Bundesrepublik Deutschland
Federal Republic of Germany

Bundesamt für Seeschifffahrt und Hydrographie
Federal Maritime and Hydrographic Agency

BUNDESAMT FÜR
SEESCHIFFFAHRT
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HYDROGRAPHIE

Conformance test report of an

AIS Class B SO System

Equipment under test:	**Weatherdock**
Type:	**GARMIN AIS 800 / easyTRX3**

Applying test standards: **IEC 62287-2 Ed.2.0:2017 [Sections 10, 12, 13]**

Test Report No.: **BSH/4542/001/4323111/18-1**

Applicant:
**Weatherdock AG
Emmericher Str. 17
Nürnberg, 90411
Germany**

Hamburg, 14th of march 2018
For the Federal Maritime and Hydrographic Agency

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1 General

1.1 Summary

Applicant: **Weatherdock AG** , Emmericher Str. 17, D-90411 Nürnberg

<u>Equipment under test:</u>

Type: GARMIN AIS 800 / easyTRX3

Manufacturer: **Weatherdock AG**

Place of test: BSH test laboratory Hamburg, Room 916

Start of test: 06 March 2018

End of test: 14 March 2018

Test standards[1]:

IEC 62287-2 Ed. 2.0 : 2017
Maritime navigation and radiocommunication equipment and systems – Class B shipborne equipment of the automatic identification systems (AIS) –
Part 2: Self-organising time division multiple access (SOTDMA) techniques –

IEC 61162-1 Ed. 4.0 : 2010
Maritime navigation and radiocommunication equipment and systems – Digital Interfaces –
Part 1: Single talker and multiple listeners **/**

IEC 61162-2 : 1998
Maritime navigation and radiocommunication equipment and systems – Digital Interfaces –
Part 2: Single talker and multiple listeners, high speed transmission

Other relevant standards:

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

Test No.	Reference IEC 62287-2 Ed. 2	Section	Result (passed / not passed / not applicable / not tested)
1	10	Operational tests	Passed
2	11	Physical tests	not included
3	12	Specific tests of link layer	Passed
4	13	Specific tests of network layer	Passed
5	A.4	DSC functionality tests	Passed

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[1] Numbers listed in the titles of the test sections of this report refer to the respective sections of IEC 62287-2 if not stated otherwise.

1.2 Equipment history

For each transponder unit under test a numbered entry is provided here.

1.2.1 EUT system no 1

Transponder				
Type	GARMIN AIS 800		Part no.	A30000
Delivery date	2018-03-05		Serial no.	000000001
HW Version:	Delivery date	2018-03-05	Version no.	01
	Installation date	2018-03-05		
SW Version:	Delivery date	2018-03-05	Version no.	1.0.0
	Installation date	2018-03-05		
SW Version:	Delivery date	2018-03-12	Version no.	1.0.1
	Installation date	2018-03-12		
SW Version:	Delivery date		Version no.	
	Installation date			

GPS antenna				
Type	GARMIN GA 30		Part no.	
Delivery date	2018-03-05		Serial no.	1TU006503
HW Version:	Delivery date	2018-03-05	Version no.	
	Installation date	2018-03-05		

1.3 Test environment

Here it is intended to record:
- lab room conditions,
- equipment under test conditions and type,
- for which period of time which EUT system is under test.

This test environment is completely equipped as described in Annex A.

Location	
Lab room no.	BSH Room 916 (9th floor)
Geographical location	9° 59,103 E 53° 32,822 N (WGS84)
Lab room air temperature	Within specification of IEC 60945, Section 5.2.1
Lab room air pressure	980 – 1030 hPa
Lab room relative air humidity	Within specification of IEC 60945, Section 5.2.1

Equipment under test	
Position in lab room	
☐ relevant	☒ **not** relevant
Mounting at test bed	
☐ relevant	☒ **not** relevant
Type of equipment	
1 Component 1	production sample
…	…
Refer to Annex A – Photos of Equipment under Test	
Remarks	

Test engineer	Meyszies (Me)
	Zimmermann (Zi)

Equipment no	Start of test	End of test	Test engineer
1	2018-03-05	2018-03-14	Meyszies
1	2018-03-07	2018-03-14	Zimmermann

1.4 Basics of assessment

No.	File name	Document title/ description	Issuer
1	DOC080318-08032018072417.pdf	Waiver-Declaration of Manufacturer	Weatherdock AG
2	DOC130318-13032018091229.pdf	Waiver-Declaration of Manufacturer	Weatherdock AG

1.5 Composition

Minimum Keyboard and Display (MKD)
☒ No display   ☐ Internal   ☐ Remote

Channel management by DSC
☒ Time sharing   ☐ Dedicated receiver

Differential GNSS
☐ No differential GNSS   ☒ Differential GNSS by Message 17

1.6 Legend

Result marking (in the "result" column):
Passed   Item is ok, test was successful
Not passed   Test of a required item was not successful, change required
N/T   Not tested
N/A   Not applicable

Specific remarks (in the "remark" column, marked "bold italic"):
REC   Recommendation (in terms of IEC17025 "opinion"): an improvement or change is recommended
Note   Note or comment (in terms of IEC17025 "interpretation"): rationale for specific results or interpretation of requirements as appropriate

Template for additional test notes (copy if required):

Date	Sign	**Result**	**Status**

Date of test report template: 2017-01-11

1.7 General observations

General observations not specific to any test item of the test standard are listed here:

	General problems		
Date	Item	Remark	Result

2 9 Power supply, Environmental and EMC tests

Test 9.1 to 9.4 are part of the environmental tests and performed by other labs.

2.1 9.5 Under voltage test (brown out)

9.5.1 Purpose

This test simulates the situation where the nominal supply voltage drops to below acceptable levels and then recovers over a medium time-period.

9.5.2 Method of test

Operate the EUT at the nominal supply voltage as indicated by the manufacturer.

    a) *Gradually reduce the supply voltage to 40 % of the nominal supply voltage over 30 s.*

    b) *Gradually increase the supply voltage back to 80 % of the nominal supply voltage over 30 s.*

9.5.3 Required result

Confirm that

    a) *the unit shall not enter into any undefined or undesirable state as verified by a performance check,*

    b) *the EUT shall recover and be fully operational as verified by a performance check.*

2018-03-07	Tester: Me/Zi	Test details: Under voltage test (brown out)		
Test item		Check	Remark	Result
Operate the EUT at the nominal supply voltage as indicated by the manufacturer.				
Reduce voltage down to 40% over 30 s,		Check that the EUT does not enter an undefined or undesirable state		Passed
Increasing voltage back to 80% of the nominal voltage over 30 s		Check that the EUT recovers to full operation		Passed

2.2 9.6 Under voltage test (short term)

9.6.1 Purpose

This test simulates the situation where the nominal supply voltage drops to below acceptable

levels for a short period and then recovers.

