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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 246 GHz

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Foreword

This Harmonized European Standard (EN) 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 mandate 284 issued from the European Commission under Directive 98/34/EC [i.2] as amended by Directive 98/48/EC [i.7].

The title and reference to the present document are intended to be included in the publication in the Official Journal of the European Union of titles and references of Harmonized Standard under the Directive 1999/5/EC [i.1].

See article 5.1 of Directive 1999/5/EC [i.1] for information on presumption of conformity and Harmonized Standards or parts thereof the references of which have been published in the Official Journal of the European Union.

The present document is part 3 of a multi-part deliverable. Full details of the entire series can be found in part 1 [1].

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1 Scope

The present document, together with EN 301 489-1 [1], covers the assessment of Short Range Devices (SRD) and ancillary equipment in respect of ElectroMagnetic Compatibility (EMC).

Technical specifications related to the antenna port and emissions from the enclosure port of Short Range Devices (SRD) 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.

Examples of SRDs are given in annex A.

The present document specifies the applicable test conditions, performance assessment, and performance criteria for Short Range Devices (SRD) and the associated ancillary equipment.

In case of differences (for instance concerning special conditions, definitions, abbreviations) between the present document and the EN 301 489-1 [1], the provisions of the present document take precedence.

The environmental classification and the emission and immunity requirements used in the present document are as stated in the EN 301 489-1 [1], except for any special conditions included in the present document.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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

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 necessary for the application of the present document.

[1] ETSI EN 301 489-1 (V1.9.2) (09-2011): "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.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).

[i.2] 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.3] ETSI EN 300 220-1: "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".

[i.4] ETSI EN 300 330-1: "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".

[i.5] ETSI EN 300 440-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices; Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Part 1: Technical characteristics and test methods".

[i.6] ETSI EN 305 550-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 40 GHz to 246 GHz frequency range; Part 1: Technical characteristics and test methods".

[i.7] Directive 98/48/EC of the European Parliament and of the Council of 20 July 1998 amending Directive 98/34/EC 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:

device type: classification of devices based on the risk assessment of communication link performance

receiver: stand alone receiver or receiver being part of a transceiver

receiver category: set of relevant receiver requirements and minimum performance criteria

Short Range Device (SRD): piece of apparatus which includes a transmitter, and/or a receiver and or parts thereof, used in alarm, telecommand and telemetry applications, etc. operating with analogue speech/music or data (analogue and/or digital) or with combined analogue speech/music and data, using any modulation type

NOTE: These devices can be used in a fixed, mobile or portable application.

transmitter: stand alone transmitter or transmitter being part of a transceiver

3.2 Abbreviations

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

AC	Alternating Current
CR	Continuous phenomena applied to Receivers
CT	Continuous phenomena applied to Transmitters
DC	Direct Current
EMC	ElectroMagnetic Compatibility
EUT	Equipment Under Test
fo	operating frequency
RF	Radio Frequency
SINAD	Ratio of (Signal + Noise + Distortion) to (Noise + Distortion)
SRD	Short Range Device
TR	Transient phenomena applied to Receivers
TT	Transient phenomena applied to Transmitters

4 Test conditions

For the purposes of the present document, the test conditions of the EN 301 489-1 [1], clause 4, shall apply as appropriate. Further product related test conditions for Short Range Devices (SRD) are specified in the present document.

4.1 General

For emission and immunity tests the normal test modulation, test arrangements, etc., as specified in the present document, clauses 4.1 to 4.5, shall apply.

Whenever the Equipment Under Test (EUT) is provided with a detachable antenna, the EUT shall be tested with the antenna fitted in a manner typical of normal intended use, unless specified otherwise.

For the purpose of the present document Short Range Devices are divided into three types of primary function, based on the technical nature of the primary function.

Table 1: Technical nature of the primary function

Primary Function Type	Technical nature of the primary function
I	Transfer of messages (digital or analogue signals)
II	Transfer of audio (speech or music)
III	Others

4.2 Arrangements for test signals

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

4.2.1 Arrangements for test signals at the input of the transmitter

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

The transmitter shall be modulated with normal test modulation as specified for that type of primary function (see clause 4.5). Where transmitters do not have a modulation input port, the internal equipment modulation shall be used.

4.2.2 Arrangements for test signals at the output of the transmitter

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

The transmitter shall be operated at its maximum rated RF output power as specified for that type of primary function (see clause 4.5).

