ETSI EN 301 489-23 V1.5.1 (2011-11)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 23: Specific conditions for IMT-2000 CDMA, Direct Spread (UTRA and E-UTRA) Base Station (BS) radio, repeater and ancillary equipment

Reference
REN/ERM-EMC-277

Keywords
base station, EMC, IMT-2000, radio, regulation, 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

Contents

Intellectual Property Rights 5
Foreword 5
1 Scope 6
2 References 6
2.1 Normative references 6
2.2 Informative references 7
3 Definitions and abbreviations 7
3.1 Definitions 7
3.2 Abbreviations 8
4 Test conditions 9
4.1 General 9
4.2 Arrangements for test signals 9
4.2.1 Multiple enclosure BS solution 10
4.2.2 Arrangements for test signals at the input of transmitters 10
4.2.3 Arrangements for test signals at the output of transmitters 10
4.2.4 Arrangements for test signals at the input of receivers 10
4.2.5 Arrangements for test signals at the output of receivers 10
4.2.6 Arrangements for test signals for repeaters 10
4.3 Exclusion bands 10
4.3.1 Receiver exclusion band 10
4.4 Narrow band responses of receivers 11
4.5 Normal test modulation 12
5 Performance assessment 13
5.1 General 13
5.2 Equipment which can provide a continuous communication link 13
5.2.1 Assessment of BLER/Throughput in Downlink 13
5.2.2 Assessment of BLER/Throughput in Uplink 13
5.2.3 Assessment of RF gain variations of repeaters 13
5.3 Equipment which does not provide a continuous communication link 13
5.4 Ancillary equipment 13
5.5 Equipment classification 14
6 Performance criteria 14
6.1 Performance criteria for continuous phenomena applied to Base Stations and Repeaters 14
6.1.1 Base Stations (BS) 14
6.1.2 Repeaters 15
6.2 Performance criteria for transient phenomena for Base Station and Repeaters 15
6.2.1 Base stations (BS) 15
6.2.2 Repeaters 16
6.2.2.1 Repeaters, Performance criteria for voltage dips (> 60 %) and interruptions 16
6.3 Performance criteria for ancillary equipment tested on a standalone basis 16
6.3.1 Performance criteria for continuous phenomena for ancillary equipment 17
6.3.2 Performance criteria for transient phenomena for ancillary equipment 17
7 Applicability overview tables 17
7.1 Emission 17
7.1.1 General 17
7.1.2 Special conditions 17
7.2 Immunity 17
7.2.1 General 17
7.2.2 Special conditions 18

Annex A (informative): Examples of base station radio equipment for digital cellular radio telecommunications systems within the scope of the present document 19

A.1 Base station equipment for IMT-2000 CDMA Direct Spread (UTRA) 19

A.2 Base station equipment for Evolved Universal Terrestrial Radio Access(E-UTRA) 19

Annex B (informative): The EN title in the official languages 20

History 21

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 Harmonized European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Directive 98/34/EC [i.7] as amended by Directive 98/48/EC [i.8].

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.6].

See article 5.1 of Directive 1999/5/EC [i.6] 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 present document is part 23 of a multi-part deliverable. Full details of the entire series can be found in part 1 [1].

National transposition dates	
Date of adoption of this EN:	10 November 2011
Date of latest announcement of this EN (doa):	29 February 2012
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 August 2012
Date of withdrawal of any conflicting National Standard (dow):	31 August 2013

1 Scope

The present document, together with EN 301 489-1 [1], covers the assessment of "3rd generation" digital cellular (IMT-2000 CDMA Direct Spread) (UTRA and E-UTRA) base station equipment, repeaters and associated ancillary equipment in respect of ElectroMagnetic Compatibility (EMC).

Technical specifications related to the antenna port and emissions from the enclosure port of radio equipment (base station (BS), and repeaters) are not included in the present document. Such technical specifications are found in the relevant product standards for the effective use of the radio spectrum.

The present document specifies the applicable test conditions, performance assessment and performance criteria of "3rd generation" digital cellular (IMT-2000 CDMA Direct Spread) (UTRA and E-UTRA) base station radio equipment and associated ancillary equipment.

Examples of base station equipment covered by the present document are given in annex A.

In case of differences (for instance concerning special conditions, definitions, abbreviations) between the present document and EN 301 489-1 [1], the provisions of the present document take precedence.

The environmental classification and the emission and immunity requirements used in the present document are as stated in EN 301 489-1 [1], except for any special conditions included in the present document.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

[1] ETSI EN 301 489-1 (V1.8.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements".

[2] ETSI TS 125 141 (V7.5.0): "Universal Mobile Telecommunications System (UMTS); Base Station (BS) conformance testing (FDD) (3GPP TS 25.141 version 7.5.0 Release 7)".

[3] ETSI TS 125 142 (V7.3.0): "Universal Mobile Telecommunications System (UMTS); Base Station (BS) conformance testing (TDD) (3GPP TS 25.142 version 7.3.0 Release 7)".

[4] ETSI TS 125 101 (V7.5.0): "Universal Mobile Telecommunications System (UMTS); User Equipment (UE) radio transmission and reception (FDD) (3GPP TS 25.101 version 7.5.0 Release 7)".

[5] ETSI TS 125 102 (V7.4.0): "Universal Mobile Telecommunications System (UMTS); User Equipment (UE) radio transmission and reception (TDD) (3GPP TS 25.102 version 7.4.0 Release 7)".

[6] ETSI TS 125 143 (V7.2.0): "Universal Mobile Telecommunications System (UMTS); UTRA repeater conformance testing (3GPP TS 25.143 version 7.2.0 Release 7)".