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Technical Specification

Universal Mobile Telecommunications System (UMTS);
LTE;
User Equipment (UE) conformance specification;
Radio transmission and reception (FDD);
Part 2: Implementation Conformance Statement (ICS)
(3GPP TS 34.121-2 version 8.5.0 Release 8)

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Foreword

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The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Contents

Foreword

This Technical Specification (TS) 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:

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x the first digit:

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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.

Introduction

The present document is part 2 of a multi-parts TS:

3GPP TS 34.121-1 [20]: User Equipment (UE) conformance specification; Radio transmission and reception (FDD); Part 1: Conformance specification.

3GPP TS 34.121-2: User Equipment (UE) conformance specification; Radio transmission and reception (FDD); Part 2: Implementation Conformance Statement (ICS).

NOTE: TS 34.121 has been converted to multipart TS with version 7.0.0. Previous versions are a single part standard 34.121.

1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 3rd Generation User Equipment (UE), in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [2] and ETS 300 406 [3].

The present document also specifies a recommended applicability statement for the test cases included in TS 34.121. These applicability statements are based on the features implemented in the UE.

Special conformance testing functions can be found in 3GPP TS 34.109 [45] and the common test environments are included in 3GPP TS 34.108 [44].

The present document is valid for UE implemented according to 3GPP releases starting from Release 99 up to the Release indicated on the cover page of the present document.

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*.
  - For a Release 1999 UE, references to 3GPP documents are to version 3.x.y, when available.
  - For a Release 4 UE, references to 3GPP documents are to version 4.x.y, when available.
  - For a Release 5 UE, references to 3GPP documents are to version 5.x.y, when available.
  - For a Release 6 UE, references to 3GPP documents are to version 6.x.y, when available.
  - For a Release 7 UE, references to 3GPP documents are to version 7.x.y, when available.
  - For a Release 8 UE, references to 3GPP documents are to version 8.x.y, when available.

[1] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[2] ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[3] ETSI ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[4] 3GPP TR 21.904: "UE capability requirements".

[5] 3GPP TS 22.002: "Circuit Bearer Services (BS) supported by Public Land Mobile Network (PLMN)".

[6] 3GPP TS 22.060: "General Packet Radio Service (GPRS); Service description, Stage 1".

[7] 3GPP TS 22.105: "Services and Service Capabilities".

[8] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core Network Protocols - Stage 3".

[9] 3GPP TS 25.101: "UE radio Transmission and Reception (FDD)".

[10] 3GPP TS 25.102: "UTRA (UE) TDD; Radio Transmission and Reception".

[11] 3GPP TS 25.201: "Physical layer - General Description".

[12] 3GPP TS 25.306: "UE Radio Access Capabilities".

[13] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".

[14] 3GPP TS 25.322: "Radio Link Control (RLC) protocol specification".

[15] 3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) specification".

[16] 3GPP TS 25.324: "Broadcast/Multicast Control BMC".

[17] 3GPP TS 25.331: "Radio Ressource Control (RRC) protocol specification".

[18] 3GPP TS 34.108: "Common Test Environments for User Equipment (UE) Conformance Testing".

[19] 3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".

[20] 3GPP TS 34.121-1: "User Equipment (UE) Conformance Specification, Radio transmission and reception (FDD); Part 1: Conformance specification".

[21] 3GPP TS 34.122: "Terminal Conformance Specification, Radio Transmission and Reception (TDD)".

[22] 3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[23] 3GPP TS 34.123-2: " User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[24] 3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract Test Suites".

[25] 3GPP TS 34.124: "ElectroMagnetic Compatibility (EMC) for Mobile terminals and ancillary equipment".

[26] 3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification ".

[27] 3GPP TS 51.010-2: "Mobile Station (MS) conformance specification; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

- terms defined in the relevant 3GPP core specifications (see normative references);
- terms defined in ISO/IEC 9646-1 [1] and in ISO/IEC 9646-7 [2].

In particular, the following terms defined in ISO/IEC 9646-1 [1] apply:

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented
The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

3.2 Abbreviations

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

ICS	Implementation Conformance Statement
SCS	System Conformance Statement
UEUT	User Equipment Under Test

4 Recommended test case applicability

The applicability of each individual test is identified in the table 1. This is just a recommendation based on the purpose for which the test case was written.

The applicability of every test is formally expressed by the use of Boolean expression that are based on parameters (ICS) included in annex A of the present document.

The columns in table 1 have the following meaning:

Clause

The clause column indicates the clause number in TS 34.121-1 [20] that contains the test body.

Title

The title column describes the name of the test.

Release

The release column indicates the earliest release from which each testcase is applicable, except if otherwise stated of an individual test case.

Applicability

The following notations are used for the applicability column:

R	recommended - the test case is recommended
O	optional – the test case is optional
N/A	not applicable - in the given context, the test case is not recommended.
Ci	conditional - the test is recommended ("R") or not ("N/A") depending on the support of other items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." is used to avoid ambiguities.

Comments

This column contains a verbal description of the condition included in the applicability column.

Table 1: Applicability of tests

Clause	Title	Release	Applicability	Comments
RF Test cases				
5.2	Maximum Output Power	R99	R	UEs supporting FDD
5.2A	Maximum Output Power with HS-DPCCH	Rel-5 only	C_RF02	UEs supporting FDD and HS-PDSCH
5.2AA	Maximum Output Power with HS-DPCCH (Release 6 and later)	Rel-6	C_RF24	UEs supporting FDD and HS-PDSCH and not E-DPDCH
5.2B	Maximum Output Power with HS-DPCCH and E-DCH	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
5.2E	UE Relative Code Domain Power Accuracy for HS-DPCCH and E-DCH with 16QAM	Rel-7	C_RF43	UEs supporting FDD and HS-PDSCH, E-DPDCH and supporting 16QAM (E-DCH Category 7)
5.3	Frequency Error	R99	R	UEs supporting FDD
5.4.1	Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Open Loop Power Control in the Uplink	R99	R	UEs supporting FDD
5.4.2	Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Inner Loop Power Control in the Uplink	R99	R	UEs supporting FDD
5.4.3	Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Minimum Output Power	R99	R	UEs supporting FDD
5.4.4	Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Out-of-synchronisation handling of output power	R99	R	UEs supporting FDD
5.5.1	Transmit ON/OFF Power / Transmit OFF Power	R99	R	UEs supporting FDD
5.5.2	Transmit ON/OFF Power / Transmit ON/OFF Time mask	R99	R	UEs supporting FDD
5.6	Change of TFC	R99	R	UEs supporting FDD
5.7	Power setting in uplink compressed mode	R99	C_RF01	UEs supporting FDD and uplink compressed mode.
5.7A	HS-DPCCH	Rel-5	C_RF02	UEs supporting FDD and HS-PDSCH
5.8	Occupied Bandwidth (OBW)	R99	R	UEs supporting FDD
5.9	Spectrum emission mask	R99	R	UEs supporting FDD
5.9A	Spectrum Emission Mask with HS-DPCCH	Rel-5	C_RF02	UEs supporting FDD and HS-PDSCH
5.9B	Spectrum Emission Mask with E-DCH	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
5.10	Adjacent Channel Leakage Power Ratio (ACLR)	R99	R	UEs supporting FDD
5.10A	Adjacent Channel Leakage Power Ratio (ACLR) with HS-DPCCH	Rel-5	C_RF02	UEs supporting FDD and HS-PDSCH
5.10B	Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
5.11	Spurious Emissions	R99	R	UEs supporting FDD
5.12	Transmit Intermodulation	R99	R	UEs supporting FDD

