SLOVENSKI STANDARD
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Naprave kratkega dosega (SRD) za uporabo v frekvenčnih območjih od 40 GHz do 260 GHz - Harmonizirani standard za dostop do radijskega spektra - 5.del: Komunikacijska oprema ultra kratkega dosega (USRC), ki deluje v območju od 57 GHz do 64 GHz

Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range - Harmonised Standard for access to radio spectrum - Part 5: Ultra Short Range Communication (USRC) equipment operating within 57 GHz to 64 GHz

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Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range; Harmonised Standard for access to radio spectrum; Part 5: Ultra Short Range Communication (USRC) equipment operating within 57 GHz to 64 GHz

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Contents

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Foreword

This draft Harmonised European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI Standardisation Request deliverable Approval Procedure (SRdAP).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.3] to provide one voluntary means of conforming to the essential requirements of Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC [i.4].

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in Table A.1 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

The present document is part 5 of a multi-part deliverable covering Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range; Harmonised standard for access to radio spectrum, as identified below:

Part 1: "Communication devices within 57 GHz to 64 GHz, 122 GHz to 123 GHz or 244 GHz to 246 GHz";

Part 2: "Radiodetermination for industrial applications (RDI & RDI-S) equipment operating within 116 GHz to 260 GHz";

Part 3: "Radiodetermination for consumer applications within 57 GHz to 64 GHz, 122 GHz to 130 GHz, 134 GHz to 148,5 GHz or 244 GHz to 246 GHz";

Part 4: "Radiodetermination devices at vehicles within 57 GHz to 64 GHz";

Part 5: "Ultra Short Range Communication (USRC) equipment operating within 57 GHz to 64 GHz";

Part 6: "Specific radiodetermination applications - Tank Level Probing Radar (TLPR) and Level Probing Radar (LPR) equipment operating in the frequency ranges 116 GHz to 148,5 GHz; 167 GHz to 182 GHz and 231,5 GHz to 250 GHz".

Part 7: "In-cabin radiodetermination devices in vehicles within 122,25 GHz to 130 GHz and 134 GHz to 148,5 GHz".

Part 8: "Exterior radiodetermination devices on vehicles within 122,25 GHz to 130 GHz and 134 GHz to 148,5 GHz".

Part 9: "Radiodetermination for industrial applications (like RDI & RDI-S) equipment operating within 57 GHz to 64 GHz".

NOTE: The list above shows the planned multi-part deliverables, at the time, when the present document was finalized.

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

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

The present document is the first version of the harmonised standard ETSI EN 305 550-5 for Ultra Short Range Communication (USRC) equipment within 57 GHz to 64 GHz, and it is part of the standard family ETSI EN 305 550-x for Short Range Devices between 40 GHz and 260 GHz, see foreword in the present document

1 Scope

The present document specifies technical characteristics, limits and methods of measurements for Ultra Short Range Communication (USRC) equipment operating in the 57 GHz to 64 GHz frequency range.

Further details for the covered Ultra Short Range Communication (USRC) equipment can be found in clause 4.2 of the present document.

NOTE: The relationship between the present document and essential requirement of article 3.2 of Directive 2014/53/EU [i.4] is given in Annex A.

2 References

2.1 Normative 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 referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found in the ETSI docbox.

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

The following referenced documents are necessary for the application of the present document.

[1] ETSI EN 303 883-1 (V2.1.1) (2024-08): "Short Range Devices (SRD) and Ultra Wide Band (UWB); Part 1: Measurement techniques for transmitter requirements".

[2] ETSI EN 303 883-2 (V2.1.1) (2024-08): "Short Range Devices (SRD) and Ultra Wide Band (UWB); Part 2: Measurement techniques for receiver requirements".

[3] ETSI TS 103 941 (V1.1.1) (2024-01): "Short Range Devices (SRD) and Ultra Wide Band (UWB); Measurement setups and specifications for testing under full environmental profile (normal and extreme environmental conditions)".

2.2 Informative 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 referenced document (including any amendments) applies.

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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] Commission Implementing Decision (EU) 2025/105 of 22 January 2025 amending Decision 2006/771/EC updating harmonised technical conditions in the area of radio spectrum use for short-range devices and repealing Implementing Decision 2014/641/EU on harmonised technical conditions of radio spectrum use by wireless audio programme making and special events equipment in the Union.

[i.2] ERC Recommendation 74-01: "Unwanted emissions in the spurious domain", Approved 1998 Corrected 23 May 2022.

[i.3] Commission Implementing Decision C (2015) 5376 final of 05.08.2015 on a standardisation request to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards radio equipment in support of Directive 2014/53/EU of the European Parliament and of the Council.

