BEACON TEST REPORT

Survey Date and Place: Dec 24, 2024, Belgrade

It is hereby certified that representative of the company Smart Radio Tech, Alex Musson, performed testing of **EPIRB-AIS** and defined the following:

Vessel details

Name of Ship	Flag	Port of Registry	Radio call sign	MMSI code	IMO Number
Queen Mary	Panama	Panama	CA1234	323555555	1234567

EPIRB details

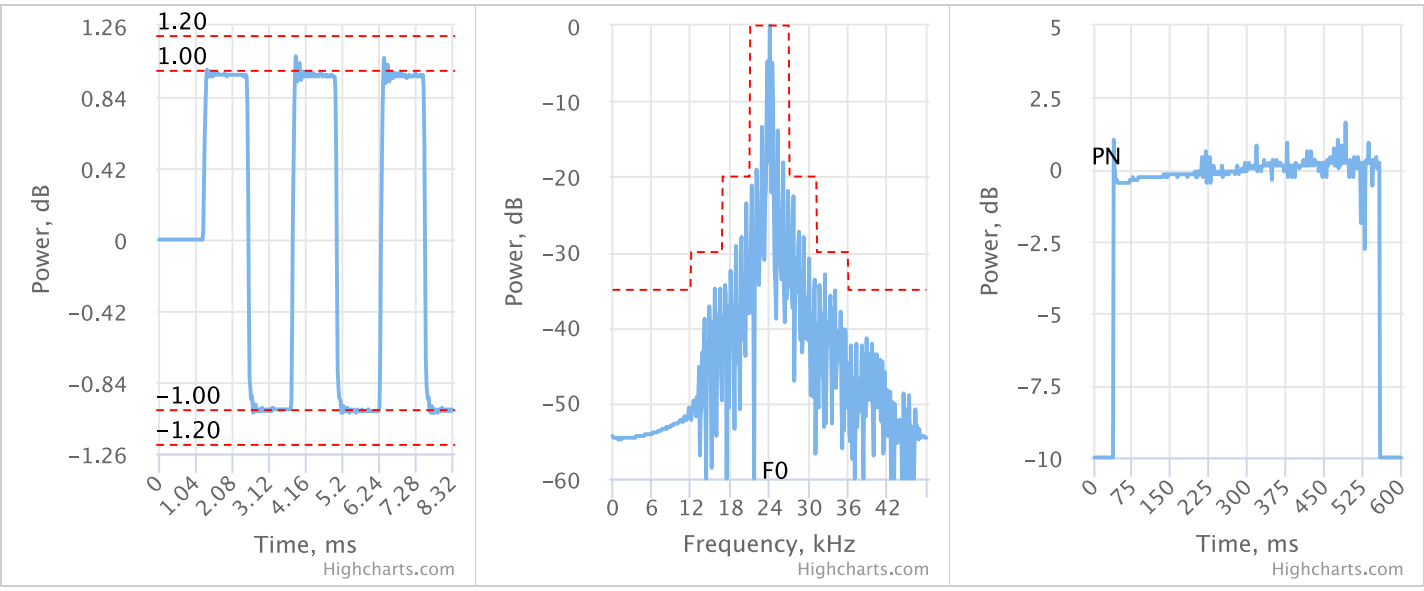
Type	Model	Serial Number	Date of manufacture	EPIRB Battery Expiry Date
EPIRB-AIS	Samyung EB-10	1234567	2025	03.2030

Transmitter parameters

Channel	406 MHz
Frequency, MHz	406.037152
Power, dBm / mW	-13.38 / 0.05
TTT, ms	520.87
UNC, ms	160.2
Phase(+), Deg	52
Phase(-), Deg	52

Channel	Channel A Freq, Hz	Channel A Power, dbm	Channel B Freq, Hz	Channel B Power, dbm	Message Order
AIS Signal	161.975138 MHz	-15.58 dBm / 0.03 mW	162.025134 MHz	-13.2 dBm / 0.05 mW	Ok

