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~~ETSI EN 300 330-2~~ ~~V1.3.1~~ (2006-04)

~~Candidate~~ Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Short Range Devices (SRD);
Radio equipment in the frequency range
9 kHz to 25 MHz and inductive loop systems
in the frequency range 9 kHz to 30 MHz;
Part 2: Harmonized EN ~~under~~ article 3.2
of the R&TTE Directive**



ETSI EN 300 330-2 V1.5.1 (2010-02)

Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Short Range Devices (SRD);
Radio equipment in the frequency range
9 kHz to 25 MHz and inductive loop systems
in the frequency range 9 kHz to 30 MHz;
Part 2: Harmonized EN covering the essential requirements
of article 3.2 of the R&TTE Directive**



Reference

REN/ERM-TG28-~~0405-2~~

Keywords

radio, ~~regulation~~, SRD, testing

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Reference

REN/ERM-TG28-0424-2

Keywords

radio, SRD, testing

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Foreword

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

For non EU countries the present document may be used for regulatory (Type Approval) purposes.

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC [i.1] (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 [i.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").

Technical specifications relevant to Directive 1999/5/EC [i.2] are given in annex A.

The present document is part 2 of a multi-part deliverable covering Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz, as identified below:

Part 1: "Technical characteristics and test methods";

Part 2: "Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive "

National transposition dates	
Date of adoption of this EN:	<u>8 February 2010</u>
Date of latest announcement of this EN (doa):	<u>31 May 2010</u>
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	<u>30 November 2010</u>
Date of withdrawal of any conflicting National Standard (dow):	<u>30 November 2011</u>

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 [i.3].

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This ~~Candidate~~ Harmonized European Standard (Telecommunications series) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document is part 2 of a multi-part deliverable covering ~~the~~ Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz, as identified below:

Part 1: "Technical characteristics and test methods";

Part 2: "Harmonized EN ~~under article 3.2 of the R&TTE Directive~~".

~~The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC [4] (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").~~

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

National transposition dates

Date of adoption of this EN:	24 March 2006
Date of latest announcement of this EN (doa):	30 June 2006
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2006
Date of withdrawal of any conflicting National Standard (dow):	31 December 2007

1 Scope

The present document applies to Short Range Devices (SRDs) transmitters and receivers as described in the scope of EN 300 330-1 [1].

The present document covers transmitters intended to operate in the frequency range as defined in the Commission Decision 2006/771/EC [i 4] on harmonisation of the radio spectrum for use by short-range devices as amended by Commission Decision 2008/432/EC [i 6] and the CEPT/ERC/REC 70-03 [i 5].

The document applies to:

- 1) Generic Short range Devices including transmitters operating in the range from 9 kHz to 25 MHz; and
- 2) inductive loop transmitters operating from 9 kHz to 30 MHz including Radio Frequency Identification (RFID) and EAS equipments;
- 3) receivers operating from 9 kHz to 30 MHz.

These radio equipment types are capable of operating in the permitted frequency bands within the 9 kHz to 30 MHz range as specified in table 1:

- either with a Radio Frequency (RF) output connection and dedicated antenna or with an integral antenna;
- for all types of modulation;
- with or without speech.

Table 1 shows a list of the frequency bands as designated to Short Range Devices by some European Commission Decisions and the CEPT/ERC/REC 70-03 [i 5] as known at the date of publication of the present document.

Table 1- Frequency bands designated to Short Range Devices within 9 kHz to 30 MHz

	Frequency Bands/frequencies	Applications
<u>Transmit and Receive</u>	<u>9 kHz to 90 kHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>90 kHz to 119 kHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>119 kHz to 140 kHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>140 kHz to 148.5 kHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>148.5 kHz to 5 MHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>400 kHz to 600 kHz</u>	<u>Inductive devices for RFID only</u>
<u>Transmit and Receive</u>	<u>5 kHz to 30 MHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>3.155 kHz to 3.400 kHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>4.234 kHz</u>	<u>Inductive devices, Railway applications</u>
<u>Transmit and Receive</u>	<u>4.516 kHz</u>	<u>Inductive devices, Railway applications</u>
<u>Transmit and Receive</u>	<u>6.765 kHz to 6.795 kHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>7.400 kHz to 8.800 kHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>10.200 kHz to 11.000 MHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>12.5 MHz to 20 MHz</u>	<u>Inductive devices, Wireless healthcare</u>
<u>Transmit and Receive</u>	<u>13.553 MHz to 13.567 MHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>26.957 MHz to 27.283 MHz</u>	<u>Inductive devices, Generic use</u>
<u>Transmit and Receive</u>	<u>27.095 MHz</u>	<u>Inductive devices, Railway applications</u>

NOTE 1: It should be noted that table 1 represents the most widely implemented position within the European Union and the CEPT countries, but it should not be assumed that all designated bands are available in all countries.

NOTE 2: In addition, it should be noted that other frequency bands may be available in a country within the frequency range 9 kHz to 30 MHz covered by the present document.

NOTE 3: On non-harmonized parameters, national administrations may impose certain conditions such as the type of modulation, frequency, channel/frequency separations, maximum transmitter radiated power, duty cycle, and the inclusion of an automatic transmitter shut-off facility, as a condition for the issue of an Individual Rights for use of spectrum or General Authorization, or as a condition for use under "licence exemption" as it is in most cases for Short Range Devices.

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.

