

<b>STN</b>	<b>Zariadenia s krátkym dosahom (SRD) používajúce technológiu ultraširokého pásma (UWB) Harmonizovaná norma pre prístup k rádiovému spektru Časť 4: Materiálovo citlivé zariadenia Oddiel 4: Aplikácie snímania vonkajšieho materiálu pre pozemné vozidlá pod 10,6 GHz</b>	<b>STN EN 302 065-4-4 V2.1.1</b>  87 2065
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Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard for access to radio spectrum; Part 4: Material Sensing devices; Sub-part 4: Exterior material sensing applications for ground based vehicles below 10,6 GHz

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

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HARMONISED EUROPEAN STANDARD

**Short Range Devices (SRD) using  
Ultra Wide Band technology (UWB);  
Harmonised Standard for access to radio spectrum;  
Part 4: Material Sensing devices;  
Sub-part 4: Exterior material sensing applications for  
ground based vehicles below 10,6 GHz**

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**ETSI**650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B  
Association à but non lucratif enregistrée à la  
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# Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.5] 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.3].

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 4, sub-part 4 of a multi-part deliverable. Full details of the entire series can be found in part 4, sub-part 1 [i.14].

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## Introduction

ETSI TC ERM TGUWB decided to develop more specific standards; this means instead of one generic ETSI EN 302 065-4 [i.8] standard for UWB Material Sensing devices a standard family ETSI EN 302 065-4-x for UWB Material Sensing devices was started. The present document is sub-part 4 (ETSI EN 302 065-4-4) of the new standard family.

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# 1 Scope

The present document specifies the technical requirements, limits and test methods for material sensing devices using UWB technology exterior material sensing devices for ground based vehicles below 10,6 GHz.

The present document only covers non-contact based UWB material sensing devices with antenna connectors according to ECC/DEC(07)01 [i.1] and Commission Implementing Decision (EU) 2024/1467 [i.2].

Further details of the covered EUT for external material sensing applications for ground-based vehicles and the related categories can be found in clause 4.2 of the present document.

NOTE: The relationship between the present document and essential requirements of article 3.2 of Directive 2014/53/EU [i.3] is given in annex A.

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## 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 \(V2.1.1\) \(08-2024\)](#): "Short Range Devices (SRD) and Ultra Wide Band (UWB); Part 1: Measurement techniques for transmitter requirements".
- [2] [ETSI EN 303 883-2 \(V2.1.1\) \(08-2024\)](#): "Short Range Devices (SRD) and Ultra Wide Band (UWB); Part 2: Measurement techniques for receiver requirements".
- [3] [ETSI EN 302 066 \(V2.2.1\) \(06-2020\)](#): "Short Range Devices (SRD); Ground- and Wall- Probing Radio determination (GPR/WPR) devices; Harmonised Standard for access to radio spectrum".
- [4] [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

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- [i.1] [ECC/DEC/\(07\)01](#): "ECC Decision of 30 March 2007 on the harmonised use, exemption from individual licensing and free circulation of Material Sensing Devices using Ultra-Wideband (UWB) technology", amended on 1 July 2022.

- [i.2] [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.3] [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.4] [CEPT Report 45](#): "Report from CEPT to the European Commission in response to the Fifth Mandate to CEPT on ultra-wideband technology to clarify the technical parameters in view of a potential update of Commission Decision 2007/131/EC"; Report approved on 21 June 2013 by the ECC.
- [i.5] [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.6] Recommendation ITU-R SM.1755: "Characteristics of ultra-wideband technology".
- [i.7] ETSI EG 203 336 (V1.2.1) (05-2020): "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.8] ETSI EN 302 065-4 (V1.1.1): "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 4: Material Sensing devices using UWB technology below 10,6 GHz".
- [i.9] [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.10] ETSI TS 136 101 (V16.8.0): "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception (3GPP TS 36.101)".
- [i.11] 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.12] [ECO Frequency Information System](#).
- [i.13] ETSI TS 103 567 (V1.1.1): "Requirements on signal interferer handling".
- [i.14] ETSI EN 302 065-4-1: "Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard for access to radio spectrum; Part 4: Material Sensing devices; Sub-part 1: Building material analysis operating within 30 MHz to 10,6 GHz".

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