



SLOVENSKI STANDARD

SIST EN 301 908-1 V3.2.1:2007

01-december-2007

9`Y_lfca U[bYfbUnXfi y`^j cgh]b`nUXj Y`j `nj Yn]`n`fUX]`g_`ja `gdY_lfca `fØFAŁ!`6 UnbY
dcghU`Y`f6 GkždcbUj `U`b_]`ffYdYh]hcf`^L]b`i dcfUvb]y_UcdfYa Ufl 9L`nUWY] bU
ca fYy`U`fYhY`[YbYfUWY`Y`=A H!&\$\$\$`!`%`XY.`<Ufa cb]n]fUb]`9B`nU`=A H!&\$\$\$zi j cX`]b
gd`cýbY`nU`Hj Yž_]`nU`Ya UV]ghj YbY`nU`Hj Y` `YbU` "&X]fY`Hj YF/ HH9

Electromagnetic compatibility and Radio spectrum Matters (ERM) - Base Stations (BS),
Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks -
Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering
essential requirements of article 3.2 of the R&TTE Directive

[SIST EN 301 908-1 V3.2.1:2007](https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f8/sist-en-301-908-1-v3-2-1-2007)

<https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f8/sist-en-301-908-1-v3-2-1-2007>

Ta slovenski standard je istoveten z: EN 301 908-1 Version 3.2.1

ICS:

33.060.99	Druga oprema za radijske komunikacije	Other equipment for radiocommunications
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

SIST EN 301 908-1 V3.2.1:2007 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 301 908-1 V3.2.1:2007

<https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f8/sist-en-301-908-1-v3-2-1-2007>

ETSI EN 301 908-1 V3.2.1 (2007-05)

Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Base Stations (BS), Repeaters and User Equipment (UE) for
IMT-2000 Third-Generation cellular networks;
Part 1: Harmonized EN for IMT-2000,
introduction and common requirements,
covering essential requirements
of article 3.2 of the R&TTE Directive**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 301 908-1 V3.2.1:2007](https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f8/sist-en-301-908-1-v3-2-1-2007)

<https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f8/sist-en-301-908-1-v3-2-1-2007>



Reference

REN/ERM-TFES-003-1

Keywords

3G, cellular, digital, IMT-2000, mobile, 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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 301 908-1 V3.2.1:2007

<https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f0/sist-en-301-908-1-v3-2-1-2007>

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 2007.
All rights reserved.

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

Contents

Intellectual Property Rights	4
Foreword.....	4
Introduction	5
1 Scope	6
2 References	6
3 Definitions and abbreviations.....	7
3.1 Definitions	7
3.2 Abbreviations	8
4 Technical requirements specifications	8
4.1 Environmental profile.....	8
4.2 Conformance requirements	9
4.2.1 Introduction.....	9
4.2.2 Radiated emissions (UE)	9
4.2.2.1 Definition	9
4.2.2.2 Limits	9
4.2.2.3 Conformance.....	10
4.2.3 Radiated emissions (BS and repeater)	10
4.2.3.1 Definition	10
4.2.3.2 Limits	10
4.2.3.3 Conformance.....	11
4.2.4 Control and monitoring functions (UE).....	11
4.2.4.1 Definition	11
4.2.4.2 Limits	11
4.2.4.3 Conformance.....	11
5 Testing for compliance with technical requirements.....	11
5.1 Environmental conditions for testing	11
5.2 Interpretation of the measurement results	11
5.3 Essential radio test suites.....	12
5.3.1 Radiated emissions (UE)	12
5.3.1.1 Test method.....	12
5.3.1.2 Test configurations.....	12
5.3.2 Radiated emissions (BS and repeater)	13
5.3.2.1 Test method.....	13
5.3.2.2 Test configurations.....	14
5.3.3 Control and monitoring functions (UE).....	14
5.3.3.1 Test method.....	14
Annex A (normative): HS Requirements and conformance Test specifications Table (HS-RTT).....	16
Annex B (informative): Receiver sensitivity and correct operation of the equipment.....	18
B.1 Receiver sensitivity	18
B.2 Correct functioning of the equipment.....	18
Annex C (informative): The EN title in the official languages	19
Annex D (informative): Bibliography	21
History	22

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 (Telecommunications series) 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 Council Directive 98/34/EC (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 [1] 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 present document is part 1 of a multi-part deliverable covering the Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks, as identified below:

- SIST EN 301 908-1 V3.2.1:2007
<http://standards.iteh.ai/>
 750586166416314-EN-301-908-1-V3-2-1-2007
- Part 1: **"Harmonized EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive"**;
 - Part 2: "Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";
 - Part 3: "Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive";
 - Part 4: "Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";
 - Part 5: "Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (BS and Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive";
 - Part 6: "Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";
 - Part 7: "Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive";
 - 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: "Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 12: "Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (Repeater) covering essential requirements of article 3.2 of the R&TTE Directive".