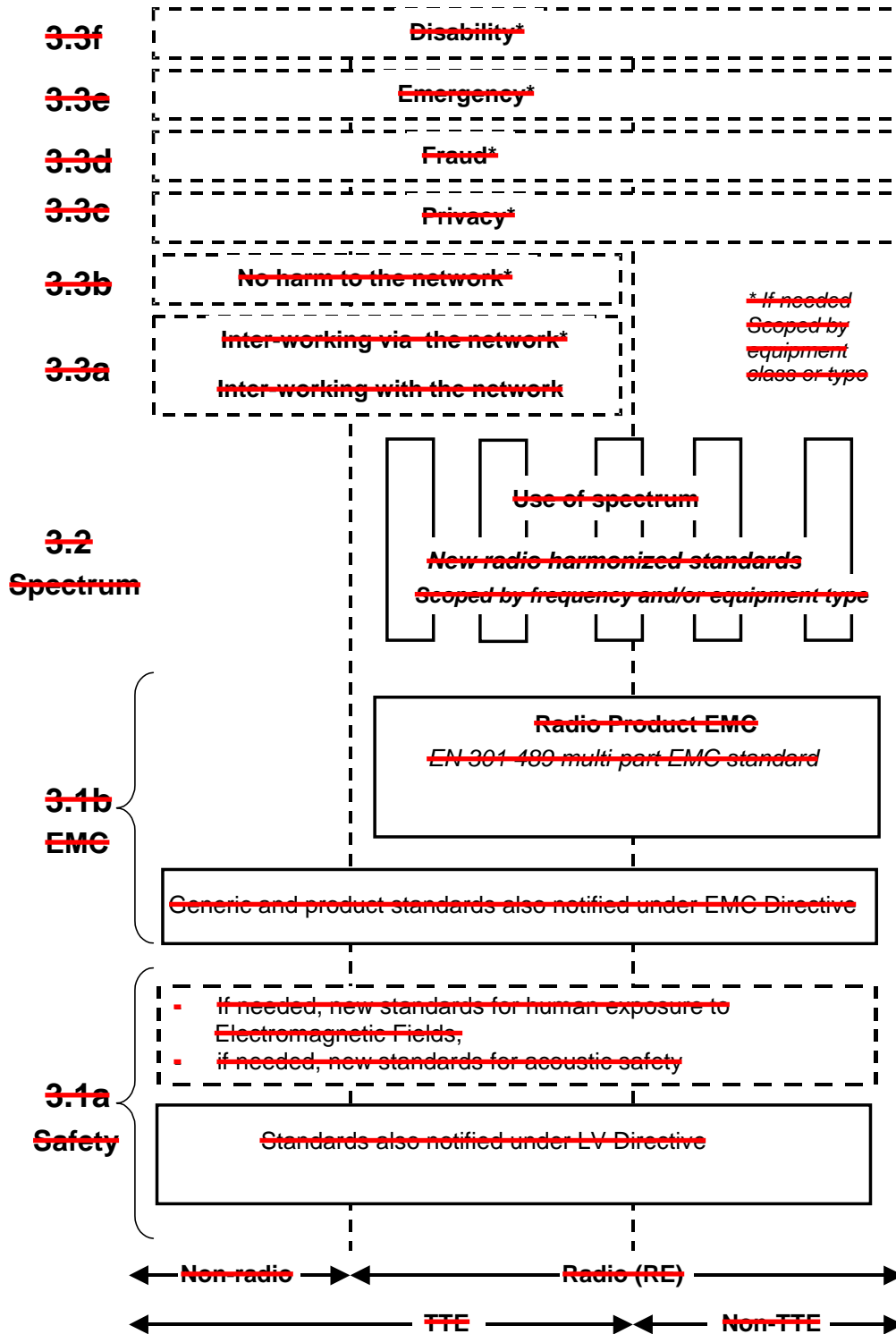


Figure 1. Modular structure for the various standards used under the R&TTE Directive [1]

The present document covers fixed stations, mobile stations and portable stations.

The present document is intended to cover the provisions of article 3.2 of Directive 1999/5/EC [i.2] (R&TTE Directive), 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 may 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>.

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2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ETSI EN 300 330-1 (V1 7.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 1: Technical characteristics and test methods".

2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- [i.1] 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.
- [i.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).
- [i.3] ETSI LEG 201 399 (V2 1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of candidate Harmonized Standards for application under the R&TTE Directive".

~~The left hand edge of the 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 the diagram shows EN 301 489, the multi-part product EMC standard for radio used under the EMC Directive (see bibliography).~~

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

~~The bottom of the figure 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 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 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 decisions~~~~
- ~~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.~~

- [i.4] Commission Decision 2006/771/EC of 9 November 2006 on harmonisation of the radio spectrum for use by short-range devices as amended by Commission Decision 2008/432/EC
- [i.5] CEPT/ERC/REC 70-03: "Relating to the use of Short Range Devices (SRD)"
- [i.6] Commission Decision 2008/432/EC of 23 May 2008 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [i.2] and EN 300 330-1 [1] apply.

3.2 Symbols

For the purposes of the present document, the symbols given in EN 300 330-1 [1] apply.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in EN 300 330-1 [1] apply.

4 Technical requirements specifications

4.1 Environmental conditions

4.1.1 Environmental profile

The technical requirements of the present document apply under the environmental profile for operation of the equipment, which shall be declared by the provider. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the declared operational environmental profile.

4.2 Conformance requirements

4.2.1 Transmitter requirements

4.2.1.1 Permitted range of operating frequencies

The permitted range of operating frequencies shall not exceed the limits specified in clause 7.3.3 of EN 300 330-1 [1].

4.2.1.2 Limits for transmitters in the range from 9 kHz to 30 MHz

The maximum radiated field strength and RF carrier current shall not exceed the limits specified in clause 7.2.1.3 of EN 300 330-1 [1].

The maximum RF carrier current shall not exceed the limits specified in clause 7.2.2.3 of EN 300 330-1 [1].

