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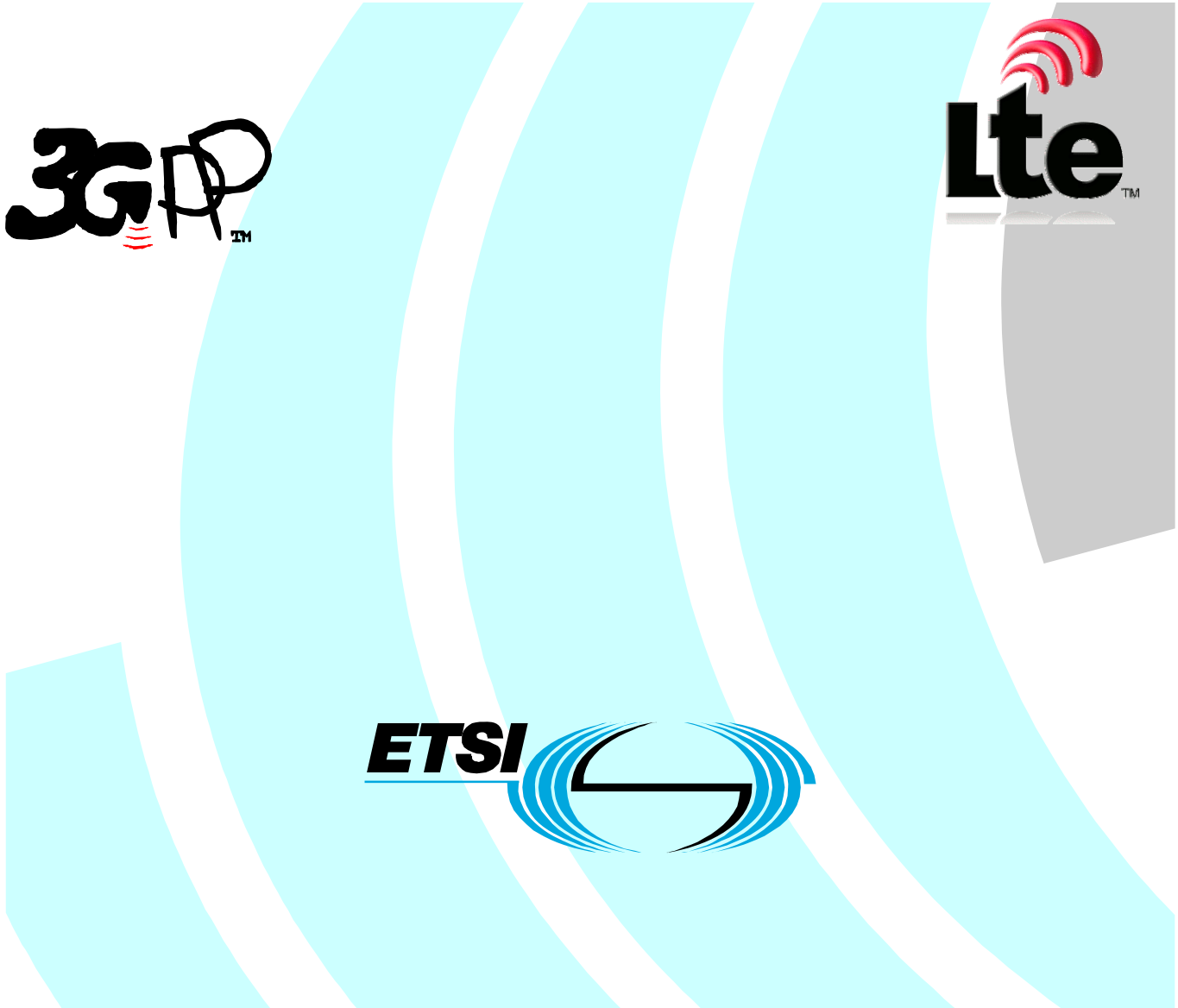
Technical Specification

LTE;
Telecommunication management;
Home enhanced Node B (HeNB) Operations, Administration, Maintenance and Provisioning (OAM&P);
Information model for Type 1 interface HeNB to HeNB Management System (HeMS)
(3GPP TS 32.592 version 9.2.0 Release 9)



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Foreword

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Contents

Foreword

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

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Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project Technical Specification Group Services and System Aspects, Telecommunication Management; as identified below:

32.591: "Telecommunications management; Home eNode B (HeNB) Operations, Administration, Maintenance and Provisioning (OAM&P); Concepts and requirements for Type 1 interface HeNB to HeNB Management System (HeMS)".

32.592: "Telecommunications management; Home eNode B (HeNB) Operations, Administration, Maintenance and Provisioning (OAM&P); Information model for Type 1 interface HeNB to HeNB Management System (H(e)MS)".

32.593: "Telecommunications management; Home eNode B (HeNB) Operations, Administration, Maintenance and Provisioning (OAM&P); Procedure flows for Type 1 interface HeNB to HeNB Management System (HeMS)".

32.594: "Telecommunications management; Home eNode B (HeNB) Operations, Administration, Maintenance and Provisioning (OAM&P); XML definitions for Type 1 interface HeNB to HeNB Management System (HeMS)".

1 Scope

The present document describes the Information Model definition for Fault Management, Configuration Management and Performance measurements of Home eNodeBs.

The stage 2 definitions captured in the present document shall be met via type 1 interface between HeNB and HMS.

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 32.101: "Telecommunication management; Principles and high level requirements".

[3] 3GPP TS 32.102: "Telecommunication management; Architecture".

[4] 3GPP TS 32.401: "Telecommunication management; Performance Management (PM); Concept and requirements".

[5] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[6] 3GPP TS 25.331: "Radio Resource Control (RRC); Protocol specification".

[7] TR-069 Amendment 2, HeNB WAN Management Protocol v1.1, Broadband Forum

[8] 3GPP TR 25.820: "3G Home NodeB Study Item Technical Report".

[9] 3GPP TS 25.413: "UTRAN Iu interface Radio Access Network Application Part (RANAP) signalling".

[10] 3GPP TS 25.401: " UTRAN Overall Description".

[11] 3GPP TS 25.433: "UTRAN Iub interface Node B Application Part (NBAP) signalling".

[12] TR-106, 'Data Model Template for TR-069-Enabled Devices', Broadband Forum, 2009, http://broadband-forum.org/technical/download/TR-106_Amendment-2.pdf.

[13] TR-196, 'Femto Access Point Device Data Model', Broadband Forum, 2009, http://broadband-forum.org/technical/download/TR-196.pdf.

[14] 3GPP TS 32.432 "Telecommunication management; Performance measurement: File format definition".

[15] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)".

[16] 3GPP TS 32.111-5: "Telecommunication management; Fault Management; Part 5: Alarm Integration Reference Point (IRP): eXtensible Markup Language (XML) definitions".

[17] IETF RFC 3280: "Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile", April 2002, http://www.ietf.org/rfc/rfc3280.txt.

[18] IETF RFC 4301: "Security Architecture for the Internet Protocol", , December 2005, http://www.ietf.org/rfc/rfc4301.txt.

[19] IETF RFC 4307: "Cryptographic Algorithms for Use in the Internet Key Exchange Version 2 (IKEv2)", December 2005, http://www.ietf.org/rfc/rfc4307.txt

[20] IETF RFC 4960: "Stream Control Transmission Protocol", September 2007, http://www.ietf.org/rfc/rfc4960.txt.

[21] IETF RFC 3550: "RTP: A Transport Protocol for Real-Time Applications", July 2003, http://www.ietf.org/rfc/rfc3550.txt.

[22] IETF RFC 3873: "Stream Control Transmission Protocol (SCTP) Management Information Base (MIB"), , September 2004, http://www.ietf.org/rfc/rfc3873.txt.

[23] ITU-T RecommendationE.118: "The international telecommunication charge card ", International Telecommunication Union, May 2006, http://www.itu.int/rec/T-REC-E.118/en.

[24] 3GPP TS 25.304: "User Equipment (UE) procedures in idle mode and procedures for cell reselection in connected mode".

[25] 3GPP TS 36.211: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical channels and modulation".

[26] 3GPP TS 36.213: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures".

[27] 3GPP TS 36.214: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer - Measurements".

[28] 3GPP TS 36.300: 'Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2'.

[29] 3GPP TS 36.304: 'Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) procedures in idle mode'.

[30] 3GPP TS 36.321: 'Evolved Universal Terrestrial Radio Access (E-UTRA); Medium Access Control (MAC) protocol specification'.

[31] 3GPP TS 36.322: 'Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Link Control (RLC) protocol specification'.

[32] 3GPP TS 36.331: 'Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification'.

[33] 3GPP TS 36.133: 'Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for support of radio resource management'.

[34] 3GPP TS 45.008: 'Radio subsystem link control'.

[35] 3GPP TS 23.107:"Quality of Service (QoS) concept and architecture".

[36] 3GPP TS 33.320: "Security of Home Node B (HNB) / Home evolved Node B (HeNB)".

3 Definitions 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.

3G Home NodeB and Home eNodeB: These terms, their derivations and abbreviations are used synonymously throughout the present document.

3.2 Abbreviations

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

DM	Domain Manager
EM	Element Manager
FFS	For Further Study
HMS	Home NodeB Management System
HeMS	Home eNodeB Management System
HNB	Home NodeB
HeNB	Home eNodeB
IP	Internet Protocol
LTE	Long Term Evolution
MME	Mobile Management Entity
NGMN	Next Generation Mobile Networks
OAM	Operations, Administrator and Maintenance
PnP	Plug and Play
SAE	System Architecture Evolution
SON	Self-Organising Networks
TBD	To Be Discussed
UMTS	Universal Mobile Telecommunications System
UTRAN	UMTS Radio Access Network

4 Purpose

The purpose of this document is to specify the Information Model for Home eNodeB Type 1 Interface for the remote management using the TR-069 CWMP [7].

5 Structure of HeNB Information Model

Note: The structure of the Information Model is FFS.

6 Information Model Definition

6.1 Configuration Management

The names of objects and classification of parameters under objects is tentative. It is subject to modifications as needed.

6.1.1 Physical Layer Parameters

Tables in below sections summarize the set of proposed Physical Layer objects and parameters.

6.1.1.1 Antenna Information

This table contains parameters related to antenna configuration.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
antennaPortsCount	Represents the number of cell specific antenna ports where a 1 corresponds to 1, a 2 to 2 antenna ports etc. see TS 36.211, 6.2.1. A UE in IDLE mode acquires the information about the number of transmit antenna ports according to TS 36.212, 5.3.1.1. Corresponds to antennaPortsCount IE specified in 3GPP TS 36.331 section 6.3.2.	Enum {an1,an2,an4} This parameter is not settable by the operator.	TDD/FDD	No

6.1.1.2 PDSCH

This table contains parameters related to configuration of PDSCH.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
p-b	Equal to Eb/Ea. Is same for all UEs in the cell. Eb = EPRE (energy per resource element) of PDSCH REs type B i.e. REs in OFDM symbols that include reference symbols. Specified in 3GPP TS 36.213 section 5.2.	int[0..3] This parameter is settable by the operator.	TDD/FDD	No
p-a	equal to Ea/Ers. Ea = EPRE (energy per resource element) of PDSCH REs (resource elements) type A i.e. REs in OFDM symbols that do not include reference symbols. Ers = EPRE of reference symbols REs. Specified in 3GPP TS 36.213 section 5.2. Value dB-6 corresponds to -6 dB, dB-4dot77 corresponds to -4.77 dB etc.	Enum{dB-6, dB-4dot77, dB-3, dB-1dot77, dB0, dB1, dB2, dB3} This parameter is settable by the operator.	TDD/FDD	No

6.1.1.3 Sounding Reference Signal (SRS)

This table contains parameters common across the cell related to configuration of UL Sounding Reference Signal.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
srsEnabled	This parameter indicates whether UL Sounding RS is enabled (TRUE) or not (FALSE). Corresponds to *SoundingRS-UL-ConfigCommon*IE defined in 3GPP TS 36.331 section 6.3.2	Boolean This parameter is settable by the operator.	TDD/FDD	No
srsBandwidthConfig	Denotes an index into tables with cell specific SRS Bandwidth Configuration. The tables are specified in 3GPP TS 36.211, table 5.5.3.2-1, 5.5.3.2-2, 5.5.3.2-3 and 5.5.3.2– 4. Corresponds to *srs-BandwidthConfig* IE specified in 3GPP TS36.331 section 6.3.2. bw0 corresponds to value 0, bw1 to value 1 and so on.	Enum{bw0, bw1, bw2, bw3, bw4, bw5, bw6, bw7} This parameter is settable by the operator.	TDD/FDD	No
SrsMaxUpPts	Defines whether reconfiguration of SRS applies to UpPts (TRUE) or not (FALSE). Corresponds to srs-MaxUpPts specified in 3GPP TS 36.331 section 6.3.2 and srsMaxUpPts specified in 3GPP TS 36.211 section 5.5.3.2. This parameter is applicable to TDD mode only.	Boolean, This parameter is settable by the operator.	TDD	No
ackNackSRSSimultaneousTransmission	Defines whether a UE can simultaneously transmit SRS and ACK/NACK (TRUE) or not (FALSE). Corresponds to ackNackSRS-SimultaneousTransmission specified in 3GPP TS 36.331 section 6.3.2 and Simultaneous-AN-and-SRS specified in 3GPP TS 36.213 section 8.2.	Boolean, This parameter is settable by the operator.	FDD	No

6.1.1.4 PRACH

This table contains parameters related to RACH configuration at the PHY level.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
rootSequenceIndex	Logical root sequence index used to determine 64 physical RACH preamble sequences available in the cell. Corresponds to *RACH_ROOT_SEQUENCE* parameter defined in 3GPP TS 36.331 section 6.3.2 and 3GPP TS 36.211 Section 5.7.2.	int[0..837] This parameter is settable by the operator.	TDD/FDD	No
ConfigurationIndex	Provides index into the table defining PRACH resources within the frame. Corresponds to *PRACH-Configuration-Index* parameter defined in 3GPP TS 36.331 section 6.3.2 and 3GPP TS 36.211 Section 5.7.1.	int[0..63] This parameter is settable by the operator.	TDD/FDD	No
highSpeedFlag	Determines whether unrestricted set (FALSE) or restricted set (TRUE) of preambles is used. Corresponds to *highSpeedFlag* parameter defined in 3GPP TS 36.331 section 6.3.2 and *high-speed-flag* parameter defined 3GPP TS 36.211 Section 5.7.2.	Boolean This parameter is settable by the operator.	TDD/FDD	No
zeroCorrelationZone Config	This parameter is used for preamble sequence generation. Corresponds to parameter *zeroCorrelationZoneConfig* parameter defined in 3GPP TS 36.331 section 6.3.2.and to N_{CS} parameter defined in 36.211 section 5.7.2.	int[0..15] This parameter is settable by the operator.	TDD/FDD	No
FrequencyOffset	The first physical resource block available for PRACH expressed as a physical resource block number. Corresponds to *prach-FreqOffset* parameter defined in 3GPP TS 36.331 section 6.3.2 and $n_{PRBoffset}^{RA}$ parameter defined 3GPP TS 36.211 Section 5.7.1	Integer This parameter is settable by the operator.	TDD/FDD	No

6.1.1.5 PUCCH

This table contains parameters related to common PUCCH configuration.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
deltaPUCCHShift	Denotes the cyclic shift used for PUCCH formats 1/1a/1b in a resource block used for a mix of formats 1/1a/1b and 2/2a/2b is an integer multiple of deltaPUCCHShift within the range of {0, 1, …, 7}. Corresponds to *deltaPUCCH-Shift* parameter defined in 3GPP TS 36.331 section 6.3.2 and Δ_{shift}^{PUCCH} parameter defined 3GPP TS 36.211 Section 5.4.	Enum {ds1, ds2, ds3} This parameter is settable by the operator.	TDD/FDD	No
nRB-CQI	Denotes the bandwidth in terms of resource blocks that are available for use by PUCCH formats 2/2a/2b transmission in each slot. Corresponds to *nRB-CQI* parameter defined in 3GPP TS 36.331 section 6.3.2 and $N_{RB}^{(2)}$ parameter defined	int[0..98] This parameter is settable by the operator.	TDD/FDD	No

	3GPP TS 36.211 Section 5.4.			
nCS-AN	Denotes the number of cyclic shift used for PUCCH formats 1/1a/1b in a resource block used for a mix of formats 1/1a/1b and 2/2a/2b. The value is an integer multiple of deltaPUCCHShift within the range of {0, 1, …, 7}. Corresponds to *nCS-AN* parameter defined in 3GPP TS 36.331 section 6.3.2 and $N_{RB}^{(1)}$ parameter defined 3GPP TS 36.211 Section 5.4.	int[0..7] This parameter is not settable by the operator.	TDD/FDD	No
n1PUCCH-AN	Parameter used to determine resources used for transmission of PUCCH format 1/1a/1b and 2/2a/2b. Corresponds to *n1PUCCH-AN* parameter defined in 3GPP TS 36.331 section 6.3.2 and $N_{PUCCH}^{(1)}$ parameter defined 3GPP TS 36.213 Section 10.1.	int[0..2047] This parameter is settable by the operator.	TDD/FDD	No
CqiPUCCHResourceIndex	Position of PUCCH. This parameter corresponds to the *cqi-PUCCH-ResourceIndex* IE specified in 3GPP TS 36.331 section 6.3.2. and to parameter $n_{PUCCH}^{(2)}$ specified in TS 36.213 [23, 7.2].	int [0:1185] This parameter is settable by the operator.	TDD/FDD	No
K	Subband size for subband reporting mode in units of physical resource block. See TS 36.213, section 7.2.2. This parameter corresponds to the K IE specified in 3GPP TS 36.331 section 6.3.2	int[1..4] This parameter is not settable by the operator.	TDD/FDD	No

6.1.1.6 PUSCH

This table contains parameters related to PUSCH configuration.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
n-SB	Denotes the number of sub-bands. This parameter corresponds to *n-SB* parameter specified in 3GPP TS 36.331 section 6.3.2 and N_{SB} parameter specified in 3GPP TS 36.211 section 5.3.4	int[1..4] This parameter is settable by the operator.	TDD/FDD	No
hoppingMode	Determines if hopping is 'inter-subframe' or 'intra and inter-subframe'. This parameter corresponds to *hoppingMode* parameter specified in 3GPP TS 36.331 section 6.3.2 and *Hopping-mode* parameter specified in 3GPP TS 36.211 section 5.3.4	Enum{interSubFrame, intraAndInterSubFrame} This parameter is settable by the operator.	TDD/FDD	No
hoppingOffset	This parameter is used to compute the set of physical resource blocks to be used for transmission on PUSCH if uplink frequency hopping mode is enabled. This parameter corresponds to *pusch-HoppingOffset* parameter specified in 3GPP TS 36.331 section 6.3.2 and N_{RB}^{HO} parameter specified in 3GPP TS 36.211	int[0..98] This parameter is settable by the operator.	TDD/FDD	No

	section 5.3.4			
enable64QAM	TRUE indicates that 64QAM is allowed while FALSE indicates that 64QAM is not allowed. This parameter corresponds to *enable64QAM* parameter specified in 3GPP TS 36.331 section 6.3.2.	Boolean This parameter is not settable by the operator.	TDD/FDD	No

6.1.1.6.1 Uplink Reference Signal

This table contains parameters related to configuration of uplink reference signals on PUSCH (or PUCCH).

