

SLOVENSKI STANDARD

SIST EN 301 489-10 V1.3.1:2003

01-marec-2003

9`Y_hfca U[bYfbUnXfi y` 1j cghf0 A7 Ljb`nUXYj Yj` nj Ynj`n`fUX]`g_ ja` gdY_hfca` f0FA L!
 GHUbXUfX`YY_hfca U[bYfbY`nXfi y` 1j cgh]`f0 A7 L`nUfUX]`g_c`cdfYa c`]b`ghcf]hj Y!`%\$"
 XY.`DcgYVb]`dc[c`1`nUdfj c`f7 H%]b`7 H%ZL]b`Xfi [c`[YbYfUW]`c`VfYnj fj] bY
 HfYZ`bg_Y`cdfYa Y`f7 H&L

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 10: Specific conditions for First (CT1 and CT1+) and Second Generation Cordless Telephone (CT2) equipment

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 301 489-10 V1.3.1:2003

<https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987356b0da23/sist-en-301-489-10-v1-3-1-2003>

Ta slovenski standard je istoveten z: EN 301 489-10 Version 1.3.1

ICS:

33.050.10	Telefonska oprema	Telephone equipment
33.060.01	Radijske komunikacije na splošno	Radiocommunications in general
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

SIST EN 301 489-10 V1.3.1:2003 en

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 301 489-10 V1.3.1:2003

<https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987356b0da23/sist-en-301-489-10-v1-3-1-2003>

ETSI EN 301 489-10 V1.3.1 (2002-08)

Candidate Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
ElectroMagnetic Compatibility (EMC)
standard for radio equipment and services;
Part 10: Specific conditions for First (CT1 and CT1+) and
Second Generation Cordless Telephone (CT2) equipment**

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

[SIST EN 301 489-10 V1.3.1:2003](https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987356b0da23/sist-en-301-489-10-v1-3-1-2003)

<https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987356b0da23/sist-en-301-489-10-v1-3-1-2003>



Reference

REN/ERM-EMC-230-10

Keywords

CT, CT2, EMC, radio, regulation

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 301 489-10 V1.3.1:2003

<https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987356b0da27/301-489-10-v1-3-1-2003>
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, send your comment to:

editor@etsi.fr

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 2002.
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	5
Foreword.....	5
1 Scope	6
2 References	6
3 Definitions and abbreviations.....	7
3.1 Definitions	7
3.2 Abbreviations	7
4 Test conditions	8
4.1 General	8
4.2 Arrangements for test signals	8
4.2.1 Arrangements for test signals at the input of transmitters.....	8
4.2.1.1 Speech equipment	8
4.2.1.2 Non-speech equipment.....	8
4.2.2 Arrangements for test signals at the output of transmitters.....	8
4.2.3 Arrangements for test signals at the input of receivers	8
4.2.4 Arrangements for test signals at the output of receivers	8
4.2.5 Arrangements for testing transmitter and receiver together (as a system)	8
4.3 Exclusion bands.....	9
4.3.1 CT2 equipment.....	9
4.3.2 CT1 and CT1+ equipment	9
4.4 Narrow band responses on receivers or receivers which are part of transceivers.....	9
4.4.1 Identification criteria for speech equipment	9
4.4.2 Identification criteria for non-speech equipment	9
4.4.3 Nominal frequency offset used for the identification of narrow band responses.....	9
4.5 Normal test modulation.....	9
5 Performance assessment.....	10
5.1 General	10
5.2 Arrangements for the assessment of host dependant equipment and plug-in cards.....	10
5.2.1 Alternative A: composite equipment	10
5.2.2 Alternative B: use of a test jig and three hosts.....	10
5.3 Assessment procedures.....	11
5.3.1 Loss of user control functions or stored user defined data.....	11
5.3.2 Audio breakthrough	11
5.4 Ancillary equipment	12
5.5 Equipment classification	12
6 Performance criteria	12
6.1 Performance criteria for Continuous phenomena applied to Transmitters (CT)	13
6.1.1 Speech equipment.....	13
6.1.2 Non-speech equipment	13
6.2 Performance criteria for Transient phenomena applied to Transmitters (TT).....	13
6.3 Performance criteria for Continuous phenomena applied to Receivers (CR).....	14
6.4 Performance criteria for Transient phenomena applied to Receivers (TR)	14
6.5 Performance criteria for ancillary equipment tested on a stand alone basis	14
7 Applicability overview	14
7.1 Emission	14
7.1.1 General.....	14
7.1.2 Special conditions	14
7.2 Immunity	14
7.2.1 General.....	14
7.2.2 Special conditions	15