Graphics



Hydrostatic release unit

HRU Model & Type	HRU Expiry Date
HRU-20	02.2031

Cospas-Sarsat message content

Full Hex	FFFED0D434082082082688846C6FE0FF0146
MMSI/ID	323555555

15 Hex ID	A868104104104D1
Message format	long format
Protocol	User
Country code	Cuba (323)
User type	Maritime User
Maritime MMSI (6 digits)	555555
Specific Beacon	0
Spare	00
Aux radio device	121.5 MHz
Encoded BCH 1	0211B1
Calculated BCH 1	0211B1
Encoded Position Data Source	Encoded Position Data Source From Internal Navigation Device
Latitude Sign	default
Latitude (degrees)	default
Latitude (minutes)	default
Longitude Sign	default
Longitude (degrees)	default
Longitude (minutes)	default
Encoded BCH 2	146
Calculated BCH 2	146
Message ID	14
Repeat indicator	No repeat
User ID	974285013
Application data	EPIRB TEST
Message ID	14
Repeat indicator	No repeat
User ID	974285013
Application data	T0004000000FFBFF\.U0

Positional, Static and Voyage data extracted from AIS

User ID	974285013
Application data	T0004000000FFBFF\.U0
Repeat indicator	No repeat

Alex Musson, Smart Radio Tech Nov 13, 2025

Test tool: GMDSS Tester MRTS-7 Pro, S/N 2

EPIRB Annual test report

Issued in accordance with IMO MSC.1/Circ.1040/Rev.2 as required by SOLAS IV/Reg.15.9

Surveyor Company	Smart Radio Tech
Vessel's name	Queen Mary
MMSI Number	323555555
Call sign	CA1234
Flag of registry	Panama

EPIRB Manufacturer, serial number	Samyung EB-10, 1234567
EPIRB Bracket type	Float-Free
Assigned EPIRBs ID	323555555
HEX ID	A868104104104D1
AIS User ID	974285013
Battery expiry date	03.2030
HRU Expiry date	HRU-20, 02.2031
SBM Due date	02.2031
Next Test Due	12.2025

EPIRB Annual Inspection Checklist

No.	Inspection Item	Result
1	Checking position and mounting of the bracket to ensure unimpeded float-free operation	✓ PASS
2	Carrying out visual inspection of the EPIRB and the bracket for defects, any signs of damage, degradation or cracks to the casing, or of water ingress	✗ FAIL
3	Carrying out the beacon self-test routine, including the GNSS self-test, if applicable	✓ PASS
4	Checking that the EPIRB identification (15 Hex ID for first-generation beacons and 23 Hex ID for second-generation beacons and other required information, including, if applicable, the AIS identity (User ID)) is clearly marked on the outside of the equipment	✓ PASS
5	Decoding the EPIRB hexadecimal identification digits (15 Hex ID for first-generation beacons and 23 Hex ID for second-generation beacons) and other information from the transmitted signal, including, if applicable, the AIS identity (User ID), checking that the decoded information (Hex ID or MMSI/call sign data, as required by the Administration) is identical to the identification marked on the beacon	✓ PASS
6	Verifying that the MMSI number or radio call sign, if encoded in the beacon, corresponds with that assigned to the ship	✓ PASS
7	Verifying registration in an appropriate beacon registration database through documentation or through the point of contact associated with that country code	✓ PASS
8	Checking the battery expiry date	✓ PASS
9	Checking the hydrostatic release and its expiry date, as appropriate	✓ PASS
10	Verifying the emission in the 406 MHz band using the self-test mode or an appropriate device to avoid transmission of a distress call to the satellites	✓ PASS
11	If possible, verifying emission on the 121.5 MHz frequency using the self-test mode or an appropriate device to avoid activating the SAR system	✓ PASS
12	Verifying emission on the appropriate AIS frequencies, if applicable, using the self-test mode or an appropriate device to avoid creating false alerts	✓ PASS
13	Verifying that the EPIRB has been maintained by an approved shore-based maintenance provider at intervals required by the Administration, in accordance with the most recent revision of MSC/Circ.1039	✓ PASS
14	After the test, remounting the EPIRB in its bracket, checking that no transmission has been started	✓ PASS
15	Verifying the presence of a firmly attached lanyard in good condition; the lanyard should be neatly stowed, and should not be tied to the vessel or the mounting bracket	✓ PASS
16	Checking the presence of beacon operating instructions manual	✓ PASS

No.	Inspection Item	Result
17	Checking the presence of pictorial instructions for manual operation visible at the location of the beacon	✓ PASS

Tested by: Alex Musson **Company:** Smart Radio Tech **Date tested:** Dec 24, 2024 **Place and country of survey:** Belgrade	**Signature and stamp:**