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
groupHoppingEnabled	Determines whether group hopping is enabled or not. This parameter corresponds to *groupHoppingEnabled* parameter specified in 3GPP TS 36.331 section 6.3.2.and in TS 36.211 section 5.5.1.3.	Boolean This parameter is settable by the operator.	TDD/FDD	No
groupAssignmentPUSCH	Corresponds to parameter *groupAssignmentPUSCH* specified in 3GPP TS 36.331 section 6.3.2.	int[0..29] This parameter is not settable by the operator.	TDD/FDD	No
sequenceHoppingEnabled	Determines whether sequence hopping is enabled or not. This parameter corresponds to *sequenceHoppingEnabled* parameter specified in 3GPP TS 36.331 section 6.3.2.and in TS 36.211 section 5.5.1.4.	Boolean This parameter is settable by the operator.	TDD/FDD	No
cyclicShift	Corresponds to parameter *cyclcShift* specified in 3GPP TS 36.331 section 6.3.2.	int[0..7] This parameter is not settable by the operator.	TDD/FDD	No

6.1.1.7 Uplink Power Control

This table contains parameters used for computing UL power.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
p0NominalPUSCH	Denotes the parameter used to compute the UL UE transmit power for transmission on PUSCH for semi-persistent grants. This parameter corresponds to *p0-NominalPUSCH* parameter specified in 3GPP TS 36.331 section 6.3.2 and $P_{O\_NoMINAL\_PUSCH}(0)$ parameter specified in 3GPP TS 36.211 section 5.1.1.1	int[-126..24] This parameter is settable by the operator.	TDD/FDD	No
Alpha	Denotes the parameter used to compute the UL UE transmit power for transmission on PUSCH. aIn corresponds to value of 0.n and aI1 corresponds to value of 1. This parameter corresponds to *alpha* parameter specified in 3GPP TS 36.331 section 6.3.2 and to *α* parameter specified in 3GPP TS 36.211 section 5.1.1.1.	Enum {al0, al04, al05, al06, al07, al08, al09, al1} This parameter is settable by the operator.	TDD/FDD	No
p0NominalPUCCH	Denotes the parameter used to compute the UL UE transmit power for transmission on PUCCH. This parameter corresponds to *p0-NominalPUCCH* parameter specified in 3GPP TS 36.331 section 6.3.2 and $P_{O\_NoMINAL\_PUCCH}$ parameter specified in 3GPP TS 36.211 section 5.1.2.1	int[-126..24] This parameter is settable by the operator.	TDD/FDD	No
deltaF-PUCCH-Format1	Each value of deltaF-PUCCH-FormatX corresponds to parameter $\Delta_{F\_PUCCH}(X)$, where XÎ{1,1b,2,2a,2b}, specified in 36.331 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.213 section 5.1.2. Value of deltaFn corresponds to n dB.	Enum{deltaF-2, deltaF0, deltaF2} This parameter is not settable by the operator.	TDD/FDD	No
deltaF-PUCCH-Format1b	Each value of deltaF-PUCCH-FormatX corresponds to parameter $\Delta_{F\_PUCCH}(X)$, where XÎ{1,1b,2,2a,2b}, specified in 36.331 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.213 section 5.1.2. Value of deltaFn corresponds to n dB.	Enum{deltaF1, deltaF3, deltaF5} This parameter is not settable by the operator.	TDD/FDD	No
deltaF-PUCCH-Format2	Each value of deltaF-PUCCH-FormatX corresponds to parameter $\Delta_{F\_PUCCH}(X)$, where XÎ{1,1b,2,2a,2b}, specified in 36.331 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.213 section 5.1.2. Value of deltaFn corresponds to n dB.	Enum{deltaF-2, deltaF0, deltaF1, deltaF2} This parameter is not settable by the operator.	TDD/FDD	No
deltaF-PUCCH-Format2a	Each value of deltaF-PUCCH-FormatX corresponds to parameter $\Delta_{F\_PUCCH}(X)$, where XÎ{1,1b,2,2a,2b}, specified in 36.331 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.213 section 5.1.2. Value of deltaFn corresponds to n dB.	Enum{deltaF-2, deltaF0, deltaF2} This parameter is not settable by the operator.	TDD/FDD	No
deltaF-PUCCH-Format2b	Each value of deltaF-PUCCH-FormatX corresponds to parameter $\Delta_{F\_PUCCH}(X)$, where XÎ{1,1b,2,2a,2b}, specified in 36.331 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.213 section 5.1.2. Value of deltaFn corresponds to n dB.	Enum{deltaF-2, deltaF0, deltaF2} This parameter is not settable by the operator.	TDD/FDD	No
deltaPreambleMsg3	Denotes the parameter used to compute the UL UE transmit power for transmission of random access response grant. This parameter corresponds to *deltaPreambleMsg3* parameter specified in 3GPP TS 36.331 section 6.3.2 and to $\Delta_{PREAMBLE\_Msg3}$ parameter specified in 3GPP TS 36.213 section 5.1.1.1	int[-1..6] This parameter is not settable by the operator.	TDD/FDD	No

6.1.1.8 MBSFN Configuration

This table contains parameters related to MBSFN configuration.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
NeighCellConfig	Provides the information related to MBSFN and TDD UL/DL configuration of neighbour cells. Value 0: Not all neighbour cells have the same MBSFN subframe allocation as serving cell; Value 1: No MBSFN subframes are present in all neighbour cells; Value 2: The MBSFN subframe allocations of all neighbour cells are identical to or subsets of that in the serving cell; Value 3: Different UL/DL allocation in neighbouring cells for TDD compared to the serving cell. Corresponds to *NeighCellConfig* IE specified in 3GPP TS 36.331 section 6.3.6	int[0..3] This parameter is settable by the operator.	TDD/FDD	No

6.1.1.8.1 MBSFN Subframe List

This table contains parameters that define the list of configurations of subframes reserved for MBSFN in downlink.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
radioFrameAllocationPeriod	Radio frames that contain MBSFN subframes occur when equation SFN mod radioFrameAllocationPeriod = radioFrameAllocationOffset is satisfied. When value of radioFrameAllocationSize is fourframes, the equation defines the first of the four allocated frames. Value n1 denotes value 1, n2 denotes value 2, and so on. Values n1 and n2 are not applicable when fvalue of radioFrameAllocationSize is fourframes. Corresponds to *radioFrameAllocationPeriod* IE specified in 3GPP TS 36.331 section 6.3.1.	Enum {n1, n2, n4, n8, n16, n32} This parameter is settable by the operator.	TDD/FDD	No
radioframeAllocationOffset	Radio-frames that contain MBSFN subframes occur when equation SFN mod radioFrameAllocationPeriod = radioFrameAllocationOffset is satisfied. Value n1 denotes value 1, n2 denotes value 2, and so on. Corresponds to *radioFrameAllocationOffset* IE specified in 3GPP TS 36.331 section 6.3.1.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
radioFrameAllocationSize	Denotes the number of consecutive frames that the MBSFN allocation pertains to.	Enum {1, 4} This parameter is settable by the operator.	TDD/FDD	No

subFrameAllocations	Comma-separated list of items of length 1. If radioFrameAllocationSize is 1 then the length of the list is 6. If radioFrameAllocationSize is 4 then the length of the list is 24. If radioFrameAllocationSize is 1, then item value of '1' denotes that the corresponding subframe is allocated for MBSFN. The following mapping applies in this case: the first item defines the MBSFN allocation for subframe #1, the second item for #2, third item for #3 , fourth item for #6, fifth item for #7, sixth item for #8. If radioFrameAllocationSize is 4, then the allocation applies to subframes #1, #2, #3 , #6, #7, and #8 in the sequence of the four radio-frames.	string (24) This parameter is settable by the operator.	TDD/FDD	No
syncStratumID	Defines the synchronization stratum level to which the MBSFN configuration applies.	int[1..8] This parameter is settable by the operator.	TDD	No

6.1.1.9 Positioning reference Signals

This table contains parameters related to Positioning Reference Signals (PRS) configuration.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
NumPRSResourceBlocks	Defines the number of resource blocks used for PRS. Corresponds to the parameter N_{RB}^{PRS} in 3GPP TS 36.211 section 6.10.4.2	UnsignedInt This parameter is settable by the operator.	TDD/FDD	No
PRSConfigurationIndex	Corresponds to the PRS configuration index defined as parameter I_{PRS} in 3GPP TS 36.211 section 6.10.4.3 and Table 6.10.4.3-1	int[0..4095] This parameter is settable by the operator.	TDD/FDD	No
NumConsecutivePRSSubfames	Defines the number of consecutive positioning subframes. Corresponds to the parameter N_{PRS} in 3GPP TS 36.211 section 6.10.4.3. Value n1 corresponds to number 1 etc.	Enum {n1, n2, n4, n6} This parameter is settable by the operator.	TDD/FDD	No

6.1.1.10 TDD Frame Structure

This table contains parameters related to configuration of TDD physical layer frame structure.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
subFrameAssignment	Defines the DL/UL subframe configuration where sa0 corresponds to Configuration 0, sa1 to Configuration 1 and so on. Corresponds to subframAssignment specified in 3GPP TS 36.331 section 6.3.2 and to 3GPP TS 36.211 table 4.2.2.	Enum {sa0, sa1, sa2, sa3, sa4, sa5, sa6} This parameter is settable by operator.	TDD	No
specialSubframePatterns	Defines the configuration of the special subframe that contains the guard period between the downlink and uplink transmissions. Corresponds to the specialSubframePatterns specified in 3GPP TS 36.331 section 6.3.2 and to 3GPP TS 36.211 table 4.2.1.	Enum {ssp0, ssp1, ssp2, ssp3, ssp4, ssp5, ssp6, ssp7, ssp8} This parameter is settable by operator.	TDD	No

6.1.2 MAC Layer Parameters

Tables in below sections summarize the set of proposed MAC Layer objects and parameters.

6.1.2.1 RACH

This table contains parameters related to RACH configuration at the MAC level across the cell.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
numberOfRaPreambles	Number of non-dedicated random access preambles. Corresponds to parameter *numberOfRA-Preambles* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.1.1. Value n4 corresponds to 4, n8 corresponds to 8 and so on.	Enum{n4,n8,n12,n16,n20,n24,n28,n32,n36,n40,n44,n48,n52,n56,n60,n64} This parameter is settable by the operator.	TDD/FDD	No
sizeOfRaGroupA	Number of non-dedicated random access preambles in Random Acces Preambles group A. Corresponds to parameter *sizeOfRA-PreamblesGroupA* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.1.1. Value n4 corresponds to 4, n8 corresponds to 8 and so on.	Enum{n4,n8,n12,n16,n20,n24,n28,n32,n36,n40,n44,n48,n52,n56,n60} This parameter is settable by the operator.	TDD/FDD	No

messageSizeGroupA	Threshold for preamble selection in 3GPP TS 36.321 section 5.1.2. Corresponds to parameter *messageSizeGroupA* specified in 3GPP TS 36.331 section 6.3.2. Value in bits. Value b56 corresponds to 56 bits, b144 corresponds to 144 bits and so on.	Enum{b56, b144, b208, b256} This parameter is settable by the operator.	TDD/FDD	No
messagePowerOffsetGroupB	Threshold for preamble selection in 3GPP TS 36.321 section 5.1.2. Corresponds to parameter *messagePowerOffsetGroupB* specified in 3GPP TS 36.331 section 6.3.2. Value in dB. Value dB5 corresponds to 5 dB and so on.	Enum{minusinfinity, dB0, dB5, dB8, dB10, dB12, dB15, dB18} This parameter is settable by the operator.	TDD/FDD	No
powerRampingStep	Power increase factor between subsequent random access preamble transmissions. Value in dB. Value dB2 corresponds to 2 dB and so on. Corresponds to parameter *powerRampingStep* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.1.3.	Enum{dB0, dB2,dB4, dB6} This parameter is settable by the operator.	TDD/FDD	No
preambleInitialReceivedTargetPower	This parameter denotes the baseline for computation of the transmit power for random access power transmission. Also used as a parameter in the criteria for preamble selection. Corresponds to parameter *preambleInitialReceivedTargetPower* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.1.2. and section 5.1.3. Value in dBm. Value dBm-120 corresponds to -120 dBm and so on.	Enum{dBm-120, dBm-118, dBm-116, dBm-114, dBm-112,dBm-110,dBm-108,dBm-106,dBm-104,dBm-102,dBm-100,dBm-98,dBm-96,dBm-94, dBm-92,dBm-90} This parameter is settable by the operator.	TDD/FDD	No
preambleTransMax	Maximum number of random access preamble transmissions. Corresponds to parameter *preambleTransMax* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.1.4 and section 5.1.5	Enum{n3, n4, n5, n6, n7, n8, n10, n20, n50, n100, n200} This parameter is settable by the operator.	TDD/FDD	No
ResponseWindowSize	Denotes the duration of the random access response window. Corresponds to parameter *ra-ResponseWindowSize* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.1.4. Value sfn corresponds to n subframes.	Enum{sf2, sf3, sf4, sf5, sf6, sf7, sf8,sf10} This parameter is settable by the operator.	TDD/FDD	No

ContentionResolutionTimer	Contention resolution timer. Corresponds to parameter *mac-ContentionResolutionTimer* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.1.5. Value sfn corresponds to n subframes.	Enum{sf8, sf16, sf24, sf32, sf40, sf48,sf56, sf64} This parameter is settable by the operator.	TDD/FDD	No
maxHARQ-Msg3Tx	Maximum number of Msg3 HARQ transmissions by RRC. Corresponds to parameter *maxHARQ-Msg3Tx* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.4.2.2	int[1..8] This parameter is settable by the operator.	TDD/FDD	No

6.1.2.2 DRX

This table contains parameters related to DRX configuration.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
drxEnabled	This parameter indicates whether DRX operation is enabled (TRUE) or not (FALSE). Corresponds to *drx-Configuration* IE defined in 3GPP TS 36.331 section 6.3.2.	Boolean This parameter is settable by the operator.	TDD/FDD	No
onDurationTimer	Part of the DRX cycle during which UE actively monitors PDCCH. Value in number of PDCCH sub-frames. Value psf1 corresponds to 1 PDCCH sub-frame, psf2 corresponds to 2 PDCCH sub-frames and so on. Corresponds to parameter *onDurationTimer* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.7.	Enum{psf1, psf2, psf3, psf4, psf5, psf6, psf8, psf10, psf20, psf30, psf40, psf50, psf60, psf80, psf100, psf200} This parameter is settable by the operator.	TDD/FDD	No
drxInactivityTimer	Denotes the number of inactive consecutive PDCCH-subframe(s) that will activate short DRX cycle. Value in number of PDCCH sub-frames. Value psf1 corresponds to 1 PDCCH sub-frame, psf2 corresponds to 2 PDCCH sub-frames and so on. Corresponds to parameter *drx-InactivityTimer* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.7.	Enum{psf1, psf2, psf3, psf4, psf5, psf6,psf8, psf10, psf20, psf30, psf40,psf50, psf60, psf80, psf100,psf200, psf300, psf500, psf750, psf1280, psf1920, psf2560, spare10, spare9, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}	TDD/FDD	No

