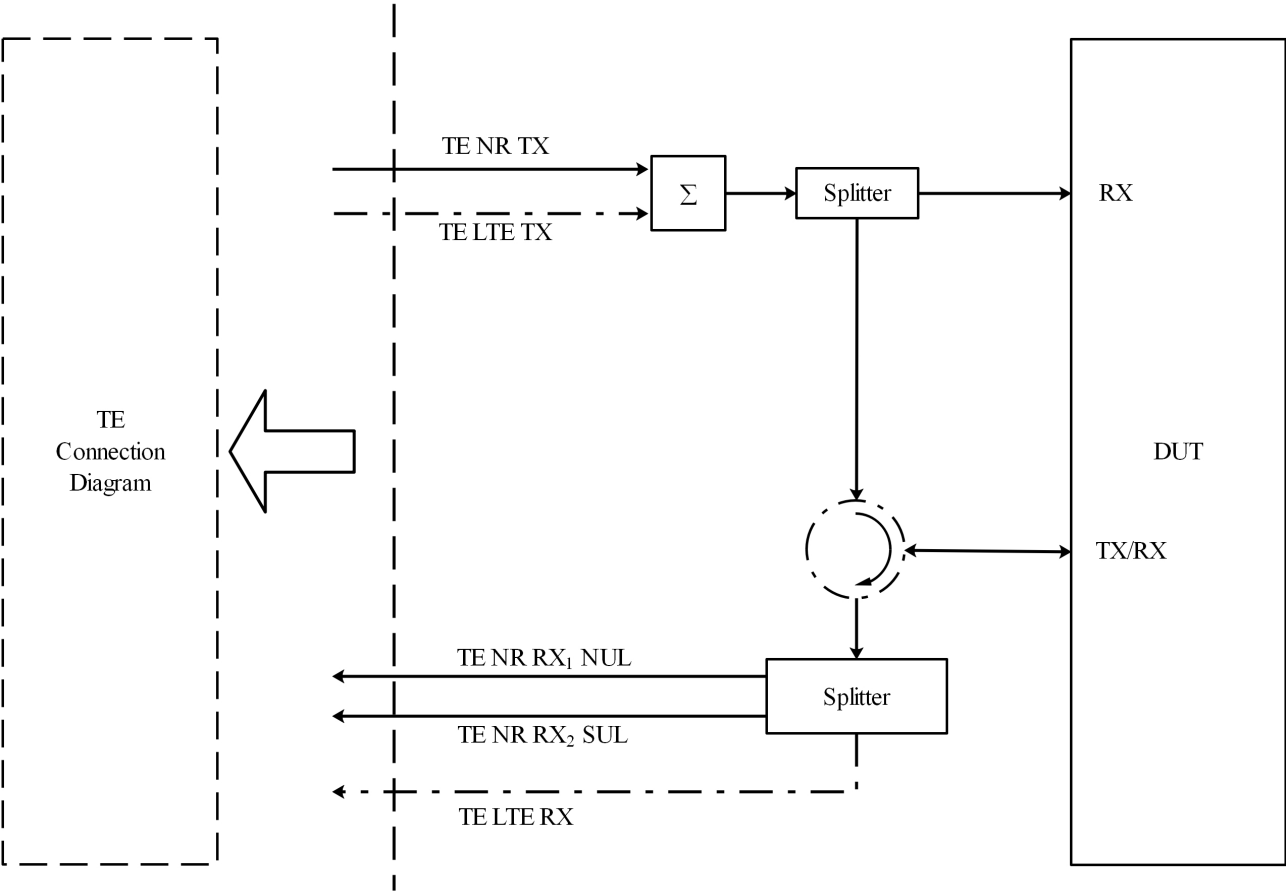


Figure A.3.2.3.8: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells with NR SUL and NR NUL transmitted on the same antenna connector

A.3.2.4 Three Antenna Connectors

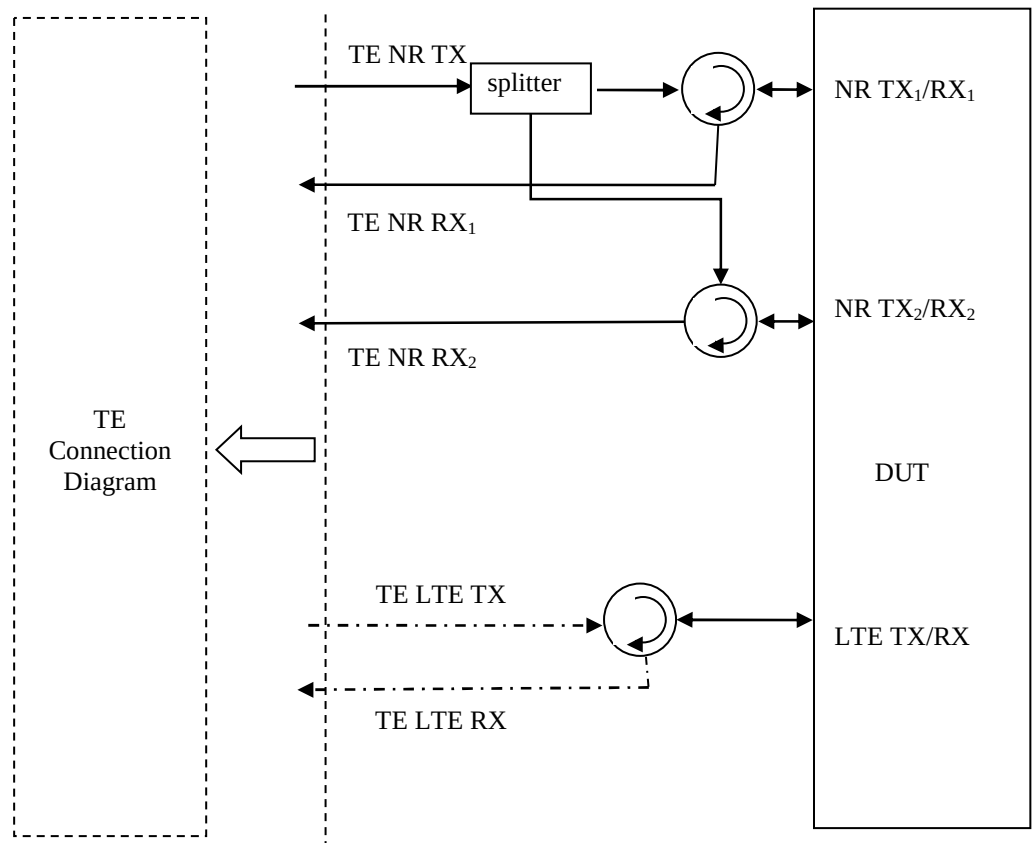


Figure A.3.2.4.1: 2Tx User Equipment connection for single basic cell with NR and LTE cells at different separated connectors and 2TX UL MIMO supported

A.3.2.5 Four Antenna Connectors

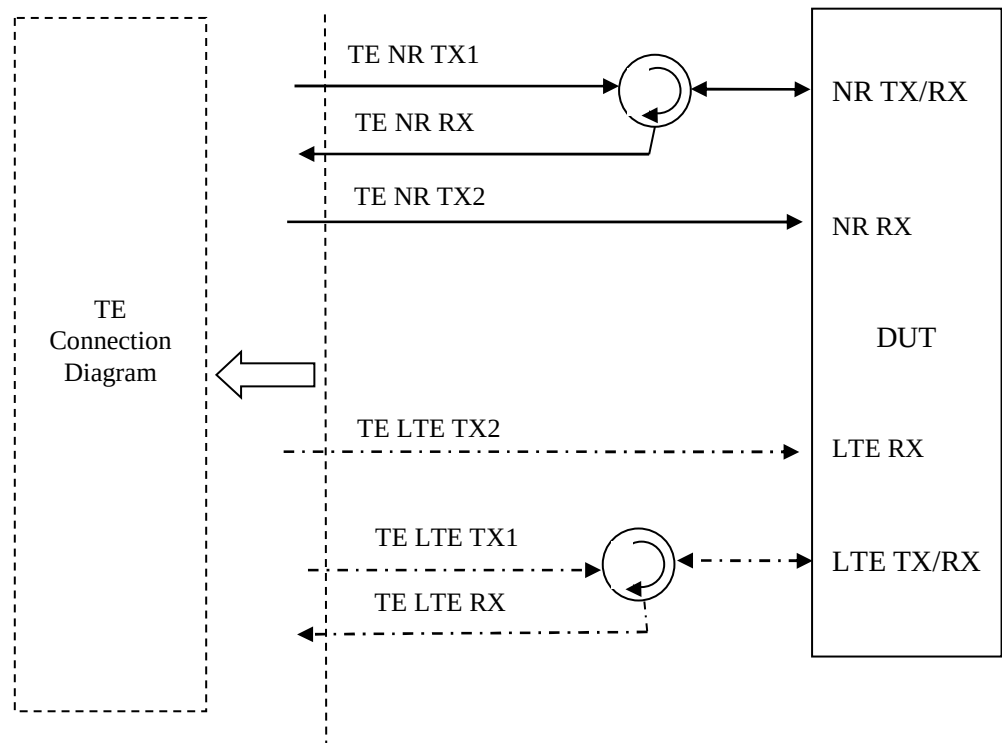


Figure A.3.2.5.1: User Equipment connection for UEs with NR and LTE RxTx and Rx antenna at different separated connectors

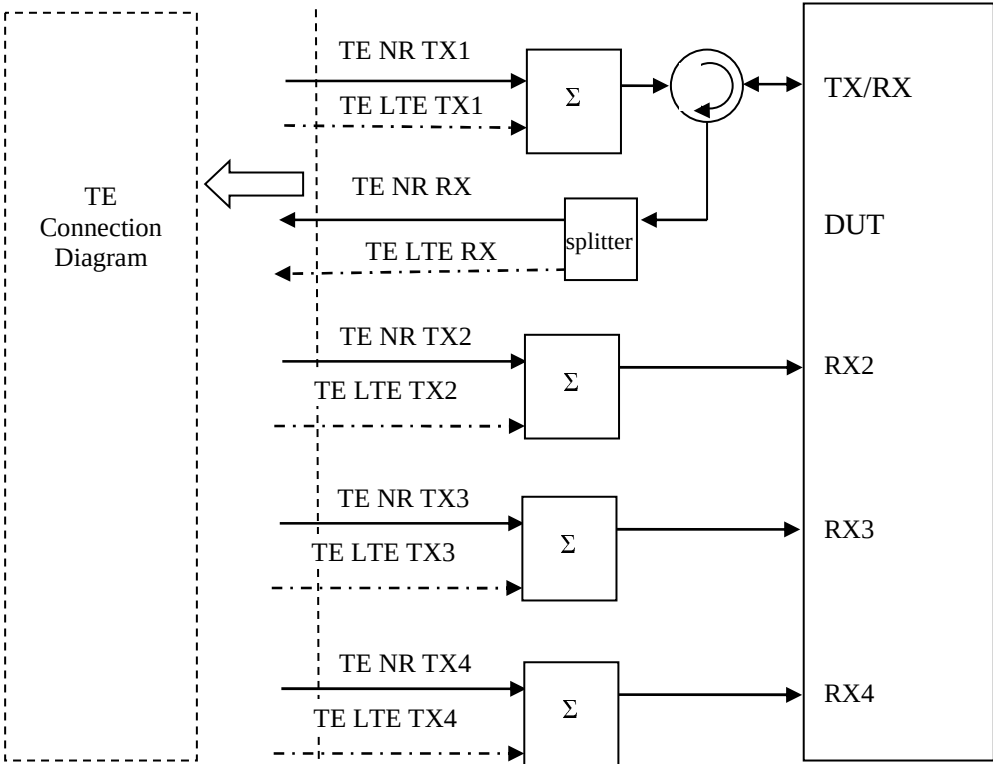


Figure A.3.2.5.2: User Equipment connection for 4Rx capable UEs without any 2Rx RF bands (NR and LTE at same connectors)

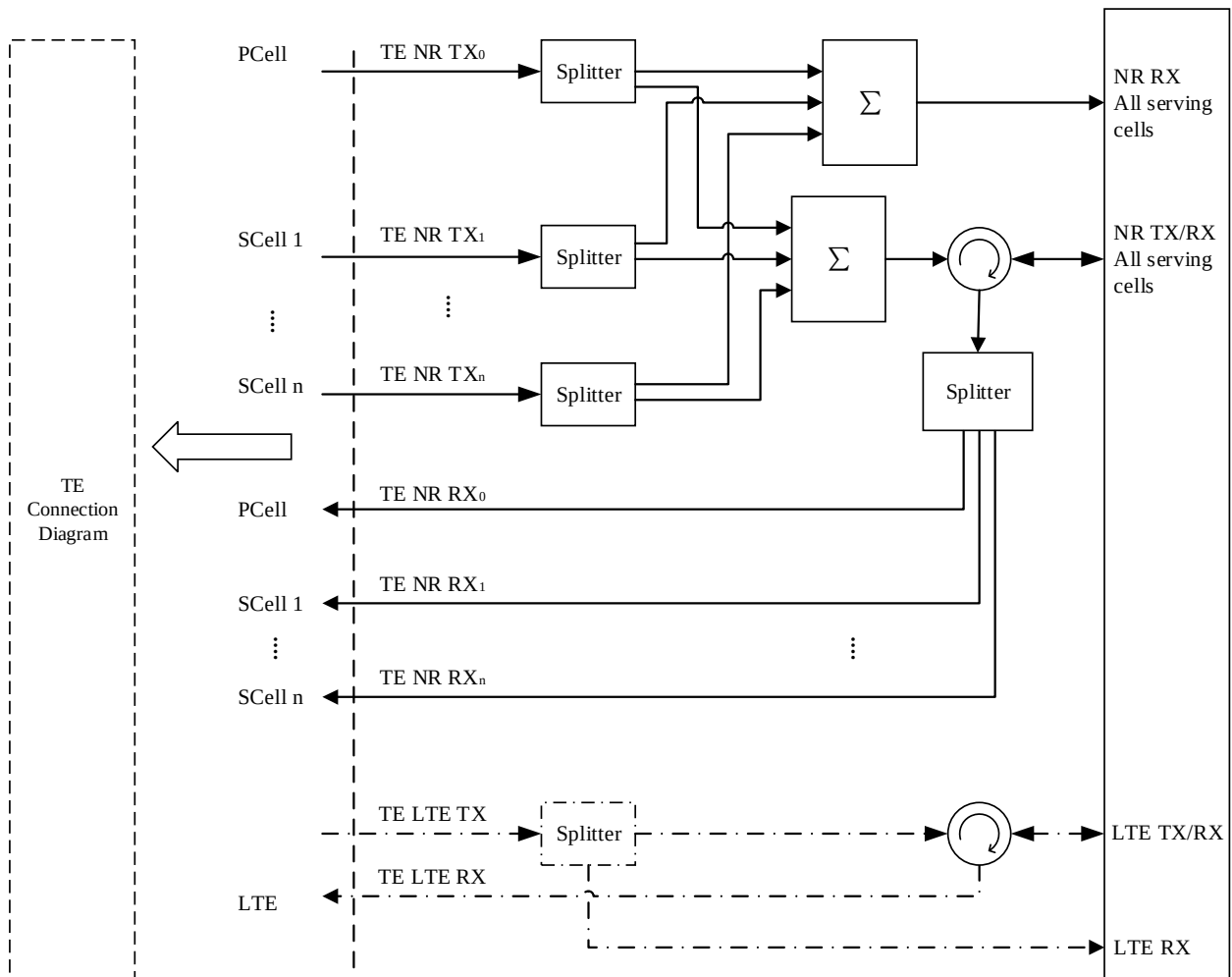


Figure A.3.2.5.3: User Equipment connection for UEs with NR CA (component carriers on common connector) and LTE

A.3.2.6 Over Four Antenna Connectors

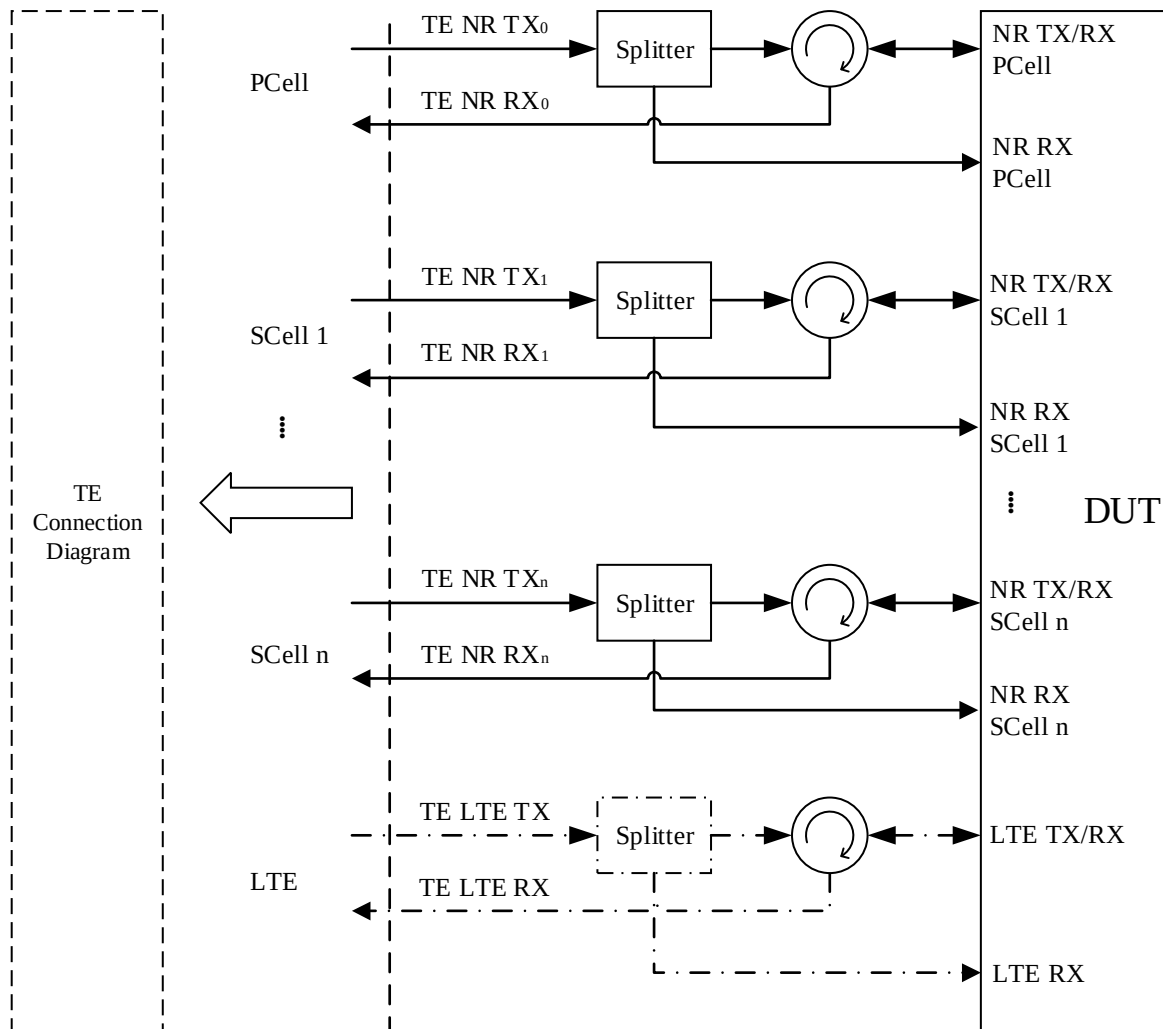


Figure A.3.2.6.1: User Equipment connection for UEs with NR CA (component carriers on separated connectors) and LTE

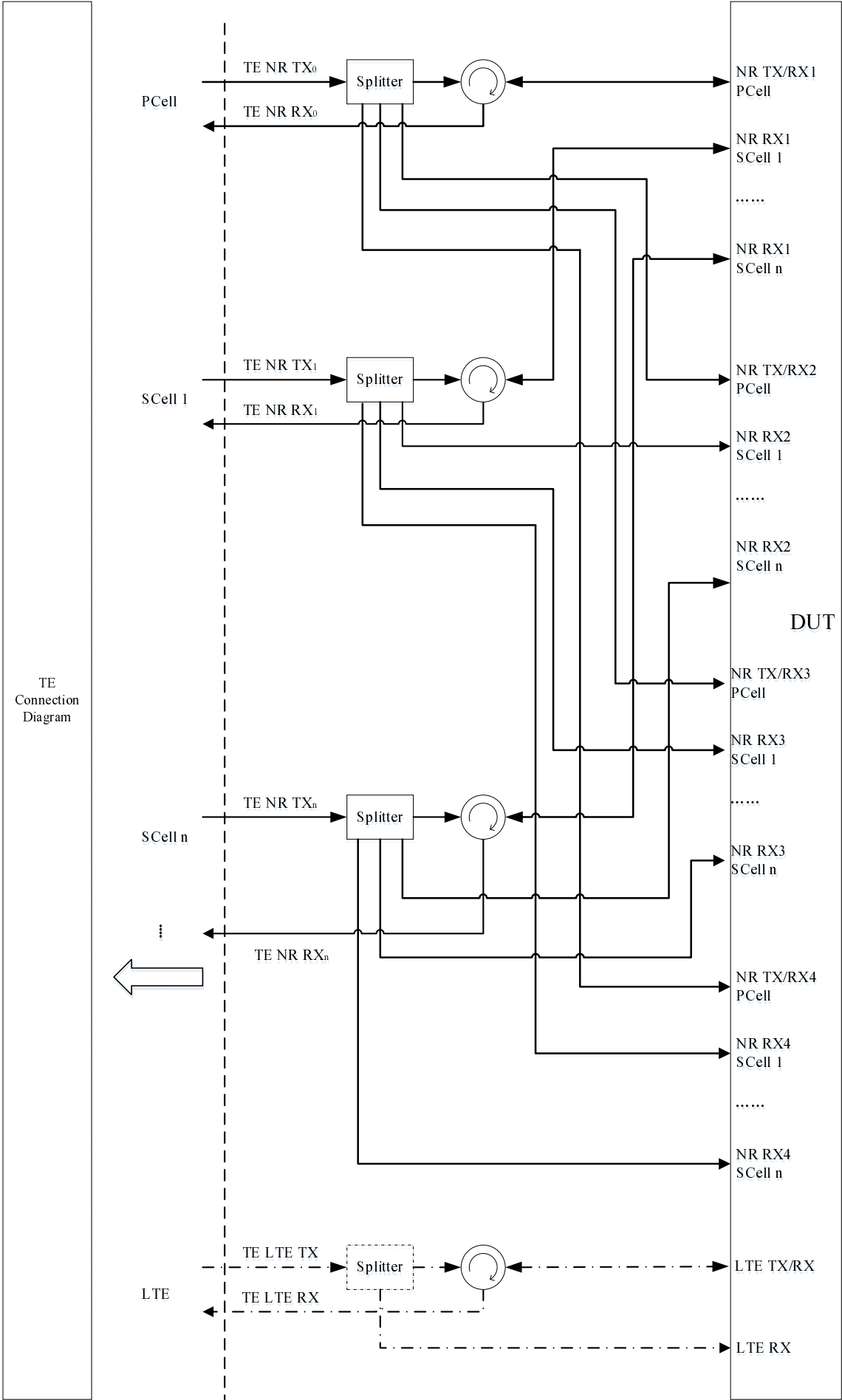


Figure A.3.2.6.2: User Equipment connection for UEs with NR CA and NR 4Rx (component carriers on separated connectors) and LTE

(Note: NR may be 2Rx on some of the CCs, in that case RX3 and RX4 are not used).

A.3.3 Test Equipment Parts for Radiated Measurements

A.3.3.1 Basic Transmitter/Receiver tests

The Test Equipment part is focused on logical representation of TE measurement and link antenna(s) and positioner controller. The Test Equipment connection diagram below is applicable for NR radiated RX and TX tests, including CA and UL MIMO tests.

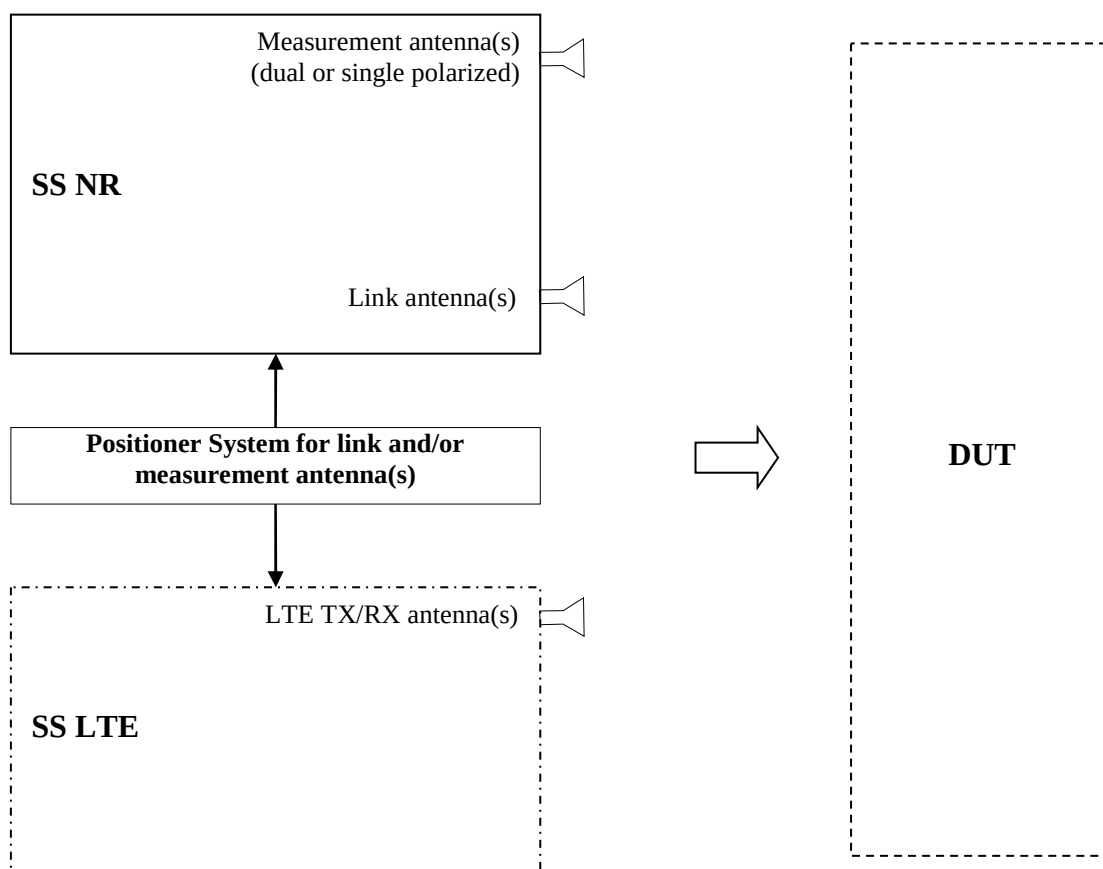


Figure A.3.3.1.1: TE diagram for radiated RX and TX tests

A.3.3.2 Demodulation and CSI tests

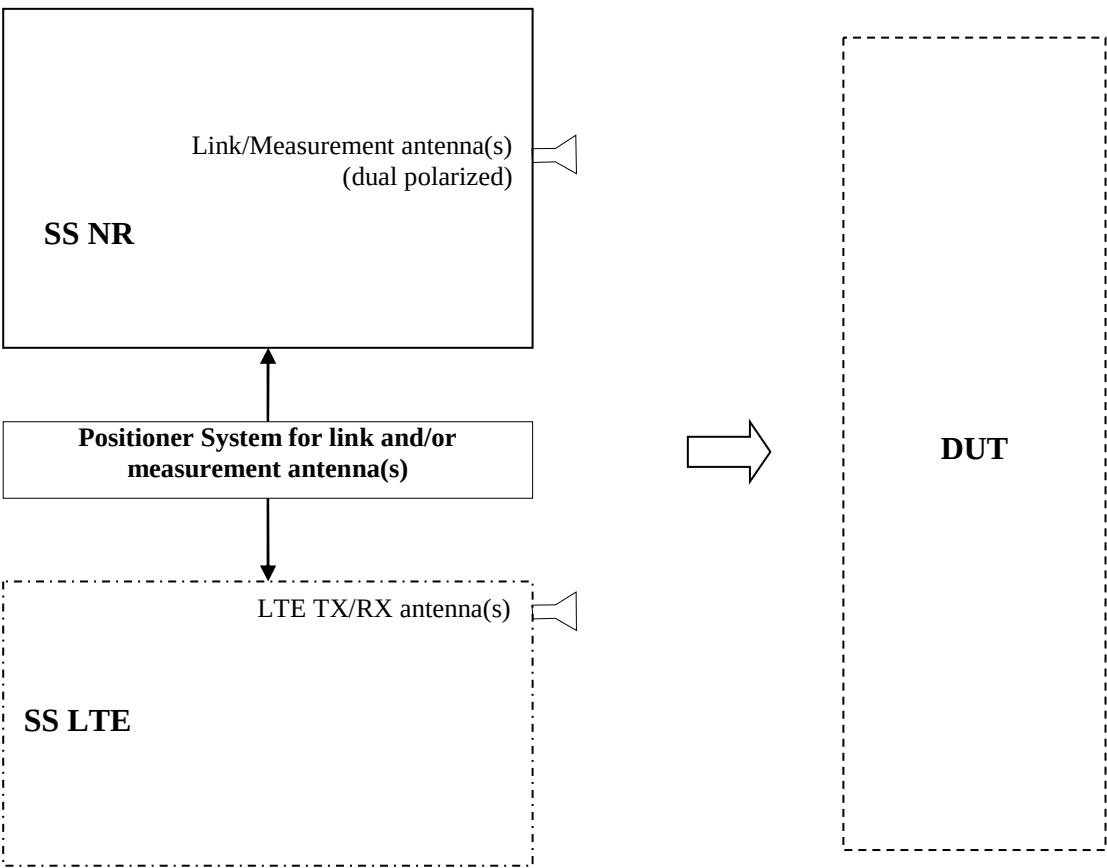


Figure A.3.3.2.1: Demodulation and CSI tests

Figures A.3.3.2.1-1 and A.3.3.2.1-1 show the connection diagram inside SS NR of Figure A.3.3.2.1 for downlink signal path.

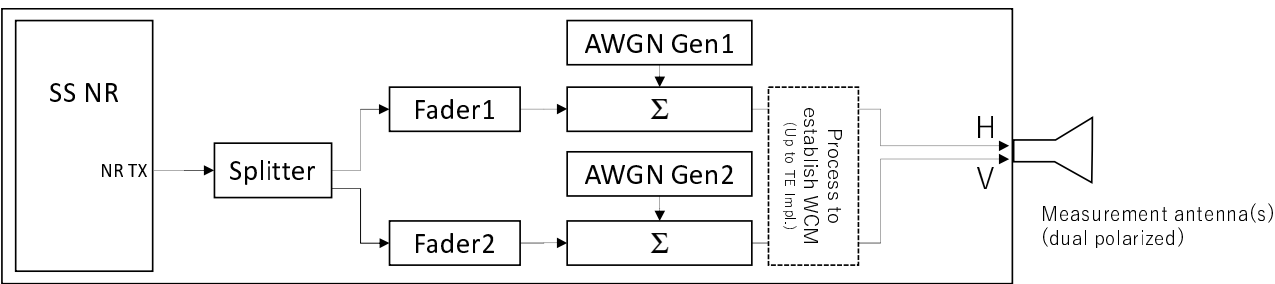


Figure A.3.3.2.1-1: TE diagram for Demodulation and CSI tests (1x2)

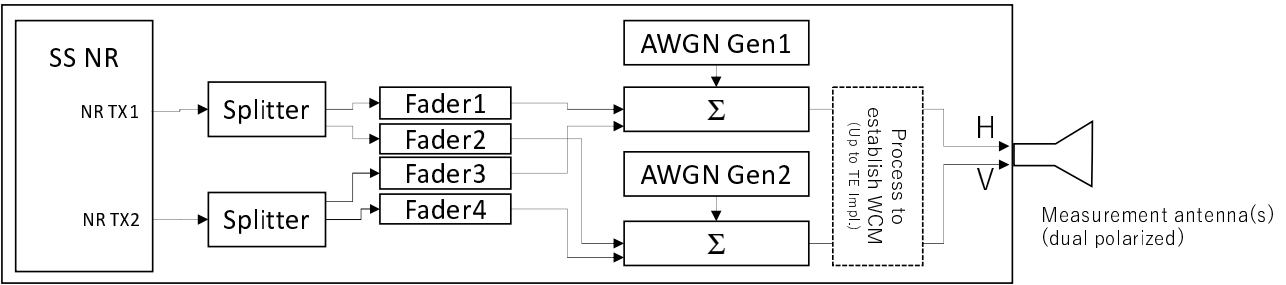


Figure A.3.3.2.1-2: TE diagram for Demodulation and CSI tests (2x2)

A.3.3.3 RRM tests

The Test Equipment part is focused on logical representation of TE antenna(s) and positioner. The Test Equipment connection diagram below is applicable for NR radiated RRM tests. SS NR uses several antennas to cover all required AoA offsets. The actual number of antennas is not determined and depends on the TE implementation. Positioner in the TE part is optional.

