

ETSI TS 136 423 V15.8.0 (2020-01)



LTE;
Evolved Universal Terrestrial
Radio Access Network (E-UTRAN);
X2 Application Protocol (X2AP)
(3GPP TS 36.423 version 15.8.0 Release 15)



Reference

RTS/TSGR-0336423vf80

Keywords

LTE

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at <https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2020.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

oneM2M™ logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Legal Notice

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

The present document may refer to technical specifications or reports using their 3GPP identities. These shall be interpreted as being references to the corresponding ETSI deliverables.

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

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Intellectual Property Rights	2
Legal Notice	2
Modal verbs terminology.....	2
Foreword.....	12
1 Scope	13
2 References	13
3 Definitions, symbols and abbreviations	15
3.1 Definitions	15
3.2 Symbols.....	15
3.3 Abbreviations	15
4 General	16
4.1 Procedure specification principles.....	16
4.2 Forwards and backwards compatibility.....	17
4.3 Specification notations	17
5 X2AP services	17
5.1 X2AP procedure modules	17
5.2 Parallel transactions.....	17
6 Services expected from signalling transport.....	18
7 Functions of X2AP.....	18
8 X2AP procedures	19
8.1 Elementary procedures	19
8.2 Basic mobility procedures	22
8.2.1 Handover Preparation	22
8.2.1.1 General	22
8.2.1.2 Successful Operation.....	23
8.2.1.3 Unsuccessful Operation	25
8.2.1.4 Abnormal Conditions	26
8.2.2 SN Status Transfer	26
8.2.2.1 General	26
8.2.2.2 Successful Operation.....	27
8.2.2.3 Unsuccessful Operation	28
8.2.2.4 Abnormal Conditions	28
8.2.3 UE Context Release	28
8.2.3.1 General	28
8.2.3.2 Successful Operation.....	29
8.2.3.3 Unsuccessful Operation	30
8.2.3.4 Abnormal Conditions	30
8.2.4 Handover Cancel	30
8.2.4.1 General	30
8.2.4.2 Successful Operation.....	31
8.2.4.3 Unsuccessful Operation	31
8.2.4.4 Abnormal Conditions	31
8.3 Global Procedures	31
8.3.1 Load Indication	31
8.3.1.1 General	31
8.3.1.2 Successful Operation.....	31
8.3.1.3 Unsuccessful Operation	33
8.3.1.4 Abnormal Conditions	33
8.3.2 Error Indication.....	33
8.3.2.1 General	33
8.3.2.2 Successful Operation.....	33
8.3.2.3 Unsuccessful Operation	34

8.3.2.4	Abnormal Conditions	34
8.3.3	X2 Setup	34
8.3.3.1	General	34
8.3.3.2	Successful Operation.....	35
8.3.3.3	Unsuccessful Operation	36
8.3.3.4	Abnormal Conditions	36
8.3.4	Reset	36
8.3.4.1	General	36
8.3.4.2	Successful Operation.....	37
8.3.4.3	Unsuccessful Operation	37
8.3.4.4	Abnormal Conditions	37
8.3.5	eNB Configuration Update	38
8.3.5.1	General	38
8.3.5.2	Successful Operation.....	38
8.3.5.3	Unsuccessful Operation	40
8.3.5.4	Abnormal Conditions	40
8.3.6	Resource Status Reporting Initiation	40
8.3.6.1	General	40
8.3.6.2	Successful Operation.....	40
8.3.6.3	Unsuccessful Operation	42
8.3.6.4	Abnormal Conditions	42
8.3.7	Resource Status Reporting.....	43
8.3.7.1	General	43
8.3.7.2	Successful Operation.....	43
8.3.7.3	Unsuccessful Operation	43
8.3.7.4	Abnormal Conditions	43
8.3.8	Mobility Settings Change	43
8.3.8.1	General	43
8.3.8.2	Successful Operation.....	44
8.3.8.3	Unsuccessful Operation	44
8.3.8.4	Abnormal Conditions	44
8.3.9	Radio Link Failure Indication	44
8.3.9.1	General	44
8.3.9.2	Successful Operation.....	45
8.3.9.3	Unsuccessful Operation	45
8.3.9.4	Abnormal Conditions	45
8.3.10	Handover Report.....	45
8.3.10.1	General	45
8.3.10.2	Successful Operation.....	46
8.3.10.3	Unsuccessful Operation	46
8.3.10.4	Abnormal Conditions	46
8.3.11	Cell Activation.....	46
8.3.11.1	General	46
8.3.11.2	Successful Operation.....	47
8.3.11.3	Unsuccessful Operation	47
8.3.11.4	Abnormal Conditions	47
8.3.12	X2 Removal	47
8.3.12.1	General	47
8.3.12.2	Successful Operation.....	48
8.3.12.3	Unsuccessful Operation	48
8.3.12.4	Abnormal Conditions	48
8.3.13	Retrieve UE Context.....	48
8.3.13.1	General	48
8.3.13.2	Successful Operation.....	49
8.3.13.3	Unsuccessful Operation	50
8.3.13.4	Abnormal Conditions	50
8.3.14	EN-DC X2 Removal	50
8.3.14.1	General	50
8.3.14.2	Successful Operation.....	50
8.3.14.3	Unsuccessful Operation	51
8.3.14.4	Abnormal Conditions	52
8.3.15	Data Forwarding Address Indication	52