The equipment has been tested according to MSC.1/Circ. 1040 Rev-2 and SOLAS reg. IV/15.9.
Test tool: GMDSS Tester MRTS-7M, S/N 20140, Calibrated till 07/2027

AUTOMATIC IDENTIFICATION SYSTEM (AIS) TEST REPORT

Issued in accordance with IMO SN/Circ.227 and resolution MSC.74(69), annex 3

Vessel details

Name of ship	Maria
MMSI number / Radio call sign	974000000 / DE12345
Port of registry / Flag of registry	Panama / Panama
IMO Number	1234567
Gross tonnage	2000
Date of keel	1990

1. Installation details

No.	Inspection Item	Result
1.1	**AIS transponder type**: Furuno F-150, AIS Class A	✓ PASS
1.2	**Type approval certificate**	✓ PASS
1.3	**Initial installation configuration report on board?**	✓ PASS
1.4	**Drawings provided? (Antenna-, AIS-arrangement and block diagram)**	✓ PASS
1.5	**Main source of electrical power**	✓ PASS
1.6	**Emergency source of electrical power**	✓ PASS
1.7	**Capacity to be verified if the AIS is connected to a battery**	✓ PASS
1.8	**Pilot plug near pilots operating position?**	PASS FAIL N/A
1.9	**120VAC provided near pilot plug? (Panama and St. Lawrence requirement)**	PASS FAIL N/A

2. AIS programming - Static information

No.	Inspection Item	Result
2.1	**MMSI number**: 974000000	✓ PASS
2.2	**IMO Number**: 555554444	✓ PASS
2.3	**Radio call sign**: DE12345	✓ PASS
2.4	**Name of ship**: TEST	✓ PASS
2.5	**Type of ship**: Not available	N/A
2.6	**Ship length and beam**: 120x20	✓ PASS
2.7	**Location of GPS antenna**: A=0; B=0; C=0; D=0	N/A

3. AIS programming - Dynamic information

No.	Inspection Item	Result
3.1	**Ships position with accuracy and integrity status (Source: GNSS)** : Longitude: 181° 0.0' E, Latitude: 91° 0.0' N, Accuracy: Low (> 10 m)	✓ PASS
3.2	**Time in UTC (Source: GNSS)**: 0/0 0:0 (M/d h:m)	✓ PASS
3.3	**Course over ground (COG) (will fluctuate at dockside) (Source: GNSS)**: No data	✓ PASS
3.4	**Speed over ground (SOG) (zero at dockside) (Source: GNSS)**: No data	✓ PASS
3.5	**Heading (Source: Gyro)**: No data	✓ PASS
3.6	**Navigational status**: Not defined	✓ PASS
3.7	**Rate of turn, where available (ROT)**: Default meaning	✓ PASS
3.8	**Angle of heel, pitch and roll, where available**	✓ PASS

4. AIS programming - voyage related information

No.	Inspection Item	Result
4.1	**Ships draught**: 0	✓ PASS
4.2	**Type of cargo**: Not available	✓ PASS
4.3	**Destination and ETA (at masters discretion)**: 123 / 0	✓ PASS
4.4	**Route plan (optional)**	✓ PASS
4.5	**Short safety-related messages**	✓ PASS

5. Performance test using measuring instrument

No.	Inspection Item	Result
5.1	**Frequency measurements AIS ch. 1 and 2, GMDSS ch. 70** : Channel A: 161975.105 kHz, Channel B: 162025.113 kHz, Ch. 70: 156524.853 kHz	✓ PASS
5.2	**Transmitting output, AIS ch. 1 and 2, GMDSS ch. 70** : Channel A: 40.14 dBm, Channel B: 40.12 dBm, Ch. 70: 40.14 dBm	✓ PASS
5.3	**Polling information ch. 70**: OK	✓ PASS
5.4	**Read data from AIS**: OK	✓ PASS
5.5	**Send data to AIS**: OK	✓ PASS
5.6	**Check AIS response to 'virtual vessels'**: OK	✓ PASS

6. 'On air' performance test

No.	Inspection Item	Result
6.1	**Check reception performance**	✓ PASS
6.2	**Confirm reception of own signal from other ship/VTS**	✓ PASS
6.3	**Polling by VTS/shore installation**	✓ PASS

No.	Inspection Item	Result
7.1	**Electromagnetic interference from AIS observed to other installations?**	N/A

