

ETSI TS 125 142 V13.0.1 (2016-01)



**Universal Mobile Telecommunications System (UMTS);
Base Station (BS) conformance testing (TDD)
(3GPP TS 25.142 version 13.0.1 Release 13)**



Reference

RTS/TSGR-0425142vd01

Keywords

UMTS

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 2016.
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 (<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.

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.....	17
1 Scope	18
2 References	18
3 Definitions, symbols, and abbreviations	19
3.1 Definitions.....	19
3.2 Symbols.....	20
3.3 Abbreviations	20
4 Frequency bands and channel arrangement.....	22
4.1 General	22
4.2 Frequency bands.....	22
4.3 TX-RX frequency separation	23
4.3.1 3,84 Mcps TDD option	23
4.3.2 1,28 Mcps TDD option	23
4.3.3 7,68 Mcps TDD option	23
4.4 Channel arrangement.....	23
4.4.1 Channel spacing.....	23
4.4.1.1 3,84 Mcps TDD option	23
4.4.1.2 1,28 Mcps TDD option	23
4.4.1.3 7,68 Mcps TDD option	23
4.4.2 Channel raster	23
4.4.2.1 3,84 Mcps TDD Option.....	23
4.4.3 Channel number	23
5 General test conditions and declarations	24
5.1 Base station classes	24
5.1.1 Applicability of requirements and BS class definition	24
5.1.2 Manufacturer's declaration of supported RF configurations	24
5.2 Output power.....	25
5.3 Specified frequency range and supported channel bandwidth.....	25
5.3.1 RF bandwidth position for multi-carrier testing.....	26
5.4 Relationship between RF generation and chip clock.....	26
5.5 Spectrum emission mask	26
5.6 Adjacent Channel Leakage power Ratio (ACLR)	26
5.7 Tx spurious emissions	27
5.7.1 Category of spurious emissions limit.....	27
5.7.2 Co-existence with GSM	27
5.7.3 Co-existence with DCS 1800.....	27
5.7.4 Co-existence with UTRA FDD.....	27
5.7.5 Co-existence with unsynchronised UTRA TDD and/or E-UTRA TDD.....	28
5.8 Blocking characteristics	28
5.9 Test environments	28
5.9.1 Normal test environment	28
5.9.2 Extreme test environment	29
5.9.2.1 Extreme temperature	29
5.9.3 Vibration.....	29
5.9.4 Power supply	29
5.10 Acceptable uncertainty of Test System.....	30
5.10.1 Measurement of test environments	30
5.10.2 Measurement of transmitter	31
5.10.3 Measurement of receiver	35

5.10.4	Measurement of performance requirements	36
5.11	Test Tolerances (informative).....	36
5.11.1	Transmitter.....	37
5.11.2	Receiver	39
5.11.3	Performance requirements	39
5.12	Interpretation of measurement results	39
5.13	Selection of configurations for testing.....	39
5.14	BS Configurations	40
5.14.1	Receiver diversity	40
5.14.2	Duplexers.....	40
5.14.3	Power supply options.....	40
5.14.4	Ancillary RF amplifiers	41
5.14.5	BS using antenna arrays.....	41
5.14.5.1	Receiver tests	41
5.14.5.2	Transmitter tests.....	41
5.14.6	MIMO transmission.....	42
5.15	Overview of the conformance test requirements	42
5.16	Format and interpretation of tests.....	44
5.17	Regional requirements.....	44
5.18	Definition of Additive White Gaussian Noise (AWGN) Interferer.....	45
5.19	Applicability of requirements.....	45
5.20	Test configurations for multi-carrier operation	46
5.20.1	UTTC1: Multi-carrier operation test configuration	46
5.20.1.1	UTTC1 generation	46
5.20.1.1	UTTC1 power allocation.....	46
5.20.2	UTTC2: Multi-band test configuration for full carrier allocation.....	46
5.20.2.1	UTTC2 generation	46
5.20.2.2	UTTC2 power allocation.....	47
5.21	Applicability of test configurations	47
5.22	Requirements for BS capable of multi-band operation	49
6	Transmitter characteristics	50
6.1	General	50
6.1.1	IMB Test Models.....	50
6.1.1.1	IMB Test Model 1 - TM 1.....	50
6.1.1.2	IMB Test Model 2 - TM 2.....	51
6.2	Maximum output power	51
6.2.1	Definition and applicability	51
6.2.2	Minimum Requirements	51
6.2.3	Test purpose.....	51
6.2.4	Method of test	51
6.2.4.1	Initial conditions	51
6.2.4.1.0	General test conditions	51
6.2.4.1.1	3,84 Mcps TDD option.....	52
6.2.4.1.2	1,28 Mcps TDD option.....	52
6.2.4.1.3	7,68 Mcps TDD option.....	52
6.2.4.2	Procedure	53
6.2.4.2.1	3,84 Mcps TDD option.....	53
6.2.4.2.2	1,28 Mcps TDD option.....	53
6.2.4.2.3	7,68 Mcps TDD option.....	53
6.2.5	Test Requirements	53
6.3	Frequency stability	54
6.3.1	Definition and applicability	54
6.3.2	Minimum Requirements	54
6.3.3	Test purpose.....	54
6.3.4	Method of test	54
6.3.4.1	Initial conditions	54
6.3.4.1.0	General test conditions	54
6.3.4.1.1	3,84 Mcps TDD option.....	54
6.3.4.1.2	1,28 Mcps TDD option.....	55
6.3.4.1.3	7,68 Mcps TDD option.....	55
6.3.4.2	Procedure	56

