

**IMT cellular networks;
Harmonized EN covering the essential requirements
of article 3.2 of the R&TTE Directive;
Part 18: E-UTRA, UTRA and GSM/EDGE
Multi-Standard Radio (MSR) Base Station (BS)**

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

ETSI EN 301 908-18 V5.2.1 (2011-07)

<https://standards.itih.ai/catalog/standards/etsi/3c308c3a-1a3d-46b4-8211-555acf64f16d/etsi-en-301-908-18-v5-2-1-2011-07>



Reference

DEN/MSG-TFES-009-18

Keywords

3G, 3GPP, cellular, digital, EDGE, GSM,
E-UTRA, IMT-2000, LTE, mobile, MSR, radio,
regulation, UMTS, UTRA, WCDMA

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

(<https://standards.iteh.ai>)
Document Preview

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the 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:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2011.
All rights reserved.

DECT™, PLUGTESTS™, UMTS™, TIPHON™, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

LTE™ is a Trade Mark of ETSI currently being 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.

Contents

Intellectual Property Rights	6
Foreword.....	6
Introduction	7
1 Scope	8
2 References	8
2.1 Normative references	8
2.2 Informative references	9
3 Definitions, symbols and abbreviations	10
3.1 Definitions	10
3.2 Symbols	11
3.3 Abbreviations	11
4 Technical requirements specifications	12
4.1 Environmental profile.....	12
4.2 Conformance requirements	12
4.2.1 Introduction.....	12
4.2.2 Operating band unwanted emissions	13
4.2.2.1 Definition	13
4.2.2.2 Limits	14
4.2.2.2.1 Limits for Band Categories 1 and 3.....	14
4.2.2.2.2 Limits for Band Category 2.....	14
4.2.2.2.3 Limits for GSM/EDGE single-RAT operation.....	15
4.2.2.2.4 Limits for protection of DTT.....	15
4.2.2.2.5 Limits for co-existence with services in adjacent frequency bands.....	16
4.2.2.3 Conformance.....	16
4.2.3 Adjacent Channel Leakage power Ratio (ACLR)	16
4.2.3.1 Definition	16
4.2.3.2 Limits	16
4.2.3.2.1 E-UTRA limits	16
4.2.3.2.2 UTRA FDD limits	16
4.2.3.2.3 UTRA TDD limits	16
4.2.3.3 Conformance.....	16
4.2.4 Transmitter spurious emissions.....	17
4.2.4.1 Limits	17
4.2.4.1.1 Spurious emissions	17
4.2.4.1.2 Additional spurious emissions requirement for BC2.....	17
4.2.4.1.3 Co-existence with other systems	17
4.2.4.1.4 Protection of the BS receiver of own or different BS	19
4.2.4.2 Conformance.....	19
4.2.5 Base station maximum output power.....	19
4.2.5.1 Definition	19
4.2.5.2 Limits	19
4.2.5.3 Conformance.....	19
4.2.6 Transmit intermodulation	19
4.2.6.1 Definition	19
4.2.6.2 Limits	20
4.2.6.2.1 General limits	20
4.2.6.2.2 Additional limits (BC2)	20
4.2.6.2.3 Additional limits (BC3)	20
4.2.6.3 Conformance.....	21
4.2.7 Receiver spurious emissions	21
4.2.7.1 Definition	21
4.2.7.2 Limits	21
4.2.7.2.1 General limits	21

4.2.7.2.2	Additional limits for BC2	21
4.2.7.3	Conformance	22
4.2.8	In-band blocking	22
4.2.8.1	Definition	22
4.2.8.2	Limits	22
4.2.8.2.1	General limits	22
4.2.8.2.2	Additional BC3 blocking limits	23
4.2.8.3	Conformance	23
4.2.9	Out-of-band blocking	23
4.2.9.1	Definition	23
4.2.9.2	Limits	23
4.2.9.3	Conformance	24
4.2.10	Receiver intermodulation characteristics	24
4.2.10.1	Definition	24
4.2.10.2	Limits	24
4.2.10.2.1	General intermodulation limits	24
4.2.10.2.2	General narrowband intermodulation limits	25
4.2.10.2.3	Additional narrowband intermodulation limits for GSM/EDGE	26
4.2.10.3	Conformance	26
4.2.11	Narrowband blocking	26
4.2.11.1	Definition	26
4.2.11.2	Limits	27
4.2.11.2.1	General limits	27
4.2.11.2.2	Additional limits for GSM/EDGE	27
4.2.11.2.3	GSM/EDGE limits for AM suppression	27
4.2.11.3	Conformance	27
5	Testing for compliance with technical requirements	28
5.1	Environmental conditions for testing	28
5.2	Interpretation of the measurement results	28
5.3	Essential radio test suites	29
5.3.1	Operating band unwanted emissions	29
5.3.1.1	Initial conditions	30
5.3.1.2	Procedure	30
5.3.1.3	Test requirement	30
5.3.2	Adjacent Channel Leakage power Ratio (ACLR)	30
5.3.3	Transmitter spurious emissions	30
5.3.3.1	Initial conditions	30
5.3.3.2	Procedure	31
5.3.3.3	Test requirement	31
5.3.4	Base station maximum output power	31
5.3.4.1	Initial conditions	31
5.3.4.2	Procedure	31
5.3.4.3	Test requirement	31
5.3.5	Transmit intermodulation	31
5.3.5.1	Initial conditions	31
5.3.5.2	Procedure	31
5.3.5.2.1	General minimum requirement test procedure	31
5.3.5.2.2	Additional minimum requirement (BC2) test procedure	32
5.3.5.2.3	Additional minimum requirement (BC3) test procedure	33
5.3.5.3	Test requirement	33
5.3.6	Receiver spurious emissions	34
5.3.6.1	Initial conditions	34
5.3.6.2	Procedure	34
5.3.6.3	Test requirement	34
5.3.7	In-band blocking	34
5.3.7.1	Initial conditions	34
5.3.7.2	Procedure	34
5.3.7.2.1	Procedure for general blocking	34
5.3.7.2.2	Procedure for additional BC3 blocking requirement	35
5.3.7.3	Test requirement	35
5.3.8	Out-of-band blocking	35

