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~~ETSI EN 302 372-2~~ ~~V1.1.1~~ (2006-04)

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

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Short Range Devices (SRD);
Equipment for Detection and Movement;
Tanks Level Probing Radar (TLPR) operating in the
frequency bands 5,8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz;
Part 2: Harmonized EN ~~under~~ article 3.2 of the R&TTE Directive**



ETSI EN 302 372-2 V1.2.1 (2011-02)

Harmonized European Standard

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Short Range Devices (SRD);
Equipment for Detection and Movement;
Tanks Level Probing Radar (TLPR) operating in the
frequency bands 5,8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz;
Part 2: Harmonized EN covering the essential requirements
of article 3.2 of the R&TTE Directive**



Reference~~DERM-TGTLPR-0110-2~~

KeywordsEHF, radar, regulation, SHF, short range, SRD,
testing, UWB**ETSI**

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Reference

REN/ERM-TGTLPR-0117-2

Keywords

EHF, radar, regulation, SHF, short range, SRD,
testing, UWB

ETSI

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Foreword

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

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

The present document is part 2 of a multi-part deliverable covering Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Equipment for Detection and Movement; Tanks Level Probing Radar (TLPR) operating in the frequency bands 5,8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz; as identified below:

Part 1: "Technical characteristics and test methods";

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

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

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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 a mandate from the European Commission issued under Council Directive 98/34/EC (as amended) [i.1] 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").

For non-EEA countries the present document may be used for regulatory (type approval) purposes.

The requirements relevant to Directive 1999/5/EC [i.2] are summarised 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); Equipment for Detection and Movement; Tanks Level Probing Radar (TLPR) operating in the frequency bands 5,8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz; as identified below:

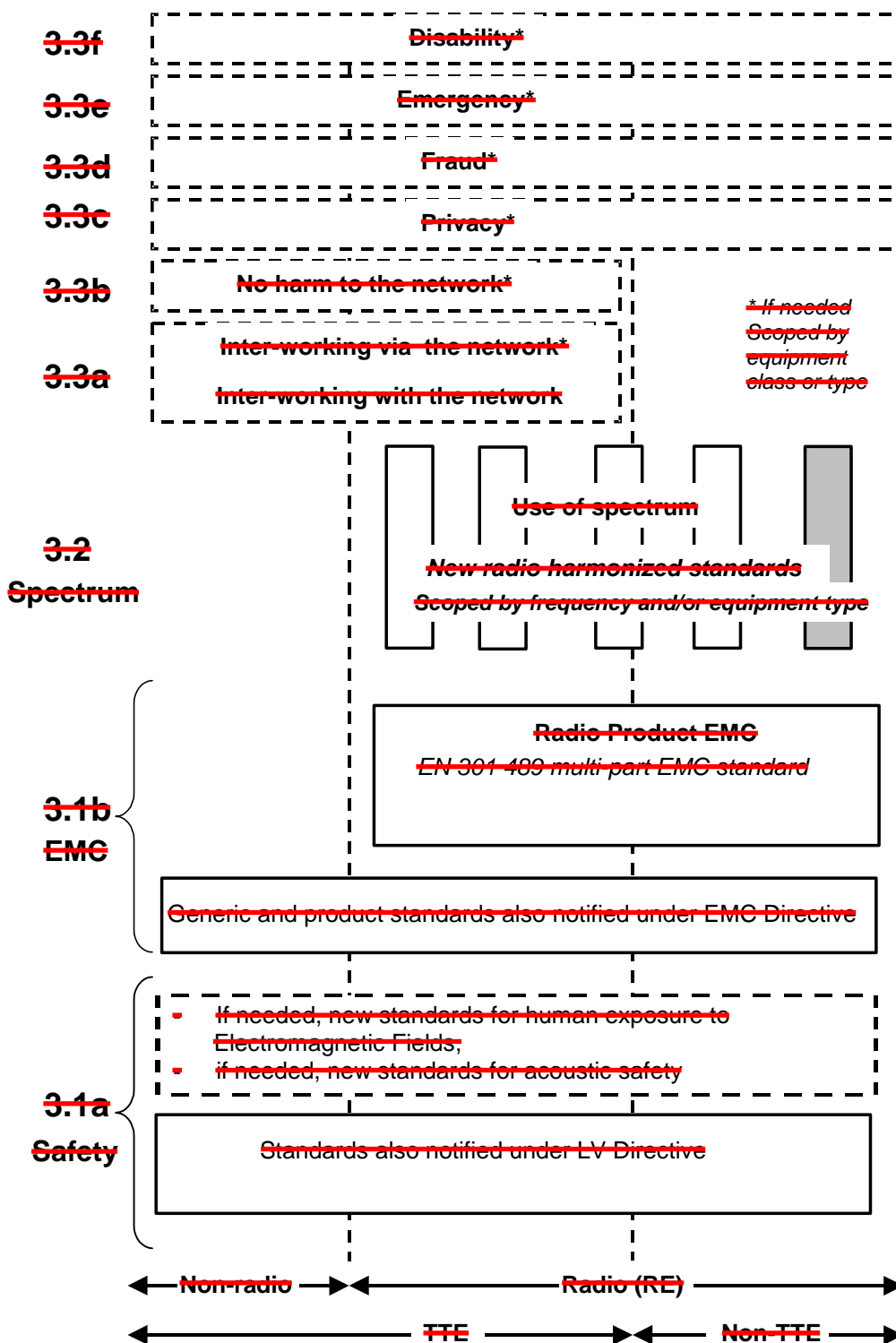
Part 1: "Technical characteristics and test methods";

