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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 mandate M/357 issued from the European Commission under Directive 98/34/EC [i.2] as amended by Directive 98/48/EC [i.5].

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 3 of a multi-part deliverable covering the Electromagnetic compatibility and Radio spectrum Matters (ERM); Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile service operating in the VHF bands with integrated handheld class D DSC, as identified below:

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

National transposition dates	
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Date of withdrawal of any conflicting National Standard (dow):	31 December 2015

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.4].

1 Scope

The present document states the minimum technical characteristics and methods of measurement required for portable Very High Frequency (VHF) radiotelephones with integrated handheld class D DSC operating in certain frequency bands allocated to the maritime mobile service using either 25 kHz channels or 25 kHz and 12,5 kHz channels.

The present document also specifies technical characteristics, methods of measurement and required test results.

The present document is intended to cover the provisions of Directive 1999/5/EC [i.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:.... (e) it supports certain features ensuring access to emergency services;....*".

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

NOTE: A list of such European Norms 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 reference 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 302 885-1 (V1.3.1) (03-2014): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile service operating in the VHF bands with integrated handheld class D DSC; Part 1: Technical characteristics and methods of measurement".
- [2] ETSI TR 100 028-1 (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1".
- [3] ETSI EN 300 338-5 (V1.1.1) (02-2011): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and methods of measurement for equipment for generation, transmission and reception of Digital Selective Calling (DSC) in the maritime MF, MF/HF and/or VHF mobile service; Part 5: Handheld VHF Class D DSC".

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] EC decision 2013/638/EU of 12 August 2013 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).
- [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".
- [i.5] 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.

3 Definitions 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 the following apply:

class D: 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

NOTE: For handheld VHF a reduced functionality is permitted compared to a fixed VHF class D.

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

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

3.2 Abbreviations

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

DSC	Digital Selective Calling
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite System
IMO	International Maritime Organization
R&TTE	Radio and Telecommunications Terminal Equipment
RF	Radio Frequency
RT	Radio Telephony
SOLAS	Safety Of Life And Sea
VHF	Very High Frequency

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 2013/638/EU [i.3] (which shall also be within the boundary limits of the declared operational environmental profile).

4.2 General, operational and technical requirements

4.2.1 General and operational requirements

4.2.1.1 Requirements

The general and operational requirements are defined in EN 302 885-1 [1], clause 4.

4.2.1.2 Conformance

The manufacturer shall declare that compliance to these requirements is achieved and shall provide relevant documentation.

4.2.2 Technical requirements

4.2.2.1 Requirements

The technical requirements are defined in EN 302 885-1 [1], clause 5.

4.2.2.2 Conformance

The manufacturer shall declare that compliance to these requirements is achieved and shall provide relevant documentation.

4.3 Environmental requirements

4.3.1 Drop test

4.3.1.1 Definition

This test is defined in EN 302 885-1 [1], clause 7.3.1.

4.3.1.2 Requirement

The equipment shall meet the requirements of the performance check defined in EN 302 885-1 [1], clause 7.3.3.

4.3.1.3 Conformance

Relevant environment tests as defined in clause 5.3.1.4 shall be carried out.

4.3.2 Temperature tests

4.3.2.1 Definition

This series of tests is defined in EN 302 885-1 [1], clause 7.4.1.