

ETSI TS 136 306 V10.14.0 (2015-10)



**LTE;
Evolved Universal Terrestrial Radio Access (E-UTRA);
User Equipment (UE) radio access capabilities
(3GPP TS 36.306 version 10.14.0 Release 10)**



ReferenceRTS/TSGR-0236306vae0

KeywordsLTE

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 only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

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
<http://portal.etsi.org/tb/status/status.asp>

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

© European Telecommunications Standards Institute 2015.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Intellectual Property Rights

IPRs essential or potentially essential to the present document 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 (<http://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.

Foreword

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, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 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
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	6
1 Scope	7
2 References	7
3 Definitions, symbols and abbreviations	8
3.1 Definitions	8
3.2 Symbols.....	8
3.3 Abbreviations	8
4 UE radio access capability parameters	9
4.1 ue-Category	9
4.2 Parameters set by the field <i>ue-Category</i>	10
4.2.1 Transport channel parameters in downlink.....	10
4.2.1.1 Maximum number of DL-SCH transport block bits received within a TTI.....	10
4.2.1.2 Maximum number of bits of a DL-SCH transport block received within a TTI.....	10
4.2.1.3 Total number of DL-SCH soft channel bits	10
4.2.1.4 Maximum number of bits of a MCH transport block received within a TTI	10
4.2.2 Transport channel parameters in uplink.....	11
4.2.2.1 Maximum number of bits of an UL-SCH transport block transmitted within a TTI.....	11
4.2.2.2 Maximum number of UL-SCH transport block bits transmitted within a TTI.....	11
4.2.3 Physical channel parameters in downlink (DL).....	11
4.2.3.1 Maximum number of supported layers for spatial multiplexing in DL.....	11
4.2.4 Physical channel parameters in uplink (UL).....	11
4.2.4.1 Support for 64QAM in UL.....	11
4.2.5 Total layer 2 buffer size	11
4.3 Parameters independent of the field <i>ue-Category</i>	11
4.3.1 PDCP Parameters.....	11
4.3.1.1 supportedROHC-Profiles	11
4.3.1.2 maxNumberROHC-ContextSessions	12
4.3.2 RLC parameters	12
4.3.2.1 Void.....	12
4.3.3 Void	12
4.3.4 Physical layer parameters	12
4.3.4.1 ue-TxAntennaSelectionSupported	12
4.3.4.2 ue-SpecificRefSigsSupported.....	12
4.3.4.3 Void.....	12
4.3.4.4 enhancedDualLayerFDD.....	12
4.3.4.5 enhancedDualLayerTDD	12
4.3.4.6 supportedMIMO-CapabilityUL-r10.....	12
4.3.4.7 supportedMIMO-CapabilityDL-r10.....	12
4.3.4.8 two-AntennaPortsForPUCCH-r10	13
4.3.4.9 tm9-With-8Tx-FDD-r10	13
4.3.4.10 pmi-Disabling-r10.....	13
4.3.4.11 crossCarrierScheduling-r10.....	13
4.3.4.12 simultaneousPUCCH-PUSCH-r10.....	13
4.3.4.13 multiClusterPUSCH-WithinCC-r10.....	13
4.3.4.14 nonContiguousUL-RA-WithinCC-Info-r10.....	13
4.3.4.15 Void.....	14
4.3.4.16 Void.....	14
4.3.4.17 Void.....	14
4.3.4.18 Void.....	14
4.3.4.19 Void.....	14

4.3.4.20	Void.....	14
4.3.4.21	Void.....	14
4.3.4.22	Void.....	14
4.3.4.23	Void.....	14
4.3.4.24	<i>tm5-FDD</i>	14
4.3.4.25	<i>tm5-TDD</i>	14
4.3.5	RF parameters.....	14
4.3.5.1	supportedBandListEUTRA.....	14
4.3.5.2	supportedBandCombination.....	14
4.3.5.3	Void.....	15
4.3.5.4	Void.....	15
4.3.5.5	Void.....	15
4.3.5.6	Void.....	15
4.3.5.7	Void.....	15
4.3.5.8	Void.....	15
4.3.5.9	Void.....	15
4.3.5.10	modifiedMPR-Behavior-r10.....	15
4.3.5.11	Void.....	15
4.3.5.12	Void.....	15
4.3.5.13	Void.....	15
4.3.5.14	fourLayerTM3-TM4-r10.....	15
4.3.6	Measurement parameters.....	15
4.3.6.1	interFreqNeedForGaps and interRAT-NeedForGaps.....	15
4.3.7	Inter-RAT parameters.....	16
4.3.7.1	Support of UTRA FDD.....	16
4.3.7.2	supportedBandListUTRA-FDD.....	16
4.3.7.3	Support of UTRA TDD 1.28 Mcps.....	16
4.3.7.4	supportedBandListUTRA-TDD128.....	16
4.3.7.5	Support of UTRA TDD 3.84 Mcps.....	16
4.3.7.6	supportedBandListUTRA-TDD384.....	16
4.3.7.7	Support of UTRA TDD 7.68 Mcps.....	16
4.3.7.8	supportedBandListUTRA-TDD768.....	16
4.3.7.9	Support of GERAN.....	16
4.3.7.10	supportedBandListGERAN.....	16
4.3.7.11	interRAT-PS-HO-ToGERAN.....	16
4.3.7.12	Support of HRPD.....	17
4.3.7.13	supportedBandListHRPD.....	17
4.3.7.14	tx-ConfigHRPD.....	17
4.3.7.15	rx-ConfigHRPD.....	17
4.3.7.16	Support of 1xRTT.....	17
4.3.7.17	supportedBandList1XRTT.....	17
4.3.7.18	tx-Config1XRTT.....	17
4.3.7.19	rx-Config1XRTT.....	17
4.3.7.20	e-CSFB-1XRTT.....	17
4.3.7.21	e-CSFB-ConcPS-Mob1XRTT.....	17
4.3.7.22	e-RedirectionUTRA.....	17
4.3.7.23	e-RedirectionGERAN.....	17
4.3.7.24	<i>dtm</i>	18
4.3.7.25	e-CSFB-dual-1XRTT.....	18
4.3.7.26	e-RedirectionUTRA-TDD.....	18
4.3.7.27	Void.....	18
4.3.7.28	<i>mfbj-UTRA</i>	18
4.3.8	General parameters.....	18
4.3.8.1	accessStratumRelease.....	18
4.3.8.2	deviceType.....	18
4.3.9	Void.....	18
4.3.10	CSG Proximity Indication parameters.....	18
4.3.10.1	intraFreqProximityIndication.....	18
4.3.10.2	interFreqProximityIndication.....	18
4.3.10.3	utran-ProximityIndication.....	18
4.3.11	Neighbour cell SI acquisition parameters.....	19
4.3.11.1	intraFreqSI-AcquisitionForHO.....	19

