



SLOVENSKI STANDARD
SIST EN 301 489-26 V2.2.1:2004
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9`Y_fca U[bYfbUnXfi y`^j cghfØ A 7 L]b`nUXYj Yj`nj Yn]`n`fUX]`g_ Ja `gdY_fca `fØ FA L!
GHubXUfX`YY_fca U[bYfbY`nXfi y`^j cgh]`fØ A 7 L`nUfUX]`g_c`cdfYa c`]b`ghcf]lj Y!`&* "
XY. `DcgYVb]dc[c`^]nUcdfYa c`VUnb] `dcghU^]b`dca c`ybc`cdfYa c`df]`gHubXUfXi
=A H!&\$\$\$`g`7 8 A 5 `fl_cXbc`dcfUhXY`^bja `gcXcghcdca L]b`j Y `bcg]`bja]
ZY_j YbWLa]`fi Ai `h]!7 Uff]Yfi L

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 26: Specific conditions for IMT-2000 CDMA Multi-carrier Base Stations and ancillary equipment

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Candidate Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
ElectroMagnetic Compatibility (EMC) standard
for radio equipment and services;
Part 26: Specific conditions for IMT-2000 CDMA
Multi-carrier Base Stations and ancillary equipment**

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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), and is now submitted for the ETSI standards One-step Approval Procedure.

The present document has been produced by ETSI in response to a mandate from the European Commission issued under the Council Directive 98/34/EC [4] (as amended) laying down a procedure for the provision of information in the field of technical standards and regulation.

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 Council Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility ("the EMC Directive") (89/336/EEC [3] as amended) and Directive 1999/5/EC [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 present document is part 26 of a multi-part deliverable. Full details of the entire series can be found in part 1 [1].

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Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
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1 Scope

The present document, together with EN 301 489-1 [1], covers the assessment of 3rd Generation digital cellular (IMT-2000 Multi-carrier) base station equipment 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 Multi-carrier) 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 the part 1 of this standard, except for any special conditions included in the present document.

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.
[SIST EN 301 489-26 V2.2.1:2004](https://standards.iteh.ai/catalog/standards/sist/90548780-17b6-4a1a-8bc3-1cc4c108570/sist-en-301-489-26-v2-2-1-2004)
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Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] ETSI EN 301 489-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements".
- [2] 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).
- [3] Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive).
- [4] Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations.
- [5] 3GPP2 C.S0002-A (2000): "Physical Layer Standard for cdma2000 Spread Spectrum Systems, Release A".
- [6] 3GPP2 C.S0010-A (2000): "Recommended Minimum Performance Standards for Base Stations Supporting Dual Mode Spread Spectrum Systems".
- [7] ITU-R Recommendation SM.329-9: "Spurious Emissions".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 301 489-1 [1] and the following apply:

forward CDMA channel: CDMA channel from a base station to mobile stations

NOTE: The forward CDMA channel contains one or more code channels that are transmitted on a CDMA frequency assignment using a particular pilot PN offset.

International Mobile Telecommunications-2000 (IMT-2000): third generation mobile systems which provide access, by means of one or more radio links, to a wide range of telecommunications services supported by the fixed telecommunication networks (e.g. PSTN, ISDN, or IP), and to other services which are specific to mobile users

necessary bandwidth: As defined in ITU-R Recommendation SM.329-9 [7].

Radio Configuration (RC): set of Forward Traffic Channel and Reverse Traffic Channel transmission formats that are characterized by physical layer parameters such as transmission rates, modulation characteristics, and spreading rate

reverse CDMA channel: CDMA channel from the mobile station to the base station

NOTE: From the base station's perspective, the Reverse CDMA Channel is the sum of all mobile station transmissions on a CDMA frequency assignment.

signal and control port: port which carries information or control signals, except from antenna and telecommunication ports

traffic channel: communication path between a mobile station and a base station used for user and signalling traffic

3.2 Abbreviations

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

BS	Base Station
CDMA	Code Division Multiple Access
EMC	ElectroMagnetic Compatibility
EUT	Equipment Under Test
FER	Frame Error Rate
ISDN	Integrated Services Digital Network
PN	Pseudorandom Number
PSTN	Public Switched Digital Network
RC	Radio Configuration
RF	Radio Frequency

4 Test conditions

For the purpose of the present document, the test conditions of EN 301 489-1 [1], clause 4, shall apply as appropriate. Further product related test conditions for base station equipment are specified in the present document.

4.1 General

The equipment shall be tested in normal test environment defined in 3GPP2 C.S0010-A [6]. The test conditions shall be recorded in the test report.

For emission and immunity tests, the test arrangements, etc., as specified in the present document, clauses 4.2 to 4.5, shall apply.

For an EUT which contains more than one BS, it is sufficient to perform tests relating to connectors of each representative type of port forming part of the EUT.

Precautions should be taken to ensure that the cables connecting antenna connectors to test equipment or termination do not influence the test results.

4.2 Arrangements for test signals

The provisions of EN 301 489-1 [1], clause 4.2 shall apply with the following modifications.

The wanted RF signal nominal frequency shall be selected by setting the CDMA channel to an appropriate number. A communication link shall be set up with a suitable mobile station simulator (hereafter called "the test system") according to the Radio Configuration (RC) supported by the base station (see clause 1.3 in 3GPP2 C.S0010-A [6]) using full data rate only. The test system shall be located outside of the test environment.

When the EUT is required to be in the transmit/receive mode, the following conditions shall be met:

- the transmitter part of the EUT shall be commanded to operate at maximum rated transmit power;

NOTE: This may be achieved by disabling the transmitter RF power control.

- adequate measures shall be taken to avoid the effect of the immunity test RF signal on the measuring equipment.

4.2.1 Arrangements for test signals at the input of transmitters

The provisions of EN 301 489-1 [1], clause 4.2.1 shall apply.

4.2.2 Arrangements for test signals at the output of transmitters

The provisions of EN 301 489-1 [1], clause 4.2.2 shall apply.

4.2.3 Arrangements for test signals at the input of receivers

The provisions of EN 301 489-1 [1], clause 4.2.3 shall apply with the following modification.

For immunity testing the wanted RF signal level at the input of the EUT shall be set to no more than 40 dB above the reference sensitivity level as defined in 3GPP2 C.S0010-A [6], to provide a stable communications link. The input signal level used in the test shall be noted in the test report.

For emission testing the wanted RF signal level at the input of the measuring receiver shall be set to no more than 15 dB above the reference sensitivity level as defined in 3GPP2 C.S0010-A [6], to ensure that it operates within its dynamic range. The input signal level used in the test shall be noted in the test report.

4.2.4 Arrangements for test signals at the output of receivers

The provisions of EN 301 489-1 [1], clause 4.2.4 shall apply.

4.3 Exclusion bands

4.3.1 Transmitter exclusion band

The transmitter frequency bands including in band emissions and out of band emissions are covered by the RF spectral mask specification and need no further consideration.

For the purpose of EMC specifications the transmitter exclusion band shall be the carrier centre frequency $\pm (2,5 \times \text{Necessary Bandwidth})$.