8.3.15.1	General	52
8.3.15.2	Successful Operation.....	52
8.3.15.3	Unsuccessful Operation	52
8.3.15.4	Abnormal Conditions	53
8.4	X2 Release.....	53
8.4.1	General.....	53
8.4.2	Successful Operation	53
8.4.3	Unsuccessful Operation	53
8.4.4	Abnormal Condition	53
8.5	X2AP Message Transfer	53
8.5.1	General.....	53
8.5.2	Successful Operation.....	54
8.5.3	Unsuccessful Operation	54
8.5.4	Abnormal Condition	54
8.6	Procedures for Dual Connectivity	54
8.6.1	SeNB Addition Preparation	54
8.6.1.1	General	54
8.6.1.2	Successful Operation.....	55
8.6.1.3	Unsuccessful Operation	56
8.6.1.4	Abnormal Conditions	56
8.6.2	SeNB Reconfiguration Completion	57
8.6.2.1	General	57
8.6.2.2	Successful Operation.....	57
8.6.2.3	Abnormal Conditions	58
8.6.3	MeNB initiated SeNB Modification Preparation	58
8.6.3.1	General	58
8.6.3.2	Successful Operation.....	58
8.6.3.3	Unsuccessful Operation	60
8.6.3.4	Abnormal Conditions	60
8.6.4	SeNB initiated SeNB Modification	61
8.6.4.1	General	61
8.6.4.2	Successful Operation.....	61
8.6.4.3	Unsuccessful Operation.....	62
8.6.4.4	Abnormal Conditions	62
8.6.5	MeNB initiated SeNB Release.....	63
8.6.5.1	General	63
8.6.5.2	Successful Operation.....	63
8.6.5.3	Unsuccessful Operation	63
8.6.5.4	Abnormal Conditions	64
8.6.6	SeNB initiated SeNB Release.....	64
8.6.6.1	General	64
8.6.6.2	Successful Operation.....	64
8.6.6.3	Unsuccessful Operation	64
8.6.6.4	Abnormal Conditions	64
8.6.7	SeNB Counter Check.....	65
8.6.7.1	General	65
8.6.7.2	Successful Operation.....	65
8.6.7.3	Unsuccessful Operation	65
8.6.7.4	Abnormal Conditions	65
8.7	Procedures for E-UTRAN-NR Dual Connectivity	65
8.7.1	EN-DC X2 Setup	65
8.7.1.1	General	65
8.7.1.2	Successful Operation.....	66
8.7.1.3	Unsuccessful Operation	67
8.7.1.4	Abnormal Conditions	67
8.7.2	EN-DC Configuration Update	68
8.7.2.1	General	68
8.7.2.2	Successful Operation.....	68
8.7.2.3	Unsuccessful Operation	69
8.7.2.4	Abnormal Conditions	70
8.7.3	EN-DC Cell Activation.....	70
8.7.3.1	General	70