[i.4] Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.

[i.5] ETSI EG 203 336 (V1.2.1) (2020-05): "Guide for the selection of technical parameters for the production of Harmonised Standards covering article 3.1(b) and article 3.2 of Directive 2014/53/EU".

[i.6] ETSI TS 103 567 (V1.1.1) (2019-09): "Requirements on signal interferer handling".

[i.7] ECC Report 173: "Fixed Service in Europe Current use and future trends post 2022", approved 04 April 2012, last updated: 9 June 2023.

[i.8] ECC Decision (11)02: "Industrial Level Probing Radars (LPR) operating in frequency bands 6-8.5 GHz, 24.05-26.5 GHz, 57-64 GHz and 75-85 GHz", approved 11 March 2011, latest amended on 5 July 2019 (ECC#52).

[i.9] ECC Decision (09)01: "Harmonised use of the 63.72-65.88 GHz frequency band for Intelligent Transport Systems (ITS)", approved 13 March 2009, latest amended on 5 July 2019 (ECC#51).

[i.10] ECO Frequency Information System.

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI EN 303 883-1 [1], ETSI EN 303 883-2 [2] and the following apply:

advertising mode: waiting for companion equipment (companion equipment is not present)

companion equipment: equipment, which is intended to be used in conjunction with the equipment under test for communication as the second part of the USRC system

integral antenna: antenna designed to be connected to the equipment without the use of an external connector and considered to be part of the equipment

NOTE: An integral antenna is fixed internally or externally to the equipment housing.

receiver: USRC equipment with a receive only mode

transceiver: USRC equipment with a transmit and receive mode (simultaneously or sequentially

transmitter: USRC equipment with a transmit only mode

Ultra Short Range Communication Equipment (USRC): one transceiver, or one transmitter, or one receiver of a USRC system

USRC system: combination of two USRC equipment with at least one USRC equipment with transmit mode capability (transmitter or transceiver) and one USRC equipment with receive mode capability (transceiver or receiver) (covered by the present document) with integral antennas which are able to operate in conjunction with each other over an ultra short distance (according to the categories in Table 1) between both equipment

3.2 Symbols

For the purposes of the present document, the symbols given in ETSI EN 303 883-1 [1], ETSI EN 303 883-2 [2] and the following apply:

D	Distance between the enclosure of the equipment under test and the enclosure of the companion equipment in the orientation according to its intended use (see also clause 4.2)
D_{min};	Minimum distance between the enclosure of the equipment under test and the companion equipment in the orientation according to its intended use (see also clause 4.2)
D_{max}:	Maximum distance between the enclosure of the equipment under test and the companion equipment in the orientation according to its intended use (see also clause 4.2)
D_{sens}:	Minimum distance between the enclosure of the equipment under test and the companion equipment used for receiver baseline sensitivity test and dynamic range in the orientation according to its intended use (see also clause 4.4.5 and 4.4.6)
D_{dyn}:	Maximum distance between the enclosure of the equipment under test and the companion equipment in the orientation according to its intended used within its performance criteria (see clause 4.4.2)
f_C	Center frequency of the OFR
f_H	step higher edge of the OFR within the relative measurement at one environmental profile point
f_{H_abs}	higher edge of the OFR within the absolute measurement under normal conditions
f_{H_REF}	higher edge of the OFR within the relative measurement under normal conditions
f_{H_step}	higher edge of the OFR within the relative measurement at one environmental profile point
$f_{L,abs}$	lower edge of the OFR within the absolute measurement under normal conditions
f_{L_REF}	lower edge of the OFR within the relative measurement under normal conditions
f_{L_step}	lower edge of the OFR within the relative measurement at one environmental profile point
P_{step}	measured emission level (at each environmental profile point)
REF_{fL}	measured relative reference for f_L
REF_{fH}	measured relative reference for f_H
RBW	resolution band width of the spectrum analyser
SWT	Sweep time of the spectrum analyser
t_{low}	lowest value of the environmental profile
t_{high}	highest value of the environmental profile
t_{steps}	steps in deg [°C or kelvin] from one to the next environmental profile point
t_{step}	environmental profile point
T_{dis}	Time interval below which interruptions within a transmission are considered part of T_{on} (disregarded time)
T_{on}	Transmission "on" time

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI EN 303 883-1 [1], ETSI EN 303 883-2 [2] and the following apply:

DC	Duty Cycle
RL	Regulated Limit
USRC	Ultra Short Range Communication
VBW	Video BandWidth of the spectrum analyser

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 in accordance with its intended use, but as a minimum, shall be that specified in the test conditions contained in the present document. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the operational environmental profile defined by its intended use.