

Námorné navigačné a rádiokomunikačné
zariadenia a systémy
Lodné zariadenia triedy B automatického
identifikačného systému (AIS)
Časť 1: Techniky viacnásobného prístupu s
detekciou nositeľa a časovým delením signálov
(CSTDMA)

STN EN 62287-1

32 6793

Maritime navigation and radiocommunication equipment and systems - Class B shipborne equipment of the automatic identification system (AIS) - Part 1: Carrier-sense time division multiple access (CSTDMA) techniques

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/17

Obsahuje: EN 62287-1:2017, IEC 62287-1:2017

Oznámením tejto normy sa od 10.05.2020 ruší STN EN 62287-1 (32 6793) z apríla 2011

125822

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 62287-1

July 2017

ICS 47.020.70

Supersedes EN 62287-1:2011

English Version

Maritime navigation and radiocommunication equipment and systems - Class B shipborne equipment of the automatic identification system (AIS) - Part 1: Carrier-sense time division multiple access (CSTDMA) techniques (IEC 62287-1:2017)

Matériels et systèmes de navigation et de radiocommunications maritimes - Transpondeur embarqué du système d'identification automatique (AIS) de classe B - Partie 1: Technique d'accès multiple par répartition dans le temps avec écoute de porteuse (CSTDMA) (IEC 62287-1:2017)

Navigations- und Funkkommunikationsgeräte und systeme für die Seeschifffahrt - Geräte der Klasse B des automatischen Identifikationssystems (AIS) für Schiffe -Teil 1: Zeitmultiplex-Vielfachzugriffstechniken mit Aktivitätserkennung (CSTDMA) (IEC 62287-1:2017)

This European Standard was approved by CENELEC on 2017-05-10. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2017 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN 62287-1:2017 E

European foreword

The text of document 80/837/FDIS, future edition 3 of IEC 62287-1, prepared by IEC/TC 80 "Maritime navigation and radiocommunication equipment and systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62287-1:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at (dop) 2018-02-10 national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with (dow) 2020-05-10 the document have to be withdrawn

This document supersedes EN 62287-1:2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62287-1:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61162-450 NOTE Harmonized as EN 61162-450.

ISO 9000 NOTE Harmonized as EN ISO 9000.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60945	2002	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002
IEC 61108	series	Maritime navigation and radiocommunication equipment and systems - Global navigation satellite systems (GNSS)	EN 61108	series
IEC 61162-1	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners	EN 61162-1	-
IEC 61993-2	-	Maritime navigation and radiocommunication equipment and systems - Automatic Identification Systems (AIS) - Part 2: Class A shipborne equipment of the automatic identification system (AIS) - Operational and performance requirements, methods of test and required test results	EN 61993-2	-
IEC 62320-1	-	Maritime navigation and radiocommunication equipment and systems - Automatic identification system (AIS) - Part 1: AIS Base Stations - Minimum operational and performance requirements, methods of testing and required test results	EN 62320-1	-
ITU-R Recommendation M.493	-	Digital selective-calling system for use in the maritime mobile service	-	-

EN 62287-1:2017

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
ITU-R Recommendation M.825-3	1998	Characteristics of a transponder system using digital selective calling techniques for use with vessel traffic services and ship-to-ship identification	-	-
ITU-R Recommendation 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	-	-
ITU-R Recommendation M.1371-5	2014	Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band	-	-
ITU Radio Regulations	2012	Radio Regulations	-	-



IEC 62287-1

Edition 3.0 2017-04

INTERNATIONAL STANDARD



Maritime navigation and radiocommunication equipment and systems – Class B shipborne equipment of the automatic identification system (AIS) – Part 1: Carrier-sense time division multiple access (CSTDMA) techniques





THIS PUBLICATION IS COPYRIGHT PROTECTED Copyright © 2017 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office Tel.: +41 22 919 02 11 3, rue de Varembé Fax: +41 22 919 03 00

CH-1211 Geneva 20 info@iec.ch Switzerland www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.