1 ~~Scope~~

~~The present document applies to Short Range Devices (SRDs) transmitters and receivers as described in the scope of EN 300 330-1 [2].~~

The present document is intended to cover the provisions of article 3.2 of Directive 1999/5/EC [1] ~~(R&TTE Directive)~~ 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".

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>.

- [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] ETSI EN 300 330-1 (~~V1.3.1~~): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 1: Technical characteristics and test methods".
- [3] ~~ETSI TR 100 028 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".~~
- [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.

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 EN 300 330-1 [2]~~ apply.

3.2 Symbols

For the purposes of the present document, the symbols given in EN 300 330-1 [2] apply.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in EN 300 330-1 [2] apply.

4.2.1.3 Limits for the permitted range of modulation bandwidth

The maximum range of modulation bandwidth shall not exceed the limits as specified in clause 7.4.3 of EN 300 330-1 [1].

4.2.1.4 Transmitter spurious and out-of-band emissions

The transmitter unwanted emissions, i.e. spurious and out-of-band emissions, shall not exceed the limits specified in clauses 7.5.2.2, 7.5.2.4 or 7.5.3.2 and 7.5.4.2 of EN 300 330-1 [1].

4.2.2 Receiver requirements

4.2.2.1 Adjacent channel selectivity - in band (receiver category 1 only)

The maximum adjacent channel selectivity of the equipment shall not be less than as stated in clause 8.1.3 of EN 300 330-1 [1].

4.2.2.2 Blocking or desensitisation (receiver categories 1 or 2 only)

The maximum blocking limits of the equipment shall not be less than stated in clause 8.2.3 of EN 300 330-1 [1].

4.2.2.3 Receiver spurious emissions

The receiver spurious emissions shall not exceed the limits specified in clauses 8.3.3.1 or 8.3.3.2 of EN 300 330-1 [1].

5 Testing for compliance with technical requirements

5.1 Environmental conditions for testing

Tests defined in the present document shall be carried out at representative points within the boundary limits of the declared operational environmental profile.

Where technical performance varies subject to environmental conditions, tests shall be carried out under a sufficient variety of environmental conditions (within the boundary limits of the declared operational environmental profile) to give confidence of compliance for the affected technical requirements.

5.2 Essential radio test suites

5.2.1 Transmitter test suites

5.2.1.1 Permitted range of operating frequencies

The test defined in clause 7.3.2 of EN 300 330-1 [1] shall be carried out.

5.2.1.2 Permitted range of the modulation bandwidth

The test defined in clause 7.4.2 of EN 300 330-1 [1] shall be carried out.

5.2.1.3 Emission limits for transmitters in the range from 9 kHz to 30 MHz

The tests defined in clauses 7.2.1.2, 7.2.2.2 or 7.2.3.2 of EN 300 330-1 [1] shall be carried out.

~~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, which shall be declared by the ~~supplier~~. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the declared operational environmental profile.

~~4.2 Conformance requirements~~

~~4.2.1 Transmitter requirements~~

~~4.2.1.1 Radiated H field~~

~~The radiated H-field, as defined in EN 300 330-1 [2], clause 7.2.1.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.2.1.3, table 4.~~

~~This requirement applies to transmitters with an integral or dedicated loop antenna.~~

~~4.2.1.2 RF carrier current~~

~~The RF carrier current, as defined in EN 300 330-1 [2], clause 7.2.2.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.2.2.3, table 5.~~

~~This requirement only applies to Product Class 3, as defined in EN 300 330-1 [2], clause 7.1.4.~~

~~4.2.1.3 Radiated E-field~~

~~The radiated E-field, as defined in EN 300 330-1 [2], clause 7.2.3.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.2.3.3. This requirement only applies to Product Class 4, as defined in EN 300 330-1 [2], clause 7.1.4.~~

~~4.2.1.4 Permitted frequency range of the modulation bandwidth~~

~~The permitted range of operation frequencies, as defined in EN 300 330-1 [2], clause 7.3.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.3.3.~~

~~4.2.1.5 Spurious emissions~~

~~4.2.1.5.1 Conducted spurious emissions at frequencies below 30 MHz~~

~~The conducted spurious emissions below 30 MHz, as defined in EN 300 330-1 [2], clause 7.4.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.4.2.2.~~

~~This requirement only applies to Product Class 3 as defined in EN 300 330-1 [2], clause 7.1.4.~~

~~4.2.1.5.2 Conducted spurious emissions at frequencies \geq 30 MHz~~

~~The conducted spurious emissions at or above 30 MHz, as defined in EN 300 330-1 [2], clause 7.4.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.4.2.4, table 6.~~

~~This requirement only applies to Product Class 3 as defined in EN 300 330-1 [2], clause 7.1.4.~~

5.2.1.4 Transmitter spurious and out-of-band emissions

The tests defined in clauses 7.5.2.1, 7.5.2.3, 7.5.3.1 or 7.5.4.1 of EN 300 330-1 [1] shall be carried out.

5.2.2 Receiver test suites

5.2.2.1 Adjacent channel selectivity (receiver category 1 only)

The test defined in clause 8.1.2 of EN 300 330-1 [1] shall be carried out.

5.2.2.2 Blocking or desensitisation (receiver categories 1 or 2 only)

The test defined in clause 8.2.2 of EN 300 330-1 [1] shall be carried out.

5.2.2.3 Receiver spurious emissions

The test defined in clause 8.3.2 of EN 300 330-1 [1] shall be carried out.

5.3 Interpretation of results and measurement uncertainty

Clauses 9 and 10 of EN 300 330-1 [1] shall apply.