Clause	Title	Release	Applicability	Comments
5.13.1	Transmit Modulation / Error Vector Magnitude (EVM)	R99	R	UEs supporting FDD
5.13.1A	Error Vector Magnitude (EVM) with HS-DPCCH	Rel-5 only	C_RF02	UEs supporting FDD and HS-PDSCH
5.13.1AA	Error Vector Magnitude (EVM) and phase discontinuity with HS-DPCCH	Rel-6	C_RF02	UEs supporting FDD and HS-PDSCH
5.13.1AAA	EVM and IQ origin offset for HS-DPCH and E-DCH with 16 QAM	Rel-7	C_RF43	UEs supporting FDD and HS-PDSCH, E-DPDCH and supporting 16QAM (E-DCH Category 7)
5.13.2	Transmit Modulation / Peak code domain error	R99	C_RF11	UEs supporting FDD and uplink RMC 768 kbps
5.13.2C	Relative Code Domain Error for HS-DPCCH and E-DCH with 16QAM	Rel-7	C_RF43	UEs supporting FDD and HS-PDSCH, E-DPDCH and supporting 16QAM (E-DCH Category 7)
5.13.3	Transmit Modulation / UE phase discontinuity	Rel-5	R	UEs supporting FDD
5.13.4	Transmit Modulation PRACH preamble quality	Rel-5	R	UEs supporting FDD
6.2	Receiver Characteristics / Reference Sensitivity Level	R99	R	UEs supporting FDD
6.3	Receiver Characteristics / Maximum Input Level	R99	R	UEs supporting FDD
6.3A	Maximum Input Level for HS-PDSCH Reception (16QAM)	Rel-5	C_RF26	UEs supporting FDD and HS-PDSCH and supporting 16QAM (HS-DSCH Categories 1-10)
6.3B	Maximum Input Level for HS-PDSCH Reception (64QAM)	Rel-7	C_RF35	UEs supporting FDD and HS-PDSCH and supporting 64QAM (HS-DSCH Categories 13, 14)
6.4	Receiver Characteristics Adjacent Channel Selectivity (ACS) (Rel-99 and Rel-4)	R99 and Rel-4 only	R	UEs supporting FDD
6.4A	Receiver Characteristics Adjacent Channel Selectivity (ACS) (Rel-5 and later releases)	Rel-5	R	UEs supporting FDD
6.5	Blocking Characteristics / In-band blocking	R99	R	UEs supporting FDD
	Blocking Characteristics / Out of-band blocking			
	Blocking Characteristics / Narrow band blocking		C_RF03	UEs supporting FDD and Band II or Band III or Band IV or Band V or Band VIII or Band X or Band XII or Band XIII or Band XIV
6.6	Spurious Response	R99	R	UEs supporting FDD
6.7	Intermodulation Characteristics / Intermodulation	R99	R	UEs supporting FDD
	Intermodulation Characteristics / Narrow band intermodulation		C_RF03	UEs supporting FDD and Band II or Band III or Band IV or Band V or Band VIII or Band X or Band XII or Band XIII or Band XIV
6.8	Spurious Emissions	R99	R	UEs supporting FDD
7.2.1	Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 1	R99	R	UEs supporting FDD
	Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 2		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 3		C_RF09	UEs supporting FDD and downlink RMC 144 kbps

Clause	Title	Release	Applicability	Comments
	Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 4		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
7.3.1	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 1	R99	R	UEs supporting FDD
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 2		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 3		C_RF09	UEs supporting FDD and downlink RMC 144 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 4		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 5		R	UEs supporting FDD
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 6		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 7		C_RF09	UEs supporting FDD and downlink RMC 144 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 8		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 9		R	UEs supporting FDD
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 10		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 11		C_RF09	UEs supporting FDD and downlink RMC 144 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 12		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 13		R	UEs supporting FDD
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 14		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 15		C_RF09	UEs supporting FDD and downlink RMC 144 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 16		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 17		R	UEs supporting FDD
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 18		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 19		C_RF09	UEs supporting FDD and downlink RMC 144 kbps
	Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 20		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
7.4.1	Demodulation of DCH in Moving Propagation conditions / Single Link Performance / Test 1	R99	R	UEs supporting FDD

Clause	Title	Release	Applicability	Comments
	Demodulation of DCH in Moving Propagation conditions / Single Link Performance / Test 2		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
7.5.1	Demodulation of DCH in Birth-Death Propagation conditions / Single Link Performance / Test 1	R99	R	UEs supporting FDD
	Demodulation of DCH in Birth-Death Propagation conditions / Single Link Performance / Test 2		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
7.5A.1	Demodulation of DCH in high speed train condition/ Sigle Link Performance/ Test1	Rel-7	R	UEs supporting FDD
7.6.1	Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in open-loop transmit diversity mode / Test 1	R99	R	UEs supporting FDD
7.6.2	Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in closed loop transmit diversity mode / Test 1	R99	R	UEs supporting FDD
	Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in closed loop transmit diversity mode / Test 2	R99 and Rel-4 only	R	UEs supporting FDD
7.6.3	Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 1	R99 and Rel-4 only	R	UEs supporting FDD
	Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 2			
	Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 3			
	Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 4			
7.7.1	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 1 (Release 5 and earlier)	R99, Rel-4 and Rel-5 only	R	UEs supporting FDD
	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 2 (Release 5 and earlier)		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover) / Test 3 (Release 5 and earlier)		C_RF09	UEs supporting FDD and downlink RMC 144 kbps
	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover) / Test 4 (Release 5 and earlier)		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
7.7.1A	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 1 (Release 6 and later)	Rel-6	R	UEs supporting FDD

Clause	Title	Release	Applicability	Comments
	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 2 (Release 6 and later)		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover) / Test 3 (Release 6 and later)		C_RF09	UEs supporting FDD and downlink RMC 144 kbps
	Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover) / Test 4 (Release 6 and later)		C_RF10	UEs supporting FDD and downlink RMC 384 kbps
7.7.2	Demodulation in Handover conditions / Combining of TPC commands from radio links of different radio link sets / Test 1	R99	R	UEs supporting FDD
	Demodulation in Handover conditions / Combining of TPC commands from radio links of different radio link sets / Test 2			
7.7.3	Demodulation in Handover conditions / Combining of reliable TPC commands from radio links of different radio link sets / Test 1	R99	R	UEs supporting FDD
	Demodulation in Handover conditions / Combining of reliable TPC commands from radio links of different radio link sets / Test 2			
7.8.1	Power control in downlink / Power control in the downlink, constant BLER target / Test 1 (Release 5 and earlier)	R99, Rel-4 and Rel-5 only	R	UEs supporting FDD
7.8.1A	Power control in downlink / Power control in the downlink, constant BLER target / Test 1 (Release 6 and later)	Rel-6	R	UEs supporting FDD
	Power control in downlink / Power control in the downlink, constant BLER target / Test 2 (Release 6 and later)	Rel-6	R	UEs supporting FDD
	Power control in downlink / Power control in the downlink, constant BLER target / Test 3 (Release 6 and later)	Rel-6	C_RF34	UEs supporting FDD and downlink RMC2 64 kbps
	Power control in downlink / Power control in the downlink, constant BLER target / Test 4 (Release 6 and later)	Rel-6	C_RF34	UEs supporting FDD and downlink RMC2 64 kbps
7.8.2	Power control in downlink / Power control in the downlink, initial convergence / Test 1	R99	R	UEs supporting FDD
	Power control in downlink / Power control in the downlink, initial convergence / Test 2			
	Power control in downlink / Power control in the downlink, initial convergence / Test 3		C_RF08	UEs supporting FDD and downlink RMC 64 kbps
	Power control in downlink / Power control in the downlink, initial convergence / Test 4			
7.8.3	Power control in downlink Power control in the downlink, wind up effects / Test 1 (Release 5 and earlier)	R99, Rel-4 and Rel-5 only	R	UEs supporting FDD

Clause	Title	Release	Applicability	Comments
7.8.3A	Power control in downlink Power control in the downlink, wind up effects / Test 1 (Release 6 and later)	Rel-6	R	UEs supporting FDD
7.8.4	Power control in the downlink, different transport formats	Rel-5	R	UEs supporting FDD
7.8.5	Power control in the downlink for F-DPCH	Rel-6	C_RF39	UEs supporting FDD and HS-PDSCH and F-DPCH
7.9.1	Downlink compressed mode / Single link performance / Test 1 (Release 5 and earlier)	R99, Rel-4 and Rel-5 only	C_RF04	UEs supporting FDD and downlink compressed mode
	Downlink compressed mode / Single link performance / Test 2 (Release 5 and earlier)			
	Downlink compressed mode / Single link performance / Test 3 (Release 5 and earlier)	R99 and Rel-4 only	C_RF04	UEs supporting FDD and downlink compressed mode
	Downlink compressed mode / Single link performance / Test 4 (Release 5 and earlier)			
7.9.1A	Downlink compressed mode / Single link performance / Test 1 (Release 6 and later)	Rel-6	C_RF04	UEs supporting FDD and downlink compressed mode
	Downlink compressed mode / Single link performance / Test 2 (Release 6 and later)			
7.10	Blind transport format detection / Test 1	R99	R	UEs supporting FDD
	Blind transport format detection / Test 2			
	Blind transport format detection / Test 3			
	Blind transport format detection / Test 4			
	Blind transport format detection / Test 5			
	Blind transport format detection / Test 6			
7.11	Demodulation of Paging Channel (PCH)	Rel-4	C_RF12	UEs supporting FDD Packet Switched Data
7.12	Detection of Acquisition Indicator (AI)	Rel-4	R	UEs supporting FDD
8.2.2.1	Cell Re-Selection - Scenario 1: Single carrier case	R99	R	UEs supporting FDD
8.2.2.2	Cell Re-Selection - Scenario 2: Multi carrier case	R99	R	UEs supporting FDD
8.2.3.1	UTRAN to GSM Cell Re-Selection - Scenario 1: Both UTRA and GSM level changed	R99	C_RF05	UEs supporting FDD and GSM
8.2.3.2	UTRAN to GSM Cell Re-Selection - Scenario 2: Only UTRA level changed	R99	C_RF05	UEs supporting FDD and GSM
8.2.3.3	UTRAN to GSM Cell Re-Selection - Scenario 3: HCS with only UTRA level changed	Rel-6	C_RF05	UEs supporting FDD and GSM
8.2.4	FDD/TDD Cell Re-selection	R99	C_RF06	UE supporting FDD and TDD
8.3.1	UTRAN Connected Mode Mobility FDD/FDD Soft Handover	R99	R	UEs supporting FDD
8.3.2.1	UTRAN Connected Mode Mobility - FDD/FDD Hard Handover to intra-frequency cell	R99	R	UEs supporting FDD
8.3.2.2	FDD/FDD Hard Handover to inter-frequency cell	R99	R	UEs supporting FDD
8.3.3	FDD/TDD Handover	R99 and Rel-4 only	C_RF06	UEs supporting FDD and TDD