National transposition dates	
Date of adoption of this EN:	27 April 2007
Date of latest announcement of this EN (doa):	31 July 2007
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 January 2008
Date of withdrawal of any conflicting National Standard (dow):	31 January 2009

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. The modular structure is shown in EG 201 399.

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

[SIST EN 301 908-1 V3.2.1:2007](https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f8/sist-en-301-908-1-v3-2-1-2007)

<https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503dbfbb4f8/sist-en-301-908-1-v3-2-1-2007>

1 Scope

The present document applies to the following radio equipment types:

- User equipment, repeaters and base stations for IMT-2000, except for IMT-2000 FDMA/TDMA (DECT), falling within the scope of one of the following parts of EN 301 908, and ancillary equipment which is intended to be used together with it.

NOTE 1: EN 301 908-10 [9] contains requirements for radiated spurious emissions and control and monitoring functions applicable to IMT-2000 FDMA/TDMA (DECT) equipment.

The present document includes technical requirements which are common to equipment falling within the scope of several of the following parts.

NOTE 2: The following parts of EN 301 908, which are listed in the foreword of the present document, specify technical requirements in respect of a particular class of IMT-2000 equipment.

NOTE 3: ITU-R Recommendation M.1457-5 [4] defines the characteristics of the members of the IMT-2000 family by means of references to technical specifications developed by Standards Development organizations. The present document applies to equipment designed to meet any version of the terrestrial specifications referenced in ITU-R Recommendation M.1457-5 [4].

The present document is intended to cover the provisions of Directive 1999/5/EC [1] article 3.2, which states that ... radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference.

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE 4: A list of such ENs is included on the web site <http://www.newapproach.org>.

<https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7503db1bb4f8/sist-en-301-908-1-v3-2-1-2007>

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 and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version 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.

- [1] Directive 1999/5/EC 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 (R&TTE Directive).
- [2] Void.
- [3] Void.
- [4] ITU-R Recommendation M.1457-5 (2006): "Detailed specifications of the radio interfaces of International Mobile Telecommunications-2000 (IMT-2000)".

- [5] ETSI TR 100 028 (all parts) (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [6] ITU-R Recommendation SM.329 (2003): "Unwanted emissions in the spurious domain".
- [7] Void.
- [8] ITU-R Recommendation SM.1539-1 (2002): "Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329".
- [9] ETSI EN 301 908-10 (V2.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 10: Harmonized EN for IMT-2000, FDMA/TDMA (DECT) covering essential requirements of article 3.2 of the R&TTE Directive".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in the R&TTE Directive [1] and the following apply:

ancillary equipment: equipment (apparatus), used in connection with a User Equipment (UE), Repeater or Base Station (BS) is considered as an ancillary equipment (apparatus) if:

- the equipment is intended for use in conjunction with a user equipment UE, repeater or BS to provide additional operational and/or control features to the radio equipment, (e.g. to extend control to another position or location); and
- the equipment cannot be used on a stand alone basis to provide user functions independently of a UE, BS or combination of BS and repeater; and
- the UE, BS or combination of BS and repeater to which it is connected, is capable of providing some intended operation, such as transmitting and/or receiving without the ancillary equipment (i.e. it is not a sub-unit of the main equipment essential to the main equipment basic functions).

applicable part: part of the multi-part deliverable, of which the present document is the first part, for which the scope of that document includes the equipment to be tested

enclosure port: physical boundary of the apparatus through which electromagnetic fields may radiate or impinge

NOTE: In the case of integral antenna equipment, this port is inseparable from the antenna port.

environmental profile: range of environmental conditions under which equipment within the scope of the present document is required to comply with the provisions of the present document

idle mode: state of User Equipment (UE) when switched on but with no Radio Resource Control (RRC) connection

IMT-2000: third generation mobile systems which are scheduled to start service around the year 2000 subject to market considerations

NOTE: ITU-R Recommendation M.1457-5 [4] identifies the detailed specifications for the IMT-2000 radio interfaces.

port: particular interface, of the specified equipment (apparatus), with the electromagnetic environment

NOTE: For example, any connection point on an equipment intended for connection of cables to or from that equipment is considered as a port (see figure 1).