The manufacturer may provide a suitable companion receiver that can be used to set up a communications link and/or to receive messages.

4.2.3 Arrangements for test signals at the input of the receiver

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

- the wanted RF input signal, coupled to the receiver, shall be modulated with normal test modulation as specified for that type of primary function (see clause 4.5);
- the level of the wanted RF input signal shall be chosen to a value significantly above the threshold sensitivity but below the overload characteristics of the receiver;
- the manufacturer may provide a suitable companion transmitter that can be used to set up a communications link and/or to transmit messages.

4.2.4 Arrangements for test signals at the output of the receiver

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 transmitter and receiver may be tested together, if appropriate (size of equipment, etc.). In this case the transmitter and the receiver shall be located inside the test environment and shall be exposed at the same time to the EMC phenomena. Instead of coupling the output signal of the transmitter to the measuring equipment outside the test environment, this signal shall be coupled, inside the test environment, to input of the receiver, via an attenuator, if required, to prevent overload of the receiver.

4.3 Exclusion bands

The frequencies on which Short Range Devices (SRD) are intended to operate, shall be excluded from the conducted and radiated RF immunity tests.

The frequencies on which the SRD transmitters are 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 SRD receivers, and/or associated ancillary equipment.

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

4.3.1 Exclusion bands for receivers

The exclusion band for receivers (including receivers part of transceivers) intended to be used in a channelized frequency band, is determined as follows:

- For receivers capable of operating on only one single frequency and not having an alignment range, the lower frequency of the exclusion band is the lower frequency of the used frequency channel minus the extension value given in table 2, and the upper frequency of the exclusion band is the upper frequency of the used frequency channel plus the extension value given in table 2. The calculated extension value shall be based on the operating frequency.

- For receivers capable of operating on only one single frequency and having an alignment range, the lower frequency of the exclusion band is the lower frequency of the alignment range minus the extension value given in table 2, and the upper frequency of the exclusion band is the upper frequency of the alignment range plus the extension value given in table 2. The calculated extension values shall be based on the centre frequency of the alignment range. However, if the alignment range is more than 10 % of the upper frequency of the alignment range the calculated value shall be based on 10 % of the upper value of the alignment range.

- For receivers capable of operating on more than one frequency in an operating frequency band the width of which is less than 20 % of the centre frequency of the operating band, the lower frequency of the exclusion band is the lower frequency of the operating band minus the extension value given in table 2, and the upper frequency of the exclusion band is the upper frequency of the operating band plus the extension value given in table 2. The calculated extension value shall be based on the centre frequency of the operating band.

- For receivers capable of operating on a number of frequencies over a frequency band wider than the band specified above, immunity tests shall be made over a selected number of test frequencies. The selected test frequencies shall be located at three evenly spaced points per logarithmic decade of the frequency band. For each test frequency the lower frequency of the exclusion band is the lower frequency of the used test frequency channel minus the extension value given in table 2, and the upper frequency of the exclusion band is the upper frequency of the used test frequency channel plus the extension value given in table 2. The calculated extension value shall be based on the used test frequency.

For wide band receivers, i.e. receivers operating in a non-channelized frequency band, the lower frequency of the exclusion band is the lower frequency of the intended operating frequency band minus the extension value given in table 2 and the upper frequency of the exclusion band is the upper frequency of the intended operating band plus the extension value given in table 2, or the total exclusion band is twice the intended operating frequency band of the receiver centred around the centre frequency of the intended operating band, whichever is greater.

Table 2: Exclusion bands for Short Range Devices

Operating Receiver Frequency fo	EMC exclusion band for SRDs		
	Receiver Category1	**Receiver Category2**	**Receiver Category3**
< 300 kHz	fo ±200 kHz (see note 1)	fo ±300 kHz (see note 1)	fo ±300 kHz (see note 1)
300 kHz to < 30 MHz	fo ±2 MHz (see note 1)	fo ±3 MHz (see note 1)	fo ±5 MHz (see note 1)
30 MHz to < 1 GHz	fo ±10 MHz, or ±2 % × fo, whichever is greater	fo ±15 MHz, or ±5 % × fo, whichever is greater	fo ±15 MHz, or 10 % × fo whichever is greater
1 GHz to < 2,7 GHz	fo ±75 MHz (see note 2)	fo ±100 MHz (see note 2)	fo ±300 MHz (see note 2)
NOTE 1: Measurements shall not be carried out below 150 kHz. NOTE 2: Operating frequencies above 2,7 GHz do not require an exclusion band as there are no immunity tests required above 2,7 GHz.			