IEC 62287-1

Edition 3.0 2017-04

INTERNATIONAL STANDARD



Maritime navigation and radiocommunication equipment and systems – Class B shipborne equipment of the automatic identification system (AIS) – Part 1: Carrier-sense time division multiple access (CSTDMA) techniques

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 47.020.70 ISBN 978-2-8322-4152-3

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FC	REWO	RD	8
IN	TRODU	CTION	10
1	Scop	9	11
2	Norm	ative references	11
3	Term	s, definitions and abbreviated terms	12
	3.1	Terms and definitions	
	3.2	Abbreviated terms	
4	Gene	ral requirements	
	4.1	General	
	4.1.1	Capabilities of the Class B "CS" AIS	
	4.1.2	Quality assurance	
	4.1.3	Safety of operation	
	4.1.4	Additional features	
	4.1.5	Modes of operation	14
	4.2	Manuals	15
	4.3	Marking and identification	15
5	Envir	onmental, power supply, interference and safety requirements	15
6	Perfo	rmance requirements	16
	6.1	Composition	16
	6.2	Operating frequency channels	
	6.3	GNSS receiver for position reporting	
	6.4	Identification	
	6.5	AIS information	17
	6.5.1	Information content	17
	6.5.2	Information reporting intervals	18
	6.5.3	Permissible initialisation period	18
	6.6	Alarms and indications, fall-back arrangements	18
	6.6.1	Integrity and protection	18
	6.6.2	Transmitter shutdown procedure	19
	6.6.3	Position sensor fallback conditions	19
	6.6.4	SOG/COG sensor fallback conditions	20
	6.7	User interface	20
	6.7.1	Indicators and display	20
	6.7.2	Static data input	20
	6.7.3	External interfaces	
	6.8	Protection from invalid control commands	21
7	Tech	nical requirements	21
	7.1	General	21
	7.2	Physical layer	22
	7.2.1	General	22
	7.2.2	Transceiver characteristics	22
	7.2.3	Transmitter requirements	24
	7.2.4	Receiver requirements	24
	7.3	Link layer	25
	7.3.1	General	25

	7.3.2	Link sublayer 1: Medium access control (MAC)	25
	7.3.3	Link sublayer 2: Data Link Service (DLS)	
	7.3.4	Link sublayer 3: Link management entity (LME)	33
	7.4	Network layer	
	7.4.1	General	
	7.4.2	Dual channel operation	
	7.4.3	Channel management	
	7.4.4	Distribution of transmission packets	
	7.4.5	Data link congestion resolution	
		Transport layer	
	7.5.1	General	
	7.5.2	Transmission packets	
	7.5.3	Sequencing of data packets	
		Digital selective calling (DSC)	
8	Test	conditions	43
	8.1	General	43
	8.2	Normal and extreme test conditions	43
	8.2.1	Normal test conditions	43
	8.2.2	Extreme test conditions	43
	8.3	Test signals	43
	8.3.1	Standard test signal number 1	44
	8.3.2	Standard test signal number 2	44
	8.3.3	Standard test signal number 3	44
	8.3.4	Standard test signal number 4	44
	8.3.5	Standard test signal number 5	44
	8.4	Test arrangements	45
	8.4.1	Standard test environment	45
	8.4.2	Modes of operation of the transmitter	46
	8.4.3	Common test conditions for protection from invalid controls	46
	8.4.4	Measurement uncertainties	46
9	Powe	r supply, environmental and EMC tests	47
	9.1	Test summary	47
	9.2	Vibration/shock	49
	9.2.1	Vibration	49
	9.2.2	Shock	49
	9.3	Performance tests/checks	49
	9.4	Undervoltage test (brown out)	50
	9.4.1	Purpose	50
	9.4.2	Method of test	50
	9.4.3	Required result	50
10	Opera	ational tests	50
	10.1	General	50
	10.1.1	1 Quality assurance	50
	10.1.2	•	
	10.1.3		
	10.2	Modes of operation	51
	10.2.1	Autonomous mode	51
	10.2.2	2 Assigned mode	52
	10.2.3		

10.3 Me	essages extending one time period	54
10.3.1	Method of measurement	54
10.3.2	Required results	54
10.4 Ch	annel selection	54
10.4.1	Valid channels	54
10.4.2	Invalid channels	54
10.5 Int	ernal GNSS receiver	54
10.6 AIS	S information	55
10.6.1	Information content	55
10.6.2	Information update rates	56
10.7 Ini	tialisation period	57
10.7.1	Method of measurement	57
10.7.2	Required results	57
10.8 Ala	arms and indications, fall-back arrangements	57
10.8.1	Built-in integrity test	57
10.8.2	Transceiver protection	58
10.8.3	Transmitter shutdown procedure	58
10.8.4	Position sensor fallback conditions	58
10.8.5	Speed sensors	59
10.9 Us	er interface	59
10.9.1	Display	59
10.9.2	Message display	59
10.9.3	Static data input	60
10.9.4	External interfaces	60
11 Physical	tests	60
11.1 TD	MA transmitter	60
11.1.1	Frequency error	60
11.1.2	Carrier power	61
11.1.3	Transmission spectrum	61
11.1.4	Modulation accuracy	62
11.1.5	Transmitter output power versus time function	63
11.2 TD	MA receivers	64
11.2.1	Sensitivity	64
11.2.2	Error behaviour at high input levels	65
11.2.3	Co-channel rejection	65
11.2.4	Adjacent channel selectivity	66
11.2.5	Spurious response rejection	67
11.2.6	Intermodulation response rejection	69
11.2.7	Blocking or desensitisation	
11.3 Co	nducted spurious emissions	71
11.3.1	Spurious emissions from the receiver	
11.3.2	Spurious emissions from the transmitter	72
12 Specific	tests of link layer	72
12.1 TD	MA synchronisation	72
12.1.1	Synchronisation test sync mode 1	72
12.1.2	Synchronisation test sync mode 2	73
12.1.3	Synchronisation test with UTC	74
	rrier-sense tests	74
12.2.1	Threshold level	74