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>21 February 2011</u>
Date of latest announcement of this EN (doa):	<u>31 May 2011</u>
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	<u>30 November 2011</u>
Date of withdrawal of any conflicting National Standard (dow):	<u>30 November 2012</u>

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]~~

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 [5].

The left hand edge of the figure 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 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.

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 [1] 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 [1] 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 articles 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.

1 Scope

The present document specifies the requirements for Tank Level Probing Radar (TLPR) applications based on pulse RF, FMCW, or similar wideband techniques, operating in the following frequency bands or part hereof as specified in table 1.

Table 1: Frequency bands designated to Tank Level Probing Radars (TLPR)

	<u>Frequency Bands/frequencies (GHz)</u>
<u>Transmit and Receive</u>	<u>4.5 to 7</u>
<u>Transmit and Receive</u>	<u>8.5 to 10.6</u>
<u>Transmit and Receive</u>	<u>24.05 to 26.5</u>
<u>Transmit and Receive</u>	<u>57 to 64</u>
<u>Transmit and Receive</u>	<u>75 to 85</u>

Table 1 shows a list of the frequency bands as designated to Tank Level Probing Radars in the EC-Decision 2009/381 [i 4] and CEPT/ERC/Recommendation 70-03 [i 3] as known at the date of publication of the present document.

TLPRs are used for tank level measurement applications.

The scope is limited to TLPRs operating as Short Range Devices, in which the devices are installed in closed metallic tanks or reinforced concrete tanks, or similar enclosure structures made of comparable attenuating material, holding a substance, liquid or powder.

The radar applications in the present document are not intended for communications purposes. Their intended usage excludes any intended radiation into free space.

The present document applies to TLPRs radiating RF signals directly from the tank top downwards to the surface of a substance contained in a closed tank. Any radiation outside of the tank is caused by leakage and is considered as unintentional emission. It applies only to TLPRs fitted with dedicated antennas. The present document does not necessarily include all the characteristics, which may be required by a user, nor does it necessarily represent the optimum performance achievable.

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 302 372-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Equipment for Detection and Movement; Tanks Level Probing Radar (TLPR) operating in the frequency bands 5,8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz; Part I: Technical characteristics and test methods".

1 Scope

The present document specifies the requirements for Tank Level Probing Radar (TLPR) applications based on pulse RF, FMCW, or similar wideband ~~techniques.~~

The radar applications in the present document are ~~limited to TLPRs operating as short range devices, in which the devices are installed in closed metallic tanks or reinforced concrete tanks, or similar enclosure structures made of comparable attenuating material, holding a substance, liquid or powder.~~

~~TLPRs are only used for tank level measurement applications where TLPRs are radiating RF signals directly from the tank top downwards to the surface of a substance contained in a closed tank. Any radiation outside of the tank is caused by leakage and is considered as unintentional emission.~~

~~The present document applies only to TLPRs fitted with integrated and dedicated antennas as given in table 1.~~

Table 1: Frequency bands

Equipment	Frequency bands
TLPR	4,5 GHz to 7 GHz; 8,5 GHz to 10,6 GHz; 24,05 GHz to 27 GHz; 57 GHz to 64 GHz; 75 GHz to 85 GHz.

