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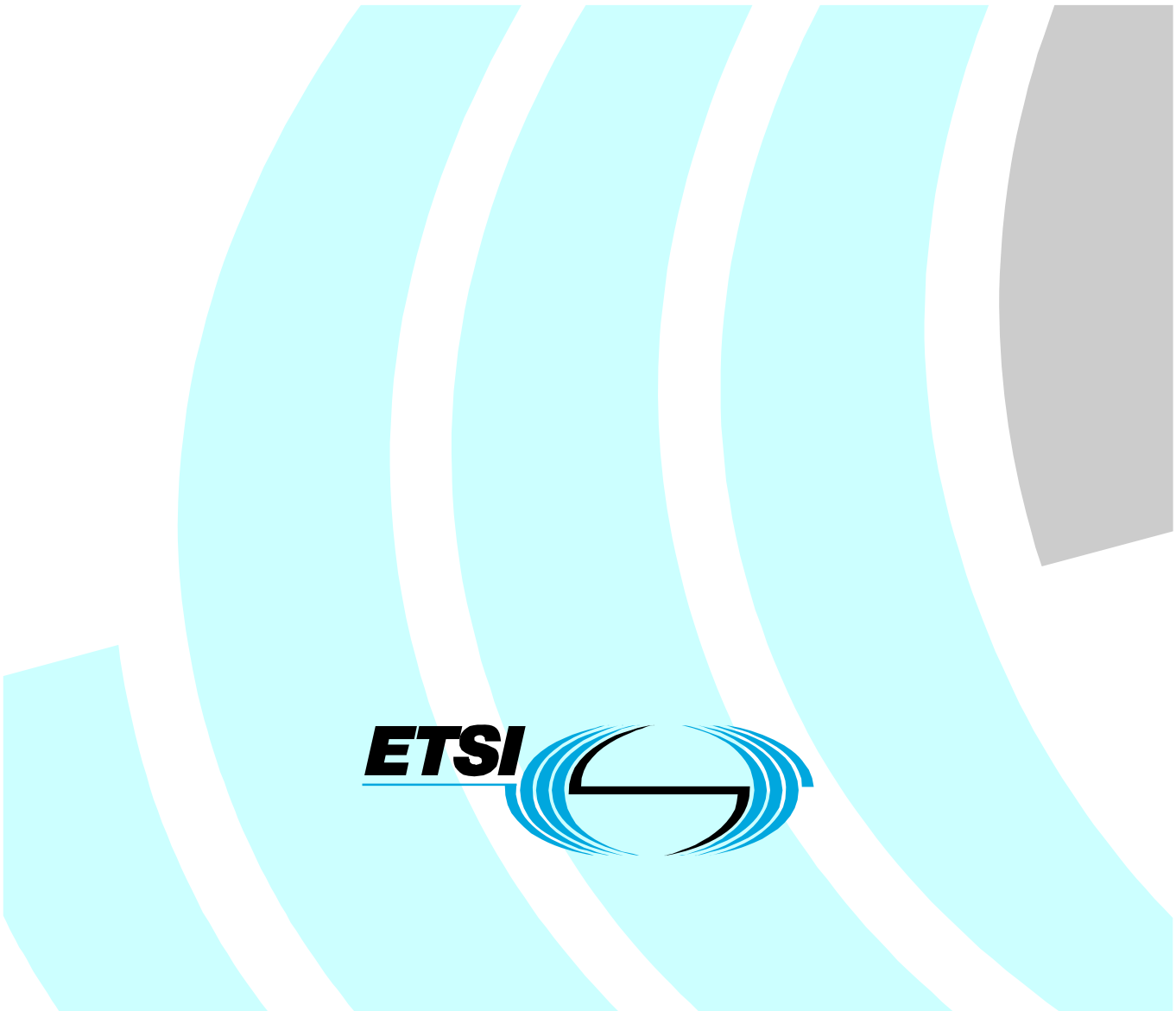
Harmonized European Standard (Telecommunications series)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive



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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
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Contents

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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), and is now submitted for the Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

The present document includes improvements to the previous version of the standard that take advantage of technical developments within the SRD industry.

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC [3] (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 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") [1].

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

The present document is part 2 of a multi-part deliverable covering the Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW, as identified below:

Part 1: "Technical characteristics and test methods";

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

NOTE: Version 2 of this multi-part deliverable consists of two parts. In contrast with earlier versions which consisted of three parts.