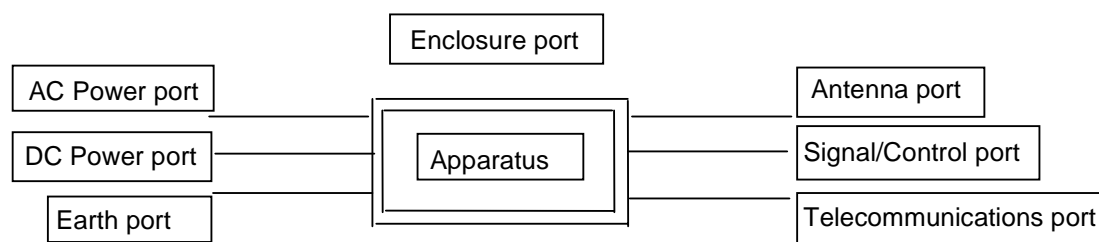


Figure 1: Examples of ports

radio communications equipment: telecommunications equipment which includes one or more transmitters and/or receivers and/or parts thereof for use in a fixed, mobile or portable application

NOTE: It can be operated with ancillary equipment but if so, is not dependent on it for basic functionality.

signal and control port: port which carries information or control signals, excluding antenna ports

telecommunication port: port which is intended to be connected to telecommunication networks (e.g. public switched telecommunication networks, integrated services digital networks), local area networks (e.g. Ethernet, token ring) and similar networks

traffic mode: state of User Equipment (UE) when switched on and with Radio Resource Control (RRC) connection established

iTech STANDARD PREVIEW
(standards.iteh.ai)

3.2 Abbreviations

SIST EN 301 908-1 V3.2.1:2007

[https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-](https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-75036160478/sist-en-301-908-1-v3.2.1-2007)

For the purposes of the present document, the following abbreviations apply: 2007

BS	Base Station
CDMA	Code Division Multiple Access
e.i.r.p.	equivalent isotropically radiated power
EMC	ElectroMagnetic Compatibility
e.r.p.	effective radiated power
EUT	Equipment Under Test
FDD	Frequency Division Duplex
IMT-2000	International Mobile Telecommunications 2000
R&TTE	Radio Telecommunications and Terminal Equipment
RF	Radio Frequency
RMS	Root Mean Square
RRC	Radio Resource Control
TDD	Time Division Duplex
UE	User Equipment

4 Technical requirements specifications

4.1 Environmental profile

The technical requirements of the present document apply under the environmental profile for operation of the equipment, as defined in the applicable part. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the operational environmental profile.

4.2 Conformance requirements

The requirements in the present document are based on the assumption that the operating band is shared between systems of the IMT-2000 family or systems having compatible characteristics.

4.2.1 Introduction

To meet the essential requirement under article 3.2 of the R&TTE Directive [1] for IMT-2000 equipment three common essential parameters have been identified. Tables 1 and 2 provide cross-references, for UE, repeater and BS respectively, between these essential parameters and the corresponding technical requirements for equipment within the scope of the present document.

Table 1: Cross references for User Equipment (UE)

Essential parameter	Corresponding technical requirements
Radiated emissions	4.2.2 Radiated emissions (UE)
Control and monitoring functions	4.2.4 Control and monitoring functions (UE)

Table 2: Cross references for Base Stations (BS), and repeaters

Essential parameter	Corresponding technical requirements
Radiated emissions	4.2.3 Radiated emissions (BS and repeater)

NOTE: Receiver sensitivity, use of correct timing and use of correct code are covered in clauses B.1 and B.2 respectively.

4.2.2 Radiated emissions (UE)

4.2.2.1 Definition

SIST EN 301 908-1 V3.2.1:2007

[https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-](https://standards.iteh.ai/catalog/standards/sist/fd0aa8f9-4f09-4c98-b105-7593-11f8b4f8/sist-en-301-908-1-v3-2-1-2007)

This test assesses the ability of radio communications equipment and ancillary equipment to limit unwanted emissions from the enclosure port.

This test is applicable to radio communications equipment and ancillary equipment.

This test shall be performed on the radio communications equipment and/or a representative configuration of the ancillary equipment.

4.2.2.2 Limits

The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out of band emissions and spurious emissions are based on ITU-R Recommendations SM.329 [6] and SM.1539-1 [8].

The requirements shown in table 3 are only applicable for frequencies in the spurious domain.