ETSI TS 101 570-6 V1.1.1 (2020-01)

Interoperability Testing for Maritime Digital Selective Calling (DSC) Radios; Part 6: VHF Class M Test Descriptions

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/...bd-a649-42dc-8273-cc998561feba/etsi-ts-101-570-6-v1.1.1-2020-01

Reference

DTS/ERM-TGMAR-541-6

Keywords

DSC, interoperability, maritime, TSS&TP

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)
Full standard:

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/CommiteeSupportStaff.aspx

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 2020.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
oneM2M™ logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.
GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Contents

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/beca516d-a640-42dc-8273-cc998561feba/etsi-ts-101-570-6-v1.1.1-2020-01

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables 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 (https://ipr.etsi.org/).

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.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document is part 6 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.1].

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/beca516d-a649-42dc-8273-d998561feba/etsi-ts-101-570-6-v1.1.1-2020-01

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).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document contains the Test Descriptions (TD) for interoperability testing of the DSC MOB devices (class M) DSC radio equipment.

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] ETSI EN 300 338-6: "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 6: Class M DSC".

iTeh STANDARD PREVIEW (standards.iteh.ai) Full standard: https://standards.iteh.ai/catalog/standards/sist/... etsi-ts-101-570-6-v1.1.1-2020-01

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.

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 not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI TS 101 570-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Interoperability Testing for Maritime Digital Selective Calling (DSC) Radios; Part 1: Requirements catalogue".

[i.2] ETSI EN 300 338-1: "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 1: Common requirements".

3 Definition of terms, symbols and abbreviations

3.1 Terms

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

acknowledged: automated procedure it indicates that the objective of the initial DSC message has been achieved

activation: initial triggering of the MoB device i.e. both parts of the two step procedure are performed

class M: specific class of DSC functionality for use by man overboard devices

closed loop: class M individual transmission to own vessel

distress alert: name given to the single distress DSC message with the format symbol 112

leap second: second which is occasionally inserted into the atomic scale of reckoning time in order to bring it into line with solar time

open loop: class M transmitting to all ships (broadcast) 'using All ships call types'

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI EN 300 338-1 [i.2] and the following apply:

AIS	Automatic Identification System
CF	(Test) ConFiguration
DSC	Digital Selective Calling
EUT	Equipment Under Test
GNSS	Global Navigation Satellite System
MOB	Man OverBoard
MMSI	Maritime Mobile Service Identity
TD	Test Description
TP	Test Purpose
TSS	Test Suite Structure
UTC	Universal Time Co-ordinated

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/beca516d-a649-42de-8273-c998561feba/etsi-ts-101-570-6-v1.1.1-2020-01

4 Test configurations

This clause defines all test configurations used. Each test description referes to one or multiple test configurations. It is assumed that the initial state of all the euipment involved in the test configuration is 'standby' for DSC radios or 'deactivated' for MOB devices, i.e. unless stated otherwise the pre-test conditions of each test description assume standby/idle mode for the equipment.

An arrow connection between devices indicates that these devices are in communication range.

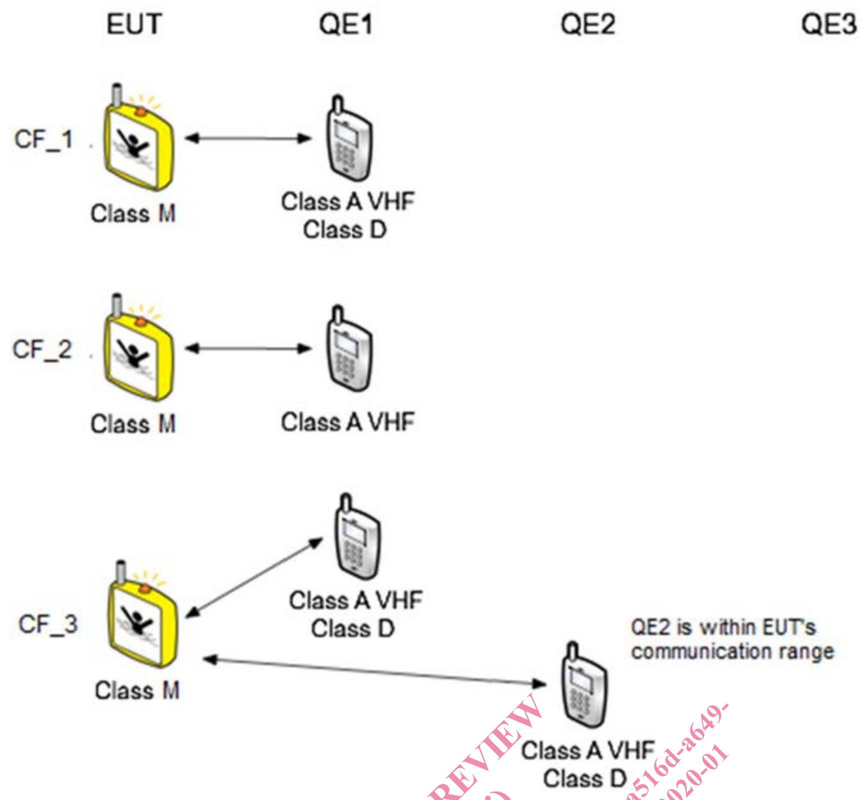

Figure 1: Configurations for Handheld Class M EUT

5 Test Suite Structure (TSS)

The following table shows the Test Suite Structure contained in the present document.