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	18 months after doa

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 [1]. The modular structure is shown in EG 201 399 [4].

1 Scope

The present document applies to the following Short Range Device major equipment types:

1) Generic Short Range Devices, including alarms, identification systems, radio-determination, telecommand, telemetry etc.;

2) Radio Frequency IDentification (RFID);

3) Detection, movement and alert applications.

These radio equipment types are capable of operating in the permitted frequency bands within the 1 GHz to 40 GHz 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 by the European Commission Decision on Short Range Devices and the CEPT/ERC/REC 70-03 [5] as known at the date of publication of the present document.

Table 1: Short Range Devices within the 25 MHz to 1 000 MHz permitted frequency bands

	Frequency Bands/Frequencies	Applications
Transmit and Receive	26,995 MHz, 27,045 MHz, 27,095 MHz, 27,145 MHz, 27,195 MHz, 34,995 MHz to 35,225 MHz, 40,665 MHz, 40,675 MHz, 40,685 MHz, 40,695 MHz	Model control
Transmit and Receive	26,957 MHz to 27,283 MHz	Generic use
Transmit and Receive	40,660 MHz to 40,700 MHz	Generic use
Transmit and Receive	138,200 MHz to 138,450 MHz	Generic use
Transmit and Receive	169,400 MHz to 169,475 MHz	Tracking, tracing and data acquisition and meter reading
Transmit and Receive	169,475 MHz to 169,4875 MHz	Social alarms
Transmit and Receive	169,5875 MHz to 169,6000 MHz	Social alarms
Transmit and Receive	433,050 MHz to 434,790 MHz	Generic use
Transmit and Receive	863,000 MHz to 870,000 MHz	Generic use
Transmit and Receive	864,800 MHz to 865,000 MHz	Wireless audio applications
Transmit and Receive	868,000 MHz to 868,600 MHz	Generic use
Transmit and Receive	868,600 MHz to 868,700 MHz	Alarms
Transmit and Receive	868,700 MHz to 869,200 MHz	Generic use
Transmit and Receive	869,200 MHz to 869,250 MHz	Social alarms
Transmit and Receive	869,250 MHz to 869,300 MHz	Alarms (0,1 % duty cycle)
Transmit and Receive	869,300 MHz to 869,400 MHz	Alarms (1 % duty cycle)
Transmit and Receive	869,400 MHz to 869,650 MHz	Generic use
Transmit and Receive	869,650 MHz to 869,700 MHz	Alarms

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 25 MHz to 1 000 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.

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

Applications using Ultra Wide Band (UWB) technology are not covered by the present document.

The present document does not require measurements for radiated emissions below 25 MHz.

2 References

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.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
  - for informative references.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

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] 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 300 220-1 (V2.2.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods".

[3] 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.

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.

[4] ETSI EG 201 399: "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of candidate Harmonized Standards for application under the R&TTE Directive".

[5] CEPT/ERC/REC 70-03: "Relating to the use of Short Range Devices (SRD)".

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 300 220-1 [2] apply.

3.2 Symbols

For the purposes of the present document, the symbols given in EN 300 220-1 [2] apply.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in EN 300 220-1 [2] apply.

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 Frequency error and frequency drift

One of the following shall be met:

1) if the equipment can produce an unmodulated carrier then the frequency error or frequency drift, as defined in EN 300 220-1 [2], clause 7.1.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.1.3, table 4a for bandwidth less or equal to 25 kHz or table 4b for bandwidth above 25 kHz; or

2) if the equipment is not able to produce an unmodulated carrier then either:

   a) where channel spacing is given by EN 300 220-1 [2], clause 7.2.3, table 5 then the power at the sub-band edge frequency, as defined in EN 300 220-1 [2], clause 7.6.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.6.3 under extreme conditions; or

   b) where no channel spacing is given by EN 300 220-1 [2], clause 7.2.3, table 5 then the adjacent channel power, as defined in EN 300 220-1 [2], clause 7.7.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.7.3 under extreme conditions.

This requirement applies to all transmitters.

4.2.1.2 Carrier power (conducted)

The carrier power, as defined in EN 300 220-1 [2], clause 7.2.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.2.3, table 5.

4.2.1.3 Effective radiated power

The effective radiated power, as defined in EN 300 220-1 [2], clause 7.3.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.2.3, table 5.