9.6.2 Method of test

Operate the EUT at the nominal supply voltage as indicated by the manufacturer.

  a) *Reduce the supply voltage to 40 % of the nominal supply voltage over 1 s.*

  b) *Increase the supply voltage back to 80 % of the nominal supply voltage over 1 s.*

9.6.3 Required result

The following results are required.

  a) *The unit shall not enter into any undefined or undesirable state as verified by a performance check.*

  b) *The EUT shall recover and be fully operational as verified by a performance check.*

2018-03-07	Tester: Me/Zi	Test details: Under voltage test (short term)		
Test item	Check		Remark	Result
Operate the EUT at the nominal supply voltage as indicated by the manufacturer.				
Reduce voltage down to 40% over 1 s,	Check that the EUT does not enter an undefined or undesirable state			Passed
Increasing voltage back to 80% of the nominal voltage over 1 s	Check that the EUT recovers to full operation			Passed

3 10 Operational tests

3.1 10.1 General

3.1.1 10.1.1 Tests by inspection
(See 4.1.2, 4.2, 4.3, 6.1)

10.1.1.1 Method of measurement

By inspection of documentation.

10.1.1.2 Required results

The relevant requirements shall be met.

2018-03-05	Tester: Me/Zi	Test details: Tests by inspection		
Test item	Check	Remark		Result
4.1.2 Quality assurance				
Quality control system	Check the manufacturer's quality control system.			Passed
4.2 Manuals				
Type of external connectors	Check that information about external connectors is provided, if applicable.			Passed
Installation	Check that information for correct installation is provided.			Passed
	Check that information for correct positioning of the antennas is provided.			Passed
Compass safe distance	Check that the Compass safe distance value is provided.			Passed
4.3 Marking and identification (in addition to IEC 60945, 4.9)				
Power supply	Check that details of the power supply are provided.			Passed
Battery replacement	If applicable, check that the date for replacement of batteries is provided.			N/A

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6.1 Internal processes			
Inspect the documentation that the following internal processes are implemented	A communication processor, capable of operating in the VHF Maritime Mobile Service band		Passed
	One TDMA transmitter		Passed
	Two TDMA receiving processes		Passed
	One DSC receiving process		Passed
	Means for automatic channel switching in the maritime mobile band by Message 22		Passed
	Means for automatic channel switching in the maritime mobile band by DSC		Passed
	Manual channel switching shall not be provided.		Passed
	An internal GNSS position sensor, resolution 1/10 000 minute, using WGS-84 datum only		Passed

3.1.2 10.1.2 Safety of operation
(See 4.1.3)

10.1.2.1 Purpose

To ensure the safety of operation.

10.1.2.2 Method of measurement

By inspection.

10.1.2.3 Required result

The requirements of 4.1.3 shall be met.

2018-03-05	Tester: Me/Zi	**Test details:** Safety of operation		
Test item	Check		Remark	Result
Verify by inspection				
Software modification	It shall not be possible for the operator to augment, amend or erase any program software required for operation in accordance with this equipment standard.			Passed
Modification of data	Data used during operation and stored in the system shall be protected in such a way that necessary modifications and amendments by the user cannot endanger its integrity and correctness.			Passed

3.1.3 10.1.3 Additional features
(See 4.1.4)

10.1.3.1 Purpose

To ensure that any additional or optional features do not adversely affect operation of the EUT.

10.1.3.2 Method of measurement

Operate the EUT in standard test environment and enable any additional features provided. Repeat tests that might be affected by the additional feature.

10.1.3.3 Required results

The requirements of 4.1.4 shall be met.

2018-03-14	Tester: Me	Test details: Additional features		
Test item	Check	Remark		Result
Enable all additional features. Repeat tests that might be affected by the additional features				
Repetition of test ….	Check that the additional features do not degrade the performance of the equipment.			N/A
Repetition of test ….	Check that the additional features do not degrade the performance of the equipment.			N/A

3.2 10.2 Modes of operation

(See 6.4)

3.2.1 10.2.1 Autonomous mode

3.2.1.1 10.2.1.1 Transmit position reports

10.2.1.1.1 Purpose

The purpose of this test is to ensure that the EUT transmits in the autonomous mode.

10.2.1.1.2 Method of measurement

Set up standard test environment. Record the VDL communication and check for messages transmitted by the EUT.

10.2.1.1.3 Required result

Confirm that the EUT transmits Messages 18 and 24 part A and B following the autonomous continuous schedules, alternating between channels A and B.

2018-03-05	Tester: Me	Test details: Transmission of position reports		
Test item	Check	Remark		Result
Setup standard environment				
Message 18	Check that the Message 18 is transmitted continuously.			Passed
Message 24 A	Check that the Message 24 A is transmitted continuously.			Passed
Message 24 B	Check that the Message 24 B is transmitted continuously.			Passed
Message 27	Check that the Message 27 is not transmitted when the default setting is used			Passed
Channels	Check that the transmissions alternate between channel A and B.			Passed

3.2.1.2 10.2.1.2 Receive AIS Class A position reports

10.2.1.2.1 Purpose

The purpose of this test is to ensure that the EUT receives AIS Class A position reports in the autonomous mode.

10.2.1.2.2 Method of measurement

Set up standard test environment. Perform the tests below and validate the required result for each test.

- *Switch on test targets, and then start operation of the EUT.*
- *Start operation of the EUT, and then switch on test targets.*
- *Transmit test targets using same time slots on channels A and B.*
- *Transmit test targets that are not synchronised to time slot boundaries on channels A and B.*

Check the VDL communication and external interface of the EUT and, where provided, display.

10.2.1.2.3 Required result

Confirm that the EUT receives continuously under the conditions above and outputs the received messages on the external interface in accordance with IEC 61162 and, where provided, on the display.