Remarks:

Tested by: Alex Musson **Company:** Smart Radio Tech **Date tested:** Oct 15, 2024 **Place and country of survey:** Panama	**Signature and stamp:**

The AIS has been tested according to MSC.1/Circ.1252, IMO SN/Circ.227 and resolution MSC.74(69), annex 3.
Test tool: GMDSS Tester MRTS-7M, S/N 20140, Calibrated till 07/2027

AIS TEST REPORT

Survey Date and Place: Oct 15, 2024, Panama

It is hereby certified that representative of the company: Smart Radio Tech, Alex Musson, Radioengineer, performed testing of **AIS Class A** and defined the following:

Vessel details

Name of Ship	Flag	Port of Registry	Gross Tonnage	Date of Keel	IMO Number
Maria	Panama	Panama	2000	1990	1234567

Station Data

Type	Model	Serial Number	Date of manufacture
AIS Class A	Furuno F-150	1234567	2020

Transmitter parameters

Channel	DSC	Channel A	Channel B
Frequency	156.524853 MHz	161.975105 MHz	162.025113 MHz
Frequency deviation	-147 Hz	105 Hz	113 Hz
Power	40.14 dBm / 10.33 W	40.14 dBm / 10.33 W	40.12 dBm / 10.28 W
Reflected power	9.6 dBm / 9.12 mW	9.66 dBm / 9.25 mW	9.75 dBm / 9.44 mW
VSWR	1.06	1.06	1.06

Channel	NMEA Interface	NMEA Baudrate	NMEA Received
NMEA	RS485 / RS422	4800	Ok

Positional, Static and Voyage data extracted from AIS

User ID	974000000
IMO number	555554444
Call sign	
Ship Name	TEST
Destination	123
Ship dimensions	A=0; B=0; C=0; D=0
Navigational status	Not defined
Longitude	181° 0.0' E
Latitude	91° 0.0' N
Speed over ground (SOG), knots	No data
Course over ground (COG)	No data
True heading, deg	No data
Rate of turn ROTAIS	Default meaning
Position accuracy	Low (> 10 m)
RAIM-flag	Not in use
Type of ship and cargo type	Not available
Max. static draught, m	0
AIS version indicator	Station compliant with Recommendation ITU-R M.1371-1
Special manoeuvre indicator	Not available
Repeat indicator	No repeat
EPFD Type	Undefined
ETA, UTC	0/0 0:0 (M/d h:m)
DTE (availability)	0
Time stamp	Not available

Alex Musson, Smart Radio Tech Nov 13, 2025

The AIS has been tested according to MSC.1/Circ.1252, IMO SN/Circ.227 and resolution MSC.74(69), annex 3.
Test tool: GMDSS Tester MRTS-7M, S/N 17007

GMDSS Radio Testing Report

Survey Date and Place: May 27, 2018, 3:19:00 PM, Rotterdam

It is hereby certified that representative of the company: Musson Marine Ltd, Alex Semyoshin, Radioengineer, performed testing of **VHF Radio** and defined the following:

Vessel Data

Name of Ship	Port of Registry	Gross Tonnage	Date Keel Laid	IMO Number
Kordoba		0		

Station Data

Type	Manufacturer	Model	Serial Number	Issue Date
VHF Radio				

Transmitter parameters

Channel	Frequency, Hz	Power, dBm	Reflected power, dBm	VSWR
DSC	156525086	46.19	17.9	1.08
6	156300070	32.02	3.87	1.08
16	156800073	31.92	4.02	1.08

DSC survey Content

Category	Routine
Format	Individual stations
Called MMSI	123456789
MMSI	273373250
First Telecommand	F3E/G3E All modes telephony
Second Telecommand	No information
Frequecny or pos. FS1	VHF CH - 8
Frequecny or pos. FS2	89 kHz

Alex Semyoshin, Musson Marine Ltd Mar 15, 2019, 3:18:48 PM

GMDSS Radio Testing Report

Survey Date and Place: Jul 25, 2018, 2:47:00 PM, Rotterdam

It is hereby certified that representative of the company: Musson Marine Ltd, Alex Semyoshin, Radioengineer, performed testing of **MF/HF Radio** and defined the following:

