



**SLOVENSKI STANDARD**  
**SIST EN 301 357-2 V1.4.1:2009**  
**01-marec-2009**

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Electromagnetic compatibility and Radio spectrum Matters (ERM) - Cordless audio devices in the range 25 MHz to 2 000 MHz - Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive

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# ETSI EN 301 357-2 V1.4.1 (2008-11)

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*Harmonized European Standard (Telecommunications series)*

**Electromagnetic compatibility  
and Radio spectrum Matters (ERM);  
Cordless audio devices in the range 25 MHz to 2 000 MHz;  
Part 2: Harmonized EN covering essential requirements  
of article 3.2 of the R&TTE Directive**

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## Reference

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## Keywords

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## Foreword

This Harmonized European Standard (Telecommunications series) 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 a mandate from the European Commission issued under Council Directive 98/34/EC (as amended) [i.2] laying down a procedure for the provision of information in the field of technical standards and regulations.

The present document is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the 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 ("the R&TTE Directive") [i.1].

Technical specifications relevant to Directive 1999/5/EC [i.1] are given in annex A.

The present document is part 2 of a multi-part deliverable covering cordless audio devices in the range 25 MHz to 2 000 MHz, as identified below:

Part 1: "Technical characteristics and test methods";

**Part 2: "Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".**

National transposition dates	
Date of adoption of this EN:	10 November 2008
Date of latest announcement of this EN (doa):	28 February 2009
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 August 2009
Date of withdrawal of any conflicting National Standard (dow):	31 August 2010

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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 R&TTE Directive [i.1]. The modular structure is shown in EG 201 399 [i.3].

If you are planning to use RDS please go to: <http://www.rds.org.uk/rds98/rds98.htm> for further information.

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# 1 Scope

The present document is intended to specify the minimum performance and the methods of measurement of cordless audio equipment in the range 25 MHz to 2 000 MHz, including:

- cordless headphones;
- cordless loudspeakers;
- consumer radio microphones in the range 863 MHz to 865 MHz;
- in-ear monitoring equipment using either 300 kHz bandwidth analogue modulation or 300 kHz, 600 kHz, 1 200 kHz digital FDMA modulation in the range 863 MHz to 865 MHz;
- in-vehicle cordless;
- personal cordless;
- broadband multi channel audio systems;
- Band II LPD. (low power devices) in the 87,5 MHz to 108 MHz range (Broadcasting Band II) using up to 200 kHz bandwidth and analogue modulation.
- and other devices and frequency bands defined within CEPT/ERC/REC 70-03 [i.4] or European or National regulation.

The frequency bands for this equipment may differ from country to country as specified in their national regulations. All equipment is intended to be used with integral antennas.

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 may apply to equipment within the scope of the present document.

NOTE 1: A list of such ENs is included on the web site <http://www.newapproach.org>.

NOTE 2: The term cordless is also used to describe infra red and other non-RF "wireless" links, but in the context of the present document it is restricted to RF operating systems only.

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# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
  - for informative references.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

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 indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ETSI EN 301 357-1 (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Cordless audio devices in the range 25 MHz to 2 000 MHz; Part 1: Technical characteristics and test methods".
- [2] ETSI TR 100 028 (all parts) (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".

## 2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- [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).  
<https://standards.iteh.ai/catalog/standards/sist/74698c30-e5df-4b0b-a10e-656880253078/sist/301-357-2-v1-4-1-2009>
- [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] ETSI EG 201 399: "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of candidate Harmonized Standards for application under the R&TTE Directive".
- [i.4] CEPT/ERC/REC 70-03 relating to the use of Short Range Devices (SRD).

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## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

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

**artificial antenna:** tuned reduced-radiating dummy load equal to the nominal impedance specified by the applicant

**integral antenna:** antenna, with or without a connector, designed as, and declared as by the manufacturer, an indispensable part of the equipment

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

**necessary bandwidth:** for a given class of emission, the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions

NOTE: However, the necessary bandwidths of most digital modulation formats are presently not referred to ITU-R Recommendations of SM series.



**port:** any connection point on or within the Equipment Under Test (EUT) intended for the connection of cables to or from that equipment

**radiated measurements:** measurements that involve the absolute measurement of a radiated electromagnetic field

**spurious emission:** emission on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information

NOTE: Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products.

## 3.2 Symbols

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

$\mu\text{W}$	micro Watt
$\Omega$	ohm
dBc	dB relative to the carrier level
E	field strength
GHz	Giga Hertz
kHz	kilo Hertz
MHz	Mega Hertz
mW	milli Watt
nW	nano Watt

## 3.3 Abbreviations

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

EUT	Equipment Under Test
FDMA	Frequency Division Multiple Access
LPD	Low Power Device

# 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 for Band II LPD

#### 4.2.1.1 Basic requirements for Band II LPB

The Band II LPD shall meet the basic requirements according to EN 301 357-1 [1], clause 8.1.

#### 4.2.1.2 Effective radiated power

The effective radiated power, as defined in EN 301 357-1 [1], clause 8.2.3.1, shall not exceed the limits in EN 301 357-1 [1], clause 8.2.3.3.