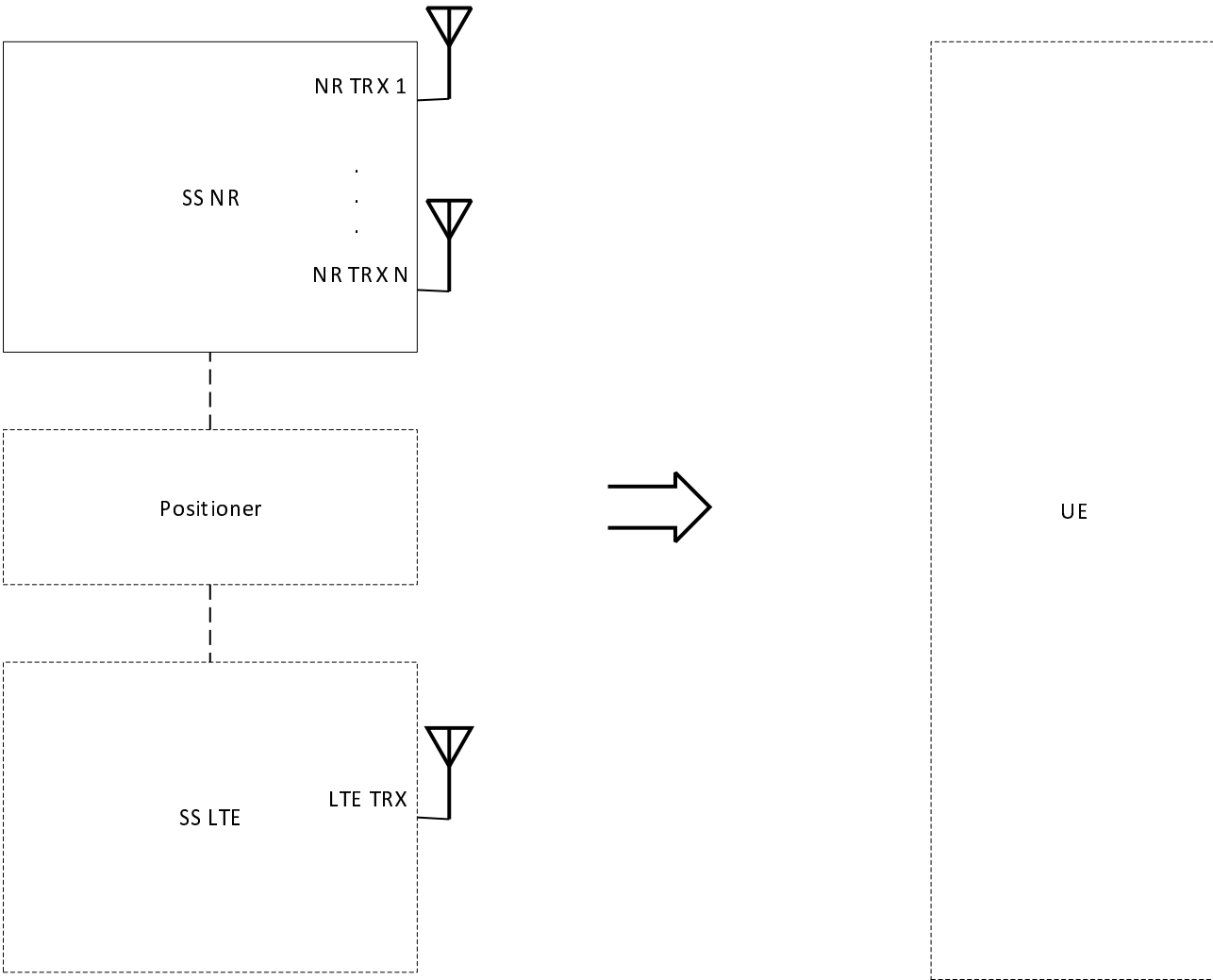


Figure A.3.3.3.1: TE diagram for radiated RRM tests

Figure A.3.3.3.1-1 shows the connection diagram inside the SS NR of Figure A.3.3.3.1 for downlink signal path (for single probe). 1x2 without fading in FR2 RRM test case represents the scenario with single antenna transmission from

TE side and 2 antenna receptions at UE side, which is geuiavalent to 1x1 in conducted test case from test equipment perspective.

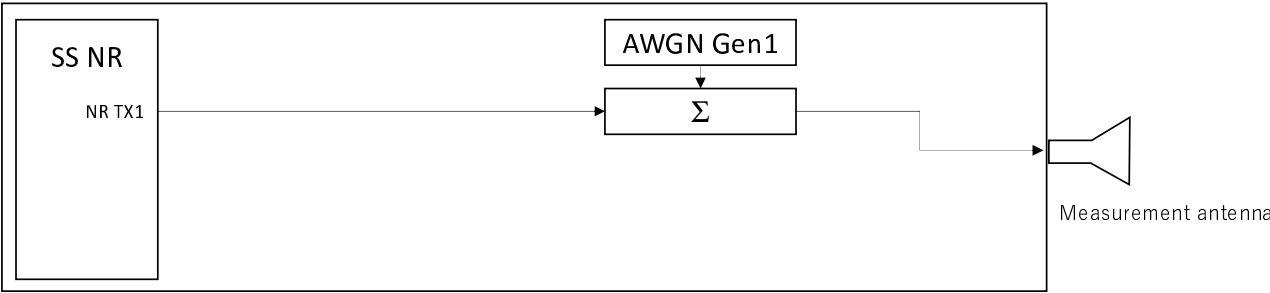


Figure A.3.3.1-1: TE diagram for radiated RRM tests (1x2 without fading)

A.3.4 User Equipment Parts for Radiated Measurements

A.3.4.1 Basic Transmitter/Receiver tests

The User Equipment part is focused on logical representation of UE antenna(s), DUT positioner and positioner controller. The UE connection diagram below is applicable for NR radiated RX and TX tests, including CA and UL MIMO tests.

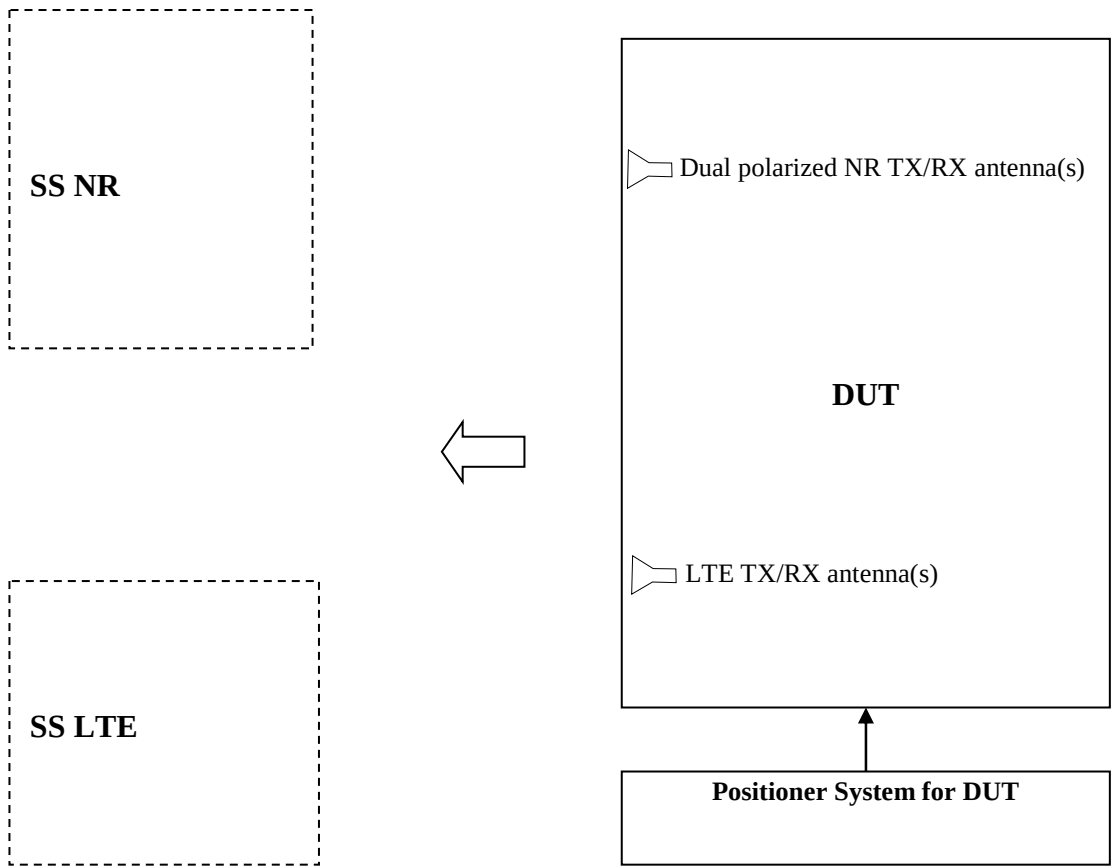


Figure A.3.4.1.1: UE diagram for radiated RX and TX tests

A.3.4.2 Demodulation and CSI tests

Same as Figure A.3.4.1.1.

A.3.4.3 RRM tests

Same as Figure A.3.4.1.1.

Annex B (normative): Permitted test methods For OTA Testing

B.1 General

Editor's Note: The working assumption is that the DFF or IFF: CATR based OTA test methodologies defined in Annexes B.2.2 and B.2.4 respectively should be used for Signalling test.

The applicability of the permitted test methods herein is defined by the appropriate references within clauses 5, 6, and 7. A summary of the applicability is shown in Table B.1-1.

Table B.1-1: Permitted Test Methods Applicability Summary

FFS

B.2 Permitted Test Methods

B.2.1 General

The main objective of this annex is to specify basic parameters of permitted OTA test methods suitable for RF Tx and Rx, Performance, and RRM measurements and Signalling Conformance tests performed at high frequency in the FR2 operating bands defined in clause 4.3.1.2. The applicability of each OTA test method is summarized in Table B.1-1.

B.2.2 Direct far field (DFF)

B.2.2.1 Description

The DFF measurement setup for FR2 is capable of centre and off-centre of beam measurements and is shown in Figure B.2.2.1-1 below.

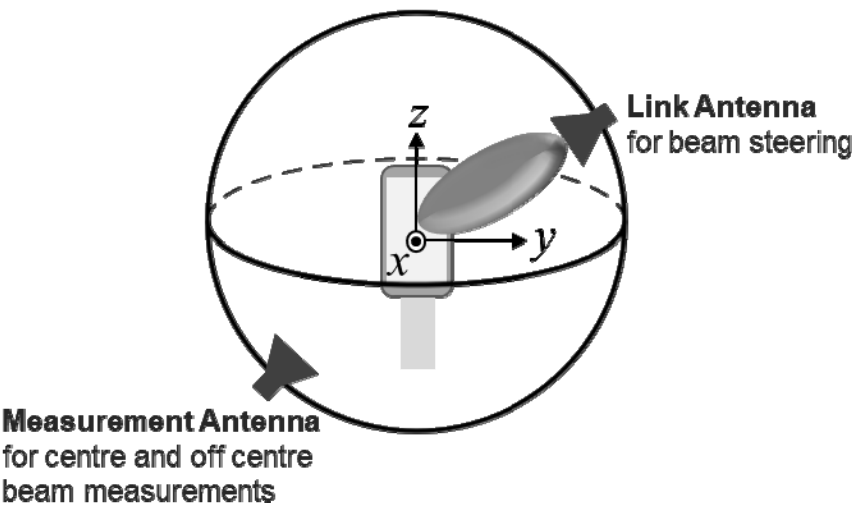


Figure B.2.2.1-1: DFF measurement setup

The key aspects of the DFF setup are:

- Far-field measurement system in an anechoic chamber
 - The criterion for determining the far-field distance is described in B.2.2.4.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- A positioning system such that the angle between the link antenna and the DUT has at least two axes of freedom and maintains a polarization reference; this positioning system for the link antenna is in addition to the positioning system for the measurement antenna and provides for an angular relationship independently controllable from the measurement antenna.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1 UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.

The applicability criteria of the DFF setup are:

- The DUT radiating aperture is $D \leq 5$ cm
 - Either a single radiating aperture, multiple non-coherent apertures, or multiple coherent apertures DUTs can be tested
 - If multiple antenna panels that are phase coherent are defined as a single array, the criterion on DUT radiating aperture applies to this single array
 - D is based on the MU assessment in Annex B.1.1.3 of TR 38.810 [24]
 - A measurement distance larger than the far-field criteria defined in B.2.2.4 is not precluded
 - If the uncertainties can be further optimized, the MU may be reduced or D may be increased
- A manufacturer declaration on the following elements is needed unless the entire DUT size is contained in a sphere of diameter of ≤ 5 cm:
- Manufacturer declares antenna array size

B.2.2.2 Quiet zone dimension

The quiet zone shall be large enough to fully contain the DUT. In order to allow testing of DUTs of various size and to allow for flexibility in test chamber implementations, there will be two defined quiet zone dimensions. The smaller quiet zone shall have a radius of 100mm to accommodate DUTs such as smartphones. The larger quiet zone shall have a radius of 150mm to accommodate larger DUTs such as tablets. The device types are listed as examples and other device types are not precluded. In either case, the DUT shall be fully contained in one of the quiet zone sizes defined herein.

B.2.2.3 Quality of the quiet zone

The quality of the quiet zone shall be measured for the frequencies defined in FFS. The measured quality of the quiet zone performance is used in uncertainty calculations for the appropriate quality of the quiet zone dimension utilized for the DUT.

B.2.2.4 Measurement Distance

For far-field measurements, the distance R between the DUT and the measurement antenna shall be calculated by the following equation.

$$R > \frac{2D^2}{\lambda}$$

where λ is the largest wavelength within the frequency band of interest and D is the diameter of the smallest sphere that encloses the radiating parts of the DUT.

For DFF, free space path loss is calculated by applying the Free Space Loss formula with R equal to the far field

distance: $\left(\frac{4\pi R}{\lambda}\right)^2$.

The minimum range length of a DFF system, i.e., the minimum distance between the centre of the quiet zone and the measurement antenna, needs to take into account the unknown offset of the antenna aperture from the centre of quiet zone in order to guarantee far-field conditions for any antenna array integrated inside the DUT. The distance between the centre of the quiet zone to the measurement antenna is referenced as R_{DFF} , while the radius of the quiet zone is R_{QZ} as illustrated in Figure B.2.2.4-1. The minimum distance between the antenna array integrated anywhere within the DUT and the measurement antenna needs to meet the far-field distance, $R_{\text{FF}} = 2D^2/\lambda$.

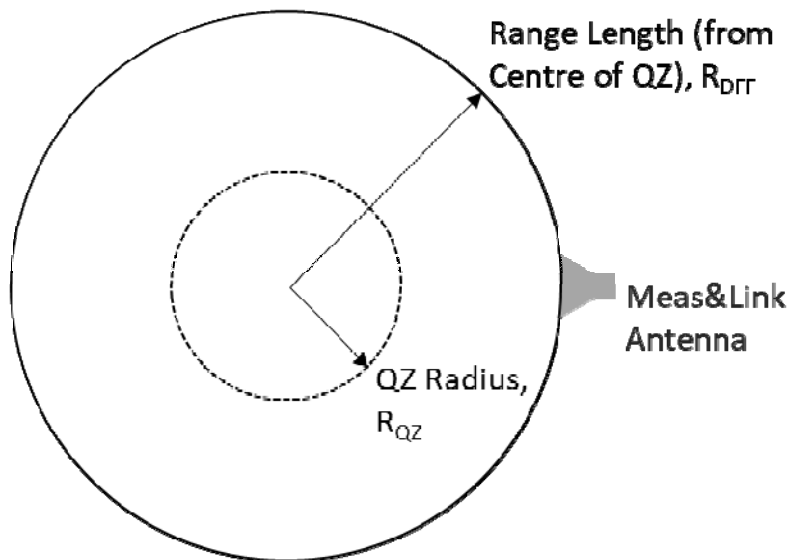


Figure B.2.2.4-1: Illustration of DFF System for range length definition

The setup in Figure B.2.2.4-2 is used to derive the minimum range length for NR FR2 DFF systems where the sphere enclosing the DUT matches the QZ and the DUT antenna with radiating aperture diameter D located in the corner of the DUT. With this setup, the minimum range length, R_{DFF} , can be determined as

$$R_{\text{DFF}} = R_{\text{QZ}} - D/2 + R_{\text{FF}} = R_{\text{QZ}} - D/2 + 2D^2/\lambda$$

which is tabulated in Table B.2.2.4-1 for two different QZ sizes assuming $D=5\text{cm}$.

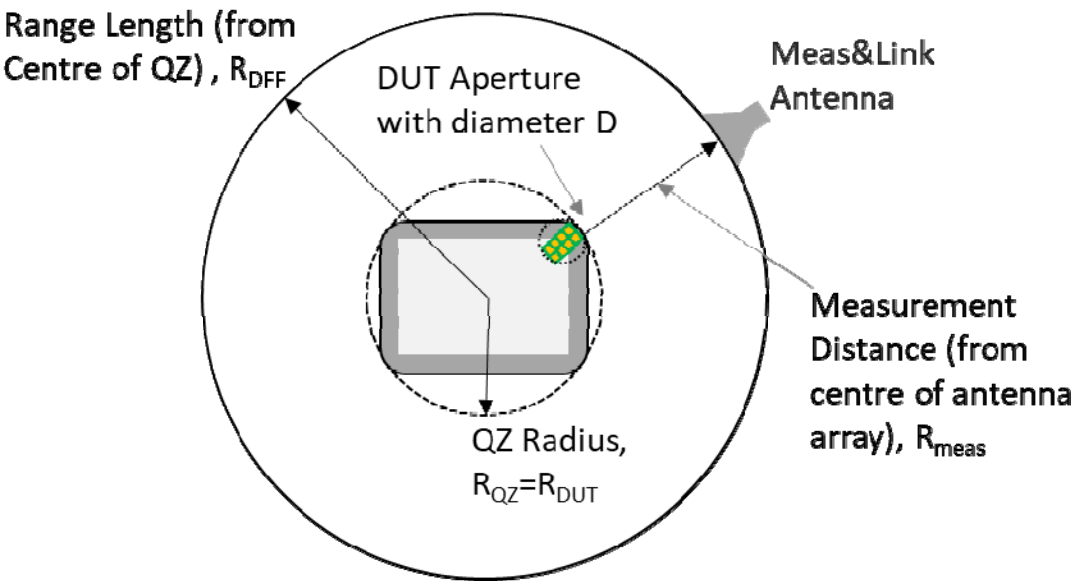


Figure B.2.2.4-2: Illustration of DFF System for minimum range length definition

Table B.2.2.4-1: Minimum Range Length of DFF System for $D = 5\text{cm}$

f [GHz] QZ [cm]	24.25	30	40	50	52.6
20	0.48	0.58	0.74	0.91	0.95
30	0.53	0.63	0.79	0.96	1.00

The influence of measurement distance on measurement uncertainty is discussed in Annex B.2.1 of TR 38.903 [XX].

B.2.3 Direct far field (DFF) setup simplification for centre of beam measurements

B.2.3.1 Description

The DFF setup in Annex B.2.2 can be simplified in the following way to perform centre of the beam measurements:

- The measurement and the link antenna can be combined so that the single antenna is used to steer the beam and to perform UE measurements.

The measurement setup for FR2 capable of centre of beam measurements is shown in Figure B.2.3.1-1 below.

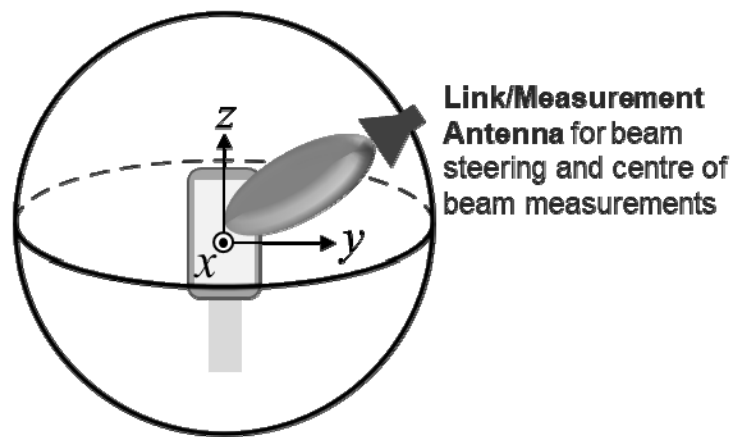


Figure B.2.3.1-1: DFF simplification for centre of beam measurement setup

The applicability criteria of the simplified DFF setup for centre of beam measurements are defined in B.2.2.1.

B.2.3.2 Quiet zone dimension

Same as Annex B.2.2.2.

B.2.3.3 Quality of the quiet zone

Same as Annex B.2.2.3.

B.2.3.4 Measurement Distance

Same as Annex B.2.2.4.

B.2.4 Indirect far field (IFF): Compact Antenna Test Range (CATR)

B.2.4.1 Description

The IFF method utilizing a compact antenna test range (CATR) creates the far field environment using a transformation with a parabolic reflector.

The IFF CATR measurement setup for FR2 is capable of centre and off-centre of beam measurements and an example setup is shown in Figure B.2.4.1-1 below. The relative orientation of the coordinate system with respect to the reflector and the axes of rotation apply to any CATR measurement setup.

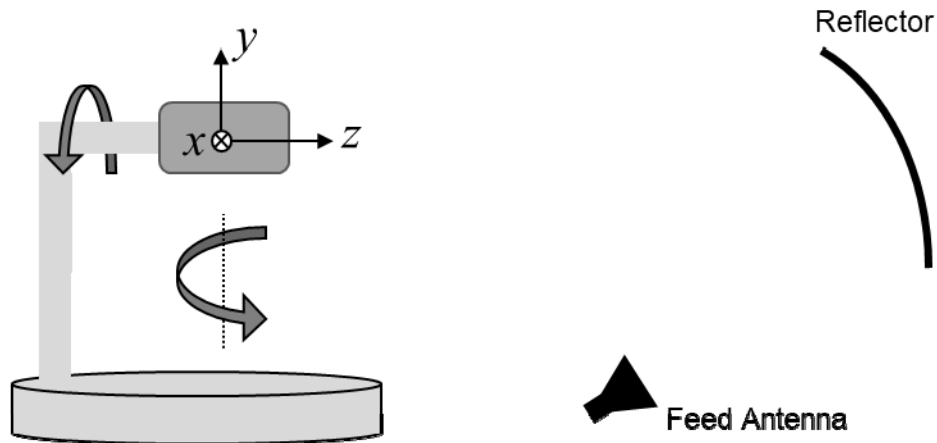


Figure B.2.4.1-1: Example of IFF: CATR measurement setup

The key aspects of this test method setup are:

- Indirect Far Field using Compact Antenna Test Range as described in TR 38.810 [24] with quiet zone diameter that meets the requirements of B.2.4.2.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- Before performing the UE Beamlock Test Function as defined in clause 4.9.2, the measurement probe acts as a link antenna maintaining polarization reference with respect to the DUT. Once the beam is locked then the link is to be passed to the link antenna which maintains reliable signal level with respect to the DUT.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.

The applicability criteria of this test method are:

- The total test volume, i.e., the quiet zone is defined as a sphere with radius R.
- DUT must fit within the quiet zone for the entire duration of the test.
- Either a single radiating aperture, multiple non-coherent apertures or multiple coherent apertures DUTs can be tested.
- No manufacturer declaration of the antenna array size is needed.

B.2.4.2 Quiet zone dimension

Same as Annex B.2.2.2.

B.2.4.3 Quality of the quiet zone

Same as Annex B.2.2.3.

B.2.4.4 Measurement Distance

The CATR system does not require a measurement distance of $R > \frac{2D^2}{\lambda}$ to achieve a plane wave as in a standard far field range.

For the CATR system, the far-field distance is seen as the focal length. The focal length is the distance between the feed and the reflector of the CATR. Further information on the focal length of a CATR system can be found in clause 5.2.3.2 of TR 38.810 [24].

The measurement distance for any CATR system implementation shall be adequate to meet the quiet zone dimensions defined in B.2.4.2.

In a CATR, from the reflector to the quiet zone, there is a plane wave with no free space path loss.

For CATR, free space path loss is calculated by applying the Free Space Loss formula with R equal to the far field

distance based on the focal length: $\left(\frac{4\pi R}{\lambda}\right)^2$.

A summary of the comparison of path losses which can be expected for the CATR compared to a Fraunhofer limit distance ($R > \frac{2D^2}{\lambda}$) for different antenna sizes and frequencies can be found in clause 5.2.3.2 of TR 38.810 [24].

The influence of measurement distance on measurement uncertainty can be considered as zero as defined in Annex B.2.2 of TR 38.903 [XX].

B.2.5 Near field to far field transform (NFTF)

B.2.5.1 Description

The NFTF method computes the metrics defined in Far Field by using the Near Field to Far Field transformation.

The NFTF measurement setup of UE RF characteristics for FR2 is capable of centre and off centre of beam measurements and an example setup is shown in Figure B.2.5.1-1:

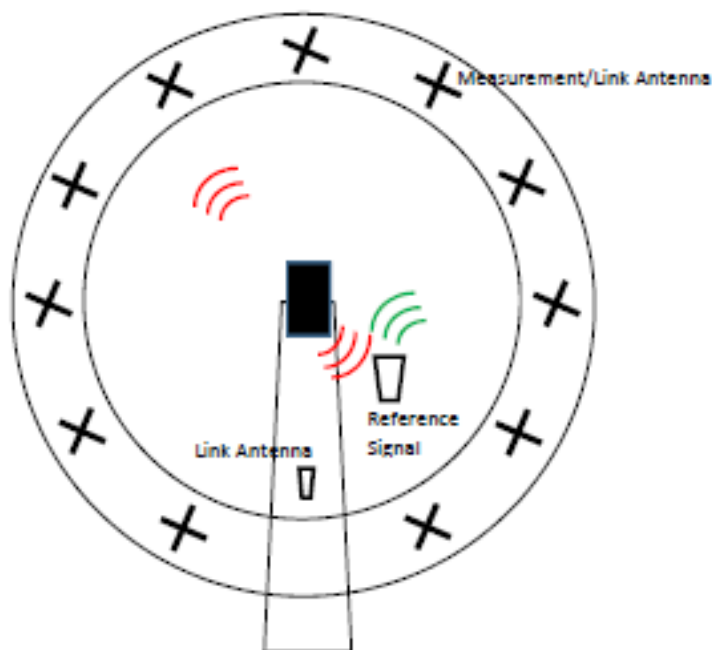


Figure B.2.5.1-1: Example of NFTF measurement setup

The key aspects of the Near Field test range are:

- Radiated Near Field UE beam pattern is measured and based on the NFFT mathematical transform, the final metric such as EIRP is the same as the metric for the baseline setup
- A positioning system such as the angle between the dual-polarized measurement/link antenna and the DUT has at least two axes of freedom and maintains a polarization reference
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.

The applicability criteria of the NFFT setup are:

- The DUT radiating aperture is $D \leq 5$ cm
 - Either a single radiating aperture, multiple non-coherent apertures or multiple coherent apertures DUTs can be tested
 - If multiple antenna panels that are phase coherent are defined as a single array, the criterion on DUT radiating aperture applies to this single array
 - D is based on the MU assessment in Annex B.1.4.3 of TR 38.810 [24]
 - If the uncertainties can be further optimized, the MU may be reduced or D may be increased
- A manufacturer declaration on the following elements is needed unless the entire DUT size is contained in a sphere of diameter of ≤ 5 cm:
 - Manufacturer declares antenna array size
- EIRP, TRP, and spurious emissions metrics can be tested.

B.2.5.2 Quiet zone dimension

Same as Annex B.2.2.2.

B.2.5.3 Quality of the quiet zone

Same as Annex B.2.2.3.

B.2.5.4 Measurement Distance

The NFFT system does not require a measurement distance of $R > \frac{2D^2}{\lambda}$ as in a standard far field range due to the use of the Near Field to Far Field transformation.

The measurement distance for any NFFT system implementation shall ensure that the DUT is not measured in the reactive near-field region and is adequate to meet the quiet zone dimensions defined in B.2.5.2.

Annex C (informative): Calculation of test frequencies

C.0 General

Test frequencies are defined in clause 4.3.1 with extensions for signalling test cases in clause 6.2.3. This annex gives a guideline to determine these test frequencies and the associated signalling parameters for a given NR band, NR CA or NR DC band combination.

Clause C.1 describes definitions and parameters used by the procedures to determine test frequencies, SS/PBCH Block (SSB) and CORESET#0 configuration parameters.

Clause C.2 describes how to calculate test frequencies for symmetric NR bands, asymmetric NR bands, NR CA and NR DC configurations.

Clause C.3.2 describes how to determine the SSB, CORESET#0 and signalling parameters for a PCell.

Clause C.3.3 describes how to determine the SSB and signalling parameters for a Cell without CORESET#0.

C.1 Definitions and Parameters

Figure C.1-1 shows SSB and CORESET#0 and related parameters.

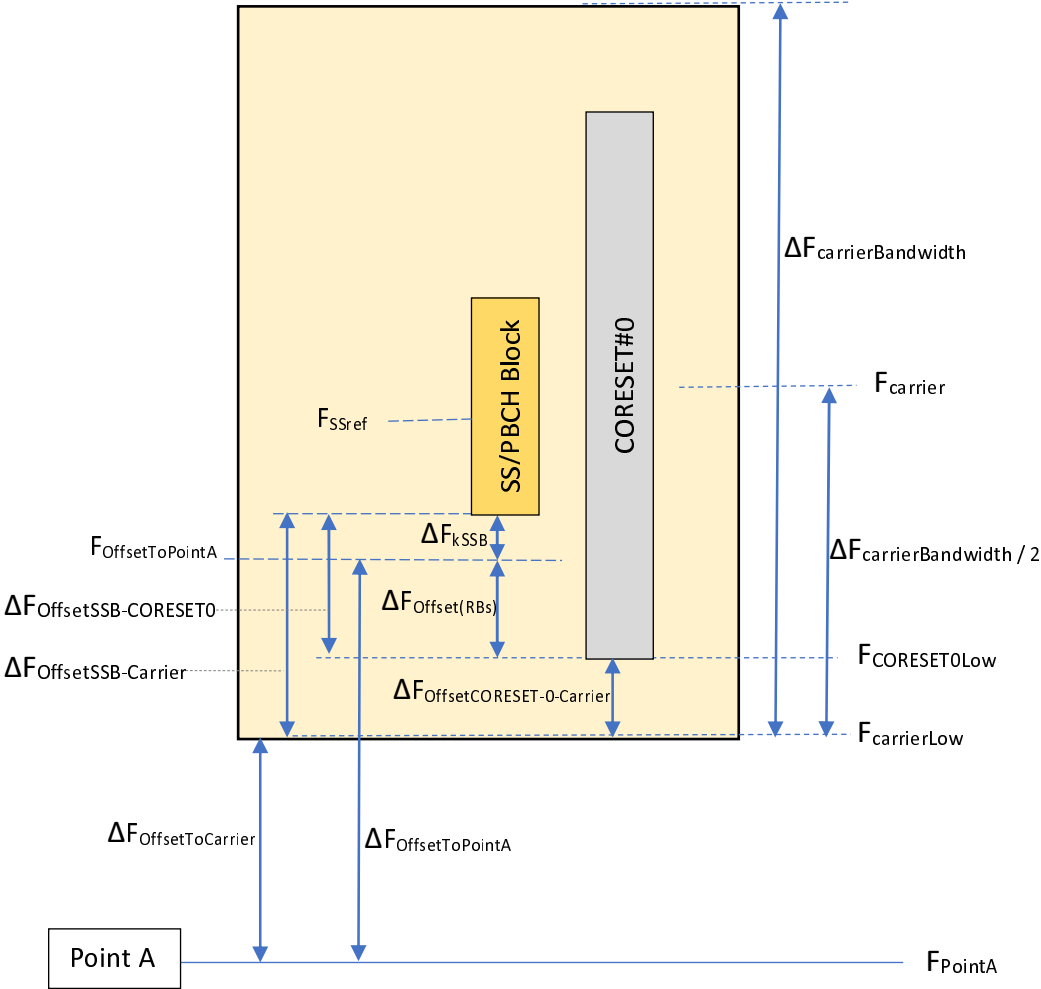


Figure C.1-1: location of SSB and CORESET#0 within a channel

The parameters referenced in figure C.1-1 are defined in Table C.1-1.