6.3.5	Test Requirements	56
6.4	Output power dynamics.....	56
6.4.1	Inner loop power control.....	56
6.4.2	Power control steps.....	56
6.4.2.1	Definition and applicability.....	56
6.4.2.2	Minimum Requirements.....	56
6.4.2.3	Test purpose	57
6.4.2.4	Method of test	57
6.4.2.4.1	Initial conditions.....	57
6.4.2.4.1.0	General test conditions.....	57
6.4.2.4.1.1	3,84 Mcps TDD option	57
6.4.2.4.1.2	1,28 Mcps TDD option	58
6.4.2.4.1.3	7,68 Mcps TDD option	58
6.4.2.4.2	Procedure.....	59
6.4.2.4.2.1	3,84 Mcps TDD option	59
6.4.2.4.2.2	1,28 Mcps TDD option	59
6.4.2.4.2.3	7,68 Mcps TDD option	59
6.4.2.5	Test Requirements.....	60
6.4.2.5.1	3,84 Mcps TDD option	60
6.4.2.5.2	1,28 Mcps TDD option	60
6.4.2.5.3	7,68 Mcps TDD option	60
6.4.3	Power control dynamic range	61
6.4.3.1	Definition and applicability.....	61
6.4.3.2	Minimum Requirements.....	61
6.4.3.3	Test purpose	61
6.4.3.4	Method of test	61
6.4.3.4.1	Initial conditions.....	61
6.4.3.4.1.0	General test conditions.....	61
6.4.3.4.1.1	3,84 Mcps TDD option	61
6.4.3.4.1.2	1,28 Mcps TDD option	62
6.4.3.4.1.3	7,68 Mcps TDD option	62
6.4.3.4.2	Procedure.....	63
6.4.3.4.2.1	3,84 Mcps TDD option	63
6.4.3.4.2.2	1,28 Mcps TDD option	63
6.4.3.4.2.3	7,68 Mcps TDD option	63
6.4.3.5	Test Requirements.....	64
6.4.4	Minimum output power	64
6.4.4.1	Definition and applicability.....	64
6.4.4.2	Minimum Requirements.....	64
6.4.4.3	Test purpose	64
6.4.4.4	Method of test	64
6.4.4.4.1	Initial conditions.....	64
6.4.4.4.1.0	General test conditions.....	64
6.4.4.4.1.1	3,84 Mcps TDD option	64
6.4.4.4.1.2	1,28 Mcps TDD option	65
6.4.4.4.1.3	7,68 Mcps TDD option	65
6.4.4.4.2	Procedure.....	66
6.4.4.4.2.1	3,84 Mcps TDD option	66
6.4.4.4.2.2	1,28 Mcps TDD option	66
6.4.4.4.2.3	7,68 Mcps TDD option	66
6.4.4.5	Test Requirements.....	67
6.4.5	Primary CCPCH power	67
6.4.5.1	Definition and applicability.....	67
6.4.5.2	Minimum Requirements.....	67
6.4.5.3	Test purpose	67
6.4.5.4	Method of test	68
6.4.5.4.1	Initial conditions.....	68
6.4.5.4.1.0	General test conditions.....	68
6.4.5.4.1.1	3,84 Mcps TDD option	68
6.4.5.4.1.2	1,28 Mcps TDD option	68
6.4.5.4.1.3	7,68 Mcps TDD option	68
6.4.5.4.2	Procedure.....	69

6.4.5.4.2.1	3,84 Mcps TDD option	69
6.4.5.4.2.2	1,28 Mcps TDD option	69
6.4.5.4.2.3	7,68 Mcps TDD option	69
6.4.5.5	Test Requirements.....	69
6.4.6	Differential accuracy of Primary CCPCH power.....	70
6.4.6.1	Definition and applicability.....	70
6.4.6.2	Minimum Requirements.....	70
6.4.6.3	Test purpose	70
6.4.6.4	Method of test	70
6.4.6.4.1	Initial conditions.....	70
6.4.6.4.1.0	General test conditions.....	70
6.4.6.4.1.1	3,84 Mcps TDD option	70
6.4.6.4.1.2	1,28 Mcps TDD option	71
6.4.6.4.1.3	7,68 Mcps TDD option	71
6.4.6.4.2	Procedure	72
6.4.6.4.2.1	3,84 Mcps TDD option	72
6.4.6.4.2.2	1,28 Mcps TDD option	72
6.4.6.4.2.3	7,68 Mcps TDD option	72
6.4.6.5	Test Requirements.....	72
6.5	Transmit ON/OFF power	72
6.5.1	Transmit OFF power.....	72
6.5.1.1	Definition and applicability.....	72
6.5.1.2	Minimum Requirements.....	72
6.5.1.2.1	3,84 Mcps TDD option	72
6.5.1.2.2	1,28 Mcps TDD option	73
6.5.1.2.3	7,68 Mcps TDD option	73
6.5.1.3	Test purpose	73
6.5.1.4	Method of test	73
6.5.1.4.1	Initial conditions.....	73
6.5.1.4.2	Procedure	73
6.5.1.5	Test Requirements.....	73
6.5.2	Transmit ON/OFF time mask	73
6.5.2.1	Definition and applicability.....	73
6.5.2.2	Minimum Requirements.....	73
6.5.2.2.1	3,84 Mcps TDD option	73
6.5.2.2.2	1,28 Mcps TDD option	74
6.5.2.2.3	7,68 Mcps TDD option	74
6.5.2.3	Test purpose	75
6.5.2.4	Method of test	75
6.5.2.4.1	Initial conditions.....	75
6.5.2.4.1.0	General test conditions.....	75
6.5.2.4.1.1	3,84 Mcps TDD option	75
6.5.2.4.1.2	1,28 Mcps TDD option	76
6.5.2.4.1.3	7,68 Mcps TDD option	76
6.5.2.4.2	Procedure	76
6.5.2.4.2.1	3,84 Mcps TDD option	76
6.5.2.4.2.2	1,28 Mcps TDD option	76
6.5.2.4.2.3	7,68 Mcps TDD option	77
6.5.2.5	Test Requirements.....	77
6.5.2.5.1	3,84 Mcps TDD option	77
6.5.2.5.2	1,28 Mcps TDD option	77
6.5.2.5.3	7,68 Mcps TDD option	77
6.6	Output RF spectrum emissions.....	77
6.6.1	Occupied bandwidth	77
6.6.1.1	Definition and applicability.....	77
6.6.1.2	Minimum Requirements.....	77
6.6.1.2.1	3,84 Mcps TDD option	77
6.6.1.2.2	1,28 Mcps TDD option	77
6.6.1.2.3	7,68 Mcps TDD option	77
6.6.1.3	Test purpose	78
6.6.1.4	Method of test	78
6.6.1.4.1	Initial conditions.....	78

