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Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands; Technical characteristics and methods of measurement

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This standard includes the English version of the European Standard.

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Contents

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

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Modal verbs terminology

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1 Scope

The present document specifies the minimum requirements for shipborne radio transmitters and receivers for fixed installations operating in the VHF frequency bands between 156 MHz and 174 MHz used by the maritime mobile service, using both 25 kHz and 12,5 kHz channels and capable of Radiotelephony and Digital Selective Calling communications within the Global Maritime Distress and Safety System. The present document incorporates the requirements of the relevant resolutions of the International Maritime Organization (IMO) and is primarily intended to specify equipment suitable for fitting to ships subject to the SOLAS Convention [i.2] and complying with the Council Directive 2014/90/EU [i.3] of 23 July 2014 on marine equipment (the European Marine Equipment Directive).

The present document does not address the testing of ancillary equipment on a stand-alone basis, i.e. separately from the radio equipment with which it is to be used.

2 References

2.1 Normative 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 referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://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.

The following referenced documents are necessary for the application of the present document.

[1] IMO Resolution A.694(17): "General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids".

[2] Void.

[3] IMO Resolution A.803(19) (as amended by MSC.68(68)): "Performance Standards for Shipborne VHF Radio Installations capable of Voice Communications and Digital Selective Calling".

[4] ITU Radio Regulations (2020).

[5] Recommendation ITU-R M.493-15 (2019): "Digital selective-calling system for use in the maritime mobile service".

[6] Recommendation ITU-R M.541-10 (2015): "Operational procedures for the use of digital selective-calling equipment in the maritime mobile service".

[7] Recommendation ITU-T O.41 (1994): "Psophometer for use on telephone-type circuits".

[8] Void.

[9] ETSI EN 300 338-2 (V1.5.1): "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 2: Class A DSC".

[10] IEC 61162-1 (2016): "Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners".

[11] Void.

[12] ETSI TS 103 052 (V1.1.1) (03-2011): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radiated measurement methods and general arrangements for test sites up to 100 GHz".

[13] Void.

[14] Recommendation ITU-R M.1084-5 (2012): "Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service".

[15] Void.

[16] IEC 61000-4-11 (Ed.3.0) (2020): "Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase".

[17] ETSI EN 301 033 (V1.4.1) (2013): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and methods of measurement for shipborne watchkeeping receivers for reception of Digital Selective Calling (DSC) in the maritime MF, MF/HF and VHF bands".

[18] Recommendation ITU-R M.489-2 (1995): "Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz".

[19] Recommendation ITU-R SM.329-12 (2012): "Unwanted emissions in the spurious domain".

[20] Void.

[21] Recommendation ITU-T 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".

2.2 Informative 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 referenced document (including any amendments) applies.

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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] IMO Resolution A.524(13): "Performance Standards for VHF Multiple Watch Facilities".

[i.2] IMO SOLAS 1974: "International Convention for the Safety of Life at Sea" as amended.

[i.3] Council Directive 2014/90/EU of 23 July 2014 on marine equipment.

[i.4] 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".

[i.5] ETSI TS 101 570-2 (V1.2.1): "Interoperability Testing for Maritime Digital Selective Calling (DSC) Radios; Part 2: Class A/B Test Descriptions".

[i.6] EN 60945 (2002): "Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results", produced by CENELEC.

[i.7] ETSI TR 100 028-2 (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2".

[i.8] ETSI EN 301 843-2: "ElectroMagnetic Compatibility (EMC) standard for marine radio equipment and services; Harmonised Standard for electromagnetic compatibility; Part 2: Specific conditions for VHF radiotelephone transmitters and receivers".

[i.9] Recommendation ITU-R SM.332-4 (1978): "Selectivity of receivers".

[i.10] Recommendation ITU-R M.689-2 (1994): "International maritime VHF radiotelephone system with automatic facilities based on DSC signalling format".