

INTERNATIONAL STANDARD



**Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) –
Part 3: Galileo receiver equipment – Performance requirements, methods of testing and required test results**



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CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references	7
3 Terms, definitions and abbreviations	8
3.1 Terms and definitions	8
3.2 Abbreviations	8
4 Minimum performances standards	9
4.1 Object	9
4.2 Galileo receiver equipment.....	10
4.2.1 Minimum facilities	10
4.2.2 Configuration.....	10
4.2.3 Quality assurance.....	10
4.3 Performance standards for Galileo receiver equipment.....	10
4.3.1 General	10
4.3.2 Equipment output	11
4.3.3 Accuracy	12
4.3.4 Acquisition.....	12
4.3.5 Antenna and input/output connections	13
4.3.6 Antenna design	13
4.3.7 Dynamic range	13
4.3.8 Protection from specific interfering signals.....	13
4.3.9 Position update	14
4.3.10 Differential Galileo input	14
4.3.11 Navigational warnings and status indications	14
4.3.12 Output of COG, SOG and UTC	18
4.3.13 Typical interference conditions	19
5 Methods of testing and required test results	19
5.1 Test sites	19
5.2 Test sequence.....	20
5.3 Test signals.....	20
5.4 Determination of accuracy	21
5.5 General requirements and presentation requirements.....	21
5.5.1 Normal conditions.....	21
5.5.2 General requirements	21
5.5.3 Presentation requirements.....	21
5.6 Receiver tests	21
5.6.1 Galileo receiver equipment	21
5.6.2 Position output	22
5.6.3 Equipment output	22
5.6.4 Accuracy	22
5.6.5 Acquisition.....	23
5.6.6 Antenna and input/output connections	24
5.6.7 Antenna design	24
5.6.8 Sensitivity and dynamic range	24
5.6.9 Protection from other shipborne transmitters	25
5.6.10 Position update	25

5.6.11 Differential Galileo input	26
5.6.12 Navigational warnings and status indications	26
5.6.13 Accuracy of COG and SOG	29
5.6.14 Validity of COG and SOG information	29
5.6.15 Output of UTC	30
5.7 Tests for typical RF interference conditions	30
5.7.1 Simulator conditions	30
5.7.2 Navigation solution accuracy test	30
5.7.3 Re-acquisition test	31
Annex A (informative) Galileo navigation signals characteristics	33
Annex B (informative) The Galileo integrity concept	35
Annex C (informative) Receiver autonomous integrity monitoring (RAIM)	41
Annex D (normative) Galileo standard received signals and interference environment	51
Annex E (informative) Galileo RAIM testing	56
Bibliography	58
Figure B.1 – Graphical illustration of SISA and SISMA [GIC05]	37
Figure C.1 – Navigation alerts and FDE events	42
Figure C.2 – RNP parameters	43
Figure C.3 – Receiver autonomous integrity monitoring (RAIM)	44
Figure C.4 – Position errors	45
Figure C.5 – Decision threshold and minimum detectable bias for the (W)SSE statistic	46
Figure C.6 – Maximum residual test statistic	47
Figure C.7 – Geometry screening	48
Figure D.1 – E5 in-band and near-band maximum CW RFI levels	52
Figure D.2 – E1 in-band and near-band maximum CW RFI levels	53
Figure D.3 – E5 Maximum in-band CW/NBI RFI levels	54
Figure D.4 – E1 Maximum in-band CW/NBI RFI levels	54
Table 1 – Acquisition time limits	13
Table 2 – RAIM integrity states	17
Table 3 – Integrity states corresponding to the Galileo integrity message	18
Table 4 – Accuracy of COG	19
Table 5 – RF interference values	31
Table A.1 – General characteristics of the Galileo navigation signals	33
Table A.2 – General characteristics of Galileo observables	34
Table B.1 – Integrity flag values	38
Table C.1 – Galileo satellite failure [GIC05]	49
Table C.2 – RAIM-FDE parameters	50
Table D.1 – Minimum and maximum receiver power levels on ground	51
Table D.2 – Minimum and maximum levels at antenna port and receiver input	51
Table D.3 – Table of main characteristics of Figure D.1 above	52
Table D.4 – Table of main characteristics of Figure D.2	53
Table D.5 – E5 maximum in-band RFI levels versus bandwidth	54