4.3.2 Exclusion band for transmitters

For transmitters operating, or intended to operate, in a channelized frequency band, the exclusion band is three times the maximum occupied bandwidth allowed for that service, centred around the operating frequency.

For wide band transmitters, i.e. transmitters in a non-channelized frequency band, the exclusion band is twice the intended operating frequency band centred around the centre frequency of the intended operating frequency band.

In case the receiver and transmitter are tested together as a system (see EN 301 489-1 [1], clause 4.2.5) the exclusion band defined for receivers or the exclusion band defined for transmitters shall be used, whichever is greater.

4.4 Narrow band responses of receivers

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

4.5 Normal test modulation

For equipment with primary function type I the RF carrier shall be modulated with a test signal, representing a practical selection of usable selective messages/commands. The agreed test signal may be formatted and may contain error detection and correction. Where transmitters do not have a modulation input port, the internal equipment modulation is used.

For equipment with primary function type II (audio equipment):

- the wanted input signal of the receiver under test shall be set to the nominal frequency of the receiver, modulated with a sinusoidal audio frequency of 1 000 Hz having a modulation corresponding to 60 % of the peak system modulation;
- the transmitter under test shall be modulated with a sinusoidal audio frequency of 1 000 Hz having a modulation corresponding to 60 % of the system peak modulation.

For equipment with primary function type III the manufacturer shall specify the normal test modulation, if any.

5 Performance assessment

5.1 General

The provision of EN 301 489-1 [1], clause 5.1, shall apply.

The manufacturer shall at the time of submission of the equipment for test, supply the necessary general information as requested in EN 301 489-1 [1], clause 5.1. Additionally he shall supply the following product-related information:

- the applicable primary function type according to table 1 (see clause 4.1);
- the device typeselected by the manufacturer according to table 3 (see clause 6.1).

The performance assessment is dependent on the primary functiontype (see clause 4.1).

For all equipment the performance assessment is based on:

- the maintenance of function(s);
- the way the eventual loss of function(s) can be recovered;
- unintentional behaviour of the EUT.

Additionally:

- for equipment with primary function type I it shall be possible to assess the performance of the equipment by appropriately monitoring (observing) the receiver reaction;
- for equipment with primary function type II the degradation in performance during the radio frequency immunity tests is expressed in a minimum SINAD Decibel value;
- for equipment with primary function type III the manufacturer shall specify the way the degradation in performance should be measured and expressed.

5.2 Equipment which can provide a continuous communications link

The provisions of EN 301 489-1 [1], clause 5.2, shall apply.

5.3 Equipment which does not provide a continuous communications link

The provisions of EN 301 489-1 [1], clause 5.3, shall apply with the following modification:

- for equipment with primary function type III the manufacturer shall always define the test method(s) for the assessment of the actual level of performance or degradation of performance during and/or after the EMC exposure.

5.4 Ancillary equipment

The provisions of EN 301 489-1 [1], clause 5.4, shall apply.

5.5 Equipment classification

The provisions of EN 301 489-1 [1], clause 5.5, shall apply.

6 Performance criteria

6.1 Classification of SRD equipment

The product family of Short Range Devices is divided by device type, each having its own set of performance criteria. This classification is based upon the impact on persons and/or goods in case the equipment does not operate above the specified performance level under EMC stress.

Table 3: Risk assessment of communication link performance per device type

Device Type	Risk assessment of communication link performance
1	Highly reliable SRD communication media; e.g. serving human life inherent systems (may result in a physical risk to a person)
2	Medium reliable SRD communication media; e.g. causing inconvenience to persons, which cannot simply be overcome by other means
3	Standard reliable SRD communication media; e.g. inconvenience to persons, which can simply be overcome by other means (e.g. manual)

6.2 General performance criteria

The performance criteria for SRD equipment with different device types (see table 3) in combination with the different primary function types (see table 1) during and after immunity test are specified in this clause:

- performance criteria A for immunity tests with phenomena of a continuous nature;
- performance criteria B for immunity tests with phenomena of a transient nature;
- performance criteria for immunity tests with power interruptions exceeding a certain time are specified in clause 7.2.2, table 6.

The equipment shall meet the performance criteria as specified in the following clauses, for the appropriate device type.