Table C.1-1: Definition of parameters in Figure C.1-1 used in Annex C.

Parameter	Description
F _{PointA}	Reference Point A frequency.
F _{carrier}	F _{carrier} is the centre frequency of a carrier corresponding to its NR-ARFCN value.
F _{carrierLow}	F _{carrierLow} is the centre frequency of lowest subcarrier of the carrier. $F_{\text{carrierLow}} = F_{\text{carrier}} - 12 * \text{SCS}_{\text{Carrier}} * (N_{\text{RB}} / 2)$ with N_{RB} according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8] for the channel bandwidth of the carrier.
$\Delta F_{\text{carrierBandwidth}}$	$\Delta F_{\text{carrierBandwidth}}$ is the carrier's channel bandwidth as provided in <i>carrierBandwidth</i> to the UE (<i>SCS-SpecificCarrier</i>).
$\Delta F_{\text{OffsetToCarrier}}$	$\Delta F_{\text{OffsetToCarrier}}$ is the frequency offset between Point A and the lower edge of the carrier. $F_{\text{OffsetToCarrier}} = \text{offsetToCarrier} * \text{PRB size}$, where PRB size according to the subcarrier spacing of the carrier. <i>offsetToCarrier</i> is signalled to the UE (<i>SCS-SpecificCarrier</i>).
F _{SSref}	Centre frequency of SSB. For a cell selectable as PCell the F _{SSref} corresponds to a valid GSCN value according to clause 5.4.3.1 of TS 38.101-1 [7] and TS 38.101-2 [8].
$\Delta F_{\text{Offset(RBs)}}$	$\Delta F_{\text{Offset(RBs)}} = 12 * \text{Offset(RBs)} * \text{subCarrierSpacingCommon}$, where Offset(RBs) is given in tables 13-1 to 13-10 of TS 38.213 [22].
ΔF_{kSSB}	$\Delta F_{\text{kSSB}} = k_{\text{SSB}} * \text{subcarrier spacing of SSB (SCS}_{\text{SSB}})$.
$\Delta F_{\text{OffsetSSB-CORESET0}}$	Frequency offset between the lowest subcarrier of the SSB and the lowest subcarrier of CORESET#0. $\Delta F_{\text{OffsetSSB-CORESET0}} = \Delta F_{\text{Offset(RBs)}} + \Delta F_{\text{kSSB}}$.
$\Delta F_{\text{OffsetCORESET-0-Carrier}}$	Frequency offset, $F_{\text{OffsetCORESET\#0-Carrier}}$, between the lowest subcarrier of CORESET#0 and the lowest subcarrier of the carrier.
$\Delta F_{\text{OffsetSSB-Carrier}}$	Frequency offset between the lowest subcarrier of the SSB and the lowest subcarrier of the carrier.
F _{CORESET0Low}	Centre frequency of subcarrier 0 of CORESET#0.
F _{OffsetToPointA}	Frequency of the lowest subcarrier of the lowest resource block, which has the subcarrier spacing provided by the higher-layer parameter <i>subCarrierSpacingCommon</i> and overlaps with the SS/PBCH block used by the UE for initial cell selection, expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2 (TS 38.211 [29] clause 4.4.4.2).
$\Delta F_{\text{OffsetToPointA}}$	Frequency offset between F _{OffsetToPointA} and point A. $\Delta F_{\text{OffsetToPointA}} = \text{offsetToPointA} * \{15 \text{ kHz for FR1; } 60 \text{ kHz for FR2}\}$ (TS 38.211 [29] clause 4.4.4.2).

Additional parameters used in this annex are defined in Table C.1-2.

Table C.1-2: Definition of additional parameters used in Annex C.

k_{SSB}	as defined in TS 38.211 [29] clause 7.4.3.1
$SCS_{Carrier}$	subcarrier spacing for the carrier (<i>SCS-SpecificCarrier</i>): FR1: 15kHz, 30kHz or 60kHz according to TS 38.101-1 [7] Table 5.3.5-1 FR2: 60kHz or 120kHz according to TS 38.101-2 [8] Table 5.3.5-1
SCS_{SSB}	SS/PBCH block subcarrier spacing FR1: 15kHz or 30kHz according to TS 38.101-1 [7] Table 5.4.3.3-1 FR2: 120kHz or 240kHz according to TS 38.101-2 [8] Table 5.4.3.3-1 NOTE: According to the tables in clause 13 of TS 38.213 [22] not all combinations of SCS_{SSB} and $SCS_{Carrier}$ are applicable.
SCS_{common}	Subcarrier spacing for SIB1, Msg.2/4 for initial access, paging and broadcast SI-messages. Provided to the UE in the MIB in IE <i>SubCarrierSpacingCommon</i> .
PRB_{size}	Physical Resource Block size of the carrier = $12 * SCS_{Carrier}$.
CRB_{size}	Common Resource Block size = $12 * SCS_{common}$.
F_{DL_Low}, F_{UL_Low}	Lowest frequency of the downlink and uplink frequency range of the band as defined in clause 5.2 of TS 38.101-1 [7] and TS 38.101-2 [8].
F_{DL_High}, F_{UL_High}	Highest frequency of the downlink and uplink frequency range of the band as defined in clause 5.2 of TS 38.101-1 [7] and TS 38.101-2 [8].
ΔF_{Raster}	Frequency raster of the band as defined in clause 5.4.2.3 of TS 38.101-1 [7] and TS 38.101-2 [8].
BW_{DL}	Bandwidth of downlink frequency range of the band.
BW_{UL}	Bandwidth of uplink frequency range of the band.
CBW_{DL}	Downlink channel bandwidth (MHz) of the carrier according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8].
CBW_{UL}	Uplink channel bandwidth (MHz) of the carrier according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8].
$F_{Tx-Rx\_separation}$	Default Tx – Rx carrier centre frequency separation of the band as defined in clause 5.4.4 of TS 38.101-1 [7]. For TDD bands $F_{Tx-Rx\_separation} = 0$.
$\Delta F_{Tx-Rx\_separation}$	$\Delta F_{Tx-Rx} = (BW_{DL} - BW_{UL})/2 $ is the deviation to the default Tx-Rx carrier centre frequency separation ($F_{Tx-Rx\_separation}$) for FDD FR1 bands supporting asymmetric channel bandwidths as defined in clause 5.3.6 of TS 38.101-1 [7].
BW_{SSB}	Bandwidth of the SSB. $BW_{SSB} = 12 * SCS_{SSB} * 20$
$\Delta GSCN, GSCN_{MIN}, GSCN_{MAX}$	GSCN step size, GSCN minimum and GSCN maximum values for the NR band according to table 5.4.3.3-1 of TS 38.101-1 [7] and TS 38.101-2 [8]
$Offset_{RBS}$	Offset (RBs) according to the applicable table 13-1 to 13-10 in TS 38.213 [22] for the given band and $\{SCS_{SSB}, SCS_{Carrier}\}$ combination of the carrier.
$Offset_{RBS,max}$	Maximum value for Offset (RBs) for the carrier.
$Offset_{RBS,min}$	Minimum value for Offset (RBs) for the carrier.

C.2 Determination of test frequencies

C.2.0 General

Test frequencies are determined as:

For symmetric NR bands (supporting same bandwidth in UL and DL):

- test frequencies for the supported symmetric channel bandwidth combinations are determined as described in clause C.2.1; and
- the test frequencies for the supported asymmetric channel bandwidth combinations are determined as described in clause C.2.3.

For asymmetric NR bands (supporting different bandwidth in UL and DL):

- the test frequencies for the supported symmetric channel bandwidth combinations are determined as described in clause C.2.2; and
- the test frequencies for the supported asymmetric channel bandwidth combinations are determined as described in clause C.2.3.

For NR CA and NR DC:

- the test frequencies are determined as described in the relevant subclause in C.2.4 depending to the type of configuration.

The carrier test frequencies are determined considering the channel raster according to clause 5.4.2.3 in TS 38.101-1 [7] for FR1 and in TS 38.101-2 [8] for FR2.

C.2.1 Determination of test frequencies for symmetric NR bands and symmetric uplink and downlink channel bandwidth combinations

C.2.1.1 Determination of test frequencies for Low-, Mid- and High-Range

Downlink:

$F_{DL\_LowRange} = \text{Ceil}((F_{DL\_Low} + CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.1-Eq1
$F_{DL\_MidRange} = \text{Round}((F_{DL\_Low} + BW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.1-Eq2
$F_{DL\_HighRange} = \text{Floor}((F_{DL\_High} - CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.1-Eq3

$F_{DL\_LowRange}$ is rounded up and $F_{DL\_HighRange}$ is rounded down to obey to the minimum guard band according to clause 5.3.3 of TS 38.101-1 [7] and TS 38.101-2 [8].

Uplink:

$F_{UL\_LowRange} = F_{DL\_LowRange} - F_{Tx-Rx\_separation}$	C.2.1.1-Eq4
$F_{UL\_MidRange} = F_{DL\_MidRange} - F_{Tx-Rx\_separation}$	C.2.1.1-Eq5
$F_{UL\_HighRange} = F_{DL\_HighRange} - F_{Tx-Rx\_separation}$	C.2.1.1-Eq6

C.2.1.2 Determination test frequencies for of Mid-Low and Mid-High-Range for signalling tests

$F_{Mid-LowRange} = \text{Round}((F_{LowRange} + (F_{HighRange} - F_{LowRange})/3) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.2-Eq1
$F_{Mid-HighRange} = \text{Round}((F_{LowRange} + 2*(F_{HighRange} - F_{LowRange})/3) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.2-Eq2

C.2.2 Determination of test frequencies for asymmetric NR bands and symmetric uplink and downlink channel bandwidth combinations

Determination of test frequencies for asymmetric NR bands, and symmetric uplink and downlink channel bandwidth combinations are determined using the procedure in clause C.2.3 with $\Delta F_{Tx-Rx} = 0$.

C.2.3 Determination of test frequencies for bands supporting asymmetric channel bandwidth combinations

C.2.3.1 General

The following procedure is used to calculate test frequencies for NR bands supporting asymmetric UL and DL channel bandwidths as described below, where CBW_{UL} and CBW_{DL} refer to the carrier's UL and DL channel bandwidths; and BW_{UL} and BW_{DL} refer to the band's total UL and DL bandwidths.

The procedure is also used to calculate test frequencies for symmetric UL and DL bandwidth combinations for asymmetric NR bands.

For FDD bands supporting asymmetric uplink and downlink bandwidth combinations a deviation of $\Delta F_{\text{TX-RX}}$ (C.2.3.1-Eq1) is to be added to the default Tx-Rx carrier centre frequency separation, $F_{\text{TX-Rx\_separation}}$ (TS 38.101-1 [7] clause 5.3.6).

$\Delta F_{\text{TX-RX}} = (\text{CBW}_{\text{DL}} - \text{CBW}_{\text{UL}})/2 $	C.2.3.1-Eq1

For the case of asymmetric NR bands and symmetric UL and DL bandwidth combinations $\Delta F_{\text{TX-RX}} = 0$. To meet the Tx-Rx frequency separation requirement for asymmetric NR bands where the supported overall UL bandwidth is smaller than the supported overall DL bandwidth it may not be possible to cover the full DL frequency range for all UL and DL channel bandwidth combinations. For CA when such band is only used for DL CC the full range can be used for all DL channel bandwidths.

To maximize the tested frequency range for the non-CA case the UL frequency range, as being smaller than the DL frequency range, need to be used as the starting point to calculate the uplink and downlink test frequencies.

C.2.3.2 Determination of Low-, Mid- and High-Range for bands supporting asymmetric uplink and downlink bandwidth combinations

The following procedure is used to determine the test frequencies for Low-, Mid- and High-Range for bands supporting asymmetric UL and DL bandwidth combinations.

1. Calculate uplink carrier centre frequencies:

$F_{\text{UL\_LowRange}} = \text{Ceil}((F_{\text{UL\_Low}} + \text{CBW}_{\text{UL}}/2) / \Delta F_{\text{Raster}}) * \Delta F_{\text{Raster}}$	C.2.3.2-Eq1
$F_{\text{UL\_MidRange}} = \text{Round}((F_{\text{UL\_Low}} + \text{BW}_{\text{UL\_Band}}/2) / \Delta F_{\text{Raster}}) * \Delta F_{\text{Raster}}$	C.2.3.2-Eq2
$F_{\text{UL\_HighRange}} = \text{Floor}((F_{\text{UL\_Low}} + \text{BW}_{\text{UL\_Band}} - \text{CBW}_{\text{UL}}/2) / \Delta F_{\text{Raster}}) * \Delta F_{\text{Raster}}$	C.2.3.2-Eq3

2. Calculate the downlink frequencies:

Calculate the DL carrier centre frequencies from the UL frequencies in step 1.

$F_{\text{DL\_LowRange}} = F_{\text{UL\_LowRange}} + F_{\text{Tx-Rx\_separation}} + \Delta F_{\text{Tx-Rx}}$	C.2.3.2-Eq4
$F_{\text{DL\_MidRange}} = F_{\text{UL\_MidRange}} + F_{\text{Tx-Rx\_separation}} + \Delta F_{\text{Tx-Rx}}$	C.2.3.2-Eq5
$F_{\text{DL\_HighRange}} = F_{\text{UL\_HighRange}} + F_{\text{Tx-Rx\_separation}} + \Delta F_{\text{Tx-Rx}}$	C.2.3.2-Eq6

3. Check that the calculated centre test frequencies in step 2 for the BW_{DL} fits within the bands DL frequency range:

If $F_{\text{DL\_LowRange}}$ is smaller than the lowest frequency of the band then recalculate the minimum $F_{\text{DL\_LowRange}}$ and modify the associated $F_{\text{UL\_LowRange}}$ as:

$F_{\text{DL\_LowRange}} = \text{Ceil}((F_{\text{DL\_Low}} + \text{CBW}_{\text{DL}}/2) / \Delta F_{\text{Raster}}) * \Delta F_{\text{Raster}}$	C.2.3.2-Eq7
$F_{\text{UL\_LowRange}} = F_{\text{DL\_LowRange}} - F_{\text{Tx-Rx\_separation}} - \Delta F_{\text{Tx-Rx}}$	C.2.3.2-Eq8

If $F_{\text{DL\_HighRange}}$ is larger than the higher frequency of the band then recalculate the maximum $F_{\text{DL\_HighRange}}$ and modify the associated $F_{\text{UL\_HighRange}}$ as:

$F_{\text{DL\_HighRange}} = \text{Floor}((F_{\text{DL\_Low}} + \text{BW}_{\text{DL\_Band}} - \text{CBW}_{\text{DL}}/2) / \Delta F_{\text{Raster}}) * \Delta F_{\text{Raster}}$	C.2.3.2-Eq9
$F_{\text{UL\_HighRange}} = F_{\text{DL\_HighRange}} - F_{\text{Tx-Rx\_separation}} - \Delta F_{\text{Tx-Rx}}$	C.2.3.2-Eq10

C.2.4 Frequency determination for NR CA and NR DC configurations

C.2.4.1 Determination of test frequencies for NR Inter-band CA and NR DC

Test frequencies for NR Inter-band CA configurations and NR DC use the single carrier test frequencies for each of the included NR bands in the configuration as specified in clause 4.3.1.1.1 for FR1 bands and in clause 4.3.1.2.1 for FR2 bands.

C.2.4.2 Determination of test frequencies for NR Intra-band Contiguous CA

C.2.4.2.1 General

By default, test frequencies for NR Intra-band Contiguous CA in clause 4.3.1 are specified using the nominal channel spacing between the carrier components as specified in TS 38.101-1 [7] clause 5.4A.1 for FR1 and TS 38.101-2 [8] clause 5.4A.1 for FR2. In addition, some NR bands may have test frequencies specified based on an adjusted channel spacing as specified in in TS 38.101-1 [7] clause 5.4A.1 for FR1 and TS 38.101-2 [8] clause 5.4A.1 for FR2.

The test frequencies for NR Intra-band Contiguous CA is calculated for each CC and specific test cases can decide which CC is used as PCell. This means that all CC test frequencies is calculated with a CORESET#0.

Note: For NR Intra-band Contiguous CA configurations for bands where Tx frequency range is lower than Rx frequency range the RAN4 requirements for reference sensitivity testing is specified having the PCC frequency lower than the SCC frequencies such that UL PRB maximise the Tx-Rx separation. This means that CC1 shall be used as PCell in the reference test case for bands where Tx frequency range is lower than Rx frequency range; and highest CC shall be used as PCell in the reference test case for bands where Tx frequency range is higher than Rx frequency range.

In addition to the definition of parameters in clause C.1 the following parameters are used to calculate carrier components (CC) test frequencies for NR Intra-band Contiguous and Non-contiguous CA configurations:

Parameter	Description
N_{CC}	Number of CCs in the for NR Intra-band configuration
$CCBW_{DL}(i)$	Channel bandwidth (MHz) of downlink CC(i), where $i = 1$ to N_{CC}
$F_{Channel\_Spacing}(i)$	Channel spacing between CC(i) and CC(i+1), where $i = 1$ to $(N_{CC}-1)$

C.2.4.2.2 Determination of test frequencies for Low-, Mid- and High-Range

Downlink CC(1), lowest frequency CC:

$F_{DL\_LowRange\_CC}(1)$ is rounded up and $F_{DL\_HighRange\_CC}(1)$ is rounded down to obey to the minimum guard band according to clause 5.3.3 of TS 38.101-1 [7] and TS 38.101-2 [8].

$F_{DL\_LowRange\_CC}(1) = \text{Ceil}((F_{DL\_Low} + CCBW_{DL}(1) / 2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2.2-Eq1
$F_{DL\_MidRange\_CC}(1) = \text{Round}((F_{DL\_Low} + BW_{DL}/2 - \sum_{k=1 \text{ to } (N_{CC})} CCBW_{DL}(k)/2 + CCBW_{DL}(1)/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2.2-Eq2
$F_{DL\_HighRange\_CC}(1) = \text{Floor}((F_{DL\_High} - CCBW_{DL}(N_{CC})/2 - \sum_{k=1 \text{ to } (N_{CC}-1)} F_{Channel\_Spacing}(k)) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2.2-Eq3

Downlink CC(2) to CC(N_{CC}), in increasing frequency order:

$F_{DL\_LowRange\_CC}(i) = F_{DL\_LowRange\_CC}(i-1) + F_{Channel\_Spacing}(i)$, $i=2$ to N_{CC}	C.2.4.2.2-Eq4
$F_{DL\_MidRange\_CC}(i) = F_{DL\_MidRange\_CC}(i-1) + F_{Channel\_Spacing}(i)$, $i=2$ to N_{CC}	C.2.4.2.2-Eq5
$F_{DL\_HighRange\_CC}(i) = F_{DL\_HighRange\_CC}(i-1) + F_{Channel\_Spacing}(i)$, $i=2$ to N_{CC}	C.2.4.2.2-Eq6

Uplink CC(i), $i=1$ to N_{CC} :

$F_{UL\_LowRange\_cc(i)} = F_{DL\_LowRange\_cc(i)} - F_{Tx-Rx\_separation}$	C.2.4.2.2-Eq7
$F_{UL\_MidRange\_cc(i)} = F_{DL\_MidRange\_cc(i)} - F_{Tx-Rx\_separation}$	C.2.4.2.2-Eq8
$F_{UL\_HighRange\_cc(i)} = F_{DL\_HighRange\_cc(i)} - F_{Tx-Rx\_separation}$	C.2.4.2.2-Eq9

C.2.4.3 Determination of test frequencies for NR Intra-band Non-Contiguous CA

C.2.4.3.1 General

The default test frequencies in clause 4.3.1 for NR Intra-band Non-Contiguous CA are based on maximum W_{gap} between the carrier components of the different bands.

Test frequencies with W_{gap} different from maximum W_{gap} are specified in the specific test cases using them.

C.2.4.3.2 Maximum W_{gap} , two non-contiguous components

For the case a NR Intra-band Non-Contiguous CA configuration is limited to two non-contiguous components, where each non-contiguous components may be a single CC component or a multi CC contiguous CA component, the test frequencies for each non-contiguous component is selected such that the first component use the test frequency of the Low range and the second component use the test frequency for High range.

If a non-contiguous component is single CC component, then the test frequencies as specified in clause 4.3.1.1.1 for FR1 bands and in clause 4.3.1.2.1 for FR2 bands are used. If a non-contiguous component is a multi CC contiguous CA component, then the test frequencies as specified in clause 4.3.1.1.3 for FR1 bands and in clause 4.3.1.2.3 for FR2 bands are used.

C.2.4.3.3 Maximum W_{gap} , more than two non-contiguous components

For the case a NR Intra-band Non-Contiguous CA configuration includes more than two non-contiguous components, where each non-contiguous components may be a single CC component or a multi CC contiguous CA component the maximum W_{gap} is calculated as:

$Maximum\ W_{gap} = (BW_{DL} - \sum_{k=1\ to\ (N_{cc}-1)} CCBW_{DL}(i)) / (N_{cc}-1)$	C.2.4.3.3-Eq1

For each non-contiguous components the test frequencies are calculated based on the principles in clause C.2.1 for symmetric NR bands with symmetric uplink and downlink channel bandwidth combinations or; in clause C.2.2 for asymmetric NR bands with symmetric uplink and downlink channel bandwidth combinations; in clause C.2.3 for symmetric or asymmetric NR bands with asymmetric uplink and downlink channel bandwidth combinations.

C.3 Determination of SSB and CORESET#0

C.3.1 General

The requirements to be met and the principles used for determining the SSB and CORESET#0 for a PCell are:

1. The complete SSB and CORESET#0 shall be within the carrier's channel bandwidth.
2. The SSB centre frequency (SS_{ref}) shall be on the synchronisation raster.
3. The SSB shall be kept as close as possible to the carrier's lower edge centre frequency.
4. CORESET#0 configuration is selected using lowest number of RBs and symbols in applicable table in TS 38.213 [22], clause 13.
5. The first SSB subcarrier shall be aligned with the defined resource grid given by SCS indicated by *subCarrierSpacingCommon* in the MIB.

C.3.2 Determination of SSB, CORESET#0 and signalling parameters for a PCell

The following procedure is used to determine an SSB on the synchronisation raster (GSCN) and a CORESET#0 configuration (k_{SSB} , $Offset_{RBs}$ and $OffsetToPointA$) as close as possible to the carrier's lower edge. See figure C1-1 and clause C.1 for definition of parameters referenced in the procedure.

1. Determine SSB and CORESET#0:

- 1a. Calculate the lower of F_{SSref} , F_{SSref_Min} , correspondent to SSB lowest subcarrier being at the same frequency as the carrier's lowest subcarrier; and the higher limit of F_{SSref} , F_{SSref_Max} , correspondent to SSB highest subcarrier being at the same frequency as the carrier's highest subcarrier F_{SSref_Min}

$F_{carrierLow}$ = see formula for $F_{carrierLow}$ in Table C.1-1
$F_{SSref\_Min} = F_{carrierLow} + CRB_{size} * Offset_{RBs,min} + BW_{SSB} / 2$
$F_{SSref\_Max} = F_{carrierLow} + \Delta F_{carrierBandwidth} - BW_{SSB} / 2$

- 1b. Calculate $GSCN_{MIN}$ correspondent to F_{SSref_Min} in accordance to TS 38.101-1 [7], clause 5.4.3.1 for FR1 and TS 38.101-2 [7], clause 5.4.3.1 for FR2 and select the closest valid GSCN value with $GSCN \geq GSCN_{MIN}$ for the carrier in according to the carrier's synchronisation raster as specified in clause 5.4.3.3 in TS 38.101-1 [7] and TS 38.101-2 [8].
- 1c. Calculate the F_{SSref} for the selected GSCN value in step 1b in accordance to TS 38.101-1 [7], clause 5.4.3.1 for FR1 and TS 38.101-2 [7], clause 5.4.3.1 for FR2.
- 1d. Calculate the frequency $F_{offsetToPointA}$, which is the lowest subcarrier of the lowest resource block with the subcarrier spacing being a multiple of resource blocks expressed in terms of common PRB size and overlaps with the SS/PBCH block subcarrier 0 of the first resource block of the SS/PBCH block, F_{SSBlow} (TS 38.211 [3], clause 7.4.3.1):

$F_{SSBlow} = F_{SSref} - BW_{SSB} / 2$
$F_{offsetToPointA} = CRB_{size} * Floor((F_{SSBlow} - F_{carrierLow}) / CRB_{size}) + F_{carrierLow}$

- 1e. Calculate the maximum $Offset_{RBs}$ value with $F_{CORESET0Low} \geq F_{carrierLow}$:

$Max\_Offset_{RBs} = (F_{offsetToPointA} - F_{carrierLow}) / CRB_{size}$

- 1f. Select the largest valid $Offset_{RBs}$ value equal or smaller than the calculated max value, Max_Offset_{RBs} in step 1e within the applicable values for the carrier in TS 38.213 [4], table 13-1 to 13-10 limited to the table indexes with number of RBs $N_{RB}^{CORESET}$ and number of symbols $N_{symb}^{CORESET}$ equal to the minimum value of $N_{RB}^{CORESET}$ in the table and minimum value of $N_{symb}^{CORESET}$ for the selected $N_{RB}^{CORESET}$. If a valid $Offset_{RBs}$ value is found, then continue from step 1g..

If a valid $Offset_{RBs}$ value is found, then continue from step 1g.

If no valid $Offset_{RBs}$ value is found, then select the next valid GSCN with $F_{SSref} \leq F_{SSref\_Max}$ within the valid GSCN range for the carrier and repeat steps 1b to 1f.

If no valid $Offset_{RBs}$ value found within the valid GSCN range then will the carrier not be possible to use as PCell and F_{SSref} , k_{SSB} , F_{PointA} , $OffsetToCarrier$ and $OffsetToPointA$ are calculated as described in clause C.3.2 and the procedure is completed.

- 1g. Calculate k_{SSB}

$k_{SSB} = (F_{SSBlow} - F_{offsetToPointA}) / \{15 \text{ kHz for FR1, } subCarrierSpacingCommon \text{ (MIB) for FR2}\}$ (TS 38.211 [3], clause 7.4.3.1).
$N = SCS_{SSB} / \{15 \text{ kHz for FR1; } subCarrierSpacingCommon \text{ (MIB) for FR2}\}.$
$k_{SSB} \bmod N \neq 0$ indicates that the SSB subcarriers are not aligned with the resource grid given by the SCS indicated by $subCarrierSpacingCommon$ in the MIB.

If k_{SSB} is an integer and $k_{SSB} \bmod N = 0$, then continue from step 2.

If k_{SSB} is not an integer value or $k_{SSB} \bmod N \neq 0$, then select the next valid GSCN with $F_{SSref} < F_{SSref\_Max}$ within the valid GSCN range for the carrier and repeat steps 1b to 1g.

If $N > 1$ and no valid k_{SSB} value found within the valid GSCN range for the currently selected carrier frequency $F_{carrier}$ then shift $F_{carrier}$ up by ΔF_{Raster} for Low range; or down by ΔF_{Raster} for Mid, Mid-Low, Mid-High and High ranges and repeat steps 1a to 1g for a maximum shift of $3 * \Delta F_{Raster}$ (see clause C.3.1, Note 1).

If no valid k_{SSB} value found within the valid GSCN range then will the carrier not be possible to use as PCell and F_{SSref} , k_{SSB} , F_{PointA} , *OffsetToCarrier* and *OffsetToPointA* are calculated as described in clause C.3.2 and the procedure is completed.

2. Determine OffsetToCarrier

Select *offsetToCarrier* value for the carrier in accordance to Table C.3.2-1.

Table C.3.2-1: Downlink and uplink *offsetToCarrier* default values for different frequency ranges

Frequency range	Downlink <i>offsetToCarrier</i>	Uplink <i>offsetToCarrier</i>
Low range	0	0
Mid range	102	504
High range	504	6
Mid-Low range	12	36
Mid-High range	24	114
Note: Different values of <i>offsetToCarrier</i> have been selected for Low, Mid-Low, Mid, Mid-High and High ranges to achieve enhanced test coverage of the <i>offsetToCarrier</i> range of values.		

2b. Determine F_{pointA} :

$$F_{PointA} = F_{carrierLow} - offsetToCarrier * PRB_{Size}$$

3. Calculate $\Delta F_{OffsetCORESET-0-Carrier}$:

The $\Delta F_{OffsetCORESET-0-Carrier}$ value is used to calculate the Offset Carrier CORESET#0 parameter included in the test frequency tables in sub-clauses 4.3.1 and 6.2.3.

$$\Delta F_{OffsetCORESET-0-Carrier} = F_{offsetToPointA} - Offset_{RB} * CRB_{Size} - F_{carrierLow}$$

4. Calculate signalling parameters:

IE field	Value
<i>ssb-SubcarrierOffset</i>	Set to the 4 least significant bits of k_{SSB} . For the case $k_{SSB} > 15$ the extended by an additional most significant bit encoded within PBCH as specified in TS 38.213 [22]. The IE field <i>ssb-SubcarrierOffset</i> is signalled in the MIB.
<i>controlResourceSetZero</i>	Set to the index associated with the selected $Offset_{RBs}$ value in the applicable table, 13-1 to 13-10, in TS 38.213 [22]. The IE field <i>controlResourceSetZero</i> is signalled in the IE <i>pdccch-ConfigSIB1</i> in the MIB.
<i>absoluteFrequencySSB</i>	Set to F_{SSref} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
<i>absoluteFrequencyPointA</i>	Set to F_{PointA} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
<i>offsetToPointA</i>	$(F_{offsetToPointA} - F_{PointA}) / (12 * \{15 \text{ kHz for FR1; } 60 \text{ kHz for FR2}\})$. The IE field <i>offsetToPointA</i> is signalled in IE <i>FrequencyInfoDL-SIB</i> .
<i>offsetToCarrier</i>	Set to value calculated in step 2a. The IE field <i>offsetToCarrier</i> is signalled in IE <i>SCS-SpecificCarrier</i> .

C.3.3 Determination of SSB and signalling parameters for a carrier without CORESET#0

The following procedure is used for calculation of SSB and signalling parameters for a carrier without a CORESET#0.

