

**SLOVENSKI STANDARD**  
**oSIST prEN 302 208 V3.3.0:2020**  
**01-julij-2020**

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**Oprema za radiofrekvenčno identifikacijo, ki deluje v pasu od 865 MHz do 868 MHz z močnostnimi nivoji do 2 W in v pasu od 915 MHz do 921 MHz z močnostnimi nivoji do 4 W - Harmonizirani standard za dostop do radijskega spektra**

Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W - Harmonised Standard for access to radio spectrum

**Ta slovenski standard je istoveten z: ETSI EN 302 208 V3.3.0 (2020-05)**

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# Draft ETSI EN 302 208 V3.3.0 (2020-05)



**Radio Frequency Identification Equipment operating in the  
band 865 MHz to 868 MHz with power levels up to 2 W and  
in the band 915 MHz to 921 MHz with power levels up to 4 W;  
Harmonised Standard for access to radio spectrum**

*Standard PREVIEW*  
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**ETSI**

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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 standards EN Approval Procedure.

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.10] 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 replaces all previous versions of ETSI EN 302 208.

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

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## 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).

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# 1 Scope

The present document specifies technical characteristics and methods of measurements for Radio Frequency Identification (RFID) devices used in the frequency ranges 865 MHz to 868 MHz and 915 MHz to 921 MHz.

Power limits up to a maximum of 2 W e.r.p. are specified for this equipment in the frequency band 865 MHz to 868 MHz and up to a maximum of 4 W e.r.p. in the frequency band 915 MHz to 921 MHz.

NOTE 1: The term frequency band is typically used for reference to dedicated bands as described in CEPT/ERC/REC 70-03 [i.9], while frequency range is used in the other cases.

The frequency usage conditions for RFID are EU wide harmonised in the band 865 MHz to 868 MHz according to [i.15] and in the band 915 MHz to 921 MHz according to [i.14]. According to [i.14] EU member states are requested to implement 3 channels only in the 915 MHz to 921 MHz band.

It should be noted that the frequency band 915 MHz to 921 MHz has only a limited implementation status within the European Union and the CEPT countries. CEPT/ERC/REC 70-03 [i.9] provides in appendix 1 an overview of countries where the band is implemented.

The present document applies to RFID interrogators and tags operating together as a system. For each specified band, multiple high power channels are made available for use by interrogators. The tags respond with a modulated signal preferably in the adjacent low power channels. Interrogators may be used with either integral or external antennas.

The types of equipment covered by the present document are as follows:

- fixed interrogators;
- portable interrogators;
- batteryless tags;
- battery assisted tags;
- battery powered tags.

These types of radio equipment are capable of operating in the frequency ranges given in table 1 and table 2.

The present document contains requirements to demonstrate that the specified radio equipment both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

NOTE 2: 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 specific, identified by date of publication and/or edition number or version number. Only the cited version applies.

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

- [1] Void.

- [2] IEEE/ANSI C63.5-2017: "American National Standard for Electromagnetic Compatibility-- Radiated Emission Measurements in Electromagnetic Interference (EMI) Control--Calibration and Qualification of Antennas (9 kHz to 40 GHz)".
- [3] Void.

## 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] Void.
- [i.2] Void.
- [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] IEC 60489-3 Appendix J Second edition (1988): "Methods of measurement for radio equipment used in the mobile services. Part 3: Receivers for A3E or F3E emissions" (pages 156 to 164).
- [i.5] Void.
- [i.6] Void.
- [i.7] Void.
- [i.8] Void.
- [i.9] CEPT/ERC/REC 70-03: "Short-Range Devices (SRD)".
- [i.10] 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.11] Void.
- [i.12] Void.
- [i.13] ETSI TR 102 273 (all parts) (V1.2.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement on Radiated Methods of Measurement (using test site) and evaluation of the corresponding measurement uncertainties".
- [i.14] Commission implementing Decision (EU) 2018/1538 of 11 October 2018 on the harmonisation of radio spectrum for use by short-range devices within the 874-876 and 915-921 MHz frequency bands.
- [i.15] Commission implementing Decision (EU) 2017/1483 of 8 August 2017 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices and repealing Decision 2006/804/EC.
- [i.16] ERC Recommendation 74-01: "Unwanted emissions in the spurious domain", Approved 1998 amended 29 May 2019.
- [i.17] ISO/IEC 18046-2: "Information technology - Radio frequency identification device performance test methods - Part 2: Test methods for interrogator performance".

- [i.18] ISO/IEC 18046-3: Information technology - Radio frequency identification device performance test methods - Part 3: Test methods for tag performance".
- [i.19] ETSI EG 203 336: "Electromagnetic compatibility and Radio spectrum Matters (ERM); 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.20] ISO/IEC 18000-63: "Information technology - Radio frequency identification for item management - Part 63: Parameters for air interface communications at 860 MHz to 960 MHz Type C".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the following terms apply:

**adaptive frequency agility:** technique that allows an interrogator to change its frequency of operation automatically from one channel to another

**battery assisted tag:** transponder that includes a battery to enhance its receive performance and power its internal circuitry

**batteryless tag:** transponder that derives all of the power necessary for its operation from the field generated by an interrogator

**battery powered tag:** transponder that uses the power from its battery to perform all of its operational functions

**conducted measurements:** measurements which are made using a direct 50  $\Omega$  connection to the equipment under test

**dedicated antenna:** removable antenna supplied and type tested with the radio equipment, designed as an indispensable part of the equipment

**dense interrogator mode:** RFID operating mode in which multiple interrogators can transmit simultaneously in the same channel while tags respond in the adjacent channels

**designated frequency band:** frequency band within which the emission by a device is authorized

**effective radiated power:** product of the power supplied to the antenna and its gain relative to a half wave dipole in the direction of maximum gain

**ER-GSM:** extended band of 918 MHz to 921 MHz used by the railways

**external antenna:** antenna that may be connected to an interrogator via its external connector

**Full Tests (FT):** all tests specified in the present document

**global scroll:** test mode in which an interrogator is able to read the same tag continuously

**integral antenna:** permanent fixed antenna, which may be built-in, designed as an indispensable part of the equipment

**interrogator:** equipment that will activate an adjacent tag and read its data

NOTE: It may also enter or modify the information in a tag.

**Limited Tests (LT):** Tests that include:

- transmitter frequency error and frequency stability under low voltage conditions for mains operated equipment, see clause 4.3.1 of the present document;
- transmitter frequency stability under low voltage conditions, see clause 4.3.2 of the present document;
- transmitter effective radiated power, see clause 4.3.3 of the present document.