

ETSI EN 300 162-3 V1.2.1 (2006-12)

Harmonized European Standard (Telecommunications series)

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Radiotelephone transmitters and receivers for
the maritime mobile service operating in VHF bands;
Part 3: Harmonized EN covering essential requirements
of article 3.3 (e) of the R&TTE Directive**



Reference

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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) laying down a procedure for the provision of information in the field of technical standards and regulations and following Commission Decision 2000/638/EC of 22 September 2000.

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") [1].

The present document is part 3 of a multi-part deliverable covering the radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands, as identified below:

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

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Date of adoption of this EN:	17 November 2006
Date of latest announcement of this EN (doa):	28 February 2007
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Date of withdrawal of any conflicting National Standard (dow):	31 August 2008

1 Scope

The present document applies to shipborne Very High Frequency (VHF) transmitters and receivers capable of voice and Digital Selective Calling (DSC), radio equipment.

The present document lays down minimum requirements for VHF radio transmitters and receivers operating in certain frequency bands allocated to the maritime mobile service using both 25 kHz and 12,5 kHz channels, and incorporates the requirements of the relevant recommendations of the International Maritime Organization (IMO).

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1].

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".

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.

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] ETSI EN 300 162-1 (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands; Part 1: Technical characteristics and methods of measurement".
- [3] Commission Decision 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) (2004/71/EC).

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:

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

3.2 Abbreviations

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

DSC	Digital Selective Calling
EMC	Electro-Magnetic Compatibility
HS	Harmonized Standard
LV	Low Voltage
R&TTE	Radio and Telecommunications Terminal Equipment
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 2004/71/EC [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

4.2.1.1 Requirements

The general and operational requirements are defined in EN 300 162-1 [2], 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

4.2.2.1 Requirements

The technical requirements are defined in EN 300 162-1 [2], 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 Vibration test

4.3.1.1 Definition

This test is defined in EN 300 162-1 [2], clause 7.3.1

4.3.1.2 Limit

The equipment shall comply with the limits of the performance check defined in EN 300 162-1 [2], clause 7.2.

There shall be no harmful deterioration of the equipment visible.

4.3.1.3 Conformance

Relevant environment tests as defined in clause 5.3.1 shall be carried out.

4.3.2 Temperature tests

4.3.2.1 Definition

This series of tests is defined in EN 300 162-1 [2], clause 7.4.1.

4.3.2.2 Dry heat

4.3.2.2.1 Definition

This test is defined in EN 300 162-1 [2], clause 7.4.2.1.

4.3.2.2.2 Limit

The equipment shall comply with the limits of the performance check defined in EN 300 162-1 [2], clause 7.2.

4.3.2.2.3 Conformance

Relevant environment tests as defined in clause 5.3.1 shall be carried out.

4.3.2.3 Damp heat

4.3.2.3.1 Definition

This test is defined in EN 300 162-1 [2], clause 7.4.3.1.

4.3.2.3.2 Limit

The equipment shall comply with the limits of the performance check defined in EN 300 162-1 [2], clause 7.2.

4.3.2.3.3 Conformance

Relevant environment tests as defined in clause 5.3.1 shall be carried out.

4.3.2.4 Low temperature cycle

4.3.2.4.1 Definition

This test is defined in EN 300 162-1 [2], clause 7.4.4.1.

4.3.2.4.2 Limit

The equipment shall comply with the limits of the performance check defined in EN 300 162-1 [2], clause 7.2.

4.3.2.4.3 Conformance

Relevant environment tests as defined in clause 5.3.1 shall be carried out.

4.4 Conformance requirements

4.4.1 Sensitivity of the modulator, including microphone

4.4.1.1 Definition

This test is defined in EN 300 162-1 [2], clause 8.4.1.

4.4.1.2 Limit

The frequency deviation shall be as stated in EN 300 162-1 [2], clause 8.4.3.

4.4.1.3 Conformance

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

4.4.2 Audio frequency response

4.4.2.1 Definition

This test is defined in EN 300 162-1 [2], clause 8.5.1.

4.4.2.2 Limit

The audio frequency response shall lie within the limits shown in EN 300 162-1 [2], clause 8.5.3, figure 2.

4.4.2.3 Conformance

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

4.4.3 Audio frequency harmonic distortion of the emission

4.4.3.1 Definition

This test is defined in EN 300 162-1 [2], clause 8.6.1.