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

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, edition number, version number, etc.) 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 301 489-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements".~~

2.2 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 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] CEPT/ERC/Recommendation 70-03: "Relating to the use of Short Range Devices (SRD)".
- [i.4] Commission Decision 2006/771/EC on harmonization of the radio spectrum for use by short range devices as amended by commission decision 2009/381/EC.
- [i.5] ETSILEG 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"

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 [i.2] and EN 302 372-1 [1] apply.

3.2 Symbols

For the purposes of the present document, the symbols given in EN 302 372-1 [1] apply.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in EN 302 372-1 [1] 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.

- [3] ~~ETSI EN 302 372-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Equipment for Detection and Movement; Tanks Level Probing Radar (TLPR) operating in the frequency bands 5,8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz; Part 1: Technical characteristics and test methods".~~
- [4] ~~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".~~

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 302 372-1 [3] apply.

3.2 Symbols

For the purposes of the present document, the symbols given in EN 302 372-1 [3] apply.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in EN 302 372-1 [3] 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 band of operation

The frequency band of operation, as defined in EN 302 372-1 [3] ~~clause 8.1.1~~, shall not exceed the limits in EN 302 372-1 [3] clause 8.1.3.

4.2.1.2 Duty cycle

The provider of the equipment shall declare the transmit duty ~~cycle~~, as defined in EN 302 372-1 [3], ~~clause 8.2 according to this clause~~.

~~The equipment shall not exceed the limits in EN 302 372-1 [3], clause 8.2 tables 4 and 5 as declared by the provider.~~

4.2 Conformance requirements

4.2.1 Transmitter requirements

4.2.1.1 Frequency band of operation

The frequency band of operation, as defined in EN 302 372-1 [1], clause 8.1.1 shall not exceed the limits in EN 302 372-1 [1], clause 8.1.3.

4.2.1.2 Duty cycle

The provider of the equipment shall declare the transmit duty cycle D_T , as defined in EN 302 372-1 [1], clause 8.2.1. The equipment shall not exceed the D_T limits in EN 302 372-1 [1], clause 8.2 table 6 as declared by the provider. In addition, the duty cycle D_V shall not exceed the limits in EN 302 372-1 [1], clause 8.2.2.1, table 7.

4.2.1.3 Equivalent isotropically radiated power

The equivalent isotropically radiated power, as defined in EN 302 372-1 [1], clause 8.3.1 shall not exceed the limits in EN 302 372-1 [1], clause 8.3.3.

4.2.1.4 Emissions

The emissions, as defined in EN 302 372-1 [1], clause 8.4.1 shall not exceed the limits in EN 302 372-1 [1], clause 8.4.3.

4.2.1.5 Installation requirements

The installation requirements, as defined in EN 302 372-1 [1], normative annex B shall apply.

4.2.1.6 Range of modulation parameters

The Range of modulation schemes as defined in EN 302 372-1 [1], normative annex G shall apply.

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 Interpretation of measurement results

The interpretation of the measurement results specified in EN 302 372-1 [1], clause 4.9 shall apply.

5.3 Conformance radio test suites

The essential radio test suites referred to in annex III of the R&TTE Directive [i.2] are included in the following conformance radio test suite.

4.2.1.3 Equivalent isotropically radiated power

The equivalent isotropically radiated power, as defined in EN 302 372-1 [~~3~~], ~~clause 8.3.1~~, shall not exceed the limits in EN 302 372-1 [~~3~~] clause 8.3.3.

4.2.1.4 Emissions

The emissions, as defined in EN 302 372-1 [~~3~~], ~~clause 8.4.1~~, shall not exceed the limits in EN 302 372-1 [~~3~~] clause 8.4.3.

4.2.1.5 Installation requirements

The installation requirements, as defined in EN 302 372-1 [~~3~~] normative annex ~~B~~, shall apply.

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 Interpretation of measurement results

The interpretation of the measurement results specified in EN 302 372-1 [~~3~~], ~~clause 4.6~~ shall apply.

5.3 Conformance radio test suites

The essential radio test suites referred to in annex III of the R&TTE Directive [~~4~~] are included in the following conformance radio test suite.

5.3.1 Normal and extreme ~~test~~ conditions

The test conditions shall be as declared by the manufacturer.