1. Calculate F_{SSref} , k_{SSB} and F_{PointA} with the SSB lowest subcarrier at the carrier's lowest subcarrier ($\Delta F_{OffsetSSB-Carrier}$ in Figure C.1-1 = 0):

$F_{SSref} = F_{carrierLow} + BW_{SSB} / 2$
$k_{SSB} = \{31 \text{ for FR1; } 15 \text{ for FR2}\}$ indicating that no CORESET#0 is present for the carrier (TS 38.213 [4], clause 13).
$offsetToCarrier$ = target value for $offsetToCarrier$ dependent on frequency range as specified in Table C.3.1-1.
$F_{PointA} = F_{carrierLow} - offsetToCarrier * PRB_{size}$

2. Calculate signalling parameters:

IE field	Value
<i>ssb-SubcarrierOffset</i>	Set to the 4 least significant bits of k_{SSB} . For the case $k_{SSB} > 15$ the extended by an additional most significant bit encoded within PBCH as specified in TS 38.213 [22]. The IE field <i>ssb-SubcarrierOffset</i> is signalled in the MIB.
<i>controlResourceSetZero</i>	Set to 0 indicating that no CORESET#0 exist (TS 38.213 [22], clause 13). The IE field <i>controlResourceSetZero</i> is signalled in the IE <i>pdccch-ConfigSIB1</i> in the MIB.
<i>searchSpaceZero</i>	Set to 0 indicating that no CORESET#0 exist (TS 38.213 [22], clause 13). The IE field <i>searchSpaceZero</i> is signalled in the IE <i>pdccch-ConfigSIB1</i> in the MIB.
<i>absoluteFrequencySSB</i>	Set to F_{SSref} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
<i>absoluteFrequencyPointA</i>	Set to F_{PointA} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
<i>offsetToCarrier</i>	Set to $offsetToCarrier$ target value selected in step 1.

C.4 Determination of SSB and CORESET#0 for RRM testing with SSB SCS 120 kHz and 240 kHz

C.4.1 General

The requirements to be met and the principles used for determining the SSB and CORESET#0 for a PCell used in RRM test cases are:

1. The complete SSB and CORESET#0 shall be within the carrier's channel bandwidth.
2. The SSB centre frequency (F_{SSref}) shall be on the synchronisation raster.
3. The SSB shall be kept as close as possible to the carrier's lower edge centre frequency.
4. The CORESET#0 configuration is selected using 24 RBs and $Offset_{RBs} = 0$ according to Table 13-8 and Index 0 for $SCS_{SSB} = 120$ KHz and Table 13-10 and Index 0 for $SCS_{SSB} = 240$ kHz.
5. The first SSB subcarrier shall be aligned with the defined resource grid given by SCS indicated by *subCarrierSpacingCommon* in the MIB.

C.4.2 Determination of SSB, CORESET#0 and signalling parameters

The following procedure is used to determine an SSB on the synchronisation raster (GSCN) and a CORESET#0 configuration (k_{SSB} , $Offset_{RBs} = 0$ and $OffsetToPointA$) as close as possible to the carrier's lower edge. See figure C1-1 and clause C.1 for definition of parameters referenced in the procedure.

1. The target test frequencies for Low, Mid and High ranges are calculated as described in clause C.2.1.1.

For each of Low, Mid and High ranges do:

2. Determine SSB and CORESET#0:

- 2a. Calculate the lower of F_{SSref} , F_{SSref_Min} , correspondent to SSB lowest subcarrier being at the same frequency as the carrier's lowest subcarrier; and the higher limit of F_{SSref} , F_{SSref_Max} , correspondent to SSB highest subcarrier being at the same frequency as the carrier's highest subcarrier F_{SSref_Min}

$F_{carrierLow}$ = see formula for $F_{carrierLow}$ in Table C.1-1
$F_{SSref\_Min} = F_{carrierLow} + CRB_{size} * Offset_{RBs,min} + BW_{SSB} / 2$
$F_{SSref\_Max} = F_{carrierLow} + \Delta F_{carrierBandwidth} - BW_{SSB} / 2$

- 2b. Calculate $GSCN_{MIN}$ correspondent to F_{SSref_Min} in accordance to TS 38.101-2 [7], clause 5.4.3.1 and select the closest valid GSCN value with $GSCN \geq GSCN_{MIN}$ for the carrier in according to the carrier's synchronisation raster as specified in clause 5.4.3.3 in TS 38.101-2 [8].

- 2c. Calculate the F_{SSref} for the selected GSCN value in step 2b in accordance to TS 38.101-2 [7], clause 5.4.3.1 for FR2.

- 2d. Calculate the frequency F_{SSBlow} and shift the carrier frequency to achieve $F_{carrierLow}$ equal or as close as possible F_{SSBlow} on the carrier's frequency raster.

$F_{SSBlow} = F_{SSref} - BW_{SSB} / 2$
$F_{carrier} =$ calculated using the formula in clause C.2.1.1 with $F_{DL\_Low} = F_{SSBlow}$
$F_{carrierLow}$ = see formula for $F_{carrierLow}$ in Table C.1-1 with new value of $F_{carrier}$

- 2e. Calculate k_{SSB}

$k_{SSB} = (F_{SSBlow} - F_{carrierLow}) / subCarrierSpacingCommon$ (MIB, FR2) (TS 38.211 [3], clause 7.4.3.1).
$N = SCS_{SSB} / subCarrierSpacingCommon$ (MIB, FR2).
$k_{SSB} \bmod N \neq 0$ indicates that the SSB subcarriers are not aligned with the resource grid given by the SCS indicated by $subCarrierSpacingCommon$ in the MIB.

If k_{SSB} is an integer and $k_{SSB} \bmod N = 0$, then continue from step 3 else modify the carrier frequency to get valid value of k_{SSB} and $k_{SSB} \bmod N = 0$.

3. Calculate Point A frequency, $\Delta F_{OffsetToCarrier}$ and $\Delta F_{OffsetToPointA}$:

The CORESET#0 configuration is selected using 24 RBs and $Offset_{RBs} = 0$ according to Table 13-8 and Index 0 for $SCS_{SSB} = 120$ KHz and Table 13-10 and Index 0 for $SCS_{SSB} = 240$ kHz (see C.4.1). This means that $F_{OffsetToPointA} = F_{carrierLow}$. By selecting Point A equal to $F_{carrierLow}$ this gives:

$F_{PointA} = F_{carrierLow}$
$\Delta F_{OffsetToCarrier} = 0$
$\Delta F_{OffsetToPointA} = 0$

4. Calculate signalling parameters:

IE field	Value
<i>ssb-SubcarrierOffset</i>	Set to the 4 least significant bits of k_{SSB} . The IE field <i>ssb-SubcarrierOffset</i> is signalled in the MIB.
<i>controlResourceSetZero</i>	0 (Index=0 in table 13-8 for SCS_{SSB} =120 KHz and table 13-10 for SCS_{SSB} =240 KHz in TS 38.213 [22]). The IE field <i>controlResourceSetZero</i> is signalled in the IE <i>pdccch-ConfigSIB1</i> in the MIB.
<i>absoluteFrequencySSB</i>	Set to F_{SSref} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
<i>absoluteFrequencyPointA</i>	Set to F_{PointA} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
<i>offsetToPointA</i>	0 The IE field <i>offsetToPointA</i> is signalled in IE <i>FrequencyInfoDL-SIB</i> .
<i>offsetToCarrier</i>	0 The IE field <i>offsetToCarrier</i> is signalled in IE <i>SCS-SpecificCarrier</i> .

Annex D (informative): Change history

Change history							
Date	Meeting	TDoc	CR	R e v	Cat	Subject/Comment	New version
2017-12	RAN5#7 7	R5-176995	-	-	-	TP on clauses of test equipment requirement in 38.508-1	0.1.0
2017-12	RAN5#7 7	R5-176779	-	-	-	Add references	0.1.0
2017-12	RAN5#7 7	R5-176917	-	-	-	Introduce general chapter for generic procedures	0.1.0
2017-12	RAN5#7 7	R5-176918	-	-	-	Add generic procedures RRC_IDLE and RRC_CONNECTED	0.1.0
2017-12	RAN5#7 7	R5-176920	-	-	-	Introduce RRC chapters	0.1.0
2018-01	RAN5#1- 5G-NR Adhoc	R5-180066	-	-	-	Definition of downlink physical layer parameters for NR	0.2.0
2018-03	RAN5#7 8	R5-181697	-	-	-	Addition of the environmental information into TS 38.508-1	0.3.0
2018-03	RAN5#7 8	R5-180265	-	-	-	Introduce chapter for reference configurations	0.3.0
2018-03	RAN5#7 8	R5-181311	-	-	-	Update the general chapter	0.3.0
2018-03	RAN5#7 8	R5-180382	-	-	-	Update RRCReconfiguration	0.3.0
2018-03	RAN5#7 8	R5-180383	-	-	-	Add draft RRC messages	0.3.0
2018-03	RAN5#7 8	R5-180577	-	-	-	Update chapter for test frequencies	0.3.0
2018-03	RAN5#7 8	R5-180709	-	-	-	Add CellGroupConfig	0.3.0
2018-03	RAN5#7 8	R5-180773	-	-	-	Add radioBearerConfig	0.3.0
2018-03	RAN5#7 8	R5-180775	-	-	-	Add draft Radio resource control information elements	0.3.0
2018-03	RAN5#7 8	R5-180966	-	-	-	Update RRC Connected state	0.3.0
2018-03	RAN5#7 8	R5-181035	-	-	-	Update RRC IDLE state	0.3.0
2018-03	RAN5#7 8	R5-180253	-	-	-	Revised WID on: UE Conformance Test Aspects - 5G system with NR and LTE	0.3.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-181812	-	-	-	Update Radio resource control information elements	0.4.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-182109	-	-	-	Update CellGroupConfig	0.4.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-182064	-	-	-	Update radioBearerConfig	0.4.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-182062	-	-	-	Update MIB	0.4.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-182063	-	-	-	Introduce radio conditions	0.4.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-181786	-	-	-	Update RRCReconfiguration	0.4.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-181971	-	-	-	Add Other information elements	0.4.0
2018-04	RAN5#1- 5G-NR Adhoc	R5-182065	-	-	-	Update chapter 4.5.1 General	0.4.0
2018-04	RAN5#1- 5G-NR	R5-181813	-	-	-	Update RRC IDLE state	0.4.0

	Adhoc						
2018-04	RAN5#1-5G-NR Adhoc	R5-182066	-	-	-	Update RRC CONNECTED state	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182110	-	-	-	Text proposal to add clause 4.4 reference system configurations to TS 38.508-1	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182067	-	-	-	TP for definition of physical channel allocations in 38.508-1	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182091	-	-	-	TP for clauses of signal level	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181972	-	-	-	TP for updating of Downlink physical layer parameters	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181893	-	-	-	Addition of UE capability information elements	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181973	-	-	-	TP for adding Mid channel BW definition in TS 38.508-1	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181974	-	-	-	Addition of SRB3	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182068	-	-	-	Update MeasConfig information elements	0.4.0
2018-05	RAN5#7 9	R5-183082	-	-	-	Update radio resource control information elements	1.0.0
2018-05	RAN5#7 9	R5-182288	-	-	-	TP for updating of downlink physical layer parameters in 38.508-1	1.0.0
2018-05	RAN5#7 9	R5-182349	-	-	-	Corrections to clause 4.4 reference system configurations	1.0.0
2018-05	RAN5#7 9	R5-182792	-	-	-	TP for clauses of Supported Channels for a NR cell	1.0.0
2018-05	RAN5#7 9	R5-183218	-	-	-	pCR update chapter for test frequencies - EN-DC	1.0.0
2018-05	RAN5#7 9	R5-183234	-	-	-	TP for updating of physical channel allocation part in 38.508-1	1.0.0
2018-05	RAN5#7 9	R5-183256	-	-	-	pCR update chapter for test frequencies - FR1	1.0.0
2018-05	RAN5#7 9	R5-183916	-	-	-	TP for Annex A in TS 38.508-1 and adding a set of Connection Diagrams	1.0.0
2018-05	RAN5#7 9	R5-183920	-	-	-	Introduction of Environmental conditions for FR1	1.0.0
2018-05	RAN5#7 9	R5-182249	-	-	-	Add reference to NR cell table	1.0.0
2018-05	RAN5#7 9	R5-183210	-	-	-	Update PDCCH	1.0.0
2018-05	RAN5#7 9	R5-182312	-	-	-	Update chapter 4.5.1 General	1.0.0
2018-05	RAN5#7 9	R5-182313	-	-	-	Update RRC CONNECTED state	1.0.0
2018-05	RAN5#7 9	R5-183087	-	-	-	Addition of new RRCReconfiguration definition for AM/UM bearers	1.0.0
2018-05	RAN5#7 9	R5-183088	-	-	-	Updates to UE capability information elements	1.0.0
2018-05	RAN5#7 9	R5-183250	-	-	-	Updates to UE capability information elements	1.0.0
2018-05	RAN5#7 9	R5-183083	-	-	-	Update RACH	1.0.0
2018-05	RAN5#7 9	R5-183084	-	-	-	Update ARFCN	1.0.0
2018-05	RAN5#7 9	R5-183211	-	-	-	Update BWP-UplinkDedicated	1.0.0
2018-05	RAN5#7 9	R5-183212	-	-	-	Update serving cell	1.0.0
2018-05	RAN5#7 9	R5-183214	-	-	-	Update RadioBearerConfig	1.0.0
2018-05	RAN5#7 9	R5-183215	-	-	-	Update RRCReconfiguration	1.0.0
2018-05	RAN5#7 9	R5-182381	-	-	-	Update MIB	1.0.0

2018-05	RAN5#7 9	R5-183090	-	-	-	Update RRCReconfiguration for measurements	1.0.0
2018-05	RAN5#7 9	R5-183264	-	-	-	Corrections to clause 4.5	1.0.0
2018-05	RAN5#7 9	R5-183249	-	-	-	Correction to the Table CellGroupConfig	1.0.0
2018-05	RAN5#7 9	R5-183255	-	-	-	Update of FR1 signal levels	1.0.0
2018-05	RAN5#7 9	R5-183216	-	-	-	Update CellGroupConfig and some related information elements	1.0.0
2018-05	RAN5#7 9	R5-183086	-	-	-	Update CSI-MeasConfig	1.0.0
2018-05	RAN5#7 9	R5-183260	-	-	-	Update some information elements related to MeasConfig	1.0.0
2018-06	RAN#80	RP-181207	-	-	-	put under revision control as v15.0.0 with small editorial changes	15.0.0
2018-09	RAN#81	R5-184087	0004	-	F	Update chapter 3	15.1.0
2018-09	RAN#81	R5-184297	0012	-	F	Addition of Mid channel bandwidth definition for several missing bands	15.1.0
2018-09	RAN#81	R5-184327	0014	-	F	Adding condition for CP-OFDM waveform	15.1.0
2018-09	RAN#81	R5-184347	0019	-	F	Modified RRC_IDLE procedure to allow multi PDN configuration throughout the test case	15.1.0
2018-09	RAN#81	R5-184471	0044	-	F	Introduction of test frequencies for NR band n77	15.1.0
2018-09	RAN#81	R5-184472	0045	-	F	Introduction of test frequencies for NR band n78	15.1.0
2018-09	RAN#81	R5-184473	0046	-	F	Introduction of test frequencies for NR band n79	15.1.0
2018-09	RAN#81	R5-184474	0047	-	F	Introduction of test frequencies for NR band n257	15.1.0
2018-09	RAN#81	R5-184475	0048	-	F	Introduction of test frequencies for NR band n258	15.1.0
2018-09	RAN#81	R5-184476	0049	-	F	Introduction of test frequencies for NR band n260	15.1.0
2018-09	RAN#81	R5-184477	0050	-	F	Introduction of test frequencies for NR band n261	15.1.0
2018-09	RAN#81	R5-184599	0056	-	F	Add IE SS-RSSI-Measurement	15.1.0
2018-09	RAN#81	R5-184617	0059	-	F	Update MIB	15.1.0
2018-09	RAN#81	R5-184630	0072	-	F	Editorial Update in clause 4.6.3	15.1.0
2018-09	RAN#81	R5-184783	0079	-	F	Introduce 5GMM messages	15.1.0
2018-09	RAN#81	R5-184785	0080	-	F	Introduce 5GSM messages	15.1.0
2018-09	RAN#81	R5-184806	0081	-	F	Mid test CH BW for n71	15.1.0
2018-09	RAN#81	R5-185028	0002	1	F	Add SRB1 and SRB2 with NR PDCP	15.1.0
2018-09	RAN#81	R5-185029	0003	1	F	Update serving cell	15.1.0
2018-09	RAN#81	R5-185030	0005	1	F	Introduce SA RRC messages	15.1.0
2018-09	RAN#81	R5-185031	0006	1	F	Correct IE FrequencyInfoDL	15.1.0
2018-09	RAN#81	R5-185032	0007	1	F	Introduce SA system information blocks	15.1.0
2018-09	RAN#81	R5-185033	0008	1	F	Introduce SA other information elements	15.1.0
2018-09	RAN#81	R5-185035	0013	1	F	Correct IE GSCN-ValueNR	15.1.0
2018-09	RAN#81	R5-185036	0017	1	F	Update of FR1 signal levels	15.1.0
2018-09	RAN#81	R5-185037	0022	1	F	Addition of IP Connectivity check procedure	15.1.0
2018-09	RAN#81	R5-185038	0053	1	F	Introduce SA radio resource control information elements	15.1.0
2018-09	RAN#81	R5-185039	0054	1	F	Update IE PhysicalCellGroupConfig	15.1.0
2018-09	RAN#81	R5-185040	0055	1	F	Introduce cell configurations and timer tolerances chapter headers	15.1.0
2018-09	RAN#81	R5-185041	0057	1	F	Add IE SSB-MTC	15.1.0
2018-09	RAN#81	R5-185042	0058	1	F	Update BWP	15.1.0
2018-09	RAN#81	R5-185043	0060	1	F	Update PDSCH-Config	15.1.0
2018-09	RAN#81	R5-185044	0062	1	F	Update PUCCH and PUSCH configuration	15.1.0
2018-09	RAN#81	R5-185045	0063	1	F	Update RACH configuration	15.1.0
2018-09	RAN#81	R5-185046	0065	1	F	Update CellGroupConfig	15.1.0
2018-09	RAN#81	R5-185047	0066	1	F	Update CSI-MeasConfig	15.1.0
2018-09	RAN#81	R5-185048	0067	1	F	Update MeasConfig	15.1.0
2018-09	RAN#81	R5-185049	0068	1	F	Update other information elements	15.1.0
2018-09	RAN#81	R5-185050	0070	1	F	Update RadioBearerConfig	15.1.0
2018-09	RAN#81	R5-185051	0073	1	F	Specifying content for MeasResultSCG-Failure	15.1.0
2018-09	RAN#81	R5-185052	0075	1	F	Editorial correction to band representation of non-contiguous EN-DC band combination	15.1.0
2018-09	RAN#81	R5-185053	0076	1	F	Correction to RLC-Config IE	15.1.0
2018-09	RAN#81	R5-185054	0077	1	F	Correction to RadioBearerConfig-DRB	15.1.0
2018-09	RAN#81	R5-185055	0078	1	F	Corrections and updates to BandCombinationList and Feature Set IEs	15.1.0
2018-09	RAN#81	R5-185056	0084	1	F	Corrections and updates to UE Capability IEs	15.1.0
2018-09	RAN#81	R5-185085	0087	-	F	Addition of UM condition to RLC-Bearer-Config IE	15.1.0
2018-09	RAN#81	R5-185133	0086	1	F	Correction of clause 4.3.3.2.3	15.1.0
2018-09	RAN#81	R5-185163	0018	1	F	Modified RRC_Connected procedure for Multi PDN throughout the test case.	15.1.0
2018-09	RAN#81	R5-185165	0020	1	F	Update EN-DC Generic Procedure Parameter for Multi-PDN addition throughout Test Case	15.1.0
2018-09	RAN#81	R5-185168	0082	1	F	Introduction of OTA signalling test environment	15.1.0
2018-09	RAN#81	R5-185171	0009	2	F	Updates to PDCCH and SearchSpace configurations	15.1.0

2018-09	RAN#81	R5-185173	0016	1	F	Test Frequencies	15.1.0
2018-09	RAN#81	R5-185177	0051	1	F	Introduction of test frequencies for signalling testing in clause 6	15.1.0
2018-09	RAN#81	R5-185250	0023	1	F	Introduction of test frequencies for NR band n1	15.1.0
2018-09	RAN#81	R5-185251	0024	1	F	Introduction of test frequencies for NR band n2	15.1.0
2018-09	RAN#81	R5-185252	0025	1	F	Introduction of test frequencies for NR band n3	15.1.0
2018-09	RAN#81	R5-185253	0026	1	F	Introduction of test frequencies for NR band n5	15.1.0
2018-09	RAN#81	R5-185254	0027	1	F	Introduction of test frequencies for NR band n7	15.1.0
2018-09	RAN#81	R5-185255	0028	1	F	Introduction of test frequencies for NR band n8	15.1.0
2018-09	RAN#81	R5-185256	0029	1	F	Introduction of test frequencies for NR band n12	15.1.0
2018-09	RAN#81	R5-185257	0030	1	F	Introduction of test frequencies for NR band n20	15.1.0
2018-09	RAN#81	R5-185258	0031	1	F	Introduction of test frequencies for NR band n25	15.1.0
2018-09	RAN#81	R5-185259	0032	1	F	Introduction of test frequencies for NR band n28	15.1.0
2018-09	RAN#81	R5-185260	0033	1	F	Introduction of test frequencies for NR band n34	15.1.0
2018-09	RAN#81	R5-185261	0034	1	F	Introduction of test frequencies for NR band n38	15.1.0
2018-09	RAN#81	R5-185262	0035	1	F	Introduction of test frequencies for NR band n39	15.1.0
2018-09	RAN#81	R5-185263	0036	1	F	Introduction of test frequencies for NR band n40	15.1.0
2018-09	RAN#81	R5-185264	0037	1	F	Update of test frequencies for NR band n41	15.1.0
2018-09	RAN#81	R5-185265	0038	1	F	Introduction of test frequencies for NR band n51	15.1.0
2018-09	RAN#81	R5-185266	0039	1	F	Introduction of test frequencies for NR band n66	15.1.0
2018-09	RAN#81	R5-185267	0040	1	F	Introduction of test frequencies for NR band n70	15.1.0
2018-09	RAN#81	R5-185268	0041	1	F	Update of test frequencies for NR band n71	15.1.0
2018-09	RAN#81	R5-185269	0042	1	F	Introduction of test frequencies for NR band n75	15.1.0
2018-09	RAN#81	R5-185270	0043	1	F	Introduction of test frequencies for NR band n76	15.1.0
2018-09	RAN#81	R5-185443	0052	1	F	Correction to power level for FR1 RF tests	15.1.0
2018-09	RAN#81	R5-185557	0085	1	F	FR2 UE BeamlockProcedure 38.508-1	15.1.0
2018-12	RAN#82	R5-186453	0239	-	F	Updates to clause 4.3.3, physical channel allocations	15.2.0
2018-12	RAN#82	R5-186457	0240	-	F	Correction to E-UTRA test frequency for intra-band contiguous configuration for band 41	15.2.0
2018-12	RAN#82	R5-186468	0241	-	F	E-UTRA test frequencies for EN-DC intra-band contiguous configurations for band 71	15.2.0
2018-12	RAN#82	R5-186491	0245	-	F	Update chapter 4.5 for RF connected procedure	15.2.0
2018-12	RAN#82	R5-186508	0249	-	F	FR2 UE and TE radiated connection diagram	15.2.0
2018-12	RAN#82	R5-186575	0251	-	F	Update IE ServingCellConfig	15.2.0
2018-12	RAN#82	R5-186612	0252	-	F	Add CounterCheck	15.2.0
2018-12	RAN#82	R5-186613	0253	-	F	Update DLInformationTransfer	15.2.0
2018-12	RAN#82	R5-186641	0255	-	F	Update IE SchedulingRequestResourceConfig	15.2.0
2018-12	RAN#82	R5-186665	0258	-	F	Update LocationMeasurementIndication	15.2.0
2018-12	RAN#82	R5-186666	0259	-	F	Update MeasurementReport	15.2.0
2018-12	RAN#82	R5-186677	0261	-	F	Resubmission of update to 38.508 for mid channel bandwidth	15.2.0
2018-12	RAN#82	R5-186682	0262	-	F	Update MobilityFromNRCommand	15.2.0
2018-12	RAN#82	R5-186691	0264	-	F	Update Paging	15.2.0
2018-12	RAN#82	R5-186692	0265	-	F	Update RRCReestablishment	15.2.0
2018-12	RAN#82	R5-186714	0267	-	F	Update RRCReject	15.2.0
2018-12	RAN#82	R5-186719	0268	-	F	Updates related to introduction of test frequencies	15.2.0
2018-12	RAN#82	R5-186722	0271	-	F	Update SecurityAlgorithmConfig	15.2.0
2018-12	RAN#82	R5-186723	0272	-	F	Updates to MeasResults	15.2.0
2018-12	RAN#82	R5-186734	0273	-	F	Update RRCRelease	15.2.0
2018-12	RAN#82	R5-186744	0274	-	F	Update RRCResume	15.2.0
2018-12	RAN#82	R5-186825	0279	-	F	Correction of test frequencies for NR band n1	15.2.0
2018-12	RAN#82	R5-186826	0280	-	F	Correction of test frequencies for NR band n2	15.2.0
2018-12	RAN#82	R5-186827	0281	-	F	Correction of test frequencies for NR band n3	15.2.0
2018-12	RAN#82	R5-186828	0282	-	F	Correction of test frequencies for NR band n5	15.2.0
2018-12	RAN#82	R5-186829	0283	-	F	Correction of test frequencies for NR band n7	15.2.0
2018-12	RAN#82	R5-186830	0284	-	F	Correction of test frequencies for NR band n8	15.2.0
2018-12	RAN#82	R5-186831	0285	-	F	Correction of test frequencies for NR band n12	15.2.0
2018-12	RAN#82	R5-186832	0286	-	F	Correction of test frequencies for NR band n20	15.2.0
2018-12	RAN#82	R5-186833	0287	-	F	Correction of test frequencies for NR band n25	15.2.0
2018-12	RAN#82	R5-186834	0288	-	F	Correction of test frequencies for NR band n28	15.2.0
2018-12	RAN#82	R5-186835	0289	-	F	Correction of test frequencies for NR band n34	15.2.0
2018-12	RAN#82	R5-186836	0290	-	F	Correction of test frequencies for NR band n38	15.2.0
2018-12	RAN#82	R5-186837	0291	-	F	Correction of test frequencies for NR band n39	15.2.0
2018-12	RAN#82	R5-186838	0292	-	F	Correction of test frequencies for NR band n40	15.2.0
2018-12	RAN#82	R5-186839	0293	-	F	Correction of test frequencies for NR band n41	15.2.0
2018-12	RAN#82	R5-186840	0294	-	F	Correction of test frequencies for NR band n51	15.2.0
2018-12	RAN#82	R5-186841	0295	-	F	Introduction of test frequencies for NR band n66	15.2.0
2018-12	RAN#82	R5-186842	0296	-	F	Introduction of test frequencies for NR band n70	15.2.0
2018-12	RAN#82	R5-186844	0298	-	F	Correction of test frequencies for NR band n75	15.2.0
2018-12	RAN#82	R5-186845	0299	-	F	Correction of test frequencies for NR band n76	15.2.0
2018-12	RAN#82	R5-186846	0300	-	F	Correction of test frequencies for NR band n77	15.2.0
2018-12	RAN#82	R5-186847	0301	-	F	Correction of test frequencies for NR band n78	15.2.0
2018-12	RAN#82	R5-186848	0302	-	F	Correction of test frequencies for NR band n79	15.2.0

2018-12	RAN#82	R5-186850	0304	-	F	Correction of test frequencies for NR band n258	15.2.0
2018-12	RAN#82	R5-186851	0305	-	F	Correction of test frequencies for NR band n260	15.2.0
2018-12	RAN#82	R5-186852	0306	-	F	Correction of test frequencies for NR band n261	15.2.0
2018-12	RAN#82	R5-186855	0309	-	F	Introduction of preamble test states	15.2.0
2018-12	RAN#82	R5-186857	0311	-	F	Introduction DCI format 1_0 for paging, SI and random access	15.2.0
2018-12	RAN#82	R5-186858	0312	-	F	Correction to DCI format 1_1	15.2.0
2018-12	RAN#82	R5-186859	0313	-	F	Update IE RateMatchPattern	15.2.0
2018-12	RAN#82	R5-186861	0315	-	F	Correction of generic procedure parameter naming for test loop function	15.2.0
2018-12	RAN#82	R5-186862	0316	-	F	Correction of test procedures to activate and deactivate UE Beamlock Function	15.2.0
2018-12	RAN#82	R5-186893	0318	-	F	Corrections to the notes in the OTA signal level tables	15.2.0
2018-12	RAN#82	R5-186911	0320	-	F	Add RRCSetupComplete	15.2.0
2018-12	RAN#82	R5-186912	0321	-	F	Add RRCSetupRequest	15.2.0
2018-12	RAN#82	R5-186913	0322	-	F	Add RRCSystemInfoRequest	15.2.0
2018-12	RAN#82	R5-186916	0323	-	F	Add SecurityModeCommand	15.2.0
2018-12	RAN#82	R5-186918	0324	-	F	Update SystemInformation	15.2.0
2018-12	RAN#82	R5-186920	0325	-	F	Add UEAssistanceInformation	15.2.0
2018-12	RAN#82	R5-186921	0326	-	F	Update UECapabilityEnquiry	15.2.0
2018-12	RAN#82	R5-186922	0327	-	F	Update ULInformationTransfer	15.2.0
2018-12	RAN#82	R5-186923	0328	-	F	Update IE PTRS-UplinkConfig	15.2.0
2018-12	RAN#82	R5-186925	0330	-	F	Update RRCResumeRequest	15.2.0
2018-12	RAN#82	R5-186929	0331	-	F	Update PTRS-DownlinkConfig	15.2.0
2018-12	RAN#82	R5-186936	0335	-	F	Update PUCCH-SpatialRelationInfo	15.2.0
2018-12	RAN#82	R5-186987	0342	-	F	Addition of SIB3 message Resubmission of 185792	15.2.0
2018-12	RAN#82	R5-186988	0343	-	F	Addition of SIB5 message Resubmission of 186054	15.2.0
2018-12	RAN#82	R5-186989	0344	-	F	Addition of SIB6 - SIB8 message Resubmission of 186055	15.2.0
2018-12	RAN#82	R5-186990	0345	-	F	Addition of SIB9 message Resubmission of 186056	15.2.0
2018-12	RAN#82	R5-187026	0348	-	F	Addition of P-Max in Test environment for RF test	15.2.0
2018-12	RAN#82	R5-187028	0350	-	F	Addition of test frequencies for SUL band n80	15.2.0
2018-12	RAN#82	R5-187030	0352	-	F	Addition of test frequencies for SUL band n82	15.2.0
2018-12	RAN#82	R5-187031	0353	-	F	Addition of test frequencies for SUL band n83	15.2.0
2018-12	RAN#82	R5-187032	0354	-	F	Addition of test frequencies for SUL band n84	15.2.0
2018-12	RAN#82	R5-187033	0355	-	F	Addition of test frequencies for SUL band n86	15.2.0
2018-12	RAN#82	R5-187110	0358	-	F	Correction to default message contents for SRB3 configuration	15.2.0
2018-12	RAN#82	R5-187159	0361	-	F	Updates to Configuration Update 5GMM messages	15.2.0
2018-12	RAN#82	R5-187160	0362	-	F	Updates to De-registration 5GMM messages	15.2.0
2018-12	RAN#82	R5-187161	0363	-	F	Updates to Identity 5GMM messages	15.2.0
2018-12	RAN#82	R5-187162	0364	-	F	Updates to NAS Transport 5GMM messages	15.2.0
2018-12	RAN#82	R5-187163	0365	-	F	Updates to Notification 5GMM messages	15.2.0
2018-12	RAN#82	R5-187164	0366	-	F	Updates to PDU session authentication 5GSM messages	15.2.0
2018-12	RAN#82	R5-187166	0368	-	F	Updates to PDU session modification 5GSM messages	15.2.0
2018-12	RAN#82	R5-187172	0374	-	F	Removal of Editor's Notes in section 4.6.3	15.2.0
2018-12	RAN#82	R5-187175	0377	-	F	Addition and updates to Information Elements in section 4.6.5	15.2.0
2018-12	RAN#82	R5-187270	0381	-	F	Updating 4.2.1 General functional requirements	15.2.0
2018-12	RAN#82	R5-187271	0382	-	F	Update the section for test equipment requirements for TRx	15.2.0
2018-12	RAN#82	R5-187272	0383	-	F	FR2 downlink signal level(38.508-1)	15.2.0
2018-12	RAN#82	R5-187413	0389	-	F	Uplink RNTI to valid value in TS 38.508-1	15.2.0
2018-12	RAN#82	R5-187415	0390	-	F	Update maxPayloadMinus1 in PUCCH config in TS 38.508-1	15.2.0
2018-12	RAN#82	R5-187420	0393	-	F	Addition of connection diagram for 2 TX UL MIMO	15.2.0
2018-12	RAN#82	R5-187557	0396	-	F	Addition of low and high test channel bandwidth in 38.508	15.2.0
2018-12	RAN#82	R5-188205	0397	1	F	Updates to Annex B to add Permitted OTA Test Methods	15.2.0
2018-12	RAN#82	R5-187610	0398	-	F	Corrections to IEs part of PDSCH-ServingCellConfig, ServingCellConfig and ServingCellConfigCommon	15.2.0
2018-12	RAN#82	R5-187659	0243	1	F	Wordings for Uplink NAS messages	15.2.0
2018-12	RAN#82	R5-187660	0247	1	F	Default cell configurations for NAS	15.2.0
2018-12	RAN#82	R5-187661	0248	1	F	Update IE SI-SchedulingInfo	15.2.0
2018-12	RAN#82	R5-187662	0349	1	F	Addition of Combinations of system information blocks in 4.4.3.1.2	15.2.0
2018-12	RAN#82	R5-187664	0263	1	F	Correction to various Radio resource control IEs	15.2.0
2018-12	RAN#82	R5-187665	0308	1	F	Correction to DCI formats 0_0 and 0_1	15.2.0
2018-12	RAN#82	R5-187666	0310	1	F	Introduction of SDL and SUL cells in simulated cells in clause 4.4.2	15.2.0
2018-12	RAN#82	R5-187667	0314	1	F	Correction to RRC IDLE procedure	15.2.0
2018-12	RAN#82	R5-187668	0332	1	F	Update CSI related information elements	15.2.0
2018-12	RAN#82	R5-187669	0333	1	F	Update ServingCellConfigCommon and TDD-UL-DL-Config	15.2.0
2018-12	RAN#82	R5-187670	0334	1	F	Update SRS-Config	15.2.0
2018-12	RAN#82	R5-187671	0336	1	F	Update some information elements for measurements	15.2.0
2018-12	RAN#82	R5-187672	0337	1	F	Update CellGroupConfig and related information elements	15.2.0
2018-12	RAN#82	R5-187673	0338	1	F	CR of NR 508-1 clause 4.6.2_SIB2, SIB4	15.2.0
2018-12	RAN#82	R5-187674	0339	1	F	CR of NR 508-1 Table 4.4.2-2_Default NR Cells parameters	15.2.0
2018-12	RAN#82	R5-187675	0341	1	F	Update RLC-Config	15.2.0
2018-12	RAN#82	R5-187676	0357	1	F	Specifying Test procedure to check that UE is camped on a new NR cell belonging to a new TA	15.2.0

