
Standard elektromagnetne združljivosti (EMC) za pomorsko radijsko opremo in storitve - Harmonizirani standard, ki zajema bistvene zahteve člena 3.1b direktive 2014/53/EU - 5. del: Posebni pogoji za srednjefrekvenčne in visokofrekvenčne (MF/HF) radiotelefonske oddajnike in sprejemnike

ElectroMagnetic Compatibility (EMC) standard for marine radio equipment and services - Harmonised Standard covering the essential requirements of article 3.1b of the Directive 2014/53/EU - Part 5: Specific conditions for MF/HF radiotelephone transmitters and receivers

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**ElectroMagnetic Compatibility (EMC) standard
for marine radio equipment and services;
Harmonised Standard covering the essential requirements
of article 3.1b of the Directive 2014/53/EU;
Part 5: Specific conditions for MF/HF radiotelephone
transmitters and receivers**

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Foreword

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

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.4] to provide one voluntary means of conforming to the essential requirements of Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC [i.1].

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in table A.1 of ETSI EN 301 843-1 [1] confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

The present document is part 5 of a multi-part deliverable. Full details of the entire series can be found in part 1 [1].

National transposition dates	
Date of adoption of this EN:	21 March 2016
Date of latest announcement of this EN (doa):	30 June 2016
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2016
Date of withdrawal of any conflicting National Standard (dow):	31 December 2017

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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1 Scope

The present document together with ETSI EN 301 843-1 [1], covers the assessment of MF/HF radiotelephone transmitters and receivers for the maritime mobile service, and ancillary equipment in respect of ElectroMagnetic Compatibility (EMC).

Technical specifications related to the antenna port and emissions from the enclosure port of marine radiotelephone transmitters and receivers are not included in the present document. Such technical specifications are found in the related product standards for the effective use of the radio spectrum.

The present document specifies the applicable test conditions, performance assessment, and performance criteria for radiotelephone transmitters and receivers for the maritime mobile service and the associated ancillary equipment.

Examples of types of MF/HF radiotelephone transmitters and receivers for the maritime mobile service covered by the present document are given in annex A.

In case of differences (for instance concerning special conditions, definitions, abbreviations) between the present document and ETSI EN 301 843-1 [1], the provisions of the present document take precedence.

The electromagnetic environment used in the present document to develop the technical specifications encompasses the electromagnetic environment on-board ships as identified in CENELEC EN 60945 [i.3].

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 <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.

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

- [1] ETSI EN 301 843-1 (V2.1.1) (03-2016): "ElectroMagnetic Compatibility (EMC) standard for marine radio equipment and services; Harmonised Standard covering the essential requirements of article 3.1b of the Directive 2014/53/EU; Part 1: Common technical requirements".

2.2 Informative references

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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] Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.
- [i.2] ETSI EN 300 373-2 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Maritime mobile transmitters and receivers for use in the MF and HF bands; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE directive".

- [i.3] CENELEC EN 60945 (2002) + Corrigendum 1 (2008): "Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results".
- [i.4] Commission Implementing Decision C(2015) 5376 final of 4.8.2015 on a standardisation request to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards radio equipment in support of Directive 2014/53/EU of the European Parliament and of the Council.

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI EN 301 843-1 [1] and the following apply:

standard output power (audio): (of the receiver) is defined as:

- a) 1 mW for earphone reception;
- b) 500 mW for loudspeaker reception;
- c) 0 dBm (1mW) into 600 Ω for the audio line outputs.

3.2 Symbols

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

emf	electromotive force
F1B	Frequency modulation, single channel containing quantized or digital information with the use of a modulating sub-carrier, telegraphy for automatic reception.
J3E	Single Sideband, suppressed carrier, single channel containing analogue information, telephony
rms	root mean square
SINAD	(Signal + Noise + Distortion) / (Noise + Distortion)

3.3 Abbreviations

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

AGC	Automatic Gain Control
DSC	Digital Selective Calling
EMC	ElectroMagnetic Compatibility
EUT	Equipment Under Test
HF	High Frequency
MF	Medium Frequency
MF/HF	Medium Frequency/High Frequency
PEP	Peak Envelope Power
RF	Radio Frequency
SINAD	Signal-to-noise and distortion ratio

4 General and operational requirements

4.1 Environmental profile

The provisions of ETSI EN 301 843-1 [1], clause 4.1 shall apply with the following modifications.

For emission and immunity tests the normal test modulation, test arrangements, etc., as specified in the present document, clauses 4.1 to 4.5, shall apply.