2018-03-05	Tester: Me	Test details: Receive Class A position reports		
Test item	Check	Remark		Result
Switch on test targets, and then start operation of EUT. Check the following items on VDM output of the PI compared with the transmitted values.				
Received targets	Check that the received targets are continuously output as VDM.			Passed
	Check that the VDM sentences are correct according to IEC 61162.			Passed
Optional display	Check that the targets are displayed on the display.			N/A
Targets on same slots on A and B	Check that both targets which use the same slots on A and B are output as VDM.			Passed
Unsynchronized targets	Check that unsynchronized targets are output as VDM.			Passed
Start operation of EUT, and then switch on test targets. Check the following items on VDM output of the PI compared with the transmitted values.				
Received targets	Check that the received targets are continuously output as VDM.			Passed

3.2.1.3 10.2.1.3 Receive AIS Class B "SO" position reports

10.2.1.3.1 Purpose

The purpose of this test is to ensure that the EUT receives AIS Class B "SO" position reports in the autonomous mode.

10.2.1.3.2 Method of measurement

Set up standard test environment. Simulate at least one additional Class B "SO" test target (bit stuffing shall not exceed 4 bits). Perform the tests below and validate the required result for each test.

- *Switch on test targets, and then start operation of the EUT.*
- *Start operation of the EUT, and then switch on test targets.*
- *Transmit test targets using same time slots on channels A and B.*
- *Transmit test targets that are not synchronised to time slot boundaries on channels A and B.*

Check the VDL communication and external interface of the EUT and, where provided, display.

10.2.1.3.3 Required result

Confirm that the EUT receives continuously under the conditions above and outputs the received messages on the external interface and, where provided, on the display.

2018-03-05	Tester: Me	Test details: Receive Class B SO position reports		
Test item	Check	Remark		Result
a) Switch on test targets, and then start operation of the EUT. Check the following items on VDM output of the PI compared with the transmitted values.				
Received targets	Check that the received targets are continuously output as VDM.			Passed
	Check that the VDM sentences are correct according to IEC 61162.			Passed
Optional display	Check that the targets are displayed on the display.			N/A
Targets on same slots on A and B	Check that both targets which use the same slots on A and B are output as VDM.			Passed
Unsynchronized targets	Check that unsynchronized targets are output as VDM.			Passed
b) Start operation of the EUT, and then switch on test targets. Check the following items on VDM output of the PI compared with the transmitted values.				
Received targets	Check that the received targets are continuously output as VDM.			Passed

3.2.1.4 10.2.1.4   Receive AIS Class B "CS" position reports

10.2.1.4.1 Purpose

The purpose of this test is to ensure that the EUT receives AIS Class B "CS" position reports in the autonomous mode.

10.2.1.4.2 Method of measurement

Set up standard test environment. Simulate at least one additional Class B "SO" test target (bit stuffing shall not exceed 4 bits). Perform the tests below and validate the required result for each test.

- *Switch on test targets, and then start operation of the EUT.*
- *Start operation of the EUT, and then switch on test targets.*
- *Transmit test targets using same time slots on channels A and B.*
- *Transmit test targets that are not synchronised to time slot boundaries on channels A and B.*

Check the VDL communication and external interface of the EUT and, where provided, display.

10.2.1.4.3 Required result

Confirm that the EUT receives continuously under the conditions above and outputs the received messages on the external interface and, where provided, on the display.

2018-03-05	Tester: Me	Test details: Receive Class B CS position reports		
Test item	Check	Remark		Result
a) Switch on test targets, and then start operation of the EUT. Check the following items on VDM output of the PI compared with the transmitted values.				
Received targets	Check that the received targets are continuously output as VDM.			Passed
	Check that the VDM sentences are correct according to IEC 61162.			Passed
Optional display	Check that the targets are displayed on the display.			N/A
Targets on same slots on A and B	Check that both targets which use the same slots on A and B are output as VDM.			Passed
Unsynchronized targets	Check that unsynchronized targets are output as VDM.			Passed
b) Start operation of the EUT, and then switch on test targets. Check the following items on VDM output of the PI compared with the transmitted values.				
Received targets	Check that the received targets are continuously output as VDM.			Passed

3.2.1.5 10.2.1.5 Receive in time slot adjacent to own transmission

10.2.1.5.1 Purpose

The purpose of this test is to ensure that the EUT receives position reports in the slot adjacent to own transmission in the autonomous mode.

10.2.1.5.2 Method of measurement

Set up standard test environment. Simulate 80 % VDL loading. The reporting interval of the EUT may be decreased for the purpose of this test.

Check the external Interface of the EUT.

10.2.1.5.3 Required result

Confirm that the EUT continuously receives messages in the slots before and after own transmission with an acceptable loss of 5 %.

2018-03-05	Tester: Me	Test details: Receive in adjacent slots		
Test item	Check		Remark	Result
Setup standard environment. Simulate 80% VDL load. Test scenario: The EUT is operated in slot assigned mode. Specific targets are transmitted in the slots before and after the EUT Tx slots. The receiving probability of these targets is evaluated.				
Target transmissions in slots adjacent to own Tx slots	Check that target reports are received in the slot before the own Tx slot with < 5% loss.			Passed
	Check that target reports are received in the slot after the own Tx slot with < 5% loss.			Passed

3.2.1.6 10.2.1.6 High VDL loading reception test

10.2.1.6.1 Purpose

The purpose of this test is to ensure that the EUT receives position reports under high VDL loading in the autonomous mode.

10.2.1.6.2 Method of measurement

Set up standard test environment. Simulate 90 % VDL loading.

Check the external Interface of the EUT.

10.2.1.6.3 Required result

Confirm that the EUT continuously receives messages and outputs the received messages on the external interface with a loss of not more than 2 %.