		This parameter is settable by the operator.		
drxRetransmissionTimer	Specifies the maximum number of consecutive PDCCH-subframe(s) UE must remain active expecting a DL retransmission. The timer is started when a HARQ RTT Timer expires and the data in the soft buffer of the corresponding HARQ process was not successfully decoded. There is one timer for each active HARQ process. Value in number of PDCCH sub-frames. Value psf1 corresponds to 1 PDCCH sub-frame, psf2 corresponds to 2 PDCCH sub-frames and so on. Corresponds to parameter *drx-RetransmissionTimer* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.7.	Enum{psf1, psf2, psf4, psf6, psf8, psf16, psf24, psf33} This parameter is settable by the operator.	TDD/FDD	No
longDRXCycle	Long DRX Cycle value in number of sub-frames. Value sf10 corresponds to 10 sub-frames, sf20 corresponds to 20 subframes and so on. If shortDRX-Cycle is configured, the value shall be a multiple of the shortDRXCycle value. Corresponds to *longDRX-Cycle* parameter specified in 3GPP TS 36.321 section 5.7.	Enum{sf10, sf20, sf32, sf40, sf64, sf80, sf128, sf160, sf256, sf320, sf512, sf640, sf1024, sf1280, sf2048, sf2560} This parameter is settable by the operator.	TDD/FDD	No
drxStartOffset	Parameter used to compute the starting frame of the DRX cycle. The value is integer between zero and longDRXCycle-1. Corresponds to *drxStartOffset* parameter specified in 3GPP TS 36.321 section 5.7.	int[0..(longDRXCycle-1)] This parameter is settable by the operator.	TDD/FDD	No
shortDRXCycle	Short DRX Cycle value in number of sub-frames. Value sf10 corresponds to 10 sub-frames, sf20 corresponds to 20 subframes and so on. If shortDRX-Cycle is configured, the value of longDRXCycle shall be a multiple of the shortDRXCycle value. Corresponds to *shortDRX-Cycle* parameter specified in 3GPP TS 36.321 section 5.7.	Enum{sf2, sf5, sf8, sf10, sf16, sf20, sf32, sf40, sf64, sf80, sf128, sf160,sf256, sf320, sf512, sf640} This parameter is settable by the operator.	TDD/FDD	No
drxShortCycleTimer	Duration of the short DRX cycle in multiples of shortDRXCycle. Denotes the number of consecutive subframe(s) the UE shall follow the short DRX cycle after the DRX Inactivity Timer has expired. Corresponds to *drxShortCycleTimer* parameter specified in 3GPP TS 36.321 section 5.7.	Int[1..16] This parameter is settable by the operator.	TDD/FDD	No

6.1.2.3 Uplink SCH

This table contains parameters related to UL SCH configuration.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
maxHARQ-Tx	Maximum number of UL HARQ transmissions. Corresponds to parameter *maxHARQ-Tx* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.4.2.2	Enum{n1, n2, n3, n4, n5, n6, n7, n8,n10, n12, n16, n20, n24, n28, spare2, spare1} This parameter is not settable by the operator.	TDD/FDD	No
periodicBSR-Timer	Timer for Periodic BSR reporting. UE transmits periodic BSR at the expiration of this timer. Corresponds to parameter *periodicBSR-Timer* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.4.5 Value sfn corresponds to n subframes.	Enum{sf5, sf10, sf16, sf20, sf32, sf40, sf64, sf80, sf128, sf160, sf320, sf640, sf1280, sf2560, infinity, spare1}	TDD/FDD	No
retxBSR-Timer	Timer for Regular BSR reporting. UE transmits a Regular BSR at the expiration of this timer if data is available in the buffer. Corresponds to parameter *retxBSR-Timer* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.4.5 Value sfn corresponds to n subframes.	Enum{sf320, sf640, sf1280, sf2560, sf5120, sf10240, spare2, spare1} This parameter is not settable by the operator.	TDD/FDD	No
ttiBundling	Enables/disables TTI bundling. Corresponds to parameter *ttiBundling* specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.321 section 5.4.2.1.	Boolean This parameter is not settable by the operator.	TDD/FDD	No

6.1.3 RLC Layer Parameters

Tables in below sections summarize the set of proposed RLC Layer objects and parameters.

6.1.3.1 SRB

This table contains parameters related to AM RLC layer parameters for SRB*i*, where ***i*** can be 1 or 2.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB

DefaultConfiguration	If the value is TRUE, the RLC configuration is set to the values defined in the default RLC configuration for SRB1 and SRB2 in 3GPP 36.331 sub-clause 9.2.1.1 or for SRB2 in 3GPP 36.331 sub-clause 9.2.1.2. In this case, the values of parameters t-PollRetransmit, pollPDU, pollByte, maxRetxThreshold, t-Reordering, t-Statusprohibit are ignored.	Boolean This parameter is settable by the operator.	TDD/FDD	No
t-PollRetransmit	Timer between successive poll transmissions. Value ms5 means 5ms, ms10 means 10ms and so on. Corresponds to *t-PollRetransmit* IE specified in 3GPP TS 36.331 section 6.3.2 and in 36.322 section 5.2.2.	Enum{ms5, ms10, ms15, ms20, ms25, ms30, ms35,ms40, ms45, ms50, ms55, ms60, ms65, ms70,ms75, ms80, ms85, ms90, ms95, ms100, ms105, ms110, ms115, ms120, ms125, ms130, ms135, ms140, ms145, ms150, ms155, ms160, ms165, ms170, ms175, ms180, ms185, ms190, ms195, ms200, ms205, ms210, ms215, ms220, ms225, ms230, ms235, ms240, ms245, ms250, ms300, ms350, ms400, ms450, ms500, spare9, spare8, spare7, spare6, spare5, spare4, spare3,spare2, spare1} This parameter is settable by the operator.	TDD/FDD	No
pollPDU	Counter of PDUs between successive poll transmissions. Value p4 means 4 PDUs, p8 means 8 PDUs and so on. Corresponds to p*ollPDU* IE specified in 3GPP TS 36.331 section 6.3.2 and in 36.322 section 5.2.2.1	Enum{p4, p8, p16, p32, p64, p128, p256, pInfinity} This parameter is settable by the operator.	TDD/FDD	No

pollByte	Counter of PDU bytes transmitted between successive poll transmissions. Value kB25 corresponds to 25 kBytes, kB50 to 50 kBytes and so on. kBInfinity corresponds to an infinite amount of kBytes. Corresponds to *pollByte* IE specified in 3GPP TS 36.331 section 6.3.2 and in 36.322 section 5.2.2.1	Enum{kB25, kB50, kB75, kB100, kB125, kB250, kB375, kB500, kB750, kB1000, kB1250, kB1500, kB2000, kB3000, kBinfinity, spare1} This parameter is settable by the operator.	TDD/FDD	No
maxRetxThreshold	This parameter is used by the transmitting side of each RLC entity to limit the number of retransmissions of an AMD PDU. Corresponds to *maxRetxThreshold* IE specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.322 section 5.2.1. Value t1 corresponds to 1 retransmission, t2 to 2 retransmissions and so on.	Enum{t1, t2, t3, t4, t6, t8, t16, t32} This parameter is settable by the operator.	TDD/FDD	No
t-Reordering	This timer is used by the receiving side of an RLC entity in order to detect loss of RLC PDUs at lower layer. Corresponds to *t-Reordering* IE specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.322 section 5.1.2.2. and 5.1.3.2. Value ms0 means 0ms, ms5 means 5ms and so on.	Enum{ms0, ms5, ms10, ms15, ms20, ms25, ms30, ms35, ms40, ms45, ms50, ms55, ms60, ms65, ms70, ms75, ms80, ms85, ms90, ms95, ms100, ms110, ms120, ms130, ms140, ms150, ms160, ms170, ms180, ms190, ms200, spare1} This parameter is settable by the operator.	TDD/FDD	No

t-StatusProhibit	This timer is used by the receiving side of an AM RLC entity in order to prohibit transmission of a STATUS PDU. Corresponds to *t-StatusProhibit* IE specified in 3GPP TS 36.331 section 6.3.2 and in 3GPP TS 36.322 section 5.2.3. Value ms0 means 0ms, ms5 means 5ms and so on.	Enum{ms0, ms5, ms10, ms15, ms20, ms25, ms30, ms35,ms40, ms45, ms50, ms55, ms60, ms65, ms70,ms75, ms80, ms85, ms90, ms95, ms100, ms105,ms110, ms115, ms120, ms125, ms130, ms135,ms140, ms145, ms150, ms155, ms160, ms165,ms170, ms175, ms180, ms185, ms190, ms195,ms200, ms205, ms210, ms215, ms220, ms225,ms230, ms235, ms240, ms245, ms250, ms300,ms350, ms400, ms450, ms500, spare8, spare7, spare6, spare5, spare4, spare3, spare2,spare1} This parameter is settable by the operator.	TDD/FDD	No

6.1.4 Cell Restriction Parameters

Tables in below sections summarize the set of proposed cell restriction.

6.1.4.1 Cell barring and Access Class

This table contains cell barring and 3GPP access class parameters.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
CellBarred	Indicates whether the HeNB is barred or not. Corresponds to parameter *CellBarred* specified in SIB1 in 3GPP TS 36.331 section 6.2.2.	Enum{barred, notBarred} This parameter is settable by the operator.	TDD/FDD	No
CellReservedForO	Indicates whether the HeNB is reserved	Enum{reserved,	TDD/FDD	No

peratorUse	for operator's use or not. Corresponds to parameter c*ellReservedForOperatorUse* specified in SIB1 in 3GPP TS 36.331 section 6.2.2.	notReserved} This parameter is settable by the operator.		
BarringForEmergency	Indicates whether the HeNB is barred for Access Class 10 (TRUE) or not (FALSE). Corresponds to parameter *ac-BarringForEmergency* specified in SIB2 in 3GPP TS 36.331 section 6.3.1.	Boolean This parameter is settable by the operator.	TDD/FDD	No

6.1.5 Mobility Parameters

6.1.5.1 Idle Mode Mobility Parameters

Tables in below sections summarize the set of proposed idle mode mobility objects and parameters.

6.1.5.1.1 Common Parameters

This table contains common parameters related to idle mode mobility.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
QHyst	Hysteresis value applied to serving cell for evaluating cell ranking criteria. Value in dB. Corresponds to parameter *q-Hyst* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	Enum{dB0, dB1, dB2, dB3, dB4, dB5, dB6, dB8, dB10, dB12, dB14, dB16, dB18, dB20, dB22, dB24} This parameter is settable by the operator.	TDD/FDD	No
QHystSFMedium	Speed-dependent scaling factor for Qhyst in Medium-mobility state. Value dBn represents n dB. Corresponds to parameter *q-HystSF:sf-Medium* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{dB-6, dB-4, dB-2, dB0} This parameter is settable by the operator.	TDD/FDD	No
QHystSFHigh	Speed-dependent scaling factor for Qhyst in High-mobility state. Value dBn represents n dB. Corresponds to parameter *q-HystSF:sf-High* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{dB-6, dB-4, dB-2, dB0} This parameter is settable by the operator.	TDD/FDD	No

TEvaluation	Specifies the duration for evaluating allowed amount of cell reselection(s) required to enter mobility states. Value in seconds, s30 corresponds to 30 seconds and so on. Corresponds to parameter *t-Evaluation* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and to parameter T_{CRmax} specified in 3GPP TS 36.304 section 5.2.4.3.	Enum{s30, s60, s120, s180, s240, spare3, spare2, spare1} This parameter is settable by the operator.	TDD/FDD	No
THystNormal	The additional duration for evaluating criteria to enter normal mobility state. Specifies the additional time period for evaluating criteria to enter Normal-mobility state. Value in seconds, s30 corresponds to 30 seconds and so on. Corresponds to parameter *t-HystNormal* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and to parameter $T_{CRmaxHyst}$ specified in 3GPP TS 36.304 section 5.2.4.3.	Enum{s30, s60, s120, s180, s240, spare3, spare2, spare1} This parameter is settable by the operator.	TDD/FDD	No
NCellChangeMedium	Specifies the number of cell reselections within Tevaluation to enter Medium-mobility state. Corresponds to parameter *n-cellChangeMedium* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and to parameter N_{CR_M} specified in 3GPP TS 36.304 section 5.2.4.3.	int[1..16] This parameter is settable by the operator.	TDD/FDD	No
NCellChangeHigh	Specifies the number of cell reselections within Tevaluation to enter High-mobility state. Corresponds to parameter *n-cellChangeHigh* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and to parameter N_{CR_H} specified in 3GPP TS 36.304 section 5.2.4.3.	int[1..16] This parameter is settable by the operator.	TDD/FDD	No

6.1.5.1.2 Intra-Frequency Parameters

This table contains frequency-specific parameters related to idle mode mobility within the serving frequency.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
QRxLevMinSIB1	Minimum required minimum received RSRP level of a E-UTRA cell for cell selection. Actual value in dBm is obtained by multiplying by 2. Corresponds to parameter *q-rxLevMin* in SIB1 in 3GPP TS 36.331 and in 3GPP TS 36.304 section 5.2.3.2.	int[-70..-22] This parameter is settable by the operator.	TDD/FDD	No

QRxLevMinSIB3	Minimum required minimum received RSRP level for intra-frequency E-UTRA cell re-selection. Actual value in dBm is obtained by multiplying by 2. Corresponds to parameter *q-rxLevMin* in SIB3 in 3GPP TS 36.331 and in 3GPP TS 36.304 section 5.2.3.2.	int[-70..-22] This parameter is settable by the operator.	TDD/FDD	No
QRxLevMinOffset	Offset with respect to QrxLevMin taken into account in the computation of Srxlev for cell selection evaluation of cells detected during a periodic search for a higher priority PLMN while camped normally in a VPLMN. Actual value in dBm is obtained by multiplying by 2. Corresponds to parameter *q-rxLevMinOffset* in SIB1 specified in 3GPP TS 36.331 section 6.2.2 and in 3GPP TS 36.304 section 5.2.3.2.	int[1..8] This parameter is settable by the operator.	TDD/FDD	No
SIntraSearch	Threshold for intra-frequency measurements. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *s-IntraSearch* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
TReselectionEUTRA	Cell reselection timer for intra frequency E-UTRA cell reselection. Value in seconds. Corresponds to parameter *t-ReselectionEUTRA* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int{0..7] This parameter is settable by the operator.	TDD/FDD	No
SNonIntraSearch	Threshold for inter-frequency and inter-RAT measurements with lower or equal priority. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *s-NonIntraSearch* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
CellReselectionPriority	Absolute priority of the E-UTRAN serving carrier frequency used in the inter-frequency and inter-RAT cell reselection procedure. Corresponds to parameter *CellReselectionPriority* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
PMax	This parameter is used to limit the allowed UE uplink transmission power on the serving frequency. It is used to calculate the parameter Pcompensation defined in 3GPP TS 36.304 section 5.2.3.2. Value in dBm. Corresponds to parameter *p-Max* specified in SIB1 and SIB3 in 3GPP TS 36.331 section 6.3.1.	int[-30..33] This parameter is settable by the operator.	TDD/FDD	No

ThreshServingLow	Threshold for serving frequency used in evaluation of reselection towards lower priority E-UTRAN frequency or RA. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshServingLow* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
TReselectionEUTRA-SFMedium	Specifies scaling factor for intra-frequency TreselectionEUTRA in Medium-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionEUTRA-SF:sf-Medium* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No
TReselectionEUTRA-SFHigh	Specifies scaling factor for intra-frequency TreselectionEUTRA in High-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter t-*ReselectionEUTRA-SF:sf-High* specified in SIB3 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No

6.1.5.1.3 Inter-Frequency Parameters

This table contains information about other E-UTRA frequencies relevant for inter-frequency cell re-selection within E-UTRAN.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
EUTRACarrierARFCN	Indicates the ARFCN of this frequency carrier. Corresponds to parameter *dl-CarrierFreq* in SIB5 in 3GPP TS 36.331.	int[0..65535] This parameter is settable by the operator.	TDD/FDD	No
QRxLevMinSIB5	Required minimum received RSRP level on this E-UTRA frequency carrier. Actual value in dBm is obtained by multiplying by 2. Corresponds to parameter *q-rxLevMin* in SIB5 in 3GPP TS 36.331 and in 3GPP TS 36.304 section 5.2.3.2.	int[-70..-22] This parameter is settable by the operator.	TDD/FDD	No
QOffsetFreq	Offset applicable between serving and this frequency carrier. Actual value in dBm is obtained by multiplying by 2. Corresponds to parameter *q-OffsetFreq* in SIB5 specified in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.4.2.6.	ENUMERATED {dB-24, dB-22, dB-20, dB-18, dB-16, dB-14, dB-12, dB-10, dB-8, dB-6, dB-5, dB-4, dB-3, dB-2, dB-1, dB0, dB1, dB2, dB3, dB4, dB5, dB6, dB8, dB10,	TDD/FDD	No

		dB12, dB14, dB16, dB18, dB20, dB22, dB24} This parameter is settable by the operator.		
TReselectionEUTRA	Cell reselection timer for inter-frequency cell reselection to this E-UTRA frequency carrier. Value in seconds. Corresponds to parameter *t-ReselectionEUTRA* specified in SIB5 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int{0..7] This parameter is settable by the operator.	TDD/FDD	No
CellReselectionPriority	Absolute priority of this E-UTRA frequency carrier, as used by the inter-frequency cell reselection procedure. Corresponds to parameter *CellReselectionPriority* specified in SIB5 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
ThreshXHigh	Threshold used when reselecting from a lower priority E-UTRAN frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-High* specified in SIB5 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
ThreshXLow	Threshold used when reselecting from a higher priority E-UTRAN frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-Low* specified in SIB5 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
PMax	This parameter is used to limit the allowed UE uplink transmission power on this carrier frequency. It is used to calculate the parameter Pcompensation defined in 3GPP TS 36.304 section 5.2.3.2. Value in dBm. Corresponds to parameter *p-Max* specified in SIB5 in 3GPP TS 36.331 section 6.3.1.	int[-30..33] This parameter is settable by the operator.	TDD/FDD	No
TReselectionEUTRA-SFMedium	Specifies scaling factor for TreselectionEUTRA for inter-frequency reselection to this frequency carrier in Medium-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionEUTRA-SF:sf-Medium* specified in SIB5 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No
TReselectionEUTRA-SFHigh	Specifies scaling factor for TreselectionEUTRA for inter-frequency reselection to this frequency carrier in High-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionEUTRA-SF:sf-High* specified	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No

	in SIB5 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.			