Annex A (informative):	Definitions of types of Cordless Telephone equipment in the scope of the present document.....	16
A.1	Second generation Cordless Telephone apparatus (CT2) for operation in the frequency band 864,1 MHz to 868,1 MHz	16
A.2	First generation Cordless Telephone apparatus (CT1) for operation in the frequency band 914 MHz to 915 MHz and 959 MHz to 960 MHz	16
A.3	First generation Cordless Telephone apparatus (CT1+) for operation in the frequency band 885 MHz to 887 MHz and 930 MHz to 932 MHz	16
A.4	First generation Cordless Telephone apparatus (CT1) for operation in the frequency band 1,6 MHz to 1,7 MHz for base stations (CFP) and 47 MHz for handsets (CPP).....	17
A.5	First generation Cordless Telephone apparatus (CT1) for operation in the frequency band 47 MHz for base stations (CFP) and 77 MHz for handsets (CPP)	17
A.6	First generation Cordless Telephone apparatus (CT1) for operation in the frequency band 31 MHz for base stations (CFP) and 39 MHz to 40 MHz for handsets (CPP)	17
Annex B (informative):	Bibliography.....	18
History		19

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 301 489-10 V1.3.1:2003](https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987356b0da23/sist-en-301-489-10-v1-3-1-2003)

<https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987356b0da23/sist-en-301-489-10-v1-3-1-2003>

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 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 [5] (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 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 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" [2]).

The present document is part 10 of a multi-part deliverable. Full details of the entire series can be found in part 1 [1].

[SIST EN 301 489-10 V1.3.1:2003](https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987357b2e334/sist-en-301-489-10-v1-3-1-2003)

[https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-](https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987357b2e334/sist-en-301-489-10-v1-3-1-2003)

[987357b2e334/sist-en-301-489-10-v1-3-1-2003](https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-987357b2e334/sist-en-301-489-10-v1-3-1-2003)

National transposition dates

Date of adoption of this EN:	9 August 2002
Date of latest announcement of this EN (doa):	30 November 2002
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 May 2003
Date of withdrawal of any conflicting National Standard (dow):	31 May 2004

1 Scope

The present document, together with EN 301 489-1 [1], covers the assessment of First Generation (CT1 and CT1+) and Second Generation (CT2) Cordless Telephone 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 the radio equipment 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 for First Generation (CT1 and CT1+) and Second Generation (CT2) Cordless Telephone equipment, and associated ancillary equipment.

Definitions of types of Cordless Telephone 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

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.

- [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] ETSI EN 300 176 (all parts): "Digital Enhanced Cordless Telecommunications (DECT); Approval test specification".
- [5] 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.

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], clause 3 and the following apply:

CT1 equipment: first generation Cordless Telephone apparatus which includes one or more transceivers and/or receivers and/or parts thereof which operate in the frequency bands detailed in clauses A.2, A.4, A.5, and A.6 of EN 301 489-10

CT1+ equipment: first generation Cordless Telephone apparatus which includes one or more transceivers and/or receivers and/or parts thereof which operate in the frequency bands 885 MHz to 887 MHz and 930 MHz to 932 MHz

CT2 equipment: second generation Cordless Telephone apparatus which includes one or more transceivers and/or receivers and/or parts thereof which operate in the frequency band 864,1 MHz to 868,1 MHz

host equipment: any equipment which has a complete user functionality when not connected to the cordless telephone or similar radio communications equipment, and to which this radio equipment provides additional functionality, and to which connection is necessary for this radio equipment to offer additional functionality, and in which the transceiver part of the radio equipment is physically installed

non-speech equipment: cordless telephone or similar communications equipment intended for the provision and reception of digital data either originating from or destined to external digital speech processing circuitry or other external equipment

speech equipment: cordless telephone or similar communications equipment containing transducers such as microphones and/or loudspeakers intended for the provision and reception of acoustic audio signals

3.2 Abbreviations

SIST EN 301 489-10 V1.3.1:2003

<https://standards.iteh.ai/catalog/standards/sist/e94b96c7-9273-4cf9-8ad5-98753660a25/sist-en-301-489-10-v1-3-1-2003>

