

**SLOVENSKI STANDARD**  
**SIST EN 300 373-3 V.1.1.1:2004**  
**01-julij-2004**

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**Elektromagnetna združljivost (EMC) in zadeve v zvezi z radijskim spektrom (ERM) – Pomorski mobilni oddajniki in sprejemniki za uporabo v radiofrekvenčnih pasovih MF in HF – 3. del: Harmonizirani EN, ki zajema bistvene zahteve člena 3.3 (e) direktive R&TTE**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Maritime mobile transmitters and receivers for use in the MF and HF bands; Part 3: Harmonized EN covering essential requirements under article 3.3(e) of the R&TTE Directive

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47.020.70	Navigacijska in krmilna oprema	Navigation and control equipment

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# ETSI EN 300 373-3 V1.1.1 (2004-01)

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*Candidate Harmonized European Standard (Telecommunications series)*

**Electromagnetic compatibility  
and Radio spectrum Matters (ERM);  
Maritime mobile transmitters and receivers  
for use in the MF and HF bands;  
Part 3: Harmonized EN covering essential requirements  
under article 3.3(e) of the R&TTE Directive**

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## Foreword

This Candidate 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) [12] laying down a procedure for the provision of information in the field of technical standards and regulations and following the Commission Decision 2000/638/EC of 22 September 2000 (see bibliography).

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 [1] 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").

The present document is part 3 of a multi-part deliverable covering Maritime mobile transmitters and receivers for use in the MF and HF bands, as identified below:

- Part 1: "Technical characteristics and methods of measurement";
- Part 2: "Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive";
- Part 3: "Harmonized EN covering essential requirements under article 3.3(e) of the R&TTE Directive".**

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

National transposition dates	
Date of adoption of this EN:	26 December 2003
Date of latest announcement of this EN (doa):	31 March 2004
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2004
Date of withdrawal of any conflicting National Standard (dow):	30 September 2005

## Introduction

The present document is part of a set of standards designed to fit in a modular structure to cover all radio and telecommunications terminal equipment under the R&TTE Directive [1]. Each standard is a module in the structure. The modular structure is shown in figure 1.