The test procedures shall be as specified in EN 302 372-1 [~~3~~], ~~clauses 5.3, 5.4.1 and 5.4.2~~.

5.3.2 Test power source

The test power source shall meet the requirements of EN 302 372-1 [~~3~~], clause 5.2.

5.3.3 Choice of samples for test suites

Measurement shall be performed, according to the present document, on samples of equipment defined in EN 302 372-1 [~~3~~], ~~clauses 4.2~~.

5.3.4 Transmitter test suites

5.3.5 Frequency band of operation

The test specified in EN 302 372-1 [~~3~~], ~~clause 8.1.2 shall be carried out~~.

5.3.1 Normal and extreme test conditions

The test conditions shall be as declared by the manufacturer.

The test procedures shall be as specified in EN 302 372-1 [~~1~~], clause 5.3.

5.3.2 Test power source

The test power source shall meet the requirements of EN 302 372-1 [~~1~~], clause 5.2.

5.3.3 Choice of samples for test suites

Measurement shall be performed, according to the present document, on samples of equipment defined in EN 302 372-1 [~~1~~], clause 4.2.

5.3.4 Transmitter test suites

5.3.5 Frequency band of operation

The test specified in EN 302 372-1 [~~1~~], clause 8.1.2 shall be carried out.

5.3.6 Equivalent radiated power

The test specified in EN 302 372-1 [~~1~~], clause 8.3.2 shall be carried out.

5.3.7 Emissions

The test specified in EN 302 372-1 [~~1~~], clause 8.4.2 shall be carried out.

5.3.8 Duty Cycle

The duty cycle D_x test specified in EN 302 372-1 [~~1~~], clause 8.2.2.1 shall be carried out.

5.3.6 Equivalent radiated power

The test specified in EN 302 372-1 [~~3~~], clause 8.3.2 shall be carried out.

5.3.7 Emissions

The test specified in EN 302 372-1 [~~3~~], clause ~~8.4.2~~ shall be carried out.

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 302 372-2						
The following technical requirements and test specifications are relevant to the presumption of conformity under <u>article 3.2 of the R&TTE Directive [1]</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>
1	Frequency band of operation	4.2.1.1	U		E	5.3.5
2	Duty cycle	4.2.1.2	U		E	<u>5.3.8</u>
3	Equivalent isotropically radiated power	4.2.1.3	<u>U</u>		<u>E</u>	<u>5.3.6</u>
<u>4</u>	<u>Emissions</u>	<u>4.2.1.4</u>	<u>U</u>		<u>E</u>	<u>5.3.7</u>
<u>5</u>	<u>Installation requirements</u>	<u>4.2.1.5</u>	<u>U</u>		<u>X</u>	
<u>6</u>	<u>Range of modulation parameters</u>	<u>4.2.1.6</u>	<u>U</u>		<u>X</u>	

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.

~~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.~~

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

Harmonized Standard EN 302 372-2							
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	Frequency band of operation	4.2.1.1	U		E	5.3.5	
2	Duty cycle	4.2.1.2	U		E		
3	Equivalent isotropically radiated power	4.2.1.3	⊖	Applies to TLPR when measured in an anechoic chamber	⊖	5.3.6	
4	Emissions	4.2.1.4	⊖	Applies to TLPR when mounted on a test tank	E	5.3.7	
5	Installation requirements	4.2.1.5	U	It is required to inform users and installers of TLPR equipment about the installation requirements	E		

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" 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.

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

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.