4.4.3.2 Limit

The harmonic distortion limit shall be as stated in EN 300 162-1 [2], clause 8.6.3.

4.4.3.3 Conformance

Conformance tests as defined in clause 5.3.4 shall be carried out.

4.4.4 Residual modulation of the transmitter

4.4.4.1 Definition

This test is defined in EN 300 162-1 [2], clause 8.10.1.

4.4.4.2 Limit

The residual modulation shall not exceed the limit stated in EN 300 162-1 [2], clause 8.10.3.

4.4.4.3 Conformance

Conformance tests as defined in clause 5.3.5 shall be carried out.

4.4.5 DSC audio input characteristics

4.4.5.1 Definition

This test is defined in EN 300 162-1 [2], clause 8.11.1.

4.4.5.2 Limit

The modulation index limit shall be as stated in EN 300 162-1 [2], clause 8.11.3.

4.4.5.3 Conformance

Conformance tests as defined in clause 5.3.6 shall be carried out.

4.4.6 DSC audio input limitation

4.4.6.1 Definition

This test is defined in EN 300 162-1 [2], clause 8.12.1.

4.4.6.2 Limit

The modulation index limit shall be as stated in EN 300 162-1 [2], clause 8.12.3.

4.4.6.3 Conformance

Conformance tests as defined in clause 5.3.7 shall be carried out.

4.4.7 Modulation attack time

4.4.7.1 Definition

This test is defined in EN 300 162-1 [2], clause 8.13.1.

4.4.7.2 Limit

The settling time limit shall be as stated in EN 300 162-1 [2], clause 8.13.3.

4.4.7.3 Conformance

Conformance tests as defined in clause 5.3.8 shall be carried out.

4.4.8 Harmonic distortion and rated audio frequency output power

4.4.8.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.1.1.

4.4.8.2 Limit

The rated audio frequency output power shall be as stated in EN 300 162-1 [2], clause 9.1.3.

4.4.8.3 Conformance

Conformance tests as defined in clause 5.4.2 may be carried out.

4.4.9 Audio frequency response

4.4.9.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.2.1.

4.4.9.2 Limit

The audio frequency response shall lie within the limits shown in EN 300 162-1 [2], clause 9.2.3, figure 7.

4.4.9.3 Conformance

Conformance tests as defined in clause 5.4.3 may be carried out.

4.4.10 Maximum usable sensitivity

4.4.10.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.3.1.

4.4.10.2 Limit

The maximum usable sensitivity limit shall be as stated in EN 300 162-1 [2], clause 9.3.3.

4.4.10.3 Conformance

Conformance tests as defined in clause 5.4.4 may be carried out.

4.4.11 Receiver noise and hum level

4.4.11.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.11.1.

4.4.11.2 Limit

The receiver noise and hum limit shall be as stated in EN 300 162-1 [2], clause 9.11.3.

4.4.11.3 Conformance

Conformance tests as defined in clause 5.4.5 may be carried out.

4.4.12 Squelch operation

4.4.12.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.12.1.

4.4.12.2 Limit

The squelch operation limits shall be as stated in EN 300 162-1 [2], clause 9.12.3.

4.4.12.3 Conformance

Conformance tests as defined in clause 5.4.6 may be carried out.

4.4.13 Squelch hysteresis

4.4.13.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.13.1.

4.4.13.2 Limit

The squelch hysteresis limit shall be as stated in EN 300 162-1 [2], clause 9.13.3.

4.4.13.3 Conformance

Conformance tests as defined in clause 5.4.7 may be carried out.

4.4.14 Multiple watch characteristic

4.4.14.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.14.1.

4.4.14.2 Limit

The multiple watch timing limits shall be as stated in EN 300 162-1 [2], clause 9.14.3.

4.4.14.3 Conformance

Conformance tests as defined in clause 5.4.8 may be carried out.

4.4.15 DSC audio output characteristic

4.4.15.1 Definition

This test is defined in EN 300 162-1 [2], clause 9.15.1.

4.4.15.2 Limit

The level of the DSC audio output shall be as stated in EN 300 162-1 [2], clause 9.15.3.

4.4.15.3 Conformance

Conformance tests as defined in clause 5.4.9 may be carried out.

4.4.16 Receiver desensitization with simultaneous transmission and reception

4.4.16.1 Definition

This test is intended for equipment designed for duplex operation and is defined in EN 300 162-1 [2], clause 10.1.1.