2018-12	RAN#82	R5-187677	0360	1	F	Updates to Authentication 5GMM messages	15.2.0
2018-12	RAN#82	R5-187678	0369	1	F	Updates to PDU session release 5GSM messages	15.2.0
2018-12	RAN#82	R5-187679	0371	1	F	Updates to Security mode 5GMM messages	15.2.0
2018-12	RAN#82	R5-187680	0375	1	F	Addition of new Information Elements in section 4.6.3	15.2.0
2018-12	RAN#82	R5-187681	0379	1	F	Updates to SIG OTA Calibration for FR2	15.2.0
2018-12	RAN#82	R5-187682	0394	1	F	Addition of default QoS configurations	15.2.0
2018-12	RAN#82	R5-187720	0319	2	F	Uplink PTRS disable for RF testing	15.2.0
2018-12	RAN#82	R5-188238	0242	2	F	Addition to E-UTRA test frequencies for intra-band contiguous configuration for band 41	15.2.0
2018-12	RAN#82	R5-187723	0303	1	F	Correction of test frequencies for NR band n257	15.2.0
2018-12	RAN#82	R5-187724	0269	1	F	New annex for NR test frequency calculations	15.2.0
2018-12	RAN#82	R5-187725	0297	1	F	Correction of test frequencies for NR band n71	15.2.0
2018-12	RAN#82	R5-187745	0238	1	F	Update SIB1	15.2.0
2018-12	RAN#82	R5-187747	0257	1	F	Correction to Signal levels for conducted testing	15.2.0
2018-12	RAN#82	R5-187748	0270	1	F	Updates to E-UTRA RRC_CONNECTED generic procedure	15.2.0
2018-12	RAN#82	R5-187750	0275	1	F	Add RRCResumeComplete	15.2.0
2018-12	RAN#82	R5-187751	0278	1	F	Update chapter 4.5.3 RRC_INACTIVE	15.2.0
2018-12	RAN#82	R5-187752	0307	1	F	Correction of test frequencies for signalling testing in clause 6	15.2.0
2018-12	RAN#82	R5-187753	0317	1	F	Specifying Test procedure to check that UE is in RRC_IDLE state on a certain NR cell	15.2.0
2018-12	RAN#82	R5-187754	0329	1	F	Update IE RLF-TimersAndConstants	15.2.0
2018-12	RAN#82	R5-187755	0346	1	F	Add RRCSetup	15.2.0
2018-12	RAN#82	R5-187756	0347	1	F	Update RRCReconfiguration	15.2.0
2018-12	RAN#82	R5-187757	0356	1	F	Update IE RadioBearerConfig	15.2.0
2018-12	RAN#82	R5-187759	0370	1	F	Updates to Registration 5GMM messages	15.2.0
2018-12	RAN#82	R5-187760	0372	1	F	Updates to Security protected 5GS NAS and 5GMM status messages	15.2.0
2018-12	RAN#82	R5-187761	0373	1	F	Updates to Service Request 5GMM messages	15.2.0
2018-12	RAN#82	R5-187762	0376	1	F	Addition and updates to Information Elements in section 4.6.4	15.2.0
2018-12	RAN#82	R5-187763	0388	1	F	Addition of 5GS related new EFs to Test UICC definition	15.2.0
2018-12	RAN#82	R5-187764	0395	1	F	Update IE CellGroupConfig	15.2.0
2018-12	RAN#82	R5-187802	0384	1	F	Updating power levels for LTE Anchor Link	15.2.0
2018-12	RAN#82	R5-187887	0351	1	F	Addition of test frequencies for SUL band n81	15.2.0
2018-12	RAN#82	R5-188031	0391	1	F	Addition of 2TX_UL_MIMO condition	15.2.0
2018-12	RAN#82	R5-188107	0367	2	F	Updates to PDU session establishment 5GSM messages	15.2.0
2018-12	RAN#82	R5-188122	0260	2	F	Update chapter 4.5.2 RRC_IDLE	15.2.0
2018-12	RAN#82	R5-188123	0250	1	F	Update chapter 4.5.4 RRC_CONNECTED	15.2.0
2019-03	RAN#83	R5-191047	0526	-	F	Update IE PDCCH-ConfigCommon	15.3.0
2019-03	RAN#83	R5-191048	0527	-	F	Update IE RadioBearerConfig	15.3.0
2019-03	RAN#83	R5-191094	0529	-	F	Updates of test channel bandwidth in TS 38.508-1	15.3.0
2019-03	RAN#83	R5-191129	0530	-	F	Update IE SDAP-Config	15.3.0
2019-03	RAN#83	R5-191145	0531	-	F	Update IE CellGroupId	15.3.0
2019-03	RAN#83	R5-191155	0532	-	F	Correction to temperature and voltage of Common test environments	15.3.0
2019-03	RAN#83	R5-191187	0534	-	F	Updates for Other SI support	15.3.0
2019-03	RAN#83	R5-191189	0536	-	F	Correction to RadioBearerConfig	15.3.0
2019-03	RAN#83	R5-191191	0538	-	F	Correction to SystemInformation	15.3.0
2019-03	RAN#83	R5-191192	0539	-	F	Correction to PUCCH-Config	15.3.0
2019-03	RAN#83	R5-191193	0540	-	F	Correction to SIB3 and SIB4	15.3.0
2019-03	RAN#83	R5-191194	0541	-	F	Correction of PUSCH-TimeDomainResourceAllocationList	15.3.0
2019-03	RAN#83	R5-191195	0542	-	F	Corrections and clarifications regarding DCI formats 0_1 and 1_1	15.3.0
2019-03	RAN#83	R5-191219	0545	-	F	Updates to Authentication 5GMM messages	15.3.0
2019-03	RAN#83	R5-191220	0546	-	F	Updates to Configuration Update 5GMM messages	15.3.0
2019-03	RAN#83	R5-191221	0547	-	F	Updates to De-registration 5GMM messages	15.3.0
2019-03	RAN#83	R5-191222	0548	-	F	Updates to NAS transport 5GMM messages	15.3.0
2019-03	RAN#83	R5-191223	0549	-	F	Updates to PDU session establishment 5GSM messages	15.3.0
2019-03	RAN#83	R5-191224	0550	-	F	Updates to PDU session modification 5GSM messages	15.3.0
2019-03	RAN#83	R5-191225	0551	-	F	Updates to PDU session release 5GSM messages	15.3.0
2019-03	RAN#83	R5-191226	0552	-	F	Updates to Registration 5GMM messages	15.3.0
2019-03	RAN#83	R5-191227	0553	-	F	Updates to Security Mode 5GMM messages	15.3.0
2019-03	RAN#83	R5-191228	0554	-	F	Updates to Security Protected 5GS NAS message	15.3.0
2019-03	RAN#83	R5-191229	0555	-	F	Updates to Service Request 5GMM messages	15.3.0
2019-03	RAN#83	R5-191233	0556	-	F	Update IE BWP-Id	15.3.0
2019-03	RAN#83	R5-191234	0557	-	F	Add IE RejectWaitTime	15.3.0
2019-03	RAN#83	R5-191235	0558	-	F	Update IE ShortMAC-I	15.3.0
2019-03	RAN#83	R5-191236	0559	-	F	Update IE UE-TimersAndConstants	15.3.0
2019-03	RAN#83	R5-191237	0560	-	F	Update IE PUCCH-ConfigCommon	15.3.0
2019-03	RAN#83	R5-191242	0561	-	F	Addition of Positioning specifications	15.3.0
2019-03	RAN#83	R5-191243	0562	-	F	Update AS security Algorithm for RF testing	15.3.0
2019-03	RAN#83	R5-191274	0563	-	F	Update of structure of test frequency clauses	15.3.0
2019-03	RAN#83	R5-191280	0564	-	F	Correction to UL configuration	15.3.0
2019-03	RAN#83	R5-191281	0565	-	F	Correction to default value of IE's in PDSCH-Config in Table 4.6.3-	15.3.0

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2019-03	RAN#83	R5-191301	0568	-	F	Correction of test frequencies for signalling testing in clause 6
2019-03	RAN#83	R5-191302	0569	-	F	Correction of test frequencies for EN-DC configuration DC_(n)41
2019-03	RAN#83	R5-191304	0571	-	F	Correction of test frequencies for NR band n1
2019-03	RAN#83	R5-191305	0572	-	F	Correction of test frequencies for NR band n2
2019-03	RAN#83	R5-191306	0573	-	F	Correction of test frequencies for NR band n3
2019-03	RAN#83	R5-191307	0574	-	F	Correction of test frequencies for NR band n5
2019-03	RAN#83	R5-191308	0575	-	F	Correction of test frequencies for NR band n7
2019-03	RAN#83	R5-191309	0576	-	F	Correction of test frequencies for NR band n8
2019-03	RAN#83	R5-191310	0577	-	F	Correction of test frequencies for NR band n12
2019-03	RAN#83	R5-191311	0578	-	F	Correction of test frequencies for NR band n20
2019-03	RAN#83	R5-191312	0579	-	F	Correction of test frequencies for NR band n25
2019-03	RAN#83	R5-191313	0580	-	F	Correction of test frequencies for NR band n28
2019-03	RAN#83	R5-191314	0581	-	F	Correction of test frequencies for NR band n34
2019-03	RAN#83	R5-191315	0582	-	F	Correction of test frequencies for NR band n38
2019-03	RAN#83	R5-191316	0583	-	F	Correction of test frequencies for NR band n39
2019-03	RAN#83	R5-191317	0584	-	F	Correction of test frequencies for NR band n40
2019-03	RAN#83	R5-191318	0585	-	F	Correction of test frequencies for NR band n41
2019-03	RAN#83	R5-191319	0586	-	F	Introduction of test frequencies for NR band n50
2019-03	RAN#83	R5-191320	0587	-	F	Correction of test frequencies for NR band n51
2019-03	RAN#83	R5-191321	0588	-	F	Correction of test frequencies for NR band n66
2019-03	RAN#83	R5-191322	0589	-	F	Correction of test frequencies for NR band n70
2019-03	RAN#83	R5-191323	0590	-	F	Correction of test frequencies for NR band n71
2019-03	RAN#83	R5-191324	0591	-	F	Introduction of test frequencies for NR band n74
2019-03	RAN#83	R5-191325	0592	-	F	Correction of test frequencies for NR band n75
2019-03	RAN#83	R5-191326	0593	-	F	Correction of test frequencies for NR band n76
2019-03	RAN#83	R5-191327	0594	-	F	Correction of test frequencies for NR band n77
2019-03	RAN#83	R5-191328	0595	-	F	Correction of test frequencies for NR band n78
2019-03	RAN#83	R5-191329	0596	-	F	Correction of test frequencies for NR band n79
2019-03	RAN#83	R5-191330	0597	-	F	Correction of test frequencies for NR band n257
2019-03	RAN#83	R5-191331	0598	-	F	Correction of test frequencies for NR band n258
2019-03	RAN#83	R5-191332	0599	-	F	Correction of test frequencies for NR band n260
2019-03	RAN#83	R5-191333	0600	-	F	Correction of test frequencies for NR band n261
2019-03	RAN#83	R5-191334	0601	-	F	Correction of DCI format 1_0
2019-03	RAN#83	R5-191352	0603	-	F	Update CounterCheckResponse
2019-03	RAN#83	R5-191354	0604	-	F	Add FailureInformation
2019-03	RAN#83	R5-191355	0605	-	F	Update LocationMeasurementIndication
2019-03	RAN#83	R5-191356	0606	-	F	Updates to section 4.8.3 (test USIM parameters)
2019-03	RAN#83	R5-191360	0607	-	F	Update MeasurementReport
2019-03	RAN#83	R5-191361	0608	-	F	Update MobilityFromNRCommand
2019-03	RAN#83	R5-191364	0609	-	F	Update Paging
2019-03	RAN#83	R5-191366	0610	-	F	Update RRCSetupComplete
2019-03	RAN#83	R5-191368	0611	-	F	Update SecurityModeComplete
2019-03	RAN#83	R5-191370	0612	-	F	Update SecurityModeFailure
2019-03	RAN#83	R5-191371	0613	-	F	Update UEAssistanceInformation
2019-03	RAN#83	R5-191372	0614	-	F	Update UECapabilityInformation
2019-03	RAN#83	R5-191384	0616	-	F	Correction to SecurityConfig of RadioBearerConfig
2019-03	RAN#83	R5-191385	0617	-	F	Correction to SIB9
2019-03	RAN#83	R5-191386	0618	-	F	Correction to SRS-Config of BWP-UplinkDedicated
2019-03	RAN#83	R5-191446	0620	-	F	Correction of default configuration of RRC IEs in 38.508-1
2019-03	RAN#83	R5-191450	0621	-	F	Addition of NR system information combination SIB6, SIB7
2019-03	RAN#83	R5-191538	0624	-	F	Update ULInformationTransfer
2019-03	RAN#83	R5-191539	0625	-	F	Update IE QuantityConfig and CSI-ReportConfig
2019-03	RAN#83	R5-191620	0629	-	F	Clarification for NR inter-band measurement test case configuration
2019-03	RAN#83	R5-191762	0637	-	F	Editorial update in MeasObjectNR and ReportConfigNR
2019-03	RAN#83	R5-191763	0638	-	F	Update ReportConfigNR and TimeToTrigger
2019-03	RAN#83	R5-192271	0570	1	F	Correction of test frequencies for EN-DC configuration DC_(n)71
2019-03	RAN#83	R5-192272	0602	1	F	Update chapter 4.5 RRC Connected initiation
2019-03	RAN#83	R5-192273	0626	1	F	Update RRCRelease
2019-03	RAN#83	R5-192274	0615	1	F	Correction to NR SchedulingRequestResourceConfig
2019-03	RAN#83	R5-192275	0627	1	F	Update IE I-RNTI-Value
2019-03	RAN#83	R5-192276	0628	1	F	Update IE ShortI-RNTI-Value
2019-03	RAN#83	R5-192277	0630	1	F	Updates to test environments for Signalling test
2019-03	RAN#83	R5-192278	0633	1	F	Addition of USIM Profiles for Signaling TC
2019-03	RAN#83	R5-192279	0636	1	F	Update QoS Configuration
2019-03	RAN#83	R5-192280	0643	1	F	Update to of Generic procedure E-UTRA RRC_IDLE
2019-03	RAN#83	R5-192281	0644	1	F	Introduction of EAP AKA
2019-03	RAN#83	R5-192290	0655	-	F	Update chapter 4.5 RRC_INACTIVE
2019-03	RAN#83	R5-192363	0631	1	F	Updating P-Max IE
2019-03	RAN#83	R5-192364	0632	2	F	Updating IEs part of SearchSpace
2019-03	RAN#83	R5-192400	0528	1	F	Setup diagram for receiver test using spectrum analyzer

2019-03	RAN#83	R5-192541	0622	1	F	Connection diagrams for RRM tests	15.3.0
2019-03	RAN#83	R5-192542	0646	1	F	Antenna Connection diagram for UE part for RRM	15.3.0
2019-03	RAN#83	R5-192543	0649	1	F	Connection diagram for FR1 demod test cases	15.3.0
2019-03	RAN#83	R5-192705	0645	1	F	Introduction of Non 3GPP Access over WLAN	15.3.0
2019-03	RAN#83	R5-192735	0533	1	F	Correction to PUSCH-Config	15.3.0
2019-03	RAN#83	R5-192736	0535	1	F	Addition of details on Test State 0	15.3.0
2019-03	RAN#83	R5-192737	0537	1	F	Correction of CellGroupConfig tables and logical channel identities	15.3.0
2019-03	RAN#83	R5-192738	0543	1	F	Additions and updates to UE capability Information Elements	15.3.0
2019-03	RAN#83	R5-192739	0544	1	F	Updates and additions of default QoS configurations	15.3.0
2019-03	RAN#83	R5-192740	0566	1	F	Update chapter 4.5 General for PDUs	15.3.0
2019-03	RAN#83	R5-192741	0567	1	F	Update of Annex C on calculation of test frequencies	15.3.0
2019-03	RAN#83	R5-192742	0619	1	F	Correction to schedulingRequestID Configuration	15.3.0
2019-03	RAN#83	R5-192743	0639	1	F	Addition of Switch/Power UE procedures	15.3.0
2019-03	RAN#83	R5-192744	0640	1	F	Update to Test procedure to check that UE is camped on a new cell belonging to a new TA	15.3.0
2019-03	RAN#83	R5-192745	0641	1	F	Update to Test procedure to check that UE is in state 5GC RRC_IDLE on a certain cell	15.3.0
2019-03	RAN#83	R5-192846	0648	1	F	Updates to Annex B to add Permitted OTA Test Methods	15.3.0
2019-03	RAN#83	-	-	-	-	Editorial updates of table numbering	15.3.0
2019-06	RAN#84	R5-193537	0680	-	F	Remove unused DCI formats from 38.508-1	15.4.0
2019-06	RAN#84	R5-193540	0681	-	F	Adding setup diagram for Receiver performance tests 2x2	15.4.0
2019-06	RAN#84	R5-193542	0682	-	F	Remove brackets from parameters for DCI formats for scheduling	15.4.0
2019-06	RAN#84	R5-193613	0691	-	F	Update default configuration of QuantityConfig	15.4.0
2019-06	RAN#84	R5-193681	0693	-	F	Update chapter 4.5.3 RRC_INACTIVE procedures	15.4.0
2019-06	RAN#84	R5-193682	0694	-	F	Update chapter 4.5.4 RRC_CONNECTED procedures	15.4.0
2019-06	RAN#84	R5-193683	0695	-	F	Update chapter 4.5.5 SWITCHED_OFF procedures	15.4.0
2019-06	RAN#84	R5-193690	0696	-	F	Resubmission: Connection diagram for 1x2 Demod test cases	15.4.0
2019-06	RAN#84	R5-193734	0701	-	F	Update IE I-RNTI-Value	15.4.0
2019-06	RAN#84	R5-193735	0702	-	F	Update IE ShortI-RNTI-Value	15.4.0
2019-06	RAN#84	R5-193746	0710	-	F	Update IE SubcarrierSpacing	15.4.0
2019-06	RAN#84	R5-193813	0711	-	F	Update of USIM EF5GS3GPPLOC1 & EF5GSN3GPPLOC1	15.4.0
2019-06	RAN#84	R5-193828	0713	-	F	Add IE MultiFrequencyBandListNR-SIB	15.4.0
2019-06	RAN#84	R5-193829	0714	-	F	Add IE NR-NS-PmaxList	15.4.0
2019-06	RAN#84	R5-193843	0716	-	F	Update IE ServingCellConfig	15.4.0
2019-06	RAN#84	R5-193862	0717	-	F	Corrections to References	15.4.0
2019-06	RAN#84	R5-193980	0725	-	F	New test procedure for Registration Reject	15.4.0
2019-06	RAN#84	R5-193981	0726	-	F	Updates to test procedure 4.9.1	15.4.0
2019-06	RAN#84	R5-194038	0728	-	F	Editorial Correction - USIM Profiles for Signaling TC	15.4.0
2019-06	RAN#84	R5-194040	0729	-	F	Correction to QoS Configuration	15.4.0
2019-06	RAN#84	R5-194086	0733	-	F	Update K2 value to align with RF DL RMC	15.4.0
2019-06	RAN#84	R5-194087	0734	-	F	Update aggregationlevel2 in SearchSpace IE	15.4.0
2019-06	RAN#84	R5-194303	0740	-	F	TDD-UL-DL-Config for FR1 SCS 60kHz	15.4.0
2019-06	RAN#84	R5-194359	0742	-	F	Removal of column for Number of PDU sessions established from tables for Test States	15.4.0
2019-06	RAN#84	R5-194362	0743	-	F	Editorial correction to test frequency clauses	15.4.0
2019-06	RAN#84	R5-194364	0744	-	F	Update of test frequencies for EN-DC combination DC_41A_n41A	15.4.0
2019-06	RAN#84	R5-194367	0745	-	F	Common procedure to configure SCC for CA RF testing	15.4.0
2019-06	RAN#84	R5-194369	0746	-	F	Introduction of test frequencies for inter-band Rel-15 EN-DC two bands configurations	15.4.0
2019-06	RAN#84	R5-194420	0751	-	F	Update IE BWP-Downlink	15.4.0
2019-06	RAN#84	R5-194435	0752	-	F	Update IE BWP-Id	15.4.0
2019-06	RAN#84	R5-194438	0755	-	F	Updates to UE 4.6.5 Other Information Elements	15.4.0
2019-06	RAN#84	R5-194441	0757	-	F	Update IE BWP-Uplink	15.4.0
2019-06	RAN#84	R5-194479	0758	-	F	Editorial updates to 4.7.1 Contents of 5GMM messages	15.4.0
2019-06	RAN#84	R5-194480	0759	-	F	Editorial updates to 4.7.2 Contents of 5GSM messages	15.4.0
2019-06	RAN#84	R5-194510	0762	-	F	Update of Switch off - Power off procedure in RRC_CONNECTED	15.4.0
2019-06	RAN#84	R5-194539	0767	-	F	Introduction of test frequencies for EN-DC CA configuration DC_30A_n260(A-I)	15.4.0
2019-06	RAN#84	R5-194541	0768	-	F	Antenna Connection diagram for TE part for RRM	15.4.0
2019-06	RAN#84	R5-194709	0785	-	F	Update 38.508 RF and RRM clauses with agreed recommendation to configure UE as non-IMS	15.4.0
2019-06	RAN#84	R5-194783	0774	-	F	Introduction of test frequencies for NR band n50 and signalling testing	15.4.0
2019-06	RAN#84	R5-194784	0775	-	F	Introduction of test frequencies for NR band n74 and signalling testing	15.4.0
2019-06	RAN#84	R5-194790	0778	-	F	Updates to power allocations	15.4.0
2019-06	RAN#84	R5-194791	0779	-	F	Update of DownlinkConfigCommonSIB	15.4.0
2019-06	RAN#84	R5-194794	0684	1	F	Update IE PDSCH-Config	15.4.0
2019-06	RAN#84	R5-194795	0687	1	F	Update NR MeasObjectNR	15.4.0

2019-06	RAN#84	R5-194796	0690	1	F	Update default configuration of ReportConfigNR	15.4.0
2019-06	RAN#84	R5-194797	0692	1	F	Update chapter 4.5.2 RRC_IDLE procedures	15.4.0
2019-06	RAN#84	R5-194798	0704	1	F	Correction to the note associated to the Table 4.7.1-2	15.4.0
2019-06	RAN#84	R5-194800	0708	1	F	Update IE MIB	15.4.0
2019-06	RAN#84	R5-194801	0709	1	F	Update IE SchedulingRequestResourceConfig	15.4.0
2019-06	RAN#84	R5-194802	0712	1	F	Correct clause numbers in 4.5A	15.4.0
2019-06	RAN#84	R5-194803	0718	1	F	Update IE ServingCellConfigCommon	15.4.0
2019-06	RAN#84	R5-194804	0721	1	F	Update IE FrequencyInfoUL	15.4.0
2019-06	RAN#84	R5-194805	0722	1	F	Update IE FrequencyInfoUL-SIB	15.4.0
2019-06	RAN#84	R5-194806	0723	1	F	Update generic procedures chapter general	15.4.0
2019-06	RAN#84	R5-194807	0724	1	F	Update chapter 4.5.2 RRC_IDLE Initiation	15.4.0
2019-06	RAN#84	R5-194808	0730	1	F	Updates to RadioBearerConfig	15.4.0
2019-06	RAN#84	R5-194809	0732	1	F	Updates to PhysicalCellGroupConfig	15.4.0
2019-06	RAN#84	R5-194810	0739	1	F	New test procedure for RRC_CONNECTED	15.4.0
2019-06	RAN#84	R5-194811	0741	1	F	Updated IE MeasObjectEUTRA and ReportConfigInterRAT	15.4.0
2019-06	RAN#84	R5-194812	0753	1	F	Updates to Registration 5GMM messages	15.4.0
2019-06	RAN#84	R5-194813	0754	1	F	Updates to UE 4.6.4 UE Capability Information Elements	15.4.0
2019-06	RAN#84	R5-194814	0760	1	F	New Test procedure for UE for Tracking area updating / inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode	15.4.0
2019-06	RAN#84	R5-194817	0777	1	F	New Test procedure for UE for Tracking area updating / inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	15.4.0
2019-06	RAN#84	R5-194821	0780	-	F	Introducing conditions for Handover in RRCReconfiguration and RadioBearerConfig	15.4.0
2019-06	RAN#84	R5-194824	0781	-	F	Updates to Service Request 5GMM message	15.4.0
2019-06	RAN#84	R5-194879	0735	1	F	Updates to Multi-Cell SIG OTA testing for FR2	15.4.0
2019-06	RAN#84	R5-194881	0763	1	F	Introduction of test frequencies for NR CA configuration CA_n257B	15.4.0
2019-06	RAN#84	R5-194882	0764	1	F	Introduction of test frequencies for NR CA configuration CA_n260B	15.4.0
2019-06	RAN#84	R5-194883	0765	1	F	Introduction of test frequencies for NR CA configuration CA_n260I	15.4.0
2019-06	RAN#84	R5-194884	0766	1	F	Introduction of test frequencies for NR CA configuration CA_n261B	15.4.0
2019-06	RAN#84	R5-194885	0782	1	F	Introduction of test frequencies for NR CA configuration CA_n260(A-I)	15.4.0
2019-06	RAN#84	R5-194889	0737	1	F	corrections to Non 3GPP Access over WLAN procedures	15.4.0
2019-06	RAN#84	R5-194894	0783	-	F	Update FFS in ResumeCause	15.4.0
2019-06	RAN#84	R5-194896	0784	-	F	Updates to reference QoS configurations for EPS interworking	15.4.0
2019-06	RAN#84	R5-194902	0685	1	F	Correction of Setup Diagrams for Receiver tests using Signal Generator in 38.508-1	15.4.0
2019-06	RAN#84	R5-195095	0750	1	F	Introduction of Connection diagram for 2x4 and 4x4 Demod test cases	15.4.0
2019-06	RAN#84	R5-195322	0686	1	F	Update NR SIB1	15.4.0
2019-06	RAN#84	R5-195323	0703	1	F	Update IE CommonCellGroupConfig	15.4.0
2019-06	RAN#84	R5-195324	0715	1	F	Update default configuration of MeasGapConfig	15.4.0
2019-06	RAN#84	R5-195325	0719	1	F	Addition of Switch off / Power off procedure in RRC_INACTIVE	15.4.0
2019-06	RAN#84	R5-195326	0720	1	F	Update of SIB5	15.4.0
2019-06	RAN#84	R5-195327	0731	1	F	Updates to RLC-BearerConfig	15.4.0
2019-06	RAN#84	R5-195328	0756	1	F	Updates to PDU session establishment 5GSM messages	15.4.0
2019-06	RAN#84	R5-195329	0773	1	F	Introduction of test frequencies for inter-RAT signalling testing	15.4.0
2019-06	RAN#84	R5-195330	0776	1	F	Correction to PUSCH-Config	15.4.0
2019-06	RAN#84	R5-195426	0727	2	F	38.508-1 implementation of FR2 UL demod OTA tests using single pol Rx TE	15.4.0
2019-06	RAN#84	R5-195427	0772	2	F	Addition of message contents needed for DEMOD test cases	15.4.0
2019-06	RAN#84	R5-194370	0747	-	F	Introduction of test frequencies for inter-band Rel-16 EN-DC two bands configurations	16.0.0
2019-06	RAN#84	R5-194371	0748	-	F	Introduction of test frequencies for inter-band Rel-16 EN-DC five bands configurations	16.0.0
2019-06	RAN#84	R5-194373	0749	-	F	Introduction of test frequencies for NR CA configuration CA_n41C	16.0.0
2019-09	RAN#85	R5-195696	0795	-	F	Update IE PDCP-Config	16.1.0
2019-09	RAN#85	R5-195711	0797	-	F	Add IE CGI-InfoEUTRA	16.1.0
2019-09	RAN#85	R5-195729	0798	-	F	Update IE CGI-Info	16.1.0
2019-09	RAN#85	R5-195730	0799	-	F	Update IE MeasResults	16.1.0
2019-09	RAN#85	R5-195731	0800	-	F	Update of 4.3.1.0A mid test CBW in 38.508-1	16.1.0
2019-09	RAN#85	R5-195747	0803	-	F	Update IE MeasResultCellListSFTD	16.1.0
2019-09	RAN#85	R5-195748	0804	-	F	Add IE MeasResultCellListSFTD-EUTRA	16.1.0
2019-09	RAN#85	R5-195749	0805	-	F	Add IE MeasResult2EUTRA	16.1.0