5.3.8.1	Initial conditions	35
5.3.8.2	Procedure	35
5.3.8.3	Test requirement	35
5.3.9	Receiver intermodulation characteristics	35
5.3.9.1	Initial conditions	35
5.3.9.2	Procedure	36
5.3.9.2.1	Procedure for general and narrowband intermodulation	36
5.3.9.2.2	Procedure for additional narrowband intermodulation for GSM/EDGE	36
5.3.9.3	Test requirement	36
5.3.10	Narrowband blocking	36
5.3.10.1	Initial conditions	36
5.3.10.2	Procedure	36
5.3.10.2.1	Procedure for narrowband blocking	36
5.3.10.2.2	Procedure for additional narrowband blocking for GSM/EDGE.....	37
5.3.10.2.3	Procedure for GSM/EDGE AM suppression.....	37
5.3.10.3	Test requirement	37

Annex A (normative):	HS Requirements and conformance Test specifications Table (HS-RTT).....	38
-----------------------------	--	-----------

Annex B (normative):	Base Station configurations.....	40
-----------------------------	---	-----------

B.1	Multi-carrier reception with multiple receiver antenna connectors and receiver diversity	40
B.2	Duplexers	40
B.3	Power supply options	40
B.4	Ancillary RF amplifiers.....	40
B.5	BS using antenna arrays.....	41
B.5.1	Receiver tests.....	41
B.5.2	Transmitter tests	42
B.6	Multi-carrier transmission with multiple transmitter antenna connectors, transmit diversity and MIMO transmission	42
B.7	BS with integrated Iuant BS modem.....	43

Annex C (informative):	Environmental profile specification	44
-------------------------------	--	-----------

Annex D (informative):	The EN title in the official languages	45
-------------------------------	---	-----------

Annex E (informative):	Bibliography.....	46
-------------------------------	--------------------------	-----------

History	47
---------------	----

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://webapp.etsi.org/IPR/home.asp>).

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 final draft Harmonized European Standard (EN) has been produced by ETSI Technical Committee Mobile Standards Group (MSG), and is now submitted for the Vote phase of the ETSI standards Two-step Approval Procedure.

The present document has been produced by ETSI in response to mandate M/284 from the European Commission issued under Council Directive 98/34/EC [i.1] (as amended) laying down a procedure for the provision of information in the field of technical standards and regulations.

The title and reference to the present document are intended to be included in the publication in the Official Journal of the European Union of titles and references of Harmonized Standard under the Directive 1999/5/EC [i.2].

See article 5.1 of Directive 1999/5/EC [i.2] for information on presumption of conformity and Harmonised Standards or parts thereof the references of which have been published in the Official Journal of the European Union.

The requirements relevant to Directive 1999/5/EC [i.2] are summarised in annex A.

The present document is part 18 of a multi-part deliverable covering the essential requirements under article 3.2 of Directive 1999/5/EC [i.2] (R&TTE Directive) for Base Stations (BS), Repeaters and User Equipment (UE) for IMT cellular networks, as identified below:

- Part 1: "Introduction and common requirements";
- Part 2: "CDMA Direct Spread (UTRA FDD) User Equipment (UE)";
- Part 3: "CDMA Direct Spread (UTRA FDD) Base Stations (BS)";
- Part 4: "CDMA Multi-Carrier (cdma2000) User Equipment (UE)";
- Part 5: "CDMA Multi-Carrier (cdma2000) Base Stations (BS)";
- Part 6: "CDMA TDD (UTRA TDD) User Equipment (UE)";
- Part 7: "CDMA TDD (UTRA TDD) Base Stations (BS)";
- Part 8: "Harmonized EN for IMT-2000, TDMA Single-Carrier (UWC 136) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";
- Part 9: "Harmonized EN for IMT-2000, TDMA Single-Carrier (UWC 136) (BS) covering essential requirements of article 3.2 of the R&TTE Directive";
- Part 10: "Harmonized EN for IMT-2000, FDMA/TDMA (DECT) covering essential requirements of article 3.2 of the R&TTE Directive";
- Part 11: "CDMA Direct Spread (UTRA FDD) (Repeaters)";
- Part 12: "Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (Repeaters) covering the essential requirements of article 3.2 of the R&TTE Directive";
- Part 13: "Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE)";