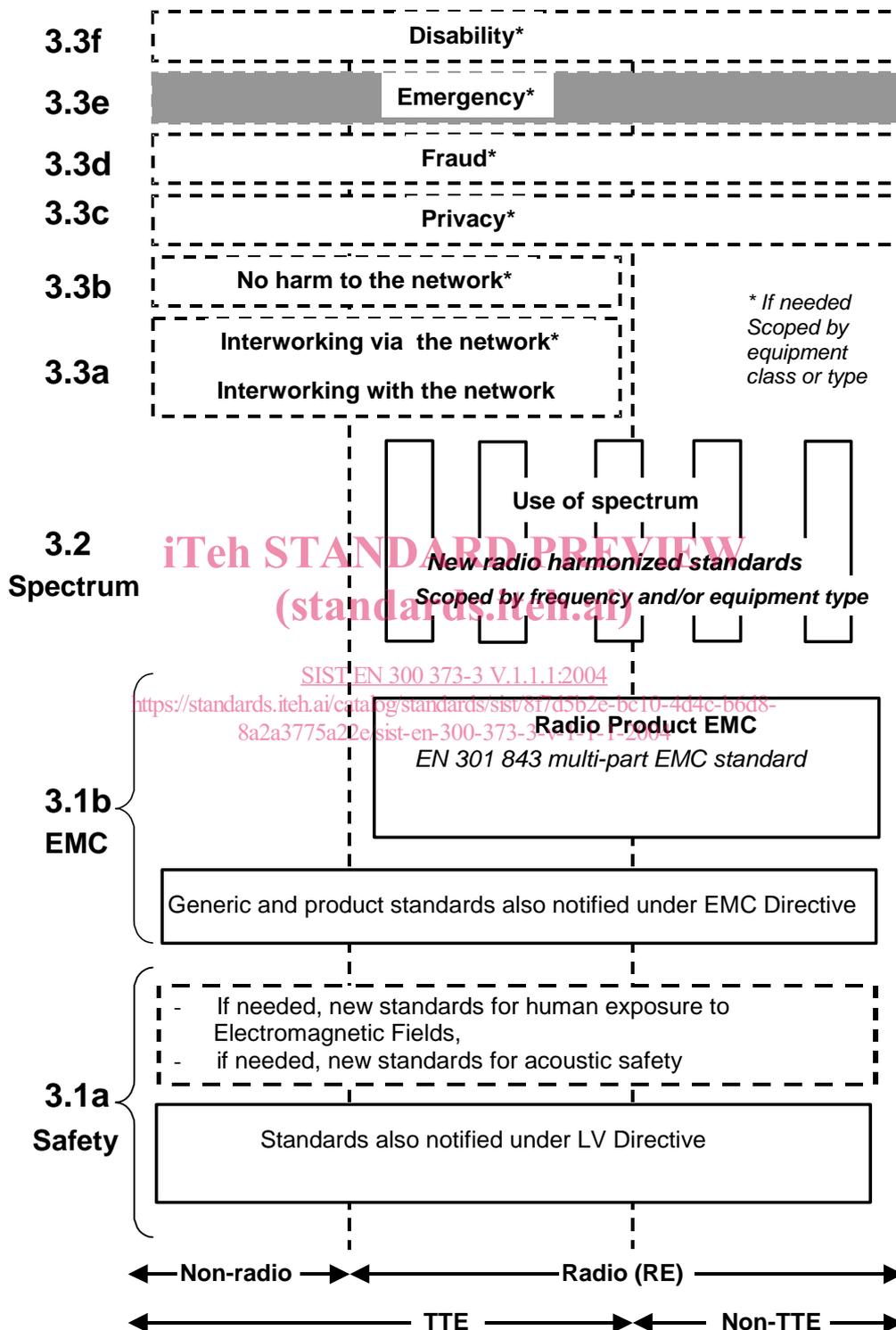


Figure 1: Modular structure for the various standards used under the R&TTE Directive [1]

The left hand edge of the figure 1 shows the different clauses of article 3 of the R&TTE Directive [1].

For article 3.3 various horizontal boxes are shown. Dotted lines indicate that at the time of publication of the present document essential requirements in these areas have to be adopted by the Commission. If such essential requirements are adopted, and as far and as long as they are applicable, they will justify individual standards whose scope is likely to be specified by function or interface type.

The vertical boxes show the standards under article 3.2 for the use of the radio spectrum by radio equipment. The scopes of these standards are specified either by frequency (normally in the case where frequency bands are harmonized) or by radio equipment type.

For article 3.1b the diagram shows EN 301 843 (see bibliography), the multi-part product EMC standard for radio used under the EMC Directive [2].

For article 3.1a the diagram shows the existing safety standards currently used under the LV Directive [3] and new standards covering human exposure to electromagnetic fields. New standards covering acoustic safety may also be required.

The bottom of figure 1 shows the relationship of the standards to radio equipment and telecommunications terminal equipment. A particular equipment may be radio equipment, telecommunications terminal equipment or both. A radio spectrum standard will apply if it is radio equipment. An article 3.3 standard will apply as well only if the relevant essential requirement under the R&TTE Directive [1] is adopted by the Commission and if the equipment in question is covered by the scope of the corresponding standard. Thus, depending on the nature of the equipment, the essential requirements under the R&TTE Directive [1] may be covered in a set of standards.

The modularity principle has been taken because:

- it minimizes the number of standards needed. Because equipment may, in fact, have multiple interfaces and functions it is not practicable to produce a single standard for each possible combination of functions that may occur in an equipment;
- it provides scope for standards to be added:
  - under article 3.2 when new frequency bands are agreed; or
  - under article 3.3 should the Commission take the necessary decision without requiring alteration of standards that are already published;
- it clarifies, simplifies and promotes the usage of Harmonized Standards as the relevant means of conformity assessment.

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# 1 Scope

The present document applies to radio transmitters and receivers, for use on vessels operating in either the Medium Frequency (MF) only or in the Medium and High Frequency (MF/HF) bands allocated in the International Telecommunications Union (ITU) Radio Regulations [4], to the Maritime Mobile Service (MMS).

The present document refers to equipment for one or more of the following:

- Single SideBand (SSB) modulation for telephony transmission and reception (J3E);
- Frequency Shift Keying (FSK) or SSB modulation of a keyed sub-carrier to transmit and receive Digital Selective Calling (DSC) signals in accordance with ITU-R Recommendation M.493-10 [5].

The present document also refers to radio equipment, which is not integrated with the DSC encoder or decoder, but defines the interfaces with such equipment.

NOTE 1: The requirements for integrated equipment may be found in other relevant EN/ETSSs.

The present document is intended to cover the provisions of Directive 1999/5/EC [1] (R&TTE Directive) article 3.3 e), which states that radio equipment within the scope of the present document shall be so constructed that: "it supports certain features ensuring access to emergency services".