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

4.2.1.4 Types of spread spectrum modulation

4.2.1.4.1 Frequency Hopping Spread Spectrum devices (FHSS)

Frequency hopping spread spectrum devices, as defined in EN 300 220-1 [2], clause 7.4.1.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.4.1.3 indent a) to g) and table 6.

The frequency hopping performance specified in EN 300 220-1 [2], clause 7.4.1.2 shall be declared by the provider.

This applies to all transmitters which employ FHSS.

4.2.1.4.2 Direct sequence or other spread spectrum than FHSS

Direct sequence or other spread spectrum than FHSS devices, as defined in EN 300 220-1 [2], clause 7.4.2.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.4.2.2 table 7.

Direct sequence or other spread spectrum than FHSS specified in EN 300 220-1 [2], clause 7.4.2.2 shall be declared by the provider.

This applies to all transmitters which employ DSSS and other spread spectrum than FHSS.

4.2.1.5 Void

4.2.1.6 Adjacent channel power for channelized equipment

The adjacent channel power for channelized equipment, as defined in EN 300 220-1 [2], clause 7.6.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.6.3.

This requirement applies to transmitters with channel spacing defined by regulation.

4.2.1.7 Bandwidth for non-channelized equipment

The Bandwidth for non-channelized equipment, as defined in EN 300 220-1 [2], clause 7.7.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.7.3.

This requirement applies to transmitters operation where no channel spacing is given by regulation as defined in EN 300 220-1 [2], clause 3.1.

4.2.1.8 Unwanted emissions in the spurious domain

The spurious emissions, as defined in EN 300 220-1 [2], clause 7.8.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.8.5, table 10.

This requirement applies to all transmitters.

4.2.1.9 Frequency stability under low-voltage conditions

The frequency stability under low-voltage conditions, as defined in EN 300 220-1 [2], clause 7.9.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.9.3.

This requirement applies to all battery-operated transmitters.

4.2.1.10 Duty cycle

The duty cycle, as defined in EN 300 220-1 [2], clause 7.10.1, shall not exceed the limits in EN 300 220-1 [2], clause 7.10.3.

The duty cycle shall be declared by the provider.

This requirement applies to all transmitters excluding those with a listen before talk facility with AFA.

4.2.1.11 Listen Before Talk (LBT)

4.2.1.11.1 Minimum transmitter off-time

The minimum transmitter off-time, as defined in EN 300 220-1 [2], clause 7.11.1.1.1, shall not be less than the limits in EN 300 220-1 [2], clause 7.11.1.1.2.

The minimum transmitter off-time shall be declared by the provider.

This requirement applies to all transmitters using LBT.

4.2.1.11.2 Minimum listening time

The minimum listening time, as defined in EN 300 220-1 [2], clause 9.1.1.2.1 shall not shall not be less than the limits in EN 300 220-1 [2], clause 9.1.1.2.2.

The minimum listening time shall be declared by the provider.

This requirement applies to all transmitters using LBT.

4.2.1.11.3 Maximum transmitter on-time

The maximum transmitter on-time, as defined in EN 300 220-1 [2], clause 9.1.1.4.1 shall not exceed the limits in EN 300 220-1 [2], clause 9.1.1.4.2.

The maximum transmitter on-time shall be declared by the provider.

This requirement applies to all transmitters using LBT.

4.3 Receiver requirements

4.3.1 Maximum usable sensitivity (conducted)

The receiver sensitivity as defined in EN 300 220-1 [2], clauses 8.1.1 and F.2.1, shall be equal to or less than the limits in EN 300 220-1 [2], clause 8.1.4 or F.2.2, as appropriate.

This requirement applies to all receivers with Listen Before Talk (LBT) facility.

4.3.2 Receiver LBT threshold and transmitter max on-time

a) The LBT threshold, as defined in EN 300 220-1 [2], clause 8.2.1, shall be equal to or less than the limits in EN 300 220-1 [2], clause 8.2.3, table 12.

b) The transmitter max on-time, as defined in EN 300 220-1 [2], clause 8.11.1.4.1, shall be equal to or less than the limits in EN 300 220-1 [2], clause 8.2.3, table 12.

This requirement applies to all receivers with listen before talk (LBT) facility.