Table D.6 – E5 maximum in-band RFI levels versus bandwidth.....	55
Table E.1 – Scenario overview.....	57

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) –

Part 3: Galileo receiver equipment – Performance requirements, methods of testing and required test results

FOREWORD

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International Standard IEC 61108-3 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

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

FDIS	Report on voting
80/590/FDIS	80/595/RVD

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

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

A list of all the parts in the IEC 61108 series, under the general title: *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS)*, can be found on the IEC website.

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

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

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

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) –

Part 3: Galileo receiver equipment – Performance requirements, methods of testing and required test results

1 Scope

This part of IEC 61108 specifies the minimum performance standards, methods of testing and required test results for Galileo shipborne receiver equipment, based on IMO resolution MSC.233(82), which uses the signals from the Galileo Global Navigation Satellite System in order to determine position. It takes account of the general requirements given in IMO resolution A.694(17) and is associated with IEC 60945. When a requirement in this standard is different from IEC 60945, the requirement in this standard takes precedence. It also takes account, as appropriate, of requirements for the presentation of navigation-related information on shipborne navigational displays given in IMO resolution MSC.191(79) and is associated with IEC 62288.

A description of the Galileo Open Service and Safety of Life Service is given in the Galileo interface control documents (see Bibliography). This receiver standard applies to navigation in ocean waters for the open service and harbour entrances, harbour approaches and coastal waters for the Safety of Life service, as defined in IMO resolution A.953(23).

All text of this standard, whose meaning is identical to that in IMO resolution MSC.233(82), is printed in *italics* and the resolution and paragraph numbers are indicated in brackets i.e. (M.233/A1.2).

The requirements in Clause 4 are cross-referenced to the tests in Clause 5 and vice versa.

2 Normative references

The following referenced documents are indispensable for the application 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 60721-3-6:1987, *Classification of environmental conditions – Part 3-6: Classification of groups of environmental parameters and their severities – Ship environment*

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

IEC 61108-1:2003, *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) – Part 1: Global positioning system (GPS) – Receiver equipment – Performance standards, methods of testing and required test results*

IEC 61108-4, *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) – Part 4: Shipborne DGPS and DGLONASS maritime radio beacon receiver equipment – Performance requirements, methods of testing and required test results*

IEC 61162 (all parts), *Maritime navigation and radiocommunication equipment and systems – Digital interfaces*

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

IEC 62288, *Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements – Methods of testing and required test results*

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*

IMO resolution A.915(22), *Revised maritime policy and requirements for a future Global Navigation Satellite System (GNSS)*

IMO resolution A.953(23), *World-wide radionavigation system*

IMO resolution MSC.233(82), *Adoption of the Performance Standards for Shipborne GALILEO Receiver Equipment*

ITU-R Recommendation M.823-3, *Technical characteristics of differential transmissions for Global Navigation Satellite Systems from maritime radio beacons in the frequency band 283.5-315 kHz in Region 1 and 285-325 kHz in Regions 2 and 3*

RTCM 10402 RTCM Recommended Standards for Differential GNSS (Global Navigation Satellite Systems) Service, Version 2.4

3 Terms, definitions and abbreviations

For the purposes of this document, the following terms, definitions and abbreviations apply.

NOTE All definitions and abbreviations used are the same as those used in the Galileo performance signal specification.

3.1 Terms and definitions

3.1.1 integrity

ability of the system to provide users with warnings within a specified time when the system should not be used for navigation

3.2 Abbreviations

Compass	Beidou-2 GNSS (China)
COG	Course Over Ground
CW	Continuous Wave
dGalileo, dGPS, dGLONASS	Differential Galileo, GPS, GLONASS
EUT	Equipment Under Test
FDE	Fault Detection and Exclusion
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GLONASS	GLOBAL Navigation Satellite System
GTRF	Galileo Terrestrial Reference Frame