4.3.11.2	interFreqSI-AcquisitionForHO	19
4.3.11.3	utran-SI-AcquisitionForHO	19
4.3.12	SON parameters	19
4.3.12.1	rach-Report.....	19
4.3.13	UE-based network performance measurement parameters	19
4.3.13.1	loggedMeasurementsIdle	19
4.3.13.2	standaloneGNSS-Location	19
4.3.14	IMS Voice parameters	19
4.3.14.1	voiceOver-PS-HS-UTRA-FDD	19
4.3.14.2	voiceOver-PS-HS-UTRA-TDD128	19
4.3.14.3	srvcc-FromUTRA-FDD-ToGERAN.....	19
4.3.14.4	srvcc-FromUTRA-FDD-ToUTRA-FDD	20
4.3.14.5	srvcc-FromUTRA-TDD128-ToGERAN.....	20
4.3.14.6	srvcc-FromUTRA-TDD128-ToUTRA-TDD128	20
4.3.15	Void	20
4.3.16	Positioning parameters.....	20
4.3.16.1	otdoa-UE-assisted	20
4.3.16.2	interFreqRSTDmeasurement.....	20
5	Void.....	20
6	Optional features without UE radio access capability parameters	20
6.1	CSG features	20
6.2	PWS features	20
6.2.1	ETWS	20
6.2.2	CMAS.....	20
6.2.3	KPAS.....	21
6.3	MBMS features	21
6.4	Void.....	21
6.5	Positioning features	21
6.5.0	UE Rx – Tx time difference.....	21
6.5.1	Void	21
6.6	Void.....	21
6.7	Void.....	21
6.8	Void.....	21
6.9	Void.....	21
7	Conditionally Mandatory features.....	21
7.1	Access control features.....	21
7.1.1	SSAC	21
7.1.2	CSFB Access Barring Control.....	21
7.2	Emergency call features	22
7.2.1	IMS emergency call.....	22
7.3	MAC features	22
7.3.1	SR mask.....	22
7.3.2	Power Management Indicator in PHR	22
7.4	Inter-RAT Mobility features.....	22
7.4.1	High Priority CSFB redirection	22
7.5	Delay Tolerant Access Features	22
7.5.1	extendedWaitTime.....	22
7.6	RRC Connection	22
7.6.1	Void	22
7.7	Positioning features	22
7.7.1	OTDOA Inter-frequency RSTD measurement indication	22
Annex A (informative):	Guideline on maximum number of DL PDCP SDUs per TTI.....	23
Annex B (informative):	Change history	24
History		26

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.

1 Scope

The present document defines the E-UTRA UE Radio Access Capability Parameters.

2 References

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

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

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 36.323: "Evolved Universal Terrestrial Radio Access (E-UTRA) Packet Data Convergence Protocol (PDCP) specification".
- [3] 3GPP TS 36.322: "Evolved Universal Terrestrial Radio Access (E-UTRA) Radio Link Control (RLC) specification".
- [4] 3GPP TS 36.321: "Evolved Universal Terrestrial Radio Access (E-UTRA) Medium Access Control (MAC) specification".
- [5] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA) Radio Resource Control (RRC) specification".
- [6] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA) radio transmission and reception".
- [7] IETF RFC 4995: "The RObust Header Compression (ROHC) Framework".
- [8] IETF RFC 4996: "RObust Header Compression (ROHC): A Profile for TCP/IP (ROHC-TCP)".
- [9] IETF RFC 3095: "RObust Header Compression (RoHC): Framework and four profiles: RTP, UDP, ESP and uncompressed".
- [10] IETF RFC 3843: "RObust Header Compression (RoHC): A Compression Profile for IP".
- [11] IETF RFC 4815: "RObust Header Compression (ROHC): Corrections and Clarifications to RFC 3095".
- [12] IETF RFC 5225: "RObust Header Compression (ROHC) Version 2: Profiles for RTP, UDP, IP, ESP and UDP Lite".
- [13] 3GPP TS 36.355: "Evolved Universal Terrestrial Radio Access (E-UTRA) LTE Positioning Protocol (LPP)".
- [14] 3GPP TS 36.304: "Evolved Universal Terrestrial Radio Access (E-UTRA); UE Procedures in Idle Mode".
- [15] 3GPP TS 37.320: "Universal Terrestrial Radio Access (UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRA); Radio measurement collection for Minimization of Drive Tests (MDT); Overall description; Stage 2".
- [16] 3GPP TS 36.133: "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for support of radio resource management".