Clause	Title	Release	Applicability	Comments
8.3.4	Inter-system Handover from UTRAN FDD to GSM	R99	C_RF27	UEs supporting FDD and GSM and supporting speech.
8.3.5.1	Cell Re-selection in CELL_FACH - One frequency present in neighbour list	R99	R	UEs supporting FDD
8.3.5.2	Cell Re-selection in CELL_FACH - Two frequencies present in the neighbour list	R99	R	UEs supporting FDD
8.3.5.3	Cell Re-selection in CELL_FACH - Cell Reselection to GSM	R99	C_RF07	UEs supporting FDD Packet Switched Data and GPRS
8.3.5.4	Cell Reselection during an MBMS session, one frequency present in neighbour list	Rel-6	C_RF29	UEs supporting FDD and MBMS
8.3.6.1	Cell Re-selection in CELL_PCH - One frequency present in the neighbour list	R99	C_RF12	UEs supporting FDD Packet Switched Data
8.3.6.2	Cell Re-selection in CELL_PCH - Two frequencies present in the neighbour list	R99	C_RF12	UEs supporting FDD Packet Switched Data
8.3.6.3	Cell re-selection during an MBMS session, one UTRAN inter-frequency and 2 GSM cells present in the neighbour list	Rel-6	C_RF30	UEs supporting FDD and MBMS and GSM
8.3.7.1	Cell Re-selection in URA_PCH - One frequency present in the neighbour list	R99	C_RF12	UEs supporting FDD Packet Switched Data
8.3.7.2	Cell Re-selection in URA_PCH - Two frequencies present in the neighbour list	R99	C_RF12	UEs supporting FDD Packet Switched Data
8.3.8	Serving HS-DSCH cell change	Rel-6	C_RF02	UEs supporting FDD and HS-PDSCH
8.4.1.1	RRC Connection Control / RRC Re-establishment delay - Test 1	R99	R	UEs supporting FDD
8.4.1.2	RRC Connection Control / RRC Re-establishment delay - Test 2	R99	R	UEs supporting FDD
8.4.2.1	Random Access - Correct behaviour when receiving an ACK	R99, Rel-4 and Rel-5 only	R	UEs supporting FDD
8.4.2.1A	Random Access - Correct behaviour when receiving an ACK – Release 6	Rel-6	R	UEs supporting FDD
8.4.2.2	Random Access - Correct behaviour when receiving an NACK	R99	R	UEs supporting FDD
8.4.2.3	Random Access - Correct behaviour at Time-out	R99	R	UEs supporting FDD
8.4.2.4	Random Access - Correct behaviour when reaching maximum transmit power	R99	R	UEs supporting FDD
8.4.3.1	Transport format combination selection in UE - Interactive or Background, PS, UL: 64 kbps	R99	C_RF13	UEs supporting FDD and downlink RMC 64 kbps and uplink RMC 64 kbps
8.4.4.1	E-TFC restriction in UE - 10ms TTI E-DCH E-TFC restriction	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
8.4.4.2	E-TFC restriction in UE – 2ms TTI E-DCH E-TFC restriction	Rel-6	C_RF28	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI
8.5.1	Timing and Signalling Characteristics - UE Transmit Timing	R99	R	UEs supporting FDD

Clause	Title	Release	Applicability	Comments
8.6.1.1	UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting in AWGN propagation conditions	R99 only	R	UEs supporting FDD
8.6.1.1A	UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting in AWGN propagation conditions	Rel-4	R	UEs supporting FDD
8.6.1.2	UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of multiple neighbours in AWGN propagation condition	R99 only	R	UEs supporting FDD
8.6.1.2A	UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of multiple neighbours in AWGN propagation condition	Rel-4	R	UEs supporting FDD
8.6.1.3	UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of two detectable neighbours in AWGN propagation condition	R99 only	R	UEs supporting FDD
8.6.1.3A	UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of two detectable neighbours in AWGN propagation condition	Rel-4	R	UEs supporting FDD
8.6.1.4	Void			
8.6.1.4A	UE Measurements Procedures / FDD intra frequency measurements - Correct reporting of neighbours in fading propagation condition	Rel-4	R	UEs supporting FDD
8.6.1.5	UE Measurements Procedures / FDD intra frequency measurements – Event triggered reporting of multiple neighbour cells in Case 1 fading condition	Rel-5	R	UEs supporting FDD
8.6.1.6	UE Measurements Procedures / FDD intra frequency measurements – Event triggered reporting of multiple neighbour cells in Case 3 fading condition	Rel-5	R	UEs supporting FDD
8.6.2.1	FDD inter frequency measurements - Correct reporting of neighbours in AWGN propagation condition (Release 5 and earlier)	R99, Rel-4 and Rel-5 only	R	UEs supporting FDD
8.6.2.1A	FDD inter frequency measurements - Correct reporting of neighbours in AWGN propagation condition (Release 6 and later)	Rel-6	R	UEs supporting FDD
8.6.2.2	FDD inter frequency measurements - Correct reporting of neighbours in fading propagation condition (Release 5 only)	Rel-5 only	R	UEs supporting FDD
8.6.2.2A	FDD inter frequency measurements - Correct reporting of neighbours in fading propagation condition (Release 6 and later)	Rel-6	R	UEs supporting FDD
8.6.2.3	FDD inter frequency measurements – Correct reporting of neighbours in fading propagation condition using TGL1= 14	Rel-6	R	UEs supporting FDD

Clause	Title	Release	Applicability	Comments
8.6.3.1	TDD measurements - Correct reporting of TDD neighbours in AWGN propagation condition	R99 and Rel-4 only	C_RF06	UEs supporting FDD and TDD
8.6.4.1	GSM measurements - Correct reporting of GSM neighbours in AWGN propagation condition	R99	C_RF05	UEs supporting FDD and GSM
8.6.5.1	Combined Interfrequency and GSM measurements - Correct reporting of neighbours in AWGN propagation condition	Rel-6	C_RF05	UEs supporting FDD and GSM
8.7.1.1.1	Measurements Performance Requirements / CPICH RSCP / Intra frequency measurements accuracy - Absolute accuracy requirement	R99	R	UEs supporting FDD
8.7.1.1.2	Measurements Performance Requirements / CPICH RSCP / Intra frequency measurements accuracy - Relative accuracy requirement	R99	R	UEs supporting FDD
8.7.1.2.1	Inter frequency measurement accuracy - Relative accuracy requirement	R99	R	UEs supporting FDD
8.7.2.1.1	CPICH Ec/Io / Intra frequency measurements accuracy - Absolute accuracy requirement	R99	R	UEs supporting FDD
8.7.2.1.2	CPICH Ec/Io / Intra frequency measurements accuracy - Relative accuracy requirement	R99	R	UEs supporting FDD
8.7.2.2.1	Inter frequency measurement accuracy / Absolute accuracy requirement		Void	
8.7.2.2.2	Inter frequency measurement accuracy / Relative accuracy requirement	R99	R	UEs supporting FDD
8.7.3.1	UTRA Carrier RSSI - Absolute measurement accuracy requirement	R99	R	UEs supporting FDD
8.7.3.2	UTRA Carrier RSSI - Relative measurement accuracy requirement	Rel-6	R	UEs supporting FDD
8.7.3A	GSM Carrier RSSI	R99	C_RF05	UE supporting FDD and GSM
8.7.3B	Transport channel BLER		Void	
8.7.3C	UE transmitted power (R99 and Rel-4 only)	R99 and Rel-4 only	R	UEs supporting FDD
8.7.3D	UE transmitted power (Rel-5 and later)	Rel-5	R	UEs supporting FDD
8.7.4.1	SFN-CFN observed time difference - Intra frequency measurement requirement	R99	R	UEs supporting FDD
8.7.4.2	SFN-CFN observed time difference - Inter frequency measurement requirement	R99	R	UEs supporting FDD
8.7.5.1	SFN-SFN observed time difference type 1	R99	R	UEs supporting FDD
8.7.5.2	SFN-SFN observed time difference type 2		Void	
8.7.6.1	UE Rx-Tx time difference type 1 (Release 5 and earlier)	R99, Rel-4 and Rel-5 only	R	UEs supporting FDD
8.7.6.1A	UE Rx-Tx time difference type 1 (Release 6 and later)	Rel-6	R	UEs supporting FDD
8.7.6.2	UE Rx-Tx time difference type 2		Void	
8.7.7	Observed time difference to GSM cell	R99 and Rel-4 only	Void	