6.1.5.1.4 IRAT from E-UTRA to UTRA

This table contains information about UTRA relevant for inter-RAT cell re-selection from E-UTRA to UTRA.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
TReselectionUTRA	Cell reselection timer for reselection to a UTRA frequency carrier. Value in seconds. Corresponds to parameter *t-ReselectionUTRA* specified in SIB6 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int{0..7] This parameter is settable by the operator.	TDD/FDD	No
TReselectionUTRA-SFMedium	Specifies scaling factor for TreselectionUTRA for inter-RAT reselection to UTRA in Medium-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionUTRA-SF:sf-Medium* specified in SIB6 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No
TReselectionUTRA-SFHigh	Specifies scaling factor for TreselectionEUTRA for inter-frequency reselection to this frequency carrier in High-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionUTRA-SF:sf-High* specified in SIB6 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No

6.1.5.1.5 IRAT from E-UTRA to UTRAN FDD

This table contains information about UTRA FDD frequency carriers relevant for inter-RAT cell re-selection from E-UTRA to UTRAN FDD.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
UTRACarrierARFCN	Indicates the ARFCN of the frequency carrier. Corresponds to parameter *dl-CarrierFreq* in SIB6 in 3GPP TS 36.331.	int[0..16383] This parameter is settable by the operator.	TDD/FDD	No
QRxLevMin	Required minimum received RSCP level on this UTRA frequency carrier. Actual value in dBm is obtained by multiplying by 2 plus 1. Corresponds to parameter q-rxLevMin in SIB6 in	int[-60, -13] This parameter is settable by the operator.	TDD/FDD	No

	3GPP TS 36.331 and in 3GPP TS 25.304.			
QQualMin	Required minimum received EcIo level on this UTRA FDD carrier. Value in dB. Corresponds to parameter *q-QualMin* in SIB6 in 3GPP TS 36.331 and in 3GPP TS 25.304.	int[-24,0] This parameter is settable by the operator.	TDD/FDD	No
CellReselectionPriority	Absolute priority of this UTRA FDD frequency carrier, as used by the inter-frequency cell reselection procedure. Corresponds to parameter *CellReselectionPriority* specified in SIB6 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
ThreshXHigh	Threshold used when reselecting towards a higher priority UTRA FDD frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-High* specified in SIB6 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
ThreshXLow	Threshold used when reselecting towards a lower priority UTRA FDD frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-Low* specified in SIB6 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
PMaxUTRA	This parameter is used to limit the allowed UE uplink transmission power on this UTRA FDD carrier frequency. It is used to calculate the parameter Pcompensation defined in 3GPP TS 25.304. Value in dBm. Corresponds to parameter p-MaxUTRA specified in SIB6 in 3GPP TS 36.331 section 6.3.1.	int[-50..33] This parameter is settable by the operator.	TDD/FDD	No

6.1.5.1.6 IRAT from E-UTRA to GERAN

This table contains information about GERAN relevant for inter-RAT cell re-selection from E-UTRA to GERAN.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
TReselectionGERAN	Cell reselection timer for reselection to a GERAN frequency carrier. Value in seconds. Corresponds to parameter *t-ReselectionGERAN* specified in SIB7 in 3GPP TS 36.331 section 6.3.1 and to $Treselection_{GERA}$ in 3GPP TS 36.304 section 5.2.4.7.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
TReselectionGERAN-SFMedium	Specifies scaling factor for TreselectionGERAN for inter-RAT reselection to GERAN in Medium-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionGERAN-SF:sf-Medium* specified in SIB7 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No
TReselectionGERAN-SFHigh	Specifies scaling factor for TreselectionGERAN for inter-RAT reselection to GERAN in High-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionGERAN-SF:sf-High* specified in SIB7 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No

6.1.5.1.7 GERAN Frequency Groups

This table contains information about GERAN groups of frequency carriers relevant for inter-RAT cell re-selection from E-UTRA to GERAN.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
QRxLevMin	Required minimum received RSSI level on this GERAN frequency carrier for re-selection to this UTRA FDD carrier. Actual value in dBm is value * 2 - 115. Corresponds to parameter *q-rxLevMin* in SIB7 in 3GPP TS 36.331 and to *RXLEV_ACCESS_MIN* in 3GPP TS 45.008.	int[0..45] This parameter is settable by the operator.	TDD/FDD	No
cellReselectionPriority	Absolute priority of this GERAN frequency group, as used by the inter-frequency cell reselection procedure. Corresponds to parameter *CellReselectionPriority* specified in SIB7 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
ThreshXHigh	Threshold used when reselecting towards a higher priority GERAN frequency group than current serving E-UTRA frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-High* specified in SIB7 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No
ThreshXLow	Threshold used when reselecting towards a lower priority GERAN frequency group than current serving E-UTRA frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-Low* specified in SIB7 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..31] This parameter is settable by the operator.	TDD/FDD	No

6.1.5.1.7A IRAT from E-UTRAN to CDMA2000

This table contains information about CDMA2000 relevant for inter-RAT cell re-selection from E-UTRA to CDMA2000.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
SearchWindowSize	CDMA2000 parameter affecting the search for neighbouring CDMA2000 pilots. Corresponds to parameter searchWindowSize in SIB8 in 3GPP TS 36.331 section 6.3.1 and in 3GPP2 C.S0005-A Table 2.6.6.2.1-1 and C.S0024-A Table 8.7.6.2-4.	int[0..15] This parameter is settable by the operator.	TDD/FDD	No
TReselectionCDMA2000	Cell reselection timer for reselection to a CDMA2000 band. Value in seconds. Corresponds to parameter *t-ReselectionCDMA2000* specified in SIB8 in 3GPP TS 36.331 section 6.3.1 and to $Treselection_{CDMA\_HRPD}$ or $Treselection_{CDMA\_1xRTT}$ in 3GPP TS 36.304 section 5.2.4.7.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
TReselectionCDMA2000-SFMedium	Specifies scaling factor for TReselectionCDMA2000 for inter-RAT reselection to CDMA2000 in Medium-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionCDMA2000-SF:sf-Medium* specified in SIB8 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No
TReselectionCDMA2000-SFHigh	Specifies scaling factor for TReselectionCDMA2000 for inter-RAT reselection to CDMA2000 in High-mobility state. Value oDot25 corresponds to 0.25, oDot5 corresponds to 0.5 etc. Corresponds to parameter *t-ReselectionCDMA2000-SF:sf-High* specified in SIB8 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.3.	Enum{oDot25, oDot5, oDot75, lDot0} This parameter is settable by the operator.	TDD/FDD	No

6.1.5.1.8 CDMA2000 Bands for IRAT

This table contains information about CDMA2000 bands relevant for inter-RAT cell re-selection from E-UTRA to CDMA2000.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
BandClass	Denotes the CDMA2000 band in which the CDMA2000 carrier frequency can be found, as defined in 3GPP2 C.S0057-B Table 1.5-1. Corresponds to parameter *bandClass* specified in SIB8 in 3GPP TS 36.331 section 6.3.1.	ENUMERATED {bc0, bc1, bc2, bc3, bc4, bc5, bc6, bc7, bc8, bc9, bc10, bc11, bc12, bc13, bc14, bc15, bc16, bc17, spare14, spare13, spare12, spare11, spare10, spare9, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1, ...}	TDD/FDD	No
CellReselectionPriority	Absolute priority of this CDMA2000 band, as used by the inter-frequency cell reselection procedure. Corresponds to parameter *CellReselectionPriority* specified in SIB8 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.7.	int[0..7] This parameter is settable by the operator.	TDD/FDD	No
ThreshXHigh	Threshold used when reselecting towards a higher priority CDMA2000 band than current serving E-UTRA frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-High* specified in SIB8 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..63] This parameter is settable by the operator.	TDD/FDD	No
ThreshXLow	Threshold used when reselecting towards a lower priority CDMA2000 band than current serving E-UTRA frequency. Actual value in dB is obtained by multiplying by 2. Corresponds to parameter *threshX-Low* specified in SIB8 in 3GPP TS 36.331 section 6.3.1 and in 3GPP TS 36.304 section 5.2.4.5.	int[0..63] This parameter is settable by the operator.	TDD/FDD	No

6.1.5.2 Connected Mode Mobility Parameters

Tables in below sections summarize the set of proposed connected mode mobility objects and parameters.

6.1.5.2.1 Common Parameters for E-UTRA

This table contains common parameters related to intra-EUTRA connected mode mobility.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
FilterCoefficientRSRP	Filtering coefficient used for RSRP measurements. Value fc0 corresponds to k = 0, fc1 corresponds to k = 1, and so on. Corresponds to *filterCoefficientRSRP* parameter specified in *QuantityConfigEUTRA* IE in 3GPP TS 36.331 section 6.3.5	Enum{fc0, fc1, fc2, fc3, fc4, fc5, fc6, fc7, fc8, fc9, fc11, fc13, fc15, fc17, fc19, spare1, …} This parameter is settable by the operator.	TDD/FDD	No
FilterCoefficientRSRQ	Filtering coefficient used for RSRQ measurements. Value fc0 corresponds to k = 0, fc1 corresponds to k = 1, and so on. Corresponds to *filterCoefficientRSRQ* parameter specified in *QuantityConfigEUTRA* IE in 3GPP TS 36.331 section 6.3.5	Enum{fc0, fc1, fc2, fc3, fc4, fc5, fc6, fc7, fc8, fc9, fc11, fc13, fc15, fc17, fc19, spare1, …} This parameter is settable by the operator.	TDD/FDD	No
A1ThresholdRSRP	Threshold to be used in EUTRA measurement report triggering condition for event a1. Valid only if TriggerQuanity is rsrp. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a1-Threshold:threshold-RSRP specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..97] This parameter is settable by the operator.	TDD/FDD	No
A1ThresholdRSRQ	Threshold to be used in EUTRA measurement report triggering condition for event a1. Valid only if TriggerQuanity is rsrq. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a1-Threshold:threshold-RSRQ specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..34] This parameter is settable by the operator.	TDD/FDD	No
A2ThresholdRSRP	Threshold to be used in EUTRA measurement report triggering condition for event a2. Valid only if TriggerQuanity is rsrp. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a2-Threshold:threshold-RSRP specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..97] This parameter is settable by the operator.	TDD/FDD	No
A2ThresholdRSRQ	Threshold to be used in EUTRA measurement report triggering condition for event a2. Valid only if TriggerQuanity is rsrq. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a2-Threshold:threshold-RSRQ specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..34] This parameter is settable by the operator.	TDD/FDD	No
A3-Offset	Offset to be used in evaluation of EUTRA measurement report triggering condition for event a3. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter *a3-Offset* specified in ReportConfigEUTRA IE in 3GPP TS	in[-30..30] This parameter is settable by the operator.	TDD/FDD	No

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
	36.331 section 6.3.5.			
ReportOnLeave	Indicates whether or not the UE shall initiate the measurement reporting procedure when the leaving condition is met for event a3 for a cell in cellsTriggeredList, as specified in 3GPP TS 36.331 section 5.5.4.1.	Boolean This parameter is settable by the operator.	TDD/FDD	No
A4ThresholdRSRP	Threshold to be used in EUTRA measurement report triggering condition for event a4. Valid only if TriggerQuanity is rsrp. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a4-Threshold:threshold-RSRP specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..97] This parameter is settable by the operator.	TDD/FDD	No
A4ThresholdRSRQ	Threshold to be used in EUTRA measurement report triggering condition for event a4. Valid only if TriggerQuanity is rsrq. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a4-Threshold:threshold-RSRQ specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..34] This parameter is settable by the operator.	TDD/FDD	No
A5Threshold1RSRP	Threshold1 to be used in EUTRA measurement report triggering condition for event a5. Valid only if TriggerQuanity is rsrp. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a5-Threshold1:threshold-RSRP specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..97] This parameter is settable by the operator.	TDD/FDD	No
A5Threshold1RSRQ	Threshold1 to be used in EUTRA measurement report triggering condition for event a5. Valid only if TriggerQuanity is rsrq. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a5-Threshold1:threshold-RSRQ specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..34] This parameter is settable by the operator.	TDD/FDD	No
A5Threshold2RSRP	Threshold2 to be used in EUTRA measurement report triggering condition for event a5. Valid only if TriggerQuanity is rsrp. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a5-Threshold2:threshold-RSRP specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..97] This parameter is settable by the operator.	TDD/FDD	No
A5Threshold2RSRQ	Threshold2 to be used in EUTRA measurement report triggering condition for event a5. Valid only if TriggerQuanity is rsrq. Mapping to actual values is specified in 3GPP TS 36.133. Corresponds to parameter a5-Threshold2:threshold-RSRQ specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	int[0..34] This parameter is settable by the operator.	TDD/FDD	No
Hysteresis	Hysteresis applied to entry and leave	int[0..30]	TDD/FDD	No

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
	condition of a report triggering event. Corresponds to parameter *hysteresis* specified in *ReportConfigEUTRA* IE in 3GPP TS 36.331 section 6.3.5.	This parameter is settable by the operator.		
TimeToTrigger	Time during which measurement report triggering condition needs to be met in order to trigger a measurement report. Corresponds to parameter *timeToTrigger* specified in *ReportConfigEUTRA* IE in 3GPP TS 36.331 section 6.3.5. Value ms0 corresponds to 0 miliseconds etc.	Enum{ms0, ms40, ms64, ms80, ms100, ms128, ms160, ms256, ms320, ms480, ms512, ms640, ms1024, ms1280, ms2560, ms5120} This parameter is settable by the operator.	TDD/FDD	No
TriggerQuantity	Quantities used to evaluate a measurement report triggering condition. The values rsrp and rsrq correspond to Reference Signal Received Power (RSRP) and Reference Signal Received Quality (RSRQ), respectively. Corresponds to parameter triggerQuantity specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	Enum{rsrp, rsrq} This parameter is settable by the operator.	TDD/FDD	No
ReportQuantity	Measurement quantities to be included in the measurement report. The value "both" means that both the RSRP and RSRQ quantities are to be included in the measurement report. Corresponds to parameter reportQuantity specified in ReportConfigEUTRA IE in 3GPP TS 36.331 section 6.3.5.	Enum{sameAsTriggerQuantity, both} This parameter is settable by the operator.	TDD/FDD	No
MaxReportCells	Maximum number of cells that can be included in a measurement report. Corresponds to parameter *maxReportCells* specified in *ReportConfigEUTRA* IE in 3GPP TS 36.331 section 6.3.5.	Int[1..8] This parameter is not settable by the operator.	TDD/FDD	No
ReportInterval	Interval between successive measurement reports. Corresponds to parameter *reportInterval* specified in *ReportConfigEUTRA* IE in 3GPP TS 36.331 section 6.3.5.	Enum{ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, min1, min6, min12, min30, min60, spare3, spare2, spare1} This parameter is settable by the operator.	TDD/FDD	No
ReportAmount	Number of times a measurement report is sent. Corresponds to parameter *reportAmount* specified in *ReportConfigEUTRA* IE in 3GPP TS 36.331 section 6.3.5.	{r1, r2, r4, r8, r16, r32, r64, infinity} This parameter is settable by the operator.	TDD/FDD	No