8.7.3.2	Successful Operation.....	70
8.7.3.3	Unsuccessful Operation	71
8.7.3.4	Abnormal Conditions	71
8.7.4	SgNB Addition Preparation	71
8.7.4.1	General	71
8.7.4.2	Successful Operation.....	71
8.7.4.3	Unsuccessful Operation	74
8.7.4.4	Abnormal Conditions	74
8.7.5	SgNB Reconfiguration Completion.....	75
8.7.5.1	General	75
8.7.5.2	Successful Operation.....	75
8.7.5.3	Abnormal Conditions	76
8.7.6	MeNB initiated SgNB Modification Preparation.....	76
8.7.6.1	General	76
8.7.6.2	Successful Operation.....	76
8.7.6.3	Unsuccessful Operation	80
8.7.6.4	Abnormal Conditions	80
8.7.7	SgNB initiated SgNB Modification	81
8.7.7.1	General	81
8.7.7.2	Successful Operation.....	81
8.7.7.3	Unsuccessful Operation	83
8.7.7.4	Abnormal Conditions	83
8.7.8	SgNB Change	84
8.7.8.1	General	84
8.7.8.2	Successful Operation.....	84
8.7.8.3	Unsuccessful Operation	85
8.7.8.4	Abnormal Conditions	85
8.7.9	MeNB initiated SgNB Release	85
8.7.9.1	General	85
8.7.9.2	Successful Operation.....	85
8.7.9.3	Unsuccessful Operation	86
8.7.9.4	Abnormal Conditions	86
8.7.10	SgNB initiated SgNB Release	87
8.7.10.1	General	87
8.7.10.2	Successful Operation.....	87
8.7.10.3	Unsuccessful Operation	87
8.7.10.4	Abnormal Conditions	87
8.7.11	SgNB Counter Check.....	88
8.7.11.1	General	88
8.7.11.2	Successful Operation.....	88
8.7.11.3	Unsuccessful Operation	88
8.7.11.4	Abnormal Conditions	88
8.7.12	RRC Transfer.....	88
8.7.12.1	General	88
8.7.12.2	Successful Operation.....	89
8.7.12.3	Abnormal Conditions	89
8.7.13	Secondary RAT Data Usage Report	89
8.7.13.1	General	89
8.7.13.2	Successful Operation.....	89
8.7.13.3	Unsuccessful Operation	89
8.7.13.4	Abnormal Conditions	90
8.7.14	Partial reset of EN-DC.....	90
8.7.14.1	General	90
8.7.14.2	Successful Operation.....	90
8.7.14.3	Unsuccessful Operation	91
8.7.14.4	Abnormal Conditions	91
8.7.15	E-UTRA – NR Cell Resource Coordination.....	91
8.7.15.1	General	91
8.7.15.2	Successful Operation.....	91
8.7.16	SgNB Activity Notification	92
8.7.16.1	General	92
8.7.16.2	Successful Operation.....	93

8.7.16.3	Abnormal Conditions	93
8.7.17	gNB Status Indication	93
8.7.17.1	General	93
8.7.17.2	Successful Operation	93
8.7.17.3	Abnormal Conditions	93
8.7.18	EN-DC Configuration Transfer	94
8.7.18.1	General	94
8.7.18.2	Successful Operation	94
8.7.18.3	Abnormal Conditions	95
8.7.19	Trace Start	95
8.7.19.1	General	95
8.7.19.2	Successful Operation	95
8.7.19.3	Abnormal Conditions	95
8.7.20	Deactivate Trace	95
8.7.20.1	General	95
8.7.20.2	Successful Operation	96
8.7.20.3	Abnormal Conditions	96
9	Elements for X2AP Communication	96
9.0	General	96
9.1	Message Functional Definition and Content	96
9.1.1	Messages for Basic Mobility Procedures	96
9.1.1.1	HANDOVER REQUEST	96
9.1.1.2	HANDOVER REQUEST ACKNOWLEDGE	98
9.1.1.3	HANDOVER PREPARATION FAILURE	100
9.1.1.4	SN STATUS TRANSFER	100
9.1.1.5	UE CONTEXT RELEASE	103
9.1.1.6	HANDOVER CANCEL	103
9.1.2	Messages for global procedures	104
9.1.2.1	LOAD INFORMATION	104
9.1.2.2	ERROR INDICATION	104
9.1.2.3	X2 SETUP REQUEST	105
9.1.2.4	X2 SETUP RESPONSE	106
9.1.2.5	X2 SETUP FAILURE	107
9.1.2.6	RESET REQUEST	108
9.1.2.7	RESET RESPONSE	108
9.1.2.8	ENB CONFIGURATION UPDATE	108
9.1.2.9	ENB CONFIGURATION UPDATE ACKNOWLEDGE	111
9.1.2.10	ENB CONFIGURATION UPDATE FAILURE	111
9.1.2.11	RESOURCE STATUS REQUEST	111
9.1.2.12	RESOURCE STATUS RESPONSE	113
9.1.2.13	RESOURCE STATUS FAILURE	115
9.1.2.14	RESOURCE STATUS UPDATE	116
9.1.2.15	MOBILITY CHANGE REQUEST	116
9.1.2.16	MOBILITY CHANGE ACKNOWLEDGE	117
9.1.2.17	MOBILITY CHANGE FAILURE	117
9.1.2.18	RLF INDICATION	117
9.1.2.19	HANDOVER REPORT	118
9.1.2.20	CELL ACTIVATION REQUEST	119
9.1.2.21	CELL ACTIVATION RESPONSE	120
9.1.2.22	CELL ACTIVATION FAILURE	120
9.1.2.23	X2 RELEASE	120
9.1.2.24	X2AP MESSAGE TRANSFER	120
9.1.2.25	X2 REMOVAL REQUEST	121
9.1.2.26	X2 REMOVAL RESPONSE	121
9.1.2.27	X2 REMOVAL FAILURE	121
9.1.2.28	RETRIEVE UE CONTEXT REQUEST	121
9.1.2.29	RETRIEVE UE CONTEXT RESPONSE	122
9.1.2.30	RETRIEVE UE CONTEXT FAILURE	124
9.1.2.31	EN-DC X2 SETUP REQUEST	124
9.1.2.32	EN-DC X2 SETUP RESPONSE	125
9.1.2.33	EN-DC X2 SETUP FAILURE	126

