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## Foreword

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

The present document has been produced by ETSI in response to mandates M/284 and M/441 issued from the European Commission under Directive 98/34/EC [i.2] as amended by Directive 98/48/EC [i.3].

The title and reference to the present document are intended to be included in the publication in the Official Journal of the European Union of titles and references of Harmonized Standard under the Directive 1999/5/EC [i.1].

See article 5.1 of Directive 1999/5/EC [i.1] for information on presumption of conformity and Harmonized Standards or parts thereof the references of which have been published in the Official Journal of the European Union.

The requirements relevant to Directive 1999/5/EC [i.1] are summarized in annex A.

The present document is part 2 of a multi-part deliverable. Full details of the entire series can be found in part 1 [1].

### National transposition dates

Date of adoption of this EN:	17 October 2014
Date of latest announcement of this EN (doa):	31 January 2015
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 July 2015
Date of withdrawal of any conflicting National Standard (dow):	31 July 2016

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## Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**may not**", "**need**", "**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 of a set of standards developed by ETSI and is designed to fit in a modular structure to cover all radio and telecommunications terminal equipment within the scope of the Radio Equipment Directive [i.1]. The modular structure is shown in EG 201 399 [i.4].

# 1 Scope

The present document applies to the following following radio equipment types:

- 1) Network Based SRDs which are SRDs intended to operate in association with other SRDs to form network topologies supporting the intended application.
- 2) Network Relay Points which are specific Network Based SRDs supporting interconnection of a network of SRDs with an external network or service.

These radio equipment types are capable of operating in all or any part of the frequency bands given in table 1.

**Table 1: Frequency bands designated to Network Based Short Range Devices**

Network Based SRD frequency bands	
Transmit	870,00 MHz to 875,6 MHz
Receive	870,00 MHz to 875,6 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC [i.1] (R&TTE Directive), article 3.2, which states that "..... radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of article 3 of the R&TTE Directive [i.1] may apply to equipment within the scope of the present document.

NOTE: A list of such ENs is included on the web site <http://www.newapproach.org>.

## 2 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 <http://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.

### 2.1 Normative references

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

- [1] ETSI EN 303 204-1 (V1.1.1) (10-2014): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Network Based Short Range Devices (SRD); Radio equipment to be used in the 870 MHz to 876 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods".

### 2.2 Informative references

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 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 (R&TTE Directive).

- [i.2] Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations.
- [i.3] Directive 98/48/EC of the European Parliament and of the Council of 20 July 1998 amending Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations.
- [i.4] ETSI EG 201 399: "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of Harmonized Standards for application under the R&TTE Directive".

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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 R&TTE Directive [i.1] and EN 303 204-1 [1] apply.

### 3.2 Symbols

For the purposes of the present document, the symbols given in EN 303 204-1 [1] apply.

### 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in EN 303 204-1 [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.

### 4.2 Conformance requirements

#### 4.2.1 Transmitter requirements

##### 4.2.1.1 Frequency Tolerance

The frequency tolerance requirement is as defined in EN 303 204-1 [1], clause 7.2.1.

##### 4.2.1.1.1 Limits

The limits for frequency tolerance defined in EN 303 204-1 [1], clause 7.2.3 shall not be exceeded.

##### 4.2.1.1.2 Conformance

The conformance test suite for the frequency tolerance requirement is defined in clause 5.3.1.1 of the present document.

#### 4.2.1.2 Average power (conducted)

The average power requirement is as defined in EN 303 204-1 [1], clause 7.3.1.

##### 4.2.1.2.1 Limits

The limits for average power defined in EN 303 204-1 [1], clause 7.3.3 shall not be exceeded.

##### 4.2.1.2.2 Conformance

The conformance test suite for the average power requirement is defined in clause 5.3.1.2 of the present document.

#### 4.2.1.3 Effective radiated power

The effective radiated power requirement is as defined in EN 303 204-1 [1], clause 7.4.1.

##### 4.2.1.3.1 Limits

The limits for effective radiated power defined in EN 303 204-1 [1], clause 7.4.3 shall not be exceeded.

##### 4.2.1.3.2 Conformance

The conformance test suite for the effective radiated power requirement is defined in clause 5.3.1.3 of the present document.

#### 4.2.1.4 Transient power

The transient power requirement is as defined in EN 303 204-1 [1], clause 7.5.1.

##### 4.2.1.4.1 Limits

The limits for transient power defined in EN 303 204-1 [1], clause 7.5.3 shall not be exceeded.

##### 4.2.1.4.2 Conformance

The conformance test suite for the transient power requirement is defined in clause 5.3.1.5 of the present document.

#### 4.2.1.5 Occupied bandwidth

The occupied bandwidth requirement is as defined in EN 303 204-1 [1], clause 7.6.1.

##### 4.2.1.5.1 Limits

The limits for occupied bandwidth defined in EN 303 204-1 [1], clause 7.6.3 shall not be exceeded.

##### 4.2.1.5.2 Conformance

The conformance test suite for the occupied bandwidth requirement is defined in clause 5.3.1.5 of the present document.

#### 4.2.1.6 Unwanted emissions in the out-of-band domain

The unwanted emissions in the out-of-band domain requirement is defined in EN 303 204-1 [1], clause 7.7.1.

##### 4.2.1.6.1 Limits

The limits for unwanted emissions in the out-of-band domain defined in EN 303 204-1 [1], clause 7.7.3 shall not be exceeded.



#### 4.2.1.6.2 Conformance

The conformance test suite for the unwanted emissions in the spurious domain requirement is defined in clause 5.3.1.6 of the present document.

#### 4.2.1.7 Unwanted emissions in the spurious domain

The unwanted emissions in the spurious domain requirement is defined in EN 303 204-1 [1], clause 7.8.1.

##### 4.2.1.7.1 Limits

The limits for unwanted emissions in the spurious domain defined in EN 303 204-1 [1], clause 7.8.3 shall not be exceeded.

##### 4.2.1.7.2 Conformance

The conformance test suite for the unwanted emissions in the spurious domain requirement is defined in clause 5.3.1.7 of the present document.

#### 4.2.1.8 Frequency stability under low-voltage conditions

The frequency stability under low-voltage conditions requirement is defined in EN 303 204-1 [1], clause 7.9.1.

##### 4.2.1.8.1 Limits

The limits for Frequency stability under low-voltage conditions defined in EN 303 204-1 [1], clause 7.9.3 shall not be exceeded.

##### 4.2.1.8.2 Conformance

The conformance test suite for the frequency stability under low-voltage conditions requirement is defined in clause 5.3.1.8 of the present document.

#### 4.2.1.9 Duty cycle

The duty cycle requirement is as defined in EN 303 204-1 [1], clauses 7.10.2 and 7.10.3.

##### 4.2.1.9.1 Limits

The limits for duty cycle defined in EN 303 204-1 [1], clause 7.10.4 shall not be exceeded.

##### 4.2.1.9.2 Conformance

Conformance with the duty cycle requirement is defined in clause 5.3.1.9 of the present document.

#### 4.2.1.10 Automatic/Adaptive Power Control

The automatic/adaptive power control requirement is as defined in EN 303 204-1 [1], clause 7.11.1.

##### 4.2.1.10.1 Limits

The limits for automatic/adaptive power control defined in EN 303 204-1 [1], clause 7.11.3 shall not be exceeded.

##### 4.2.1.10.2 Conformance

The conformance test suite for the automatic/adaptive power control requirement is defined in clause 5.3.1.10 of the present document.