2018-03-05	Tester: Me	**Test details:** High VDL loading test		
Test item	Check		Remark	Result
Setup standard environment.				
Simulate 90% VDL load.	Check that target reports are received with < 2% loss.			Passed

3.2.2 10.2.2 Single messages

3.2.2.1 10.2.2.1 Transmit an addressed binary message

10.2.2.1.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode.

   a) *Initiate the transmission of an addressed binary Message 6 by the EUT using an ABM sentence input. An acknowledgement Message 7 shall be applied. Record the transmitted messages.*

   b) *Repeat the test without acknowledgement.*

   c) *Repeat test with a Message 6 exceeding 2 slots.*

   d) *Apply more than 3 ABM sentences with 1 slot Message 6 to the EUT.*

   e) *Repeat test a) with the addressed unstructured binary Message 25.*

   f) *Repeat tests a), b) and d) with the addressed structured binary Message 25.*

   g) *Repeat test a) with a single addressed unstructured binary Message 26.*

   h) *Repeat tests a), b), c) and d) with a single addressed structured binary Message 26.*

10.2.2.1.2 Required results

Check that

   a) *the EUT transmits Message 6 as appropriate within 30 s. Check the content of Message 6. Check that the EUT outputs the appropriate ABK sentence.*

   b) *the EUT transmits Message 6 as appropriate. Check that the EUT outputs the appropriate ABK sentence indicating that no acknowledgment has been received. Check that the EUT does not retransmit Message 6.*

   c) *the EUT does not transmit Message 6. Check that the EUT outputs the appropriate ABK sentence indicating that the message could not be sent.*

   d) *the EUT transmits the first 3 Message 6s and does not transmit all following Message 6s within one frame. Check that the EUT outputs the appropriate ABK sentence indicating that the message could not be sent.*

   e) *the EUT transmits Message 25 as appropriate.*

   f) *the EUT transmits Message 25 as appropriate.*

   g) *the EUT transmits Message 26 as appropriate.*

   h) *the EUT transmits Message 26 as appropriate.*

2018-03-05	Tester: Me	Test details: a) Addressed binary Message 6 with acknowledgement		
Test item		Check	Remark	Result
Transmit an addressed binary message 6 by sending an ABM sentence to the PI PI sentence: File AIABM_bin.sst: Apply an acknowledgement Message 7 on the VDL				
Transmission		Check that message 6 is transmitted within 30 s.		Passed
		Check the VDO output on PI for correct format and content.		Passed
		Check the VDL transmission for correct content.		Passed
Message sequence number		Check that sequence number in VDL message = Sequential message identifier of ABM sentence.		Passed
Repetition		Check that message 6 is not repeated.		Passed
AIABK acknowledgement		Check AIABK sentence, status = 0.		Passed

2018-03-05	Tester: Me	Test details: b) Addressed binary message 6 without acknowledgement		
Test item		Check	Remark	Result
Transmit an addressed binary message 6 by sending an ABM sentence to the PI PI sentence: File AIABM_bin.sst: No acknowledgement Message 7 on the VDL				
Transmission		Check that message 6 is transmitted within 30 s.		Passed
Repetition		Check that message 6 is not repeated.		Passed
AIABK acknowledgement		Check AIABK sentence, status = 1.		Passed

2018-03-05	Tester: Me	Test details: c) Addressed binary message 6 exceeding 2 slots		
Test item		Check	Remark	Result
Transmit an addressed binary message 6 exceeding 2 slots by ABM to the PI PI sentence: File AIABM_long.sst:				
Transmission		Check that message 6 is not transmitted.		Passed
		Check that there is no VDO output on PI.		Passed
AIABK acknowledgement		Check AIABK sentence, status = 2.		Passed

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2017-03-05	Tester: Me	Test details: d) More than 3 Message 6 within one frame		
Test item	Check		Remark	Result
Apply more than 3 ABM sentences per frame for transmission of Messages 6 (1 slot) PI sentence: File AIABM_multi.sst:				
First 3 Messages	Check that the first 3 Messages 6 are transmitted within 30 s after the ABM input.			Passed
	Check AIABK sentence, status = 0.			Passed
Further messages within a frame	Check that the further Messages 6 are not transmitted.			Passed
	Check that there is an AIABK sentence for each ABK, status = 2.			Passed

2018-03-05	Tester: Me	Test details: e) Addressed unstructured binary message 25		
Test item	Check		Remark	Result
Transmit an addressed unstructured binary message 25 by sending an ABM sentence with Message type 70 to the PI. No acknowledgement is applied PI sentence: File AIABM_msg70.sst				
Transmission	Check that message 25 is transmitted within 30 s.			Passed
	Check the VDO output on PI for correct format and content.			Passed
	Check the VDL transmission for correct content.			Passed
Repetition	Check that message 25 is not repeated.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 3.			Passed
	Check that Message sequence number in ABK = Sequential message identifier of ABM sentence.			Passed

2018-03-05	Tester: Me	Test details: f) Addressed structured binary message 25		
Test item	Check	Remark		Result
(a, b) Transmit an addressed structured binary message 25 by sending an ABM sentence to the PI sentence: File AIABM_msg25.sst No acknowledgement is applied				
Transmission	Check that message 25 is transmitted within 30 s.			Passed
	Check the VDO output on PI for correct format and content.			Passed
	Check the VDL transmission for correct content..			Passed
Repetition	Check that message 25 is not repeated.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 3.			Passed
	Check that Message sequence number in ABK = Sequential message identifier of ABM sentence.			Passed
(d) Apply more than 3 ABM sentences per frame for transmissions of one slot structured Messages 25 PI sentence: File AIABM_msg25_multi.sst:				
First 3 Messages	Check that the first 3 Messages 25 are transmitted within 30 s after the ABM input.			Passed
	Check AIABK sentence, status = 3			Passed
Further messages within a frame	Check that the further Messages 25 are not transmitted.			Passed
	Check that there is an AIABK sentence for each ABK, status = 2.			Passed

2018-03-05	Tester: Me	Test details: g) Addressed unstructured binary message 26		
Test item		Check	Remark	Result
Transmit an addressed unstructured binary message 26 by sending an ABM sentence with Message type 71 to the PI. PI sentence: File AIABM_msg71.sst				
Transmission		Check that message 26 is transmitted within 30 s.		Passed
		Check the VDO output on PI for correct format and content.	Binary data flag = 1 instead of 0 Re-test: 2018-03-12: Binary data flag = 0, OK	Passed
		Check the VDL transmission for correct content.		Passed
Repetition		Check that message 26 is not repeated.		Passed
AIABK acknowledgement		Check AIABK sentence, status =3.		Passed
		Check that Message sequence number in ABK = Sequential message identifier of ABM sentence.		Passed