~~4.2.1.5.3 Radiated spurious emissions at frequencies below 30 MHz~~

~~The radiated spurious emissions below 30 MHz, as defined in EN 300 330-1 [2], clause 7.4.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.4.3.2, table 7.~~

~~This requirement applies to all transmitters.~~

~~4.2.1.5.4 Radiated spurious emissions at frequencies \geq 30 MHz~~

~~The radiated spurious emissions at or above 30 MHz, as defined in EN 300 330-1 [2], clause 7.4.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.4.4.2, table 8.~~

~~This requirement applies to all transmitters.~~

~~4.2.1.6 Duty cycle~~

~~The duty cycle, as defined in EN 300 330-1 [2], clause 7.5.1, shall not exceed the limits in EN 300 330-1 [2], clause 7.5.3, table 9.~~

~~This requirement applies to all transmitters.~~

4.2.2 Receiver requirements

4.2.2.1 Adjacent channel selectivity - in band

~~The adjacent channel selectivity in band, as defined in EN 300 330-1 [2], clause 8.1.1, shall not be less than the limits in EN 300 330-1 [2], clause 8.1.3, table 10.~~

~~This requirement applies to receiver class 1, when invoked, as defined in EN 300 330-1 [2], clauses 4.1.1 and 8.1.~~

~~4.2.2.2 Blocking or desensitization~~

~~The blocking or desensitization, as defined in EN 300 330-1 [2], clause 8.2.1, shall not be less than the limits in EN 300 330-1 [2], clause 8.2.3, table 11.~~

~~This requirement applies to class 1 and class 2 receivers, when invoked, as defined in EN 300 330-1 [2], clause 4.1.1.~~

~~4.2.2.3 Receiver spurious radiations~~

~~4.2.2.3.1 Radiated emissions below 30 MHz~~

~~The spurious radiations below 30 MHz, as defined in EN 300 330-1 [2], clause 8.3.1, shall not exceed the limits in EN 300 330-1 [2], clause 8.3.3.1, table 12.~~

~~4.2.2.3.2 Radiated emissions \geq 30 MHz~~

~~The spurious radiations at 30 MHz or above, as defined in EN 300 330-1 [2], clause 8.3.1, shall not exceed the limits in EN 300 330-1 [2], clause 8.3.3.2.~~

Annex A (normative):

HS Requirements and conformance Test specifications

Table (HS-RTT)

The HS Requirements and conformance Test specifications Table (HS-RTT) in table A.1 serves a number of purposes, as follows:

- it provides a statement of all the requirements in words and by cross reference to (a) specific clause(s) in the present document or to (a) specific clause(s) in (a) specific referenced document(s);
- it provides a statement of all the test procedures corresponding to those requirements by cross reference to (a) specific clause(s) in the present document or to (a) specific clause(s) in (a) specific referenced document(s);
- it qualifies each requirement to be either:
 - Unconditional: meaning that the requirement applies in all circumstances; or
 - Conditional: meaning that the requirement is dependent on the manufacturer having chosen to support optional functionality defined within the schedule.
- in the case of Conditional requirements, it associates the requirement with the particular optional service or functionality;
- it qualifies each test procedure to be either:
 - Essential: meaning that it is included with the Essential Radio Test Suite and therefore the requirement shall be demonstrated to be met in accordance with the referenced procedures;
 - Other: meaning that the test procedure is illustrative but other means of demonstrating compliance with the requirement are permitted.

Table A 1- HS Requirements and conformance Test specifications Table (HS-RTT)

Harmonized Standard EN 300 330-2						
The following requirements and test specifications are relevant to the presumption of conformity under <u>the article 3.2 of the R&TTE Directive</u>						
<u>Requirement</u>			<u>Requirement Conditionality</u>		<u>Test Specification</u>	
<u>No</u>	<u>Description</u>	<u>Reference: Clause No</u>	<u>U/C</u>	<u>Condition</u>	<u>E/O</u>	<u>Reference: Clause No</u>
<u>1</u>	<u>Permitted range of operating frequencies</u>	<u>4.2.1.1</u>	<u>U</u>		<u>E</u>	<u>5.2.1.1</u>
<u>2</u>	<u>Limits for transmitters</u>	<u>4.2.1.2</u>	<u>U</u>		<u>E</u>	<u>5.2.1.3</u>
<u>3</u>	<u>Limits for permitted range of modulation bandwidth</u>	<u>4.2.1.3</u>	<u>U</u>		<u>E</u>	<u>5.2.1.2</u>
<u>4</u>	<u>Transmitter spurious and out of band emissions</u>	<u>4.2.1.4</u>	<u>U</u>		<u>E</u>	<u>5.2.1.4</u>
<u>5</u>	<u>Receiver adjacent channel selectivity</u>	<u>4.2.2.1</u>	<u>C</u>	<u>Receiver category 1 only. This requirement does not apply for tagging systems.</u>	<u>E</u>	<u>5.2.2.1</u>
<u>6</u>	<u>Receiver blocking or desensitisation</u>	<u>4.2.2.2</u>	<u>C</u>	<u>Receiver categories 1 and 2 only. Blocking requirement does not apply for tagging systems.</u>	<u>E</u>	<u>5.2.2.2</u>
<u>7</u>	<u>Receiver spurious emissions</u>	<u>4.2.2.3</u>	<u>U</u>		<u>E</u>	<u>5.2.2.3</u>

5 Testing for compliance with technical requirements

5.1 ~~Description of testing for compliance with technical requirements~~

5.1.1 ~~Environmental conditions for testing~~

5.1.1.1 ~~Normal and extreme test conditions~~

~~The tests shall be made under normal test conditions, and also, where stated, under extreme test conditions.~~

~~The test conditions shall be as specified in EN 300 330-1 [2], clauses 5.3, 5.4.1.1 and 5.4.2.~~

5.1.1.2 ~~Test power source~~

~~The test power source shall meet the requirements of EN 300 330-1 [2], clause 5.2.~~