12.2.2	Carrier-sense timing	/5
12.3 VDL	state/reservations	76
12.3.1	Method of measurement	76
12.3.2	Required results	76
12.4 Data	a encoding (bit stuffing)	76
12.4.1	Method of measurement	76
12.4.2	Required results	76
12.5 Frai	me check sequence	76
12.5.1	Method of measurement	76
12.5.2	Required results	76
12.6 Slot	allocation (channel access protocol)	77
12.6.1	Autonomous mode allocation	77
12.6.2	DSC listening periods	77
12.7 Ass	igned operation	77
12.7.1	Assignment priority	77
12.7.2	Entering rate assignment	78
12.7.3	Reverting from rate assignment	78
12.7.4	Reverting from quiet mode	78
12.7.5	Retry of interrogation response	78
12.8 Mes	sage formats	79
12.8.1	Received messages	79
12.8.2	Transmitted messages	79
13 Specific t	ests of network layer	79
13.1 Reg	ional area designation by VDL message	79
13.1.1	Method of measurement	79
13.1.2	Required results	80
13.2 Reg	ional area designation by serial message or manually	80
13.2.1	Method of measurement	80
13.2.2	Required result	80
13.3 Mar	nagement of received regional operating settings	80
13.3.1	Replacement or erasure of dated or remote regional operating settings	80
13.3.2	Channel management by addressed Message 22	81
13.3.3	Invalid regional operating areas	82
13.3.4	Continuation of autonomous mode reporting rate	82
13.3.5	Other conditions	82
	mative) Results of computer simulations and testing of CSTDMA	83
	nputer simulations	
	rier-sense tests	
	ge tests	
	clusion	
Annex B (infor	mative) Description of the system	86
Annex C (norr	native) DSC channel management	87
•	C functionality	
	C time sharing	
	C functionality tests	
C.3.1	General	
C.3.2	Regional area designation	
C.3.3	Scheduling	

C.3.4 DSC flag in Message 18	88
C.3.5 DSC monitoring time plan	
C.3.6 Replacement or erasure of dated or remote regional operating settings	
C.3.7 Test of addressed telecommand	
C.3.8 Invalid regional operating areas	
C.4 DSC receiver tests	
C.4.1 General	
C.4.2 Maximum sensitivity	
C.4.3 Error behaviour at high input levels	
C.4.4 Co-channel rejection	
C.4.5 Adjacent channel selectivity	
C.4.6 Spurious response rejection	
C.4.8 Blocking or desensitisation	
Annex D (informative) Channel management regions	
Bibliography	
Dibliography	
Figure 1 – OSI layer model	22
Figure 2 – Carrier-sense timing	
Figure 3 – Power versus time mask	
Figure 4 – Transmission packet	
Figure 5 – Training sequence	
Figure 6 – Transmission timing	
Figure 7 – Example for CSTDMA access	
Figure 8 – Format for repeating four-packet cluster	
Figure 9 – Measurement arrangement for carrier power	
Figure 10 – Emission mask	
Figure 11 – Measurement arrangement for modulation accuracy	
Figure 12 – Measurement arrangement	
Figure 13 – Measurement arrangement with two generators	
Figure 14 – SINAD or PER/BER measuring equipment	
Figure 15 – Measurement arrangement for intermodulation	
Figure 16 – Configuration for carrier-sense threshold test	
Figure 17 – Regional area scenario	
Figure A.1 – Effect on Class A AIS messages of Class B messages	
Figure A.2 – Reception of messages by Class A AIS	
Figure A.3 – Reception of messages by Class B AIS	
Figure A.4 – Range achieved by a Class A AIS from Class B AIS	
Figure D.1 – Channel management regions used for test given in 13.3.1	
Table 1 Position concer fallback conditions	40
Table 1 – Position sensor fallback conditions	
Table 2 – Use of accuracy (PA) flag	
Table 3 – Transceiver characteristics	
Table 4 – Transmitter parameters	
Table 5 – Receiver parameters	25