6.6.1.4.1.0	General test conditions.....	78
6.6.1.4.1.1	3,84 Mcps TDD option	78
6.6.1.4.1.2	1,28 Mcps TDD option	78
6.6.1.4.1.3	7,68 Mcps TDD option	79
6.6.1.4.2	Procedure	79
6.6.1.4.2.1	3,84 Mcps TDD option.....	79
6.6.1.4.2.2	1,28 Mcps TDD option	79
6.6.1.4.2.3	7,68 Mcps TDD option	80
6.6.1.5	Test Requirements.....	80
6.6.1.5.1	3,84 Mcps TDD option.....	80
6.6.1.5.2	1,28 Mcps TDD option	80
6.6.1.5.3	7,68 Mcps TDD option	80
6.6.2	Out of band emission	80
6.6.2.1	Spectrum emission mask.....	81
6.6.2.1.1	Definition and applicability.....	81
6.6.2.1.1.1	3,84 Mcps TDD option	81
6.6.2.1.1.2	1,28 Mcps TDD option	81
6.6.2.1.1.3	7,68 Mcps TDD option	81
6.6.2.1.2	Minimum Requirements	81
6.6.2.1.2.1	3,84 Mcps TDD option	81
6.6.2.1.2.2	1,28 Mcps TDD option	82
6.6.2.1.2.3	7,68 Mcps TDD option	84
6.6.2.1.3	Test purpose	85
6.6.2.1.4	Method of test.....	85
6.6.2.1.4.1	Initial conditions	85
6.6.2.1.4.1.0	General test conditions	85
6.6.2.1.4.1.1	3,84 Mcps TDD option - General test set up.....	85
6.6.2.1.4.1.2	1,28 Mcps TDD option - General test set up.....	85
6.6.2.1.4.1.3	1,28 Mcps TDD option - Special test set up for 16QAM capable BS	86
6.6.2.1.4.1.4	3,84 Mcps TDD option - Special test set up for 16QAM capable BS	86
6.6.2.1.4.1.5	7,68 Mcps TDD option - General test set up	87
6.6.2.1.4.1.6	7,68 Mcps TDD option - Special test set up for 16QAM capable BS	87
6.6.2.1.4.2	Procedure	88
6.6.2.1.4.2.1	3,84 Mcps TDD option.....	88
6.6.2.1.4.2.2	1,28 Mcps TDD option.....	88
6.6.2.1.4.2.3	1,28 Mcps TDD option - 16QAM capable BS	88
6.6.2.1.4.2.4	3,84 Mcps TDD option - 16QAM capable BS	88
6.6.2.1.4.2.5	7,68 Mcps TDD option	88
6.6.2.1.4.2.6	7,68 Mcps TDD option - 16QAM capable BS	88
6.6.2.1.5	Test Requirements	89
6.6.2.1.5.1	3,84 Mcps TDD option	89
6.6.2.1.5.2	1,28 Mcps TDD option	90
6.6.2.1.5.3	1,28 Mcps TDD option - 16QAM capable BS	91
6.6.2.1.5.4	3,84 Mcps TDD option - 16QAM capable BS	91
6.6.2.1.5.5	7,68 Mcps TDD option	91
6.6.2.1.5.6	7,68 Mcps TDD option - 16QAM capable BS	92
6.6.2.2	Adjacent Channel Leakage power Ratio (ACLR).....	92
6.6.2.2.1	Definition and applicability	92
6.6.2.2.2	Minimum Requirements	92
6.6.2.2.2.1	Minimum requirement	92
6.6.2.2.2.1.1	3,84 Mcps TDD option.....	92
6.6.2.2.2.1.2	1,28 Mcps TDD option	93
6.6.2.2.2.1.3	7,68 Mcps TDD option.....	93
6.6.2.2.2.2	Void	93
6.6.2.2.2.2.1	Void.....	93
6.6.2.2.2.2.1.1	Void.....	93
6.6.2.2.2.2.2	Void.....	94
6.6.2.2.2.2.2.1	Void.....	94
6.6.2.2.2.2.2.2	Void.....	94
6.6.2.2.2.2.3	Void.....	94
6.6.2.2.2.2.3.1	Void.....	94