2019-09	RAN#85	R5-195750	0806	-	F	Add IE MeasResult2NR	16.1.0
2019-09	RAN#85	R5-195751	0807	-	F	Add IE SK-Counter	16.1.0
2019-09	RAN#85	R5-195752	0808	-	F	Update IE SS-RSSI-Measurement	16.1.0
2019-09	RAN#85	R5-195792	0811	-	F	Update MeasurementReport	16.1.0
2019-09	RAN#85	R5-195885	0814	-	F	Update RRCResume	16.1.0
2019-09	RAN#85	R5-195886	0815	-	F	Editorial update RRCReconfigurationComplete	16.1.0
2019-09	RAN#85	R5-195887	0816	-	F	Editorial update RRCReject	16.1.0
2019-09	RAN#85	R5-195888	0817	-	F	Editorial update RRCRelease	16.1.0
2019-09	RAN#85	R5-195889	0818	-	F	Add SCGFailureInformation	16.1.0
2019-09	RAN#85	R5-195890	0819	-	F	Add SCGFailureInformationEUTRA	16.1.0
2019-09	RAN#85	R5-195895	0820	-	F	Update UECapabilityEnquiry	16.1.0
2019-09	RAN#85	R5-195909	0821	-	F	Editorial update UECapabilityInformation	16.1.0
2019-09	RAN#85	R5-195910	0822	-	F	Add ULInformationTransferMRDC	16.1.0
2019-09	RAN#85	R5-195926	0823	-	F	Editorial update RRC IEs	16.1.0
2019-09	RAN#85	R5-195927	0824	-	F	Editorial update S-NSSAI	16.1.0
2019-09	RAN#85	R5-195944	0826	-	F	Correction to ReportConfigNR	16.1.0
2019-09	RAN#85	R5-195945	0827	-	F	Updates to default configurations for 5GC NAS test cases	16.1.0
2019-09	RAN#85	R5-196030	0829	-	F	Handling of thresholds in FR2 when Events A3 and A6 are inter-frequency	16.1.0
2019-09	RAN#85	R5-196031	0830	-	F	Adding references to TS 38.508-1	16.1.0
2019-09	RAN#85	R5-196136	0836	-	F	Addition new NR cell for SS-RSRP RRM tests	16.1.0
2019-09	RAN#85	R5-196148	0837	-	F	Update of Annex C for selecting SSB location for cells not selectable as PCell	16.1.0
2019-09	RAN#85	R5-196158	0838	-	F	Correction of references to test frequency tables	16.1.0
2019-09	RAN#85	R5-196159	0839	-	F	Correction of clause numbers for test frequencies for Non-3GPP Access	16.1.0
2019-09	RAN#85	R5-196168	0840	-	F	Correction of test frequency parameters for SSB location for NR band n1 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196169	0841	-	F	Correction of test frequency parameters for SSB location for NR band n2 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196170	0842	-	F	Correction of test frequency parameters for SSB location for NR band n3 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196171	0843	-	F	Correction of test frequency parameters for SSB location for NR band n7 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196172	0844	-	F	Correction of test frequency parameters for SSB location for NR band n25 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196174	0846	-	F	Correction of test frequency parameters for SSB location for NR band n38 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196175	0847	-	F	Correction of test frequency parameters for SSB location for NR band n39 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196176	0848	-	F	Correction of test frequency parameters for SSB location for NR band n40 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196177	0849	-	F	Correction of test frequency parameters for SSB location for NR	16.1.0

					band n41 and SCS 60kHz	

2019-09	RAN#85	R5-196178	0850	-	F	Correction of test frequency parameters for SSB location for NR band n50 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196179	0851	-	F	Correction of test frequency parameters for SSB location for NR band n66 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196180	0852	-	F	Correction of test frequency parameters for SSB location for NR band n70 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196181	0853	-	F	Correction of test frequency parameters for SSB location for NR band n74 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196182	0854	-	F	Correction of test frequency parameters for SSB location for NR band n75 and SCS 15kHz and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196183	0855	-	F	Correction of test frequency parameters for SSB location for NR band n77 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196184	0856	-	F	Correction of test frequency parameters for SSB location for NR band n78 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196185	0857	-	F	Correction of test frequency parameters for SSB location for NR band n79 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196197	0860	-	F	Update IE ServingCellConfigCommon	16.1.0
2019-09	RAN#85	R5-196198	0861	-	F	Update IE SubcarrierSpacing	16.1.0
2019-09	RAN#85	R5-196262	0863	-	F	Editorial update IE RLC-BearerConfig	16.1.0
2019-09	RAN#85	R5-196289	0864	-	F	Update chapter 4.5A.2 UE-requested PDU session establishment procedure	16.1.0
2019-09	RAN#85	R5-196310	0867	-	F	Addition of SUL bands for protocol testing in clause 6.2.3.1	16.1.0
2019-09	RAN#85	R5-196311	0868	-	F	Update of test frequency parameters for NR CA configuration CA_n41C	16.1.0
2019-09	RAN#85	R5-196315	0872	-	F	Update of test frequency parameters for NR CA configuration CA_n260(A-I)	16.1.0
2019-09	RAN#85	R5-196316	0873	-	F	Introduction of test frequencies for NR CA configuration CA_n261B and CA_n261C	16.1.0
2019-09	RAN#85	R5-196317	0874	-	F	Update of test frequency table for EN-DC configuration DC_41A_n41A for BCS1	16.1.0
2019-09	RAN#85	R5-196318	0875	-	F	Correction of test frequency parameters for EN-DC configuration DC_(n)41AA	16.1.0
2019-09	RAN#85	R5-196319	0876	-	F	Correction of test frequency parameters for EN-DC configuration DC_(n)71AA	16.1.0
2019-09	RAN#85	R5-196468	0885	-	F	Introduction of test frequencies for NR CA configuration CA_n258B and CA_n258C	16.1.0
2019-09	RAN#85	R5-196469	0886	-	F	Introduction of test frequencies for NR CA configuration CA_n258G to CA_n258M	16.1.0
2019-09	RAN#85	R5-196470	0887	-	F	Introduction of test frequencies for NR CA configuration CA_n260G to CA_n260I	16.1.0
2019-09	RAN#85	R5-196472	0889	-	F	Introduction of test frequencies for NR CA configuration CA_n261G to CA_n261I	16.1.0
2019-09	RAN#85	R5-196473	0890	-	F	Introduction of test frequencies for NR CA configuration CA_n261O to CA_n261Q	16.1.0
2019-09	RAN#85	R5-196490	0894	-	F	Introduction of test frequencies for NR CA configuration CA_n78C	16.1.0
2019-09	RAN#85	R5-196539	0895	-	F	Update to 38.508-1 for Demod specific message contents	16.1.0
2019-09	RAN#85	R5-196581	0897	-	F	Removing brackets from values for DCI formats	16.1.0

2019-09	RAN#85	R5-196597	0899	-	F	Cleanup of editor note of EFOPL5G	16.1.0
2019-09	RAN#85	R5-196637	0900	-	F	Update of default messages for EMERGENCY services test scenarios	16.1.0
2019-09	RAN#85	R5-196641	0904	-	F	Update of Test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	16.1.0
2019-09	RAN#85	R5-196654	0905	-	F	Editorial correction of reference test conditions	16.1.0
2019-09	RAN#85	R5-196751	0911	-	F	AP#82.01: Update default DCI format to 0_1 / 1_1 in TS 38.508-1 for SIG test cases	16.1.0
2019-09	RAN#85	R5-196824	0917	-	F	Updates to UE 4.6.4 UE Capability Information Elements	16.1.0
2019-09	RAN#85	R5-196825	0918	-	F	Addition of default test control messages	16.1.0
2019-09	RAN#85	R5-196873	0922	-	F	Introduction of test frequencies for NR CA configuration CA_n258D to CA_n258F	16.1.0
2019-09	RAN#85	R5-196874	0923	-	F	Introduction of test frequencies for NR CA configuration CA_n260D to CA_n260F	16.1.0
2019-09	RAN#85	R5-196875	0924	-	F	Introduction of test frequencies for NR CA configuration CA_n260O to CA_n260Q	16.1.0
2019-09	RAN#85	R5-196942	0927	-	F	Correction of clause 2 and 4.3 in 38.508-1	16.1.0
2019-09	RAN#85	R5-196980	0786	1	F	Using generic procedure for IMS registration to 5GS	16.1.0
2019-09	RAN#85	R5-196981	0788	1	F	Update of SIB2	16.1.0
2019-09	RAN#85	R5-196982	0790	1	F	Update of SIB5	16.1.0
2019-09	RAN#85	R5-196984	0792	1	F	Update of frequency definition for Inter-RAT test cases	16.1.0
2019-09	RAN#85	R5-196985	0793	1	F	Update IE CellGroupConfig	16.1.0
2019-09	RAN#85	R5-196986	0858	1	F	Update MIB	16.1.0
2019-09	RAN#85	R5-196987	0865	1	F	Update chapter 4.5.4 RRC_CONNECTED procedures	16.1.0
2019-09	RAN#85	R5-196988	0831	1	F	Addition of IE MasterKeyUpdate	16.1.0
2019-09	RAN#85	R5-196990	0833	1	F	USIM Configuration for Signalling Test Cases	16.1.0
2019-09	RAN#85	R5-196991	0835	1	F	Correction to SIG OTA UE Orientation procedure	16.1.0
2019-09	RAN#85	R5-196992	0878	1	F	Addition of New Test Procedure - Response\No response to Paging for 5GC NAS testing	16.1.0
2019-09	RAN#85	R5-196994	0913	1	F	Update IE ServingCellConfig	16.1.0
2019-09	RAN#85	R5-196995	0910	1	F	Corrections to DCI_1_0 configuration	16.1.0
2019-09	RAN#85	R5-196996	0919	1	F	Updates to generic procedure using SERVICE REQUEST procedure	16.1.0
2019-09	RAN#85	R5-196997	0901	1	F	Introduction of Test Procedure for IMS Emergency call establishment in 5GC NORMAL-SERVICE	16.1.0
2019-09	RAN#85	R5-196998	0903	1	F	Update of Test procedure for UE for Tracking area updating / Inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode	16.1.0
2019-09	RAN#85	R5-197014	0928	-	F	Addition of NR CA test frequencies for protocol testing in clause 6.2.3	16.1.0
2019-09	RAN#85	R5-197099	0929	-	F	Correction to Switch off-Power off procedure in RRC_CONNECTED	16.1.0
2019-09	RAN#85	R5-197104	0884	1	F	Introduction of test frequencies for NR CA configuration CA_n257G to CA_n257M	16.1.0

2019-09	RAN#85	R5-197106	0892	1	F	Update of EN-DC inter-band configurations in clause 4.3.1	16.1.0
2019-09	RAN#85	R5-197139	0891	2	F	Update of NR CA inter-band configurations in clause 4.3.1	16.1.0
2019-09	RAN#85	R5-197226	0915	1	F	changes for Non 3GPP Access over WLAN	16.1.0
2019-09	RAN#85	R5-197230	0883	1	F	Introduction of test frequencies for NR CA configuration CA_n257D to CA_n257F	16.1.0
2019-09	RAN#85	R5-197231	0869	1	F	Update of test frequency parameters for NR CA configuration CA_n257B and CA_n257C	16.1.0
2019-09	RAN#85	R5-197232	0870	1	F	Introduction of test frequencies for NR CA configuration CA_n260B and CA_n260C	16.1.0
2019-09	RAN#85	R5-197233	0888	1	F	Introduction of test frequencies for NR CA configuration CA_n260J to CA_n260M	16.1.0
2019-09	RAN#85	R5-197234	0813	1	F	Update RRCReconfiguration	16.1.0
2019-09	RAN#85	R5-197235	0796	1	F	Update RadioBearerConfig-DRB	16.1.0
2019-09	RAN#85	R5-197236	0825	1	F	Update RRCReconfiguration-HO	16.1.0
2019-09	RAN#85	R5-197241	0791	1	F	Update of EUTRA-AllowedMeasBandwidth	16.1.0
2019-09	RAN#85	R5-197243	0809	1	F	Addition of Delta to signalling threshold in System Information in FR2	16.1.0
2019-09	RAN#85	R5-197244	0866	1	F	Correction to REGISTRATION REJECT message	16.1.0
2019-09	RAN#85	R5-197246	0902	1	F	Introduction of Test Procedure for IMS Emergency call establishment in 5GC LIMITED-SERVICE or NO-SUPI	16.1.0
2019-09	RAN#85	R5-197296	0898	2	F	Update of PHR-Config	16.1.0
2019-09	RAN#85	R5-197300	0787	1	F	4x2 Connection Diagram for demodulation tests	16.1.0
2019-09	RAN#85	R5-197301	0862	1	F	Correction to Section 5.4.2 Message definition for Performance Test	16.1.0
2019-09	RAN#85	R5-197302	0882	1	F	Addition of FR2 CA connection diagram	16.1.0
2019-09	RAN#85	R5-197303	0920	1	F	Corrections to test frequencies and formulas	16.1.0
2019-09	RAN#85	R5-197304	0896	1	F	Removing IOT bit information from test channel bandwidth tables	16.1.0
2019-09	RAN#85	R5-197305	0908	1	F	Addition of SMTC Configuration for RRM test cases	16.1.0
2019-09	RAN#85	R5-197507	0906	1	F	Addition of TDD UL DL Config for RRM test cases	16.1.0
2019-09	RAN#85	R5-197508	0907	1	F	Addition of FilterCoefficient configuration for RRM test cases	16.1.0
2019-09	RAN#85	R5-197638	0881	2	F	Addition of FR1 CA connection diagram	16.1.0
2019-10	RAN#85	-	-	-	-	Implementation fixes	16.1.1
2019-12	RAN#86	R5-197727	0932	-	F	Editorial update IE BWP-Id	16.2.0
2019-12	RAN#86	R5-197751	0933	-	F	Editorial update IE PDSCH-TimeDomainResourceAllocationList	16.2.0
2019-12	RAN#86	R5-197835	0937	-	F	Correction to IE ReportConfigNR	16.2.0
2019-12	RAN#86	R5-197897	0940	-	F	Editorial update IE CodebookConfig	16.2.0
2019-12	RAN#86	R5-197932	0946	-	F	Editorial update IE PDSCH-Config	16.2.0
2019-12	RAN#86	R5-197967	0948	-	F	Update of Annex C on calculation of test frequencies and parameters	16.2.0
2019-12	RAN#86	R5-197968	0949	-	F	Correction of test frequency parameters for NR band n1	16.2.0
2019-12	RAN#86	R5-197969	0950	-	F	Correction of test frequency parameters for NR band n2	16.2.0
2019-12	RAN#86	R5-197970	0951	-	F	Correction of test frequency parameters for NR band n3	16.2.0

2019-12	RAN#86	R5-197971	0952	-	F	Correction of test frequency parameters for NR band n5	16.2.0
2019-12	RAN#86	R5-197972	0953	-	F	Correction of test frequency parameters for NR band n7	16.2.0
2019-12	RAN#86	R5-197973	0954	-	F	Correction of test frequency parameters for NR band n8	16.2.0
2019-12	RAN#86	R5-197974	0955	-	F	Correction of test frequency parameters for NR band n12	16.2.0
2019-12	RAN#86	R5-197975	0956	-	F	Correction of test frequency parameters for NR band n20	16.2.0
2019-12	RAN#86	R5-197976	0957	-	F	Correction of test frequency parameters for NR band n25	16.2.0
2019-12	RAN#86	R5-197977	0958	-	F	Correction of test frequency parameters for NR band n28	16.2.0
2019-12	RAN#86	R5-197978	0959	-	F	Correction of test frequency parameters for NR band n34	16.2.0
2019-12	RAN#86	R5-197979	0960	-	F	Correction of test frequency parameters for NR band n38	16.2.0
2019-12	RAN#86	R5-197980	0961	-	F	Correction of test frequency parameters for NR band n39	16.2.0
2019-12	RAN#86	R5-197981	0962	-	F	Correction of test frequency parameters for NR band n40	16.2.0
2019-12	RAN#86	R5-197982	0963	-	F	Correction of test frequency parameters for NR band n41	16.2.0
2019-12	RAN#86	R5-197983	0964	-	F	Correction of test frequency parameters for NR band n50	16.2.0
2019-12	RAN#86	R5-197984	0965	-	F	Correction of test frequency parameters for NR band n51	16.2.0
2019-12	RAN#86	R5-197985	0966	-	F	Correction of test frequency parameters for NR band n66	16.2.0
2019-12	RAN#86	R5-197986	0967	-	F	Correction of test frequency parameters for NR band n70	16.2.0
2019-12	RAN#86	R5-197987	0968	-	F	Correction of test frequency parameters for NR band n71	16.2.0
2019-12	RAN#86	R5-197988	0969	-	F	Correction of test frequency parameters for NR band n74	16.2.0
2019-12	RAN#86	R5-197989	0970	-	F	Correction of test frequency parameters for NR band n75 (SDL)	16.2.0
2019-12	RAN#86	R5-197990	0971	-	F	Correction of test frequency parameters for NR band n76 (SDL)	16.2.0
2019-12	RAN#86	R5-197991	0972	-	F	Correction of test frequency parameters for NR band n77	16.2.0
2019-12	RAN#86	R5-197992	0973	-	F	Correction of test frequency parameters for NR band n78	16.2.0
2019-12	RAN#86	R5-197993	0974	-	F	Correction of test frequency parameters for NR band n79	16.2.0
2019-12	RAN#86	R5-197994	0975	-	F	Editorial correction to note 1 in frequency tables for NR bands n257, n258, n260 and n261	16.2.0
2019-12	RAN#86	R5-197997	0978	-	F	Introduction of test frequencies for NR CA configuration CA_n261D to CA_n261F	16.2.0
2019-12	RAN#86	R5-197998	0979	-	F	Introduction of test frequencies for NR CA configuration CA_n261J to CA_n261M	16.2.0
2019-12	RAN#86	R5-198016	0983	-	F	Introduction of test frequencies parameters for Rel-16 NR CA configuration CA_n66B	16.2.0
2019-12	RAN#86	R5-198017	0984	-	F	Introduction of test frequencies parameters for Rel-16 NR CA configuration CA_n66(2A)	16.2.0
2019-12	RAN#86	R5-198018	0985	-	F	Introduction of test frequencies and parameters for NR band n29	16.2.0
2019-12	RAN#86	R5-198019	0986	-	F	Introduction of test frequencies and parameters for NR band n65	16.2.0
2019-12	RAN#86	R5-198028	0988	-	F	Add 4Rx connection diagram for RRM measurement tests	16.2.0
2019-12	RAN#86	R5-198057	0993	-	F	Editorial update IE RateMatchPattern	16.2.0
2019-12	RAN#86	R5-198058	0994	-	F	Editorial update IE SchedulingRequestResourceConfig	16.2.0
2019-12	RAN#86	R5-198082	0999	-	F	Introduce general chapter in 4.6	16.2.0
2019-12	RAN#86	R5-198120	1004	-	F	Correction of test frequencies parameters for Rel-15 EN-DC	16.2.0

						configuration DC_(n)41AA	

2019-12	RAN#86	R5-198121	1005	-	F	Correction of test frequencies parameters for Rel-15 EN-DC configuration DC_(n)71AA	16.2.0
2019-12	RAN#86	R5-198125	1009	-	F	Introduction of test frequencies and parameters for NR band n48	16.2.0
2019-12	RAN#86	R5-198126	1010	-	F	Introduction of test frequencies for NR band b41 and CBW 30MHz	16.2.0
2019-12	RAN#86	R5-198131	1012	-	F	Update of USIM Configuration 15 for forbidden PLMN	16.2.0
2019-12	RAN#86	R5-198133	1014	-	F	Update IE ServingCellConfigCommonSIB	16.2.0
2019-12	RAN#86	R5-198141	1015	-	F	Clarification on default radio configuration of NAS cells	16.2.0
2019-12	RAN#86	R5-198217	1019	-	F	Correction of test frequency parameters for protocol testing and NR bands with scs=15kHz	16.2.0
2019-12	RAN#86	R5-198223	1021	-	F	Add IE BetaOffsets	16.2.0
2019-12	RAN#86	R5-198224	1022	-	F	Update IE PUSCH-Config	16.2.0
2019-12	RAN#86	R5-198250	1023	-	F	Update IE CSI-FrequencyOccupation	16.2.0
2019-12	RAN#86	R5-198251	1024	-	F	Update IE PHR-Config	16.2.0
2019-12	RAN#86	R5-198258	1026	-	F	Editorial update IE DRX-Config	16.2.0
2019-12	RAN#86	R5-198282	1027	-	F	Update to Connection diagram for 2x4 and 4x4 Demod test cases	16.2.0
2019-12	RAN#86	R5-198286	1028	-	F	Correction of mapping of frequency ranges to NR test frequencies for NR SA	16.2.0
2019-12	RAN#86	R5-198304	1029	-	F	Editorial update IE LogicalChannelConfig	16.2.0
2019-12	RAN#86	R5-198370	1035	-	F	Connection diagram for FR2 Demod and CSI test cases	16.2.0
2019-12	RAN#86	R5-198480	1039	-	F	Editorial update IE PDCCH-ConfigCommon	16.2.0
2019-12	RAN#86	R5-198485	1041	-	F	Editorial update IE PDCP-Config	16.2.0
2019-12	RAN#86	R5-198506	1044	-	F	Addition of RRCReconfiguration for Speech call setup	16.2.0
2019-12	RAN#86	R5-198507	1045	-	F	Editorial updates to section 4.7.0	16.2.0
2019-12	RAN#86	R5-198508	1046	-	F	New reference QoS configurations for IMS voice and video	16.2.0
2019-12	RAN#86	R5-198509	1047	-	F	Updates to REGISTRATION ACCEPT 5GMM message	16.2.0
2019-12	RAN#86	R5-198510	1048	-	F	Updates to test control messages	16.2.0
2019-12	RAN#86	R5-198540	1051	-	F	Update of REGISTRATION ACCEPT for IMS emergency support	16.2.0
2019-12	RAN#86	R5-198544	1053	-	F	Update of Table 4.6.3-162 SearchSpace in 38.508-1	16.2.0
2019-12	RAN#86	R5-198638	1058	-	F	Corrections on test frequencies for NR CA band n260 in 38.508-1	16.2.0
2019-12	RAN#86	R5-198649	1059	-	F	Corrections on test frequencies for NR CA band n261 in 38.508-1	16.2.0
2019-12	RAN#86	R5-198659	1062	-	F	Update TCI State Cell parameter in Demod section	16.2.0
2019-12	RAN#86	R5-198718	1067	-	F	Updates to RSRP-Range, RSRQ-Range and SINR-Range	16.2.0
2019-12	RAN#86	R5-198847	0941	1	F	Corrections to DCI_1_1 configuration	16.2.0
2019-12	RAN#86	R5-198848	0931	1	F	Update IE PUSCH-TimeDomainResourceAllocationList	16.2.0
2019-12	RAN#86	R5-198850	0934	1	F	Correction to IE MasterKeyUpdate	16.2.0
2019-12	RAN#86	R5-198851	0935	1	F	Update of NR SIBs	16.2.0
2019-12	RAN#86	R5-198852	0936	1	F	Correction to USIM configuration	16.2.0
2019-12	RAN#86	R5-198853	0938	1	F	Correction to IE ReportConfigInterRAT	16.2.0
2019-12	RAN#86	R5-198854	0942	1	F	Correction to Table 4.9.9.2.3-1 for Inter-system change from S1	16.2.0

						mode to N1 mode in 5GMM-IDLE mode	

2019-12	RAN#86	R5-198856	0982	1	F	Addition of frequency configurations for NR MFBI testing	16.2.0
2019-12	RAN#86	R5-198857	0992	1	F	Editorial update IE CSI-AperiodicTriggerStateList	16.2.0
2019-12	RAN#86	R5-198858	0998	1	F	Editorial update IE ServingCellConfig	16.2.0
2019-12	RAN#86	R5-198859	1000	1	F	Editorial update IE SecurityAlgorithmConfig	16.2.0
2019-12	RAN#86	R5-198860	1002	1	F	Update IE SRS-Config	16.2.0
2019-12	RAN#86	R5-198861	1001	1	F	Update of Generic Test Procedures for IMS Emergency call establishment 4.9.11 and 4.9.12 to reflect the fact that they can be used in multiple states and scenarios	16.2.0
2019-12	RAN#86	R5-198862	1013	1	F	Update IE ServingCellConfigCommon	16.2.0
2019-12	RAN#86	R5-198863	1016	1	F	Update IE CSI-RS-ResourceMapping	16.2.0
2019-12	RAN#86	R5-198865	1032	1	F	Update RRCReconfiguration	16.2.0
2019-12	RAN#86	R5-198866	1033	1	F	Update chapter 4.5.1 General	16.2.0
2019-12	RAN#86	R5-198867	1034	1	F	Update to PDU SESSION ESTABLISHMENT ACCEPT and Reference QoS flow descriptions to align EPS bearer id format	16.2.0
2019-12	RAN#86	R5-198869	1061	1	F	New Test Procedures for IMS Emergency call release	16.2.0
2019-12	RAN#86	R5-198870	1063	1	F	Update chapter 4.5.2 RRC_IDLE	16.2.0
2019-12	RAN#86	R5-198871	1072	1	F	Update of RRCReconfiguration for measurement configuration	16.2.0
2019-12	RAN#86	R5-198955	0995	1	F	Update procedure for NR RF CA testing	16.2.0
2019-12	RAN#86	R5-198956	0996	1	F	Update procedure for EN-DC RF CA testing	16.2.0
2019-12	RAN#86	R5-198957	1036	1	F	Update to 38.508-1 for DEMOD message contents	16.2.0
2019-12	RAN#86	R5-198958	0991	1	F	Update IE PUCCH-Config	16.2.0
2019-12	RAN#86	R5-198959	0976	1	F	Introduction of test frequencies for Rel-15 EN-DC inter-band configurations	16.2.0
2019-12	RAN#86	R5-198960	0980	1	F	Introduction of test frequencies for Rel-16 NR inter-band CA configurations	16.2.0
2019-12	RAN#86	R5-198961	0987	1	F	Introduction of test frequencies for NR configuration CA_n29A-n66A	16.2.0
2019-12	RAN#86	R5-198962	1003	1	F	Introduction of test frequencies for Rel-15 NR DC configurations	16.2.0
2019-12	RAN#86	R5-198997	1068	1	F	Introduction of test frequencies and parameters for NR bands n29, n48 and n65 for protocol testing	16.2.0
2019-12	RAN#86	R5-199008	0997	1	F	Editorial update WLAN table 4.5.2.2-3	16.2.0
2019-12	RAN#86	R5-199013	0943	1	F	Correction to SMTC and GAP for inter frequency cell	16.2.0
2019-12	RAN#86	R5-199015	0981	1	F	Correction of test frequencies for NR CA and EN-DC protocol testing	16.2.0
2019-12	RAN#86	R5-199016	1049	1	F	Updates to Test Procedure 4.9.11	16.2.0
2019-12	RAN#86	R5-199017	1050	1	F	Updates to Test Procedure 4.9.12	16.2.0
2019-12	RAN#86	R5-199020	1079	-	F	Update default setting of deriveSSB-IndexFromCell	16.2.0
2019-12	RAN#86	R5-199021	1011	1	F	Update IE TDD-UL-DL-Config	16.2.0
2019-12	RAN#86	R5-199022	1070	1	F	Updates to Signalling Reference test conditions	16.2.0
2019-12	RAN#86	R5-199026	1025	2	F	Update IE CellGroupConfig	16.2.0
2019-12	RAN#86	R5-199071	0944	2	F	Update of SUL related messages	16.2.0
2019-12	RAN#86	R5-199075	1080	1	F	Correction to NR RRC_IDLE mode procedure	16.2.0

2019-12	RAN#86	R5-199093	1065	2	F	Update chapter 4.5.4 RRC_CONNECTED	16.2.0
2019-12	RAN#86	R5-199094	1069	1	F	Updates for handling of Multiple PDU sessions / Multiple DRBs	16.2.0
2019-12	RAN#86	R5-199103	1076	2	F	Adding new generic procedure for UE-requested PDU session modification after the first S1 to N1 mode change	16.2.0
2019-12	RAN#86	R5-199300	1042	1	F	Corrections on category of EN-DC configurations for test frequencies in 38.508-1	16.2.0
2019-12	RAN#86	R5-199301	1054	1	F	Addition of ServingCellConfigCommon for RRM tests	16.2.0
2019-12	RAN#86	R5-199302	1057	1	F	Corrections on test frequencies for NR CA band n257 in 38.508-1	16.2.0
2019-12	RAN#86	R5-199303	1060	1	F	Corrections on test frequencies for NR CA band n258 in 38.508-1	16.2.0
2019-12	RAN#86	R5-199304	1066	1	F	Update Radio resource control information elements for RRM to add CSI-RS for Tracking	16.2.0
2019-12	RAN#86	R5-199423	1077	-	F	Update ra-responseWindow in TS 38.508-1	16.2.0
2019-12	RAN#86	R5-199481	0989	1	F	Addition of FR1 NR CA and NR 4Rx connection diagrams	16.2.0
2019-12	RAN#86	R5-199511	1078	-	F	Update of quiet zone size	16.2.0
2019-12	RAN#86	R5-199545	1020	1	F	Addition of multi-AoA capabilities for IFF	16.2.0
2020-03	RAN#87	R5-200135	1120		F	Removal of Correction to SIG OTA UE Orientation procedure	16.3.0
2020-03	RAN#87	R5-200147	1130		F	Update to USIM config 6.4.1-11	16.3.0
2020-03	RAN#87	R5-200244	1133		F	Correction to nAndPagingFrameOffset	16.3.0
2020-03	RAN#87	R5-200296	1136		F	Addition of generic procedure for IMS MO speech setup	16.3.0
2020-03	RAN#87	R5-200297	1137		F	Addition of generic procedure for IMS MT speech setup	16.3.0
2020-03	RAN#87	R5-200298	1138		F	Addition of generic procedure for IMS MO call release	16.3.0
2020-03	RAN#87	R5-200299	1139		F	Addition of generic procedure for IMS MT call release	16.3.0
2020-03	RAN#87	R5-200349	1142		F	Correction to frequencyBandList in SIB4	16.3.0
2020-03	RAN#87	R5-200431	1146		F	Correction to CSI-FrequencyOccupation	16.3.0
2020-03	RAN#87	R5-200432	1147		F	Correction to default setting of additionalPmax	16.3.0
2020-03	RAN#87	R5-200433	1148		F	Correction to powerControlOffset for performance tests	16.3.0
2020-03	RAN#87	R5-200434	1149		F	Correction to RACH configuration for RRM tests	16.3.0
2020-03	RAN#87	R5-200435	1150		F	Correction to TDD UL-DL Config for performance test cases	16.3.0
2020-03	RAN#87	R5-200477	1154		F	Update to Registration REQ and Authentication Response message	16.3.0
2020-03	RAN#87	R5-200499	1157		F	Correction of test frequency tables for NR band n1	16.3.0
2020-03	RAN#87	R5-200500	1158		F	Correction of test frequency tables for NR band n2	16.3.0
2020-03	RAN#87	R5-200501	1159		F	Correction of test frequency tables for NR band n3	16.3.0
2020-03	RAN#87	R5-200502	1160		F	Correction of test frequency tables for NR band n7	16.3.0
2020-03	RAN#87	R5-200503	1161		F	Correction of test frequency tables for NR band n25	16.3.0
2020-03	RAN#87	R5-200504	1162		F	Correction of test frequency tables for NR band n28	16.3.0
2020-03	RAN#87	R5-200505	1163		F	Correction of test frequency tables for NR band n34	16.3.0
2020-03	RAN#87	R5-200506	1164		F	Correction of test frequency tables for NR band n38	16.3.0
2020-03	RAN#87	R5-200507	1165		F	Correction of test frequency tables for NR band n39	16.3.0
2020-03	RAN#87	R5-200508	1166		F	Correction of test frequency tables for NR band n40	16.3.0

