
Naprave kratkega dosega (SRD), ki uporabljajo ultra širokopasovno (UWB) tehnologijo - Harmonizirani standard za dostop do radijskega spektra - 3. del: Naprave UWB, vgrajene v motorna in železniška vozila - 1. poddel: Zahteve za ultra širokopasovne (UWB) naprave za avtomobilске sisteme za dostop v območju od 3,8 GHz do 4,2 GHz ali od 6 GHz do 8,5 GHz

Short Range Devices (SRD) using Ultra Wide Band technology (UWB) - Harmonised standard for access to radio spectrum - Part 3: UWB devices installed in motor and railway vehicles - Sub-part 1: Requirements for UWB devices for vehicular access systems within 3,8 GHz to 4,2 GHz or 6 GHz to 8,5 GHz

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**Short Range Devices (SRD)
using Ultra Wide Band technology (UWB);
Harmonised standard for access to radio spectrum;
Part 3: UWB devices installed in motor and railway vehicles;
Sub-part 1: Requirements for UWB devices for vehicular
access systems within 3,8 GHz to 4,2 GHz or 6 GHz to 8,5 GHz**

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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.

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.2] 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.1].

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 3, sub-part 1 of a multi-part deliverable covering Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised standard for access to radio spectrum, as identified below:

Part 1: "Generic UWB devices":

Sub-part 1: "Communication devices within 3,1 GHz to 4,8 GHz using LDC mitigation or within the 6 GHz to 8,5 GHz".

Part 2: "Ultra Wide Band location tracking devices":

Sub-part 1: "Requirements for devices within 6 GHz to 8,5 GHz";

Sub-part 2: "Requirements for devices in the frequency band between 3,1 GHz to 4,8 GHz utilizing LDC mitigation technique";

Sub-part 3: "Requirements for fixed infrastructure UWB based localization systems in the frequency band between 3,1 GHz to 4,8 GHz deploying Detect-And-Avoid (DAA) mitigation technique";

Sub-part 4: "Requirements for fixed outdoor devices within 6,0 GHz to 8,5 GHz";

Sub-part 5: "Requirements for enhanced indoor devices within 6,0 GHz to 8,5 GHz".

Part 3: "UWB devices installed in motor and railway vehicles":

Sub-part 1: "Requirements for UWB devices for vehicular access systems within 3,8 GHz to 4,2 GHz or 6 GHz to 8,5 GHz";

Sub-part 2: "Requirements for location tracking devices installed in rail and road vehicles operating in the frequency range of 3,1 GHz to 4,8 GHz or 6,0 GHz to 8,5 GHz";

Sub-part 3: "Requirements for UWB radiodetermination applications operating within 6,0 GHz to 8,5 GHz".

Part 4: "Material Sensing devices":

Sub-part 1: "Building material analysis below 10,6 GHz";

Sub-part 2: "UWB Material Sensing devices for Security Scanning";

Sub-part 3: "Ground humidity and condition sensor below 10,6 GHz";

Sub-part 4: "Exterior material sensing applications for ground based vehicles below 10,6 GHz";

Sub-part 5: "UWB surveillance devices for parking lot sensors below 10,6 GHz".

Part 5: "Devices using UWB technology onboard aircraft";

Part 6: "Ultra Wide Band (radio-determination for radar sensing devices":

Sub-part 1: "Requirements for presence detection applications within 6,0 GHz to 8,5 GHz";

Sub-part 2: "Requirements for generic UWB through-air non-contact vital signs applications within 6,0 GHz to 8,5 GHz";

Sub-part 3: "Requirements for fixed outdoor presence detection devices within 6,0 GHz to 8,5 GHz";

Sub-part 4: "Requirements for fixed outdoor through-air non-contact vital signs applications within 6,0 GHz to 8,5 GHz";

Sub-part 5: "Requirements for enhanced indoor presence detection devices within 6,0 GHz to 8,5 GHz";

Sub-part 6: "Requirements for enhanced indoor through-air non-contact vital signs applications within 6,0 GHz to 8,5 GHz".

NOTE: Part 4, sub-parts 2 (UWB Material Sensing devices for Security Scanning), 3 (Ground humidity and condition sensor below 10,6 GHz) and 5 (UWB surveillance devices for parking lot sensors below 10,6 GHz) of this multi-part deliverable are under discussion (change WI) or will be stopped.