6.1.5.2.2 IRAT

This table contains parameters related to IRAT connected mode mobility.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
QoffsettUTRA	Indicates a UTRA-specific offset to be applied when evaluating triggering conditions for measurement reporting in connected mode. Corresponds to parameter *offsetFreq* included in the IE *MeasObjectUTRA* specified in 3GPP TS 36.331.	Integer [-15:15] This parameter is settable by operator.	TDD/FDD	No
FilterCoefficientUTRA	Filtering coefficient used for UTRA measurements. Value fc0 corresponds to k = 0, fc1 corresponds to k = 1, and so on. Corresponds to *filterCoefficient* parameter specified in *QuantityConfigUTRA* IE in 3GPP TS 36.331 section 6.3.5	Enum{fc0, fc1, fc2, fc3, fc4, fc5, fc6, fc7, fc8, fc9, fc11, fc13, fc15, fc17, fc19} This parameter is settable by the operator.	TDD/FDD	No
MeasQuantityUTRAFDD	Measurement quantity used for UTRA measurements. Corresponds to *measQuantityUTRA-FDD* parameter specified in *QuantityConfigUTRA* IE in 3GPP TS 36.331 section 6.3.5	Enum{cpich-RSCP, cpich-EcN0} This parameter is settable by the operator.	TDD/FDD	No
B1ThresholdUTRARSCP	RSCP threshold to be used in UTRA measurement report triggering condition for event b1. Mapping to actual dBm values is specified in 3GPP TS 25.133. Corresponds to parameter *b1-ThresholdULTA:utra-RSCP* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[-5..91] This parameter is settable by the operator.	TDD/FDD	No
B1ThresholdUTRA EcN0	EcN0 threshold to be used in UTRA measurement report triggering condition for event b1. Mapping to actual dBm values is specified in 3GPP TS 25.133. Corresponds to parameter *b1-ThresholdULTA:utra-EcN0* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[0..49] This parameter is settable by the operator.	TDD/FDD	No
QoffsetGERAN	Indicates a GERAN-specific offset to be applied when evaluating triggering conditions for measurement reporting in connected mode. Corresponds to parameter *offsetFreq* included in the IE *MeasObjectGERAN* specified in 3GPP TS 36.331.	Integer [-15:15] This parameter is settable by operator.	TDD/FDD	No
FilterCoefficientGERAN	Filtering coefficient used for GERAN measurements. Value fc0 corresponds to k = 0, fc1 corresponds to k = 1, and so on. Corresponds to *filterCoefficien*t parameter specified in *QuantityConfigGERAN* IE in 3GPP TS 36.331 section 6.3.5	Enum{fc0, fc1, fc2, fc3, fc4, fc5, fc6, fc7, fc8, fc9, fc11, fc13, fc15, fc17, fc19} This parameter is settable by the operator.	TDD/FDD	No
B1ThresholdGERAN	Threshold to be used in GERAN measurement report triggering	int[0..63]	TDD/FDD	No

	condition for event b1. Mapping to actual dBm values is specified in 3GPP TS 45.008. Corresponds to parameter *b1-ThresholdGERAN* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	This parameter is settable by the operator.		
QoffsetCDMA2000	Indicates a CDMA2000-specific offset to be applied when evaluating triggering conditions for measurement reporting in connected mode. Corresponds to parameter *offsetFreq* included in the IE *MeasObjectCDMA2000* specified in 3GPP TS 36.331.	Integer [-15:15] This parameter is settable by operator.	TDD/FDD	No
MeasQuantityCDMA2000	Measurement quantity used for CDMA2000 measurements. Corresponds to *measQuantityCDMA2000* parameter specified in *QuantityConfigCDMA2000* IE in 3GPP TS 36.331 section 6.3.5	Enum{pilotStrength, pilotPnPhaseAndPilotStrength} This parameter is settable by the operator.	TDD/FDD	No
B1ThresholdCDMA2000	Threshold to be used in CDMA2000 measurement report triggering condition for event b1. Mapping to actual dBm values is specified in 3GPP TS 45.008. Corresponds to parameter *b1-ThresholdCDMA2000* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[0..63] This parameter is settable by the operator.	TDD/FDD	No
B2Threshold2UTRARSCP	RSCP threshold to be used in UTRA measurement report triggering condition for event b2. Mapping to actual dBm values is specified in 3GPP TS 25.133. Corresponds to parameter *b2-Threshold*2ULTRA*:utra-RSCP* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[-5..91] This parameter is settable by the operator.	TDD/FDD	No
B2Threshold2UTRA EcN0	EcN0 threshold to be used in UTRA measurement report triggering condition for event b2. Mapping to actual dBm values is specified in 3GPP TS 25.133. Corresponds to parameter *b2-Threshold*2ULTRA*:utra-EcN0* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[0..49] This parameter is settable by the operator.	TDD/FDD	No
B2Threshold2GERAN	Threshold to be used in GERAN measurement report triggering condition for event b2. Mapping to actual dBm values is specified in 3GPP TS 45.008. Corresponds to parameter *b2-Threshold2GERAN* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[0..63] This parameter is settable by the operator.	TDD/FDD	No
B2Threshold2CDMA2000	Threshold to be used in CDMA2000 measurement report triggering condition for event b2. Mapping to actual dBm values is	int[0..63] This parameter is settable by	TDD/FDD	No

	specified in 3GPP TS 45.008. Corresponds to parameter *b2-Threshold2CDMA2000* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	the operator.		
Hysteresis	Hysteresis applied to entry and leave condition of an IRAT report triggering event. Corresponds to parameter *hysteresis* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[0..30] This parameter is settable by the operator.	TDD/FDD	No
TimeToTrigger	Time during which IRAT measurement report triggering condition needs to be met in order to trigger IRAT measurement report. Corresponds to parameter *timeToTrigger* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5. Value ms0 corresponds to 0 miliseconds etc.	Enum{ms0, ms40, ms64, ms80, ms100, ms128, ms160, ms256, ms320, ms480, ms512, ms640, ms1024, ms1280, ms2560, ms5120} This parameter is settable by the operator.	TDD/FDD	No
MaxReportCells	Maximum number of IRAT cells that can be included in a measurement report. Corresponds to parameter *maxReportCells* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	int[1..8] This parameter is not settable by the operator.	TDD/FDD	No
ReportInterval	Interval between successive IRAT measurement reports. Corresponds to parameter *reportInterval* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	Enum{ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, min1, min6, min12, min30, min60, spare3, spare2, spare1} This parameter is settable by the operator.	TDD/FDD	No
ReportAmount	Number of times an IRAT measurement report is sent. Corresponds to parameter *reportAmount* specified in *ReportConfigInterRAT* IE in 3GPP TS 36.331 section 6.3.5.	{r1, r2, r4, r8, r16, r32, r64, infinity} This parameter is settable by the operator.	TDD/FDD	No

6.1.6 RRC Timers and Constants Parameters

Tables in below sections summarize the set of proposed RRC timers and constant parameters.

6.1.6.1 RRC Timers

This table contains RRC timers.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
T300	Interval between subsequent transmissions of RRCConnectionRequest.	Enum {ms100, ms200, ms300, ms400, ms600, ms1000, ms1500, ms2000} This parameter is settable by the operator.	TDD/FDD	No
T301	Interval between subsequent transmissions of RRCConnectionReestablishmentRequest.	Enum {ms100, ms200, ms300, ms400, ms600, ms1000, ms1500, ms2000} This parameter is settable by the operator.	TDD/FDD	No
T302	Time to wait for cell reselection or RRConnectionSetup after RRCConnectionReject.	Enum {ms100, ms200, ms300, ms400, ms600, ms1000, ms1500, ms2000} This parameter is settable by the operator.	TDD/FDD	No
T304- EUTRA	HO failure timer. Maps to t304 defined within IE *MobilityControlInfo* in 36.331 and has the set of values as defined in IE *MobilityControlInfo*	ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, spare1}, This parameter is settable by the operator.	TDD/FDD	No
T304-IRAT	HO failure timer. Maps to t304 defined within IE *CellChangeOrder* in 36.331 and has the set of values as defined in IE *CellChangeOrder*	ENUMERATED {ms100, ms200, ms500, ms1000, ms2000, ms4000, ms8000, spare1}, This parameter is settable by the operator.	TDD/FDD	No
T310	RLF declaration timer.	Enum ms0, ms50, ms100, ms200, ms500, ms1000, ms2000} This parameter is settable by the operator.	TDD/FDD	No
T311	RLF recovery timer.	Enum {ms1000, ms3000, ms5000,	TDD/FDD	No

		ms10000, ms15000, ms20000, ms30000} This parameter is settable by the operator.		
T320	Time after RRCConnection Release in which cell reselection priority info supplied in RRCConnectionRelease must be observed	ENUMERATED {min5, min10, min20, min30, min60, min120, min180, spare1} This parameter is settable by the operator.	TDD/FDD	No

6.1.6.2 RRC Constants

This table contains RRC constants.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
N310	Number of consecutive "out-of-sync" indications received from lower layers that triggers timer T310. Corresponds to parameter *n310* specified in *UE-TimersAndConstants* IE in 3GPP TS 36.331 section 6.3.6	ENUMERATED {n1, n2, n3, n4, n6, n8, n10, n20} This parameter is settable by the operator.	TDD/FDD	No
N311	Number of consecutive "in-sync" indications received from lower layers that stops timer T310. Corresponds to parameter *n311* specified in *UE-TimersAndConstants* IE in 3GPP TS 36.331 section 6.3.6	Enum {n1, n2, n3, n4, n5, n6, n8, n10} This parameter is settable by the operator.	TDD/FDD	No

6.1.7 RF Parameters

Tables in below sections summarize the set of proposed cell restriction.

6.1.7.1 RF Configuration

This table contains parameters relating to the RF configuration.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
FrequencyBandIndicator	Frequency band indicator defined in 36.101 Table 5.5-1. Corresponds to parameter *freqBandIndicator* in SIB1 in 3GPP TS 36.331 section 6.2.2. Value n1 corresponds to value 1, n2 corresponds to value 2 etc.	INTEGER [1..40] This parameter is settable by the operator.	TDD/FDD	No
DlBandwidth	Downlink transmission bandwidth. n6 corresponds to 6 resource blocks, n15 to 15 resource blocks and so on. Corresponds to parameter *dl_Bandwidth* in Master Information Block in 3GPP TS 36.331 section 6.2.2. and to parameter N_{RB} in 36.101 Table 5.6-1.	Enum{n6, n15, n25, n50, n75, n100} This parameter is settable by the operator.	TDD/FDD	No
UlBandwidth	Uplink transmission bandwidth. n6 corresponds to 6 resource blocks, n15 to 15 resource blocks and so on. Corresponds to parameter *ul_Bandwidth* in SIB2 in 3GPP TS 36.331 section 6.3.1. and to parameter N_{RB} in 36.101 Table 5.6-1.	Enum{n6, n15, n25, n50, n75, n100} This parameter is settable by the operator.	TDD/FDD	No
ReferenceSignalPower	The downlink reference-signal transmit power is defined as the linear average over the power contributions (in [W]) of all resource elements that carry cell-specific reference signals within the operating system bandwidth. Value is in dBm.	int[-60..50] This parameter is settable by the operator.	TDD/FDD	No
PhyCellId	Comma-separated list of integers values. Each value is between 0 and 503. Represents the list of physical cell identities HeNB can choose from.	Int[0:503] This parameter is settable by the operator.	TDD/FDD	No
PSCHPowerOffset	Power offset of the Primary Synchronization Channel with respect to the ReferenceSignalPower. Value in dB is the actual value divided by 10. For example, value -30 represents -3dB; value 120 represent 12dB etc.	int[-350:150] This parameter is settable by the operator.	TDD/FDD	No
SSCHPowerOffset	Power offset of the Secondary SynchronizationChannel with respect to the ReferenceSignalPower. Value in dB is the actual value divided by 10. For example, value -30 represents -3dB; value 120 represent 12dB etc.	int[-350:150] This parameter is settable by the operator.	TDD/FDD	No
PBCHPowerOffset	Power offset of the Physical Broadcast Channel with respect to the ReferenceSignalPower. Value in dB is the actual value divided by 10. For example, value -30 represents -3dB; value 120 represent 12dB etc.	int[-350:150] This parameter is settable by the operator.	TDD/FDD	No

6.1.8 Common E-UTRAN Parameters

Table below shows common E-UTRAN parameters

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
CellIdentity	Cell Identity. 3GPP-TS.36.331 Section 6.3.4	unsignedInt[:268435455] This parameter is settable by the operator.	TDD/FDD	No

6.1.9 S1AP Parameters

Table below shows parameters specific to S1 Application Protocol described in TS 36.413.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
TRelocPrep	Maximum time for the Handover Preparation procedure in the source HeNB. The timer is started when the HeNB sends the HANDOVER REQUIRED message. Upon reception of the HANDOVER COMMAND message the HeNB shall stop the timer. Corresponds to parameter $TS1_{RELOCprep}$ defined in 3GPP-TS.36.413 Section 8.4.1.2. The valid range is from 0 sec to 30 sec with 0.5 sec increments. The actual value of the timer is obtained by dividing the value of the parameter by 2.	unsignedInt This parameter is settable by the operator.	TDD/FDD	No
TRelocOverall	Maximum time for the protection of the overall handover procedure in the source HeNB. The timer is started reception of the HANDOVER COMMAND message. Corresponds to parameter $TS1_{RELOCOverall}$ defined in 3GPP-TS.36.413 Section 8.4.1.2. The valid range is from 0 sec to 30 sec with 0.5 sec increments. The actual value of the timer is obtained by dividing the value of the parameter by 2	unsignedInt[0..60] This parameter is settable by the operator.	TDD/FDD	No

6.1.10 S1-U Parameters

This table contains parameters related to S1-U Parameters.

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
GTPUEchoInterval	The amount of time in seconds between each GTP-U Echo Request sent by the HeNB to a GTP-U peer. If the value is 0 then the HeNB will not send GTP-U Echo Requests. If there is no GTP-U path in use then no Echo Request is sent regardless of the setting. The reasoning to have the parameter is if GTP-U Echo is done frequently by all HeNBs it could have a significant impact on the EPC so the operator ought to have control of the HeNB Echo behavior.	Integer Value defined in Seconds and can either be 0 (turned off), or any value above 60 seconds. Default value = 0 This parameter is settable by the operator.	FDD/TDD	No

6.1.11 EPC Parameters

6.1.11.1 General EPC parameters

Table below shows parameters specific to EPC

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
PLMNList	List (maximum length 6 items) of PLMN Ids (defined as PLMN-IdentityList in SIB1 in 36.331, cl.6.2.2). Each item is PLMN-IdentityInfo which consists of PLMN-Identity and cellReservedForOperatorUse indicator. The first listed PLMN ID is the primary PLMN. This list is broadcast in SIB1.	string This parameter is settable by the operator.	TDD/FDD	No
TAC	Tracking Area Code for HeNB as specified in SystemInformationBlockType1 message in 36.331 clause 6.2.2..	string This parameter is settable by the operator.	TDD/FDD	No
EAID	Emergency Area ID that indicates the area of emergency impact, Corresponds to Emergency Area ID in 3GPP-TS.36.413 clause 9.2.1.47.	string This parameter is settable by the operator.	TDD/FDD	No
NNSFSupported	Denotes whether HeNB supports the NAS Node Selection Function (NNSF) or not. NNSF is described in 3GPP TS 36.300 [28] clause 19.2.1.7 and clause 4.6.1.	Boolean This parameter is not settable by operator	TDD/FDD	No

6.1.11.2 Quality of Service Configuration Parameters

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
QCI	Denotes the QoS class identity.	unsignedInt[1..20] This parameter	TDD/FDD	No

		is settable by the operator.		
Type	Denotes the type of the QoS class.	Enum{GBR, non-GBR} This parameter is settable by the operator.	TDD/FDD	No
Priority	Denotes the priority of the QoS class	unsignedInt[1:20] This parameter is settable by the operator.	TDD/FDD	No
PacketDelayBudget	Denotes the Packet delay budget. Value in milliseconds. Value ms50 corresponds to 50ms and so on.	Enum{ms50, ms100, ms150, ms200, ms300, ms400, ms500, ms600, ms700, ms800, ms900, ms1000, ms1500, ms2000} This parameter is settable by the operator.	TDD/FDD	No

6.1.12 HeNB GW Parameters

Table below shows parameters for HeNB GW

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
SecGWServer1	First SecGW the HeNB attempts to establish connection with. Either hostname or IPaddress.	STRING (64) This parameter is settable by the operator.	TDD/FDD	Yes
SecGWServer2	Second SecGW the HeNB attempts to establish connection with. Either hostname or IPaddress.	STRING (64) This parameter is settable by the operator.	TDD/FDD	Yes
SecGWServer3	Third SecGW the HeNB attempts to establish connection with. Either hostname or IPaddress.	STRING (64) This parameter is settable by the operator.	TDD/FDD	Yes
S1SigLinkServerAddressList	. Comma-separated list of addresses of the far end of the S1 signaling link. If the value of the parameter *S1ConnectionMode* is 'all' then HeNB should attempt ot connect to all addresses in the list. If the value of the parameter *S1ConnectionMode* is 'one' then HeNB should attempt to connect to only one address at a time following the ordering in	STRING (256) This parameter is settable by the operator.	TDD/FDD	No

	the list. Each address in the list is either hostname or IPaddress.			
S1ConnectionMode	Indicates how many of the configured far end S1 link addresses HeNB should attempt to connect to. Controls the use of the parameter *S1SigLinkServerAddressList.*	Enumerated {one, all} This parameter is settable by the operator.	TDD/FDD	No

6.1.13 Access Management Parameters

This table contain access management parameters

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
AccessMode	Indicates the type of access mode the HeNB operates in. Enumeration of: *Open Access* : Access control is not enforced. CSG Identity is not broadcast; *Closed Access* : HeNB operates as a CSG cell; *Hybrid Access* : HeNB operates as a CSG cell where at the same time, non-CSG members are allowed access. Note: This parameter controls the setting of the *csg-Indication* parameter specified in SIB1 in 3GPP TS 36.331.	String This parameter is settable by the operator.	TDD/FDD	Yes
MaxUEsServed	Maximum number of concurrent UEs allowed at a cell. Valid for any AccessMode. A value of -1 allows an unlimited number of concurrent UEs up to the limit of HeNB capacity. The setting does not affect emergency calls.	int[-1:] This parameter is settable by the operator.	TDD/FDD	Yes
MaxCSGMembers	Maximum number of concurrent CSG member UEs allowed at a hybrid or closed cell. A value of -1 allows an unlimited number of CSG members up to the limit of HeNB capacity. The setting cannot be larger than MaxUEsServed. The setting does not affect emergency calls. 3GPP-TS.22.220.	int[-1:] This parameter is settable by the operator.	TDD/FDD	Yes
MaxNonCSGMembers	Maximum number of concurrent non-CSG member UEs allowed at a hybrid cell. Valid only if AccessMode is *Hybrid Access*. The setting cannot be larger than MaxUEsServed. The setting does not	int[-1:] This parameter is settable by the operator.	TDD/FDD	FFS

	affect emergency calls.			
MaxResourceNonCSG Members	Maximum percentage of PDSCH physical resource blocks that can be assigned to non-CSG members aggregately at one time.	Int[0:100] This parameter is settable by the operator.	TDD/FDD	Yes
CSGID	Defines the Closed Subscriber Group. Corresponds to parameter *csg-Identity* in SIB1 in 3GPP TS 36.331.	unsignedInt[:134217727] This parameter is settable by the operator.	TDD/FDD	Yes
HNBName	Carries the name of the Home eNB, coded in UTF-8 with variable number of bytes per character. Corresponds to parameter hnb-Name specified in SIB9 in 3GPP TS 36.331 section 6.3.1	string (48) This parameter is settable by the operator.	TDD/FDD	No