6.3 Performance table

Table 4: Performance Requirements of Device Types

Device Type 1		
Criteria	**During test**	**After test**
A	Operate as intended No loss of function For equipment with primary function type II the minimum performance shall be 12 dB SINAD No unintentional responses	Operate as intended For equipment with primary function type II the communication link shall be maintained No loss of function No degradation of performance No loss of stored data or user programmable functions
B	May be loss of function (one or more) No unintentional responses	Operate as intended Lost function(s) shall be self-recoverable No degradation of performance No loss of stored data or user programmable functions
Device Type 2		
Criteria	**During test**	**After test**
A	Operate as intended No loss of function For equipment with primary function type II the minimum performance shall be 6 dB SINAD No unintentional responses	Operate as intended For equipment with primary function type II the communication link shall be maintained No loss of function No degradation of performance No loss of stored data or user programmable functions
B	May be loss of function (one or more) No unintentional responses	Operate as intended Lost function(s) shall be self-recoverable No degradation of performance No loss of stored data or user programmable functions

Device Type 3		
Criteria	**During test**	**After test**
A and B	May be loss of function (one or more) No unintentional responses	Operate as intended, for equipment with primary function type II the communication link may be lost, but shall be recoverable by user No degradation of performance Lost functions shall be self-recoverable

6.4 Performance criteria for Continuous phenomena applied to Transmitters (CT)

For equipment with primary function type I or II including ancillary equipment tested on a stand alone basis, the performance criteria A of the applicable device type as given in clause 6.3 shall apply.

For equipment with primary function type II or III that requires a communication link that is maintained during the test, it shall be verified by appropriate means supplied by the manufacturer that the communication link is maintained during each individual exposure in the test sequence.

Where the EUT is a transmitter, tests shall be repeated with the EUT in standby mode to ensure that any unintentional transmission does not occur.

6.5 Performance criteria for Transient phenomena applied to Transmitters (TT)

For equipment with primary function type I or II, including ancillary equipment tested on a stand alone basis, the performance criteria B of the applicable device type as given in clause 6.3 shall apply, except for power interruptions exceeding a certain time the performance criteria deviations are specified in clause 7.2.2.

For equipment with primary function type II or III that requires a communication link that is maintained during the test, this shall be verified by appropriate means supplied by the manufacturer during each individual exposure in the test sequence.

Where the EUT is a transmitter, tests shall be repeated with the EUT in standby mode to ensure that any unintentional transmission does not occur.

6.6 Performance criteria for Continuous phenomena applied to Receivers (CR)

For equipment with primary function type I or II, including ancillary equipment tested on a stand alone basis, the performance criteria A of the applicable device type as given in clause 6.3 shall apply.

For equipment with primary function type II or III that requires a communication link that is maintained during the test, it shall be verified by appropriate means supplied by the manufacturer that the communication link is maintained during each individual exposure in the test sequence.

Where the EUT is a transceiver, under no circumstances shall the transmitter operate unintentionally during the test.

6.7 Performance criteria for Transient phenomena applied to Receivers (TR)

For equipment with primary function type I or II, including ancillary equipment tested on a stand alone basis, the performance criteria B of the applicable device type as given in clause 6.3 shall apply, except for power interruptions exceeding a certain time the performance criteria deviations are specified in clause 7.2.2.

For equipment with primary function type II or III that requires a communication link that is maintained during the test, this shall be verified by appropriate means supplied by the manufacturer during each individual exposure in the test sequence.

Where the EUT is a transceiver, under no circumstances shall the transmitter operate unintentionally during the test.

6.8 Performance criteria for ancillary equipment tested on a stand alone basis

The provision of EN 301 489-1 [1], clause 6.4, shall apply.

7 Applicability overview

7.1 Emission

7.1.1 General

EN 301 489-1 [1], table 2, contains the applicability of EMC emission measurements to the relevant ports of radio and/or associated ancillary equipment.

7.1.2 Special conditions

The following special conditions set out in table 5, relate to the emission test methods used in EN 301 489-1 [1], clause 8.

Table 5: Special conditions for EMC emission measurements

Reference to clauses in EN 301 489-1 [1]	Special product-related conditions, additional to or modifying the test conditions in EN 301 489-1 [1], clause 8
8.3.2 and 8.4.2: Test method; DC power input/output ports, and AC mains input/output ports	Attention: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz (see clause 4.3.2).