6.6.2.2.2.3.2	Void.....	94
6.6.2.2.3	Void	94
6.6.2.2.3.1	Void.....	94
6.6.2.2.3.1.1	Void.....	94
6.6.2.2.3.1.2	Void.....	94
6.6.2.2.3.2	Void.....	94
6.6.2.2.3.2.1	Void.....	94
6.6.2.2.3.2.2	Void.....	94
6.6.2.2.3.3	Void.....	94
6.6.2.2.3.3.1	Void.....	94
6.6.2.2.3.3.2	Void.....	94
6.6.2.2.3	Test purpose	94
6.6.2.2.4	Method of test.....	94
6.6.2.2.4.1	Initial conditions	94
6.6.2.2.4.1.0	General test conditions	94
6.6.2.2.4.1.1	3,84 Mcps TDD option - General test set up.....	95
6.6.2.2.4.1.2	1,28 Mcps TDD option - General test set up.....	95
6.6.2.2.4.1.3	1,28 Mcps TDD option - Special test set up for 16QAM capable BS.....	95
6.6.2.2.4.1.4	3,84 Mcps TDD option - Special test set up for 16QAM capable BS.....	96
6.6.2.2.4.1.5	7,68 Mcps TDD option - General test set up.....	96
6.6.2.2.4.1.6	7,68 Mcps TDD option - Special test set up for 16QAM capable BS.....	97
6.6.2.2.4.2	Procedure	97
6.6.2.2.4.2.1	3,84 Mcps TDD option.....	97
6.6.2.2.4.2.2	1,28 Mcps TDD option.....	98
6.6.2.2.4.2.3	1,28 Mcps TDD option - 16QAM capable BS	98
6.6.2.2.4.2.4	3,84 Mcps TDD option - 16QAM capable BS	98
6.6.2.2.4.2.5	7,68 Mcps TDD option	98
6.6.2.2.4.2.6	7,68 Mcps TDD option - 16QAM capable BS	99
6.6.2.2.5	Test Requirements	99
6.6.2.2.5.1	3,84 Mcps TDD option	99
6.6.2.2.5.2	1,28 Mcps TDD option	99
6.6.2.2.5.3	1,28 Mcps TDD option - 16QAM capable BS	100
6.6.2.2.5.4	3,84 Mcps TDD option - 16QAM capable BS	100
6.6.2.2.5.5	7,68 Mcps TDD option	100
6.6.2.2.5.6	7,68 Mcps TDD option - 16QAM capable BS	100
6.6.3	Spurious emissions	100
6.6.3.1	Definition and applicability.....	100
6.6.3.2	Minimum Requirements.....	101
6.6.3.2.1	Mandatory requirements.....	101
6.6.3.2.1.1	Spurious emissions (Category A)	101
6.6.3.2.1.1.1	3,84 Mcps TDD option.....	101
6.6.3.2.1.1.2	1,28 Mcps TDD option.....	101
6.6.3.2.1.1.3	7,68 Mcps TDD option.....	101
6.6.3.2.1.2	Spurious emissions (Category B)	102
6.6.3.2.1.2.1	3,84 Mcps TDD option.....	102
6.6.3.2.1.2.2	1,28 Mcps TDD option.....	102
6.6.3.2.1.2.3	7,68 Mcps TDD option.....	103
6.6.3.2.2	Co-existence with GSM, DCS, UTRA and/or E-UTRA	103
6.6.3.2.2.1	Operation in the same geographic area	103
6.6.3.2.2.2	Co-located base stations.....	106
6.6.3.2.3	(void)	108
(void).....	108
Void	108
6.6.3.2.3.1	Void.....	108
6.6.3.2.3.2	Co-located base stations.....	108
6.6.3.2.4	Co-existence with unsynchronised UTRA TDD and/or E-UTRA TDD	108
6.6.3.2.5	Operation in the same geographic area	108
6.6.3.2.5.1	3,84 Mcps TDD option.....	108
6.6.3.2.5.1.1	3,84 Mcps TDD option	108
6.6.3.2.5.1.2	1,28 Mcps TDD option	109
6.6.3.2.5.1.3	7,68 Mcps TDD option	109
6.6.3.2.5.2	Co-located base stations.....	110
6.6.3.2.5.2.1	3,84 Mcps TDD option.....	110
6.6.3.2.5.2.2	1,28 Mcps TDD option.....	111

6.6.3.2.5.2.3	7,68 Mcps TDD option.....	112
6.6.3.2.6	Co-existence with PHS	113
6.6.3.2.6.1	3,84 Mcps TDD option	113
6.6.3.2.6.2	(void).....	114
6.6.3.2.6.3	7,68 Mcps TDD option	114
6.6.3.3	Test purpose	114
6.6.3.3.1	3,84 Mcps TDD option.....	114
6.6.3.3.2	1,28 Mcps TDD option.....	114
6.6.3.3.3	7,68 Mcps TDD option.....	114
6.6.3.4	Method of test	114
6.6.3.4.1	Initial conditions.....	114
6.6.3.4.1.0	General test conditions.....	115
6.6.3.4.1.1	3,84 Mcps TDD option - General test set up	115
6.6.3.4.1.2	1,28 Mcps TDD option - General test set up	115
6.6.3.4.1.3	1,28 Mcps TDD option - Special test set up for 16QAM capable BS.....	115
6.6.3.4.1.4	3,84 Mcps TDD option - Special test set up for 16QAM capable BS.....	116
6.6.3.4.1.5	7,68 Mcps TDD option - General test set up	116
6.6.3.4.1.6	7,68 Mcps TDD option - Special test set up for 16QAM capable BS.....	117
6.6.3.4.2	Procedure.....	117
6.6.3.5	Test Requirements.....	117
6.7	Transmit intermodulation	118
6.7.1	Definition and applicability	118
6.7.1.1	3,84 Mcps TDD option	118
6.7.1.2	1,28 Mcps TDD option	118
6.7.1.3	7,68 Mcps TDD option	118
6.7.2	Minimum Requirements	119
6.7.3	Test purpose	119
6.7.4	Method of test	119
6.7.4.1	Initial conditions	119
6.7.4.1.0	General test conditions	119
6.7.4.1.1	3,84 Mcps TDD option - General test set up	119
6.7.4.1.2	1,28 Mcps TDD option - General test set up	120
6.7.4.1.3	1,28 Mcps TDD option - Special test set up for 16QAM capable BS	121
6.7.4.1.4	3,84 Mcps TDD option - Special test set up for 16QAM capable BS	122
6.7.4.1.5	7,68 Mcps TDD option - General test set up	123
6.7.4.1.6	7,68 Mcps TDD option - Special test set up for 16QAM capable BS	124
6.7.4.2	Procedure	125
6.7.5	Test Requirements	125
6.8	Transmit Modulation	125
6.8.1	Modulation accuracy.....	125
6.8.1.1	Definition and applicability.....	125
6.8.1.2	Minimum Requirements.....	126
6.8.1.3	Test purpose	126
6.8.1.4	Method of test	126
6.8.1.4.1	Initial conditions	126
6.8.1.4.1.0	General test conditions.....	126
6.8.1.4.1.1	3,84 Mcps TDD option - General test setup	126
6.8.1.4.1.2	1,28 Mcps TDD option - General test set up	126
6.8.1.4.1.3	1,28 Mcps TDD option - Special test set up for 16QAM capable BS	127
6.8.1.4.1.4	3,84 Mcps TDD option - Special test set up for 16QAM capable BS	127
6.8.1.4.1.5	7,68 Mcps TDD option - General test setup	128
6.8.1.4.1.6	7,68 Mcps TDD option - Special test set up for 16QAM capable BS	128
6.8.1.4.2	Procedure	129
6.8.1.4.2.1	3,84 Mcps TDD option - General procedure	129
6.8.1.4.2.2	1,28 Mcps TDD option - General procedure	129
6.8.1.4.2.3	1,28 Mcps TDD option - Special procedure for 16QAM capable BS	129
6.8.1.4.2.4	3,84 Mcps TDD option - Special test set up for 16QAM capable BS	130
6.8.1.4.2.5	7,68 Mcps TDD option - General procedure	130
6.8.1.4.2.6	7,68 Mcps TDD option - Special test set up for 16QAM capable BS	131
6.8.1.5	Test Requirements.....	131
6.8.2	Peak code domain error	131
6.8.2.1	Definition and applicability.....	131