4.4.16.2 Limit

The desensitization limit shall be as stated in EN 300 162-1 [2], clause 10.1.3.

4.4.16.3 Conformance

Conformance tests as defined in clause 5.4.10 may be carried out.

4.4.17 Duplex transceiver internal mixing

4.4.17.1 Definition

This test is intended for equipment designed for duplex operation and is defined in EN 300 162-1 [2], clause 10.2.1.

4.4.17.2 Limit

The limit for any spurious responses shall be as stated in EN 300 162-1 [2], clause 10.2.3.

4.4.17.3 Conformance

Conformance tests as defined in clause 5.4.11 may be carried out.

5 Testing for compliance with technical requirements

5.1 General conditions of measurement

The general conditions of measurement stated in EN 300 162-1 [2], clause 6 shall apply.

5.2 Void

5.3 Essential radio test suites

5.3.1 Environmental tests

5.3.1.1 Introduction

Environmental tests shall be carried out before tests are performed on the same equipment with respect to the other requirements of the present document.

5.3.1.2 Vibration test

The test specified in EN 300 162-1 [2], clause 7.3.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.3.1.2 in order to prove compliance with the requirement.

5.3.1.3 Temperature tests

5.3.1.3.1 Dry heat

The test specified in EN 300 162-1 [2], clause 7.4.2.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.3.2.2.2 in order to prove compliance with the requirement.

5.3.1.3.2 Damp heat

The test specified in EN 300 162-1 [2], clause 7.4.3.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.3.2.3.2 in order to prove compliance with the requirement.

5.3.1.3.3 Low temperature cycle

The test specified in EN 300 162-1 [2], clause 7.4.4.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.3.2.4.2 in order to prove compliance with the requirement.

5.3.2 Sensitivity of the modulator, including microphone

The test specified in EN 300 162-1 [2], clause 8.4.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.1.2 in order to prove compliance with the requirement.

5.3.3 Audio frequency response

The test specified in EN 300 162-1 [2], clause 8.5.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.2.2 in order to prove compliance with the requirement.

5.3.4 Audio frequency harmonic distortion of the emission

The test specified in EN 300 162-1 [2], clause 8.6.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.3.2 in order to prove compliance with the requirement.

5.3.5 Residual modulation of the transmitter

The test specified in EN 300 162-1 [2], clause 8.10.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.4.2 in order to prove compliance with the requirement.

5.3.6 DSC audio input characteristics

The test specified in EN 300 162-1 [2], clause 8.11.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.5.2 in order to prove compliance with the requirement.

5.3.7 DSC audio input limitation

The test specified in EN 300 162-1 [2], clause 8.12.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.6.2 in order to prove compliance with the requirement.

5.3.8 Modulation attack time

The test specified in EN 300 162-1 [2], clause 8.13.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.7.2 in order to prove compliance with the requirement.

5.4 Other test specifications

5.4.1 General

The requirements in clauses 4.4.8 to 4.4.17 inclusive have been set on the assumption that the test specifications in clauses 5.4.2 to 5.4.11 will be used to verify the performance of the equipment.

5.4.2 Harmonic distortion and rated audio frequency output power

The test specified in EN 300 162-1 [2], clause 9.1.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.8.2 in order to prove compliance with the requirement.

5.4.3 Audio frequency response

The test specified in EN 300 162-1 [2], clause 9.2.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.9.2 in order to prove compliance with the requirement.

5.4.4 Maximum usable sensitivity

The test specified in EN 300 162-1 [2], clause 9.3.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.10.2 in order to prove compliance with the requirement.

5.4.5 Receiver noise and hum level

The test specified in EN 300 162-1 [2], clause 9.11.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.11.2 in order to prove compliance with the requirement.

5.4.6 Squelch operation

The test specified in EN 300 162-1 [2], clause 9.12.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.12.2 in order to prove compliance with the requirement.

5.4.7 Squelch hysteresis

The test specified in EN 300 162-1 [2], clause 9.13.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.13.2 in order to prove compliance with the requirement.

5.4.8 Multiple watch characteristic

The test specified in EN 300 162-1 [2], clause 9.14.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.14.2 in order to prove compliance with the requirement.

5.4.9 DSC audio output characteristic

The test specified in EN 300 162-1 [2], clause 9.15.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.15.2 in order to prove compliance with the requirement.

5.4.10 Receiver desensitization with simultaneous transmission and reception

The test specified in EN 300 162-1 [2], clause 10.1.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.16.2 in order to prove compliance with the requirement.