Test Group	**Test Sub-Group (sub-group ID)**
VHF	
	Sending Distress Alerts (SDA)
	Sending Distress Relays and Acknowledgements (SDRA)
	Other Calls (OC)
Interface and other functions (IOF)	
	General test (GEN)

iTeh STANDARD PREVIEW (standards.iteh.ai) Full standard: https://standards.iteh.ai/catalog/standards/sist/beca516d-a649-412a-8573-cc085616aba/etsi-ts-101-570-6-v1.1.1-2020-01

Each test description is described through a tabular format conforming to the following convention:

Interoperability Test Description			
Identifier:	A unique identifier. The test description identifiers are conforming to the TD_DSC__VHF_MOB_<SN> naming convention, where: <SN> is the sequential number within the test sub-group		
Summary:	Short description of the test objective		
Configuration:	The relevant test configuration, referencing the test set configurations listed in the Annex		
References:	The reference indicates the clauses of the base standard specifications in which the related interoperability requirement is expressed		
Pre-test conditions:	Defines in which initial state the test equipment has to be to apply the actual test description		
Step	**Test Sequence**	**Verdict**	
		Pass	**Fail**
1	The description of the individual condition to verify or action to perform	Yes/No criteria of the outcome of this verification step (if applicable)	Yes/No criteria of the outcome of this verification step (if applicable)
2	…		
Final verdict:			

6 Test Descriptions (TD)

6.1 Accidental activation, non activation

Interoperability Test Description			
Identifier:	TD_DSC_VHF_MOB_0001		
Summary:	Test that none of the EUT's controls can activate the device on its own		
Configuration:	CF_1		
References:	ETSI EN 300 338-6 [1], clause 4.4		
Pre-test conditions:	QE1 in standby and EUT deactivated/idle. If the EUT is marked DSC-MOB-C make sure its 'own vessel' MMSI is preprogrammed with the MMSI of QE1.		
Step	**Test Sequence**	**Verdict**	
		Pass	**Fail**
1	Operate the EUT's first mechanical action alone		
2	Verify the EUT is not activated (no MOB event is triggered)	Yes	No
3	Return the EUT's first mechanical action to its original position		
4	Operate the EUT's second mechanical action alone (see note)		
5	Verify the EUT is not activated (no MOB event is triggered)	Yes	No
Final verdict:			
NOTE: Where the second action is replaced by an immersion sensor then immerse the EUT in sea water.			

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Interoperability Test Description			
Identifier:	TD_DSC_VHF_MOB_0001		
Summary:	Test of self cancellation before a MOB distress procedure is triggered		
Configuration:	CF_1		
References:	ETSI EN 300 338-6 [1], clauses 5.2.1.0 and 4.5		
Pre-test conditions:	QE1 in standby and EUT deactivated/idle. If the EUT is marked DSC-MOB-C make sure its 'own vessel' MMSI is preprogrammed with the MMSI of QE1.		
Step	**Test Sequence**	**Verdict**	
		Pass	**Fail**
1	Activate the EUT (trigger a MOB event)		
2	Verify audible (see note) and visual indication of EUT activation	Yes	No
3	Deactivate the EUT within 10 seconds of activation		
4	Verify the EUT's audible (see note) indication ceases and the EUT displays the correct visual indication for local deactivation	Yes	No
5	Verify that QE1 remains in standby and no distress alert or distress alert relay message is received	Yes	No
Final verdict:			
NOTE: Intrinsically safe MOB devices may not necessarily give an audible warning.			

6.2 Open loop activation

The tests in this clause apply only to MOB devices that start in open loop. These devices are marked DSC-MOB-O. Tests for devices marked DSC-MOB-C continue from clause 6.3.

Interoperability Test Description			
Identifier:	TD_DSC_VHF_MOB_0002		
Summary:	Test of initial activation and self cancellation before a GNSS position fix is obtained		
Configuration:	CF_1		
References:	ETSI EN 300 338-6 [1], clauses 5.2.1.2, 5.2.1.3, 4.5 and 4.8		
Pre-test conditions:	QE1 in standby and EUT deactivated/idle. Inhibit EUT from being able to obtain a GNSS fix throughout the duration of the test.		
Step	**Test Sequence**	**Verdict**	
		Pass	**Fail**
1	Activate the EUT (trigger a MOB event)		
2	Verify audible (see note) and visual indication of EUT activation	Yes	No
3	Wait for 30 seconds after activation		
4	Verify that QE1 receives a distress alert message of type man overboard without time or position	Yes	No
5	Verify that QE1 correctly displays the EUT's 'self ID' MMSI	Yes	No
6	Deactivate the EUT		
7	Verify the EUT's audible (see note) indication ceases and the EUT displays the correct visual indication for local deactivation	Yes	No
8	Verify that QE1 received the EUT's acknowledgement and at top level the procedure stage is displayed as 'Cancelled'	Yes	No
Final verdict:			
NOTE: Intrinsically safe MOB devices may not necessarily give an audible warning.			

iTeh STANDARD PREVIEW (standards.iteh.ai)