

SLOVENSKI STANDARD
SIST EN 301 908-7:2002**01-november-2002**

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[YbYfUM]Y`!`+`"XY.`<Ufa cb]n]fUb]9B`nU`=AH!&\$\$\$Z7 8 A5`H8 8`fl HF5`H8 8Łf6 GŁZ_]`
nUYa UV]ghj YbY`nU hYj Y` `YbU` "&X]fY_hj YF/ HH9

Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 7: Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (BS) covering essential requirements of article 32 of the R&TTE Directive

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Candidate Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Base Stations (BS) and User Equipment (UE) for
IMT-2000 Third-Generation cellular networks;
Part 7: Harmonized EN for IMT-2000,
CDMA TDD (UTRA TDD) (BS)
covering essential requirements
of article 3.2 of the R&TTE Directive**

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Foreword

This Candidate 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 7 of a multi-part deliverable covering the Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks, as identified below:

- SIST EN 301 908-7:2002
<https://standards.iteh.ai/catalog/standards/sist/301-908-7-2002/301-908-7-2002>
 (standards.iteh.ai)
- 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) 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".

Technical specifications relevant to Directive 1999/5/EC [1] are given in annex A.

National transposition dates	
Date of adoption of this EN:	4 January 2002
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Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 October 2002
Date of withdrawal of any conflicting National Standard (dow):	31 October 2003

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Introduction

The present document is part of a set of standards designed to fit in a modular structure to cover all radio and telecommunications terminal equipment under the R&TTE Directive [1]. Each standard is a module in the structure. The modular structure is shown in figure 1.

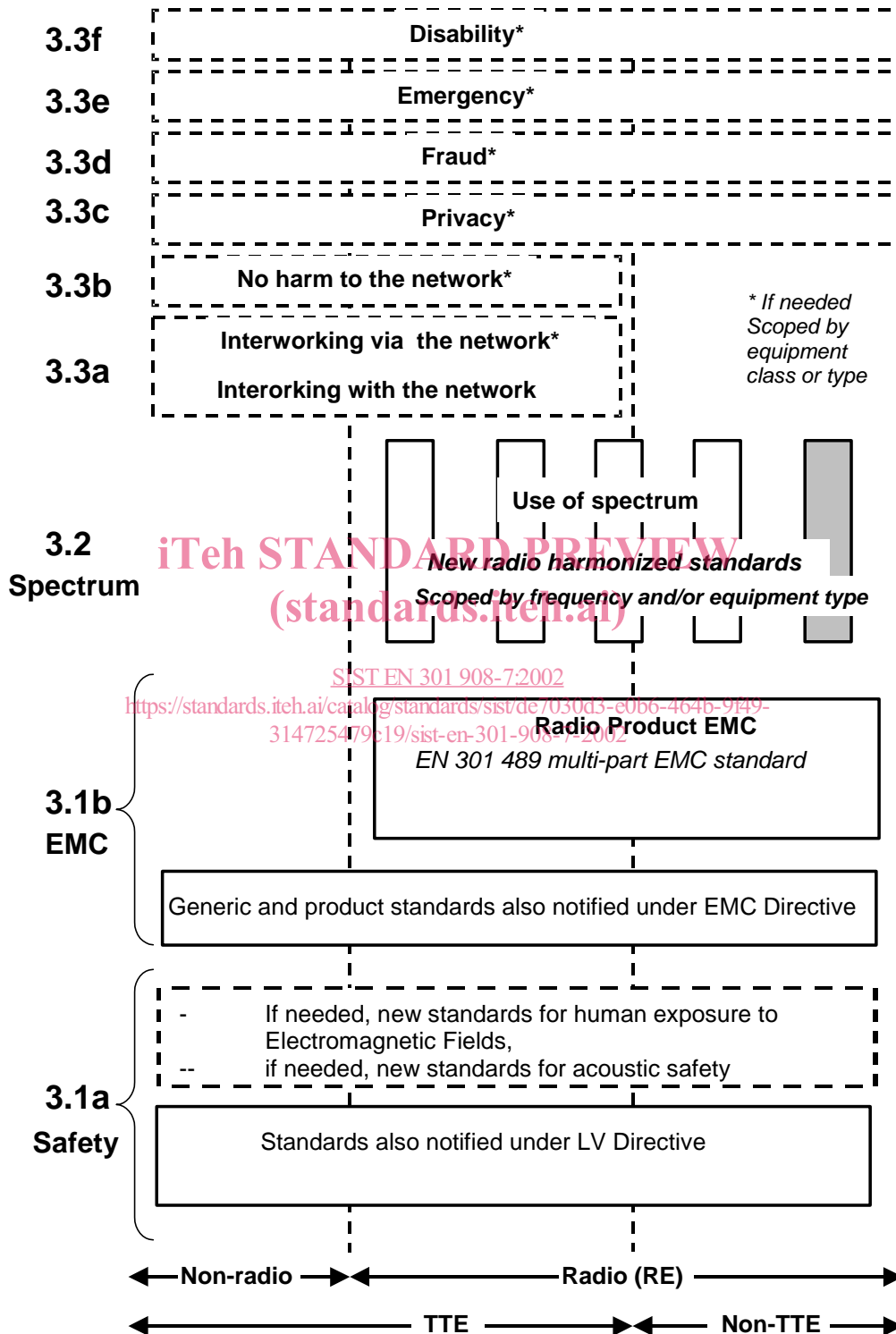


Figure 1: Modular structure for the various standards used under the R&TTE Directive

The left hand edge of figure 1 shows the different clauses of article 3 of the R&TTE Directive [1].