4.3.3 Adjacent channel selectivity

The adjacent channel selectivity as defined in EN 300 220-1 [2], clause 8.3.1, shall be equal to or greater than the limits in EN 300 220-1 [2], clause 8.3.3.1, table 13 and clause 8.3.3.2.3, table 14.

This requirement applies only to all category 1 receivers, as defined in EN 300 220-1 [2], clause 4.1.1.

4.3.4 Blocking or desensitization

The blocking or desensitization, as defined in EN 300 220-1 [2], clause 8.4.1, shall be equal to or greater than the limits in EN 300 220-1 [2], clause 8.4.3, table 15.

This requirement applies only to category 1 and category 2 receivers, as defined in EN 300 220-1 [2], clause 4.1.1.

4.3.5 Spurious radiations

The spurious radiations, as defined in EN 300 220-1 [2], clause 8.5.1, shall not exceed the limits in EN 300 220-1 [2], clause 8.5.5.

This requirement applies to all categories of receivers.

5 Testing for compliance with technical requirements

5.1 Description testing for compliance with technical requirements

5.1.1 Environmental conditions for testing

5.1.1.1 Normal and extreme test-conditions

Type 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 300 220-1 [2], clauses 5.3 to 5.4.

5.1.1.2 Test power source

The test power source shall meet the requirements of EN 300 220-1 [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 300 220-1 [2], clauses 4.2.1 to 4.2.3.2.

5.1.3 Transmitter test suites

5.1.3.1 Frequency error and drift

For equipment able to provide an unmodulated carrier:

- the test specified in EN 300 220-1 [2], clause 7.1.2.1 shall be carried out under extreme test conditions.

For equipment not able to provide an unmodulated carrier, either:

a) for channelization specified by regulation:
The test specified in EN 300 220-1 [2], clause 7.6.2 shall be carried out under extreme test conditions.

b) For no channelization specified by the regulation:
The test specified in EN 300 220-1 [2], clause 7.7.3 shall be carried out on wide band equipment.

This test suite applies to all transmitters.

5.1.3.2 Carrier power (conducted)

The test specified in EN 300 220-1 [2], clause 7.2.2 shall be carried out.

This test suite applies to transmitters which may be used without an integral or dedicated antenna.

5.1.3.3 Effective radiated power

The test specified in EN 300 220-1 [2], clause 7.3.2 shall be carried out.

This test suite applies to transmitters with an integral or dedicated antenna.

5.1.3.4 Adjacent channel power for channelized equipment

The test specified in EN 300 220-1 [2], clause 7.6.2 shall be carried out under extreme test conditions if channelization is specified by EN 300 220-1 [2], clause 7.2.3, table 5.

For no channelization specified by EN 300 220-1 [2], clause 7.2.3, table 5, the test specified in EN 300 220-1 [2], clause 7.7.3 shall be carried out on wide band equipment.

This test suite applies to all channelized transmitters.

5.1.3.5 Bandwidth for non-channelized equipment

The test specified in EN 300 220-1 [2], clause 7.7.3 shall be carried out on wide band equipment.

This test suite applies to transmitters intended for operation in non-channelized spectrum.

5.1.3.6 Unwanted emissions in the spurious domain

Either:

- the tests specified in EN 300 220-1 [2], clause 7.8.2 and EN 300 220-1 [2], clause 7.8.3 shall be carried out; or
- the test specified in EN 300 220-1 [2], clause 7.8.4 shall be carried out.

This test suite applies to all transmitters.

5.1.3.7 Frequency stability under low-voltage conditions

The test specified in EN 300 220-1 [2], clause 7.9.2 shall be carried out.

This test suite applies to all battery-operated transmitters.

5.1.4 Receiver test suites

5.1.4.1 Maximum usable sensitivity (conducted)

The test specified in EN 300 220-1 [2], clause 8.1.2 or 8.1.3 shall be carried out.

This test suite applies to all receivers with a Listen Before Talk facility (LBT).

5.1.4.2 Receiver LBT threshold

The test specified in EN 300 220-1 [2], clause 8.2.2 shall be carried out.

This test suite applies to all receivers with a Listen Before Talk facility (LBT).

5.1.4.3 Adjacent channel selectivity

The test specified in EN 300 220-1 [2], clause 8.3.2 shall be carried out.

This test suite applies to all Category 1 receivers.

5.1.4.4 Blocking or desensitization

The test specified in EN 300 220-1 [2], clause 8.4.2 shall be carried out.