5.1.2 ~~Choice of samples for test suites~~

~~Measurement shall be performed, according to the present document, on samples of equipment defined in EN 300 330-1 [2], clauses 4.2.1 to 4.2.4.~~

5.1.3 ~~Transmitter test suites~~

5.1.3.1 ~~Radiated H field~~

- ~~The test specified in EN 300 330-1 [2], clause 7.2.1.2, shall be carried out.~~

~~This test suite applies for Product Class 1 transmitters with an integral or dedicated antenna and class 2 transmitters with a customized antenna.~~

5.1.3.2 ~~RF carrier current~~

- ~~The test specified in EN 300 330-1 [2], clause 7.2.2.2, shall be carried out.~~

~~This test suite applies for Product Class 3 transmitters supplied without antenna.~~

5.1.3.3 ~~Radiated E field~~

- ~~The test specified in EN 300 330-1 [2], clause 7.2.3.2, shall be carried out.~~

~~This test suite applies for Product Class 4 transmitters with an integral or dedicated antenna.~~

5.1.3.4 ~~Permitted frequency range of the modulation bandwidth~~

- ~~The test specified in EN 300 330-1 [2], clause 7.3.2, shall be carried out.~~

~~This test suite applies to all transmitters.~~

5.1.3.5 ~~Conducted spurious emissions at frequencies below 30 MHz~~

- ~~The test specified in EN 300 330-1 [2], clause 7.4.2.1 shall be carried out.~~

~~This test suite only applies to Product Class 3 as defined in EN 300 330-1 [2], clause 7.1.4.~~

Key to columns:**Requirement:**

- No** A unique identifier for one row of the table which may be used to identify a requirement or its test specification.
- Description** A textual reference to the requirement.
- Clause Number** Identification of clause(s) defining the requirement in the present document unless another document is referenced explicitly.

Requirement Conditionality:

- U/C** Indicates whether the requirement is to be *unconditionally* applicable (U) or is *conditional* upon the manufacturers claimed functionality of the equipment **L**.
- Condition** Explains the conditions when the requirement shall or shall not be applicable for a technical requirement which is classified "conditional".

Test Specification:

- E/O** Indicates whether the test specification forms part of the *Essential Radio Test Suite* (E) or whether it is one of the *Other Test Suite* (O).

NOTE: All tests whether "E" or "O" are relevant to the requirements. Rows designated "E" collectively make up the Essential Radio Test Suite; those designated "O" make up the Other Test Suite; for those designated "X" there is no test specified corresponding to the requirement. The completion of all tests classified "E" as specified with satisfactory outcomes is a necessary condition for a presumption of conformity. Compliance with requirements associated with tests classified "O" or "X" is a necessary condition for presumption of conformity, although conformance with the requirement may be claimed by an equivalent test or by manufacturer's assertion supported by appropriate entries in the technical construction file.

- Clause Number** Identification of clause(s) defining the test specification in the present document unless another document is referenced explicitly. Where no test is specified (that is, where the previous field is "X") this field remains blank.

~~5.1.3.6 Conducted spurious emissions at frequencies \geq 30 MHz~~

- ~~The test specified in EN 300 330-1 [2], clause 7.4.2.3 shall be carried out.~~
- ~~This test suite only applies to Product Class 3 as defined in EN 300 330-1 [2], clause 7.1.4.~~

~~5.1.3.7 Radiated spurious emissions at frequencies below 30 MHz~~

- ~~The test specified in EN 300 330-1 [2], clause 7.4.3.1 shall be carried out.~~
- ~~This test suite applies to all transmitters.~~

~~5.1.3.8 Radiated spurious emissions at frequencies \geq 30 MHz~~

- ~~The test specified in EN 300 330-1 [2], clause 7.4.4.1, shall be carried out.~~
- ~~This test suite applies to all transmitters.~~

~~5.1.4 Receiver test suites~~

~~5.1.4.1 Adjacent channel selectivity-in band~~

- ~~The test specified in EN 300 330-1 [2], clause 8.1.2, shall be carried out.~~
- ~~This test suite applies to all Class 1 receivers.~~

~~5.1.4.2 Blocking and desensitization~~

- ~~The test specified in EN 300 330-1 [2], clause 8.2.2, shall be carried out.~~
- ~~This test suite applies to all Class 1 and Class 2 receivers.~~

~~5.1.4.3 Receiver spurious radiation~~

- ~~The test specified in EN 300 330-1 [2], clause 8.3.2, shall be carried out.~~
- ~~This test suite applies to all receivers.~~

~~5.2 Interpretation of measurement results~~

~~The interpretation of the results recorded in the test report for the measurements described in the present document shall be as follows:~~

- ~~the measured value related to the corresponding limit shall be used to decide whether an equipment meets the requirements of the present document,~~
- ~~the value of the measurement uncertainty for the measurement of each parameter shall be separately included in the test report,~~
- ~~the value of the measurement uncertainty shall be, for each measurement, equal to or lower than the figures in table 1.~~

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

The enlargement of the European Union (EU) resulted in a requirement from the EU for a larger number of languages for the translation of the titles of Harmonized Standards and mandated ENs that are to be listed in the Official Journal to support the implementation of this legislation.

For this reason the title translation concerning the present document can be consulted via the [e-approval](#) application.