2018-03-05	Tester: Me	Test details: h) Addressed structured binary message 26		
Test item		Check	Remark	Result
(a, b) Transmit an addressed structured binary message 26 by sending an ABM sentence to the PI PI sentence: File AIABM_msg26.sst No acknowledgement				
Transmission		Check that message 26 is transmitted within 30 s.		Passed
		Check the VDO output on PI for correct format and content.	Binary data flag = 0 instead of 1 Re-test: 2018-03-12: Binary data flag = 1, OK	Passed
		Check the VDL transmission for correct content.		Passed
Repetition		Check that message 26 is not repeated.		Passed
AIABK acknowledgement		Check AIABK sentence, status = 3.		Passed
		Check that Message sequence number in ABK = Sequential message identifier of ABM sentence.		Passed

(c) Transmit an addressed binary message 26 exceeding 2 slots by ABM to the PI PI sentence: File AIABM_long.sst:			
Transmission	Check that message 26 is not transmitted.		Passed
	Check that there is no VDO output on PI.		Passed
AIABK acknowledgement	Check AIABK sentence, status = 2.		Passed
(d) Apply more than 3 ABM sentences per frame for transmissions of one slot structured Messages 26 PI sentence: File AIABM_msg26_multi.sst:			
First 3 Messages	Check that the first 3 Messages 26 are transmitted within 30 s after the ABM input.		Passed
	Check AIABK sentence, status = 0		Passed
Further messages within a frame	Check that the further Messages 26 are not transmitted.		Passed
	Check that there is an AIABK sentence for each ABK, status = 2.		Passed

3.2.2.2 10.2.2.2 Transmit an addressed safety related Message 12

10.2.2.2.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode.

Initiate the transmission of an addressed binary Message 12 by the EUT using an ABM sentence input.

10.2.2.2.2 Required results

Check that the EUT does not transmit Message 12.

2018-03-05	Tester: Me	Test details: c) Addressed safety related Message 12		
Test item	Check		Remark	Result
Transmit an addressed safety related text message 2 by ABM to the PI PI sentence: File AIABM_bin.sst:				
Transmission	Check that message 12 is not transmitted.			Passed
	Check that there is no VDO output on PI.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 2.			Passed

3.2.2.3 10.2.2.3 Acknowledgement of addressed Messages

10.2.2.3.1 Purpose

The purpose of this test is to ensure that the EUT acknowledges addressed messages in the autonomous mode.

10.2.2.3.2 Method of measurement

Operate standard test environment and the EUT in autonomous mode.

  a) *Apply an addressed binary Message 6 with the EUT as destination to the VDL on Channel A. Record transmitted messages on both channels.*

  b) *Repeat for Message 12.*

  c) *Repeat the test a) on channel B.*

10.2.2.3.3 Required results

Confirm that

  a) *the EUT transmits a binary acknowledge Message 7, with the appropriate sequence numbers within 4 s on the channel where the Message 6 was received.*

  b) *the EUT transmits a binary acknowledge Message 13, with the appropriate sequence numbers within 4 s on the channel where the Message 12 was received.*

  c) *the EUT transmits a binary acknowledge Message 7 on channel B.*

2018-03-05	Tester: Me	**Test details:** a) Acknowledgement of binary message 6		
Test item	Check		Remark	Result
Transmit an addressed binary Message 6 with EUT as destination on channel A of the VDL				
RX of messages (VDM)	Check by VDM output on PI of EUT that Message 6 is received.			Passed
Transmission of ackn. Message 7	Check transmission of ackn. Message 7 by the EUT.			Passed
	Check the content of Message 7.			Passed
	Check that Message 7 is transmitted within 4 s.			Passed
Sequence numbers	Check that sequence number in ackn. = sequence number of R_X message.			Passed
Ackn. channel	Check that ackn. T_X channel = channel A (= Rx channel).			Passed

2018-03-05	Tester: Me	**Test details:** b) Acknowledgement of safety related Message 12		
Test item	Check	Remark		Result
Transmit an addressed safety related Message 12 with EUT as destination on the VDL				
RX of messages (VDM)	Check by VDM output on PI of EUT that Message 6 is received.			Passed
Transmission of ackn. Message 13	Check transmission of ackn Message 13 by the EUT.			Passed
	Check the content of Message 13.			Passed
	Check that Message 13 is transmitted within 4 s.			Passed
Sequence numbers	Check that sequence number in ackn. = sequence number of R_X message.			Passed
Ackn. channel	Check that ackn. T_X channel = channel A (= Rx channel).			Passed

2018-03-05	Tester: Me	**Test details:** c) Acknowledgement on channel B		
Test item	Check	Remark		Result
Transmit an addressed binary Message 6 with EUT as destination on channel B of the VDL				
RX of messages (VDM)	Check by VDM output on PI of EUT that Message 6 is received.			Passed
Transmission of ackn. Message 7	Check transmission of ackn. Message 7 by the EUT.			Passed
Ackn. channel	Check that ackn. T_X channel = channel B.			Passed

3.2.2.4 10.2.2.4 Transmit a broadcast binary Message 8

10.2.2.4.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode.

   a) *Initiate the transmission of a broadcast binary Message 8 by the EUT using a BBM sentence input. Record the transmitted messages.*

   b) *Repeat test with a Message 8 exceeding 2 slots.*

   c) *Apply more than 3 BBM sentences with 1 slot Message 8 to the EUT.*

   d) *Repeat test a) with the broadcast unstructured binary Message 25.*

   e) *Repeat tests a) and c) with the broadcast structured binary Message 25.*

   f) *Repeat test a) with a single broadcast unstructured binary Message 26.*

   g) *Repeat tests a), b) and c) with a single broadcast structured binary Message 26.*

10.2.2.4.2 Required results

Check that

   a) *the EUT transmits Message 8 as appropriate within 30 s. Check the content of Message 8. Check that the EUT outputs the appropriate ABK sentence.*

   b) *the EUT does not transmit Message 8. Check that the EUT outputs the appropriate ABK sentence indicating that the message could not be sent.*

   c) *the EUT transmits the first 3 Message 8s and does not transmit all following Message 8s. Check that the EUT outputs the appropriate ABK sentence indicating that the message could not be sent.*

   d) *the EUT transmits Message 25 as appropriate.*

   e) *the EUT transmits Message 25 as appropriate.*

   f) *the EUT transmits Message 26 as appropriate.*

   g) *the EUT transmits Message 26 as appropriate.*

2018-03-05	Tester: Me	Test details: a) Message 8		
Test item	Check	Remark		Result
Apply a BBM sentence with message type 8 for transmission of a binary message to the PI. PI sentence: File AIBBM_bin.sst:				
Transmission of Message 8	Check the VDO output on PI.			Passed
	Check that Message 8 is transmitted within 30 s after BBM input.			Passed
Channel	Check T_X on channel according to BBM.			Passed
AIABK acknowledgement	Record and check the AIABK acknowledgement with message type 8, status = 3			Passed
	Check that Message sequence number in ABK = Sequential message identifier of BBM sentence.			Passed
Message content	Check message content.			Passed