6.8.2.2	Minimum Requirements.....	132
6.8.2.3	Test purpose	132
6.8.2.4	Method of test	132
6.8.2.4.1	Initial conditions.....	132
6.8.2.4.1.0	General test conditions.....	132
6.8.2.4.1.1	3,84 Mcps TDD option - General test set up	132
6.8.2.4.1.2	1,28 Mcps TDD option- General test set up	132
6.8.2.4.1.3	1,28 Mcps TDD option - Special test set up for 16QAM capable BS.....	133
6.8.2.4.1.4	3,84 Mcps TDD option - Special test set up for 16QAM capable BS.....	133
6.8.2.4.1.5	7,68 Mcps TDD option - General test set up	134
6.8.2.4.1.6	7,68 Mcps TDD option - Special test set up for 16QAM capable BS.....	134
6.8.2.4.2	Procedure.....	135
6.8.2.5	Test Requirements.....	135
6.8.3	Relative Code Domain Error	135
6.8.3.1	Definition and applicability.....	135
6.8.3.2	Minimum requirement	135
6.8.3.3	Test Purpose.....	135
6.8.3.4	Method of test	135
6.8.3.4.1	Initial conditions.....	135
6.8.3.4.1.0	General test conditions.....	135
6.8.3.4.1.1	1.28 Mcps TDD option- General test set up	135
6.8.3.4.1.2	1.28 Mcps TDD option - Special test set up for 64QAM capable BS.....	136
6.8.3.4.2	Procedure.....	136
6.8.3.5	Test Requirements.....	137
6.8.4	Time alignment error in MIMO transmission.....	137
6.8.4.1	Definition and applicability.....	137
6.8.4.2	Minimum requirement	137
6.8.4.3	Test Purpose.....	137
6.8.4.4	Method of test	137
6.8.4.4.1	Initial conditions.....	137
6.8.4.4.1.0	General test conditions.....	137
6.8.4.4.1.1	1.28 Mcps TDD option- General test set up	137
6.8.4.4.2	Procedure.....	138
6.8.4.4.2.1	1.28 Mcps TDD option	138
6.8.4.5	Test Requirements.....	138
6.8.4.5.1	1.28 Mcps TDD option.....	138
7	Receiver characteristics	138
7.1	General	138
7.2	Reference sensitivity level.....	139
7.2.1	Definition and applicability	139
7.2.2	Minimum Requirements	139
7.2.2.1	3,84 Mcps TDD option	139
7.2.2.2	1,28 Mcps option.....	140
7.2.2.3	7,68 Mcps TDD option	140
7.2.3	Test purpose.....	140
7.2.4	Method of test	140
7.2.4.1	Initial conditions	140
7.2.4.1.0	General test requirements	140
7.2.4.1.1	3,84 Mcps TDD option	140
7.2.4.1.2	1,28 Mcps TDD option.....	141
7.2.4.1.3	7,68 Mcps TDD option	141
7.2.4.2	Procedure	141
7.2.5	Test Requirements	141
7.2.5.1	3,84 Mcps TDD option	141
7.2.5.2	1,28 Mcps TDD option	142
7.2.5.3	7,68 Mcps TDD option	142
7.3	Dynamic range	142
7.3.1	Definition and applicability	142
7.3.2	Minimum Requirements	142
7.3.2.1	3,84 Mcps TDD option	142
7.3.2.2	1,28 Mcps TDD option	142

7.3.2.3	7,68 Mcps TDD option	143
7.3.3	Test purpose.....	143
7.3.4	Method of test	143
7.3.4.1	Initial conditions	143
7.3.4.1.0	General test conditions	143
7.3.4.1.1	3,84 Mcps TDD option.....	143
7.3.4.1.2	1,28 Mcps TDD option.....	144
7.3.4.1.3	7,68 Mcps TDD option.....	144
7.3.4.2	Procedure	144
7.3.5	Test Requirements	144
7.3.5.1	3,84 Mcps TDD option	144
7.3.5.2	1,28 Mcps TDD option	145
7.3.5.3	7,68 Mcps TDD option	145
7.4	Adjacent Channel Selectivity (ACS).....	145
7.4.1	Definition and applicability	145
7.4.2	Minimum Requirements	145
7.4.2.1	3,84 Mcps TDD option	145
7.4.2.2	1,28 Mcps TDD option	146
7.4.2.3	7,68 Mcps TDD option	146
7.4.3	Test purpose.....	147
7.4.4	Method of test	147
7.4.4.1	Initial conditions	147
7.4.4.1.0	General test conditions	147
7.4.4.1.1	3,84 Mcps TDD option.....	147
7.4.4.1.2	1,28 Mcps TDD option.....	147
7.4.4.1.3	7,68 Mcps TDD option.....	148
7.4.4.2	Procedure	148
7.4.4.2.1	3,84 Mcps TDD option.....	148
7.4.4.2.2	1,28 Mcps TDD option.....	148
7.4.4.2.3	7,68 Mcps TDD option.....	148
7.4.5	Test Requirements	149
7.5	Blocking characteristics	149
7.5.1	Definition and applicability	149
7.5.1.1	3,84 Mcps TDD option	149
7.5.1.2	1,28 Mcps TDD option	149
7.5.1.3	7,68 Mcps TDD option	149
7.5.2	Minimum Requirements	149
7.5.2.1	3,84 Mcps TDD option	149
7.5.2.1.1	General requirements.....	149
7.5.2.1.2	Co-location with GSM, DCS, UTRA-FDD and/or E-UTRA FDD	151
7.5.2.1.3	Void.....	152
7.5.2.2	1,28 Mcps TDD option	152
7.5.2.2.1	General requirements.....	152
7.5.2.2.2	Co-location with GSM, DCS, UTRA FDD and/or E-UTRA FDD, UTRA TDD and/or E-UTRA TDD	156
7.5.2.2.3	Void.....	160
7.5.2.3	7,68 Mcps TDD option	160
7.5.2.3.1	General requirements.....	160
7.5.2.3.2	Void.....	162
7.5.2.3.3	Void.....	162
7.5.2.3.4	Co-location with GSM, DCS, UTRA-FDD and/or E-UTRA FDD	162
7.5.3	Test purpose.....	163
7.5.3.1	3,84 Mcps TDD option	163
7.5.3.2	1,28 Mcps TDD option	163
7.5.3.3	7,68 Mcps TDD option	163
7.5.4	Method of test	163
7.5.4.1	Initial conditions	163
7.5.4.2	Procedure	164
7.5.4.2.1	3,84 Mcps TDD option.....	164
7.5.4.2.2	1,28 Mcps TDD option.....	164
7.5.4.2.3	7,68 Mcps TDD option.....	165
7.5.5	Test Requirements	165