6.1.14 Transport parameters

6.1.14.1 SCTP Parameters

This table contains parameters relating to SCTP as defined in RFC 4960 and RFC 3873.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
Enable	Enables or disables the whole SCTP object and allows the setup or release of SCTP associations and their related streams.	Can be one of the following Boolean: Disabled Enabled This parameter is settable by the operator.	TDD/FDD	Yes
HBInterval	Heartbeat interval.	This value is in seconds. This parameter is settable by the operator.	TDD/FDD	Yes
MaxAssociationRetransmits	Maximum number of consecutive retransmissions to a peer before an endpoint considers that the peer is unreachable and closes the association.	Integer value greater than or equal to 0 This parameter is settable by	TDD/FDD	Yes

		the operator.		
MaxInitRetransmits	Number of retransmission per connection-attempt.	Integer value greater than or equal to 0. This parameter is settable by the operator.	TDD/FDD	Yes
MaxPathRetransmits	Maximum retransmission per destination address.	Integer value greater than or equal to 0. This parameter is settable by the operator.	TDD/FDD	Yes
RTOInitial	Initial value for Retransmit timeout in *milliseconds.* A retransmission time value of zero means immediate retransmission.	The value is in milliseconds. Integer value greater than or equal to 0 This parameter is settable by the operator.	TDD/FDD	Yes
RTOMax	Maximum value for Retransmit timeout in *milliseconds.* A retransmission time value of zero means immediate retransmission.	The value is in milliseconds. Integer value greater than or equal to 0 This parameter is settable by the operator.	TDD/FDD	Yes
RTOMin	Minimum value for Retransmit timeout in *milliseconds.* A retransmission time value of zero means immediate retransmission.	The value is in milliseconds. Integer value greater than or equal to 0. The value of this parameter MUST be lower than or equal to *RTOMax*. This parameter is settable by the operator.	TDD/FDD	Yes
ValCookieLife	Valid cookie life in the 4-way start-up handshake procedure in *milliseconds.*	The value is in milliseconds. Integer value greater than or equal to 0. This parameter is settable by the operator.	TDD/FDD	Yes

OutOfBlues	The number of correctly formed SCTP packets, including the proper checksum, but for which the receiver was unable to identify an appropriate association.	Integer value greater than or equal to 0.	TDD/FDD	Yes
ChecksumErrors	The number of SCTP packets received with an invalid checksum.	Integer value greater than or equal to 0	TDD/FDD	Yes
OutCtrlChunks	The number of SCTP control chunks sent (retransmissions are not included).	Integer value greater than or equal to 0	TDD/FDD	Yes
OutOrderChunks	The number of SCTP ordered data chunks sent (retransmissions are not included).	Integer value greater than or equal to 0	TDD/FDD	Yes
OutUnorderChunks	The number of SCTP unordered chunks (data chunks in which the U bit is set to 1) sent (retransmissions are not included).	Integer value greater than or equal to 0	TDD/FDD	Yes
InCtrlChunks	The number of SCTP control chunks received (no duplicate chunks included).	Integer value greater than or equal to 0	TDD/FDD	Yes
InOrderChunks	The number of SCTP ordered data chunks received (no duplicate chunks included).	Integer value greater than or equal to 0	TDD/FDD	Yes
InUnorderChunks	The number of SCTP unordered chunks (data chunks in which the U bit is set to 1) received (no duplicate chunks included).	Integer value greater than or equal to 0	TDD/FDD	Yes
FragUsrMsgs	The number of user messages that have been sent fragmented.	Integer value greater than or equal to 0	TDD/FDD	Yes
ReasmUsrMsgs	The number of user messages that have been received fragmented and submitted to the reassembly process.	Integer value greater than or equal to 0	TDD/FDD	Yes
OutSCTPPacks	The number of SCTP packets sent. Retransmitted DATA chunks are included.	Integer value greater than or equal to 0	TDD/FDD	Yes
InSCTPPacks	The number of SCTP packets received. Duplicates are included.	Integer value greater than or equal to 0	TDD/FDD	Yes
Discontinuity	The time of the last	dateTime	TDD/FDD	Yes

	discontinuity.			
AssocNumberOfEntries	The number of entries in the *.SCTP Association* Table	Integer value greater than or equal to 0	TDD/FDD	Yes

6.1.14.2 SCTP Association Parameters

This table contains parameters relating to SCTP Association. At most one entry in this table can exist with the same values for *PrimaryPeerAddress* and *LocalPort*. All parameters defined below are writable unless identified otherwise.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
Status	The status of this SCTP association entry.	This is a String that can be • *Disabled* • *Active* (The Association is active.) • *Progressing* (The Association establishment is in progress.) • *ShuttingDown* (The Association graceful shutdown is in progress.) • *Error* (Indicates a locally defined error condition., OPTIONAL)	TDD/FDD	Yes
PrimaryPeerAddress	The primary IP address of the peer SCTP association entity.	This is a string that contains the IP Address and can be IPv6 or IPv4.	TDD/FDD	Yes
LocalPort	The local SCTP port number used for this SCTP association.	This is an integer value in the range of 0 to 63999	TDD/FDD	Yes
InStreams	The number of Inbound Streams according to the negotiation at association start-up.	Integer value greater than or equal to 0	TDD/FDD	Yes
OutStreams	The number of Outbound Streams according to the negotiation at association start-up.	Integer value greater than or equal to 0	TDD/FDD	Yes
StartTime	The start Time for the present SCTP association.	dateTime	TDD/FDD	Yes
Discontinuity	The time of the last discontinuity.	dateTime	TDD/FDD	Yes

6.1.14.3 Parameters relating to Tunnelling

This table contains parameters relating to Tunnelling.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**

IPsecUsageIndicator	Determines whether IPsec is used or not for the tunnel TS 33.320 [36].	This is a Boolean and can have the following values: • Enable • Disable This parameter is writable.	TDD/FDD	Yes
IKESANumberOfEntries	The number of entries in the IKE IPsec Security Association Table.	Integer value greater than or equal to 0.	TDD/FDD	Yes
ChildSANumberOfEntries	The number of entries in the *.Transport.Tunnel.ChildSA.{i}.* table.	Integer value greater than or equal to 0.	TDD/FDD	Yes
MaxVirtualInterfaces	The maximum number of virtual interfaces.	Integer value greater than or equal to 0.	TDD/FDD	Yes
VirtualInterfaceNumberOfEntries	The number of entries in the *.Transport.Tunnel.VirtualInterface.{i}.* table.	Integer value greater than or equal to 0.	TDD/FDD	Yes

6.1.14.4 IKE IPsec Security Association Table

This Table contains IPsec Security Association (RFC 4301). At most one entry in this table can exist with the same values for *IPAddress* and *SubnetMask*

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
Status	The status of this IKE Security Association entry. Enumeration of:	This is a string and can have one of the following: • *Disabled* • *Active* • *Completed* • *Progressing* • *Error* (This value MAY be used by the CPE to indicate a locally defined error condition., OPTIONAL)	TDD/FDD	Yes
PeerAddress	The IP address of the peer SecGW.	string	TDD/FDD	Yes
CreationTime	The time that the current IKE SA was set up.	dateTime	TDD/FDD	Yes
IPAddress	The current IP address assigned to this interface by IKEv2.	string	TDD/FDD	Yes
SubnetMask	The current subnet mask assigned to this interface	string	TDD/FDD	Yes

	by IKEv2.			
DNSServers	Comma-separated list (maximum length 256) of IPAddresses. Each item is an IP Address of a DNS server for this interface assigned to this interface by IKEv2.	string (256)	TDD/FDD	Yes
DHCPServers	Comma-separated list (maximum length 256) of IPAddresses. Each item is an IP address of a DHCP server for this interface. A non empty list instructs the CPE to send any internal DHCP request to the address contained within this parameter.	string (256)	TDD/FDD	Yes
IntegrityErrors	The number of inbound packets discarded by the IKE SA due to Integrity checking errors.	Integer value greater than or equal to 0.	TDD/FDD	Yes
OtherErrors	The number of inbound packets discarded by the IKE SA due to other errors, such as anti-replay errors.	Integer value greater than or equal to 0.	TDD/FDD	Yes
AuthErrors	The number of inbound packets discarded by the IKE SA due to authentication errors.	Integer value greater than or equal to 0.	TDD/FDD	Yes

6.1.14.5 Child IPsec Security Association Table

This Table contains Child IPsec Security Association (RFC 4301). At most one entry in this table can exist with a given value for *Security Parameter Index*.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
ParentID	The value MUST be the instance number of a row in the *.Transport.Tunnel.IKESA* table, or else be 0 if no row is currently referenced. If the referenced row is deleted, the parameter value MUST be set to 0.	Integer value greater than or equal to 0	FFS	Yes
SPI	SPI value of the Child SA.	Integer value greater than or equal to 0	FFS	Yes
DirectionOutbound	Traffic Direction.	This is a Boolean	FFS	Yes

	.	value and can be: • True • False If *true* this Child SA refers to outbound traffic. If *false* this Child SA refers to inbound traffic		
CreationTime	The time that the current Child SA was set up.	dateTime	FFS	Yes
Traffic	The measured traffic in *bytes* transferred by the Child SA.	Integer value greater than or equal to 0	FFS	Yes
IntegrityErrors	The number of inbound *packets* discarded by the Child SA due to integrity checking errors.	Integer value greater than or equal to 0	FFS	Yes
ReplayErrors	The number of inbound *packets* discarded by the Child SA due to anti-replay errors.	Integer value greater than or equal to 0	FFS	Yes

6.1.14.6 Virtual Interfaces of transport tunnel

This Table defines Virtual Interfaces (RFC 4301). At most one enabled entry in this table can exist with the same values for *CryptoProfile* and *DSCPMarkPolicy*.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
Enable	Enables and disables this entry.	This is a Boolean and can have the following values: • Enable • Disable This parameter is settable by the operator.	FFS	Yes
CryptoProfile	The value MUST be the full path name of a row in the *.Transport.Security CryptoProfile* table. If the referenced object is deleted, the parameter value MUST be set to an empty string. If multiple instances of VirtualInterface point to the same CryptoProfile instance, the associated *.Transport.Security.Crypto*	String. The value MUST be the full path name of a row in the *.Transport.Security CryptoProfile* table This parameter is settable by the operator.	FFS	Yes

	Profile determines whether a new IKE session will be created (dynamically) to negotiate the child SA(s) for each of the virtual interfaces; otherwise, they are negotiated through the same IKE session.			
DSCPMarkPolicy	DSCP to mark the outer IP header for traffic that is associated with this virtual interface. .	A value of -1 indicates copy from the incoming packet. A value of -2 indicates automatic marking of DSCP as defined for the UMTS QoS class 3GPP-TS 23.107 [35]. De-tunneled packets are never re-marked This parameter is settable by the operator.	FFS	Yes

6.1.14.7 Shared Secret Table

This table gathers information about all types of shared secret-based credentials (UICC). At most one entry in this table can exist with a given value for *UICCCardID*.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
Enable	Enable or disable this Shared Secret entry	This is a Boolean and can have the following values: • Enable • Disable This parameter is settable by the operator.	FFS	Yes
Type	The type of this Shared Secret entry.	String Enumeration of: • *SIM* • *USIM*	FFS	Yes
Status	The status of this Shared Secret entry.	String Enumeration of: • *Present* • *Not_present*	FFS	Yes

		• *Error* (This value MAY be used by the CPE to indicate a locally defined error condition.)		
UICCCardID	The UICC Card Identifier (UICCID), only numeric values are allowed. ITU-E.118 [7]	This is a string of size 19.	FFS	Yes

6.1.14.8 Public Key Table

. This table gathers information about all types of public key-based credentials, such as X.509 certificates. (RFC 3280). At most one entry in this table can exist with a given value for *SerialNumber*

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
Enable	Enables or disables this Public Key entry.	This is a Boolean and can have the following values: • Enable • Disable This parameter is settable by the operator.	FFS	Yes
LastModif	The last modification time of this Public Key entry.	dateTime	FFS	Yes
SerialNumber	The Serial Number field in an X.509 certificate	This field is a string of size 64.	FFS	Yes
Issuer	The Issuer field in an X.509 certificate; i.e. the Distinguished Name (DN) of the entity who has signed the certificate.	This field is a string of size 256	FFS	Yes
NotBefore	The beginning of the certificate validity period; i.e. the Not Before field in an X.509 certificate.	dateTime	FFS	Yes
NotAfter	The end of the certificate validity period; i.e., the Not After field in an X.509 certificate.	dateTime	FFS	Yes
Subject	The X.501 Distinguished Name (DN) of the entity associated with the Public Key; i.e., the Subject field in an X.509 certificate.	This field is a string of size 256	FFS	Yes
SubjectAlt	Comma-separated list (maximum length 256) of strings. Each item is a DNS Name.	This field is a string of size 256	FFS	Yes

	The Subject Alternative Names extension field in an X.509 certificate.			

6.1.14.9 Crypto Profile Table

This table gathers contains parameters relating to IKEv2 and IPsec crypto profiles, which are essentially a subset of the typical IPsec SPD. RFC 4301. At most one enabled entry in this table can exist with all the same values for *AuthMethod*, *IKEEncrypt*, *IKEPRF*, *IKEIntegrity*, *IKEDH*, *ESPEncrypt* and *ESPIntegrity*.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
Enable	Enables and disables this entry.	This is a Boolean and can have the following values: • Enable • Disable This parameter is settable by the operator.	FFS	Yes
AuthMethod	Specifies the Security mechanism and set of credentials used by the HeNB to authenticate itself. In order to configure the HeNB for both HeNB and hosting-party authentication, the object is populated with an enabled instance of the Pkey object.	This is a String. The value MUST be the full path name of a row in the *.Transport.Security.Pkey* or *.Transport.Security.Secret* tables. If the referenced object is deleted, the parameter value MUST be set to an empty string. If an empty string, the HeNB chooses the authentication method based on local policy. This parameter is settable by the operator.	FFS	Yes
MaxChildSA	Controls the maximum number of child Security Associations that can be negotiated by a single IKE session.	Integer value [2, 4, 6, 8, 10] This parameter is settable by the operator.	FFS	Yes
IKEEncrypt	Comma-separated list of strings. IKEv2 encryption algorithm. RFC 4307	String Each list item is an enumeration of: • *3DES-CBC*	FFS	Yes

		• *AES-CBC* This parameter is settable by the operator.		
IKEPRF	Comma-separated list of strings. IKEv pseudo-random function. (RFC 4307)	String Each list item is an enumeration of • *HMAC-SHA1* • *AES-XCBC-PRF-128* This parameter is settable by the operator.	FFS	Yes
IKEIntegrity	Comma-separated list of strings. IKEv2 integrity function. RFC 4307	String Each list item is an enumeration of: • *HMAC-SHA1-96* • *AES-XCBC-MAC-96* This parameter is settable by the operator.	FFS	Yes
IKEDH	Comma-separated list of strings. IKEv2 pseudo-random function. RFC 4307	String Each list item is an enumeration of: • *1024* • *2048* This parameter is settable by the operator.	FFS	Yes
ESPEncrypt	Comma-separated list of strings. IPsec encryption algorithm. RFC 4307	String Each list item is an enumeration of: • *3DES-CBC* • *AES-CBC* • *Null* This parameter is settable by the operator.	FFS	Yes
ESPIntegrity	Comma-separated list of strings. IPsec integrity function. RFC 4307	String Each list item is an enumeration of: • *HMAC-SHA1-96* • *AES-XCBC-MAC-96* This parameter is settable by the operator.	FFS	Yes

IPsecWindowSize	The size of the Anti-Replay Window.	Integer value greater than or equal to 0 If 0 Sequence Number Verification is disabled. This parameter is settable by the operator.	FFS	Yes
IKERekeyLifetime	IKEv2 SA rekey timeout in *seconds*.	Integer value greater than or equal to 0 This parameter is settable by the operator.	FFS	Yes
IPsecRekeyLifetimeByte	IPsec SA rekey timeout in *Kilobytes*.	Integer value greater than or equal to 0 This parameter is settable by the operator.	FFS	Yes
IPsecRekeyLifetimeTime	IPsec SA rekey timeout in *seconds*.	Integer value greater than or equal to 0 This parameter is settable by the operator.	FFS	Yes
DPDTimer	DPD timeout in *seconds*.	Integer value greater than or equal to 0 This parameter is settable by the operator.	FFS	Yes
NATTKeepaliveTimer	NAT-T keepalive timeout in *seconds*.	Integer value greater than or equal to 0 This parameter is settable by the operator.	FFS	Yes

6.1.15 Neighbor List Parameters

This table contains parameters related to neighbor list definition for LTE and IRAT..