This test suite applies to all Category 1 and Category 2 receivers.

This test suite applies to all receivers with a Listen Before Talk facility (LBT).

5.1.4.5 Receiver spurious radiation

Either:

- the tests specified in EN 300 220-1 [2], clause 8.5.2 and EN 300 220-1 [2], clause 8.5.3 shall be carried out; or
- the test specified in EN 300 220-1 [2], clause 8.5.4 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 given in EN 300 220-1 [2], clause 4.5.

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 300 220-2 The following requirements and test specifications are relevant to the presumption of conformity under the Article 3.2 of the R&TTE Directive						
Requirement			**Requirement Conditionality**		**Test Specification**	
No	**Description**	**Reference: Clause No**	**U/C**	**Condition**	**E/O**	**Reference: Clause No**
1	Frequency error or frequency drift	4.2.1.1	U		E	5.1.3.1
2	Carrier power (conducted)	4.2.1.2	C	Applies to transmitters with permanent external antenna connector	E	5.1.3.2
3	Effective radiated power	4.2.1.3	C	Applies to transmitters with an integral or dedicated antenna	E	5.1.3.3
4	Frequency hopping spread spectrum devices	4.2.1.4.1	C	Applies to transmitters which employ FHSS	X	
5	Direct sequence or other spread spectrum than FHSS	4.2.1.4.2	C	Applies to transmitters which employ DSSS & other spread spectrum than FHSS	X	
6	Adjacent channel power for channelized equipment	4.2.1.6	C	Applies to transmitters operating in a channelized band	E	5.1.3.4
7	Bandwidth for non-channelized equipment	4.2.1.7	C	Applies to transmitters operating in a non-channelized band	E	5.1.3.5
8	Unwanted emissions in the spurious domain	4.2.1.8	U		E	5.1.3.6
9	Frequency stability under low-voltage conditions	4.2.1.9	C	Applies to battery-operated transmitters	E	5.1.3.7
10	Duty cycle	4.2.1.10	C	Applies to transmitters excluding those with a listen before talk facility with AFA	X	

Harmonized Standard EN 300 220-2 The following requirements and test specifications are relevant to the presumption of conformity under the Article 3.2 of the R&TTE Directive						
Requirement			**Requirement Conditionality**		**Test Specification**	
No	**Description**	**Reference: Clause No**	**U/C**	**Condition**	**E/O**	**Reference: Clause No**
11	Minimum transmitter off-time	4.2.1.11.1	C	Applies to transmitters using LBT	X	
12	Minimum listening time	4.2.1.11.2	C	Applies to transmitters using LBT	X	
13	Maximum transmitter on-time	4.2.1.11.3	C	Applies to transmitters using LBT	X	
14	Maximum usable sensitivity (conducted)	4.3.1	C	Applies to receivers with LBT	E	5.1.4.1
15	Receiver LBT threshold and maximum TX on-time	4.3.2	C	Applies to receivers with LBT	E	5.1.4.2
16	Adjacent channel selectivity	4.3.3	C	Applies to Category 1 receivers	E	5.1.4.3
17	Blocking or desensitization	4.3.4	C	Applies to category 1 and Category 2 receivers and receivers with LBT	E	5.1.4.4
18	Receiver spurious radiation	4.3.5	U		E	5.1.4.5

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 (C).

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.