7.6	Intermodulation characteristics	165
7.6.1	Definition and applicability	165
7.6.2	Minimum Requirements	165
7.6.2.1	3,84 Mcps TDD option	165
7.6.2.2	1,28 Mcps TDD option	166
7.6.2.3	7,68 Mcps TDD option	166
7.6.3	Test purpose.....	167
7.6.4	Method of test	167
7.6.4.1	Initial conditions	167
7.6.4.1.1	3,84 Mcps TDD option.....	167
7.6.4.1.2	1,28 Mcps TDD option.....	167
7.6.4.1.3	7,68 Mcps TDD option.....	167
7.6.4.2	Procedure	168
7.6.4.2.1	3,84 Mcps TDD option.....	168
7.6.4.2.2	1,28 Mcps TDD option.....	168
7.6.4.2.3	7,68 Mcps TDD option.....	168
7.6.5	Test Requirements	169
7.7	Spurious emissions	169
7.7.1	Definition and applicability	169
7.7.2	Minimum Requirements	169
7.7.2.1	3,84 Mcps TDD option	169
7.7.2.2	1,28 Mcps TDD option	170
7.7.2.3	7,68 Mcps TDD option	170
7.7.3	Test purpose.....	171
7.7.4	Method of test	171
7.7.4.1	Initial conditions	171
7.7.4.1.0	General test conditions	171
7.7.4.1.1	3,84 Mcps TDD option.....	171
7.7.4.1.2	1,28 Mcps TDD option.....	171
7.7.4.1.3	7,68 Mcps TDD option.....	172
7.7.4.2	Procedure	172
7.7.4.2.1	3,84 Mcps TDD option.....	172
7.7.4.2.2	1,28 Mcps TDD option.....	173
7.7.4.2.3	7,68 Mcps TDD option.....	173
7.7.5	Test Requirements	174
8	Performance requirements.....	174
8.1	General	174
8.2	Demodulation in static propagation conditions	175
8.2.1	Demodulation of DCH.....	175
8.2.1.1	Definition and applicability.....	175
8.2.1.2	Minimum Requirements.....	175
8.2.1.2.1	3,84 Mcps TDD option.....	175
8.2.1.2.2	1,28 Mcps TDD option.....	176
8.2.1.2.3	7,68 Mcps TDD option.....	176
8.2.1.3	Test purpose	177
8.2.1.4	Method of test	177
8.2.1.4.1	Initial conditions	177
8.2.1.4.1.0	General test conditions.....	177
8.2.1.4.1.1	3,84 Mcps TDD option	177
8.2.1.4.1.2	1,28 Mcps TDD option	177
8.2.1.4.1.3	7,68 Mcps TDD option	178
8.2.1.4.2	Procedure	178
8.2.1.4.2.1	3,84 Mcps TDD option	178
8.2.1.4.2.2	1,28 Mcps TDD option	178
8.2.1.4.2.3	7,68 Mcps TDD option	179
8.2.1.5	Test Requirements.....	179
8.2.1.5.1	3,84 Mcps TDD option	180
8.2.1.5.2	1,28 Mcps TDD option	180
8.2.1.5.3	7,68 Mcps TDD option	180
8.3	Demodulation of DCH in multipath fading conditions	180
8.3.1	Multipath fading Case 1	180

8.3.1.1	Definition and applicability.....	180
8.3.1.2	Minimum Requirements.....	180
8.3.1.2.1	3,84 Mcps TDD option.....	180
8.3.1.2.2	1,28 Mcps TDD option.....	181
8.3.1.2.3	7,68 Mcps TDD option.....	181
8.3.1.3	Test purpose	182
8.3.1.4	Method of test	182
8.3.1.4.1	Initial conditions.....	182
8.3.1.4.1.0	General test conditions.....	182
8.3.1.4.1.1	3,84 Mcps TDD option.....	182
8.3.1.4.1.2	1,28 Mcps TDD option.....	183
8.3.1.4.1.3	7,68 Mcps TDD option.....	183
8.3.1.4.2	Procedure.....	183
8.3.1.4.2.1	3,84 Mcps TDD option.....	183
8.3.1.4.2.2	1,28 Mcps TDD option.....	184
8.3.1.4.2.3	7,68 Mcps TDD option.....	184
8.3.1.5	Test Requirements.....	185
8.3.1.5.1	3,84 Mcps TDD option.....	185
8.3.1.5.2	1,28 Mcps TDD option.....	185
8.3.1.5.3	7,68 Mcps TDD option.....	185
8.3.2	Multipath fading Case 2.....	185
8.3.2.1	Definition and applicability.....	185
8.3.2.2	Minimum Requirements.....	185
8.3.2.2.1	3,84 Mcps TDD option.....	185
8.3.2.2.2	1,28 Mcps option.....	186
8.3.2.2.3	7,68 Mcps TDD option.....	187
8.3.2.3	Test purpose	187
8.3.2.4	Method of test	187
8.3.2.4.1	Initial conditions.....	187
8.3.2.4.1.0	General test conditions.....	187
8.3.2.4.1.1	3,84 Mcps TDD option.....	187
8.3.2.4.1.2	1,28 Mcps TDD option.....	188
8.3.2.4.1.3	7,68 Mcps TDD option.....	188
8.3.2.4.2	Procedure.....	188
8.3.2.4.2.1	3,84 Mcps TDD option.....	188
8.3.2.4.2.2	1,28 Mcps TDD option.....	189
8.3.2.4.2.3	7,68 Mcps TDD option.....	189
8.3.2.5	Test Requirements.....	190
8.3.2.5.1	3,84 Mcps TDD option	190
8.3.2.5.2	1,28 Mcps TDD option	190
8.3.2.5.3	7,68 Mcps TDD option	190
8.3.3	Multipath fading Case 3.....	190
8.3.3.1	Definition and applicability.....	190
8.3.3.2	Minimum Requirements.....	190
8.3.3.2.1	3,84 Mcps TDD option.....	190
8.3.3.2.2	1,28 Mcps TDD option.....	191
8.3.3.2.3	7,68 Mcps TDD option.....	192
8.3.3.3	Test purpose	192
8.3.3.4	Method of test	193
8.3.3.4.1	Initial conditions.....	193
8.3.3.4.1.0	General test conditions.....	193
8.3.3.4.1.1	3,84 Mcps TDD option.....	193
8.3.3.4.1.2	1,28 Mcps TDD option.....	193
8.3.3.4.1.3	7,68 Mcps TDD option.....	193
8.3.3.4.2	Procedure.....	193
8.3.3.4.2.1	3,84 Mcps TDD option.....	193
8.3.3.4.2.2	1,28 Mcps TDD option.....	194
8.3.3.4.2.3	7,68 Mcps TDD option.....	195
8.3.3.5	Test Requirements.....	195
8.3.3.5.1	3,84 Mcps TDD option.....	195
8.3.3.5.2	1,28 Mcps TDD option.....	195
8.3.3.5.3	7,68 Mcps TDD option.....	196

