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Electromagnetic compatibility and Radio spectrum Matters (ERM) - VHF radiotelephone equipment for general communications and associated equipment for Class D Digital Selective Calling (DSC) - Part 2: Harmonized EN under article 3.2 of the R&TTE Directive

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Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
VHF radiotelephone equipment for general communications
and associated equipment for Class "D"
Digital Selective Calling (DSC);
Part 2: Harmonized EN under article 3.2
of the R&TTE Directive**

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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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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 [6] (as amended) 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 [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 2 of a multi-part deliverable covering the Electromagnetic compatibility and Radio spectrum Matters (ERM); VHF radiotelephone equipment for general communications and associated equipment for Class "D" Digital Selective Calling (DSC), as identified below:

Part 1: "Technical characteristics and methods of measurement";

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

Part 3: "Harmonized EN under article 3.3 (e) of the R&TTE Directive".

National transposition dates

Date of adoption of this EN:	19 January 2007
Date of latest announcement of this EN (doa):	30 April 2007
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 October 2007
Date of withdrawal of any conflicting National Standard (dow):	31 October 2008

1 Scope

The present document covers the minimum requirements for general communication for shipborne fixed installations using a VHF radiotelephone operating in certain frequency bands allocated to the maritime mobile service using both 25 kHz and 12,5 kHz channels with associated equipment for DSC - class D.

The present document is intended to cover the provisions of Directive 1999/5/EC [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 [1] may apply to equipment within the scope of the present document.

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>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

- [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 (73/23/EEC) (LV Directive).
- [4] ETSI EN 301 025-1 (V1.3.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); VHF radiotelephone equipment for general communications and associated equipment for Class "D" Digital Selective Calling (DSC); Part 1: Technical characteristics and methods of measurement".
- [5] 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".
- [6] 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.
- [7] EC decision 2004/71/EC of 4 September 2003 on essential requirements relating to marine radio communication equipment which is intended to be used on non-SOLAS vessels and to participate in the Global Maritime Distress and Safety System (GMDSS).

3 Definitions 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:

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

class D: class D equipment is intended to provide minimum facilities for VHF DSC distress, urgency and safety as well as routine calling and reception, not necessarily in full accordance with IMO GMDSS carriage requirements for VHF installations

environmental profile: range of environmental conditions under which equipment within the scope of EN 301 025-2 is required to comply with the provisions of EN 301 025-2

frequency deviation: difference between the instantaneous frequency of the modulated RF signal and the carrier frequency

G2B: phase-modulation with digital information, with a sub-carrier for DSC operation

G3E: phase-modulation (frequency modulation with a pre-emphasis of 6 dB/octave) for speech

modulation index: ratio between the frequency deviation and the frequency of the modulation signal

supplier: entity referred to in the R&TTE Directive [1] responsible for the placing on the market of an equipment within the scope of the Directive

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3.2 Abbreviations (standards.iteh.ai)

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

DSC	Digital Selective Calling
EMC	Electro-Magnetic Compatibility
GMDSS	Global Maritime Distress and Safety System
IMO	International Maritime Organization
LV	Low Voltage
R&TTE	Radio and Telecommunications Terminal Equipment
RF	Radio Frequency
VHF	Very High Frequency
SOLAS	Safety of Life and Sea
SINAD	Signal, Noise And Distortion

4 Technical requirements specifications

4.1 Environmental profile

Tests defined in the present document shall be carried out at representative points within the boundary limits of the declared operational environmental profile which, as a minimum, shall be that specified in the test conditions contained in the present document.

As technical performance varies subject to environmental conditions, tests shall be carried out under a sufficient variety of environmental conditions as specified in the present document to give confidence of compliance for the affected technical requirements. These environmental conditions represent those required by Article 2 of EC decision 2004/71/EC [7] (which shall also be within the boundary limits of the declared operational environmental profile).

4.2 Conformance requirements

4.2.1 Transmitter frequency error

4.2.1.1 Definition

The frequency error is defined in EN 301 025-1 [4], clause 8.1.1.

4.2.1.2 Limits

The transmitter frequency error limit shall be as stated in EN 301 025-1 [4], clause 8.1.3.

4.2.1.3 Conformance

Conformance tests as defined in clause 5.3.1 shall be carried out.

4.2.2 Transmitter adjacent channel power

4.2.2.1 Definition

The adjacent channel power is defined in EN 301 025-1 [4], clause 8.7.1.

4.2.2.2 Limits

The transmitter adjacent channel power limit shall be as stated in EN 301 025-1 [4], clause 8.7.3.

4.2.2.3 Conformance

Conformance tests as defined in clause 5.3.2 shall be carried out.

4.2.3 Transmitter conducted spurious emissions conveyed to the antenna

4.2.3.1 Definition

Conducted spurious emissions conveyed to the antenna are defined in EN 301 025-1 [4], clause 8.8.1.

4.2.3.2 Limit

The transmitter conducted spurious emissions conveyed to the antenna limit shall be as stated in EN 301 025-1 [4], clause 8.8.3.

4.2.3.3 Conformance

Conformance tests as defined in clause 5.3.3 shall be carried out.

4.2.4 Transmitter cabinet radiation and conducted spurious emissions other than those conveyed to the antenna

4.2.4.1 Definitions

Cabinet radiation and conducted spurious emissions other than those conveyed to the antenna are defined in EN 301 025-1 [4], clause 8.9.1.