

**IMT cellular networks;
Harmonized EN covering the essential requirements
of article 3.2 of the R&TTE Directive;
Part 5: CDMA Multi-Carrier (cdma2000) Base Stations (BS)**

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

[ETSI EN 301 908-5 V5.2.1 \(2011-09\)](https://standards.iteh.ai/catalog/standards/etsi/704fe498-c36e-4dc8-98dc-f5250b59c8de/etsi-en-301-908-5-v5-2-1-2011-09)

<https://standards.iteh.ai/catalog/standards/etsi/704fe498-c36e-4dc8-98dc-f5250b59c8de/etsi-en-301-908-5-v5-2-1-2011-09>



ReferenceREN/MSG-TFES-007-5

Keywords3G, 3GPP2, cdma2000, cellular, digital,
IMT-2000, mobile, radio, regulation, UMTS

ETSI650 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

iteh Standards
(<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.

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

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

LTETM 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	9
2.2 Informative references.....	10
3 Definitions, symbols and abbreviations	10
3.1 Definitions.....	10
3.2 Symbols.....	19
3.3 Abbreviations	22
4 Technical requirements specifications	23
4.1 Environmental profile.....	23
4.2 Conformance requirements	24
4.2.1 Introduction.....	24
4.2.2 Transmitter conducted spurious emissions	24
4.2.2.1 Definition	24
4.2.2.2 Limits	25
4.2.2.2.1 Macro cell base station.....	25
4.2.2.2.2 Pico cell base station and femto cell.....	27
4.2.2.3 Conformance.....	29
4.2.3 Maximum output power.....	29
4.2.3.1 Definition	29
4.2.3.2 Limits	29
4.2.3.2.1 Base stations operating in Type 1 cdma2000 systems.....	29
4.2.3.2.2 Base stations operating in Type 2 cdma2000 systems.....	29
4.2.3.3 Conformance.....	30
4.2.4 Inter-Base Station transmitter intermodulation.....	30
4.2.4.1 Definition	30
4.2.4.2 Limits	30
4.2.4.3 Conformance.....	30
4.2.5 Receiver conducted spurious emissions.....	31
4.2.5.1 Definition	31
4.2.5.2 Limits	31
4.2.5.3 Conformance.....	31
4.2.6 Receiver blocking characteristics	31
4.2.6.1 Definition	31
4.2.6.2 Limits	31
4.2.6.2.1 Base stations operating in Type 1 cdma2000 systems.....	31
4.2.6.2.2 Base stations operating in Type 2 cdma2000 systems.....	31
4.2.6.3 Conformance.....	31
4.2.7 Intermodulation spurious response attenuation.....	32
4.2.7.1 Definition	32
4.2.7.2 Limits	32
4.2.7.2.1 Base stations operating in Type 1 cdma2000 systems.....	32
4.2.7.2.2 Base stations operating in Type 2 cdma2000 systems.....	32
4.2.7.3 Conformance.....	32
4.2.8 Adjacent channel selectivity	32
4.2.8.1 Definition	32
4.2.8.2 Limits	32
4.2.8.2.1 Base stations operating in Type 1 cdma2000 systems.....	32
4.2.8.2.2 Base stations operating in Type 2 cdma2000 systems.....	32
4.2.8.3 Conformance.....	32

5	Testing for compliance with technical requirements.....	33
5.1	Conditions for testing.....	33
5.1.1	Introduction.....	33
5.1.2	Standard equipment under test.....	33
5.1.2.1	Basic equipment.....	33
5.1.2.2	Ancillary equipment.....	33
5.2	Interpretation of the measurement results	33
5.3	Essential radio test suites.....	33
5.3.1	Transmitter conducted spurious emissions	34
5.3.1.1	Test procedure for Base Stations supporting operation in Type 1 cdma2000 systems	34
5.3.1.1.1	Macro cell base station	34
5.3.1.1.2	Pico cell base station and femto cell.....	34
5.3.1.2	Test procedure for Base Stations supporting operation in Type 2 cdma2000 systems	36
5.3.1.2.1	Macro cell base station	36
5.3.1.2.2	Pico cell base station and femto cell.....	37
5.3.2	Maximum output power.....	39
5.3.2.1	Test procedure for Base Stations supporting operation in Type 1 cdma2000 systems	39
5.3.2.2	Test procedure for Base Stations supporting operation in Type 2 cdma2000 systems	40
5.3.3	Inter-Base Station transmitter intermodulation.....	40
5.3.3.1	Test procedure for Base Stations supporting operation in Type 1 cdma2000 systems	40
5.3.3.2	Test procedure for Base Stations supporting operation in Type 2 cdma2000 systems 2	40
5.3.4	Receiver conducted spurious emissions.....	41
5.3.4.1	Test procedure for Base Stations supporting operation in Type 1 or Type 2 cdma2000 systems	41
5.3.5	Receiver blocking characteristics	42
5.3.5.1	Test procedure for Base Stations supporting operation in Type 1 cdma2000 systems	42
5.3.5.2	Test procedure for Base Stations supporting operation in Type 2 cdma2000 systems	43
5.3.6	Intermodulation spurious response attenuation.....	43
5.3.6.1	Test procedure for Base Stations supporting operation in Type 1 cdma2000 systems	43
5.3.6.2	Test procedure for Base Stations supporting operation in Type 2 cdma2000 systems	45
5.3.7	Adjacent channel selectivity	45
5.3.7.1	Test procedure for Base Stations supporting operation in Type 1 cdma2000 systems	45
5.3.7.2	Test procedure for Base Stations supporting operation in Type 2 cdma2000 systems	46