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

Language	EN title
Czech	Elektromagnetická kompatibilita a rádiové spektrum (ERM); Zařízení krátkého dosahu (SRD); Zařízení pro detekci a pohyb - Radar pro sondování výšky hladiny v nádržích (TLPR) pracující v kmitočtových pásmech 5,8 GHz, 10 GHz, 25 GHz, 61 GHz a 77 GHz - Část 2: Harmonizovaná EN podle článku 3.2 Směrnice R&TTE
Danish	Elektromagnetisk kompatibilitet og spektrumanliggender (ERM); Apparater med kort rækkevidde (SRD); Udstyr til bevægelsesdetektion og stedbestemmelse; Radarsystemer til niveaumåling i tanke, der benytter frekvensbåndene 5,8, 10, 25, 61 og 77 GHz; Del 2: Harmoniseret EN, der dækker de væsentlige krav i R&TTE direktivets artikel 3.2
Dutch	Elektromagnetische compatibiliteit en radiospectrumaangelegenheden (ERM); Kortbereik apparatuur (SRD); Apparatuur voor detectie en beweging; Tankniveau-sondering radar (TLPR) werkend in de frequentie banden 5, 8, 10, 25, 61 en 77 GHz; Deel 2: Geharmoniseerde EN onder artikel 3.2 van de R&TTE Directive
English	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Equipment for Detection and Movement; Tanks Level Probing Radar (TLPR) operating in the frequency bands 5,8, 10, 25, 61 and 77 GHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
Estonian	Elektromagnetilise ühilduvuse ja raadiospektri küsimused (ERM); Lühitoimeseadmed; Tuvastamis- ja liikumisandurid; Raadiosagedusalades 5,8, 10, 25, 61 ja 77 GHz töötavad mahuti taseme eendeerimisradarid (TLPR); Osa 2: Harmoniseeritud EN R&TTE direktiivi artikli 3.2 alusel
Finnish	Sähkömagneettinen yhteensopivuus ja radiospektriasiat (ERM); Lyhyen kantaman laitteet (SRD); Oaiteiden sisällön pinnankorkeutta mittaavat tutkat (TLPR), jotka toimivat 5,8, 10, 25, 61 ja 77 GHz:n taajuuksilla; Osa 2: R&TTE direktiivin artiklaan 3.2 perustuva yhdenmukaistettu standardi (EN)
French	Télécommunications - GEM et spectre radioélectrique (ERM) - Appareils à faible portée (SRD) - Equipements pour la détection et le mouvement - radar de sondage de niveau dans un réservoir (TLPR) opérant dans les bandes de fréquences 5,8, 10, 25, 61 et 77 GHz - Partie 2: norme harmonisée sous couvert de l'article 3.2 de la Directive R&TTE
German	Elektromagnetische Verträglichkeit und Funk Spektrumangelegenheiten (ERM) - Funkanlagen mit geringer Reichweite (SRD) - Einrichtung zur Erfassung von Bewegungen - Radar zur Sondierung des Füllstands von Tanks (TLPR), das in den Frequenzbändern 5,8, 10, 25, 61 und 77 GHz arbeitet - Teil 2: Harmonisierte EN nach Artikel 3.2 der R&TTE Richtlinie
Greek	Ηλεκτρονική Συμβατότητα και Θέρια Ραδιοσφάματος (ERM) - Συσκευές μικρής εμβέλειας (SRD) - Ελεγκτικές για ανίχνευση και μετακίνηση - Ραντάρ ανίχνευσης στάθμης δεξαμενών (TLPR) που λειτουργεί στις ζώνες συχνοτήτων 5,8, 10, 25, 61 και 77 GHz - Μέρος 2: Εναρμονισμένο EN για την κάλυψη του άρθρου 3.2 της Οδηγίας R&TTE
Hungarian	Elektromágneses összeférhetőségi és rádióspektrumügyek (ERM); Kis hatótávolságú eszközök (SRD); Érzékelő és mozgásérzékelő berendezések; Tartálysintet érzékelő 5,8 GHz-es, valamint 10, 25, 61 és 77 GHz-es frekvenciasávban működő radar (TLPR); 2. rész: Az R&TTE irányelv 3.2. cikkelye alá tartozó, harmonizált európai szabvány
Icelandic	Þættir sem varða rafoeguleviðsamhæfi og fjarokiptatíðni (ERM); Skammtdreg tæki (SRD); Búnaður til skynjunar og hreyfingar; Ratsjár til könnunar á vökvahæð í tönkum (TLPR) sem starfa á tíðnisviðunum 5,8 GHz, 10 GHz, 25 GHz, 61 GHz, og 77 GHz; Hluti 2: Samræmdir Evrópustaðall skv. 2. mgr. 3. gr. í tiloklipun 1999/5/EG um fjarokiptabúnað og endabúnað til fjarokipta
Italian	Compatibilità elettromagnetica e problematiche di Spettro Radio (ERM); Dispositivi a breve portata (SRD); Appareati per la rilevazione e il movimento; Radar per la rilevazione del livello del serbatoio (TLPR) operanti nelle bande di frequenze a 5,8, 10, 25, 61 e 77 GHz; 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); noteikšanas un kustības iekārtas; Tvertņu līmeņa zondēšanas radari (TLPR), kas darbojas 5,8 GHz, 10 GHz, 25 GHz, 61 GHz un 77 GHz frekvenču joslās; 2.daļa: Harmonizēts Eiropas standarts (EN), kas atbilst R&TTE direktīvas 3.2.punktam
Lithuanian	Elektromagnetinio suderinamumo ir radijo dažnių spektro dalykai; Trumpojo nuotolio įtaisai; Aptikimo ir judėjimo nuotatymo įranga; Rezervuarų lygio zondavimo radarai, veikiančio 5,8, 10, 25, 61 ir 77 GHz dažnių juostose; 2 dalis: Damnis Europos standartas pagal 1999/5/EG* direktyvos 3.2 straipsnį
Maltese	Compatibilità elettromagnetika u materji relatati ma' spettru radjofoniku (ERM); Apparati ta' Medda Qasira (SRD); Tagħmir għas-Sejbien u Movement; Radar li Jfittex f' "Livell ta' Tankijiet (TLPR) li jopera fil-medda ta' frekwenzi 5,8, 10, 25, 61 u 77 GHz; Parti 2: EN armonizzata taħt l-artiklu 3.2 tad-Direttiva R&TTE
Norwegian	Elektromagnetisk kompatibilitet og radiospektrumspørsmål (ERM); Kortdistanseutstyr (SRD); Utstyr for deteksjon og bevegelse; Måleradar for tanknivå (TLPR) som opererer i frekvensbåndene 5,8,10,25,61 og 77 GHz; Del 2: Harmonisert EN under artikkel 3.2 i R&TTE direktivet