Vessel Data

Name of Ship	Port of Registry	Gross Tonnage	Date Keel Laid	IMO Number
Kordoba		0		

Station Data

Type	Manufacturer	Model	Serial Number	Issue Date
MF/HF Radio				

Transmitter parameters

Channel	Frequency, Hz	Power, dBm	Reflected power, dBm	VSWR
DSC	2187519	10.55	0	0
9	156449754	28.81	0	0
13	156649755	21.23	0	0

DSC survey Content

Category	Safety
Format	Individual stations
Called MMSI	888888888
MMSI	273376830
First Telecommand	J3E telephony
Second Telecommand	No information
Frequecny or pos. FS1	2177 kHz
Frequecny or pos. FS2	17700.2 kHz

Alex Semyoshin, Musson Marine Ltd Mar 15, 2019, 3:19:22 PM

The equipment has been tested according to IMO A.948 (23) or A.997(25), A.1020(26) resolutions.
Test tool: GMDSS Tester MRTS-7M. https://gmdsstesters.com

SART TEST REPORT

Survey Date and Place: Mar 10, 2022, Panama, Panama

It is hereby certified that representative of the company: Smart Radio Tech, Alex Musson, Radioengineer, performed testing of **SART** and defined the following:

Vessel details

Name of Ship	Flag	Port of Registry	Gross Tonnage	Date of Keel	IMO Number
Hurricane	Panama	Panama	500	1990	123456

SART Data

Type	Model	Serial Number	Date of manufacture
SART	Musson Marine Ltd Musson 502	150215	2015

Transmitter parameters

Parameter	Value
Equipment	9GHz SART
Sweep signal frequency minimum, MHz	9200
Sweep signal frequency maximum, MHz	9550
Level, mW	594
Respond signal duration, us	85
Number of sweeps	12
Distance from SART across radial line on the radar screen, nmi	6.89

Alex Musson, Smart Radio Tech Nov 13, 2025

The equipment has been tested according to IMO Resolution A.802(19).
Test tool: SART Tester STU-1, S/N 20250

SART TEST REPORT

Survey Date and Place: Mar 10, 2022, Panama, Panama

It is hereby certified that representative of the company: Smart Radio Tech, Alex Musson, Radioengineer, performed testing of **SART** and defined the following:

Vessel details

Name of Ship	Flag	Port of Registry	Gross Tonnage	Date of Keel	IMO Number
Hurricane	Panama	Panama	500	1990	123456

SART Data

Type	Model	Serial Number	Date of manufacture
SART	Musson Marine Ltd Musson 502	150215	2015

Transmitter parameters

Parameter	Value
Equipment	9GHz SART
Sweep signal frequency minimum, MHz	9200
Sweep signal frequency maximum, MHz	9550
Level, mW	594
Respond signal duration, us	85
Number of sweeps	12
Distance from SART across radial line on the radar screen, nmi	6.89

Alex Musson, Smart Radio Tech Nov 13, 2025

The equipment has been tested according to IMO Resolution A.802(19).
Test tool: SART Tester STU-1, S/N 20250

AIS-SART TEST REPORT

Survey Date and Place: Jan 13, 2020, Belgrade

It is hereby certified that representative of the company: Smart Radio Tech, Alex Musson, Radioengineer, performed testing of **AIS-SART** and defined the following:

SART data

Type	Model	Serial Number
AIS-SART		

Transmitter parameters

Channel	Channel A	Channel B
Frequency	161.974961 MHz	162.025077 MHz
Frequency deviation	-39 Hz	77 Hz
Power	36.8 dBm / 4.79 W	36.65 dBm / 4.62 W

Positional, Static and Voyage data extracted from AIS

User ID	970010859
Navigational status	Not defined
Longitude	181° 0.0' E
Latitude	91° 0.0' N
Speed over ground (SOG), knots	No data
Course over ground (COG)	No data
True heading, deg	No data
Application data	SART TEST
Rate of turn ROTAIS	Default meaning
Position accuracy	Low (> 10 m)
RAIM-flag	Not in use
Special manoeuvre indicator	Not available
Repeat indicator	No repeat
Time stamp	The positioning system is inoperative

Alex Musson, Smart Radio Tech Nov 13, 2025

The AIS has been tested according to MSC.1/Circ.1252, IMO SN/Circ.227 and resolution MSC.74(69), annex 3.
Test tool: GMDSS Tester MRTS-7M, S/N 20140, Calibrated till 07/2027