Clause	Title	Release	Applicability	Comments
8.7.8.1	P-CCPCH RSCP Absolute measurement accuracy	R99 and Rel-4 only	C_RF06	UEs supporting FDD and TDD
8.7.9	UE Transmission Power Headroom	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
9.2.1A	Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3	Rel-5	C_RF14	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-6
9.2.1B	Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - QPSK, Fixed Reference Channel (FRC) H-Set 4/5	Rel-5	C_RF15	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 11-12
9.2.1C	Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3	Rel-6	C_RF16a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-8, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
		Rel-7	C_RF44a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
9.2.1D	Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3	Rel-6	C_RF17	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-8 and Enhanced performance requirements type 1.
9.2.1E	Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3	Rel-6	C_RF18	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-8 and Enhanced performance requirements type 1.
		Rel-7	C_RF48	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, 13-14 and Enhanced performance requirements type 1.
9.2.1F	Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3	Rel-6	C_RF18	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-8 and Enhanced performance requirements type 2
		Rel-7	C_RF49	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, 13-14 and Enhanced performance requirements type 2.
9.2.1G	Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3	Rel-7	C_RF47	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-18 and Enhanced performance requirements type 3
9.2.1H	Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 2 - 64QAM, Fixed Reference Channel (FRC) H-Set 8	Rel-7	C_RF41	UEs supporting FDD and HS-PDSCH and supporting 64QAM (HS-DSCH Categories 13, 14) and Enhanced performance requirements type 2

Clause	Title	Release	Applicability	Comments
9.2.1I	Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8	Rel-7	C_RF42	UEs supporting FDD and HS-PDSCH and supporting 64QAM (HS- DSCH Categories 13, 14, 17, 18) and Enhanced performance requirements type 3
9.2.1J	Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10	Rel-8	C_RF49	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, 13-14 and Enhanced performance requirements type 2
9.2.1K	Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10	Rel-8	C_RF50	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, 13-18 and Enhanced performance requirements type 3
9.2.2A	Demodulation of HS-DSCH (Fixed Reference Channel) – Open Loop Diversity Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3	Rel-5	C_RF14a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-6, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
		Rel-6	C_RF16a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-8, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
		Rel-7	C_RF44a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
9.2.2B	Demodulation of HS-DSCH (Fixed Reference Channel) – Open Loop Diversity Performance - QPSK, Fixed Reference Channel (FRC) H-Set 4/5	Rel-5	C_RF15	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 11-12
9.2.2C	Demodulation of HS-DSCH (Fixed Reference Channel) – Open Loop Diversity Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3	Rel-6	C_RF17	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-8 and Enhanced performance requirements type 1
		Rel-7	C_RF45	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10 and Enhanced performance requirements type 1.
9.2.2D	Demodulation of HS-DSCH (Fixed Reference Channel) – Open Loop Diversity Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3	Rel-6	C_RF18	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-8 and Enhanced performance requirements type 2
		Rel-7	C_RF49	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, 13-14 and Enhanced performance requirements type 2.
9.2.2E	Demodulation of HS-DSCH (Fixed Reference Channel) – Open Loop Diversity Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3	Rel-7	C_RF51	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-16 and Enhanced performance requirements type 3

Clause	Title	Release	Applicability	Comments
9.2.3A	Demodulation of HS-DSCH (Fixed Reference Channel) – Closed Loop Diversity Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3	Rel-5	C_RF14a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-6, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
		Rel-6	C_RF16a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-8, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
		Rel-7	C_RF44a	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, but not supporting the optional enhanced performance requirements types 1, 2 or 3.
9.2.3B	Demodulation of HS-DSCH (Fixed Reference Channel) – Closed Loop Diversity Performance - QPSK, Fixed Reference Channel (FRC) H-Set 4/5	Rel-5	C_RF15	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 11-12
9.2.3C	Demodulation of HS-DSCH (Fixed Reference Channel) – Closed Loop Diversity Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3	Rel-6	C_RF17	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-8 and Enhanced performance requirements type 1
		Rel-7	C_RF45	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10 and Enhanced performance requirements type 1.
9.2.3D	Demodulation of HS-DSCH (Fixed Reference Channel) – Closed Loop Diversity Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3	Rel-6	C_RF18	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-8 and Enhanced performance requirements type 2
		Rel-7	C_RF49	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, 13-14 and Enhanced performance requirements type 2.
9.2.3E	Demodulation of HS-DSCH (Fixed Reference Channel) – Closed Loop Diversity Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3	Rel-6	C_RF52	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-8 and Enhanced performance requirements type 3
		Rel-7	C_RF53	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10 and Enhanced performance requirements type 3
9.2.4A	MIMO Performance – Fixed Reference Channel (FRC) H-Set 9	Rel-7	C_RF38	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 and 16
9.3.1	Reporting of Channel Quality Indicator - Single Link Performance - AWGN Propagation Conditions	Rel-5	C_RF40	UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12
9.3.2	Reporting of Channel Quality Indicator - Single Link Performance - Fading Propagation Conditions	Rel-5	C_RF40	UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12
9.3.3	Reporting of Channel Quality Indicator - Open Loop Diversity Performance - AWGN Propagation Conditions	Rel-6	C_RF40	UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12

Clause	Title	Release	Applicability	Comments
9.3.4	Reporting of Channel Quality Indicator - Open Loop Diversity Performance - Fading Propagation Conditions	Rel-6	C_RF40	UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12
9.3.5	Reporting of Channel Quality Indicator - Closed Loop Diversity Performance - AWGN Propagation Conditions	Rel-6	C_RF40	UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12
9.3.6	Reporting of Channel Quality Indicator - Closed Loop Diversity Performance - Fading Propagation Conditions	Rel-6	C_RF40	UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12
9.3.7A	Reporting of Channel Quality Indicator - MIMO Single Stream Conditions	Rel-7	C_RF38	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 and 16
9.3.7B	Reporting of Channel Quality Indicator - MIMO Dual Stream Conditions	Rel-7	C_RF38	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 and 16
9.4.1	HS-SCCH Detection Performance - Single Link Performance	Rel-5	C_RF02	UEs supporting FDD and HS-PDSCH
9.4.1A	HS-SCCH Detection Performance - Single Link Performance – Enhanced Performance Requirements Type 1	Rel-6	C_RF21	UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 1 or type 3
9.4.2	HS-SCCH Detection Performance - Open Loop Diversity Performance	Rel-6	C_RF02	UEs supporting FDD and HS-PDSCH
9.4.2A	HS-SCCH Detection Performance - Open Loop Diversity Performance - Enhanced Performance Requirements Type 1	Rel-6	C_RF21	UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 1 or type 3
9.4.3	HS-SCCH Detection Performance - HS-SCCH Type 3 Performance	Rel-7	C_RF38	UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 and 16
9.5.1	HS-SCCH-less demodulation of HS-DSCH	Rel-7	C_RF36	UEs supporting FDD and HS-SCCH-less HS-DSCH
9.5.1A	HS-SCCH-less demodulation of HS-DSCH - Enhanced Performance Requirements Type 1	Rel-7	C_RF37	UEs supporting FDD and HS-SCCH-less HS-DSCH and Enhanced performance requirements type 1
10.2.1.1	Detection of E-DCH HARQ ACK Indicator Channel (E-HICH) - Single link performance (10 ms TTI)	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
10.2.1.1A	Single link performance (10ms TTI, Type 1)	Rel-7	C_RF32	UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1
10.2.1.2	Detection of E-DCH HARQ ACK Indicator Channel (E-HICH) - Single link performance (2 ms TTI)	Rel-6	C_RF28	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI
10.2.1.2A	Single link performance (2ms TTI, Type 1)	Rel-7	C_RF33	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1
10.2.2.1.1	Detection in Inter-Cell Handover conditions - RLS not containing the Serving E-DCH cell (10 ms TTI)	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
10.2.2.1.1A	RLS not containing the Serving E-DCH cell (10ms TTI, Type 1)	Rel-7	C_RF32	UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1
10.2.2.1.2	Detection in Inter-Cell Handover conditions - RLS not containing the Serving E-DCH cell (2 ms TTI)	Rel-6	C_RF28	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI

Clause	Title	Release	Applicability	Comments
10.2.2.1.2A	RLS not containing the Serving E-DCH cell (2ms TTI, Type 1)	Rel-7	C_RF33	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1
10.2.2.2.1	Detection in Inter-Cell Handover conditions - RLS containing the Serving E-DCH cell (10 ms TTI)	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
10.2.2.2.1A	RLS containing the Serving E-DCH cell (10ms TTI, Type 1)	Rel-7	C_RF32	UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1
10.2.2.2.2	Detection in Inter-Cell Handover conditions - RLS containing the Serving E-DCH cell (2 ms TTI)	Rel-6	C_RF28	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI
10.2.2.2.2A	RLS containing the Serving E-DCH cell (2ms TTI, Type 1)	Rel-7	C_RF33	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1
10.3.1.1	Detection of E-DCH Relative Grant Channel (E-RGCH) - Single link performance (10 ms TTI)	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
10.3.1.1A	Single link performance (10ms TTI, Type 1)	Rel-7	C_RF32	UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1
10.3.1.2	Detection of E-DCH Relative Grant Channel (E-RGCH) - Single link performance (2 ms TTI)	Rel-6	C_RF28	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI
10.3.1.2A	Single link performance (2ms TTI, Type 1)	Rel-7	C_RF33	UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1
10.3.2	Detection of E-DCH Relative Grant Channel (E-RGCH) - Detection in Inter-Cell Handover conditions	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
10.3.2A	Detection in Inter-Cell Handover conditions (Type 1)	Rel-7	C_RF32	UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1
10.4.1	Demodulation of E-DCH Absolute Grant Channel (E-AGCH) - Single Link Performance	Rel-6	C_RF23	UEs supporting FDD and HS-PDSCH and E-DPDCH
10.4.1A	Single link performance (Type 1)	Rel-7	C_RF32	UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1
11.2	Demodulation of MTCH	Rel-6	C_RF29	UEs supporting FDD and MBMS Note. For UEs for which test case 11.2A is applicable then test case 11.2 is optional.
11.2A	Demodulation of MTCH - Enhanced Performance Requirements Type 1	Rel-7	C_RF31	UEs supporting FDD and Enhanced performance requirements type 1 for MBMS
11.3	Demodulation of MTCH and cell identification	Rel-6	C_RF29	UEs supporting FDD and MBMS

C_RF01	IF A.7/8 OR A.7/10 THEN R ELSE N/A
C_RF02	IF A.7/14 THEN R ELSE N/A
C_RF03	IF A.6/3 OR A.6/14 OR A.6/15 OR A.6/16 OR A.6/19 OR A.6/21 OR A.6/23 OR A.6/24 OR A.6/25 THEN R ELSE N/A
C_RF04	IF A.7/9 OR A.7/10 THEN R ELSE N/A
C_RF05	IF A.1/1 AND A.1/4 THEN R ELSE N/A
C_RF06	IF A.1/1 AND (A.1/2 OR A.1/3) THEN R ELSE N/A
C_RF07	IF A.1/1 AND A.1/5 AND A.2/2 THEN R ELSE N/A
C_RF08	IF A.10/4 THEN R ELSE N/A
C_RF09	IF A.10/6 THEN R ELSE N/A
C_RF10	IF A.10/8 THEN R ELSE N/A
C_RF11	IF A.10/9 THEN R ELSE N/A
C_RF12	IF A.2/2 THEN R ELSE N/A
C_RF13	IF A.10/3 AND A.10/4 THEN R ELSE N/A
C_RF14	IF A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6) THEN R ELSE N/A
C_RF14a	IF A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6) AND NOT(A.11/1 OR A.11/2 OR A.11/3) THEN R ELSE N/A
C_RF15	IF A.7/14 AND (A.8/11 OR A.8/12) THEN R ELSE N/A
C_RF16	IF A.7/14 AND (A.8/7 OR A.8/8) THEN R ELSE N/A
C_RF16a	IF A.7/14 AND (A.8/7 OR A.8/8) AND NOT(A.11/1 OR A.11/2 OR A.11/3) THEN R ELSE N/A
C_RF16b	IF A.7/14 AND (A.8/9 OR A.8/10) AND NOT(A.11/1 OR A.11/2 OR A.11/3) THEN R ELSE N/A
C_RF17	IF A.7/14 AND ((A.11/1 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8))) THEN R ELSE N/A
C_RF18	IF A.7/14 AND A.11/1 AND (A.8/7 OR A.8/8) THEN R ELSE N/A
C_RF19	IF A.7/14 AND A.11/2 AND (A.8/7 OR A.8/8 OR A.8/13 OR A.8/14) THEN R ELSE N/A
C_RF20	Void
C_RF21	IF A.7/14 AND (A.11/1 OR A.11/3) THEN R ELSE N/A
C_RF22	IF A.7/14 AND A.11/2 THEN R ELSE N/A
C_RF23	IF A.7/14 AND A.7/15 THEN R ELSE N/A
C_RF24	IF A.7/14 AND (NOT A.7/15) THEN R ELSE N/A
C_RF25	Void
C_RF26	IF A.1/1 AND A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8 OR A.8/9 OR A.8/10) THEN R ELSE N/A
C_RF27	IF A.1/1 AND A.1/4 AND A.2/1 AND (A.2a/1 OR A.2a/2) THEN R ELSE N/A
C_RF28	IF A.7/14 AND A.7/15 AND (A.9/2 OR A.9/4 OR A.9/6) THEN R ELSE N/A
C_RF29	IF A.7/16 THEN R ELSE N/A
C_RF30	IF A.7/16 AND A.1/4 THEN R ELSE N/A
C_RF31	IF A.1/1 AND A.11/5 THEN R ELSE N/A
C_RF32	IF A.7/14 AND A.7/15 AND A.11/4 THEN R ELSE N/A
C_RF33	IF A.7/14 AND A.7/15 AND A.11/4 AND (A.9/2 OR A.9/4 OR A.9/6) THEN R ELSE N/A
C_RF34	IF A.10/10 THEN R ELSE N/A
C_RF35	IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14) THEN R ELSE N/A
C_RF36	IF A.7/17 THEN R ELSE N/A
C_RF37	IF A.7/17 AND A.11/1 THEN R ELSE N/A
C_RF38	IF A.1/1 AND A.7/14 AND (A.8/15 OR A.8/16) THEN R ELSE N/A
C_RF39	IF A.7/14 AND A.7/18 THEN R ELSE N/A
C_RF40	IF A.1/1 AND A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8 OR A.8/11 OR A.8/12) THEN R ELSE N/A
C_RF41	IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14) AND A.11/2 THEN R ELSE N/A
C_RF42	IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14 OR A.8/17 OR A.8/18) AND A.11/3 THEN R ELSE N/A
C_RF43	IF A.7/14 AND A.7/15 AND A.9/7 THEN R ELSE N/A
C_RF44	IF A.7/14 AND (A.8/9 OR A.8/10) THEN R ELSE N/A
C_RF44a	IF A.7/14 AND (A.8/9 OR A.8/10) AND NOT(A.11/1 OR A.11/2 OR A.11/3) THEN R ELSE N/A
C_RF45	IF A.7/14 AND A.11/1 AND (A.8/9 OR A.8/10) THEN R ELSE N/A
C_RF46	IF A.7/14 AND A.11/2 AND (A.8/9 OR A.8/10) THEN R ELSE N/A
C_RF47	IF A.7/14 AND A.11/3 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10 OR A.8/13 OR A.8/14 OR A.8/15 OR A.8/16 OR A.8/17 OR A.8/18) THEN R ELSE N/A
C_RF48	IF A.7/14 AND A.11/2 AND (A.8/9 OR A.8/10 OR A.8/13 OR A.8/14) THEN R ELSE N/A
C_RF49	IF A.7/14 AND A.11/3 AND (A.8/9 OR A.8/10 OR A.8/13 OR A.8/14) THEN R ELSE N/A
C_RF50	IF A.7/14 AND A.11/3 AND (A.8/9 OR A.8/10 OR A.8/13 OR A.8/14 OR A.8/15 OR A.8/16 OR A.8/17 OR A.8/18) THEN R ELSE N/A
C_RF51	IF A.7/14 AND A.11/3 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10 OR A.8/13 OR A.8/14 OR A.8/15 OR A.8/16) THEN R ELSE N/A
C_RF52	IF A.7/14 AND A.11/3 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8) THEN R ELSE N/A
C_RF53	IF A.7/14 AND A.11/3 AND (A.8/9 OR A.8/10) THEN R ELSE N/A

Annex A (normative): ICS proforma for 3rd Generation User Equipment

A.1 Guidance for completing the ICS proforma

A.1.1 Purposes and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in relevant specifications may provide information about the implementation in a standardised manner.