History

<u>Document history</u>				
<u>V1 1 1</u>	<u>April 2006</u>	<u>Publication</u>		
<u>V1 2 1</u>	<u>August 2010</u>	<u>Public Enquiry</u>	<u>PE 20101214:</u>	<u>2010-08-16 to 2010-12-14</u>
<u>V1 2 1</u>	<u>December 2010</u>	<u>Vote</u>	<u>V 20110219:</u>	<u>2010-12-21 to 2011-02-21</u>
<u>V1 2 1</u>	<u>February 2011</u>	<u>Publication</u>		

Language	EN title
Polish	Kompatybilność elektromagnetyczna i zagadnienia widma radiowego (ERM) – Urządzenia bliskiego zasięgu (SRD) – Urządzenia lokalizacji i ruchu – Radarowe czujniki poziomu zbiorników (TLPR) pracujące w pasmach częstotliwości 5,8 GHz, 10 GHz, 25 GHz, 61 GHz i 77 GHz – Część 2: Zharmonizowana EN zgodna z wymaganiami artykułu 3.2 dyrektywy R&TTE
Portuguese	
Slovak	Elektromagnetická kompatibilita a záležitosti rádiového spektra (ERM) – Zariadenia s krátkym dosahom (SRD) – Zariadenia na detekciu a pohyb – Radar na sondovanie hladiny v nádržiach (TLPR) pracujúci vo frekvenčných pásmach 5,8 GHz, 10 GHz, 25 GHz, 61 GHz a 77 GHz – 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) – Oprema za odkrivanje in premikanje – Radar za sondiranje nivoja v rezervoarjih (TLPR), ki obratuje v frekvenčnih pasovih 5,8 GHz, 10 GHz, 25 GHz, 61 GHz in 77 GHz – 2. del: Harmonizirani EN v skladu s členom 3.2 direktive R&TTE
Spanish	
Swedish	Elektromagnetisk kompatibilitet och radiospektrumfrågor (ERM); Kortdistansutrustningar (SRD); Utrustning för detektering och manövrering; Radar för nivåmätning i behållare (TLPR) arbetande i frekvensbanden 5,8, 10, 25, 61 och 77 GHz; Del 2: Harmoniserad EN enligt artikel 3.2 i R&TTE direktivet

~~Annex C (informative): Bibliography~~

- ~~Council Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations (EMC Directive).~~
- ~~ETSI TR 102 215: "Electromagnetic compatibility and Radio spectrum Matters (ERM), Recommended approach, and possible limits for measurement uncertainty for the measurement of radiated electromagnetic fields above 1 GHz".~~
- ~~CEPT/ERC/Recommendation 70-03: "Relating to the use of Short Range Devices (SRD)".~~
- ~~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				
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