5.4.11 Duplex transceiver internal mixing

The test specified in EN 300 162-1 [2], clause 10.2.2 shall be carried out. The results obtained shall be compared to the limits in clause 4.4.17.2 in order to prove compliance with the requirement.

Annex A (normative): HS Requirements & conformance Test specifications Table (HS-RTT)

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the HS-RTT proforma in this annex so that it can be used for its intended purposes and may further publish the completed HS-RTT.
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The HS Requirements & conformance Test specifications Table (HS-RTT) in table A.1 below serves a number of purposes, as follows:

- it provides a statement of all the essential requirements in words and by cross reference to a specific clause in the present document or to a specific clause in a specific referenced document;
- it provides a statement of all the test procedure corresponding to those essential requirements by cross reference to specific clause(s) in the present document or to a specific clause(s) in specific referenced document(s);
- it qualifies each requirement to be either:
 - Unconditional – meaning that the requirement applies in all circumstances, or
 - Conditional – meaning that the requirement is dependent on the supplier having chosen to support optional functionality defined within the schedule;
- in the case of Conditional requirements, it associates the requirement with the particular optional service or functionality;
- it qualifies each test procedure to be either:
 - Essential: meaning that it is included with the Essential Radio Test Suite and therefore the requirement shall be demonstrated to be met in accordance with the referenced procedures;
 - Other: meaning that the test procedure is illustrative but other means of demonstrating compliance with the requirement are permitted;
- when the schedule is completed in respect of a particular equipment, including the testing outcomes, and including a completed version of table A.1 it provides a means to assert the "presumption of conformity" with the HS.

Table A.1: HS Requirements & conformance Test specifications Table (HS-RTT)

Harmonized Standard EN 300 162-3							
The following technical requirements and test specifications are relevant to the presumption of conformity under Article 3.3 (e) of the R&TTE Directive							
Technical Requirement reference			Technical Requirement Conditionality		Test Specification		
No	Description	Reference: Clause No	U/C	Condition	E/O	Reference: Clause No	
1	General and operational	4.2.1	U		X		
2	Technical	4.2.2	U		X		
3	Sensitivity of the modulator, including microphone	4.4.1	U		E	5.3.2	
3	Audio frequency response	4.4.2	U		E	5.3.3	
4	Audio frequency harmonic distortion of the emission	4.4.3	U		E	5.3.4	
5	Residual modulation of the transmitter	4.4.4	U		E	5.3.5	
6	DSC audio input characteristics	4.4.5	U		E	5.3.6	
7	DSC audio input limitation	4.4.6	U		E	5.3.7	
8	Modulation attack time	4.4.7	U		E	5.3.8	
9	Harmonic distortion and rated audio frequency output power	4.4.8	U		O	5.4.2	
10	Receiver audio frequency response	4.4.9	U		O	5.4.3	
11	Maximum usable sensitivity	4.4.10	U		O	5.4.4	
12	Receiver noise and hum level	4.4.11	U		O	5.4.5	
13	Squelch operation	4.4.12	U		O	5.4.6	
14	Squelch hysteresis	4.4.13	U		O	5.4.7	
15	Multiple watch characteristic	4.4.14	U		O	5.4.8	
16	DSC audio output characteristic	4.4.15	U		O	5.4.9	
17	Receiver desensitization with simultaneous transmission and reception	4.4.16	U		O	5.4.10	
18	Duplex transceiver internal mixing	4.4.17	U		O	5.4.11	

Key to columns:**Essential Requirement:**

No A unique identifier for one row of the table which may be used to identify an essential requirement or its test specification

Description A textual reference to the Essential Requirement

Reference: Clause Number

Identification of clause(s) defining the essential requirement in the present document unless another document is referenced explicitly

Conditionality:

U/C Indicates whether the requirement is to be *unconditionally* applicable (U) or is *conditional* upon the suppliers claimed functionality of the equipment (C)

Condition Explains the conditions when the requirement shall or shall not be applicable for a requirement which is classified "conditional"

Test Specification:

E/O Indicates whether the test specification forms part of the *Essential Radio Test Suite* (E) or whether it is one of the *Other Test Suite* (O)

NOTE: All tests whether "E" or "O" are relevant to technical requirements. Rows designated "E" collectively make up the Essential Radio Test Suite; those designated "O" make up the Other Test Suite; for those designated "X" there is no test specified corresponding to the technical requirements. All tests classified "E" shall be performed as specified with satisfactory outcomes is a necessary condition for a presumption of conformity. Technical requirements associated with tests classified "O" or "X" must be complied with as a necessary condition for presumption of conformity, although conformance with the requirement may be claimed by an equivalent test or by manufacturer's assertion supported by appropriate entries in the technical construction file.