Annex A (normative):	HS Requirements and conformance Test specifications Table (HS-RTT).....	47
-----------------------------	--	-----------

Annex B (normative):	Base station Configurations	49
-----------------------------	--	-----------

B.1	Receiver diversity.....	49
B.2	Duplexers	49
B.3	Power supply options	49
B.4	Ancillary RF amplifiers.....	50
B.5	BS using antenna arrays	50
B.5.1	Receiver tests.....	51
B.5.2	Transmitter tests	51

Annex C (informative):	Environmental profile and standard test conditions	52
-------------------------------	---	-----------

C.1	Introduction	52
C.2	CDMA environmental requirements	52
C.2.1	Temperature and power supply voltage.....	52
C.2.1.1	Definition.....	52
C.2.1.2	Method of measurement	52
C.2.1.3	Minimum standard.....	53
C.2.2	High humidity	53
C.2.2.1	Definition.....	53
C.2.2.2	Method of measurement	53
C.2.2.3	Minimum standard.....	53
C.3	Standard test conditions.....	53

C.3.1	Standard environmental test conditions.....	53
C.3.2	Standard conditions for the primary power supply.....	54
C.3.2.1	General.....	54
C.3.2.2	Standard DC test voltage from accumulator batteries.....	54
C.3.2.3	Standard AC voltage and frequency	54
Annex D (informative):	The EN title in the official languages	55
Annex E (informative):	Bibliography	56
History		57

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

[ETSI EN 301 908-5 V5.2.1 \(2011-09\)](#)

<https://standards.iteh.ai/catalog/standards/etsi/704fe498-c36e-4dc8-98dc-f5250b59c8de/etsi-en-301-908-5-v5-2-1-2011-09>

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 Harmonized European Standard (EN) has been produced by ETSI Technical Committee Mobile Standards Group (MSG), and is now submitted for the Public Enquiry 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 present document is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the Directive 1999/5/EC [i.2] of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity ("the R&TTE Directive").

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

The present document is part 5 of a multi-part Harmonised Standard 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)";

- Part 14: "Evolved Universal Terrestrial Radio Access (E-UTRA) Base Stations (BS)";
- Part 15: "Evolved Universal Terrestrial Radio Access (E-UTRA) (FDD Repeaters)";
- Part 16: "Harmonized EN for IMT-2000, Evolved CDMA Multi-Carrier Ultra Mobile Broadband (UMB) (UE) covering the essential requirements of article 3.2 of the R&TTE Directive";
- Part 17: "Harmonized EN for IMT-2000, Evolved CDMA Multi-Carrier Ultra Mobile Broadband (UMB) (BS) 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)";
- Part 19: "OFDMA TDD WMAN (Mobile WiMAX) TDD User Equipment (UE)";
- Part 20: "OFDMA TDD WMAN (Mobile WiMAX) TDD Base Station (BS)";
- Part 21: "OFDMA TDD WMAN (Mobile WiMAX) FDD User Equipment (UE)";
- Part 22: "OFDMA TDD WMAN (Mobile WiMAX) FDD Base Stations (BS)".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	18 months after doa

Introduction

The present document is part of a set of standards developed by ETSI and is designed to fit in a modular structure to cover all radio and telecommunications terminal equipment within the scope of the R&TTE Directive [i.2]. The modular structure is shown in EG 201 399 [i.3].