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

BER	Bit Error Ratio
BPF	Band Pass Filter
BW	BandWidth
CF	Carrier Frequency
CFP	Cordless Fixed Part
CPP	Cordless Portable Part
CR	Continuous phenomena applied to Receivers
CT	Continuous phenomena applied to Transmitters
CT1	Cordless Telephone, first generation
CT1+	Cordless Telephone, first generation. Different frequency range from CT1
CT2	Cordless Telephone, second generation
ERP	Ear Reference Point
EUT	Equipment Under Test
MRP	Mouth Reference Point
SPL	Sound Pressure Level
TR	Transient phenomena applied to Receivers
TT	Transient phenomena applied to Transmitters

4 Test conditions

4.1 General

For the purposes 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 cordless telephone or communications equipment are specified in the present document, clauses 4.2 to 4.5.

4.2 Arrangements for test signals

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

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 with the following modification.

The transmitter part of the particular type of cordless telephone or communications equipment shall be modulated with normal test modulation as specified for that type of equipment (see clause 4.5).

4.2.1.1 Speech equipment

Audio input signals may be provided to the EUT either by a non-metallic acoustic tube or, if provided, electrical connections. The equipment shall not be modified to provide any electrical connection ports for the purposes of EMC tests only. Suitable test arrangements for the acoustic tube are described e.g. in EN 300 176 [4].

4.2.1.2 Non-speech equipment

Digital (data) input signals shall be supplied to the EUT by electrical connection to the modulation input port via an appropriate connecting cable, test jig, or host equipment (see clauses 5.2.1 and 5.2.2).

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.

The receiver part or stand alone receiver of the particular type of cordless telephone or communications equipment shall be provided with the appropriate wanted RF signal modulated as specified for that type of equipment (see clause 4.5).

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.

4.2.5 Arrangements for testing transmitter and receiver together (as a system)

The provisions of EN 301 489-1 [1], clause 4.2.5 shall apply with the following modification.

The normal test modulation shall be transmitted by the test system and looped back in the radio equipment, as described in the corresponding product specifications referred to in annex A.

4.3 Exclusion bands

The frequencies on which the transmitter part of the EUT is intended to operate shall be excluded from conducted and radiated emission measurements when performed in transmit mode of operation.

There shall be no frequency exclusion band applied to emission measurements of the receiver part of transceivers or the stand-alone receiver under test, and/or associated ancillary equipment.

The emission measurement and immunity test exclusions are referred to as "exclusion bands" and are defined in the clauses 4.3.1 and 4.3.2.

4.3.1 CT2 equipment

The exclusion band for the transmitter and/or receiver part of the CT2 equipment under test shall extend from 820,9 MHz to 911,5 MHz.

4.3.2 CT1 and CT1+ equipment

The exclusion band for receivers is the receiver operating frequency band, extended at each end by 5 % of the centre operating frequency.

For transmitters the exclusion band is ± 50 kHz of the transmitter operating frequency.

4.4 Narrow band responses on receivers or receivers which are part of transceivers

The provision of EN 301 489-1 [1], clause 4.4 shall apply with the following modification.

No immunity tests shall be carried out on frequencies of identified narrow band responses, i.e. spurious responses, of the receiver parts of cordless telephone and similar communications equipment.

4.4.1 Identification criteria for speech equipment

For speech equipment, an increase above the permitted level (see clause 6.2.1) in the measured value of the speech output signal level shall be used as criterion for the identification of narrow band responses.

Alternatively, a drop of the communications link may be used for this identification.

4.4.2 Identification criteria for non-speech equipment

For non-speech equipment, an increase in the Bit Error Ratio (BER) of the looped back data from the EUT in the measured value of BER shall be used as criterion for the identification of narrow band responses (see clause 6.2.2).

Alternatively, a drop of the communications link may be used for this identification.

4.4.3 Nominal frequency offset used for the identification of narrow band responses

For CT2, CT1 and CT1+ receivers, the nominal frequency offset to be used for the identification of narrowband responses shall be ± 1 MHz for the first part of the identification procedure, and $\pm 1,5$ MHz for the second part of the identification procedure.

4.5 Normal test modulation

The provision of EN 301 489-1 [1], clause 4.5 shall apply with the product related modifications set out in the corresponding product specifications referred to in annex A.