Reference: Clause Number

Identification of clause(s) defining the test specification in the present, document unless another document is referenced explicitly. Where no test is specified (that is, where the previous field is "X") this field remains blank

Annex B (informative): The EN title in the official languages

Language	EN title
Czech	Elektromagnetická kompatibilita a rádiové spektrum (ERM); Radiotelefonní vysílače a přijímače pro námořní pohyblivou službu pracující v pásmech VHF - Část 2: Harmonizovaná EN podle článku 3.2 Směrnice R&TTE
Danish	Elektromagnetisk kompatibilitet og Radiospektrum Anliggender (ERM); Radiotelefoni sendere og modtagere i den maritime mobile tjeneste, som anvender frekvenser i VHF båndene - Del 3: Harmoniseret EN som dækker de væsentlige krav i R&TTE direktivets artikel 3.3e
Dutch	Elektromagnetische compatibiliteit en radiospectrumaangelegenheden (ERM); Radiozend- en ontvanstapparatuur voor de maritieme mobiele dienst op de VHF-banden; deel 3: Geharmoniseerde EN welke invulling geeft aan de essentiële eisen van artikel 3.3 (e) van de R&TTE richtlijn
English	Electromagnetic compatibility and Radio spectrum Matters (ERM); Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands; Part 3: Harmonized EN covering essential requirements of article 3.3 (e) of the R&TTE Directive
Estonian	Elektromagnetilise ühilduvuse ja raadiospektri küsimused (ERM); VHF raadiosagedusalas töötavad liikuva mereside raadiotelefoni saatjad ja vastuvõtjad; Osa 3: Harmineeritud EN R&TTE direktiivi artikli 3.3(e) põhinoüete alusel
Finnish	Sähkömagneettinen yhteensopivuus ja radiospektriasiat (ERM); Siirtyvän meriradioliikenteen VHF - taajuuksilla toimivat radiolähetimet ja vastaanottimet, Osa 3: Yhdenmukaistettu standardi (EN), joka kattaa R&TTE-direktiivin artiklan 3.3 (e) mukaiset olennaiset vaatimukset
French	Télécommunications - CEM et spectre radioélectrique (ERM) - Norme de compatibilité électromagnétique pour les équipements et les services radio; Partie 2: EN harmonisée couvrant l'article 3.2 de la Directive R&TTE
German	Elektromagnetische Verträglichkeit und Funkspektrumangelegenheiten (ERM); UKW-Sprechfunkanlagen für den mobilen Seefunkdienst; Teil 3: Harmonisierte Europäische Norm (EN) mit wesentlichen Anforderungen nach R&TTE-Richtlinie Artikel 3.3e
Greek	Ηλεκτρομαγνητική συμβατότητα και Θέματα Ραδιοφάσματος (ERM) - Πομποί και δέκτες ραδιοτηλεφώνου για τη ναυτιλιακή κινητή υπηρεσία που λειτουργεί στις ζώνες VHF - Μέρος 3: Εναρμονισμένο EN για την κάλυψη των ουσιαστών απαιτήσεων του άρθρου 3.3 (e) της Οδηγίας R&TTE
Hungarian	Elektromágneses összeférhetőségi és rádióspektrumügyek (ERM). VHF-sávokban működő, tengeri mozgószoigálati rádiótelefon-adók és -vevők. 3. rész: Az R&TTE-irányelv 3.3. (e) cikkelyének lényegi követelményeit tartalmazó, harmonizált európai szabvány
Icelandic	Þættir sem varða rafsegulsviðssamhæfi og fjarskiptatíðni (ERM); Sendi- og móttökubúnaður í metrabylgjutalstöðvum (VHF) til nota í sjófarstöðvafjónustunni; 3. hluti: Samræmdur Evrópustaðall um grunnkröfur í e-lið 3. mgr. 3. gr. í tilskipun 1999/5/EC um fjarskiptabúnað og endabúnað til fjarskipta
Italian	Compatibilità elettromagnetica e Questioni relative allo spettro delle radiofrequenze (ERM); Ricevitori e trasmettitori di radiotelefoni per il servizio mobile marittimo in banda VHF; Parte 3: Norma armonizzata relativa ai requisiti essenziali dell'articolo 3.3e della direttiva R&TTE
Latvian	Elektromagnētiskā saderība un radiofrekvenču spektra jautājumi (ERM) - Jūras mobilā dienesta radiotelefona raidītāji un uztvērēji, kas darbojas ultrašvīņu (VHF) joslās. 3.daļa: Harmonizēts Eiropas standarts (EN), kas atbilst R&TTE Direktīvas 3.3. (e) punkta būtiskām prasībām
Lithuanian	Elektromagnetinio suderinamumo ir radijo dažnių spektro dalykai. Judriosios jūrų tarnybos radiotelefono siųstuvai ir imtuvai, veikiantys labai aukštų dažnių (LAD) juostose. 3 dalis. Darnusis Europos standartas, apimantis esminius 1999/5/EC* direktyvos 3.3 (e) straipsnio reikalavimus
Maltese	Kompatibilità elettromanjetika u materji relatati ma' spettru radjofoniku (ERM); Trasmittituri u ricevitori tar-radjotelefonija għal servizz mobbli marittimu li jopera fuq frekwenzi VHF; Parti 3: EM armonizzata li jkopri rekwiżiti essenzjali ta' l-artiklu 3.3 (e) tad-Direttiva R&TTE
Norwegian	Elektromagnetisk kompatibilitet og Radiospektrum spørsmål (ERM); Radiotelefonssendere og mottakere for den maritime mobiltjenesten som opererer i VHF -bånd; Del 3: Harmonisert EN som dekker de grunnleggende krav i R&TTE-direktivets artikkel 3.3e
Polish	Kompatybilność elektromagnetyczna i zagadnienia widma radiowego (ERM) - Nadajniki i odbiorniki radiotelefoniczne dla ruchomej służby morskiej pracującej w paśmie VHF; Część 3: Zharmonizowana EN zapewniająca spełnienie zasadniczych wymagań zgodnie z artykułem 3.3 (e) dyrektywy R&TTE
Portuguese	Assuntos de Espectro Radioelétrico e Compatibilidade Electromagnética (ERM); Emissores e receptores de radiotelefonía para o serviço móvel marítimo operando em faixas de frequências VHF; Parte 3: EN Harmonizada cobrindo os requisitos essenciais no âmbito do artigo 3.º, n.º 3 e), da Directiva R&TTE
Slovak	Elektromagnetická kompatibilita a závislosti rádiového spektra (ERM). Rádiotelefonne vysílače a prijímače pre plavebnú pohyblivú službu pracujúce v pásmach VHF. Časť 3: Harmonizovaná EN vzťahujúca sa na základné požiadavky podľa článku 3.3 (e) smernice R&TTE