8.3A	Demodulation of DCH in high speed train conditions	196
8.3A.1	Definition and applicability	196
8.3A.2	Minimum requirement	196
8.3A.2.1	3.84 Mcps TDD option	196
8.3A.2.2	1.28 Mcps TDD option	196
8.3A.2.3	7.68 Mcps TDD option	197
8.3A.3	Test purpose.....	197
8.3A.4	Method of test.....	198
8.3A.4.1	Initial conditions	198
8.3A.4.1.1	General test conditions	198
8.3A.4.1.1.1	3.84 Mcps TDD option.....	198
8.3A.4.1.1.2	1.28 Mcps TDD option.....	198
8.3A.4.1.1.3	7.68 Mcps TDD option.....	198
8.3A.4.2	Procedure	198
8.3A.4.2.1	3.84 Mcps TDD option.....	198
8.3A.4.2.2	1.28 Mcps TDD option.....	198
8.3A.4.2.3	7.68 Mcps TDD option.....	199
8.3A.5	Test requirements.....	199
8.3A.5.1	3.84 Mcps TDD option	199
8.3A.5.2	1.28 Mcps TDD option	199
8.3A.5.3	7.68 Mcps TDD option	200
8.4	Demodulation of E-DCH FRC in multipath fading conditions	200
8.4.1	Definition and applicability	200
8.4.2	Minimum Requirements	200
8.4.2.1	3.84 Mcps TDD Option.....	200
8.4.2.2	1.28Mcps TDD option	201
8.4.2.3	7.68 Mcps TDD Option.....	201
8.4.3	Test purpose.....	202
8.4.4	Method of test.....	202
8.4.4.1	Initial conditions	202
8.4.4.1.0	General test conditions	202
8.4.4.1.1	3.84 Mcps TDD option.....	202
8.4.4.1.2	1.28Mcps TDD option	203
8.4.4.1.3	7.68 Mcps TDD option.....	203
8.4.4.2	Procedure	203
8.4.4.2.1	3.84 Mcps TDD option.....	203
8.4.4.2.2	1.28Mcps TDD option	203
8.4.4.2.3	7.68 Mcps TDD option.....	204
8.4.5	Test Requirements	205
8.4.5.1	3.84 Mcps TDD option	205
8.4.5.2	1.28Mcps TDD option	205
8.4.5.3	7.68 Mcps TDD option	205
8.5	Performance of ACK error detection for HS-SICH	205
8.5.1	ACK error detection in static propagation conditions	205
8.5.1.1	3.84 Mcps TDD option	205
8.5.1.2	1.28 Mcps TDD option	205
8.5.1.2.1	Definition and applicability.....	205
8.5.1.2.2	Minimum requirement.....	205
8.5.1.2.3	Test purpose	207
8.5.1.2.4	Method of test.....	207
8.5.1.2.4.1	Initial conditions	207
8.5.1.2.4.2	Procedure	207
8.5.1.2.5	Test requirements	207
8.5.2	ACK error detection in multipath fading conditions.....	208
8.5.2.1	3.84Mcps TDD option	208
8.5.2.2	1,28Mcps TDD option	208
8.5.2.2.1	Definition and applicability.....	208
8.5.2.2.2	Minimum requirement.....	208
8.5.2.2.3	Test purpose	210
8.5.2.2.4	Method of test.....	210
8.5.2.2.4.1	Initial conditions	210
8.5.2.2.4.2	Procedure	210