Table 6 – Definition of timings for Figure 3	28
Table 7 – Start-buffer	30
Table 8 – Summary of the transmission packet	31
Table 9 – Transmission timing	32
Table 10 – Access parameters	33
Table 11 – Use of VDL messages by a Class B "CS" AIS	36
Table 12 – Number of data bits for use with Message 14	37
Table 13 – Contents of Message 18	38
Table 14 – Message 24 Part A	39
Table 15 – Message 24 Part B	39
Table 16 – Contents of Message 23	40
Table 17 – Reporting interval settings for use with Message 23	41
Table 18 – Channel management	42
Table 19 – Content of first two packets	45
Table 20 – Fixed PRS data derived from ITU-T 0.153	45
Table 21 – Test summary	48
Table 22 – Peak frequency deviation versus time	63
Table 23 – Frequencies for inter-modulation test	70
Table 24 – Required threshold test results	75
Table 25 – Required carrier-sense timing results	76
Table 26 – Required channels in use	80
Table C.1 – DSC monitoring times	8

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – CLASS B SHIPBORNE EQUIPMENT OF THE AUTOMATIC IDENTIFICATION SYSTEM (AIS) –

Part 1: Carrier-sense time division multiple access (CSTDMA) techniques

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62287-1 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This third edition cancels and replaces the second edition published in 2010 and Amendment 1:2013. This edition constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition: in the synchronisation method, addition of a direct method for synchronisation from an internal UTC source.

IEC 62287-1:2017 © IEC 2017

-9-

The text of this document is based on the following documents:

FDIS	Report on voting
80/837/FDIS	80/842/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62287 series published under the general title *Maritime navigation* and radiocommunication equipment and systems — Class B shipborne equipment of the automatic identification system (AIS), can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- · reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

- 10 -

IEC 62287-1:2017 © IEC 2017

INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning the communication method and system given in 7.3.2.

IEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:

SRT Marine systems plc

Neil Peniket

Chief Operating Officer

SRT Marine Systems plc, Wireless House, First Avenue, Westfield Industrial Estate, Midsomer Norton, Bath, UK. BA3 4BS

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

ISO (www.iso.org/patents) and IEC (http://patents.iec.ch) maintain on-line data bases of patents relevant to their standards. Users are encouraged to consult the data bases for the most up to date information concerning patents.

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – CLASS B SHIPBORNE EQUIPMENT OF THE AUTOMATIC IDENTIFICATION SYSTEM (AIS) –

Part 1: Carrier-sense time division multiple access (CSTDMA) techniques

1 Scope

This part of IEC 62287 specifies the minimum operational and performance requirements, methods of testing and required test results for Class B shipborne automatic identification system (AIS) equipment using carrier-sense time division multiple access (CSTDMA) techniques. This document takes into account other associated IEC International Standards and existing national standards, as applicable.

It is applicable for AIS equipment used on craft that are not covered by the mandatory carriage requirement of AIS under SOLAS Chapter V.

An AIS station intended to operate in receive-only mode is not considered a Class B shipborne mobile AIS station.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60945:2002, Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results

IEC 61108 (all parts), Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS)

IEC 61162-1, Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 1: Single talker and multiple listeners

IEC 61993-2, Maritime navigation and radiocommunication equipment and systems – Automatic identification systems (AIS) – Part 2: Class A shipborne equipment of the automatic identification system (AIS) – Operational and performance requirements, methods of test and required test results

IEC 62320-1, Maritime navigation and radiocommunication equipment and systems – Automatic identification systems (AIS) – Part 1: AIS Base Stations – Minimum operational and performance requirements, methods of testing and required test results

ITU-R Recommendation M.493, Digital selective-calling system for use in the maritime mobile service

ITU-R Recommendation M.825-3:1998, Characteristics of a transponder system using digital selective calling techniques for use with vessel traffic services and ship-to-ship identification

– 12 –

IEC 62287-1:2017 © IEC 2017

ITU-R Recommendation 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

ITU-R Recommendation M.1371-5:2014, Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band

ITU, Radio Regulations:2012 (available at http://www.itu.int/publ/R-REG-RR/en)

koniec náhľadu – text ďalej pokračuje v platenej verzii STN