2020-03	RAN#87	R5-200510	1168		F	Correction of test frequency tables for NR band n50	16.3.0
2020-03	RAN#87	R5-200511	1169		F	Correction of test frequency tables for NR band n66	16.3.0
2020-03	RAN#87	R5-200512	1170		F	Correction of test frequency tables for NR band n70	16.3.0
2020-03	RAN#87	R5-200513	1171		F	Correction of test frequency tables for NR band n71	16.3.0
2020-03	RAN#87	R5-200514	1172		F	Correction of test frequency tables for NR band n74	16.3.0
2020-03	RAN#87	R5-200515	1173		F	Correction of test frequency tables for NR band n75	16.3.0
2020-03	RAN#87	R5-200531	1189		F	Correction of test frequency tables for NR band n29	16.3.0
2020-03	RAN#87	R5-200532	1190		F	Correction of test frequency tables for NR band n48	16.3.0
2020-03	RAN#87	R5-200533	1191		F	Correction of test frequency tables for NR band n65	16.3.0
2020-03	RAN#87	R5-200597	1200		F	Introduction of test frequencies for inter-band Rel-16 EN-DC configurations in 38.508-1	16.3.0
2020-03	RAN#87	R5-200605	1202		F	Addition of test frequencies for n95 SUL band	16.3.0
2020-03	RAN#87	R5-200645	1206		F	Updates to 4.6.4 UE Capability Information Elements	16.3.0
2020-03	RAN#87	R5-200646	1207		F	Correction to QoS rule number 7	16.3.0
2020-03	RAN#87	R5-200647	1208		F	Correction to IMS emergency call release procedures	16.3.0
2020-03	RAN#87	R5-201246	1209	1	F	TRS configuration messages definition for RF in 38.508-1	16.3.0
2020-03	RAN#87	R5-200678	1210		F	Update of IE ControlResourceSet to introduce band and channel bandwidth specific values for frequencyDomainResources	16.3.0
2020-03	RAN#87	R5-200703	1213		F	Correction to IE BeamFailureRecoveryConfig	16.3.0
2020-03	RAN#87	R5-200774	1215		F	Editorial update IE MeasConfig	16.3.0
2020-03	RAN#87	R5-200775	1216		F	Editorial update IE radioLinkMonitoringRS-Id	16.3.0
2020-03	RAN#87	R5-200804	1218		F	Correction of test frequency tables for NR band n5	16.3.0
2020-03	RAN#87	R5-200805	1219		F	Correction of test frequency tables for NR band n8	16.3.0
2020-03	RAN#87	R5-200806	1220		F	Correction of test frequency tables for NR band n12	16.3.0
2020-03	RAN#87	R5-200807	1221		F	Correction of test frequency tables for NR band n20	16.3.0
2020-03	RAN#87	R5-200808	1222		F	Correction of test frequency tables for NR band n51	16.3.0
2020-03	RAN#87	R5-200900	1197	1	F	Corrections on test frequencies for EN-DC band combinations including FR1 and FR2 in 38.508-1	16.3.0
2020-03	RAN#87	R5-200901	1198	1	F	Corrections on test frequencies for EN-DC band combinations including FR2 in 38.508-1	16.3.0
2020-03	RAN#87	R5-200902	1199	1	F	Corrections on uplink EN-DC configurations for test frequencies in 38.508-1	16.3.0
2020-03	RAN#87	R5-200921	1132	1	F	Addition of Rel-16 inter-band CA and EN-DC FR1 two bands test configurations	16.3.0
2020-03	RAN#87	R5-200930	1081	1	F	Update SIB1	16.3.0
2020-03	RAN#87	R5-200931	1082	1	F	Update CounterCheck	16.3.0
2020-03	RAN#87	R5-200932	1083	1	F	Editorial update DLInformationTransfer	16.3.0
2020-03	RAN#87	R5-200933	1084	1	F	Editorial update FailureInformation	16.3.0
2020-03	RAN#87	R5-200934	1085	1	F	Editorial update MeasurementReport	16.3.0
2020-03	RAN#87	R5-200935	1086	1	F	Editorial update MobilityFromNRCommand	16.3.0

2020-03	RAN#87	R5-200936	1087	1	F	Editorial update Paging	16.3.0
2020-03	RAN#87	R5-200937	1088	1	F	Editorial update RRCReestablishment	16.3.0
2020-03	RAN#87	R5-200938	1090	1	F	Editorial update RRCReconfigurationComplete	16.3.0
2020-03	RAN#87	R5-200939	1091	1	F	Editorial update RRCReject	16.3.0
2020-03	RAN#87	R5-200940	1092	1	F	Editorial update RRCRelease	16.3.0
2020-03	RAN#87	R5-200941	1093	1	F	Editorial update RRCResumeComplete	16.3.0
2020-03	RAN#87	R5-200942	1094	1	F	Editorial update RRCSetup	16.3.0
2020-03	RAN#87	R5-200943	1096	1	F	Editorial update SCGFailureInformation	16.3.0
2020-03	RAN#87	R5-200944	1097	1	F	Editorial update SecurityMode	16.3.0
2020-03	RAN#87	R5-200945	1098	1	F	Update SystemInformation	16.3.0
2020-03	RAN#87	R5-200946	1099	1	F	Editorial update UEAssistanceInformation	16.3.0
2020-03	RAN#87	R5-200947	1100	1	F	Editorial update UECapability	16.3.0
2020-03	RAN#87	R5-200948	1101	1	F	Editorial update ULInformation	16.3.0
2020-03	RAN#87	R5-200949	1103	1	F	Editorial update IE RLC-BearerConfig	16.3.0
2020-03	RAN#87	R5-200951	1108	1	F	Add IE TDD-UL-DL-ConfigDedicated	16.3.0
2020-03	RAN#87	R5-200952	1111	1	F	Update IE ServingCellConfig	16.3.0
2020-03	RAN#87	R5-200953	1112	1	F	Update IE ServingCellConfigCommonSIB	16.3.0
2020-03	RAN#87	R5-200954	1113	1	F	Update IE DMRS-DownlinkConfig	16.3.0
2020-03	RAN#87	R5-200955	1114	1	F	Update IE FrequencyInfoUL	16.3.0
2020-03	RAN#87	R5-200956	1118	1	F	Update chapter 4.5.1 General	16.3.0
2020-03	RAN#87	R5-200957	1122	1	F	Update chapter 4.5.4 RRC_CONNECTED	16.3.0
2020-03	RAN#87	R5-200958	1125	1	F	Update IE CellGroupId	16.3.0
2020-03	RAN#87	R5-200959	1126	1	F	Update IE ServCellIndex	16.3.0
2020-03	RAN#87	R5-200960	1127	1	F	Update IE SK-Counter	16.3.0
2020-03	RAN#87	R5-200961	1128	1	F	Update IE SDAP-Config	16.3.0
2020-03	RAN#87	R5-200965	1145	1	F	Correction to CORESET and search space configuration	16.3.0
2020-03	RAN#87	R5-200966	1193	1	F	Addition of NR SUL connection diagrams	16.3.0
2020-03	RAN#87	R5-200967	1201	1	F	Clarification to high test channel bandwidth table	16.3.0
2020-03	RAN#87	R5-200968	1203	1	F	Addition of missing EN-DC test frequencies	16.3.0
2020-03	RAN#87	R5-200996	1124	1	F	Correction to PUCCH-Config for Format1 and Format2	16.3.0
2020-03	RAN#87	R5-201005	1131	1	F	Update of Annex C on calculation of test frequencies to achieve full bandwidth testing of NR bands	16.3.0
2020-03	RAN#87	R5-201020	1155	1	F	Update SIG test frequencies in clause 6.2.3.x	16.3.0
2020-03	RAN#87	R5-201021	1167	1	F	Correction of test frequency tables for NR band n41	16.3.0
2020-03	RAN#87	R5-201022	1174	1	F	Correction of test frequency tables for NR band n77	16.3.0
2020-03	RAN#87	R5-201023	1175	1	F	Correction of test frequency tables for NR band n78	16.3.0
2020-03	RAN#87	R5-201024	1176	1	F	Correction of test frequency tables for NR band n79	16.3.0
2020-03	RAN#87	R5-201025	1177	1	F	Correction of test frequency tables for NR band n257	16.3.0

2020-03	RAN#87	R5-201026	1178	1	F	Correction of test frequency tables for NR band n258	16.3.0
2020-03	RAN#87	R5-201027	1179	1	F	Correction of test frequency tables for NR band n260	16.3.0
2020-03	RAN#87	R5-201028	1180	1	F	Correction of test frequency tables for NR band n261	16.3.0
2020-03	RAN#87	R5-201029	1192	1	F	Update of clause 4.4.2 on simulated cells	16.3.0
2020-03	RAN#87	R5-201061	1153	1	F	Addition of a few R16s inter-band EN-DC FR1 test configurations	16.3.0
2020-03	RAN#87	R5-201065	1194	1	F	Addition of test channel bandwidth for NR bands in 38.508-1	16.3.0
2020-03	RAN#87	R5-201092	1123	1	F	Updates to NR FR1 and LTE Power levels in OTA	16.3.0
2020-03	RAN#87	R5-201093	1224	1	F	Message content Updates for Carrier Aggregation	16.3.0
2020-03	RAN#87	R5-201108	1143	1	F	Correction to EUTRA-AllowedMeasBandwidth	16.3.0
2020-03	RAN#87	R5-201116	1204	1	F	Updates to 4.7.3 Contents of EAP-AKA messages in 38.508-1	16.3.0
2020-03	RAN#87	R5-201148	1134	1	F	Updates to default SSB index of intra-frequency NR cells	16.3.0
2020-03	RAN#87	R5-201159	1151	1	F	Correction to test frequencies for n257 intra-band contiguous CA	16.3.0
2020-03	RAN#87	R5-201173	1117	1	F	Update IE TDD-UL-DL-Config	16.3.0
2020-03	RAN#87	R5-201174	1095	1	F	Update RRCSystemInfoRequest	16.3.0
2020-03	RAN#87	R5-201175	1106	1	F	Update IE RLF-TimersAndConstants	16.3.0
2020-03	RAN#87	R5-201176	1107	1	F	Update IE SCS-SpecificCarrier	16.3.0
2020-03	RAN#87	R5-201177	1109	1	F	Update chapter 4.6.0	16.3.0
2020-03	RAN#87	R5-201179	1116	1	F	Update IE MeasObjectNR	16.3.0
2020-03	RAN#87	R5-201189	1214	1	F	Addition of IFF DFF Hybrid Setup for FR2 2AoA RRM test	16.3.0
2020-03	RAN#87	R5-201194	1141	1	F	Update to Common Coreset RB IE and section 5-6 Demod message contents	16.3.0
2020-03	RAN#87	R5-201195	1144	1	F	Update of DCI 1_0 and DCI 1_1 configuration	16.3.0
2020-03	RAN#87	R5-201197	1152	1	F	Correction to TRS configuration for RRM tests	16.3.0
2020-03	RAN#87	R5-201202	1205	1	F	Update to Switch Off/ Power off procedure in RRC_CONNECTED mode	16.3.0
2020-03	RAN#87	R5-201203	1129	1	F	Update to PDCP-Config	16.3.0
2020-03	RAN#87	R5-201217	1217	1	F	Updates to PsDU session modification procedures	16.3.0
2020-03	RAN#87	R5-201221	1089	1	F	Update RRCReconfiguration	16.3.0
2020-03	RAN#87	R5-201222	1121	1	F	Update IE CellGroupConfig	16.3.0
2020-03	RAN#87	R5-201232	1140	2	F	CR to 38.508-1 to introduce DFF Range Length	16.3.0
2020-03	RAN#87	R5-201234	1110	2	F	Update IE ServingCellConfigCommon	16.3.0
2020-03	RAN#87	R5-201148	1134	1	F	Add new missing column of Table 4.4.2-2	16.3.1
2020-06	RAN#88	R5-201320	1225	-	F	Update IE CellGroupConfig	16.4.0
2020-06	RAN#88	R5-201322	1227	-	F	Update of default value of frequencyDomainResources in ControlResourceSet IE	16.4.0
2020-06	RAN#88	R5-201331	1228	-	F	Correction to Table 4.9.6.1-1-Switch off in Idle	16.4.0
2020-06	RAN#88	R5-201333	1230	-	F	Addition of 4.9.6.3A Switch off Power off procedure in RRC_CONNECTED with T3540 started	16.4.0
2020-06	RAN#88	R5-201335	1232	-	F	Update to USIM config 6.4.1-1	16.4.0

2020-06	RAN#88	R5-201336	1233	-	F	Update to USIM Table 6.4.1-10	16.4.0
2020-06	RAN#88	R5-201337	1234	-	F	Correction to Table 7.3.1-7 NZP-CSI-RS-Resource for TRS	16.4.0
2020-06	RAN#88	R5-201446	1235	-	F	Fixing wrong reference for RRC_CONNECTED state on WLAN access	16.4.0
2020-06	RAN#88	R5-201572	1253	-	F	Corrections to default content of DCI messages	16.4.0
2020-06	RAN#88	RP-201138	1258	1	F	Correction to IE SearchSpace	16.4.0
2020-06	RAN#88	R5-201731	1265	-	F	Addition of NR SUL connection diagram in A.3.1.4	16.4.0
2020-06	RAN#88	R5-201800	1267	-	F	Addition of USIM configuration for TC 6.3.1.8 and TC 6.3.1.9	16.4.0
2020-06	RAN#88	R5-201837	1268	-	F	Update of test channel bandwidths for band n48	16.4.0
2020-06	RAN#88	R5-201932	1271	-	F	Removing brackets from mid test channel BWs for FR2	16.4.0
2020-06	RAN#88	R5-201956	1273	-	F	Correction of clause 4.4.2 on simulated cells	16.4.0
2020-06	RAN#88	R5-201958	1275	-	F	Correction to Annex C on calculation of kSSB to align SSB and RMSI subcarriers	16.4.0
2020-06	RAN#88	R5-201959	1276	-	F	Removal of definition of frequencyDomainResources value dependent on CORESET#0 configuration in Annex C.	16.4.0
2020-06	RAN#88	R5-201961	1278	-	F	Correction of test frequency tables for NR band n1	16.4.0
2020-06	RAN#88	R5-201962	1279	-	F	Correction of test frequency tables for NR band n2	16.4.0
2020-06	RAN#88	R5-201963	1280	-	F	Correction of test frequency tables for NR band n3	16.4.0
2020-06	RAN#88	R5-201964	1281	-	F	Correction of test frequency tables for NR band n5	16.4.0
2020-06	RAN#88	R5-201965	1282	-	F	Correction of test frequency tables for NR band n7	16.4.0
2020-06	RAN#88	R5-201966	1283	-	F	Correction of test frequency tables for NR band n8	16.4.0
2020-06	RAN#88	R5-201967	1284	-	F	Correction of test frequency tables for NR band n12	16.4.0
2020-06	RAN#88	R5-201968	1285	-	F	Correction of test frequency tables for NR band n20	16.4.0
2020-06	RAN#88	R5-201969	1286	-	F	Correction of test frequency tables for NR band n25	16.4.0
2020-06	RAN#88	R5-201970	1287	-	F	Correction of test frequency tables for NR band n28	16.4.0
2020-06	RAN#88	R5-201971	1288	-	F	Correction of test frequency tables for NR band n34	16.4.0
2020-06	RAN#88	R5-201972	1289	-	F	Correction of test frequency tables for NR band n38	16.4.0
2020-06	RAN#88	R5-201973	1290	-	F	Correction of test frequency tables for NR band n39	16.4.0
2020-06	RAN#88	R5-201974	1291	-	F	Correction of test frequency tables for NR band n40	16.4.0
2020-06	RAN#88	R5-201975	1292	-	F	Correction of test frequency tables for NR band n41	16.4.0
2020-06	RAN#88	R5-201976	1293	-	F	Correction of test frequency tables for NR band n50	16.4.0
2020-06	RAN#88	R5-201977	1294	-	F	Correction of test frequency tables for NR band n51	16.4.0
2020-06	RAN#88	R5-201978	1295	-	F	Correction of test frequency tables for NR band n66	16.4.0
2020-06	RAN#88	R5-201979	1296	-	F	Correction of test frequency tables for NR band n70	16.4.0
2020-06	RAN#88	R5-201980	1297	-	F	Correction of test frequency tables for NR band n71	16.4.0
2020-06	RAN#88	R5-201981	1298	-	F	Correction of test frequency tables for NR band n74	16.4.0
2020-06	RAN#88	R5-201982	1299	-	F	Correction of test frequency tables for NR band n77	16.4.0
2020-06	RAN#88	R5-201983	1300	-	F	Correction of test frequency tables for NR band n78	16.4.0
2020-06	RAN#88	R5-201984	1301	-	F	Correction of test frequency tables for NR band n79	16.4.0

2020-06	RAN#88	R5-201989	1306	-	F	Corrections of test frequency tables for CA_n41C	16.4.0
2020-06	RAN#88	R5-201990	1307	-	F	Corrections of test frequency tables for CA_n78C	16.4.0
2020-06	RAN#88	R5-201991	1308	-	F	Editorial correction to test frequency clause numbering	16.4.0
2020-06	RAN#88	R5-201995	1312	-	F	Correction of test frequency tables for CA_n66B	16.4.0
2020-06	RAN#88	R5-201997	1314	-	F	Introduction of test frequencies for NR band n26	16.4.0
2020-06	RAN#88	R5-201998	1315	-	F	Introduction of test frequencies for NR band 26 for protocol testing	16.4.0
2020-06	RAN#88	R5-201999	1316	-	F	Correction of test frequency tables for NR band n29	16.4.0
2020-06	RAN#88	R5-202000	1317	-	F	Correction of test frequency tables for NR band n48	16.4.0
2020-06	RAN#88	R5-202001	1318	-	F	Correction of test frequency tables for NR band n65	16.4.0
2020-06	RAN#88	R5-202024	1327	-	F	Update IE PDCP-Config	16.4.0
2020-06	RAN#88	R5-202123	1330	-	F	CR to 38.508-1 to clarify the test zone/quiet zone	16.4.0
2020-06	RAN#88	R5-202186	1333	-	F	Addition of locationAndBandwidth in BWP for FR1 in 38.508-1	16.4.0
2020-06	RAN#88	R5-202210	1335	-	F	Corrections on test frequencies for inter-band EN-DC configurations within FR1 for five bands in 38.508-1	16.4.0
2020-06	RAN#88	R5-202212	1336	-	F	Corrections of test frequency tables for CA_n257x	16.4.0
2020-06	RAN#88	R5-202213	1337	-	F	Corrections of test frequency tables for CA_n258x	16.4.0
2020-06	RAN#88	R5-202214	1338	-	F	Corrections of test frequency tables for CA_n260x	16.4.0
2020-06	RAN#88	R5-202215	1339	-	F	Corrections of test frequency tables for CA_n261x	16.4.0
2020-06	RAN#88	R5-202244	1343	-	F	Correction to nrofRBs under TRS CSI-FrequencyOccupation for Demod test cases with 10 MHz CBW	16.4.0
2020-06	RAN#88	R5-202284	1351	-	F	Correction to configuration bwp-id parameter in TCI-State IE	16.4.0
2020-06	RAN#88	R5-202409	1354	-	F	Update PDCCH-ControlResourceSet for RRM testing	16.4.0
2020-06	RAN#88	R5-202410	1355	-	F	Addition Physical Layer Parameter section for RRM testing	16.4.0
2020-06	RAN#88	R5-202449	1356	-	F	Correction of test frequencies for DC n71AA	16.4.0
2020-06	RAN#88	R5-202486	1358	-	F	Correction to content of EF5GSN3GPPLOCI	16.4.0
2020-06	RAN#88	R5-202525	1360	-	F	Correction to System Information Combination for PWS	16.4.0
2020-06	RAN#88	R5-202531	1353	1	F	Addition of R16 new channel bandwidths for n1 in 38.508-1	16.4.0
2020-06	RAN#88	R5-202534	1266	1	F	Removal of USIM configuration 14	16.4.0
2020-06	RAN#88	R5-202549	1350	1	F	Aligning the tabular representation of ASN.1 with PRD13 sections 4.8 and 5	16.4.0
2020-06	RAN#88	R5-202554	1252	1	F	Updates to PDCCH-ConfigCommon	16.4.0
2020-06	RAN#88	R5-202561	1226	1	F	Update IE default content for control resource set establishment and common search space mapping	16.4.0
2020-06	RAN#88	R5-202562	1229	1	F	Update to 4.9.6.3 Switch off Power off procedure in RRC_CONNECTED	16.4.0
2020-06	RAN#88	R5-202563	1231	1	F	Correction to Table 4.9.7.2.3-1-Tracking Area Update Request	16.4.0
2020-06	RAN#88	R5-202564	1236	1	F	Correction to Table 4.5.2.2-2-Adding second SMC procedure for Selected EPS NAS security algorithms IE	16.4.0
2020-06	RAN#88	R5-202565	1237	1	F	Clarification to ROUND for negative Threshold values in SIB1 and SIB4	16.4.0
2020-06	RAN#88	R5-202573	1251	1	F	Updates to test frequency definitions for SDL NR bands	16.4.0

2020-06	RAN#88	R5-202574	1257	1	F	Correction to condition SRB_NR_PDCP in RadioBearerConfig	16.4.0
2020-06	RAN#88	R5-202575	1260	1	F	Correction to UECapabilityEnquiry in case of EN-DC interband CA	16.4.0
2020-06	RAN#88	R5-202576	1262	1	F	Updates to PDCP-Config	16.4.0
2020-06	RAN#88	R5-202577	1274	1	F	Clarifications of Annex C on calculation of test frequencies	16.4.0
2020-06	RAN#88	R5-202578	1277	1	F	Update SIG test frequencies in clause 6.2.3.x	16.4.0
2020-06	RAN#88	R5-202579	1302	1	F	Correction of test frequency tables for NR band n257	16.4.0
2020-06	RAN#88	R5-202580	1303	1	F	Correction of test frequency tables for NR band n258	16.4.0
2020-06	RAN#88	R5-202581	1304	1	F	Correction of test frequency tables for NR band n260	16.4.0
2020-06	RAN#88	R5-202582	1305	1	F	Correction of test frequency tables for NR band n261	16.4.0
2020-06	RAN#88	R5-202583	1322	1	F	Introduction of protocol testing applicability for EN-DC inter-band, NR-CA inter-band and NR DC test frequency tables	16.4.0
2020-06	RAN#88	R5-202585	1331	1	F	Correction to Reference QoS rules	16.4.0
2020-06	RAN#88	R5-202586	1346	1	F	Updates to Generic Test Procedure for IMS MT speech call establishment	16.4.0
2020-06	RAN#88	R5-202587	1347	1	F	Updates to Generic Test Procedure for IMS MO call release	16.4.0
2020-06	RAN#88	R5-202588	1349	1	F	Aligning the tabular representation of ASN.1 with PRD13 section 4.6	16.4.0
2020-06	RAN#88	R5-202589	1359	1	F	Update the default USIM configurations	16.4.0
2020-06	RAN#88	R5-202590	1361	1	F	Addition of Generic procedure to check user plane connectivity for CA tests	16.4.0
2020-06	RAN#88	R5-202703	1255	1	F	Clarifications on the QoQZ validation procedure for RRM	16.4.0
2020-06	RAN#88	R5-202708	1254	1	F	TRS - PowerControlOffset correction for UE RF testing	16.4.0
2020-06	RAN#88	R5-202820	1352	1	F	Correction to PRB-Id for secondHopPRB	16.4.0
2020-06	RAN#88	R5-202859	1329	1	F	Updates on FR2 inter-band EN-DC configurations for test frequencies in 38.508-1	16.4.0
2020-06	RAN#88	R5-202879	1332	1	F	Addition of BW to Table 4.6.3-33	16.4.0
2020-06	RAN#88	R5-202880	1334	1	F	Clarification of disabling Tx diversity for FR2 UE	16.4.0
2020-06	RAN#88	R5-202881	1341	1	F	Restructuring 38.508-1 message contents for Demod and CSI reporting test cases	16.4.0
2020-06	RAN#88	R5-202882	1342	1	F	Update of PUCCH-ResourceId for Demod test cases	16.4.0
2020-06	RAN#88	R5-202883	1348	1	F	Configuration of p-ZP-CSI-RS-ResourceSet for PDSCH Demod test cases	16.4.0
2020-06	RAN#88	R5-202956	1270	1	F	Update of default test channel BW	16.4.0
2020-06	RAN#88	R5-202962	1269	2	F	Updating DCI related messages	16.4.0
2020-06	RAN#88	R5-202967	1344	1	F	Update to default value of PDSCH-to-HARQ_feedback timing indicator (k1)	16.4.0
2020-06	RAN#88	R5-203056	1313	1	F	Introduction of test frequencies for Rel-16 NR CA configuration CA_n66B and CA_n66(2A) in cl 6.2.3.4	16.4.0
2020-06	RAN#88	R5-203057	1319	1	F	Addition of test frequencies for additional channel bandwidths for NR band n66	16.4.0
2020-06	RAN#88	R5-203078	1325	1	F	Updates to Generic Test Procedure for IMS MO speech call establishment	16.4.0
2020-06	RAN#88	R5-203079	1326	2	F	Update NR-DC in chapter 4	16.4.0

2020-09	RAN#89	R5-203275	1364	-	F	Editorial update IE ARFCN-ValueNR	16.5.0
2020-09	RAN#89	R5-203277	1366	-	F	Add IEs ARFCN-ValueUTRA-FDD, AvailabilityCombinationsPerCell, AvailabilityIndicator and BAP-Routing-ID	16.5.0
2020-09	RAN#89	R5-203278	1367	-	F	n26 Default CH BW in 38.508-1	16.5.0
2020-09	RAN#89	R5-203287	1368	-	F	Correction PRB-Id for PUCCH secondHopPRB	16.5.0
2020-09	RAN#89	R5-203320	1369	-	F	Add IE BeamFailureRecoverySCellConfig	16.5.0
2020-09	RAN#89	R5-203339	1372	-	F	Add IE CGI-InfoEUTRALogging	16.5.0
2020-09	RAN#89	R5-203340	1373	-	F	Add IEs CGI-Info-Logging and CLI-RSSI-Range	16.5.0
2020-09	RAN#89	R5-203341	1374	-	F	Add IEs CommonLocationInfo, CondReconfigId, CondReconfigToAddModList and ConditionalReconfiguration	16.5.0
2020-09	RAN#89	R5-203342	1375	-	F	Add IEs ConfiguredGrantConfigIndex and ConfiguredGrantConfigIndexMAC	16.5.0
2020-09	RAN#89	R5-203343	1376	-	F	Add IE DRX-ConfigSecondaryGroup	16.5.0
2020-09	RAN#89	R5-203344	1377	-	F	Add IE HighSpeedConfig	16.5.0
2020-09	RAN#89	R5-203345	1378	-	F	Add IE InvalidSymbolPattern	16.5.0
2020-09	RAN#89	R5-203346	1379	-	F	Add IEs LBT-FailureRecoveryConfig and LocationInfo	16.5.0
2020-09	RAN#89	R5-203347	1380	-	F	Add IE MeasIdleConfig	16.5.0
2020-09	RAN#89	R5-203348	1381	-	F	Add IE MeasObjectCLI	16.5.0
2020-09	RAN#89	R5-203349	1382	-	F	Add IE MeasObjectNR-SL	16.5.0
2020-09	RAN#89	R5-203350	1383	-	F	Add IE MeasObjectUTRA-FDD	16.5.0
2020-09	RAN#89	R5-203351	1384	-	F	Add IEs MeasResultIdleEUTRA and MeasResultIdleNR	16.5.0
2020-09	RAN#89	R5-203355	1387	-	F	Add IEs MsgA-ConfigCommon and MsgA-PUSCH-Config	16.5.0
2020-09	RAN#89	R5-203356	1388	-	F	Add IEs NeedForGapsConfigNR and NeedForGapsInfoNR	16.5.0
2020-09	RAN#89	R5-203357	1389	-	F	Correction to Table 4.5.2.2-2-second SMC procedure for Selected EPS NAS security algorithms IE	16.5.0
2020-09	RAN#89	R5-203359	1391	-	F	Correction to Table 4.6.3-141 ReportConfigInterRAT	16.5.0
2020-09	RAN#89	R5-203446	1395	-	F	Add IEs NPN-Identity and NPN-IdentityInfoList	16.5.0
2020-09	RAN#89	R5-203449	1396	-	F	Add IE PLMN-IdentityList2	16.5.0
2020-09	RAN#89	R5-203450	1397	-	F	Add IE PUCCH-ConfigurationList	16.5.0
2020-09	RAN#89	R5-203451	1398	-	F	Add IE PUCCH-SpatialRelationInfo-Id	16.5.0
2020-09	RAN#89	R5-203455	1399	-	F	Corrections to 4.5.1	16.5.0
2020-09	RAN#89	R5-203456	1400	-	F	Updating usages of TS 34.229-1 to TS 34.229-5	16.5.0
2020-09	RAN#89	R5-203467	1401	-	F	Add IE RACH-ConfigCommonTwoStepRA	16.5.0
2020-09	RAN#89	R5-203470	1402	-	F	Add IE RACH-ConfigGenericTwoStepRA	16.5.0
2020-09	RAN#89	R5-203471	1403	-	F	Add IE ReferenceTimeInfo	16.5.0
2020-09	RAN#89	R5-203472	1404	-	F	Add IE RepetitionSchemeConfig	16.5.0
2020-09	RAN#89	R5-203476	1405	-	F	Add IE ReportConfigNR-SL	16.5.0
2020-09	RAN#89	R5-203500	1410	-	F	Update to Table 4.6.3-74: MeasObjectEUTRA	16.5.0
2020-09	RAN#89	R5-203506	1411	-	F	Add IE RSSI-Range	16.5.0

2020-09	RAN#89	R5-203507	1412	-	F	Add IEs SemiStaticChannelAccessConfig and Sensor-LocationInfo	16.5.0
2020-09	RAN#89	R5-203508	1413	-	F	Add IE SI-RequestConfig	16.5.0
2020-09	RAN#89	R5-203509	1414	-	F	Add IEs SPS-ConfigIndex, SPS-PUCCH-AN and SPS-PUCCH-AN-List	16.5.0
2020-09	RAN#89	R5-203510	1415	-	F	Add IE SRS-RSRP-Range	16.5.0
2020-09	RAN#89	R5-203533	1417	-	F	Update to PDSCH-ServingCellConfig	16.5.0
2020-09	RAN#89	R5-203534	1418	-	F	Updates to CellGroupConfig and RNTI-Value for NR-DC	16.5.0
2020-09	RAN#89	R5-203557	1420	-	F	Add IEs UL-DelayValueConfig and UplinkCancellation	16.5.0
2020-09	RAN#89	R5-203575	1422	-	F	Add chapter Positioning System information blocks	16.5.0
2020-09	RAN#89	R5-203577	1423	-	F	Add IEs SIB10, SIB11, SIB12, SIB13 and SIB14	16.5.0
2020-09	RAN#89	R5-203582	1424	-	F	Add messages DedicatedSIBRequest, DLDedicatedMessageSegment, DLInformationTransferMRDC and IABOtherInformation	16.5.0
2020-09	RAN#89	R5-203634	1429	-	F	Introduction of test frequencies for additional Rel-16 EN-DC inter-band configurations	16.5.0
2020-09	RAN#89	R5-203662	1432	-	F	Removal of USIM profile #16	16.5.0
2020-09	RAN#89	R5-203671	1433	-	F	Update of PDSCH-to-HARQ_feedback timing indicator (k1) value	16.5.0
2020-09	RAN#89	R5-203681	1436	-	F	Editorial correction typos in annex C.2.3.2	16.5.0
2020-09	RAN#89	R5-203704	1438	-	F	Correction to Table 4.6.3-87 NZP-CSI-RS-ResourceSet	16.5.0
2020-09	RAN#89	R5-203719	1441	-	F	Add messages LoggedMeasurementConfiguration, MCGFailureInformation and SidelinkUEInformationNR	16.5.0
2020-09	RAN#89	R5-203725	1442	-	F	Add messages UEInformationRequest, UEInformationResponse, ULDedicatedMessageSegment and ULInformationTransferIRAT	16.5.0
2020-09	RAN#89	R5-203729	1443	-	F	Update IE RACH-ConfigGeneric	16.5.0
2020-09	RAN#89	R5-203730	1444	-	F	Scheduling Request Resource config for RRM test cases	16.5.0
2020-09	RAN#89	R5-203731	1445	-	F	OSI scheduling config for RRM test cases	16.5.0
2020-09	RAN#89	R5-203755	1447	-	F	Update IE SchedulingRequestResourceConfig	16.5.0
2020-09	RAN#89	R5-203767	1449	-	F	Addition of test frequencies for new Rel-16 CBW for NR band n77	16.5.0
2020-09	RAN#89	R5-203768	1450	-	F	Addition of test frequencies for new Rel-16 CBW for NR band n78	16.5.0
2020-09	RAN#89	R5-203769	1451	-	F	Introduction of test frequencies for Rel-16 NR band n30	16.5.0
2020-09	RAN#89	R5-203793	1454	-	F	Correction of n29 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-203794	1455	-	F	Introduction of n30 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-203796	1456	-	F	Correction of EN-DC test frequency information for protocol testing	16.5.0
2020-09	RAN#89	R5-203813	1457	-	F	Correction to PUCCH-Config	16.5.0
2020-09	RAN#89	R5-203815	1458	-	F	FR2 PUSCH K2 values alignment to TS 38.214	16.5.0
2020-09	RAN#89	R5-203908	1463	-	F	Corrections on test frequencies for NR FR2 CA band n261	16.5.0
2020-09	RAN#89	R5-203998	1467	-	F	Addition of test frequencies for new Rel-16 CBW 25 and 50 MHz for NR band n1	16.5.0
2020-09	RAN#89	R5-204021	1469	-	F	Correction of n51 and n76 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-204032	1470	-	F	Introduction of n259 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-204038	1471	-	F	Corrections of test frequency tables for EN-DC configuration	16.5.0