2018-03-05	Tester: Me	Test details: b) Message 8 exceeding 2 slots		
Test item	Check	Remark		Result
Transmit an broadcast binary message 8 exceeding 2 slots by BBM to the PI PI sentence: File AIBBM_long.sst:				
Transmission	Check that message 8 is not transmitted.			Passed
	Check that there is no VDO output on PI.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 2.			Passed

2018-03-05	Tester: Me	Test details: c) More than 3 Message 8 within one frame		
Test item	Check	Remark		Result
Apply more than 3 BBM sentences per frame for transmission of Messages 8 (1 slot) PI sentence: File AIBBM_multi.sst:				
First 3 Messages	Check that the first 3 Messages 8 are transmitted within 30 s after the BBM input.			Passed
	Check AIABK sentence, status = 3.			Passed
Further messages within a frame	Check that the further Messages 8 are not transmitted.			Passed
	Check that there is an AIABK sentence for each ABK, status = 2.			Passed

2018-03-05	Tester: Me	Test details: d) Broadcast unstructured binary message 25		
Test item	Check	Remark		Result
Transmit a broadcast unstructured binary message 25 by sending a BBM sentence with Message type 70 to the PI. PI sentence: File AIBBM_msg70.sst				
Transmission	Check that message 25 is transmitted within 30 s.			Passed
	Check the VDO output on PI for correct format and content.			Passed
	Check the VDL transmission for correct content.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 0.			Passed
	Check Message type = 70	=25 <u>Re-test: 2018-03-12:</u> =70, OK		Passed
	Check that Message sequence number in ABK = Sequential message identifier of BBM sentence.			Passed

2018-03-05	Tester: Me	Test details: e) Broadcast structured binary message 25		
Test item	Check	Remark		Result
(a) Transmit a broadcast structured binary message 25 by sending an BBM sentence to the PI PI sentence: File AIABM_msg25.sst No acknowledgement				
Transmission	Check that message 25 is transmitted within 30 s.			Passed
	Check the VDO output on PI for correct format and content.	Binary data flag = 0 instead of 1 <u>Re-test: 2018-03-12:</u> Binary data flag = 1, OK		Passed
	Check the VDL transmission for correct content.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 3.			Passed
	Check Message type = 25			Passed
	Check that Message sequence number in ABK = Sequential message identifier of ABM sentence.			Passed

(c) Apply more than 3 ABM sentences per frame for transmissions of structured Messages 25 (1 slot) PI sentence: File AIABM_msg25_multi.sst:			
First 3 Messages	Check that the first 3 Messages 25 are transmitted within 30 s after the ABM input.		Passed
	Check AIABK sentence, status = 3.		Passed
Further messages within a frame	Check that the further Messages 25 are not transmitted.		Passed
	Check that there is an AIABK sentence for each ABK, status = 2.		Passed

2018-03-05	**Tester: Me**	**Test details:** f) Broadcast unstructured binary message 26	
Test item	Check	Remark	Result
Transmit a broadcast unstructured binary message 26 by sending a BBM sentence with Message type 71 to the PI. PI sentence: File AIBBM_msg71.sst			
Transmission	Check that message 26 is transmitted within 30 s.		Passed
	Check the VDO output on PI for correct format and content.	Binary data flag = 1 instead of 0 <u>Re-test: 2018-03-12:</u> Binary data flag = 0, OK	Passed
	Check the VDL transmission for correct content.		Passed
AIABK acknowledgement	Check AIABK sentence, status = 3.		Passed
	Check Message type = 71	=26 <u>Re-test: 2018-03-12:</u> = 71, OK	Passed
	Check that Message sequence number in ABK = Sequential message identifier of ABM sentence.		Passed

2018-03-05	Tester: Me	Test details: g) Broadcast structured binary message 26		
Test item	Check	Remark		Result
(a) Transmit a broadcasts structured binary message 26 by sending an BBM sentence to the PI. PI sentence: File AIBBM_msg26.sst				
Transmission	Check that message 26 is transmitted within 30 s.			Passed
	Check the VDO output on PI for correct format and content.	Binary data flag = 0 instead of 1 Re-test: 2018-03-12: Binary data flag = 1, OK		Passed
	Check the VDL transmission for correct content.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 3.			Passed
	Check Message type = 26			Passed
	Check that Message sequence number in ABK = Sequential message identifier of BBM sentence.			Passed
(b) Apply a BBM sentence to the PI for a broadcast binary message 26 exceeding 2 slots. PI sentence: File AIBBM_Msg26_long.sst:				
Transmission	Check that message 26 is not transmitted.			Passed
	Check that there is no VDO output on PI.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 2.			Passed
(c) Apply more than 3 BBM sentences per frame for transmissions of structured Messages 26 (1 slot). PI sentence: File AIBBM_msg26_multi.sst:				
First 3 Messages	Check that the first 3 Messages 26 are transmitted within 30 s after the ABM input.			Passed
	Check AIABK sentence, status = 3.			Passed
Further messages within a frame	Check that the further Messages 26 are not transmitted.			Passed
	Check that there is an AIABK sentence for each ABK, status = 2.			Passed

3.2.2.5 10.2.2.5 Transmit a broadcast safety related Message 14

10.2.2.5.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode.

Initiate the transmission of a broadcast binary Message 14by the EUT using a BBM sentence input.

10.2.2.5.2 Required results

Check that the EUT does not transmit Message 14.