9.1.2.34	EN-DC CONFIGURATION UPDATE	126
9.1.2.35	EN-DC CONFIGURATION UPDATE ACKNOWLEDGE	128
9.1.2.36	EN-DC CONFIGURATION UPDATE FAILURE	128
9.1.2.37	EN-DC CELL ACTIVATION REQUEST	129
9.1.2.38	EN-DC CELL ACTIVATION RESPONSE	129
9.1.2.39	EN-DC CELL ACTIVATION FAILURE	129
9.1.2.40	EN-DC X2 REMOVAL REQUEST	130
9.1.2.41	EN-DC X2 REMOVAL RESPONSE	130
9.1.2.42	EN-DC X2 REMOVAL FAILURE	130
9.1.2.43	DATA FORWARDING ADDRESS INDICATION	131
9.1.2.44	EN-DC CONFIGURATION TRANSFER	131
9.1.3	Messages for Dual Connectivity Procedures	132
9.1.3.1	SENB ADDITION REQUEST	132
9.1.3.2	SENB ADDITION REQUEST ACKNOWLEDGE	134
9.1.3.3	SENB ADDITION REQUEST REJECT	136
9.1.3.4	SENB RECONFIGURATION COMPLETE	136
9.1.3.5	SENB MODIFICATION REQUEST	137
9.1.3.6	SENB MODIFICATION REQUEST ACKNOWLEDGE	139
9.1.3.7	SENB MODIFICATION REQUEST REJECT	141
9.1.3.8	SENB MODIFICATION REQUIRED	142
9.1.3.9	SENB MODIFICATION CONFIRM	142
9.1.3.10	SENB MODIFICATION REFUSE	143
9.1.3.11	SENB RELEASE REQUEST	143
9.1.3.12	SENB RELEASE REQUIRED	144
9.1.3.13	SENB RELEASE CONFIRM	145
9.1.3.14	SENB COUNTER CHECK REQUEST	146
9.1.4	Messages for E-UTRAN-NR Dual Connectivity Procedures	147
9.1.4.1	SGNB ADDITION REQUEST	147
9.1.4.2	SGNB ADDITION REQUEST ACKNOWLEDGE	150
9.1.4.3	SGNB ADDITION REQUEST REJECT	153
9.1.4.4	SGNB RECONFIGURATION COMPLETE	153
9.1.4.5	SGNB MODIFICATION REQUEST	153
9.1.4.6	SGNB MODIFICATION REQUEST ACKNOWLEDGE	159
9.1.4.7	SGNB MODIFICATION REQUEST REJECT	163
9.1.4.8	SGNB MODIFICATION REQUIRED	163
9.1.4.9	SGNB MODIFICATION CONFIRM	165
9.1.4.10	SGNB MODIFICATION REFUSE	167
9.1.4.11	SGNB RELEASE REQUEST	167
9.1.4.12	SGNB RELEASE REQUEST ACKNOWLEDGE	169
9.1.4.13	SGNB RELEASE REQUEST REJECT	169
9.1.4.14	SGNB RELEASE REQUIRED	170
9.1.4.15	SGNB RELEASE CONFIRM	170
9.1.4.16	SGNB COUNTER CHECK REQUEST	172
9.1.4.17	SGNB CHANGE REQUIRED	172
9.1.4.18	SGNB CHANGE CONFIRM	173
9.1.4.19	SGNB CHANGE REFUSE	175
9.1.4.20	SECONDARY RAT DATA USAGE REPORT	175
9.1.4.21	RRC TRANSFER	175
9.1.4.22	PARTIAL RESET REQUIRED	176
9.1.4.23	PARTIAL RESET CONFIRM	177
9.1.4.24	E-UTRA – NR CELL RESOURCE COORDINATION REQUEST	177
9.1.4.25	E-UTRA – NR CELL RESOURCE COORDINATION RESPONSE	178
9.1.4.26	SGNB ACTIVITY NOTIFICATION	179
9.1.4.27	GNB STATUS INDICATION	180
9.1.4.28	TRACE START	180
9.1.4.29	DEACTIVATE TRACE	180
9.2	Information Element definitions	181
9.2.0	General	181
9.2.1	GTP Tunnel Endpoint	181
9.2.2	Trace Activation	181
9.2.3	Handover Restriction List	182
9.2.4	PLMN Identity	184