The ICS proforma is subdivided into clauses for the following categories of information:

- instructions for completing the ICS proforma;
- identification of the implementation;
- identification of the protocol;
- ICS proforma tables (for example: UE implementation types, Teleservices, etc).

A.1.2 Abbreviations and conventions

The ICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7.

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Reference column

The reference column gives reference to the relevant 3GPP core specifications.

Release column

The release column indicates the earliest release from which the capability or option is relevant.

Comments column

This column is left blank for particular use by the reader of the present document.

References to items

For each possible item answer (answer in the support column) within the ICS proforma there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns shall be discriminated by letters (a, b, etc.), respectively.

EXAMPLE 1: A.7/14 is the reference to the answer of item 14 in table A.7.

A.1.3 Instructions for completing the ICS proforma

The supplier of the implementation may complete the ICS proforma in each of the spaces provided. More detailed instructions are given at the beginning of the different clauses of the ICS proforma.

A.2 Identification of the User Equipment

Identification of the User Equipment should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

A.2.1 Date of the statement

.....

A.2.2 User Equipment Under Test (UEUT) identification

UEUT name:

.....

.....

Hardware configuration:

.....

.....

.....

Software configuration:

.....

.....

.....

A.2.3 Product supplier

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.2.4 Client

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.2.5 ICS contact person

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

A.3 Identification of the protocol

This ICS proforma applies to the 3GPP standards listed in the normative references clause of the present document.

A.4 ICS proforma tables

Note: Capability Tables A.1-A.9 are copied from TS 34.123-2 [23].

A.4.1 UE Implementation Types

Table A.1: UE Radio Technologies

Item	UE Radio Technologies	Ref.	Release	Comments
1	FDD (DS)	25.101	R99	
2	TDD 3.84 Mcps	25.102	R99	
3	TDD 1.28 Mcps (LCR)	25.102	Rel-4	
4	GSM	21.904, 5	R99	
5	GPRS	23.060	R99	

A.4.2 UE Service Capabilities

Table A.2: Definition of Bearer Services

Item	Definition of Bearer Services	Ref.	Release	Comments
1	Circuit Switched	22.105, 5.1 22.002	R99	
2	Packet Switched	22.105, 5.1 22.060	R99	
3	UE supports UE operation mode A: PS and CS simultaneously		R99	
Note: Needed for CS only terminals which would not support Cell_PCH/URA_PCH test cases.				

Table A.2a: Teleservices

Item	Teleservices	Ref.	Release	Comments
1	Narrow band speech (AMR)	22.105, 6.4.1	R99	Telephony
2	Emergency call	22.105, 6.4.2	R99	

Table A.3: UE positioning capability

Item	Services Capabilities	Ref.	Release	Comments
1	Support for IPDL			
2	Support of GPS timing of cell frames			
3	Based OTDOA is supporting by UE			
4	Standalone location method is supporting by UE			

A.4.3 Baseline Implementation Capabilities

Table A.4: Supported protocols

Item	Supported protocols	Ref.	Release	Comments
1	Call Control	24.008, 5	R99	
2	Mobility Management	24.008, 4	R99	
3	Session Management	24.008, 6.1	R99	
4	GPRS Mobility Management	24.008, 4	R99	
5	Radio Resource Control	25.331	R99	
6	Packet Data Convergence Protocol	25.323	R99	
7	Broadcast/Multicast Control	25.324	R99	
8	Radio Link Control	25.322	R99	
9	Medium Access Control	25.321	R99	
10	Physical Layer	25.201	R99	

Table A.5: Special Conformance Testing Functions

Item	Special Conformance Testing Functions	Ref.	Release	Comments
1	UE test loop	34.109, 5.3	R99	
2	Max UE test loop UL RLC SDU size 65535 bits	34.109, 6.2	R99	

Note: TL1 and TL2 support should be added.

Table A.6: FDD (DS) RF Baseline Implementation Capabilities

Item	FDD (DS) RF Baseline Implementation Capabilities	Ref.	Release	Comments
1	Chip rate 3,84 Mcps	25.101, 5.1	R99	
2	Frequency band: 1 920-1 980, 2 110-2 170 MHz	25.101, 5.2	R99	Band I
3	Frequency band: 1 850-1 910, 1 930-1 990 MHz	25.101, 5.2	R99	Band II
4	Frequency band: Other spectrum	25.101, 5.2	R99	
5	TX-RX Freq. Sep: 190 MHz	25.101, 5.3	R99	
6	TX-RX Freq. Sep: 80 MHz	25.101, 5.3	R99	
7	TX-RX Freq. Sep: Variable	25.101, 5.3	R99	
8	Carrier raster: 200 kHz	25.101, 5.4	R99	
9	UE Power Class 1 for Operation Band I (+33 dBm)	25.101, 6.2.1	R99	
10	UE Power Class 2 for Operation Band I (+27 dBm)	25.101, 6.2.1	R99	
11	UE Power Class 3 for Operation Band I (+24 dBm)	25.101, 6.2.1	R99	
12	UE Power Class 4 for Operation Band I (+21 dBm)	25.101, 6.2.1	R99	
13	Output RF spectrum emissions	25.101, 6.6	R99	Not needed!
14	Frequency band: 1710-1785, 1805-1880 MHz	25.101, 5.2	R99	Band III
15	Frequency band: 1710-1755, 2110-2155 MHz	25.101, 5.2	R99	Band IV
16	Frequency band: 824 – 849, 869-894 MHz	25.101, 5.2	R99	Band V
17	Frequency band: 830-840, 875-885 MHz	25.101, 5.2	R99	Band VI
18	Frequency band: 2500-2570, 2620-2690 MHz	25.101, 5.2	R99	Band VII
19	Frequency band: 880-915, 925-960 MHz	25.101, 5.2	R99	Band VIII
20	Frequency band: 1749.9-1784.9, 1844.9-1879.9 MHz	25.101, 5.2	R99	Band IX
21	Frequency band: 1710 - 1770, 2110 - 2170 MHz	25.101, 5.2	R99	Band X
22	Frequency band: 1427.9 -1452.9, 1475.9 - 1500.9 MHz	25.101, 5.2	R99	Band XI
23	Frequency band: 698 – 716, 728 – 746 MHz	25.101, 5.2	R99	Band XII
24	Frequency band: 777 – 787, 746 – 756 MHz	25.101, 5.2	R99	Band XIII
25	Frequency band: 788 – 798, 758 – 768 MHz	25.101, 5.2	R99	Band XIV

Table A.6a: FDD (DS) UE Power Classes

Item	FDD (DS) RF Baseline Implementation Capabilities	Ref.	Release	Comments
1	UE Power Class 3 for Operation Band II (+24 dBm)	25.307, 5; 25.101, 6.2.1	R99	
2	UE Power Class 4 for Operation Band II (+21 dBm)	25.307, 5; 25.101, 6.2.1	R99	
3	UE Power Class 3 for Operation Band III (+24 dBm)	25.307, 4; 25.101, 6.2.1	R99	
4	UE Power Class 4 for Operation Band III (+21 dBm)	25.307, 4; 25.101, 6.2.1	R99	
5	UE Power Class 3 for Operation Band IV (+24 dBm)	25.307, 7; 25.101, 6.2.1	R99	
6	UE Power Class 4 for Operation Band IV (+21 dBm)	25.307, 7; 25.101, 6.2.1	R99	
7	UE Power Class 3 for Operation Band V (+24 dBm)	25.307, 8; 25.101, 6.2.1	R99	