7.2 Immunity

7.2.1 General

EN 301 489-1 [1], table 3, contains the applicability of EMC immunity measurements to the relevant ports of radio and/or associated ancillary equipment.

7.2.2 Special conditions

The following special conditions set out in table 6, relate to the immunity test methods and performance criteria used in EN 301 489-1 [1], clause 9.

Table 6: Special conditions for EMC immunity tests

Reference to clauses in EN 301 489-1 [1]	Special product-related conditions, additional to or modifying the test conditions in EN 301 489-1 [1], clause 9
9.2.2: Test method; Radio frequency electromagnetic field	Attention: The width of the steps for the test frequency increments is device type-dependent: • for f device type 1 or device type2, the stepped frequency increments shall be 1 % of the momentary used test frequency; • for device type3, the stepped frequency increments shall be 10 % of the momentary used test frequency.
9.5.2: Test method; Radio frequency, common mode	Attention: The width of the steps for the test frequency increments is device type-dependent: • for device type1 or device type2, the stepped frequency increments shall be 1 % of the momentary used test frequency in the frequency range 5 MHz to 80 MHz; • for device type3, the stepped frequency increments shall be 10 % of the momentary used test frequency in the frequency range 5 MHz to 80 MHz.
9.7.3: Performance criteria; Voltage dips and interruptions	Attention: The performance criteria are device typedependent: For a voltage dip corresponding to a reduction of the supply voltage of 30 % for 10 ms the performance criteria CT or CR specified in clauses 6.4 or 6.6 shall apply as appropriate. For a voltage dip corresponding to a reduction of the supply voltage of 60 % for 100 ms the following class-dependent performance criteria shall apply: • for transmitters, belonging to device type1, the performance criteria CT (see clause 6.4); • for transmitters, belonging to device type2 or 3, the performance criteria TT (see clause 6.5); • for receivers, belonging to device type1, the performance criteria CR (see clause 6.6); • for receivers, belonging to device type2 or 3, the performance criteria TR (see clause 6.7). For a voltage interruption corresponding to a reduction of the supply voltage of > 95 % for 5 000 ms the performance criteria TT or TR specified in clauses 6.5 or 6.7 shall apply as appropriate.

Annex A (informative): Examples of Short Range Devices (SRD) in the scope of the present document

A.1 Short Range Devices (SRD) with RF power levels ranging up to 500 mW and intended for operation in the frequency range 25 MHz to 1 000 MHz

The present document applies to Short Range Devices (SRD) with RF power levels ranging up to 500 mW and intended for operation in the frequency range 25 MHz to 1 000 MHz, and associated ancillary equipment. Definitions of such SRD radio equipment and associated ancillary equipment are found in the following functional radio standard:

- EN 300 220-1 [i.3]: "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".

A.2 Short Range Devices (SRD) intended for operation in the frequency range 9 kHz to 25 MHz, and inductive loop systems intended for operation in the frequency range 9 kHz to 30 MHz

The present document applies to Short Range Devices (SRD) intended for operation in the frequency range 9 kHz to 25 MHz, inductive loop systems intended for operation in the frequency range 9 kHz to 30 MHz, and associated ancillary equipment. Definitions of such SRD radio equipment and associated ancillary equipment are found in the following functional radio standard:

- EN 300 330-1 [i.4]: "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".

A.3 Short Range Devices (SRD) intended for operation in the frequency range 1 GHz to 40 GHz

The present document applies to Short Range Devices (SRD) with RF power levels ranging up to 4 W and intended for operation in the frequency range 1 GHz to 40 GHz, and associated ancillary equipment. Definitions of such SRD radio equipment and associated ancillary equipment are found in the following functional radio standard:

- EN 300 440-1 [i.5]: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices; Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Part 1: Technical characteristics and test methods".

A.4 Short Range Devices (SRD) intended for operation in the frequency range 40 GHz to 246 GHz

The present document applies to Short Range Devices (SRD) with RF power levels ranging up to 10 W and intended for operation in the frequency range 40 GHz to 246 GHz, and associated ancillary equipment. Definitions of such SRD radio equipment and associated ancillary equipment are found in the following functional radio standard:

- EN 305 550-1 [i.6]: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 40 GHz to 246 GHz frequency range; Part 1: Technical characteristics and test methods".

History

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V1.5.1	July 2012	Public Enquiry	PE 20121117:	2012-07-20 to 2012-11-19
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