8.5.2.2.5	Test requirements	210
Annex A (normative):	Measurement Channels.....	212
A.1	(void)	212
A.2	Reference measurement channel	212
A.2.1	UL reference measurement channel (12,2 kbps)	212
A.2.1.1	3,84 Mcps TDD option	212
A.2.1.2	1,28 Mcps option	213
A.2.1.3	7,68 Mcps TDD Option	214
A.2.2	UL reference measurement channel (64 kbps)	215
A.2.2.1	3,84 Mcps TDD option	215
A.2.2.2	1,28 Mcps TDD option	217
A.2.2.3	7,68 Mcps TDD Option	218
A.2.3	UL reference measurement channel (144 kbps)	219
A.2.3.1	3,84 Mcps TDD option	219
A.2.3.2	1,28 Mcps TDD option	221
A.2.3.3	7,68 Mcps TDD Option	222
A.2.4	UL reference measurement channel (384 kbps)	223
A.2.4.1	3,84 Mcps TDD option	223
A.2.4.2	1,28 Mcps TDD option	225
A.2.4.3	7,68 Mcps TDD Option	226
A.2.5	RACH reference measurement channel	227
A.2.5.1	3,84 Mcps TDD option	227
A.2.5.1.1	RACH mapped to 1 code SF16	227
A.2.5.1.2	RACH mapped to 1 code SF8	228
A.2.5.2	1,28 Mcps TDD option	228
A.2.5.2.1	RACH mapped to 1 code SF16	229
A.2.5.2.2	RACH mapped to 1 code SF8	229
A.2.5.2.3	RACH mapped to 1 code SF4	230
A.2.5.3	7,68 Mcps TDD option	230
A.2.5.3.1	RACH mapped to 1 code SF16	231
A.2.5.3.2	RACH mapped to 1 code SF32	231
A.3	E-DCH Reference measurement channels	232
A.3.1	E-DCH Fixed Reference Channels.....	232
A.3.1.1	3,84 Mcps TDD Option	232
A.3.1.1.1	Fixed Reference Channel 1 (FRC1)	232
A.3.1.1.2	Fixed Reference Channel 2 (FRC2)	233
A.3.1.1.3	Fixed Reference Channel 3 (FRC3)	233
A.3.1.2	1.28Mcps TDD Option	234
A.3.1.2.1	Fixed reference channel 1(FRC1).....	234
A.3.1.2.2	Fixed reference channel 2(FRC2)	235
A.3.1.2.3	Fixed reference channel 3(FRC3)	236
A.3.1.2.4	Fixed reference channel 4(FRC4).....	237
A.3.1.3	7,68 Mcps TDD Option	238
A.3.1.3.1	Fixed Reference Channel 1 (FRC1)	238
A.3.1.3.2	Fixed Reference Channel 2 (FRC2)	239
A.3.1.3.3	Fixed Reference Channel 3 (FRC3)	240
A.4	HS-SICH Reference measurement channels	241
A.4.1	3,84 Mcps TDD Option.....	241
A.4.2	1,28 Mcps TDD Option.....	241
Annex B (normative):	Propagation conditions.....	243
B.1	Static propagation condition.....	243
B.2	Multi-path fading propagation conditions	243
B.2.1	3,84 Mcps TDD option.....	243
B.2.2	1,28 Mcps TDD option.....	243
B.2.3	7,68 Mcps TDD option.....	244
B.3	High speed train conditions	245

Annex C (normative):	Global in-channel Tx test	247
C.1	General	247
C.2	Definition of the process	247
C.2.1	Basic principle.....	247
C.2.2	Output signal of the Tx under test	247
C.2.3	Reference signal.....	247
C.2.4	Classification of measurement results	248
C.2.5	Process definition to achieve results of type "deviation".....	248
C.2.5.1	Decision Point Power.....	249
C.2.5.2	Code-Domain Power.....	249
C.2.6	Process definition to achieve results of type "residual".....	249
C.2.6.1	Error Vector Magnitude (EVM)	250
C.2.6.2	Peak Code Domain Error (PCDE)	250
C.2.6.3	Relative Code Domain Error (RCDE)	250
C.3	Notes.....	251
C.3.1	Symbol length	251
C.3.2	Deviation	251
C.3.3	Residual	251
C.3.4	TDD.....	251
C.3.5	Synch channel	251
C.3.6	Formula for the minimum process	252
C.3.7	Formula for EVM.....	253
Annex D (informative):	Derivation of Test Requirements.....	254
Annex E (informative):	Acceptable uncertainty of Test Equipment	261
Annex F (normative):	General rules for statistical testing.....	263
F.1	Statistical testing of receiver BER/BLER performance	263
F.1.1	Error Definition	263
F.1.2	Test Method.....	263
F.1.3	Test Criteria.....	263
F.1.4	Calculation assumptions.....	263
F.1.4.1	Statistical independence.....	263
F.1.4.2	Applied formulas	263
F.1.4.3	Approximation of the distribution	264
F.1.5	Definition of good pass fail decision.....	264
F.1.6	Good balance between test time and statistical significance	265
F.1.7	Pass fail decision rules	266
F.1.8	Test conditions for BER,BLER Tests.....	267
F.1.9	Practical Use (informative).....	268
Annex G (informative):	Change History	271
History		274

Foreword

This Technical Specification has been produced by the 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 this TS, 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 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 specification.

1 Scope

The present document specifies the Radio Frequency (RF) test methods and conformance requirements for UTRA Base Stations (BS) operating in the TDD mode. These have been derived from, and are consistent with, the UTRA base station (BS) specifications defined in 3GPP TS 25.105 [1]. The document covers all three options of the TDD mode, which are the 3,84 Mcps (incorporating MBSFN IMB), the 1,28 Mcps and the 7.68 Mcps options respectively. The requirements are listed in different subsections only if the parameters deviate.

In this TS, the reference point for RF connections (except for the measurement of mean transmitted RF carrier power) is the antenna connector, as defined by the manufacturer. This TS does not apply to repeaters or RF devices which may be connected to an antenna connector of a BS.

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 TS 25.105: "UTRA (BS) TDD: Radio transmission and reception".
- [2] IEC 60721-3-3 (1994): "Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 3: Stationary use at weather protected locations".
- [3] IEC 60721-3-4 (1995): "Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 4: Stationary use at non-weather protected locations".
- [4] IEC 60068-2-1 (1990): "Environmental testing - Part 2: Tests. Tests A: Cold".
- [5] ETR 028: "Uncertainties in the measurement of mobile radio equipment characteristics".
- [6] Recommendation ITU-R SM.329: "Unwanted emissions in the spurious domain".
- [7] Recommendation ITU-R SM.328: "Spectra and bandwidth of emissions".
- [8] IEC 60068-2-6 (1995): "Environmental testing - Part 2: Tests - Test Fc: Vibration (sinusoidal)".
- [9] 3GPP TR 25.942: "RF System Scenarios".
- [10] ITU-T recommendation O.153: "Basic parameters for the measurement of error performance at bit rates below the primary rate".
- [11] 3GPP TS 36.104: "Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception".
- [12] 3GPP TS 37.141: "E-UTRA, UTRA and GSM/EDGE; Multi-Standard Radio (MSR) Base Station (BS) conformance testing".
- [13] ITU-R Recommendation M.1545, "Measurement uncertainty as it applies to test limits for the terrestrial component of International Mobile Telecommunications-2000".