The requirements in the present document are applicable to receivers for operating on all frequencies in the bands 1 605 kHz to 4 000 kHz or 1 605 kHz to 27,5 MHz as allocated in the ITU Radio Regulations [4], to the MMS.

Other spot frequency receivers should meet all the requirements of the present document and other relevant standards as applicable for the frequencies and modes provided.

If the equipment, or parts of it, are designed in such a manner that they can be used for other categories of maritime radiocommunication (e.g. Morse telegraphy or NBDP - ETS 300 067 [6]), those parts of the equipment should fulfil the relevant requirements of the appropriate standards for the service(s) in question e.g. ETS 300 067 [6].

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 [1] will apply to equipment within the scope of the present document.

NOTE 2: A list of such ENs is included on the web site <http://www.newapproach.org>.

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# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- 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.
- For a non-specific reference, the latest version applies.

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

- [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).
- [2] Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive).

- [3] Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (LV Directive).
- [4] ITU Radio Regulations (2001).
- [5] ITU-R Recommendation M.493-10: "Digital selective-calling system for use in the maritime mobile service".
- [6] ETSI ETS 300 067: "Radio Equipment and Systems (RES); Radiotelex equipment operating in the maritime MF/HF service; Technical Characteristics and methods of measurement".
- [7] ETSI EN 300 373-2 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Maritime mobile transmitters and receivers for use in the MF and HF bands; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive".
- [8] IEC 61162-1 (2000): "Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners".
- [9] ITU-T Recommendation E.161 (2001): "Arrangement of digits, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network".
- [10] ISO 3791 (1976): "Office machines and data processing equipment - Keyboard layouts for numeric applications".
- [11] ETSI TR 100 028: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [12] 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.
- [13] ETSI EN 300 019-1-6: "Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-6: Classification of environmental conditions; Ship environments".

<https://standards.iteh.ai/catalog/standards/sist/8f7d5b2e-bc10-4d4c-b6d8-8a2a3775a22e/sist-en-300-373-3-v-1-1-1-2004>

## 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 [1] and the following apply:

**assigned frequency:** centre of the frequency band assigned to a station

**carrier frequency:** frequency to which the transmitter or receiver is tuned

**environmental profile:** range of environmental conditions under which equipment within the scope of the present document is required to comply with the provisions of the present document

**standard output power:** (of the receiver) is defined as:

- a) 1 mW for earphone reception;
- b) 500 mW for loudspeaker reception;
- c) 0 dBm into 600  $\Omega$  for the audio line outputs;

measured across a resistor equal to the nominal value of the load impedance as declared by the manufacturer

**rated output power:** (of the receiver) rated output power of the receiver is the output power of the receiver as declared by the manufacturer which should be at least 2 W, whilst the total harmonic distortion conforms to the requirements of the spurious response rejection ratio limits, see EN 300 373-2 [7], clause 4.2.10.2

## 3.2 Symbols

For the purposes of the present document, the symbols given in the ITU Radio Regulations [4] and the following apply:

F1B	frequency modulation, single channel containing quantized or digital information without the use of a modulating sub-carrier, telegraphy for automatic reception
J2B	SSB, suppressed carrier, single channel containing quantized or digital information with the use of a modulating sub-carrier, telegraphy for automatic reception
J3E	SSB, suppressed carrier, single channel containing analogue information, telephony

## 3.3 Abbreviations

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

AGC	Automatic Gain Control
DSC	Digital Selective Calling
EMC	ElectroMagnetic Compatibility
emf	electromotive force
EUT	Equipment Under Test
FSI	Frequency Set Information
FSK	Frequency Shift Keying
IEC	International Electrotechnical Committee
ISO	International Standards Organization
ITU	International Telecommunications Union
LV	Low Voltage
MF	Medium Frequency
MF/HF	Medium and High Frequency
MMS	Maritime Mobile Service
MMSI	Maritime Mobile Service Identity
NBDP	Narrow Band Direct Printing telegraphy
PEP	Peak Envelope Power
R&TTE	Radio and Telecommunications Terminal Equipment
RMS	Root Mean Square
SNR	Signal-to-Noise Ratio
SSB	Single Side Band

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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 determined by the environmental class of the equipment. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the required operational environmental profile.

## 4.2 General, operational and technical requirements

### 4.2.1 General

There are no essential test suites for the requirements in clause 4.2. The availability of the specified controls shall be verified by visual inspection.