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

Language	EN title
Bulgarian	Електромагнитна съвместимост и въпроси на радиоспектъра (ERM). Устройства с малък обсег на действие (SRD). Радиосъоръжения, предназначени за използване в честотния обхват от 25 MHz до 1000 MHz, с нива на излъчената мощност до 500 mW. Част 2: Хармонизиран европейски стандарт (EN), покриващ съществените изисквания на чл.3.2 на Директивата за радиосъоръжения и крайни далекосъобщителни устройства (R&TTED)
Czech	Elektromagnetická kompatibilita a rádiové spektrum (ERM) - Přístroje krátkého dosahu (SRD) - Rádiová zařízení pro použití v kmitočtovém rozsahu 25 MHz až 1 000 MHz s výkonem do 500 mW - Část 2: Harmonizovaná EN pokrývající základní požadavky podle článku 3.2. Směrnice R&TTE
Danish	Elektromagnetisk kompatibilitet og spektrumanliggender (ERM) - Apparater med kort rækkevidde (SRD) - Radioudstyr som benytter frekvenser mellem 25 MHz og 1 000 MHz med sendeeffekter under 500 mW- 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 korteafstandscommunicatie (SRD); radioapparatuur te gebruiken inde frequentieband van 25 MHz tot 1 000 MHz en werkend met een vermogen tot hoogstens 500 mW; deel 2: Geharmoniseerde EN om te voldoen aan de essentiële vereisten onder artikel 3, lid 2, van Richtlijn 1999/5/EG
English	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
Estonian	Elektromagnetilise ühilduvuse ja raadiospektri küsimused (ERM); Lähitoimeseadmed (SRD); Raadiosagedusvahemikus 25 MHz kuni 1 000 MHz kasutamiseks mõeldud võimsustasemetega kuni 500 mW raadioseadmed; Osa 2: Harmoneeritud EN R&TTE direktiivi artikli 3.2 põhinõuete alusel
Finnish	Sähkömagneettinen yhteensopivuus ja radiospektriasiat (ERM); Lyhyen kantaman radiolaitteet (SRD); Taajuusalueella 25 MHz - 1 000 MHz toimivat radiolaitteet, joiden teho on enintään 500 mW; Osa 2: Yhdenmukaistettu standardi (EN), joka kattaa R&TTE-direktiivin artiklan 3.2 mukaiset olennaiset vaatimukset
French	Télécommunications - Compatibilité radioélectrique et spectre radioélectrique (ERM) Appareils à faible portée - Equipements radioélectriques fonctionnant dans la gamme de fréquences de 25 MHz à 1 000 MHz avec des niveaux de puissance ne dépassant pas 200 mW. Partie 2 : paramètres non destinés à la procédure d'agrément
German	Elektromagnetische Verträglichkeit und Funkspektrumangelegenheiten (ERM) - Funkanlagen mit geringer Reichweite (SRD) - Funkgeräte zur Verwendung im Frequenzbereich von 25 MHz bis 1 000 MHz mit Ausgangsleistungen bis 500 mW ;Teil 2: Harmonisierte EN, die wesentliche Anforderungen nach Artikel 3.2 der R&TTE-Richtlinie enthält
Greek	Ηλεκτρομαγνητική Συμβατότητα και Θέματα Ραδιοφάσματος (ERM) - Συσκευές μικρής εμβέλειας (SRD) – Ραδιοεξοπλισμός που προορίζεται να χρησιμοποιείται στην περιοχή συχνοτήτων 25 MHz ως 1 000 MHz με στάθμες ισχύος μέχρι 500 mW -Μέρος 2: Εναρμονισμένο EN για την κάλυψη των ουσιωδών απαιτήσεων του Άρθρου 3.2 της Οδηγίας R&TTE
Hungarian	Elektromágneses összeférhetőségi és rádióspektrumügyek (ERM). Kis hatótávolságú eszközök (SRD). A 25 MHz - 1 000 MHz frekvenciasávban használt, legfeljebb 500 mW teljesítményű rádióberendezések. 2. rész: Az R&TTE-irányelv 3.2. cikkelyének alapvető követelményeit tartalmazó, harmonizált európai szabvány
Icelandic	Þættir sem varða rafsegulsviðssamhæfi og fjarskiptatíðni (ERM); Skammdræg tæki (SRD): Fjarskiptabúnaður til nota á tíðnisviðinu 25 MHz til 1 000 MHz með styrk allt að 500 mW; Hluti 2: Samræmdur Evrópustaðall um grunnkröfur skv. 2. mgr. 3. gr. í tilskipun 1999/5/EC um fjarskiptabúnað og endabúnað til fjarskipta
Italian	Compatibilità elettromagnetica e spettro radio (ERM); Apparecchiature per comunicazioni a corto raggio (SRD); Apparati radio operanti nella banda di frequenza da 25 MHz a 1 000 MHz con livelli di potenza fino a 500 mW. Parte 2: Norma europea armonizzata relativa ai requisiti essenziali di cui all'articolo 3.2 della direttiva R & TTE
Latvian	Elektromagnētiskā saderība un radiofrekvenču spektra lietas. Maza darbības attāluma iekārtas. Radioiekārtas, ko izmanto frekvenču joslā no 25 MHz līdz 1 000 MHz, ar jaudu līdz 500 Mw. 2.daļa: Harmonizēts Eiropas standarts (EN), kas atbilst R&TTE Direktīvas 3.2.punkta būtiskām prasībām
Lithuanian	Elektromagnetinio suderinamumo ir radijo dažnių spektro dalykai. Mažojo nuotolio įranga. Radijo ryšio įranga, kuri naudojama nuo 25 MHz iki 1 000 MHz dažnių juostoje ir kurios galia neviršija 500 mW. 2 dalis. Darnusis Europos standartas, apimantis esminius reikalavimus pagal 1999/5/EC* direktyvos 3.2 straipsnį
Maltese	Kompatibilità elettromanjetika u materji relatati ma' spettru radjofoniku (ERM); Apparati ta' medda qasira; Tagħmir radjofoniku biex jintużaw fil-medda ta' frekwenzi 25 MHz sa 1 000 MHz b'livelli ta' enerġija li jitilqgħu sa 500 mW; Parti 2: EN armonizzat li jkopri rekwiżiti essenzjali taħt l-artiklu 3.2 tad-Direttiva R&TTE