2018-03-05	Tester: Me	Test details: Broadcast safety related Message 14		
Test item	Check	Remark		Result
Apply a BBM sentence to transmit a broadcast safety related text message 14. PI sentence: File AIBBM_safety.sst:				
Transmission	Check that message 14 is not transmitted.			Passed
	Check that there is no VDO output on PI.			Passed
AIABK acknowledgement	Check AIABK sentence, status = 2.			Passed

3.2.2.6 10.2.2.6 ITDMA and RATDMA transmission
(See 7.3.4.2, 7.6)

10.2.2.6.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode.

a) *Apply a 1 slot binary broadcast message (Message 8) to the PI of the EUT less than 30 s before the next scheduled transmission. Record transmitted messages.*

b) *Apply a 1 slot binary broadcast message (Message 8) to the PI of the EUT more than 30 s before the next scheduled transmission. Record transmitted messages.*

10.2.2.6.2 Required results

Confirm that

a) *the EUT transmits this Message 8 within 30 s using ITDMA.*

b) *the EUT transmits this Message 8 within 30 s using RATDMA.*

2018-03-05	Tester: Me	**Test details:** ITDMA and RATDMA transmission		
Test item		Check	Remark	Result
Apply binary broadcast Messages 8 to the PI port of the EUT. File name: AIBBM_bin.sst.				
a) Transmissions < 30 s before next scheduled position report. Reporting interval = 15 s		Check that Message 8 is transmitted within 30 s.		Passed
		Check that ITDMA is used for slot allocation.		Passed
b) Transmissions > 30 s before next scheduled position report. Reporting interval = 3 min		Check that Message 8 is transmitted within 30 s.	See Note)	Passed
		Check that RADMA is used for channel access.		Passed

Note)

With 30s, 15s and 5 s reporting interval the time from the BBM input to the next scheduled Message 18 is always shorter than 30 s.

Therefore test b) has to be performed with 3 minutes reporting interval.

With 3 minutes reporting interval a slot allocation for Message 8 is generally not possible, because Message 18 is already running in ITDMA mode to allocate the next Message 18.

Therefore with 3 minutes reporting interval always RATDMA is used, independent if the BBM is more or less than 30 s before the next scheduled transmission of message 18.

3.2.3 10.2.3 Polled mode / Interrogation response

(See 4.1.5, 7.3.4.3.4)

10.2.3.1 Purpose

The purpose of this test is to ensure that the EUT responds to interrogations.

10.2.3.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Apply interrogation Message 15 with the EUT as destination:

   a) *interrogation for Message 19 with transmission offset = 0;*

   b) *interrogation for Message 19 with transmission offset = 10;*

   c) *interrogation for Message 18 with transmission offset = 0;*

   d) *interrogation for Message 24 with transmission offset = 0.*

Record transmitted messages and frame structure.

10.2.3.3 Required results

Confirm that

   a) *the EUT transmits the appropriate interrogation response message within 30 s.*

   b) *the EUT transmits the appropriate interrogation response message as requested after defined transmission offset.*

   c) *the EUT transmits the appropriate interrogation response Message 18 within 30 s.*

   d) *the EUT transmits the appropriate interrogation response Messages 24A within 30 s and 24B within 1 min of Message 24A.*

Confirm that the EUT transmits the response on the same channel as the interrogation was received.

2018-03-06	Tester: Me	Test details: Interrogation responses		
Test item	Check	Remark		Result
a) Apply an interrogation Message 15 requesting Message 19 with slot offset = 0 on the VDL. The request is transmitted on channel A.				
R_X of request by EUT	Check that the request message is received by the EUT (VDM).			Passed
T_X of response (VDO)	Check that response is transmitted by EUT.			Passed
Response on VDL	Check that the response is transmitted within 30 s.			Passed
Response channel	Check that the response is transmitted on the request channel.			Passed

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b) Apply an interrogation Message 15 requesting Message 19 with given slot offset = 10. The request is transmitted on channel B.			
R$_X$ of request by EUT	Check that the request message is received by the EUT (VDM).		Passed
T$_X$ of response (VDO)	Check that response is transmitted by EUT.		Passed
Response on VDL	Check that the response is transmitted with the defined slot offset.		Passed
Response channel	Check that the response is transmitted on the request channel.		Passed
c) Apply an interrogation Message 15 requesting Message 18 with slot offset = 0. The request is transmitted on channel A.			
R$_X$ of request by EUT	Check that the request message is received by the EUT (VDM).		Passed
T$_X$ of response (VDO)	Check that response is transmitted by EUT.		Passed
Response on VDL	Check that the response is transmitted within 30 s.		Passed
Response channel	Check that the response is transmitted on the request channel.		Passed
d) Apply an interrogation Message 15 requesting Message 24 with slot offset = 0. The request is transmitted on channel B.			
R$_X$ of request by EUT	Check that the request message is received by the EUT (VDM).		Passed
T$_X$ of response (VDO)	Check that response Message 24 A and 24B is transmitted by EUT.		Passed
Response on VDL	Check that Message 24 A is transmitted within 30 s after the interrogation.		Passed
	Check that Message 24 B is transmitted within 1 min after 24 A		Passed
Response channel	Check that Message 24 A and 24 B are transmitted on the request channel.		Passed

3.3 10.3 Channel selection
(See 6.2)

3.3.1 10.3.1 Valid channels

10.3.1.1 Purpose

The purpose of this test is to ensure that the EUT responds appropriately when given instructions to change to valid channels.

10.3.1.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Switch the EUT to different channels within the operating band as specified in 6.2 by transmission of channel management Message 22, broadcast and addressed to the EUT.

Record the VDL Messages on the designated channels and check "band flag" and "Message 22 flag" in Message 18.

10.3.1.3 Required results

Confirm that the EUT switches to the correct channel and uses the correct "band flag" and "Message 22 flag".

2018-03-06	Tester: Me	Test details: Valid channels		
Test item	Check	Remark		Result
Apply a Message 4 and a broadcast Message 22 with area settings and valid channels to the VDL. Position is inside the channel management area.				
Broadcast Message 22	Check that channels are used.			Passed
	Check that the Band flag in Message 18 = 1 (whole band).			Passed
	Check that the Message 22 flag in Message 18 = 1 (Message 22 is supported).			Passed
	Check TXT output at PI.			Passed
	Check ACA output at PI.			Passed
Apply a Message 4 and a broadcast Message 22 with area settings and other valid channels to the VDL.				
Other valid channels	Check that channels are used.			Passed
	Check TXT output at PI.			Passed
	Check ACA output at PI.			Passed
Apply an addressed Message 22 with valid channels to the VDL. Position inside a valid area.				
Addressed Message 22	Check that channels are used.			Passed
	Check TXT output at PI.			Passed
	Check ACA output at PI.			Passed

Note)
For an addressed message 22 a Message 4 is not required because the message is addressed explicitly to a specific station. Different to a broadcast message the 120 NM evaluation is not necessary for an addressed messages.