Table 1: Measurement uncertainty

Radio frequency	$\pm 1 \times 10^{-7}$
RF power, conducted	± 1 dB
Conducted emission of receivers	± 1 dB
Radiated emission of transmitter	± 6 dB
Radiated emission of receiver	± 6 dB
Temperature	± 1 degree
Humidity	± 5 %

~~For the test methods, according to the present document the uncertainty figures shall be calculated according to the methods described in the TR 100 028 [3] and shall correspond to an expansion factor (coverage factor) $k = 1,96$ or $k = 2$ (which provide confidence levels of respectively 95 % and 95,45 % in case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).~~

~~Table 1 is based on such expansion factors.~~

~~The particular expansion factor used for the evaluation of the measurement uncertainty shall be stated.~~

Annex C (informative):

Bibliography

- 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).
- 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 (LV Directive).

~~Annex A (normative):~~ ~~EN Requirements Table (EN-RT)~~

~~Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the EN-RT proforma in this annex so that it can be used for its intended purposes and may further publish the completed EN-RT.~~

~~The EN Requirements Table (EN-RT) in table A.1 below serves a number of purposes, as follows:~~

- ~~it provides a statement of all the essential requirements in words and by cross reference to a specific clause in the present document or to a specific clause in a specific referenced document;~~
- ~~it provides a statement of all the test procedure corresponding to those essential requirements by cross reference to specific clause(s) in the present document or to a specific clause(s) in specific referenced document(s);~~
- ~~it qualifies each requirement to be either:~~
 - ~~Unconditional meaning that the requirement applies in all circumstances, or~~
 - ~~Conditional meaning that the requirement is dependent on the supplier having chosen to support optional functionality defined within the schedule;~~
- ~~in the case of Conditional requirements, it associates the requirement with the particular optional service or functionality;~~
- ~~it qualifies each test procedure to be either:~~
 - ~~Essential: meaning that it is included with the Essential Radio Test Suite and therefore the requirement shall be demonstrated to be met in accordance with the referenced procedures;~~
 - ~~Other: meaning that the test procedure is illustrative but other means of demonstrating compliance with the requirement are permitted;~~
- ~~when the schedule is completed in respect of a particular equipment including the testing outcomes, including a completed version of table A.1 it provides a means to assert the "presumption of conformity" with the HS.~~

History

Document history		
Edition 1	December 1994	Publication as I-ETS 300 330
Amendment 1	January 1997	Amendment 1 to 1 st Edition of I-ETS 300 330
V1.2.2	May 1999	Publication as EN 300 330
V1.1.1	June 2001	Publication
V1 3 1	April 2006	Publication
V1 4 1	March 2009	Public Enquiry PE 20090712: 2009-03-14 to 2009-07-13
V1 5 1	December 2009	Vote V 20100206: 2009-12-08 to 2010-02-08
V1 5 1	February 2010	Publication

~~Table A.1: EN Requirements Table (EN-RT)~~

Harmonized Standard EN 300 330-2							
The following technical requirements and test specifications are relevant to the presumption of conformity under article 3.2 of the R&TTE Directive							
Technical Requirement reference			Technical Requirement Conditionality		Test Specification		
No	Description	Reference: Clause No	U/C	Condition	E/O	Reference: Clause No	Observations
1	Radiated H-field	4.2.1.1	⊖	Applies to transmitters with an integral or dedicated loop antenna.	E	5.1.3.1	
2	RF carrier current	4.2.1.2	⊖	Applies to Product Class 3, as defined in EN 300 330-1 [2], clause 7.1.4.	E	5.1.3.2	
3	Radiated E-field	4.2.1.3	⊖	Applies to Product Class 4, as defined in EN 300 330-1 [2], clause 7.1.4.	E	5.1.3.3	
4	Permitted frequency range of the modulation bandwidth	4.2.1.4	U		E	5.1.3.4	
5	Conducted spurious emissions at frequencies below 90 MHz	4.2.1.5.1	⊖	Applies to Product Class 3 as defined in EN 300 330-1 [2], clause 7.1.4.	E	5.1.3.5	
6	Conducted spurious emissions at frequencies ≥ 90 MHz	4.2.1.5.2	⊖	Applies to Product Class 3 as defined in EN 300 330-1 [2], clause 7.1.4.	E	5.1.3.6	
7	Radiated spurious emissions at frequencies below 90 MHz	4.2.1.5.3	U		E	5.1.3.7	
8	Radiated spurious emissions at frequencies ≥ 90 MHz	4.2.1.5.4	U		E	5.1.3.8	
9	Duty cycle	4.2.1.6	U		X		
10	Adjacent channel selectivity in band	4.2.2.1	⊖	Applies to receiver class 1, when invoked, as defined in EN 300 330-1 [2], clauses 4.1.1 and 8.1.	⊖	5.1.4.1	
11	Blocking or desensitization	4.2.2.2	⊖	Applies to class 1 and class 2 receivers, when invoked, as defined in EN 300 330-1 [2], clause 4.1.1.	⊖	5.1.4.2	
12	Radiated emissions below 90 MHz	4.2.2.3.1	U		E	5.1.4.3	
13	Radiated emissions ≥ 90 MHz	4.2.2.3.2	U		E	5.1.4.4	

Key to columns:

~~Essential Requirement:~~

- No A unique identifier for one row of the table which may be used to identify an ~~essential~~ requirement or its test specification.
- Description A textual reference to the ~~Essential Requirement~~.
- ~~Reference: Clause Number~~ Identification of clause(s) defining the ~~essential~~ requirement in the present document unless another document is referenced explicitly.

Conditionality:

- U/C** Indicates whether the requirement is to be *unconditionally* applicable (U) or is *conditional* upon the ~~suppliers~~ claimed functionality of the equipment (~~C~~).
- Condition** Explains the conditions when the requirement shall or shall not be applicable for a requirement which is classified "conditional".

Test Specification:

- E/O** Indicates whether the test specification forms part of the *Essential Radio Test Suite* (E) or whether it is one of the *Other Test Suite* (O).