8	UE Power Class 4 for Operation Band V (+21 dBm)	25.307, 8; 25.101, 6.2.1	R99	
9	UE Power Class 3 for Operation Band VI (+24 dBm)	25.307, 6; 25.101, 6.2.1	R99	
10	UE Power Class 4 for Operation Band VI (+21 dBm)	25.307, 6; 25.101, 6.2.1	R99	
11	UE Power Class 3 for Operation Band VII (+24 dBm)	25.307, 9; 25.101, 6.2.1	R99	
12	UE Power Class 3bis for Operation Band VII (+23 dBm)	25.307, 9; 25.101, 6.2.1	R99	
13	UE Power Class 4 for Operation Band VII (+21 dBm)	25.307, 9; 25.101, 6.2.1	R99	
14	UE Power Class 3 for Operation Band VIII (+24 dBm)	25.307, 10; 25.101, 6.2.1	R99	
15	UE Power Class 3bis for Operation Band VIII (+23 dBm)	25.307, 10; 25.101, 6.2.1	R99	
16	UE Power Class 4 for Operation Band VIII (+21 dBm)	25.307, 10; 25.101, 6.2.1	R99	
17	UE Power Class 3 for Operation Band IX (+24 dBm)	25.307, 11; 25.101, 6.2.1	R99	
18	UE Power Class 4 for Operation Band IX (+21 dBm)	25.307, 11; 25.101, 6.2.1	R99	
19	UE Power Class 3 for Operation Band X (+24 dBm)	25.307, 12; 25.101, 6.2.1	R99	
20	UE Power Class 4 for Operation Band X (+21 dBm)	25.307, 12; 25.101, 6.2.1	R99	
21	UE Power Class 3 for Operation Band XI (+24 dBm)	25.307, 13; 25.101, 6.2.1	R99	
22	UE Power Class 4 for Operation Band XI (+21 dBm)	25.307, 13; 25.101, 6.2.1	R99	
23	UE Power Class 3 for Operation Band XII (+24 dBm)	25.307, 14; 25.101, 6.2.1	R99	
24	UE Power Class 3bis for Operation Band XII (+23 dBm)	25.307, 14; 25.101, 6.2.1	R99	
25	UE Power Class 4 for Operation Band XII (+21 dBm)	25.307, 14; 25.101, 6.2.1	R99	
26	UE Power Class 3 for Operation Band XIII (+24 dBm)	25.307, 15; 25.101, 6.2.1	R99	
27	UE Power Class 3bis for Operation Band XIII (+23 dBm)	25.307, 15; 25.101, 6.2.1	R99	
28	UE Power Class 4 for Operation Band XIII (+21 dBm)	25.307, 15; 25.101, 6.2.1	R99	
29	UE Power Class 3 for Operation Band XIV (+24 dBm)	25.307, 16; 25.101, 6.2.1	R99	
30	UE Power Class 3bis for Operation Band XIV (+23 dBm)	25.307, 16; 25.101, 6.2.1	R99	
31	UE Power Class 4 for Operation Band XIV (+21 dBm)	25.307, 16; 25.101, 6.2.1	R99	

Table A.7: FDD Layer 1 UE Radio Access Capabilities

Item	FDD Layer 1 UE Radio Access Capabilities	Ref.	Release	Comments
1	Support of turbo decoding	25.306, 4.5.1	R99	
2	Support of turbo encoding	25.306, 4.5.2	R99	
3	Support for SF 512 (downlink)	25.306, 4.5.3	R99	
4	Support of PDSCH	25.306, 4.5.3	R99and Rel-4 only	
5	Simultaneous reception of SCCPCH and DPCH	25.306, 4.5.3	R99	
6	Simultaneous reception of SCCPCH, DPCH and PDSCH	25.306, 4.5.3	R99 and Rel-4 only	
7	Support of PCPCH	25.306, 4.5.4	R99 and Rel-4 only	
8	Support of uplink compressed mode only	25.306, 4.9	R99	
9	Support of downlink compressed mode only	25.306, 4.9	R99	
10	Support of uplink and downlink compressed mode	25.306, 4.9	R99	
11	void			
12	void			
13	void			
14	Support of HS-PDSCH	25.306, 4.5.3	Rel-5	
15	Support of E-DPDCH	25.306, 4.5.4	Rel-6	
16	Support of MBMS	25.306, 4.13	Rel-6	
17	Support of HS-SCCHless HS-DSCH	25.306, 4.5.3	Rel-7	
18	Support of F-DPCH	25.306, 4.5.3	Rel-6	

Table A.8: FDD HS-DSCH physical layer categories

Item	FDD HS-DSCH physical layer categories	Ref.	Release	Comments
1	Category 1	25.306, 5.1	Rel-5	
2	Category 2	25.306, 5.1	Rel-5	
3	Category 3	25.306, 5.1	Rel-5	
4	Category 4	25.306, 5.1	Rel-5	
5	Category 5	25.306, 5.1	Rel-5	
6	Category 6	25.306, 5.1	Rel-5	
7	Category 7	25.306, 5.1	Rel-5	
8	Category 8	25.306, 5.1	Rel-5	
9	Category 9	25.306, 5.1	Rel-5	
10	Category 10	25.306, 5.1	Rel-5	
11	Category 11	25.306, 5.1	Rel-5	
12	Category 12	25.306, 5.1	Rel-5	
13	Category 13	25.306, 5.1	Rel-7	
14	Category 14	25.306, 5.1	Rel-7	
15	Category 15	25.306, 5.1	Rel-7	
16	Category 16	25.306, 5.1	Rel-7	
17	Category 17	25.306, 5.1	Rel-7	
18	Category 18	25.306, 5.1	Rel-7	

Table A.9: FDD E-DCH physical layer categories

Item	FDD E-DCH physical layer categories	Ref.	Release	Comments
1	Category 1	25.306, 5.1	Rel-6	
2	Category 2	25.306, 5.1	Rel-6	
3	Category 3	25.306, 5.1	Rel-6	
4	Category 4	25.306, 5.1	Rel-6	
5	Category 5	25.306, 5.1	Rel-6	
6	Category 6	25.306, 5.1	Rel-6	
7	Category 7	25.306, 5.1	Rel-7	

A.4.4 Additional information

Table A.10: Reference Measurement Channels

Item	Reference Measurement Channels	Ref.	Release	Comments
1	Up-link reference measurement channel 12.2 kbps (FDD)	25.101, A.2.1	R99	Mandatory for all terminals
2	Down-link reference measurement channel 12.2 kbps (FDD)	25.101, A.3.1	R99	Mandatory for all terminals
3	Up-link reference measurement channel 64 kbps (FDD)	25.101, A.2.2	R99	
4	Down-link reference measurement channel 64 kbps (FDD)	25.101, A.3.2	R99	
5	Up-link reference measurement channel 144 kbps (FDD)	25.101, A.2.3	R99	
6	Down-link reference measurement channel 144 kbps (FDD)	25.101, A.3.3	R99	
7	Up-link reference measurement channel 384 kbps (FDD)	25.101, A.2.4	R99	
8	Down-link reference measurement channel 384 kbps (FDD)	25.101, A.3.4	R99	
9	Up-link reference measurement channel 768 kbps (FDD)	25.101, A.2.5	R99	
10	Down-link reference measurement channel 2 64 kbps (FDD)	25.101, A.3.5	Rel-6	

Table A.11: Additional capabilities

Item	Capability	Ref.	Release	Comments
1	Enhanced performance requirements type 1 for HSDPA	25.101, 9	Rel-6	This type of UE has to execute also the tests for normal HSDPA UEs.
2	Enhanced performance requirements type 2	25.101, 9	Rel-6	This type of UE has to execute also the tests for normal HSDPA UEs.
3	Enhanced performance requirements type 3	25.101, 9	Rel-7	This type of UE has to execute also the tests for normal HSDPA UEs.
4	Enhanced performance requirements type 1 for E-DCH	25.101, 10	Rel-7	This type of UE has to execute also the tests for normal E-DCH UEs.
5	Enhanced performance requirements type 1 for MBMS	25.101, 11	Rel-7	

Table A.12: Additional information

Item	Additional Information	Ref.	Release	Comments
1	UE without vibration sensitive components	25.101, D.2.3	R99	

Annex B (informative): Labelling of Inter-RAT RRM test cases

This Annex provides a labelling guideline for the FDD/GSM inter-RAT RRM test cases. The purpose of this Annex is to aid clear and traceable test case identification, both for the purposes of validation reporting in the certification organisations as well as for test houses to unambiguously identify the tested frequency bands. Note that actual band combinations to be tested shall be specified by the certification organisations.

B.1 FDD/GSM band combinations for inter-RAT RRM tests

It is recommended the following labelling convention should be used for the inter-RAT RRM derivative test cases covering different FDD/GSM band combinations:

"Test Case number"('FDD band'-'GSM Frequency band')

FDD bands are listed using Roman numerals.

For example: 8.2.3.1(I-900) for inter-RAT RRM test covering FDD band I and GSM 900.