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2020-09	RAN#89	R5-204039	1472	-	F	Corrections of test frequency tables for EN-DC configuration DC_(n)71AA	16.5.0
2020-09	RAN#89	R5-204041	1473	-	F	Addition of test channel bandwidths for n1 new CBW in 38.508-1 R16	16.5.0
2020-09	RAN#89	R5-204049	1475	-	F	Correction to the procedure for determination of SSB and CORESET0	16.5.0
2020-09	RAN#89	R5-204052	1478	-	F	PUCCH Resource ID for CSI TCs	16.5.0
2020-09	RAN#89	R5-204053	1479	-	F	Correction to PDCCH-ConfigCommon for performance tests	16.5.0
2020-09	RAN#89	R5-204150	1484	-	F	Update Table 5.4.2.0-2: ServingCellConfigCommon	16.5.0
2020-09	RAN#89	R5-204167	1488	-	F	Corrections of test frequency tables for CA_n260(A-I)	16.5.0
2020-09	RAN#89	R5-204168	1489	-	F	Update Table 7.3.1-4: ServingCellConfigCommon	16.5.0
2020-09	RAN#89	R5-204223	1491	-	F	Update missing SMTC configurations in RRM message contents	16.5.0
2020-09	RAN#89	R5-204238	1493	-	F	Correction to default contents of RRCReestablishmentRequest message	16.5.0
2020-09	RAN#89	R5-204325	1495	-	F	Adding procedure for establishment of multiple additional PDN connections in EPS (S1 mode)	16.5.0
2020-09	RAN#89	R5-204327	1497	-	F	Updates to Test procedure for UE for Tracking area updating / Inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode	16.5.0
2020-09	RAN#89	R5-204329	1499	-	F	Update of 4.5A.2 UE-requested PDU session establishment procedure	16.5.0
2020-09	RAN#89	R5-204330	1500	-	F	Updates Procedure to UE-requested PDU session modification after the first S1 to N1 mode change	16.5.0
2020-09	RAN#89	R5-204331	1501	-	F	Void 4.9.14 Procedure for UE-requested PDU session modification after the first S1 to N1 mode change	16.5.0
2020-09	RAN#89	R5-204346	1502	-	F	Introduction of test frequencies for Rel-16 NR band n259	16.5.0
2020-09	RAN#89	R5-204378	1427	1	F	Correction to NR inter-band CA configurations in FR1	16.5.0
2020-09	RAN#89	R5-204384	1409	1	F	Correction to test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	16.5.0
2020-09	RAN#89	R5-204386	1390	1	F	Correction to Table 4.6.1-17 RRCResume	16.5.0
2020-09	RAN#89	R5-204387	1406	1	F	Corrections to generic procedures for MO and MT speech call establishment	16.5.0
2020-09	RAN#89	R5-204388	1407	1	F	Correction to USIM configurations 7 and 13	16.5.0
2020-09	RAN#89	R5-204389	1408	1	F	Correction to switch off / power off procedures for IMS	16.5.0
2020-09	RAN#89	R5-204390	1421	1	F	Correction of description of NGEN-DC in table 4.5.1-1	16.5.0
2020-09	RAN#89	R5-204391	1425	1	F	Correction to UE-CapabilityRAT-RequestList and UE-CapabilityRequestFilterNR	16.5.0
2020-09	RAN#89	R5-204392	1439	1	F	Addition of Generic Test Procedure for IMS MO SMS in 5GC	16.5.0
2020-09	RAN#89	R5-204393	1440	1	F	Addition of Generic Test Procedure for IMS MT SMS in 5GC	16.5.0
2020-09	RAN#89	R5-204394	1446	1	F	Update IE RLC-BearerConfig	16.5.0
2020-09	RAN#89	R5-204395	1481	1	F	Update IE SIB2	16.5.0
2020-09	RAN#89	R5-204396	1482	1	F	New procedure for PDU Session Release	16.5.0
2020-09	RAN#89	R5-204397	1483	1	F	Update to FreqBandList	16.5.0

2020-09	RAN#89	R5-204398	1490	1	F	Update IE ServingCellConfigCommon	16.5.0
2020-09	RAN#89	R5-204399	1494	1	F	Adding generic procedure E-UTRA RRC_IDLE with unrestricted number of PDN connections	16.5.0
2020-09	RAN#89	R5-204400	1496	1	F	Update of PDU SESSION ESTABLISHMENT ACCEPT for multi PDU-PDN handling	16.5.0
2020-09	RAN#89	R5-204401	1498	1	F	Updates of Test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	16.5.0
2020-09	RAN#89	R5-204507	1371	1	F	Add IEs BH-RLC-ChannelConfig, BH-LogicalChannelIdentity, BH-LogicalChannelIdentity-Ext and BH-RLC-ChannelID	16.5.0
2020-09	RAN#89	R5-204508	1386	1	F	Add IEs MeasResultsSL and MeasTriggerQuantityEUTRA	16.5.0
2020-09	RAN#89	R5-204509	1416	1	F	Modification to InterRAT-Parameters to add the UE capability nr-HO-ToEN-DC-r16	16.5.0
2020-09	RAN#89	R5-204510	1419	1	F	Add IE SSB-PositionQCL-Relation	16.5.0
2020-09	RAN#89	R5-204704	1503	-	F	Adding the test frequency for DC_3A-7A_n78A	16.5.0
2020-09	RAN#89	R5-204706	1504	-	F	Adding the test frequency for DC_28A_n3A	16.5.0
2020-09	RAN#89	R5-204708	1435	1	F	Updating indicator for SUL FR1 test cases	16.5.0
2020-09	RAN#89	R5-204709	1437	1	F	Update frequencyDomainResources and nrofCandidates	16.5.0
2020-09	RAN#89	R5-204751	1428	1	F	Introduction of test frequencies for additional Rel-15 band EN-DC inter-band configurations	16.5.0
2020-09	RAN#89	R5-204752	1460	1	F	Correction to TCI-state related configurations	16.5.0
2020-09	RAN#89	R5-204753	1461	1	F	Correction to CSI-RS related configurations	16.5.0
2020-09	RAN#89	R5-204754	1468	1	F	Update on test frequencies for EN-DC configurations including FR2	16.5.0
2020-09	RAN#89	R5-204755	1485	1	F	Corrections of test frequency tables for CA_n258x	16.5.0
2020-09	RAN#89	R5-204756	1486	1	F	Corrections of test frequency tables for CA_n260x	16.5.0
2020-09	RAN#89	R5-204757	1487	1	F	Corrections of test frequency tables for CA_n261x	16.5.0
2020-09	RAN#89	R5-204758	1492	1	F	Add SSB subcarrier spacing configurations in RRM message contents	16.5.0
2020-09	RAN#89	R5-204800	1362	1	F	Introduction of test frequencies for Rel-16 inter-band EN-DC combinations within FR1	16.5.0
2020-09	RAN#89	R5-204852	1434	1	F	Jumbo CR for update to Demod message contents	16.5.0
2020-09	RAN#89	R5-204896	1370	1	F	Addition of test frequencies for n28 with CBW of 30MHz	16.5.0
2020-09	RAN#89	R5-204899	1448	1	F	Adding default value for IE rbg-Size for demodulation and CSI reporting tests	16.5.0
2020-09	RAN#89	R5-204900	1462	1	F	Introduction of definition of Mid, Low, High test channel bandwidth and removal of NOTES that incorrectly permit UE not to support mandatory BWs	16.5.0
2020-09	RAN#89	R5-204901	1476	1	F	Correction to message configuration for performance tests	16.5.0
2020-10	RAN#89	R5-204325	1495	-	F	Addition of missing Table 4.5A.2B.2.2-2 and specific message contents of R5-204325	16.5.1
2020-12	RAN#90	R5-205093	1507	-	F	Add IE BandCombinationListSidelink	16.6.0
2020-12	RAN#90	R5-205096	1508	-	F	Add IE CarrierAggregationVariant	16.6.0
2020-12	RAN#90	R5-205104	1509	-	F	Add IEs FreqSeparationClassDL-Only and HighSpeedParameters	16.6.0
2020-12	RAN#90	R5-205130	1514	-	F	Add IE PowSav-Parameters	16.6.0

2020-12	RAN#90	R5-205167	1519	-	F	Add IE OLPC-SRS-Pos	16.6.0
2020-12	RAN#90	R5-205172	1521	-	F	Add IEs SidelinkParameters, SON-Parameters and SpatialRelationsSRS-Pos	16.6.0
2020-12	RAN#90	R5-205178	1522	-	F	Add IE UE-BasedPerfMeas-Parameters	16.6.0
2020-12	RAN#90	R5-205181	1523	-	F	Add IE SharedSpectrumChAccessParamsPerBand	16.6.0
2020-12	RAN#90	R5-205186	1524	-	F	Add IEs AbsoluteTimeInfo, AreaConfiguration and BT-NameList	16.6.0
2020-12	RAN#90	R5-205187	1525	-	F	Add IEs IAB-IP-Address, IAB-IP-AddressIndex and IAB-IP-Usage	16.6.0
2020-12	RAN#90	R5-205188	1526	-	F	Add IEs LoggingDuration, LoggingInterval, LogMeasResultListBT and LogMeasResultListWLAN	16.6.0
2020-12	RAN#90	R5-205189	1527	-	F	Add IE PhysCellIdUTRA-FDD	16.6.0
2020-12	RAN#90	R5-205190	1528	-	F	Add IEs Sensor-NameList, TraceReference and UE-MeasurementsAvailable-r16	16.6.0
2020-12	RAN#90	R5-205191	1529	-	F	Add IEs UTRA-FDD-Q-OffsetRange, VisitedCellInfoList and WLAN-NameList	16.6.0
2020-12	RAN#90	R5-205215	1533	-	F	Update chapter 4.5.1 General	16.6.0
2020-12	RAN#90	R5-205249	1537	-	F	Introduction of test frequencies for NR Band n53 signalling testing	16.6.0
2020-12	RAN#90	R5-205250	1538	-	F	Introduction of test channel BWs for NR Band n53	16.6.0
2020-12	RAN#90	R5-205288	1539	-	F	Addition of IE DCP-Config-r16	16.6.0
2020-12	RAN#90	R5-205332	1542	-	F	Updates to generic procedure NR-DC RRC_CONNECTED	16.6.0
2020-12	RAN#90	R5-205334	1544	-	F	Updates to RadioBearerConfig in Table 4.6.3-132	16.6.0
2020-12	RAN#90	R5-205336	1546	-	F	Updates to RRCReconfiguration in Table 4.6.1-13	16.6.0
2020-12	RAN#90	R5-205339	1549	-	F	Updates to RRCReconfiguration-NR-DC in Table 4.8.1-1CA	16.6.0
2020-12	RAN#90	R5-205403	1554	-	F	Addition of PC5 RRC messages for sidelink communication	16.6.0
2020-12	RAN#90	R5-205404	1555	-	F	Addition of sidelink IEs for Uu RRC and PC5 RRC	16.6.0
2020-12	RAN#90	R5-205532	1573	-	F	Clarifications to Annex C and CORESET1	16.6.0
2020-12	RAN#90	R5-205661	1580	-	F	Update of Annex C on calculating test frequencies for RRM testing	16.6.0
2020-12	RAN#90	R5-205701	1588	-	F	Update RF test channel bandwidths for n14 and n30	16.6.0
2020-12	RAN#90	R5-205725	1594	-	F	Correction to test channel bandwidth for NR band n40 and n50	16.6.0
2020-12	RAN#90	R5-205728	1597	-	F	Adding test frequencies for CA_n78B	16.6.0
2020-12	RAN#90	R5-205771	1602	-	F	Addition of test frequencies for a few Rel-16 EN-DC configurations	16.6.0
2020-12	RAN#90	R5-205832	1603	-	F	Connection diagrams for radiated RRM Tests	16.6.0
2020-12	RAN#90	R5-205874	1607	-	F	Correction of test frequency of CA_n41C	16.6.0
2020-12	RAN#90	R5-205875	1608	-	F	Correction of test frequency of CA_n66B	16.6.0
2020-12	RAN#90	R5-205881	1610	-	F	Addition of test frequency for 40MHz of band n38	16.6.0
2020-12	RAN#90	R5-205926	1612	-	F	Correction to nrofRBs IE for CSI-FrequencyOccupation	16.6.0
2020-12	RAN#90	R5-205932	1614	-	F	Addition of IE configuration for ULFPTx to clause 5	16.6.0
2020-12	RAN#90	R5-205937	1615	-	F	Update of 4.9.12 Generic Test Procedure for IMS Emergency call establishment in 5GC without IMS emergency registration and editorials	16.6.0
2020-12	RAN#90	R5-205939	1617	-	F	Update for Flexible PDU-PDN - Default messages	16.6.0

2020-12	RAN#90	R5-205940	1618	-	F	Update for Flexible PDU-PDN - DNN Configurations	16.6.0
2020-12	RAN#90	R5-205997	1621	-	F	Correction of test frequencies for NR band n1	16.6.0
2020-12	RAN#90	R5-205998	1622	-	F	Editorial correction to NR-DC test frequency clause 4.3.1	16.6.0
2020-12	RAN#90	R5-206002	1626	-	F	Correction of FR1 NR band test frequency tables for protocol testing	16.6.0
2020-12	RAN#90	R5-206003	1627	-	F	Correction of FR2 NR band test frequency tables for protocol testing	16.6.0
2020-12	RAN#90	R5-206004	1628	-	F	Change of default SCS for NR CA test frequencies for FR2 protocol testing	16.6.0
2020-12	RAN#90	R5-206008	1632	-	F	Editorial correction to NR CA test frequencies for FR1 protocol testing	16.6.0
2020-12	RAN#90	R5-206019	1637	-	F	Correction of test frequencies for CA_n260 of intra-band non-contiguous A-I	16.6.0
2020-12	RAN#90	R5-206046	1642	-	F	Clarify usage of SSB-Ids for RRM test cases	16.6.0
2020-12	RAN#90	R5-206048	1644	-	F	Clarification on the conditions in DCI format 1_1 table for RRM	16.6.0
2020-12	RAN#90	R5-206060	1645	-	F	Correction to 4.9.17 IMS MO release	16.6.0
2020-12	RAN#90	R5-206061	1646	-	F	Correction to 4.9.18 IMS MT release	16.6.0
2020-12	RAN#90	R5-206065	1650	-	F	Alignment of Rel-16 5GSM messages	16.6.0
2020-12	RAN#90	R5-206066	1651	-	F	Addition of new SSTs	16.6.0
2020-12	RAN#90	R5-206067	1652	-	F	Update IE SIB2	16.6.0
2020-12	RAN#90	R5-206078	1654	-	F	Update IE SIB4	16.6.0
2020-12	RAN#90	R5-206086	1655	-	F	Addition of common message contents for sustained downlink data rate tests	16.6.0
2020-12	RAN#90	R5-206087	1656	-	F	Correction to Default RRM TRS qcl-info and PDCCH TCI State	16.6.0
2020-12	RAN#90	R5-206112	1657	-	F	Update requirements of test equipment for RF test	16.6.0
2020-12	RAN#90	R5-206113	1658	-	F	Update requirements of test equipment for RRM tests	16.6.0
2020-12	RAN#90	R5-206115	1659	-	F	Update requirements of reference test conditions for RRM tests	16.6.0
2020-12	RAN#90	R5-206157	1663	-	F	CSI-measConfig applicable for RRM testing	16.6.0
2020-12	RAN#90	R5-206158	1664	-	F	Editorial update IE CellAccessRelatedInfo-EUTRA-5GC	16.6.0
2020-12	RAN#90	R5-206164	1666	-	F	Editorial update IE CellAccessRelatedInfo-EUTRA-EPC	16.6.0
2020-12	RAN#90	R5-206266	1671	-	F	Corrections to test procedures in subclause 4.9	16.6.0
2020-12	RAN#90	R5-206288	1510	1	F	Corrections to UE-requested PDU session establishment procedure	16.6.0
2020-12	RAN#90	R5-206289	1515	1	F	Update of 4.9.7 Test procedure for UE for Tracking area updating / Inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode	16.6.0
2020-12	RAN#90	R5-206290	1516	1	F	Update of 4.9.9 Test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	16.6.0
2020-12	RAN#90	R5-206291	1517	1	F	Update of 4.5.2 RRC_IDLE	16.6.0
2020-12	RAN#90	R5-206292	1532	1	F	Correction to Test procedure 4.9.5	16.6.0
2020-12	RAN#90	R5-206293	1534	1	F	Corrections to generic procedures regarding IMS usage	16.6.0
2020-12	RAN#90	R5-206294	1540	1	F	Update Generic Test Procedures for IMS MO, MT speech call	16.6.0
2020-12	RAN#90	R5-206295	1543	1	F	Updates to generic procedure parameters in Table 4.5.1-1	16.6.0

2020-12	RAN#90	R5-206296	1616	1	F	Update for Flexible PDU-PDN - Session-Connection establishment	16.6.0
2020-12	RAN#90	R5-206297	1541	1	F	Updates to CellGroupConfig in Table 4.6.3-19	16.6.0
2020-12	RAN#90	R5-206298	1545	1	F	Updates to RadioBearerConfig in Table 4.6.3-132 for NR-DC	16.6.0
2020-12	RAN#90	R5-206299	1547	1	F	Updates to RRCReconfiguration in Table 4.6.1-13 for NR-DC	16.6.0
2020-12	RAN#90	R5-206300	1548	1	F	Updates to RRCReconfigurationComplete	16.6.0
2020-12	RAN#90	R5-206301	1586	1	F	Update IE SSB-ToMeasure	16.6.0
2020-12	RAN#90	R5-206302	1620	1	F	Correction to PDCCH-ConfigCommon	16.6.0
2020-12	RAN#90	R5-206303	1665	1	F	Messages Exceptions corrections for SUL cases	16.6.0
2020-12	RAN#90	R5-206304	1670	1	F	Update to ims-EmergencySupport indication of SIB1	16.6.0
2020-12	RAN#90	R5-206305	1595	1	F	Correction to test frequencies for signalling testing	16.6.0
2020-12	RAN#90	R5-206306	1625	1	F	Introducing test frequencies for CA_n261(2A) for protocol testing	16.6.0
2020-12	RAN#90	R5-206307	1629	1	F	Introduction of NR-DC test frequencies for protocol testing	16.6.0
2020-12	RAN#90	R5-206308	1661	1	F	Update requirements of test equipment for Signalling test	16.6.0
2020-12	RAN#90	R5-206309	1531	1	F	Correction to Table 4.8.1-1A RRCReconfiguration-HO	16.6.0
2020-12	RAN#90	R5-206388	1631	1	F	Introduction of n14 test frequencies for protocol testing	16.6.0
2020-12	RAN#90	R5-206394	1552	1	F	Adding ReferenceTimeInfo IE config for IIoT test	16.6.0
2020-12	RAN#90	R5-206403	1559	1	F	Update to RRC messages and IEs for R16 Mobility Enhancement	16.6.0
2020-12	RAN#90	R5-206407	1553	1	F	Correction to Uu RRC messages and SIBs for sidelink communication	16.6.0
2020-12	RAN#90	R5-206408	1556	1	F	Addition of V2X default configuration_USIM	16.6.0
2020-12	RAN#90	R5-206409	1557	1	F	Addition of V2X default configuration_NAS Messages	16.6.0
2020-12	RAN#90	R5-206419	1575	1	F	Updates to default contents of NAS messages for Rel-16 RACS	16.6.0
2020-12	RAN#90	R5-206420	1576	1	F	Updates to default contents of RRC messages for Rel-16 RACS	16.6.0
2020-12	RAN#90	R5-206426	1649	1	F	Alignment of Rel-16 5GMM messages	16.6.0
2020-12	RAN#90	R5-206427	1668	1	F	Updates to DLDedicatedMessageSegment message	16.6.0
2020-12	RAN#90	R5-206621	1589	1	F	Correction to test frequencies for NR band n34	16.6.0
2020-12	RAN#90	R5-206622	1590	1	F	Correction to test frequencies for NR band n38	16.6.0
2020-12	RAN#90	R5-206623	1591	1	F	Correction to test frequencies for NR band n39	16.6.0
2020-12	RAN#90	R5-206624	1592	1	F	Correction to test frequencies for NR band n40	16.6.0
2020-12	RAN#90	R5-206625	1593	1	F	Correction to test frequencies for NR band n50	16.6.0
2020-12	RAN#90	R5-206626	1609	1	F	Correction of test frequency of CA_n78C	16.6.0
2020-12	RAN#90	R5-206628	1611	1	F	Update to DEMOD message contents	16.6.0
2020-12	RAN#90	R5-206629	1669	1	F	Single PDN and PDU configuration for EN-DC RF testing	16.6.0
2020-12	RAN#90	R5-206630	1619	1	F	Addition of aperiodic CSI-RS reference configuration for RRM test	16.6.0
2020-12	RAN#90	R5-206631	1623	1	F	Introduction of test frequencies for SCS=60 kHz and EN-DC configurations DC_41X_n41A	16.6.0
2020-12	RAN#90	R5-206632	1505	1	F	Message contents for iRAT periodical measurements	16.6.0
2020-12	RAN#90	R5-206633	1638	1	F	Minor corrections of 4.1 for test environment conditions	16.6.0

2020-12	RAN#90	R5-206712	1579	1	F	Addition of UL and DL inter-band CA configurations for several FR1 bands	16.6.0
2020-12	RAN#90	R5-206713	1587	1	F	Update to reference test conditions for R16 EN-DC configuration	16.6.0
2020-12	RAN#90	R5-206714	1639	1	F	Introduction of test frequencies for additional Rel-16 EN-DC inter-band configurations	16.6.0
2020-12	RAN#90	R5-206715	1660	1	F	Introduction of test frequencies for additional Rel-16 EN-DC inter-band configurations	16.6.0
2020-12	RAN#90	R5-206736	1536	1	F	Introduction of test frequencies for NR Band n53	16.6.0
2020-12	RAN#90	R5-206737	1572	1	F	Addition of R16 new channel bandwidths for n3 in 38.508-1	16.6.0
2020-12	RAN#90	R5-206738	1630	1	F	Introduction of test frequencies for n14	16.6.0
2020-12	RAN#90	R5-206739	1636	1	F	Correction of 4.3.1 for test channel bandwidth of NR bands	16.6.0
2020-12	RAN#90	R5-206757	1596	1	F	Adding test frequencies for CA_n40B	16.6.0
2020-12	RAN#90	R5-206758	1598	1	F	Adding test frequencies for CA_n77A-n77A	16.6.0
2020-12	RAN#90	R5-206759	1599	1	F	Adding test frequencies for CA_n78A-n78A	16.6.0
2020-12	RAN#90	R5-206760	1633	1	F	Updating message contents for Uplink carrier switching	16.6.0
2020-12	RAN#90	R5-206790	1581	1	F	Introduction of test frequencies for RRM and NR band n257	16.6.0
2020-12	RAN#90	R5-206791	1582	1	F	Introduction of test frequencies for RRM and NR band n258	16.6.0
2020-12	RAN#90	R5-206792	1583	1	F	Introduction of test frequencies for RRM and NR band n260	16.6.0
2020-12	RAN#90	R5-206793	1584	1	F	Introduction of test frequencies for RRM and NR band n261	16.6.0
2020-12	RAN#90	R5-206794	1585	1	F	Introduction of test frequencies for RRM and NR band n259	16.6.0
2020-12	RAN#90	R5-206820	1667	1	F	Update to quality of quiet zone validation rule for IFF DFF hybrid setup	16.6.0
2020-12	RAN#90	R5-206860	1506	1	F	SSB bitmap correction for RRM test cases	16.6.0
2020-12	RAN#90	R5-206861	1624	1	F	Introducing test frequencies for CA_n261(2A)	16.6.0
2020-12	RAN#90	R5-206862	1643	1	F	Clarify the RF / RRM conditions for default messages	16.6.0
2021-03	RAN#91	R5-210186	1678	-	F	Update global conditions	16.7.0
2021-03	RAN#91	R5-210327	1688	-	F	Update FailureInformation message	16.7.0
2021-03	RAN#91	R5-210328	1689	-	F	Editorial update RRCReconfiguration message	16.7.0
2021-03	RAN#91	R5-210359	1692	-	F	Editorial update SidelinkUEInformationNR message	16.7.0
2021-03	RAN#91	R5-210394	1697	-	F	Editorial update UEAssistanceInformation message	16.7.0
2021-03	RAN#91	R5-210414	1699	-	F	Update UECapabilityEnquiry message	16.7.0
2021-03	RAN#91	R5-210468	1704	-	F	Add new SIB combination for RRM tests with single cell	16.7.0
2021-03	RAN#91	R5-210599	1711	-	F	Editorial correction on numbering of several Tables in 38.508-1	16.7.0
2021-03	RAN#91	R5-210616	1713	-	F	Editorial update DLDedicatedMessageSegment message	16.7.0
2021-03	RAN#91	R5-210623	1714	-	F	Correction to Table 4.6.1-13 RRCReconfiguration	16.7.0
2021-03	RAN#91	R5-210626	1717	-	F	Correction to Table 6.4.1-11 USIM Configuration 11	16.7.0
2021-03	RAN#91	R5-210627	1718	-	F	Correction to Table 4.8.2.1-7 Reference QoS rule 7	16.7.0
2021-03	RAN#91	R5-210687	1719	-	F	Correction to Table 4.6.3-25B CondReconfigId	16.7.0
2021-03	RAN#91	R5-210688	1720	-	F	Correction to Table 4.6.3-25C CondReconfigToAddModList	16.7.0

2021-03	RAN#91	R5-210689	1721	-	F	Correction to Table 4.6.3-25D ConditionalReconfiguration	16.7.0
2021-03	RAN#91	R5-210698	1723	-	F	Addition of IE SL-PreconfigurationNR	16.7.0
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2021-03	RAN#91	R5-210703	1728	-	F	Correction of NR SL IE SL-ConfigDedicatedNR	16.7.0
2021-03	RAN#91	R5-210704	1729	-	F	Correction of NR SL IE SL-FreqConfigCommon	16.7.0
2021-03	RAN#91	R5-210705	1730	-	F	Correction of NR SL IE SL-LogicalChannelConfig	16.7.0
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2021-03	RAN#91	R5-210708	1733	-	F	Correction of NR SL IE SL-RadioBearerConfig	16.7.0
2021-03	RAN#91	R5-210709	1734	-	F	Correction of NR SL IE SL-ResourcePool	16.7.0
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2021-03	RAN#91	R5-211335	1727	1	F	Correction of NR SL IE SL-BWP-PoolConfigCommon	16.7.0
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2021-03	RAN#91	R5-211371	1680	1	F	Correction to test procedure 4.9.7	16.7.0
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2021-03	RAN#91	R5-211374	1712	1	F	Update IE PDCCH-ConfigCommon	16.7.0
2021-03	RAN#91	R5-211375	1715	1	F	Correction to Table 4.6.3-185 SSB-MTC	16.7.0
2021-03	RAN#91	R5-211456	1722	1	F	Correction to Table 4.6.3-142 ReportConfigNR	16.7.0
2021-03	RAN#91	R5-211462	1725	1	F	Addition of SI combination for NR SL	16.7.0
2021-03	RAN#91	R5-211465	1693	1	F	Updates to SIB1 and SIB10 for Rel-16 NPN	16.7.0
2021-03	RAN#91	R5-211466	1694	1	F	Addition of System information combination for Rel-16 NPN	16.7.0
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2021-03	RAN#91	R5-211497	1682	1	F	Editorial update IE PhysicalCellGroupConfig	16.7.0
2021-03	RAN#91	R5-211498	1781	1	F	Introduction of support for URLLC	16.7.0
2021-03	RAN#91	R5-211499	1782	1	F	Addition of QoS for URLLC	16.7.0
2021-03	RAN#91	R5-211548	1695	1	F	Addition of NID information for Rel-16 NPN	16.7.0
2021-03	RAN#91	R5-211604	1794	-	F	Introduction of test frequencies for CBW 70 MHz for n77	16.7.0
2021-03	RAN#91	R5-211605	1795	-	F	Introduction of test frequencies for CBW 70 MHz for n78	16.7.0
2021-03	RAN#91	R5-211660	1677	1	F	Update of EN-DC inter-band configurations in clause 4.3.1	16.7.0
2021-03	RAN#91	R5-211661	1690	1	F	Addition of 3 band EN-DC Test Frequency (DC_1A-8A_n78A, DC_3A-8A_n78A)	16.7.0
2021-03	RAN#91	R5-211662	1691	1	F	Addition of 4 band EN-DC Test Frequency (DC_1A-3A-8A_n78A)	16.7.0
2021-03	RAN#91	R5-211663	1743	1	F	Update PDSCH-TimeDomainResourceAllocationList to consider coreset0 for Demod FR2 test cases	16.7.0
2021-03	RAN#91	R5-211664	1763	1	F	Update message content for PMI reporting test cases	16.7.0
2021-03	RAN#91	R5-211665	1705	1	F	Changes to RRM default message contents	16.7.0

2021-03	RAN#91	R5-211666	1706	1	F	Add SSB Index table for RRM with SECOND_SSB condition	16.7.0
2021-03	RAN#91	R5-211667	1751	1	F	Addition of default configuration of CSI-IM for RRM tests	16.7.0
2021-03	RAN#91	R5-211668	1790	1	F	Specify CSI-SSB-ResourceSet for RRM	16.7.0
2021-03	RAN#91	R5-211669	1702	1	F	Editorial rework of the conditions for CSI-FrequencyOccupation	16.7.0
2021-03	RAN#91	R5-211670	1703	1	F	Align TDD UL DL Common for RRM with TS 38.533	16.7.0
2021-03	RAN#91	R5-211671	1707	1	F	Correct reportOffsetList in CSI-ReportConfig	16.7.0
2021-03	RAN#91	R5-211672	1708	1	F	Specify CSI-SSB-ResourceSet	16.7.0
2021-03	RAN#91	R5-211673	1764	1	F	Clarification on the connection diagram for FR2 demod and RRM test cases	16.7.0
2021-03	RAN#91	R5-211762	1778	1	F	Update of 4.3.1.4.1 for test frequencies for EN-DC band combinations within FR1	16.7.0
2021-03	RAN#91	R5-211763	1779	1	F	Update of 4.3.1.5.1 for test frequencies for EN-DC band combinations including FR2	16.7.0
2021-03	RAN#91	R5-211784	1776	1	F	Update of 4.3.1.0A for mid test channel bandwidth	16.7.0
2021-03	RAN#91	R5-211785	1792	1	F	Correction of test frequencies for NR band n48	16.7.0
2021-03	RAN#91	R5-211855	1758	1	F	Updating the value of P-Max for EN-DC and NR SA test cases	16.7.0
2021-03	RAN#91	R5-211856	1768	1	F	Correction to the message contents for CQI reporting tests in 5.4.2.4	16.7.0
2021-03	RAN#91	R5-211857	1769	1	F	Correction to the message contents for PMI reporting tests in 5.4.2.5	16.7.0

History

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