9.2.5	DL Forwarding	184
9.2.6	Cause	185
9.2.7	Criticality Diagnostics	190
9.2.8	Served Cell Information.....	191
9.2.9	E-RAB Level QoS Parameters.....	196
9.2.10	GBR QoS Information	196
9.2.11	Bit Rate	198
9.2.12	UE Aggregate Maximum Bit Rate.....	198
9.2.13	Message Type	199
9.2.14	ECGI.....	199
9.2.15	COUNT Value	199
9.2.16	GUMMEI.....	200
9.2.17	UL Interference Overload Indication.....	200
9.2.18	UL High Interference Indication.....	200
9.2.19	Relative Narrowband Tx Power (RNTP).....	201
9.2.20	GU Group Id.....	204
9.2.21	Location Reporting Information	204
9.2.22	Global eNB ID.....	204
9.2.23	E-RAB ID	204
9.2.24	eNB UE X2AP ID	205
9.2.25	Subscriber Profile ID for RAT/Frequency priority.....	205
9.2.26	EARFCN	205
9.2.27	Transmission Bandwidth	205
9.2.28	E-RAB List	206
9.2.29	UE Security Capabilities.....	206
9.2.30	AS Security Information.....	206
9.2.31	Allocation and Retention Priority	207
9.2.32	Time To Wait.....	208
9.2.33	SRVCC Operation Possible.....	208
9.2.34	Hardware Load Indicator	208
9.2.35	S1 TNL Load Indicator.....	208
9.2.36	Load Indicator.....	208
9.2.37	Radio Resource Status	208
9.2.38	UE History Information	209
9.2.39	Last Visited Cell Information	209
9.2.40	Last Visited E-UTRAN Cell Information.....	209
9.2.41	Last Visited GERAN Cell Information.....	210
9.2.42	Cell Type	210
9.2.43	Number of Antenna Ports	210
9.2.44	Composite Available Capacity Group	210
9.2.45	Composite Available Capacity	211
9.2.46	Cell Capacity Class Value	211
9.2.47	Capacity Value.....	211
9.2.48	Mobility Parameters Information.....	212
9.2.49	Mobility Parameters Modification Range.....	212
9.2.50	PRACH Configuration.....	212
9.2.51	Subframe Allocation	212
9.2.52	CSG Membership Status.....	213
9.2.53	CSG ID	213
9.2.54	ABS Information	213
9.2.55	Invoke Indication	215
9.2.56	MDT Configuration	215
9.2.57	Void	218
9.2.58	ABS Status.....	218
9.2.59	Management Based MDT Allowed	219
9.2.60	MultibandInfoList.....	220
9.2.61	M3 Configuration	220
9.2.62	M4 Configuration	220
9.2.63	M5 Configuration	220
9.2.64	MDT PLMN List	221
9.2.65	EARFCN Extension.....	221
9.2.66	COUNT Value Extended.....	221