Language	EN title
Norwegian	Elektromagnetisk kompatibilitet og Radiospektrum spørsmål (ERM); Kort distanse enhet (SRD); Radioutstyr som brukes i 25 MHz til 1 000 MHz området med effektnivå opptil 500 mW; Del 2: Harmonisert EN som dekker de vesentligste krav i R&TTE direktivets artikkel 3.2
Polish	Kompatybilność elektromagnetyczna i zagadnienia widma radiowego (ERM) -Urządzenia bliskiego zasięgu (SRD) - Urządzenia radiowe pracujące w zakresie częstotliwości 25 MHz do 1 000 MHz z poziomami mocy do 500 mW - Część 2: Zharmonizowana EN zapewniająca spełnienie zasadniczych wymagań zgodnie z artykułem 3.2 dyrektywy R&TTE
Portuguese	Assuntos de Espectro Radioeléctrico e Compatibilidade Electromagnética (ERM); Equipamento de curto alcance (SRD); Equipamento de rádio com níveis de potência até 500 mW, para a faixa de frequências de 25 MHz a 1 000 MHz ; Parte 2: EN harmonizada cobrindo os requisitos essenciais no âmbito do artigo 3º, nº 2, da Directiva R&TTE
Romanian	Compatibilitate electromagnetică şi probleme ale spectrului radio (ERM). Dispozitive pentru distanţă mică (SRD). Echipamente radio destinate a fi utilizate în banda de frecvenţe de la 25 MHz până la 1000 MHz cu un nivel de putere până la 500 mW. Partea 2: Parametrii suplimentari care nu sunt destinaţi evaluării conformităţii
Slovak	Elektromagnetická kompatibilita a záležitosti rádiového spektra (ERM). Zariadenia s krátkym dosahom (SRD). Rádiové zariadenia používané vo frekvenčnom rozsahu od 25 MHz do 1 000 MHz s úrovňami výkonu do 500 mW. Časť 2: Harmonizovaná EN vzťahujúca sa na základné požiadavky podľa článku 3.2 smernice R&TTE
Slovenian	Elektromagnetna združljivost in zadeve v zvezi z radijskim spektrom (ERM) - Naprave kratkega dosega (SRD) - Radijska oprema, ki se uporablja v frekvenčnem območju od 25 MHz do 1 000 MHz z močnostnimi nivoji do največ 500 mW – 2. del: Harmonizirani EN, ki zajema bistvene zahteve člena 3.2 direktive R&TTE
Spanish	Compatibilidad electromagnética y cuestiones de espectro de radiofrecuencia (ERM); Dispositivos de Corto Alcance (SRD); Equipos radio para ser usados en el rango de frecuencia entre 25 MHz y 1000 MHz, con niveles de potencia hasta 500 mW; Parte 2: EN armonizada cubriendo los requisitos esenciales según el artículo 3.2 de la directiva de R&TTE
Swedish	Elektromagnetisk kompatibilitet och radiospektrumfrågor (ERM); Kortdistansutrustningar (SRD); Radioutrustning för användning i frekvensområdet 25 MHz till 1 000 MHz med effektnivåer upp till 500 mW; Del 2: Harmoniserad EN omfattande väsentliga krav enligt artikel 3.2 i R&TTE-direktivet

Annex C (informative): Bibliography

ETSI TR 100 028 (Parts 1 and 2): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".

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).

ETSI EN 301 489: "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services".

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

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