6.1.15.1 LTE cell neighbor list

The table below contains LTE cell neighbour list.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
PLMNID	PLMN ID consists of Mobile Country Code (*MCC*) and Mobile Network Code (*MNC*) 3GPP-TS.23.003, 3GPP-TS.24.008. Mobile Country Code consists of three digits and uniquely identifies the country of domicile of the subscriber.Mobile Network Code consists of two or three	STRING (6)	TDD/FDD	No

	digits and identifies the Home PLMN within a country. For a 2-digit MNC the total string length of PLMNID is 5. This parameter is settable by the operator.			
CID	Cell Identity. 3GPP-TS.36.331 Section 6.3.4. Combination of PLMNID and CID constitutes the Cell Global ID (CGI). This parameter is settable by the operator.	INTEGER(0..268435455)	TDD/FDD	No
EUTRACarrierARFCN	Indicates the ARFCN of this carrier frequency. Corresponds to parameter *dl-CarrierFreq* in SIB5 in 3GPP-TS.36.331 Section 6.3.1, and parameter NDL in 3GPP TS 36.101 Section 5.7.3. If the value of *EUTRACarrierARFCN* is the same with the one currently being used by the HeNB, then it implies that this neighbor cell is an intra-frequency cell; otherwise, it is an inter-frequency cell. This parameter is settable by the operator.	INTEGER (0..65535)	TDD/FDD	No
PhyCellID	Physical cell ID, as specified in 3GPP-TS 36.211 Section 6.11. This parameter is settable by the operator.	INTEGER (0..503)	TDD/FDD	No
QOffset	Indicate a cell-specific offset applicable to a specific neighboring cell. It is used for evaluating the cell as a candidate for cell re-selection in idle mode. Corresponds to parameter *q-OffsetCell* broadcast in SIB4 for intra-frequency cells and in SIB5 for inter-frequency cells, specified in 3GPP-TS.36.331 section 6.3.1. This parameter is settable by the operator.	ENUMERATED {dB-24, dB-22, dB-20, dB-18, dB-16, dB-14, dB-12, dB-10, dB-8, dB-6, dB-5, dB-4, dB-3, dB-2, dB-1, dB0, dB1, dB2, dB3, dB4, dB5, dB6, dB8, dB10, dB12, dB14, dB16, dB18, dB20, dB22, dB24}	TDD/FDD	No
CIO	Cell individual offset applicable to a specific neighboring cell. It is used for evaluating triggering conditions for measurement reporting in connected mode. Specified by *cellIndividualOffset* in MeasObjectEUTRA IE in	ENUMERATED {dB-24, dB-22, dB-20, dB-18, dB-16, dB-14, dB-12, dB-10, dB-8, dB-6, dB-5, dB-4, dB-3, dB-2, dB-1, dB0, dB1, dB2, dB3, dB4, dB5, dB6, dB8, dB10, dB12, dB14,	TDD/FDD	No

	3GPP-TS.36.331 Section 6.3.5. This parameter is settable by the operator.	dB16, dB18, dB20, dB22, dB24}		
RSTxPower	The downlink reference-signal transmit power, specified in *dBm*. Defined as the linear average over the power contributions (in W) of all resource elements that carry cell-specific reference signals within the operating system bandwidth. Corresponds to parameter *referenceSignalPower* in SIB4 as a part of PDSCH-Config IE in 3GPP-TS.36.331 Section 6.3.2. This parameter is settable by the operator.	INTEGER(-60..50)	TDD/FDD	No
Blacklisted	Indicates whether this neighbor cell is allowed for UEs as handover target or not. If *true*, handover is prohibited towards this cell. If *false*, handover is allowed toward this cell. This parameter allows this cell to be prohibited as a handover target, while still allowing this cell to be included in the BCCH SIB4 or 5. This parameter is settable by the operator.	BOOLEAN	TDD/FDD	No

6.1.15.2 Inter-RAT UMTS cell neighbor list

This table provides parameters for inter-RAT UMTS cell neighbour list.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
PLMNID	PLMN ID consists of Mobile Country Code (*MCC*) and Mobile Network Code (*MNC*) 3GPP-TS.23.003, 3GPP-TS.24.008. Mobile Country Code consists of three digits and uniquely identifies the country of domicile of the subscriber. Mobile Network Code consists of two or three	STRING(6)	TDD/FDD	No

	digits and identifies the Home PLMN within a country. For a 2-digit MNC the total string length of PLMNID is 5. This parameter is settable by the operator.			
RNCID	RNC-ID of an intra-freq neighbor cell. It uniquely identifies an RNC within a PLMN. Normally, RNC-ID consists of 12 bits (i.e. a range of [0:4095]). However, if the value is larger than 4095, then Extended RNC-ID (range of [4096:65535]) is used in RANAP. The RNC-ID and Extended RNC-ID are combined into a single parameter here as there is no explicit need to have them separated. 3GPP-TS.25.413 Section 9.2.1.39. This parameter is settable by the operator.	INTEGER(0..65535)	TDD/FDD	No
CID	Cell Identifier (C-id) that identifies a cell within an RNS. This Cell Identifier together with the controlling RNC (*RNC-ID*) constitutes the UTRAN Cell ID (UC-ID) and is used to identify a cell uniquely within UTRAN. C-ID is either 12-bit or 16-bit value. 3GPP-TS.25.401 Section 6.1.5. This parameter is settable by the operator.	INTEGER(1..65535)	TDD/FDD	No
LAC	Location Area Code (LAC). The concatenation of PLMN ID (MCC+MNC) and LAC uniquely identifies the Location Area ID (LAI). 3GPP-TS.23.003 Section 4.1 3GPP-TS.25.413 Section 9.2.3.6. This parameter is settable by the operator.	INTEGER(1..65535)	TDD/FDD	No

RAC	Routing Area Code (RAC). The concatenation of PLMN ID (MCC+MNC), LAC, and RAC uniquely identifies the Routing Area ID (RAI). 3GPP-TS.23.003 Section 4.2 3GPP-TS.25.413 Section 9.2.3.7 This parameter is settable by the operator.	INTEGER(0..255)	TDD/FDD	No
URA	UTRAN Registration Area (URA) 3GPP-TS.23.401. Indicates to the UE which URA it shall use in case of overlapping URAs. 3GPP-TS.25.331 Section 10.3.2.6. This parameter is settable by the operator.	INTEGER(1..65535)	TDD/FDD	No
UARFCNUL	The UL UTRA Absolute Radio Frequency Channel Number (UARFCN) in an FDD mode cell. 3GPP-TS.25.433. This parameter is settable by the operator.	INTEGER(0..16383)	TDD/FDD	No
UARFCNDL	The DL UTRA Absolute Radio Frequency Channel Number (UARFCN) in an FDD mode cell. 3GPP-TS.25.433. This parameter is settable by the operator.	INTEGER(0..16383)	TDD/FDD	No
PCPICHScramblingCode	Primary CPICH scrambling code. This parameter is settable by the operator.	INTEGER(0..511)	TDD/FDD	No
PCPICHTxPower	Primary CPICH Tx power in dBm. Actual values of the power are -10.0 dBm to 50.0 dBm in steps of 0.1 dB. The value of PCPICHTxPower divided by 10 yields the actual value of the power. 3GPP-TS.32.642 Section 6.3.11, 3GPP-TS.25.433 Section 2.2.33. This parameter is settable	INTEGER(-100..500)	TDD/FDD	No

	by the operator.			

6.1.15.3 Inter-RAT GSM cell neighbor list

This table defines parameters for inter-RAT GSM cell neighbor list.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
PLMNID	PLMN ID consists of Mobile Country Code (MCC) and Mobile Network Code (MNC) 3GPP-TS.23.003, 3GPP-TS.24.008. Mobile Country Code consists of three digits and uniquely identifies the country of domicile of the subscriber. Mobile Network Code consists of two or three digits and identifies the Home PLMN within a country. For a 2-digit MNC the total string length of PLMNID is 5. This parameter is settable by the operator.	STRING(6)	TDD/FDD	No
LAC	Location Area Code (LAC). The concatenation of PLMN ID (MCC+MNC) and LAC uniquely identifies the Location Area ID (LAI). 3GPP-TS.23.003 Section 4.1 3GPP-TS.25.413 Section 9.2.3.6. This parameter is settable by the operator.	INTEGER(0..65535)	TDD/FDD	No
BSIC	BSIC of the cell per 3GPP-TS.23.003, consisting of: Bit 7:6 – not used ('00') Bit 5:3 – NCC (PLMN Color Code) Bit 2:0 – BCC (BS color code) For example, if NCC is 7 and BCC is 2 you would have 00111010 (binary) or 0x3A (hex), and the value of this parameter would be 58. This parameter is settable by the operator.	INTEGER(0..255)	TDD/FDD	No
CI	Cell ID of the cell per 3GPP-TS.23.003 Section 4.3.1. This parameter is settable by the operator.	INTEGER(0..65535)	TDD/FDD	No

BandIndicator	Indicates how to interpret the BCCH ARFCN. Enumeration of: *GSM 850* *GSM 900* *DCS 1800* *PCS 1900* This parameter is settable by the operator.	STRING	TDD/FDD	No
BCCHARFCN	ARFCN of this cell. This parameter is settable by the operator.	INTEGER(0..1023)	TDD/FDD	No

6.1.15.4 Inter-RAT CDMA2000 cell neighbor list

This table defines parameters for inter-RAT CDMA2000 cell neighbor list.

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
BandClass	Defines the CDMA2000 band in which the CDMA2000 carrier frequency can be found, specified in bandclass number. BandClass is defined in 3GPP2 C.S0057-B Table 1.5-1. Corresponds to parameter *bandClass* specified in SIB8 in 3GPP-TS 36.331 Section 6.3.1. This parameter is settable by the operator.	ENUMERATED {bc0, bc1, bc2, bc3, bc4, bc5, bc6, bc7, bc8, bc9, bc10, bc11, bc12, bc13, bc14, bc15, bc16, bc17, spare14, spare13, spare12, spare11, spare10, spare9, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1, ...}	TDD/FDD	No
ARFCN	Defines the CDMA2000 carrier frequency within a CDMA2000 band, as specified by *ARFCN-ValueCDMA2000* in SIB8 in 3GPP-TS 36.331 Section 6.3.1. This parameter is settable by the operator.	INTEGER (0..2047)	TDD/FDD	No
PNoffset	Defines the PNoffset that represents the "Physical cell identity" in CDMA2000 system, as specified by *PhysCellIdCDMA2000* in SIB8 in 3GPP-TS 36.331 Section 6.3.1. This parameter is settable by the operator.	INTEGER (0..511)	TDD/FDD	No
Type	Indicates the type of the cell. This parameter determines the length of the CID parameter. Enumeration of:	ENUMERATED{1xRTT, HRPD}	TDD/FDD	No

	1xRTT *HRPD* This parameter is settable by the operator.			
CID	Defines the global cell identity of the cell. For a 1xRTT cell, the cell identity is a binary string 47 bits long. For a HRPD cell, the cell identity is a binary string 128 bits long. The value of CID parameter is interpreted as 128-bit long unsigned integer. If Type is 1xRTT, the first 47 bits (6 octet) is used and the rest of this CID parameter MUST be ignored by the CPE. If Type is HRPD, the entire 16 octet is used as CID. Corresponds to IE *CellGlobalIdCDMA2000* specified in 3GPP-TS.36.331 section 6.3.4. This parameter is settable by the operator.	STRING(16)	TDD/FDD	No

6.1.16 LTE REM parameters

Table 1 and 2 below show the proposed REM object for LTE EUTRAN cell(s) detected, covering both intra-freq and inter-freq cells detected (SIB4 and SIB5 in RRC [34]).

6.1.16.1 LTE RF parameters

Table 1 – LTE RF paramaters

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
EUTRACarrierARFCN	Indicates the ARFCN of this carrier frequency. Corresponds to parameter *dl-CarrierFreq* in SIB5 in 3GPP-TS.36.331 Section 6.3.1, and parameter N_{DL} in 3GPP TS 36.101 Section 5.7.3. This parameter is not settable by the operator.	INTEGER (0..65535)	TDD/FDD	No
PhyCellID	Physical cell ID of the detected EUTRAN cell, as specified in 3GPP-TS.36.101 Section 5.6. This parameter is not settable by the operator.	INTEGER (0..503)	TDD/FDD	No
RSRP	Received RSRP level of the detected EUTRA cell, specified in dBm, as specified in 3GPP-TS.36.214 Section 5.1.1. The reporting range is specified in 3GPP-TS.36.133 Section 9.1.4. This parameter is not settable by the operator.	INTEGER (-140..-44)	TDD/FDD	No
RSRQ	Received RSRQ level of the detected EUTRA cell, specified in dB, as specified in 3GPP-TS.36.214 Section 5.1.3. Actual measured values range between -24.0 and 0.0 in steps of 0.5 . The value of *RSRP* parameter divided by 2 yields the actual measured value. Only values in multiple of 5 are valid. This parameter is not settable by the operator.	INTEGER (-48..0)	TDD/FDD	No

6.1.16.2 LTE BCCH parameters

Table 2 – LTE BCCH paramaters

Parameter Name	**Description**	**Valid Values**	**TDD/FDD**	**Applicable to HNB**
DLBandwidth	Downlink transmission bandwidth, specified in number of *resource blocks*. Corresponds to parameter *dl_Bandwidth* in Master Information Block in 3GPP-TS.36.331 Section 6.2.2. and to parameter N_{RB} in 3GPP-TS.36.101 Table 5.6-1. This parameter is not settable by the operator.	ENUMERATED {n6, n15, n25, n50, n75, n100}	TDD/FDD	No
ULBandwidth	Uplink transmission bandwidth, specified in number of *resource blocks*. Corresponds to parameter *ul_Bandwidth* in SIB2 in 3GPP-TS.36.331 Section 6.3.1. and to parameter N_{RB} in 3GPP-TS.36.101 Table 5.6-1. This parameter is not settable by the operator.	ENUMERATED {n6, n15, n25, n50, n75, n100}	TDD/FDD	No
RSTxPower	The downlink reference-signal transmit power, specified in *dBm*. Defined as the linear average over the power contributions (in W) of all resource elements that carry cell-specific reference signals within the operating system bandwidth. Corresponds to parameter *referenceSignalPower* in SIB4 as a part of PDSCH-Config IE in 3GPP-TS.36.331 Section 6.3.2. This parameter is not settable by the operator.	INTEGER (-60..50)	TDD/FDD	No
PLMNIdentityList	Comma-separated list of strings. Each item is a PLMN ID. Corresponds to *plmn-IdentityList* as specified in SIB1 in 3GPP-TS.36.331 Section 6.2.2. In case there is more than one entry in the list, the first listed PLMN-Identity is the primary PLMN.	STRING	TDD/FDD	No

	This parameter is not settable by the operator.			
TAC	Tracking Area Code that is common for all the PLMNs listed. Corresponds to *trackingAreaCode* as specified in SIB1 in 3GPP-TS.36.331 Section 6.2.2. This parameter is not settable by the operator.	BIT STRING (SIZE (16))	TDD/FDD	No
CellID	Defines the cell identify, defines as a 28-bit binary number. Corresponds to *cellIdentity* as specified in SIB1 in 3GPP-TS.36.331 Section 6.2.2 and Section 6.3.4. This parameter is not settable by the operator.	BIT STRING (SIZE (28))	TDD/FDD	No
CellBarred	Indicates whether the cell is barred or not. If true, the cell is barred. If false, the cell is not barred. Corresponds to *cellBarred* as specified in SIB1 in 3GPP-TS.36.331 Section 6.2.2 and 3GPP-TS.36.304. This parameter is not settable by the operator.	ENUMERATED {barred, notBarred}	TDD/FDD	No
CSGIndication	Indicates whether CSG is used in this cell or not. If *true*, the UE is only allowed to access the cell if the CSG identity matches an entry in the allowed CSG list that the UE has stored. Corresponds to *csg-Indication* as specified in SIB1 in 3GPP-TS.36.331 Section 6.2.2. This parameter is not settable by the operator.	BOOLEAN	TDD/FDD	No
CSGIdentity	Defines the CSG ID value if *CSGIndication* parameter indicates that CSG is used in this cell. Corresponds to *csg-Identity* as specified in SIB1 in 3GPP-TS.36.331 Section 6.2.2. This parameter is not settable by the operator.	BIT STRING (SIZE (27))	TDD/FDD	No

6.1.17 Security Parameters

6.1.17.1 Air interface ciphering and integrity protection algorithms

Parameters should be added for selection of the air interface ciphering and integrity protection algorithms, these are defined as configurable in 33.401

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
allowedCipheringAlgorithmList	An ordered list of the ciphering algorithm(s) allowed to be used for RRC and UP confidentiality protection, where the most preferred algorithm is listed first. Ref: 33.401	Valid values are eea0, 128-eea1 and 128-eea2 This parameter is settable by the operator.	Yes	No
allowedIntegrityProtectionAlgorithmList	An ordered list of the integrity protection algorithm(s) allowed to be used for RRC, where the most preferred algorithm is listed first. Ref 33.401	Valid values are 128-eia1 and 128-eia2. This parameter is settable by the operator	Yes	No

6.1.18 Location management parameters

Table below shows parameters specific to location management

Parameter Name	Description	Valid Values	TDD/FDD	Applicable to HNB
eSLMCIdentityList	Defines a list of fully routable identities of the Enhanced Serving Mobile Location Centre (e-SMLC). Each identity consist of - a globally unique identity of the MME (GUMMEI, specified in 36.413 section 9.2.3.9) that is associated with the e-SLMC and - e-SLMC identity (e-SLMC Identity, specified in 29.171 section 7.4.19)	String This parameter is settable by operator.	TDD/FDD	Yes
LastLocationDeterminationTime	Specifies the date and time when the last location determination was performed. The location determined at this date and time is reported in *Latitude* and *Longitude* parameters.	Date/Time This parameter is not settable by operator.	TDD/FDD	Yes
Latitude	Specifies the latitude of the device"s position in degrees, multiplied by one million.	Integer[-90000000:90000000] This parameter is not settable	TDD/FDD	Yes

		by operator.		
Longitude	Specifies the longitude of the device"s position in degrees, multiplied by one million.	Integer[-180000000:180000000] This parameter is not settable by operator.	TDD/FDD	Yes

6.2 Fault Management

All Parameters in this section are applicable to HNB and HeNB.