Slovenian	Elektromagnetická kompatibilita a zálezitosti rádiového spektra (ERM). Rádiatelefónne vysieláče a prijímače pre plavebnú pohyblivú službu pracujúce v pásmach VHF. Časť 3: Harmonizovaná EN vzťahujúca sa na základné požiadavky podľa článku 3.3 (e) smernice R&TTE
Spanish	Cuestiones de Compatibilidad Electromagnética y Espectro de Radiofrecuencia (ERM); Radioteléfonos transmisores y receptores para el servicio móvil marítimo, funcionando en la banda VHF; Parte 3: Norma Europea (EN) armonizada, cubriendo los requisitos esenciales según el artículo 3,3 (e) de la Directiva R&TTE
Swedish	Elektromagnetisk kompatibilitet och radiospektrumfrågor (ERM); Sändare och mottagare för radiotelefoni för den maritima mobila tjänsten arbetande i VHF-banden; Del 3: Harmoniserad EN omfattande väsentliga krav enligt artikel 3.3 (e) i R&TTE-direktivet

Annex C (informative): Bibliography

- 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.
- 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).
- 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).
- Commission Decision 2000/638/EC of 22 September 2000 on the application of Article 3(3)(e) of Directive 1999/5/EC to marine radio communication equipment intended to be fitted to seagoing non-SOLAS vessels and which is intended to participate in the global maritime distress and safety system (GMDSS) and not covered by Council Directive 96/98/EC on marine equipment.
- IMO Resolution A.524(13): "Performance Standard for VHF Multiple Watch facilities".

History

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