



SLOVENSKI STANDARD

SIST EN 300 162-3 V1.2.1:2007

01-marec-2007

9`Y_lfca U[bYfbUnXfi y`1j cgh]b`nUXYj Y`j `nj Yn]`n`fUX]`g_`ja `gdY_lfca `fØFAŁ!
FUX]cH`YZ: bg_]`cXXU`b_]`]b`gdfY`Ya b_]`nUdca cfg_Y`a cV]`bY`gHcf]`h Yž_]`XYi `Y`c
j`dUgcj]\ `J<: `!`" `XY.`<Ufa cb]`n]fUb]`9Bž_]`nU`Ya UV]`ghj YbY`nU` H`j Y `YbU' " `Y
X]fY_`h] YF/ HH9

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

[SIST EN 300 162-3 V1.2.1:2007](https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007)

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007>

Ta slovenski standard je istoveten z: EN 300 162-3 Version 1.2.1

ICS:

33.060.20	Sprejemna in oddajna oprema	Receiving and transmitting equipment
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general
47.020.70	Navigacijska in krmilna oprema	Navigation and control equipment

SIST EN 300 162-3 V1.2.1:2007 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 162-3 V1.2.1:2007

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007>

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**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 162-3 V1.2.1:2007](https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007)

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007>



Reference

REN/ERM-TG26-073-3

Keywords

EMC, GMDSS, maritime, radio, regulation,
telephony, VHF

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
Sous-Préfecture de Grasse (06) N° 7803/88

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 162-3 V1.2.1:2007

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf727/300-162-3-v1-2-1-2007>

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2006.
All rights reserved.

DECT™, **PLUGTESTS™** and **UMTS™** are Trade Marks of ETSI registered for the benefit of its Members.
TIPHON™ and the **TIPHON logo** are Trade Marks currently being registered by ETSI for the benefit of its Members.
3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

Contents

Intellectual Property Rights	6
Foreword.....	6
1 Scope	7
2 References	7
3 Definitions and abbreviations.....	7
3.1 Definitions	7
3.2 Abbreviations	8
4 Technical requirements specifications	8
4.1 Environmental profile.....	8
4.2 General, operational and technical requirements.....	8
4.2.1 General and operational	8
4.2.1.1 Requirements	8
4.2.1.2 Conformance.....	8
4.2.2 Technical	8
4.2.2.1 Requirements	8
4.2.2.2 Conformance.....	8
4.3 Environmental requirements	9
4.3.1 Vibration test	9
4.3.1.1 Definition	9
4.3.1.2 Limit.....	9
4.3.1.3 Conformance.....	9
4.3.2 Temperature tests.....	9
4.3.2.1 Definition	9
4.3.2.2 Dry heat.....	9
4.3.2.2.1 Definition.....	9
4.3.2.2.2 Limit.....	9
4.3.2.2.3 Conformance	9
4.3.2.3 Damp heat	9
4.3.2.3.1 Definition.....	9
4.3.2.3.2 Limit	9
4.3.2.3.3 Conformance	9
4.3.2.4 Low temperature cycle.....	10
4.3.2.4.1 Definition.....	10
4.3.2.4.2 Limit	10
4.3.2.4.3 Conformance	10
4.4 Conformance requirements	10
4.4.1 Sensitivity of the modulator, including microphone.....	10
4.4.1.1 Definition	10
4.4.1.2 Limit.....	10
4.4.1.3 Conformance.....	10
4.4.2 Audio frequency response	10
4.4.2.1 Definition	10
4.4.2.2 Limit.....	10
4.4.2.3 Conformance.....	10
4.4.3 Audio frequency harmonic distortion of the emission	10
4.4.3.1 Definition	10
4.4.3.2 Limit.....	10
4.4.3.3 Conformance.....	11
4.4.4 Residual modulation of the transmitter	11
4.4.4.1 Definition	11
4.4.4.2 Limit.....	11
4.4.4.3 Conformance.....	11
4.4.5 DSC audio input characteristics.....	11
4.4.5.1 Definition	11

iTech STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 162-3 V1.2.1:2007](https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-691164bf797/sist-en-300-162-3-v1-2-1-2007)

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-691164bf797/sist-en-300-162-3-v1-2-1-2007>

[691164bf797/sist-en-300-162-3-v1-2-1-2007](https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-691164bf797/sist-en-300-162-3-v1-2-1-2007)