9.2.67	Extended UL Interference Overload Info	221
9.2.68	RNL Header.....	222
9.2.69	Masked IMEISV	222
9.2.70	Expected UE Behaviour.....	223
9.2.71	Expected UE Activity Behaviour.....	223
9.2.72	SeNB Security Key.....	223
9.2.73	SCG Change Indication	224
9.2.74	CoMP Information.....	224
9.2.75	CoMP Hypothesis Set.....	224
9.2.76	RSRP Measurement Report List.....	225
9.2.77	Dynamic DL transmission information.....	226
9.2.78	ProSe Authorized.....	226
9.2.79	CSI Report	226
9.2.80	Wideband CQI	227
9.2.81	Subband CQI	227
9.2.82	COUNT Value for PDCP SN Length 18	228
9.2.83	LHN ID.....	228
9.2.84	Correlation ID.....	228
9.2.85	UE Context Kept Indicator	228
9.2.86	eNB UE X2AP ID Extension.....	229
9.2.87	M6 Configuration	229
9.2.88	M7 Configuration	229
9.2.89	Tunnel Information	229
9.2.90	X2 Benefit Value	230
9.2.91	Resume ID	230
9.2.92	Bearer Type	230
9.2.93	V2X Services Authorized.....	231
9.2.94	Offset of NB-IoT Channel Number to EARFCN	231
9.2.95	WT ID.....	231
9.2.96	WT UE XwAP ID.....	231
9.2.97	UE Sidelink Aggregate Maximum Bit Rate	231
9.2.98	NR Neighbour Information.....	232
9.2.99	Extended Bit Rate	233
9.2.100	en-gNB UE X2AP ID	233
9.2.101	SgNB Security Key.....	233
9.2.102	Target SgNB ID Information.....	233
9.2.103	SCG Configuration Query	233
9.2.104	Delivery Status.....	233
9.2.105	Void.....	234
9.2.106	NR Frequency Info	234
9.2.107	NR UE Security Capabilities	234
9.2.108	EN-DC Resource Configuration	235
9.2.109	PDCP Change Indication	235
9.2.110	Served NR Cell Information	235
9.2.111	NR CGI.....	237
9.2.112	Global en-gNB ID.....	237
9.2.113	Void	237
9.2.114	NR Transmission Bandwidth.....	237
9.2.115	Cell Assistance Information.....	238
9.2.116	MeNB Resource Coordination Information.....	238
9.2.117	SgNB Resource Coordination Information.....	240
9.2.118	UL Configuration.....	242
9.2.119	RLC Mode	242
9.2.120	Secondary RAT Usage Report List.....	243
9.2.121	UE Application layer measurement configuration.....	244
9.2.122	DRB ID.....	244
9.2.123	SUL Information.....	245
9.2.124	Packet Loss Rate.....	245
9.2.125	Protected E-UTRA Resource Indication.....	245
9.2.126	Data Traffic Resource Indication.....	249
9.2.127	Data Traffic Resources	250
9.2.128	Reserved Subframe Pattern.....	251

9.2.129	Aerial UE subscription information.....	252
9.2.130	User plane traffic activity report.....	252
9.2.131	RLC Status.....	252
9.2.132	RRC config indication.....	253
9.2.133	PDCP SN Length.....	253
9.2.134	Bluetooth Measurement Configuration.....	253
9.2.135	WLAN Measurement Configuration.....	253
9.2.136	Subscription Based UE Differentiation Information.....	254
9.2.137	Duplication activation.....	255
9.2.138	LCID.....	256
9.2.139	MeNB Coordination Assistance Information.....	256
9.2.140	SgNB Coordination Assistance Information.....	256
9.2.141	Desired Activity Notification Level.....	256
9.2.142	Location Information at SgNB.....	256
9.2.143	Interface Instance Indication.....	257
9.2.144	NB-IoT UL DL Alignment Offset.....	257
9.3	Message and Information Element Abstract Syntax (with ASN.1).....	258
9.3.1	General.....	258
9.3.2	Usage of Private Message Mechanism for Non-standard Use.....	258
9.3.3	Elementary Procedure Definitions.....	258
9.3.4	PDU Definitions.....	271
9.3.5	Information Element definitions.....	352
9.3.6	Common definitions.....	404
9.3.7	Constant definitions.....	405
9.3.8	Container definitions.....	413
9.4	Message transfer syntax.....	418
9.5	Timers.....	418
10	Handling of unknown, unforeseen and erroneous protocol data.....	418
Annex A (informative):	Change history.....	419
History.....		426

Foreword

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

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

Version x.y.z

where:

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/f65df64b-209c-4493-bc64-4ca50bbeb76c/etsi-ts-136-423-v15.8.0-2020-01>