6.2.1 Common Alarm Attributes

The HeNB Fault Management utilises a common set of alarm parameters as follows:

Parameter Name	**Description**	**Valid values**	**Traceback**
ManagedObjectInstance	It specifies the instance of the Informational Object Class in which the HeNB event occurred by carrying the Distinguished Name (DN) of this object instance. This object may or may not be identical to the object instance actually emitting the notification to the HMS It contains two components dnprefix and identifier of the Managed Object. The combination of both convey the uniqueness of all managed objects	Encode the Managed Objects representation in string format as defined in reference [4], 3GPP TS 32.300.	**REQ-OAMP_FM-FUN-004**
EventType	It indicates the type of HeNB Alarm	See 3GPP TS32.111-2 Annex A for information on pre-defined alarm types from the 3GPP standards for alarm type and 3GPP TS32.111-5 for supported Event Type values	**REQ-OAMP_FM-FUN-004**
ProbableCause	It qualifies the alarm and provides further information than Alarm Type.	See 3GPP TS32.111-2 Annex B for information on pre-defined Probable Causes from the 3GPP standards and 3GPP TS32.111-5 for supported Probable Cause values.	**REQ-OAMP_FM-FUN-004**
SpecificProblem	It provides further qualification on the alarm than ProbableCause This identifies the specific alarm over and above the Probable Cause which occurred on the HeNB which is vendor defined.	Vendor defined This will be empty if the HeNB doesn"t support inclusion of this information for this particular alarm	**REQ-OAMP_FM-FUN-004**
PerceivedSeverity	It indicates the relative level of urgency for operator attention for an alarm, please see ITU_T Recommendation X.733.	See 3GPP TS32.111-2 for information on pre-defined Perceived Severity and 3GPP TS32.111-5 for supported Perceived	**REQ-OAMP_FM-FUN-004**

		Severity values	
AdditionalText	This provides a textual string which is vendor defined.	Vendor defined This will be empty if the HeNB doesn"t support inclusion of this information for this particular alarm	**REQ-OAMP_FM-FUN-004**
AdditionalInformation	This contains a list of additional information about the alarm and is vendor defined	Vendor defined This will be empty if the HeNB doesn"t support inclusion of this information for this particular alarm	**REQ-OAMP_FM-FUN-004**

6.2.2 Current Alarms List

The HeNB maintains a list of current alarms not yet cleared on the HeNB. Newly raised alarms events result in a new entry in the Current Alarms Table being added, any changes to the alarm as a result of an update event are updated in the table, and a clear event raised against an alarm results in the alarm being removed from this table, reference **REQ-OAMP_FM-FUN-007**

6.2.2.1 Alarm Indexing Parameters

Entries in the Current Alarm Table shall be uniquely indexable using the following parameters:

Parameter Name	**Description**	**Valid values**	**Traceback**
AlarmIdentifier	It identifies one Alarm Entry in the Alarm List. This is the equivalent to the AlarmId identified in 3GPP TS32.111-2. The AlarmList assigns an identifier, called AlarmId, to each AlarmInformation in the AlarmList. An AlarmId unambiguously identifies one AlarmInformation in the AlarmList	value greater than or equal to 0	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**

6.2.2.2 Alarm Content Parameters

The Alarms List table shall contain a list of entries which shall contain the parameters identified in 6.2.3.1, the common set of alarm parameters which are identified in section 6.2.1, and the following additional information:

Parameter Name	**Description**	**Valid values**	**Traceback**
AlarmRaisedTime	It indicates the date and time when the alarm is first raised by the HeNB.	dateTime	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**
AlarmChangedTime	It indicates the last date and time when the Alarm Entry is changed by the alarm raising resource. Changes to the Alarm Entry caused by invocations of the HMS would not change this date and time.	dateTime	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**

6.2.3 Alarm History List

The HeNB maintains an alarm history list which contains the alarms raised by the HeNB for each alarm that has appeared on the Alarms List as defined in **REQ-OAMP_FM-FUN-007**

6.2.3.1 Alarm Indexing Parameters

Entries in the Alarms History Alarm Table shall be uniquely indexable using the following parameters:

Parameter Name	Description	Valid values	Traceback
EventTime	It indicates the date and time when the alarm event is raised by the HeNB	dateTime	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**
AlarmIdentifier	It identifies an Alarm Entry in the Alarms List. This is the equivalent to the AlarmId identified in 3GPP TS32.111-2. The AlarmList assigns an identifier, called alarmId, to each AlarmInformation in the AlarmList. An alarmId unambiguously identifies one AlarmInformation in the AlarmList	value greater than or equal to 0	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**

6.2.3.2 Alarm Content Parameters

The Alarms Event History table shall contain a list of entries which shall contain the parameters identified in 6.2.3.1, the common set of alarm parameters which are identified in section 6.2.1, and the following additional information:

Parameter Name	Description	Valid values	Traceback
NotificationType	It indicates the reason for sending the alarm to the HMS	Can be one of the following : 'NotifyNewAlarm' 'NotifyChangedAlarm' 'NotifyClearedAlarm'	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**

6.2.4 Expedited and Queued Alarm Handling

The HeNB maintains expedited and queued alarm handling lists which contains the alarms raised by the HeNB for each alarm that has appeared on the Alarms List which are waiting to be delivered to the HMS within the TR-069 RPC Methods as either Active or Passive Notifications, as defined in **REQ-OAMP_FM-FUN-007**

6.2.4.1 Alarm Indexing Parameters

Entries in the Expedited and Queued Alarm Handling Tables shall be uniquely indexable using the following parameters:

Parameter Name	Description	Valid values	Traceback
EventTime	It indicates the date and time when the alarm event is raised by the HeNB	dateTime	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**
AlarmIdentifier	It identifies an Alarm Entry in the Alarms List. This is the equivalent to the AlarmId identified in 3GPP TS32.111-2. The AlarmList assigns an identifier, called AlarmId, to each AlarmInformation in the AlarmList. An AlarmId unambiguously identifies one AlarmInformation in the AlarmList	value greater than or equal to 0	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**

6.2.4.2 Alarm Content Parameters

The Expedited and Queued Event Delivery table shall contain a list of entries which shall contain the parameters identified in 6.2.5.1, the common set of alarm parameters which are identified in section 6.2.1, and the following additional information:

Parameter Name	Description	Valid values	Traceback
NotificationType	It indicates the reason for sending the alarm to the HMS	Can be one of the following : 'NotifyNewAlarm' 'NotifyChangedAlarm' 'NotifyClearedAlarm'	**REQ-OAMP_FM-FUN-007 & REQ-OAMP_FM-FUN-004**

6.2.5 Supported Alarms and Reporting Mechanisms

The HeNB identifies which Alarm Events can be generated by the HeNB and based on the reporting mechanism as defined in **REQ-OAMP_FM-FUN-008** the HeNB shall perform the identified actions.

The supported alarm table shall contain a list of entries containing the following information:

Parameter Name	Description	Valid values	Traceback
EventType	It indicates the type of HeNB alarm.	See 3GPP TS32.111-2 Annex A for information on pre-defined alarm types from the 3GPP standards and 3GPP TS32.111-5 for supported Event Type values	**REQ-OAMP_FM-FUN-008**

ProbableCause	It qualifies the alarm and provides further information than Alarm Type.	See 3GPP TS32.111-2 Annex B for information on pre-defined Probable Causes from the 3GPP standards and 3GPP TS32.111-5 for supported Probable Cause values. This will be empty if the HeNB doesn"t support the distinguishing of different reporting mechanism per level of Probable Cause. The can be set to '*' to indicate the default case if only a subset of Probable Causes are to be contained within the table	**REQ-OAMP_FM-FUN-008**
SpecificProblem *	It provides further qualification on the alarm than ProbableCause This identifies the specific alarm over an above the Probable Cause which occurred on the HeNB which is vendor defined. If the HeNB specifies more than one event for a particular combination of alarm type and probable cause, the Specific Problems parameter may be used to uniquely identify the event.	This is vendor defined. This will be empty if the HeNB doesn"t support the distinguishing of different reporting mechanisms per level of Specific Problem The can be set to '*' to indicate the default case if only a subset of Specific Problems are to be contained within the table.	**REQ-OAMP_FM-FUN-008**
PerceivedSeverity	It indicates the relative level of urgency for operator attention for an alarm,.	See 3GPP TS32.111-2 for information on pre-defined Perceived Severity and 3GPP TS32.111-5 for supported Perceived Severity values This will be empty if the HeNB doesn"t want to distinguish a different reporting mechanism per level of Perceived Severity Can be set to '*' to indicate the default case if only a subset of PerceivedSeverity are to be contained within the table.	**REQ-OAMP_FM-FUN-008**
Reporting Mechanism	Expedited Handling – the HeNB connects to the HMS immediately to raise the alarm and logs the alarm in the Alarm History. Queued Handling – the HeNB queues the alarm internally pending connection to the HMS, logs the alarm in the Alarm History and	Indicates the reporting mechanism setting of the alarm. One of: '0 – Expedited' '1 – Queued' '2 – Logged' '3 – Disabled'	**REQ-OAMP_FM-FUN-008 & REQ-OAMP_FM-FUN-009 & REQ-OAMP_FM-FUN-013**

	delivers the alarm on the next connection to the HMS Logged Handling – the HeNB does not send the alarm to the HMS and logs the alarm in the Alarm History. Disabled – the HeNB does not send the alarm to the HMS and will not log the alarm in the Alarm History.		

* Editor"s Note: the need for SpecificProblem attribute in the table defined in 5.2.5 is FFS.

5.2.6 Encoding

5.2.6.1 dateTime

See Broadband Forum TR-069 HeNB WAN Management Protocol Amendment 2, Table 9, for a definition of the dateTime and supported values.

5.2.6.2 Event Type

See 3GPP TS32.111-2 Annex A for information on pre-defined alarm types from the 3GPP standards and 3GPP TS32.111-5 for supported alarm type values

5.2.6.3 Probable Cause

See 3GPP TS32.111-2 Annex B for information on pre-defined Probable Causes from the 3GPP standards and 3GPP TS32.111-5 for supported Probable Cause values.

5.2.6.4 PerceivedSeverity

See 3GPP TS32.111-2 for information on pre-defined Perceived Severity from the 3GPP standards and 3GPP TS32.111-5 for supported Perceived Severity values

Although 'Indeterminate' is defined in TS32.111-2 it shouldn"t be used by the HeNB as a Perceived Severity.

6.3 Performance Management

All Parameters in this section are applicable to HNB and HeNB.

6.3.1 Periodic Performance File Upload

The HeNB can be configured to send periodic performance files to a designated File Server as defined in **REQ-OAMP-PM-FUN-003**

The File Management table shall contain the following information:

Parameter Name	**Description**	**Valid values**	**Traceback**
PeriodicUploadEnable	Enables or disables the ability to send HeNB information periodically to a designated File Server.	Can be one of the following: FALSE - Disabled TRUE - Enabled	**REQ-OAMP-PM-FUN-003**
URL	URL specifying the destination file	A valid URL which also indicates the mechanism to	**REQ-OAMP-**

	location. This argument specifies only the destination file location, and does not indicate in any way the name or location of the local file to be uploaded.	be used for file transfer	**PM-FUN-003** **REQ-OAMP-PM-FUN-004**
Username	Username to be used by the HeNB to authenticate with the file server.	This string is set to the empty string if no authentication is required.	**REQ-OAMP-PM-FUN-003**
Password	Password to be used by the HeNB to authenticate with the file server.	This string is set to the empty string if no authentication is required.	**REQ-OAMP-PM-FUN-003**
PeriodicUploadInterval	The duration in seconds of the interval for which the HeNB shall create an Event History File and attempt to upload the file to the designated destination File location if PeriodicUploadEnable is true.	Integer value greater than or equal to 0	**REQ-OAMP-PM-FUN-003**
PeriodicUploadTime	Absolute time references in UTC to determine when the HeNB will initiate the periodic file upload. Each file upload shall occur at this reference time plus or minus an integer multiple of the PeriodicUploadInterval. PeriodicUploadTime is used only to set the 'phase' of the periodic Uploads. The actual value of PeriodicUploadTime can be arbitrarily far into the past or future. For example, if PeriodicUploadInterval is 86400 (a day) and if PeriodicUploadTime is set to UTC midnight on some day (in the past, present, or future) then periodic file uploads will occur every day at UTC midnight. These shall begin on the very next midnight, even if PeriodicUploadTime refers to a day in the future. If absolute time is not available to the HeNB, its periodic file upload behaviour shall be the same as if the PeriodicUploadTime parameter was set to the Unknown Time value.	An absolute time reference in UTC The Unknown Time value defined as 0001-01-01T00:00:00Z indicates that no particular time reference is specified. That is, the HeNB MAY locally choose the time reference, and is required only to adhere to the specified PeriodicUploadInterval.	**REQ-OAMP-PM-FUN-003**

6.3.2 Periodic Statistics

6.3.2.1 Sample Set Management

The HeNB contains a collection of sample sets which consist of a collection of periodic statistics for the HeNB. Each configured sample set shall contain the following Management Parameters:

Parameter Name	**Description**	**Valid values**	**Traceback**

Enable	Enables or disables collection of periodic statistics for this sample set. When collection of periodic statistics is enabled, any stored samples are discarded, and the first sample interval begins immediately.	True - Enabled False - Disabled	**REQ-OAMP-PM-FUN-001**
Name	The name of this sample set, which uniquely distinguishes each sample set on the HeNB.	A value which uniquely distinguishes each defined sample set on the HeNB.	**REQ-OAMP-PM-FUN-001**
SampleInterval	The sample interval in *seconds*. Each statistic is measured over this sample interval. The SampleInterval is equivalent to the granularity period referenced in 3GPP TS 32.401 which is the time between the initiations of two successive gatherings of measurement data.	Numerical value in seconds Granularity Period referenced in 3GPP TS 32.401 specifies that the only valid values for the sample interval are 5 minutes, 15 minutes, 30 minutes, 1 hour. The sample interval cannot be modified if the Sample Set Enable Flag is set to False	**REQ-OAMP-PM-FUN-001**
ReportSamples	The number of samples that the HeNB will store for each statistic.	Numerical value If the File Upload PeriodicUploadInterval is greater than 0 then the ReportSamples value shall be calculated by dividing the File Upload PeriodicUploadInterval by the SampleInterval value. If the calculation is fractional then the value will be set to 1.	**REQ-OAMP-PM-FUN-001**
TimeReference	A time used to determine when sample intervals will be completed. Each sample interval shall complete at this reference time plus or minus an integer multiple of *SampleInterval*.	An absolute time reference in UTC If the SampleInterval is set to 5 mins then the mins/secs portions of the Time Reference can be set to one of the following 00/00, 05/00, 10/00, 15/00, 20/00, 25/00, 30/00, 35/00, 40/00, 45/00, 50/00 55/00 If the SampleInterval is set to 15 mins then the mins/secs portions of the Time Reference can be set to one of the following 00/00, 15/00, 30/00, 45/00 If the SampleInterval is 30 mins then the mins/secs portions of the Time Reference can be set to one of the following 00/00, 30/00 If the SampleInterval is 1	**REQ-OAMP-PM-FUN-001**

		hour then the mins/secs portions of the Time Reference can be set to the following 00/00	
ReportStartTime	The time at which the sample interval for the first stored sample (for each statistic) started.	An absolute time reference in UTC	**REQ-OAMP-PM-FUN-001**
ReportEndTime	The absolute time at which the sample interval for the last stored sample (for each statistic) ended.	An absolute time reference in UTC	**REQ-OAMP-PM-FUN-001**
SampleSeconds	List of time interval values for the sample set indicating the time period between each sample interval.	List of numerical values in seconds	**REQ-OAMP-PM-FUN-001**

6.3.2.2 Sample Set Statistic Parameters

Each Sample set shall include a collection of periodic statistics in a table whose values are to be sampled and each periodic statistic shall contain the following:

Parameter Name	**Description**	**Valid values**	**Traceback**
Enable	Enables or disables the sampling of the specific statistic parameter	True - Enabled False - Disabled	**REQ-OAMP-PM-FUN-001**
Reference	This is the statistic parameter being monitored by the Periodic Statistics mechanism.	A value which uniquely distinguishes the statistic parameter on the HeNB.	**REQ-OAMP-PM-FUN-001**

Note: The support of table 5.2.1.1 and 5.2.1.2 by HeNB is optional.

6.3.3 PM File Content description

Table below lists all the PM file content items. It also provides a description of the individual items.

PM File Content Description

File Content Item	Description
measDataCollection	See Table 4.1 of [16].
measFileHeader	See Table 4.1 of [16].
measData	See Table 4.1 of [16].
measFileFooter	See Table 4.1 of [16].
fileFormatVersion	See Table 4.1 of [16].
senderName	See Table 4.1 of [16].
senderType	See Table 4.1 of [16].
vendorName	See Table 4.1 of [16].
collectionBeginTime	See Table 4.1 of [16].
neId	See Table 4.1 of [16].
neUserName	See Table 4.1 of [16].
neDistinguishedName	See Table 4.1 of [16].
neSoftwareVersion	See Table 4.1 of [16].
measInfo	See Table 4.1 of [16].
measInfoId	See Table 4.1 of [16].
measTimeStamp	See Table 4.1 of [16].
jobId	See Table 4.1 of [16].
granularityPeriod	See Table 4.1 of [16].
reportingPeriod	See Table 4.1 of [16].
measTypes	See Table 4.1 of [16].
measValues	See Table 4.1 of [16].
measObjInstId	See Table 4.1 of [16].
measResults	See Table 4.1 of [16].
suspectFlag	See Table 4.1 of [16].
timestamp	See Table 4.1 of [16].

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
March 2010	SA#47	SP-100058	--	--	Presentation to SA for information and approval	--	1.0.0
March 2010	--	--	--	--	SA approved version published	1.0.0	9.0.0
Dec 2010	SA#50	SP-100747	004	1	Correct errors in spec references, table number references, valid values	9.0.0	9.1.0
Dec 2010	SA#50	SP-100747	006	--	Adding Emergency Area ID parameter - Align with RAN3 TS 36.413	9.0.0	9.1.0
May 2011	SA#52	SP-110282	011	-	Correct the reference for the NAS Node Selection Function (NNSF) NNSFSupported parameter	9.1.0	9.2.0
May 2011	SA#52	SP-110288	015	1	Correction of information model for HeNB non-IPsec usage-alignment with 33.320	9.1.0	9.2.0

History

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