

<b>STN</b>	<p><b>Zariadenia s krátkym dosahom (SRD)</b> <b>Rádiové zariadenia pracujúce vo frekvenčnom</b> <b>rozsahu od 1 GHz do 40 GHz</b> <b>Harmonizovaná norma vzťahujúca sa na základné</b> <b>požiadavky podľa článku 3.2 smernice 2014/53/EÚ</b></p>	<p><b>STN</b> <b>EN 300 440 V2.1.1</b></p>
		87 0440

Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/18

Obsahuje: EN 300 440 V2.1.1:2017

**125962**

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Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2018

Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnôžovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

# ETSI EN 300 440 v2.1.1 (2017-03)



**Short Range Devices (SRD);  
Radio equipment to be used in  
the 1 GHz to 40 GHz frequency range;  
Harmonised Standard covering the essential requirements  
of article 3.2 of Directive 2014/53/EU**

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Reference

REN/ERM-TG28-522

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Keywords

harmonised standard, radio, SRD, testing

***ETSI***


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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.6] 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.

<b>National transposition dates</b>	
Date of adoption of this EN:	10 March 2017
Date of latest announcement of this EN (doa):	30 June 2017
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2017
Date of withdrawal of any conflicting National Standard (dow):	31 December 2018

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## Modal verbs terminology

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## Introduction

The present document defines technical requirements to support the essential requirements of clause 3.2 of the Radio Equipment Directive [i.1] which states "*Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference*".

The present document describes performance requirements and conformance test procedures for licence exempt Short Range Devices (SRDs) intending to use frequency bands within the range of 1 GHz to 40 GHz.

Equipment covered by the present document may operate on a specific frequency or may be channel agile and operate on a number of different frequencies.

The present document is structured as follows:

- Clause 2 provides references.
- Clause 3 provides definitions of terms and abbreviations used.
- Clause 4 provides technical requirements specifications.
- Clause 5 provides conditions for testing for compliance with technical requirements.
- Annex A (informative): Relationship between the present document and the essential requirements of Directive 2014/53/EU
- Annex B (normative): Radiated measurements
- Annex C (normative): General description of measurement methods
- Annex D (normative): Power limits for RFID systems operating in the 2,45 GHz band
- Annex E (informative): Example of implementation for restriction of 4 W RFID to in-building use only
- Annex F (normative): Limits for GBSAR operating in the frequency range 17,1 GHz to 17,3 GHz
- Annex G (informative): Bibliography
- Annex H (informative): Change History

# 1 Scope

The present document specifies technical characteristics and methods of measurements for the following equipment types:

- 1) Non specific Short Range Devices, including alarms, telecommand, telemetry, data transmission in general, etc.
- 2) Radio Frequency IDentification (RFID) devices.
- 3) Radiodetermination devices including detection, movement and alert applications.

These radio equipment types are capable of operating in the permitted frequency bands within the 1 GHz to 40 GHz range as specified in table 1:

- 1) with either a Radio Frequency (RF) output connection and dedicated antenna or an integral antenna;
- 2) for all types of modulation;
- 3) with or without speech.

Table 1 shows a list of the frequency bands as designated by the European Commission Decisions on Short Range Devices [i.5] and the CEPT/ERC Recommendation 70-03 [i.2] as known at the date of publication of the present document.

**Table 1: Short Range Devices within the 1 GHz to 40 GHz permitted frequency bands**

	<b>Frequency Bands</b>	<b>Applications</b>	<b>Notes</b>
Transmit and Receive	2 400 MHz to 2 483,5 MHz	Non-specific short range devices	
Transmit and Receive	2 400 MHz to 2 483,5 MHz	Radio determination devices	
Transmit and Receive	(a) 2 446 MHz to 2 454 MHz	Radio Frequency Identification (RFID) devices	See annex D
Transmit and Receive	(b) 2 446 MHz to 2 454 MHz	Radio Frequency Identification (RFID) devices	See annex D
Transmit and Receive	5 725 MHz to 5 875 MHz	Non-specific short range devices	
Transmit and Receive	9 200 MHz to 9 500 MHz	Radio determination devices	
Transmit and Receive	9 500 MHz to 9 975 MHz	Radio determination devices	
Transmit and Receive	10,5 GHz to 10,6 GHz	Radio determination devices	
Transmit and Receive	13,46 GHz to 14,0 GHz	Radio determination devices	
Transmit and Receive	17,1 GHz to 17,3 GHz	Radio determination devices	See annex F
Transmit and Receive	24,00 GHz to 24,25 GHz	Non-specific short range devices and Radio determination devices	

NOTE: (a) and (b) refer to two different operational restrictions for different power levels in the same frequency band.

NOTE 1: Table 1 represents the most widely implemented position within the European Union [i.5] and the CEPT countries [i.2], but it should not be assumed that all designated bands are available in all countries.

NOTE 2: In addition, it should be noted that other frequency bands may be available in a country within the frequency range 1 GHz to 40 GHz covered by the present document. See the European Commission Decisions on Short Range Devices [i.5] and the CEPT ERC Recommendation 70-03 [i.2] as implemented through National Radio Interfaces (NRI) and additional NRI as relevant.

NOTE 3: On non-harmonised parameters, national administrations may impose certain conditions such as the type of modulation, frequency, channel/frequency separations, maximum transmitter radiated power, duty cycle, and the inclusion of an automatic transmitter shut-off facility, as a condition for the issue of an individual or general licence, or as a condition for the issuing of Individual Rights for use of spectrum or General Authorization, or as a condition for use "under licence exemption" as it is in most cases for Short Range Devices.

The present document covers fixed stations, mobile stations and portable stations.

Applications using Ultra Wide Band (UWB) technology are not covered by the present document.

The present document covers the essential requirements of article 3.2 of Directive 2014/53/EU [i.6] under the conditions identified in annex A.

## 2 References

### 2.1 Normative references

References are specific, identified by date of publication and/or edition number or version number. Only the cited version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://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.

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

- [1] CISPR 16-1-1 (2015): "Specification for radio disturbance and immunity measuring apparatus and methods; Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus".
- [2] CISPR 16-1-4 (2010): "Specification for radio disturbance and immunity measuring apparatus and methods; Part 1-4: Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements".
- [3] CISPR 16-1-5 (2015): "Specification for radio disturbance and immunity measuring apparatus and methods; Part 1-5: Radio disturbance and immunity measuring apparatus - Antenna calibration sites and reference test sites for 5 MHz to 18 GHz".
- [4] Recommendation ITU-T O.41 (1994): "Psophometer for use on telephone-type circuits".
- [5] Recommendation ITU-T O.153 (1992): "Basic parameters for the measurement of error performance at bit rates below the primary rate".

### 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.

**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 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/EC 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] CEPT/ERC Recommendation 70-03: "Relating to the use of Short Range Devices (SRD)".
- [i.3] Recommendation ITU-R SM.1755: "Characteristics of ultra-wideband technology".
- [i.4] ETSI TR 100 028 (V1.4.1) (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [i.5] Commission Decision 2013/752/EC on harmonization of the radio spectrum for use by short-range devices as amended by subsequent Commission Decisions.

- [i.6] 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.7] Recommendation ITU-R SM.329-12 (2012): "Unwanted emissions in the spurious domain".
- [i.8] CEPT/ERC/Recommendation 74-01E: "Unwanted emissions in the spurious domain".

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**