The above mentioned labeling convention shall apply to the following inter-RAT RRM tests defined in TS 34.121-1:

Test Type	Test Case Number
RRM	8.2.3.1, 8.2.3.2, 8.2.3.3, 8.3.4, 8.3.5.3, 8.3.6.3, 8.6.4.1, 8.6.5.1, 8.7.3A

Annex C (informative): Change history

Meeting -1st-Level	Doc-1st-Level	CR	Rev	Subject	Cat	Version -Current	Version -New	Doc-2nd-Level
-	-	-	-	Draft version 0.0.1 based on iWD-004_v005 and TS 34.123-2 v6.1.0.	-	N/A	0.0.1	
RP-31	RP-060055	-	-	For approval as Rel-7 version at RAN plenary	-	2.0.0	7.0.0	R5-060444
RP-32	RP-060329	0001	-	Addition of new test cases from RAN5#30 and correction to applicability	F	7.0.0	7.1.0	R5-061425
RP-32	RP-060332	0002	-	Addition of new Rel-6 test cases introduced in RAN5#31	F	7.0.0	7.1.0	R5-061446
RP-33	RP-060549	0003	-	Correction of applicability for RF test case 6.5 (narrow band blocking requirement)	F	7.1.0	7.2.0	R5-062127
RP-33	RP-060549	0004	-	Addition of applicability for new test cases	F	7.1.0	7.2.0	R5-062453
RP-33	RP-060567	0005	-	New Rel-6 RRM test case: 8.3.8 Serving HS-DSCH cell change	F	7.1.0	7.2.0	R5-062232
RP-33	RP-060549	0006	-	Correction of applicability for RF test case 6.7	F	7.1.0	7.2.0	R5-062416
RP-34	RP-060735	0007	-	Addition of new condition for TC 6.3A in section 4	F	7.2.0	7.3.0	R5-063459
RP-34	RP-060732	0008	-	Addition of PICS parameter "speech" and new condition for TC 8.3.4 in section 4 and Annex A.4.2	F	7.2.0	7.3.0	R5-063460
RP-34	RP-060735	0009	-	Addition of new test case 5.13.1AA	F	7.2.0	7.3.0	R5-063424
RP-34	RP-060743	0010	-	Applicability of new UE Transmission Power Headroom test case	F	7.2.0	7.3.0	R5-063442
RP-35	RP-070097	0011	-	Correction to 34.121-2: Introduction of applicability for 2ms TTI E-DCH E-TFC restriction test case	F	7.3.0	7.4.0	R5-070571
RP-35	RP-070090	0012	-	Applicability of new MBMS RF and RRM test cases	F	7.3.0	7.4.0	R5-070554
RP-35	RP-070094	0013	-	Correction to 34.121-2: Introduction of FDD Band X (Extended UMTS 1.7/2.1 GHz) for transmitter and receiver characteristics test cases	F	7.3.0	7.4.0	R5-070167
RP-36	RP-070344	0014		Addition of vibration condition to 34.121-2	F	7.4.0	7.5.0	R5-071158
RP-36	RP-070363	0015		Correction to title for MBMS RRM TC 8.3.6.3	F	7.4.0	7.5.0	R5-071248
RP-36	RP-070363	0016		Applicability of MBMS New test case: Cell Reselection during an MBMS session, one frequency present in neighbour list	F	7.4.0	7.5.0	R5-071301
RP-36	RP-070350	0017		CR to 34.121-2:Introduction of test cases for multi-path fading intra-frequency cell identification	F	7.4.0	7.5.0	R5-071348
RP-36	RP-070350	0018		CR to 34.121-2:Introduction of test case UE Transitted Power (Rel-5 and later)	F	7.4.0	7.5.0	R5-071368
RP-36	RP-070344	0019		Addition of informative Annex for FDD/GSM band combinations for Inter-RAT RRM test cases	F	7.4.0	7.5.0	R5-071495
RP-37	RP-070596	0020	-	Correction to TC 9.4.2A applicability	F	7.5.0	7.6.0	R5-072178
RP-37	RP-070593	0021	-	Corrections to the applicability for some HSDPA tests	F	7.5.0	7.6.0	R5-072225
RP-37	RP-070600	0022	-	UE performance requirements for high speed train	F	7.5.0	7.6.0	R5-072282
RP-37	RP-070597	0023	-	CR to 34.121-2:Addition of test cases for Inter Frequency Cell identificaiton	F	7.5.0	7.6.0	R5-072407
RP-37	RP-070593	0024	-	CR to 34.121-2:Correction of test cases for UE Transmitted Power	F	7.5.0	7.6.0	R5-072367
RP-37	RP-070617	0025	-	Applicability of new test case for demodulation of MTCH and enhanced performance requirement 1	F	7.5.0	7.6.0	R5-072411
RP-37	RP-070593	0027	-	CR to 34.121-2:Addition of test cases missing from applicability	F	7.5.0	7.6.0	R5-072412
RP-37	RP-070600	0028	-	Production of 34.121-2 Rel-7 pointer version to point to Rel-8 of the spec	F	7.5.0	7.6.0	R5-072592
RP-37	RP-070599	0026	-	Introduction of FDD Mode Test frequencies for Operating Band XI (UMTS1500)	F	7.5.0	8.0.0	R5-072398
RP-38	RP-070876	0029		Correction of applicability of HSDPA tests testing UE supporting enhanced performance type 3.	F	8.0.0	8.1.0	R5-073121
RP-38	RP-070876	0030		Applicability of new test cases: EDCH tests with enhanced performance requirements type 1	F	8.0.0	8.1.0	R5-073330
RP-38	RP-070872	0031		CR to 34.121-2: Introduction of new Downlink Compressed Mode Layer 1 (Release 6 and later) Applicability	F	8.0.0	8.1.0	R5-073358
RP-38	RP-070872	0032		CR to 34.121-2: Introduction of new UE Rx-Tx Time Difference type 1 (Release 6 and later) Applicability	F	8.0.0	8.1.0	R5-073359
RP-38	RP-070872	0033		CR to 34.121-2: Introduction of new Constant BLER Target Requirements using DL Reference Measurement Channel 2 (64 kbps) Applicability	F	8.0.0	8.1.0	R5-073075

Meeting -1st-Level	Doc-1st-Level	CR	Rev	Subject	Cat	Version - Current	Version -New	Doc-2nd-Level
RP-38	RP-070872	0034		CR to 34.121-2: Introduction of new Power Control in the Downlink, Wind Up Effects (Release 6 and later) Requirements Applicability	F	8.0.0	8.1.0	R5-073371
RP-38	RP-070884	0035		Applicability of new 64QAM Test Case: Maximum Input Level for HS-PDSCH Reception (64QAM)	F	8.0.0	8.1.0	R5-073350
RP-38	RP-070885	0036		Addition of HS-SCCH-less demodulation of HS-DSCH test case	F	8.0.0	8.1.0	R5-073153
RP-38	RP-070881	0037		Applicability of new MIMO Test Case: Demodulation of HS-DSCH (Fixed Refernce Channel): MIMO Performance	F	8.0.0	8.1.0	R5-073376
RP-39	RP-080095	0038		CR to 34.121-2: Introduction of power control in the downlink for F-DPCH Applicability	F	8.1.0	8.2.0	R5-080388
RP-39	RP-080095	0039		Correction to 34.121-2 HSDPA tests" applicabilities for Enhanced Performance type 1 and type 3 terminals.	F	8.1.0	8.2.0	R5-080246
RP-39	RP-080093	0040		Corrections to applicability of CQI test cases 9.3.1 to 9.3.6	F	8.1.0	8.2.0	R5-080251
RP-39	RP-080107	0041		Addition of new testcases for 64QAM Single Link Performance	F	8.1.0	8.2.0	R5-080264
RP-39	RP-080108	0042		CR to 34.121-2: Introduction of UE Transmitter 16-QAM Applicability	F	8.1.0	8.2.0	R5-080396
RP-39	RP-080105	0043		Applicability of new MIMO Test case: HS-SCCH Detection Performance: HS-SCCH Type M Performance	F	8.1.0	8.2.0	R5-080171
				Completion of history table		8.2.0	8.2.1	
RP-40	RP-080370	0044	-	CR to 34.121-2: Introduction of Bands XII XIII and XIV (UMTS700 MHz) Applicability	F	8.2.1	8.3.0	R5-081434
RP-40	RP-080427	0045	-	CR to 34.121-2: Correction to test case 8.7.3C: UE Transmitted Power Applicability	F	8.2.1	8.3.0	R5-081438
RP-40	RP-080364	0046	-	Correction to 34.121-2 HSDPA tests" applicabilities for Enhanced Performance type 1 type 2 and type 3 terminals.	F	8.2.1	8.3.0	R5-081222
RP-40	RP-080365	0047	-	Correction to applicability of MBMS RF performance test case 11.2A	F	8.2.1	8.3.0	R5-081448
RP-40	RP-080363	0048	-	Deletion of PICS "Support of UE assisted Network Assisted GPS" from 34.121-2	F	8.2.1	8.3.0	R5-081439
RP-41	RP-080740	0049	-	ICS for TC5.13.1AAA (EVM and IQ offset)	F	8.3.1	8.4.0	R5-083386
RP-41	RP-080554	0050	-	Multi_RAT Capability condition removal	F	8.3.1	8.4.0	R5-083396
RP-41	RP-080554	0051	-	Multi_RAT Capability condition removal	F	8.3.1	8.4.0	R5-083831
RP-42	RP-080955	0052	-	Clarification of titles for MIMO test cases 9.3.7A and 9.3.7B	F	8.4.0	8.5.0	R5-085172
RP-42	RP-080956	0053	-	Applicability changes for Demodulation of HS-DSCH in 34.121-2.	F	8.4.0	8.5.0	R5-085734

History

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