

# **R&TTE Testing For EU Market**

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IEEE-HK EMC Chapter-EMC Seminar  
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## **R&TTE Directive 1999/5/EC**

**Directive 1999/5/EC  
of the European Parliament and of the  
Council of 9 March 1999 on  
Radio equipment &  
Telecommunications Terminal Equipment  
and the mutual recognition of their  
conformity**

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# R&TTE Directive

R&TTE directive applies to:

- Radio Equipment  
&  
• Telecommunications Terminal Equipment  
connected to a public network

## Exclusion in R&TTE Directive

- Marine equipment under Directive 96/98/EC
- Cable and wiring.
- Sound and TV broadcast receivers.
- Civil aviation and air-traffic-management equipment.
- Apparatus used exclusively for activities concerning public security, defence, State security.

# Requirements

- **Article 3.1a Safety**
  - LV directive and standards concerning health and safety for user and any other person.
- **Article 3.1b EMC**
  - Electromagnetic Compatibility (EMC) Directive.
- **Article 3.2 Spectrum**
  - Efficient spectrum usage.

## Frequency Allocations for Short Range Devices (SRDs) in Europe

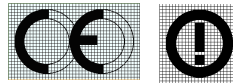
CEPT ( European Conference of Postal and Telecommunications Administrations), working within the Electronic Communications Committee (CEPT-ECC), co-operate to harmonise their National regulations.

The ECC Short-Range Devices Maintenance Group (SRDMG) maintains ERC Recommendation 70-03, which CEPT Administrations are encouraged to implement in order to maximise freedom of movement for radiocommunications equipment

CEPT Recommendations and Decisions can be downloaded from the European Radiocommunications Office web site <http://www.ero.dk/>

# Equipment Class

- **Classification of equipment:** <http://www.ero.dk/rtte>
- **Class I**
  - Radio equipment and telecommunications terminal equipment which can be placed on the market and taken into service without restriction
  - No equipment class identifier has been assigned to this class
- **Class II**
  - Radio equipment for which Member States apply restrictions on placing on the market.
  - Class identifier is required



## Requirements of Short Range Device (SRD) for CE Marking

- **Radio - Generic Standards**
  - EN300220-1, EN300220-2
    - 25 MHz to 1000 MHz, <500mW
  - EN300330-1, EN300330-2
    - 9 kHz to 25 MHz
  - EN300440-1, EN300440-2
    - 1 GHz to 40 GHz
- **Electromagnetic Compatibility (EMC)**
  - EN301489-1 & EN301489-3
- **Electrical safety**
  - EN60950: Safety of information technology equipment
- **Human Exposure to EM Fields**
  - EN 50371

## Generic Standards (9kHz – 25MHz)

### **EN 300 330-1 V1.5.1(2006) - Short Range Devices (SRD);**

Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 1: Technical characteristics and test methods

### **EN 300 330-2 V1.3.1(2006) - Short Range Devices (SRD);**

Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive

## Generic Standards (25MHz to 1GHz)

### **EN 300 220-1 V2.1.1(2006) Short Range Devices (SRD);**

- Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW;
  - Part 1: Technical characteristics and test methods

### **EN 300 220-2 V2.1.1(2006) Short Range Devices (SRD);**

- Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW;
  - Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

# Generic Standards (1GHz to 40GHz )

## **EN 300 440-1 V1.3.1(2001) Short Range Devices (SRD);**

– Radio equipment to be used in the 1GHz to 40GHz;

Part 1: Technical characteristics and test methods

## **EN 300 440-2 V1.1.2(2004) Short Range Devices (SRD);**

– Radio equipment to be used in the 1GHz to 40GHz frequency range;

Part 2: Harmonized EN under article 3.2 of the R&TTE Directive

## Product Specific SRD Standards

**EN 300 328: Wideband data transmission equipment operating in the 2.4 GHz ISM band and using spread-spectrum modulation techniques**

**EN 301 357: Cordless audio devices in the range 25 MHz to 2 000 MHz; Consumer radio microphones and in-ear monitoring systems operating in the CEPT harmonized band 863 MHz to 865 MHz**

**EN 302 208: Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio Frequency Identification (RFID) Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W.**

Others.....

# EMC Requirements for SRD

- **EN 301 489-1**
  - Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- **EN 301 489-3**
  - Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz

## EMC Tests of EN301489

- Harmonic current emission (EN61000-3-2)
- Voltage changes, voltage fluctuations and flicker (EN61000-3-3)
- High Frequency Conducted Emission (EN55022)
- Radiated Emission (EN55022)
- Radiated Immunity (EN61000-4-3)
- Conducted Immunity
  - Electrostatic Discharge (ESD) (EN61000-4-2)
  - Electrical Fast Transient (EN61000-4-4)
  - Surge (EN61000-4-5)
  - Immunity to conducted disturbances (EN61000-4-6)
  - Voltage dip, short interruptions and voltage variations (EN61000-4-11)

# R&TTE Directive Useful Links

- R&TTE Directive: [http://eurlex.europa.eu/LexUriServ/site/en/oj/1999/l\\_091/l\\_09119990407en00100028.pdf](http://eurlex.europa.eu/LexUriServ/site/en/oj/1999/l_091/l_09119990407en00100028.pdf)
- Official Journal of R&TTE Directive:
- [http://eur-lex.europa.eu/LexUriServ/site/en/oj/2007/c\\_225/c\\_22520070925en00200051.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2007/c_225/c_22520070925en00200051.pdf)
- Classification of equipment: <http://www.ero.dk/rtte>
- Harmonised Standards: <http://ec.europa.eu/enterprise/newapproach/standardization/harmstds/reflist/radiotte.html>
- General information: <http://ec.europa.eu/enterprise/rtte/gener.htm>
- Frequently asked questions: <http://ec.europa.eu/enterprise/rtte/faq.htm>
- Notify body: <http://ec.europa.eu/enterprise/rtte/nb.htm>
- Quick Guide on the Obligations of Manufacturers: <http://ec.europa.eu/enterprise/rtte/guide7.htm>
- Guidance documents: <http://ec.europa.eu/enterprise/rtte/guides.htm>
- ERC/REC70-03: <http://www.ero.dk/documentation/docs/doc98/official/pdf/REC7003E.PDF>
- ERO Frequency Information System: <http://www.efis.dk/search/general>
- ETSI standards download: <http://www.etsi.org/WebSite/Standards/StandardsDownload.aspx>
- Spectrum Authorities: <http://ec.europa.eu/enterprise/rtte/spectr.htm>
- Websites and documents of member states and other countries: <http://ec.europa.eu/enterprise/rtte/weblinks.htm>

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# Thank You !



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