4.4.5.2	Limit.....	11
4.4.5.3	Conformance.....	11
4.4.6	DSC audio input limitation.....	11
4.4.6.1	Definition.....	11
4.4.6.2	Limit.....	11
4.4.6.3	Conformance.....	11
4.4.7	Modulation attack time.....	11
4.4.7.1	Definition.....	11
4.4.7.2	Limit.....	12
4.4.7.3	Conformance.....	12
4.4.8	Harmonic distortion and rated audio frequency output power.....	12
4.4.8.1	Definition.....	12
4.4.8.2	Limit.....	12
4.4.8.3	Conformance.....	12
4.4.9	Audio frequency response.....	12
4.4.9.1	Definition.....	12
4.4.9.2	Limit.....	12
4.4.9.3	Conformance.....	12
4.4.10	Maximum usable sensitivity.....	12
4.4.10.1	Definition.....	12
4.4.10.2	Limit.....	12
4.4.10.3	Conformance.....	12
4.4.11	Receiver noise and hum level.....	12
4.4.11.1	Definition.....	12
4.4.11.2	Limit.....	13
4.4.11.3	Conformance.....	13
4.4.12	Squelch operation.....	13
4.4.12.1	Definition.....	13
4.4.12.2	Limit.....	13
4.4.12.3	Conformance.....	13
4.4.13	Squelch hysteresis.....	13
4.4.13.1	Definition.....	13
4.4.13.2	Limit.....	13
4.4.13.3	Conformance.....	13
4.4.14	Multiple watch characteristic.....	13
4.4.14.1	Definition.....	13
4.4.14.2	Limit.....	13
4.4.14.3	Conformance.....	13
4.4.15	DSC audio output characteristic.....	13
4.4.15.1	Definition.....	13
4.4.15.2	Limit.....	14
4.4.15.3	Conformance.....	14
4.4.16	Receiver desensitization with simultaneous transmission and reception.....	14
4.4.16.1	Definition.....	14
4.4.16.2	Limit.....	14
4.4.16.3	Conformance.....	14
4.4.17	Duplex transceiver internal mixing.....	14
4.4.17.1	Definition.....	14
4.4.17.2	Limit.....	14
4.4.17.3	Conformance.....	14
5	Testing for compliance with technical requirements.....	14
5.1	General conditions of measurement.....	14
5.2	Void.....	14
5.3	Essential radio test suites.....	15
5.3.1	Environmental tests.....	15
5.3.1.1	Introduction.....	15
5.3.1.2	Vibration test.....	15
5.3.1.3	Temperature tests.....	15
5.3.1.3.1	Dry heat.....	15
5.3.1.3.2	Damp heat.....	15
5.3.1.3.3	Low temperature cycle.....	15

ITeH STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 162-3 V1.2.1:2007

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007>

5.3.2	Sensitivity of the modulator, including microphone.....	15
5.3.3	Audio frequency response	15
5.3.4	Audio frequency harmonic distortion of the emission.....	15
5.3.5	Residual modulation of the transmitter	15
5.3.6	DSC audio input characteristics.....	15
5.3.7	DSC audio input limitation	16
5.3.8	Modulation attack time	16
5.4	Other test specifications	16
5.4.1	General.....	16
5.4.2	Harmonic distortion and rated audio frequency output power.....	16
5.4.3	Audio frequency response	16
5.4.4	Maximum usable sensitivity	16
5.4.5	Receiver noise and hum level	16
5.4.6	Squelch operation	16
5.4.7	Squelch hysteresis.....	16
5.4.8	Multiple watch characteristic.....	16
5.4.9	DSC audio output characteristic	17
5.4.10	Receiver desensitization with simultaneous transmission and reception.....	17
5.4.11	Duplex transceiver internal mixing.....	17
Annex A (normative):	HS Requirements & conformance Test specifications Table (HS-RTT).....	18
Annex B (informative):	The EN title in the official languages	21
Annex C (informative):	Bibliography.....	23
History		24

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 162-3 V1.2.1:2007](https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007)

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007>

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

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".

National transposition dates

Date of adoption of this EN:	17 November 2006
Date of latest announcement of this EN (doa):	28 February 2007
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 August 2007
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).

iTeh STANDARD PREVIEW

4.2 General, operational and technical requirements

(standards.iteh.ai)

4.2.1 General and operational

<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007>

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

4.3.2.2.1 Definition

This test is defined in EN 300 162-1 [2], clause 7.4.2.1.
<https://standards.iteh.ai/catalog/standards/sist/d9992979-2ad5-423e-af3e-6f91164bf797/sist-en-300-162-3-v1-2-1-2007>

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.