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

For the case of the present document, the applicable harmonised standard has been ETSI EN 302 065-3 [i.12], for UWB devices for ground based vehicular applications, which was published in the OJEU without restriction at 10 March 2017 [i.9] and then published at 5 February 2020 [i.10] with the following restriction:

- *"This harmonised standard does not set out technical specifications for 'trigger before-transmit techniques'. Implementing Decision (EU) 2019/785, however, imposes, as of 16 November 2019, technical requirements to be used within the bands 3,8-4.2 GHz and 6-8,5 GHz for vehicular access systems using trigger-before transmit. Therefore compliance with this harmonised standard does not ensure compliance with Decision (EU) 2019/785 and accordingly does not confer a presumption of conformity with those essential requirements set out in Article 3 (2) of Directive 2014/53/EU which relate to 'trigger-before-transmit techniques'".*

In order to consider the above points, ETSI ERM TGUWB decided to develop more specific standards; for the present document this means instead of a generic ETSI EN 302 065-3 [i.12] standard for all road and rail vehicles applications, an ETSI EN 302 065-3-1 for UWB devices for vehicular access systems. Other sub-parts for UWB devices installed in motor and railway vehicles may follow (ETSI EN 302 065-3-x).

More details on the changes of the present document to previous versions are provided in annex F.

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1 Scope

The present document specifies technical requirements, limits and test methods for equipment employing UWB for vehicular access devices installed in motor and railway vehicles in the frequency ranges 3,8 GHz to 4,2 GHz and 6,0 GHz to 8,5 GHz.

These equipment types are intended to be utilized for vehicle access, vehicle immobilization and extended vehicle access control functionalities (like closing windows or remotely starting the car).

Further details of the covered EUT can be found in clause 4.2 in the present document.

NOTE: The relationship between the present document and essential requirements of article 3.2 of Directive 2014/53/EU [i.1] 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.

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

- [1] [ETSI EN 303 883-1 \(V2.1.1\) \(06-2024\)](#): "Short Range Devices (SRD) and Ultra Wide Band (UWB); Part 1: Measurement techniques for transmitter requirements".
- [2] [ETSI EN 303 883-2 \(V2.1.1\) \(06-2024\)](#): "Short Range Devices (SRD) and Ultra Wide Band (UWB); Part 2: Measurement techniques for receiver requirements".
- [3] [ETSI TS 103 941 \(V1.1.1\) \(01-2024\)](#): "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] [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 (RE-Directive).
- [i.2] [Commission implementing Decision C\(2015\) 5376 final of 4.8.2015](#) 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.3] ETSI TR 103 416 (V1.1.1) (07-2016): "System Reference document (SRdoc); Short Range Devices (SRD) using Ultra Wide Band (UWB); Technical characteristics and spectrum requirements for UWB based vehicular access systems for operation in the 3,4 GHz to 4,8 GHz and 6 GHz to 8,5 GHz frequency ranges".
- [i.4] [ECC/DEC/\(06\)04](#): "ECC Decision of 24 March 2006 on the harmonised use, exemption from individual licensing and free circulation of devices using Ultra-Wideband (UWB) technology in bands below 10.6 GHz (ECC Decision (06)04), amended on 6 July 2007, amended 9 December 2011, amended on 8 March 2019 and amended 18 November 2022".
- [i.5] ETSI TS 103 361 (V1.1.1) (03-2016): "Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Receiver technical requirements, parameters and measurement procedures to fulfil the requirements of the Directive 2014/53/EU".
- [i.6] [ECC Report 278 \(27 April 2018\)](#): "Specific UWB applications in the band 3.4-4.8 GHz and 6.0-8.5 GHz: Location tracking and sensor applications (LTA) for vehicular access systems".
- [i.7] [Commission Implementing Decision \(EU\) 2024/1467 of 27 May 2024](#) amending Implementing Decision (EU) 2019/785 on the harmonisation of radio spectrum for equipment using ultra-wideband technology in the Union.
- [i.8] [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.
- [i.9] [Official Journal of the European Union, 13.7.2018](#): "Commission communication in the framework of the implementation of Directive 1999/5/EC of the European Parliament and of the Council on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity and Directive 2014/53/EU of the European Parliament and of the Council 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.10] [Commission Implementing Decision \(EU\) 2020/167 of 5 February 2020](#) on the harmonised standards for radio equipment drafted in support of Directive 2014/53/EU of the European Parliament and of the Council.
- [i.11] [ECC/DEC/\(20\)01](#): "ECC Decision of 20 November 2020 on the harmonised use of the frequency band 5945-6425 MHz for Wireless Access Systems including Radio Local Area Networks (WAS/RLAN)".
- [i.12] ETSI EN 302 065-3 (V2.1.1): "Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 3: Requirements for UWB devices for ground based vehicular applications".
- [i.13] ETSI EG 203 336 (V1.2.1): "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.14] ETSI TS 103 567 (V1.1.1): "Requirements on signal interferer handling".

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:

control equipment: equipment capable of sending control messages to the EUT, as well as receiving responses to that control command or other status messages, in order to setup the EUT and perform a measurement procedure

control message: one or more commands used to control or configure the EUT

NOTE: Typically submitted on a specific, non-UWB control interface, like CAN-bus interface.