NOTE: ~~All tests whether 'E' or 'O' are relevant to essential requirements. Tests designated 'E' collectively make up the Essential Radio Test Suite; those designated 'O' make up the Other Test Suite. For those requirements for which no test specification applies are designated 'X'. All tests classified 'E' shall be performed as specified with satisfactory outcomes in order to allow a presumption of conformity. Requirements associated with tests classified 'O' or 'X' must be complied with although the requirement shall be complied with as demonstrated by an equivalent test or by assertion by the supplier and asserted to be complied with to allow presumption of conformity.~~

- ~~**Reference: Clause Number** Identification of clause(s) defining the test specification in the ~~present~~ document unless another document is referenced explicitly. Where no test is specified (that is, where the previous field is 'X') this field ~~remains blank~~.~~

- ~~**Observations:** ~~Remains blank in the HS but is available for use for users of the standard to record the outcome of tests against each requirement.~~~~

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

Language	EN title
Czech	Elektromagnetická kompatibilita a rádiové spektrum (ERM); Zařízení krátkého dosahu (GRD); Rádiová zařízení pracující v kmitočtovém rozsahu 0 kHz až 25 MHz a systémy s indukční smyčkou v kmitočtovém rozsahu 0 kHz až 30 MHz; Část 2: Harmonizovaná EN podle článku 3.2 Směrnice R&TTE
Danish	Elektromagnetisk kompatibilitet og spektrumanliggender (ERM); Apparater med kort rækkevidde (GRD); Radioudstyr som benytter frekvenser mellem 0 kHz og 25 MHz samt induktive sløjfer mellem 0 kHz og 30 MHz; Del 2: Harmoniseret EN, som dækker de væsentlige krav i R&TTE direktivets artikel 3.2
Dutch	Elektromagnetische compatibiliteit en radiospectrumzaken (ERM); apparatuur ten behoeve van kortafstandscommunicatie (SRD); radioapparatuur in het frequentiegebied van 0 kHz tot 25 MHz en systemen gebruikmakend van een inductieve lus in het frequentiegebied van 0 kHz tot 30 MHz; deel 2: Geharmoniseerde EN onder artikel 3, lid 2, van Richtlijn 1999/5/EG
English	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 0 kHz to 25 MHz and inductive loop systems in the frequency range 0 kHz to 30 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
Estonian	Elektromagnetilise ühilduvuse ja raadiospektri küsimused (ERM); Lähitoimeseadmed; Raadiosagedusalas 0 kHz kuni 25 MHz töötavad raadioseadmed ja sagedusalas 0 kHz kuni 30 MHz töötavad induktiivseadmed; Osa 2: Harmoniseeritud EN R&TTE direktiivi artikli 3.2 alusel
Finnish	Gähkömagneettinen yhteensopivuus ja radiospektriasiat (ERM); Lyhyen kantaman laitteet; Taajuusalueella 0 kHz – 25 MHz toimivat radiolaitteet sekä taajuusalueella 0 kHz – 30 MHz toimivat induktiivimukkatjärjestelmät; Osa 2: R&TTE direktiivin artiklaan 3.2 perustuva yhdenmukaistettu standardi
French	Télécommunications – CEM et spectre radioélectrique (ERM); Appareils à faible portée (SRD); Équipements radioélectriques dans la bande de fréquences 0 kHz à 25 MHz et systèmes à boucle d'induction de 0 kHz à 30 MHz; Partie 2: EN harmonisée couvrant l'article 3.2 de la Directive R&TTE
German	Elektromagnetische Verträglichkeit und Funkpektrumsangelegenheiten (ERM); Funkanlagen mit geringer Reichweite (SRD); Funkgeräte im Frequenzbereich 0 kHz bis 25 MHz und induktive Schleifensysteme im Frequenzbereich 0 kHz bis 30 MHz; Teil 2: Harmonisierte EN nach Artikel 3.2 der R&TTE Richtlinie
Greek	Ηλεκτρομαγνητική συμβατότητα και θέματα ραδιοφάσματος (ERM); Συσκευές μικρής εμβέλειας (SRD); Ραδιοεξοπλισμός στην περιοχή συχνοτήτων 0 kHz ως 25 MHz και συστήματα επαγωγικού βρόχου στην περιοχή συχνοτήτων 0 kHz ως 30 MHz; Μέρος 2: Ευαρμονισμένο EN για την κάλυψη του Άρθρου 3.2 της Οδηγίας R&TTE
Hungarian	Elektromágneses összeférhetőségi és rádióspektrumügyek (ERM); Kis hatótávolságú eszközök (SRD); A 0 kHz – 25 MHz-es sáv rádióberendezései és a 0 kHz – 30 MHz-es sáv induktív hurokos rendszerei; 2. rész: Az R&TTE irányelv 3.2. cikkelye alá tartozó, harmonizált európai szabvány
Icelandic	Þættir sem varða rafsegulviðsamskipti og fjarskipti (ERM); Okkamdrög tecki (GRD); Þráðlaus fjarskiptabúnaður á tíðnisviðinu 0 kHz til 25 MHz og með spanlykkjukerfi á tíðnisviðinu 0 kHz til 30 MHz; 2. hluti: Samræmdur Evrópustaðall skv. 2. mgr. 3. gr. í tilskipun 1000/5/EC um fjarskiptabúnað og endabúnað til fjarskipta
Italian	Compatibilità elettromagnetica e Questioni relative allo spettro delle radiofrequenze (ERM); Dispositivi a breve portata (SRD); apparecchiature radio da utilizzare nella gamma di frequenze da 0 kHz a 25 MHz e sistemi con spire induttive nella gamma di frequenza da 0 kHz a 30 MHz; Parte 2: Norma armonizzata relativa ai requisiti essenziali dell'articolo 3.2 della direttiva R&TTE
Latvian	Elektromagnētiskā sadarbība un radiofrekvenču spektra jautājumi (ERM); Maza darbības attāluma ierīces (SRD); Radioiekārtas frekvenču joslā no 0 kHz līdz 25 MHz un induktīvās cilpas sistēmas frekvenču joslā no 0 kHz līdz 30 MHz; 2.daļa: Harmonizēts Eiropas standarts (EN), kas atbilst R&TTE Direktīvas 3.2.punktam
Lithuanian	Elektromagnetinio suderinamumo ir radijo dažnių spektro dalykai. Mažoji nuotolio įranga (MNI). Radijo ryšio įranga, veikianti nuo 0 kHz iki 25 MHz dažnių diapazone, ir induktyviosios kilpos sistemos, veikiančios nuo 0 kHz iki 30 MHz dažnių diapazone; 2 dalis. Damusis Europos standartas pagal 1000/5/EC direktyvos 3.2 straipsnį
Maltese	Kompatibilità elettromanjetika u materji relatati ma' spettru radjofoniku (ERM); Apparati ta' Medda Qasira (SRD); Tagħmir radjofoniku fil-medda tal-frekwenzi 0 kHz sa 25 MHz u sistemi induttivi ta' kontroll ta' riġiġ lura ta' sinjali miġbħuta fil-medda ta' frekwenzi 0 kHz sa 30 MHz; Parti 2: EN armonizzata taħt l-artiklu 3.2 tad-Direttiva R&TTE
Norwegian	Elektromagnetisk kompatibilitet og radiospektrums spørsmål (ERM); Kortdistanseutstyr (SRD); Radioutstyr i frekvensområdet 0 kHz til 25 MHz og induktive sløyfesystemer i frekvensområdet 0 kHz til 30 MHz; Del 2: Harmonisert EN under R&TTE direktivets artikkel 3.2

