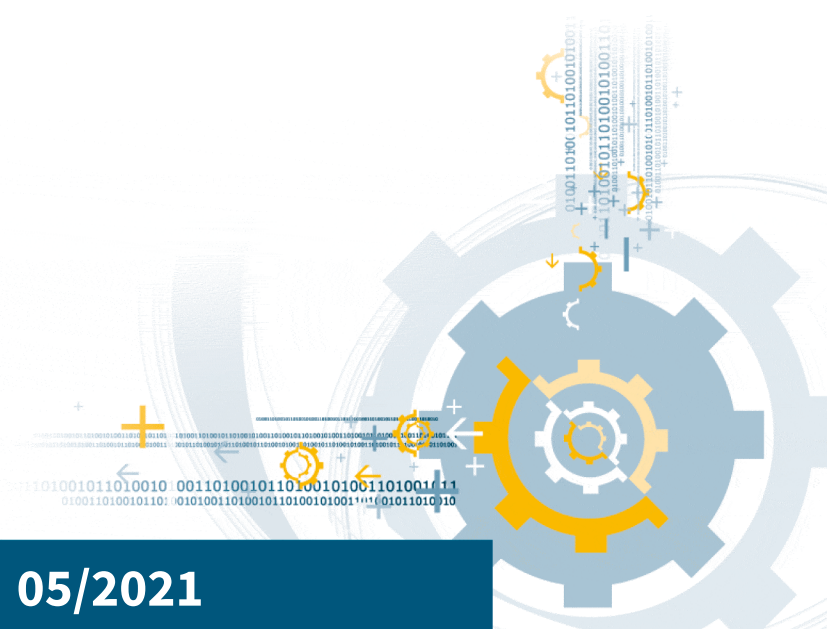


ILNAS

Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

**ILNAS-EN 300 338-1 V1.6.1
(2021-05)**

**Technical characteristics and methods
of measurement for equipment for
generation, transmission and
reception of Digital Selective Calling**



National Foreword

This European Standard EN 300 338-1 V1.6.1 (2021-05) was adopted as Luxembourgish Standard ILNAS-EN 300 338-1 V1.6.1 (2021-05).

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

ETSI EN 300 338-1 V1.6.1 (2021-05)



ILNAS-EN 300 338-1 V1.6.1 (2021-05) - Preview only Copy via ILNAS e-Shop

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 1: Common requirements

ReferenceREN/ERM-TGMAR-610

KeywordsDSC, GMDSS, maritime, radio

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 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

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

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

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

<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2021.

All rights reserved.

Contents

Intellectual Property Rights	7
Foreword.....	7
Modal verbs terminology.....	8
1 Scope	9
2 References	10
2.1 Normative references	10
2.2 Informative references.....	11
3 Definition of terms, symbols and abbreviations.....	12
3.1 Terms.....	12
3.2 Symbols.....	13
3.3 Abbreviations	13
4 General requirements	14
4.1 General	14
4.2 Frequencies.....	14
4.3 Classes of emission	15
4.4 Accessibility	15
4.5 Calibration.....	15
4.6 Controls and indicators.....	15
4.6.1 General.....	15
4.6.2 Markings.....	15
4.7 Distress alert activation	16
4.8 Own MMSI	16
4.9 Group MMSI.....	16
4.10 Own position	16
4.11 Light sources	17
4.12 Operation.....	17
4.13 Routine testing.....	17
4.14 Safety precautions	17
4.14.1 Excessive current and voltage.....	17
4.14.2 Protection.....	17
4.14.3 Earthing	17
4.14.4 Access.....	17
4.15 Memory	18
4.16 Compass safe distance.....	18
4.17 Instructions.....	18
4.18 Warming-up period	18
4.18.1 Time.....	18
4.18.2 Heaters	18
4.18.3 Heating circuits.....	18
4.19 Selection of signal characteristics	19
4.20 Automatic/semi-automatic service	19
4.21 RF power used for DSC signalling.....	19
5 Test conditions	19
5.1 Test conditions, power sources, and ambient temperatures.....	19
5.1.1 Normal and extreme test conditions.....	19
5.1.2 Test power source	19
5.2 Normal test conditions.....	19
5.2.1 Normal temperature and humidity	19
5.2.2 Normal power sources	20
5.2.2.1 Battery power source.....	20
5.2.2.2 Other power sources.....	20
5.3 Extreme test conditions	20
5.3.0 General.....	20
5.3.1 Extreme temperatures	20

5.3.2	Extreme values of test power sources	20
5.3.2.1	Battery power source.....	20
5.3.2.2	Other power sources.....	20
5.3.3	Procedure for tests at extreme temperatures	20
5.4	Standard test signals	20
5.4.1	References to standard test signals	20
5.4.2	Standard test signal no. 1	21
5.4.3	Standard test signal no. 2	21
5.4.4	Standard test signal no. 3	21
5.4.5	Standard test signal no. 4	21
5.5	Determination of the symbol error rate in the output of the receiving part	21
5.6	Test Impedances.....	21
6	RF test or baseband test of DSC equipment.....	22
6.1	RF test of integrated DSC equipment.....	22
6.1.1	SOLAS VHF class A	22
6.1.2	Non-SOLAS VHF class D	22
6.1.3	SOLAS MF/HF class A	22
6.1.4	Non-SOLAS MF/HF class E	22
6.1.5	Non-SOLAS VHF class H.....	22
6.1.6	MoB class M.....	22
6.2	Baseband test of non-integrated DSC equipment.....	22
6.2.1	VHF Encoder.....	22
6.2.1.1	Frequency error.....	22
6.2.1.1.1	Definition.....	22
6.2.1.1.2	Method of measurements.....	22
6.2.1.1.3	Limits	22
6.2.1.2	Output voltage.....	23
6.2.1.2.1	Definition.....	23
6.2.1.2.2	Method of measurement	23
6.2.1.2.3	Limits	23
6.2.1.3	Bit stream speed.....	23
6.2.1.3.1	Definition.....	23
6.2.1.3.2	Method of measurement	23
6.2.1.3.3	Limits	23
6.2.1.4	Unwanted spectral components of the output signal.....	23
6.2.1.4.1	Definition.....	23
6.2.1.4.2	Method of measurement	23
6.2.1.4.3	Limits	24
6.2.1.5	Residual frequency modulation.....	24
6.2.1.5.1	Definition.....	24
6.2.1.5.2	Method of measurement	24
6.2.1.5.3	Limits	24
6.2.2	VHF DSC decoder.....	25
6.2.2.1	Dynamic range.....	25
6.2.2.1.1	Definition.....	25
6.2.2.1.2	Method of measurement	25
6.2.2.1.3	Limits	25
6.2.2.2	Noise immunity.....	25
6.2.2.2.1	Definition.....	25
6.2.2.2.2	Method of test.....	25
6.2.2.2.3	Limits	25
6.2.3	MF/HF DSC encoder.....	26
6.2.3.1	Frequency error.....	26
6.2.3.1.1	Definition.....	26
6.2.3.1.2	Method of measurement	26
6.2.3.1.3	Limits	26
6.2.3.2	Output voltage.....	26
6.2.3.2.1	Definition.....	26
6.2.3.2.2	Method of measurement	26
6.2.3.2.3	Limits	26
6.2.3.3	Bit stream speed.....	26