



**Short Range Devices (SRD) operating  
in the frequency range 25 MHz to 1 000 MHz;  
Part 4: Harmonised Standard covering the essential  
requirements of article 3.2 of the Directive 2014/53/EU;  
Metering devices operating in  
designated band 169,400 MHz to 169,475 MHz**

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

For non EU countries the present document may be used for regulatory (Type Approval) purposes.

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).

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# Introduction

The present document is part 4 of a multi-part deliverable covering Metering devices in the designated frequency range 169,400 MHz to 169,475 MHz.

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.
- Annex A (normative): provides relationship between the present document and essential requirements of Directive 2014/53/EU [i.1].
- Annex B (normative): EU designated frequency bands for metering equipment.
- Annex C (informative): Application form for testing.
- Annex D (informative): Selection of parameters.
- Annex E (informative): Bibliography.
- Annex F (informative): Change History.

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<https://standards.iteh.ai/catalog/standards/sist/8d78e880-3e42-40b0-92c1-c3cb3df74449/etsi-en-300-220-4-v1.1.1-2017-02>

# 1 Scope

The present document applies to Metering Devices category equipment types:

- Metering devices category is defined by the EU Commission Decision 2013/752/EU [i.1] as:

*"The metering device category covers radio devices that are part of bidirectional radio communications systems which allow remote monitoring, measuring and transmission of data in smart grid infrastructures, such as electricity, gas and water".*

The present document covers equipment intended for fixed, mobile or nomadic use, e.g.:

- stand-alone radio equipment;
- plug-in radio devices intended for use with or within a variety of host systems;
- plug-in radio devices intended for use within combined equipment.

These radio equipment types are capable of operating in the metering designated frequency band given in table 1.

**Table 1: Metering SRDs frequency band**

Metering Short Range Devices frequency range	
Transmit and receive	169,400 MHz to 169,475 MHz

The present document contains requirements to demonstrate that radio equipment both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference (article 3.2 of the RE-Directive [i.1]).

## 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 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] ETSI EN 300 220-1 (V3.1.0) (05-2016): "Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 1: Technical characteristics and methods of measurement".

### 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/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 (RED Directive).

- [i.2] Commission Decision 2013/752/EC on harmonization of the radio spectrum for use by short-range devices as amended by subsequent Commission Decisions.
- [i.3] 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.4] 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.5] Commission Decision 2000/299/EC on harmonization of the radio spectrum for use by short-range devices as amended by subsequent Commission Decisions.

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## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in the RE-Directive [i.1] and ETSI EN 300 220-1 [1] apply.

### 3.2 Symbols

For the purposes of the present document, the symbols given in ETSI EN 300 220-1 [1] apply.

### 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI EN 300 220-1 [1] apply.

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## 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 declared by the supplier. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the declared operational environmental profile. Normal and extreme tests conditions are defined in ETSI EN 300 220-1 [1], clauses 4.3.3 and 4.3.4.

### 4.2 All equipment conformance requirements

#### 4.2.0 Compliance

When an operational frequency band is selected from Annex B for the equipment under test, the equipment shall comply with all parameters, exclusions and notes from the row in Annex B unless a different National Radio Interface applies.

#### 4.2.1 Operating frequency

##### 4.2.1.1 Description

For the purpose of the present document, the description in ETSI EN 300 220-1 [1], clause 5.1.1 applies.

##### 4.2.1.2 Limits

The provider may declare either one or more operating frequencies and operating channels.

Operating channel(s) shall be included in operational frequency bands allowed by Annex B.



### 4.2.1.3 Conformance

The conformance for this requirement shall be as defined in ETSI EN 300 220-1 [1], clause 5.1.2.

## 4.2.2 Unwanted emissions in the spurious domain

### 4.2.2.1 Description

For the purpose of the present document, the description in ETSI EN 300 220-1 [1], clauses 5.9.1.1 and 5.9.1.2 apply.

### 4.2.2.2 Limits

The EUT shall comply with reference limits defined in ETSI EN 300 220-1 [1], clause 5.9.2.

### 4.2.2.3 Conformance

The conformance tests for this requirement shall be as defined in ETSI EN 300 220-1 [1], clause 5.9.3.

Conformance shall be established under normal test conditions.

## 4.3 Transmitters conformance requirements

### 4.3.1 Effective Radiated Power

#### 4.3.1.0 Applicability

Clause 4.3.1 applies to all transmitters.

#### 4.3.1.1 Description

For the purpose of the present document, the description in ETSI EN 300 220-1 [1], clause 5.2.1 applies.

#### 4.3.1.2 Limits

The effective radiated power shall not be greater than the value allowed in Annex B or C for the chosen operational frequency band(s). The signal shall be located within the operational frequency band.

#### 4.3.1.3 Conformance

The conformance tests for this requirement shall be as defined in ETSI EN 300 220-1 [1], clause 5.2.2.

Conformance shall be established under normal and extreme test conditions.

### 4.3.2 Duty Cycle

#### 4.3.2.0 Applicability

Clause 4.3.2 applies to all transmitters.

#### 4.3.2.1 Description

For the purpose of the present document, the description in ETSI EN 300 220-1 [1], clause 5.4.1 applies.

#### 4.3.2.2 Limits

The Duty Cycle at the operating frequency shall not be greater than values in Annex B for the chosen operational frequency band.

#### 4.3.2.3 Conformance

The conformance for this requirement shall be as defined in ETSI EN 300 220-1 [1], clause 5.4.2.

### 4.3.3 Occupied Bandwidth

#### 4.3.3.0 Applicability

Clause 4.3.3 applies to all transmitters.

#### 4.3.3.1 Description

For the purpose of the present document, the description in ETSI EN 300 220-1 [1], clause 5.6.1 applies.

#### 4.3.3.2 Limits

Limits apply under normal and extreme conditions.

The EUT shall comply with reference limits defined in ETSI EN 300 220-1 [1], clause 5.6.2.

#### 4.3.3.3 Conformance

The conformance tests for this requirement shall be as defined in ETSI EN 300 220-1 [1], clause 5.6.3.

Conformance shall be established under normal and extreme test conditions.

### 4.3.4 TX Out Of Band Emissions

#### 4.3.4.0 Applicability

Clause 4.3.4 applies to all transmitters with OCW > 25 kHz.

#### 4.3.4.1 Description

For the purpose of the present document, the description in ETSI EN 300 220-1 [1], clause 5.8.1 applies.

#### 4.3.4.2 Limits

The EUT shall comply with reference limits defined in ETSI EN 300 220-1 [1], clause 5.8.2.

#### 4.3.4.3 Conformance

The conformance tests for this requirement shall be as defined in ETSI EN 300 220-1 [1], clause 5.8.3.

Conformance shall be established under normal and extreme test conditions.

### 4.3.5 Transient power

#### 4.3.5.0 Applicability

Clause 4.3.5 applies to all transmitters.

#### 4.3.5.1 Description

For the purpose of the present document, the description in ETSI EN 300 220-1 [1], clause 5.10.1 applies.

#### 4.3.5.2 Limits

The EUT shall comply with reference limits defined in ETSI EN 300 220-1 [1], clause 5.10.2 under normal test condition.

#### 4.3.5.3 Conformance

The conformance tests for this requirement shall be as defined in ETSI EN 300 220-1 [1], clause 5.10.3.

Conformance shall be established under normal test conditions.