Language	EN title
Polish	Kompatybilność elektromagnetyczna i zagadnienia widma radiowego (ERM) – Urządzenia bliskiego zasięgu (SRD) – Urządzenia radiowe pracujące w zakresie częstotliwości od 9 kHz do 25 MHz i systemy z pętlą indukcyjną pracujące w zakresie częstotliwości od 9 kHz do 30 MHz – Część 2: Zharmonizowana EN zgodna z wymaganiami artykułu 3.2 dyrektywy R&TTE
Portuguese	Assuntos de Espectro Radioelétrico e Compatibilidade Electromagnética (ERM); Equipamento de curto alcance (SRD); Equipamento de rádio para a faixa de frequências de 9 kHz a 25 MHz e sistemas indutivos na faixa de frequências de 9 kHz a 30 MHz; Parte 2: EN Harmonizada no âmbito do artigo 3º, nº 2, da Directiva R&TTE
Slovak	Elektromagnetická kompatibilita a záležitosti rádiového spektra (ERM); Zariadenia s krátkym dosahom (SRD); Radiové zariadenia vo frekvenčnom rozsahu od 9 kHz do 25 MHz a systémy s indukčnou slučkou vo frekvenčnom rozsahu od 9 kHz do 30 MHz – Časť 2: Harmonizovaná EN podľa článku 3.2 smernice R&TTE
Slovenian	Elektromagnetna združljivost in zadeve v zvezi z radijskim spektrom (ERM) – Naprave kratkega dosega (SRD) – Radijska oprema v frekvenčnem območju od 9 kHz do 25 MHz in sistemi z indukcijsko zanko v frekvenčnem območju od 9 kHz do 30 MHz – 2. del. Harmonizirani EN v skladu s členom 3.2 direktive R&TTE
Spanish	
Swedish	Elektromagnetisk kompatibilitet och radiospektrumfrågor (ERM); Kortdistansutrustningar (SRD); Radioutrustning i frekvensområdet 9 kHz till 25 MHz och induktiva slingsystem i frekvensområdet 9 kHz till 30 MHz; Del 2: Harmoniserad EN enligt artikel 3.2 i R&TTE-direktivet

~~Annex C (informative): Bibliography~~

- ~~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".~~
- ~~ETSI EN 301 489-3: "Electromagnetic compatibility and Radio spectrum Matters (ERM), ElectroMagnetic Compatibility (EMC) standard for radio equipment and services, Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz".~~
- ~~ERC/DEC(01)13: "ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for inductive applications operating in the frequency bands 9 - 59.750 kHz, 59.750 - 60.250 kHz, 60.250 - 70 kHz, 70 - 119 kHz, 119 - 135 kHz".~~
- ~~ERC/DEC(01)14: "ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for inductive applications operating in the frequency bands 6765 - 6795 kHz, 13.553 - 13.567 MHz".~~
- ~~ERC/DEC(01)15: "ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for inductive applications operating in the frequency band 7400 - 8800 kHz".~~
- ~~ERC/DEC(01)16: "ERC Decision of 12 March 2001 on harmonised frequencies, technical characteristics and exemption from individual licensing of Short Range Devices used for inductive applications operating in the frequency band 26.957 - 27.283 MHz".~~
- 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).
- 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 (LV Directive).

History

Document history		
Edition 1	December 1994	Publication as I-ETS 300 330
Amendment 1	January 1997	Amendment 1 to 1 st Edition of I-ETS 300 330
V1.2.2	May 1999	Publication as EN 300 330
V1.1.1	June 2001	Publication
V1.2.1	November 2004	Public Enquiry PE 20050325. 2004-11-24 to 2005-03-25
V1.2.1	June 2005	Vote V 20050826. 2005-06-27 to 2005-08-26 (Vote stopped)
V1.3.1	January 2006	Vote V 20060324. 2006-01-23 to 2006-03-24
V1.3.1	April 2006	Publication