For article 3.3 various horizontal boxes are shown. Dotted lines indicate that at the time of publication of the present document essential requirements in these areas have to be adopted by the Commission. If such essential requirements are adopted, and as far and as long as they are applicable, they will justify individual standards whose scope is likely to be specified by function or interface type.

The vertical boxes show the standards under article 3.2 for the use of the radio spectrum by radio equipment. The scopes of these standards are specified either by frequency (normally in the case where frequency bands are harmonized) or by radio equipment type.

For article 3.1b figure 1 shows EN 301 489 [8], the multi-part product EMC standard for radio used under the EMC Directive [2].

For article 3.1a figure 1 shows the existing safety standards currently used under the LV Directive [3] and new standards covering human exposure to electromagnetic fields. New standards covering acoustic safety may also be required.

The bottom of figure 1 shows the relationship of the standards to radio equipment and telecommunications terminal equipment. A particular equipment may be radio equipment, telecommunications terminal equipment or both. A radio spectrum standard will apply if it is radio equipment. An article 3.3 standard will apply as well only if the relevant essential requirement under the R&TTE Directive [1] is adopted by the Commission and if the equipment in question is covered by the scope of the corresponding standard. Thus, depending on the nature of the equipment, the essential requirements under the R&TTE Directive [1] may be covered in a set of standards.

The modularity principle has been taken because:

- it minimizes the number of standards needed. Because equipment may, in fact, have multiple interfaces and functions it is not practicable to produce a single standard for each possible combination of functions that may occur in an equipment;
- it provides scope for standards to be added:
 - under article 3.2 when new frequency bands are agreed; or
 - under article 3.3 should the Commission take the necessary decision without requiring alteration of standards that are already published;
- it clarifies, simplifies and promotes the usage of Harmonized Standards as the relevant means of conformity assessment.

The product specifications upon which all parts of EN 301 908 is based, differ in presentation; and this is reflected in the present document

1 Scope

The present document applies to the following radio equipment type:

- Base stations for IMT-2000 CDMA TDD (UTRA 3,84 Mchip/s TDD).

This radio equipment type is capable of operating in all or any part of the frequency bands given in table 1.

Table 1: CDMA TDD base station frequency bands

Direction of transmission	CDMA TDD base station frequency bands
Transmit and Receive	1 900 MHz to 1920 MHz
Transmit and Receive	2 010 MHz to 2025 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC [1] (R&TTE Directive) 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 will apply to equipment within the scope of the present document.

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

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. <https://standards.iteh.ai/catalog/standards/sist/de7030d3-e0b6-464b-9f49-314725479c19/sist-en-301-908-7-2002>
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

- [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.
- [2] Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility.
- [3] Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- [4] ETSI TR 100 028 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [5] ETSI TS 125 105 (V3.8.0) (2001): "Universal Mobile Telecommunications System (UMTS); UTRA (BS) TDD; Radio transmission and Reception (3GPP TS 25.105 version 3.8.0 Release 1999)".
- [6] ETSI TS 125 142 (V3.7.0) (2001): "Universal Mobile Telecommunications System (UMTS); Base station conformance testing (TDD) (3GPP TS 25.142 version 3.7.0 Release 1999)".
- [7] ITU-R Recommendation SM.329-8 (2000): "Spurious emissions".
- [8] ETSI EN 301 489 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services".

3 Definitions, symbols 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:

average power: thermal power as measured through a root raised cosine filter with roll-off $\alpha = 0,22$ and a bandwidth equal to the chip rate of the radio access mode

NOTE: The period of measurement shall be a transmit timeslot excluding the guard period unless otherwise stated.

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

maximum output power: the maximum output power of the base station per carrier measured at the antenna connector (i.e. the actual broadband power as would be measured assuming no measurement error) for a specified reference condition. The period of measurement shall be a transmit timeslot excluding the guard period.

Rated Output Power, PRAT: Output Power that the manufacturer has declared to be available

3.2 Symbols

For the purposes of the present document, the following symbols apply:

α roll-off factor

$\frac{DPCH_o - E_c}{I_{or}}$ The ratio of the average transmits energy per PN chip for the $DPCH_o$ to the total transmit power spectral density in one time slot.

3.3 Abbreviations

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

3GPP	3rd Generation Partnership Project
ACIR	Adjacent Channel Interference Ratio
ACLR	Adjacent Channel Leakage power Ratio
ACS	Adjacent Channel Selectivity
B	appropriate frequency in the Bottom of the operating frequency band of the BS: "RF channel"
BER	Bit Error Ratio
BS	Base Station
CW	Continuous Wave (unmodulated signal)
dB	decibel
dBm	decibel relative to 1 milliwatt
DL	Down Link (forward link)
$DPCH_o$	A mechanism used to simulate an individual intracell interferer in the cell with one code and a spreading factor of 16
EMC	ElectroMagnetic Compatibility
EUT	Equipment Under Test
EVM	Error Vector Magnitude
F	Frequency (of the assigned channel frequency of the wanted signal)
FDD	Frequency Division Duplexing
FER	Frame Error Rate
F_{uw}	Frequency offset of the unwanted interfering signal from the assigned channel frequency of the wanted signal
IMT-2000	International Mobile Telecommunications 2000