In ITU-R M.1371-5, Annex 8, section 3.20 there are 2 alternatives:
- As a broadcast message, accompanied by a Message 4 for evaluation of the message within 120 NM
- Alternatively as an addressed message. For this alternative Message 4 is not mentioned

3.3.2 10.3.2 Invalid channels

10.3.2.1 Purpose

The purpose of this test is to ensure that the EUT responds appropriately when given instructions to change to invalid channels.

10.3.2.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Apply a Message 22 with 25 kHz channels not specified in Recommendation ITU-R M. 1084-5.

Record the VDL messages on the designated channels.

10.3.2.3 Required results

Confirm that the EUT disregards Message 22.

2018-03-06	Tester: Me	Test details: Invalid channels		
Test item	Check	Remark		Result
Apply an addressed Message 22 with invalid channels with 25 kHz spacing to the VDL. Position is inside a valid channel management area.				
Addressed Message 22, Invalid channels	Check that channels are not used.			Passed
	Check that there is no TXT ID 36 output on PI.			Passed
	Check that there is no ACA output on PI.			Passed

3.4 10.4 Internal GNSS receiver
(See 6.3)

The following relevant tests according to the IEC 61108 series shall be performed:

- *position accuracy, static;*

- *position accuracy, dynamic;*

- *COG/SOG accuracy;*

- *position update;*

- *status indications (including RAIM, when implemented);*

- *differential mode.*

The test of the Internal GNSS receiver is not part of this test report.

3.5 10.5 AIS information

3.5.1 10.5.1 Information content
(See 6.5.1)

10.5.1.1 Purpose

The purpose of this test is to ensure that the EUT transmits all parameters in static and dynamic Class B AIS Messages.

10.5.1.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Apply all static data to the EUT.

Record all Messages on VDL and check the content of position report Message 18 and static data reports, Messages 24A and 24B.

10.5.1.3 Required results

Confirm that data transmitted by the EUT complies with static data and position sensor data.

2018-03-06	Tester: Me	Test details: Content of Message 18		
Test item	Check		Remark	Result
Internal GNSS is in use, no external position/speed sensor inputs. Apply Heading sensor data if the optional heading input is implemented.				
MMSI	Check MMSI.			Passed
Speed	Check the SOG value.			Passed
Position accuracy flag	Check PA flag.			Passed
Position	Check the values of LAT and LON.			Passed
Heading	Check that the values of heading.			N/A
COG	Check the COG value.			Passed
Time stamp	Check time stamp.			Passed
Class B unit flag	Check that the Class B unit flag = 0 (Class B SOTDMA).			Passed
Display flag	Check that the Class B Display flag is according to the composition.		Shall be 0 <u>Re-test: 2018-03-12:</u> = 0, OK	Passed
DSC flag	Check that the DSC flag is set to 1.			Passed
Band flag	Check that the Band flag is set to 1.			Passed
Message 22 flag	Check that the Message 22 flag is set to 1.			Passed
RAIM flag	Check the RAIM flag.			Passed
Other content	Other content of message 18 like mode flag or CommState are checked in separate tests.			

2018-03-06	Tester: Me	Test details: Content of Message 24		
Test item	Check	Remark		Result
Content of message 24 A				
MMSI	Check value in Message 24A.			Passed
Part number	Check part number = 0.			Passed
Name of ship	Check value in Message 24A.			Passed
Content of message 24 B				
MMSI	Check value in Message 24B.			Passed
Part number	Check part number = 1.			Passed
Type of ship and cargo type	Check value in Message 24B.			Passed
Vendor ID	Check Manufacturer's ID.			Passed
	Check Unit model code.			Passed
	Check Unit serial number.			Passed
Call sign	Check Call sign.			Passed
Dimension of ship/ reference for position	Check dim/ref A value.			Passed
	Check dim/ref B value.			Passed
	Check dim/ref C value.			Passed
	Check dim/ref D value.			Passed
Type of EPFS	Check Type of EPFS	Recommend: change to 1 <u>2018-03-12 Retest:</u> EPFS Flag = 1		Passed

3.5.2 10.5.2 Information update intervals
(See 6.5.2)

3.5.2.1 10.5.2.1 Autonomous reporting interval

10.5.2.1.1 Purpose

The purpose of this test is to ensure that the EUT adopts the correct reporting interval for its SOG.

10.5.2.1.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode.

a) *Start with own SOG of 1 kn; record all Messages on VDL for at least 30 min and evaluate reporting interval for position report of the EUT by calculating average transmission offset over test period.*

b) *Increase speed to 3 kn.*

c) *Increase speed to 15 kn.*

d) *Increase speed to 24 kn.*

e) *Reduce speed to 22 kn.*

f) *Reduce speed to 13 kn.*

g) *Reduce speed to 1 kn.*

Record all messages on VDL and check transmission offset between two consecutive transmissions.

10.5.2.1.3 Required results

Confirm that

a) *the reporting interval is 3 min (±10 s);*

b) *the reporting interval is 30 s (±3 s);*

c) *the reporting interval is 15 s (±1,5 s);*

d) *the reporting interval is 5 s (±0,5 s);*

e) *the reporting interval is 15 s;*

f) *the reporting interval is 30 s;*

g) *the reporting interval is 3 min.*

This test is performed in two steps:
- one test sequence to evaluate the rescheduling to the different reporting intervals
- one test sequence to evaluate the average transmission offset and transmission intervals. In this test the EUT is operated with each reporting interval for at least 30 minutes.

2018-03-06	Tester: Me	Test details: Change of reporting rate by speed,		
Test item	Check	Remark		Result
Increase speed according to the test items.				
a) Speed = 1 kn	Check that reporting interval is 3 minutes.			Passed
b) Speed = 3 kn	Check releasing slot of the old reporting interval.			Passed
	Check slot allocation for new reporting interval.			Passed
	Check that reporting interval is 30 s.			Passed
c) Speed = 15 kn	Check releasing slot of the old reporting interval.			Passed
	Check slot allocation for new reporting interval.			Passed
	Check that reporting interval is 15 s.			Passed
d) Speed = 24 kn	Check releasing slot of the old reporting interval.			Passed
	Check slot allocation for new reporting interval.			Passed
	Check that reporting interval is 5 s.			Passed
Decrease speed according to the test items.				
e) Speed = 22 kn	Check releasing slot of the old reporting interval.			Passed
	Check slot allocation for new reporting interval.			Passed
	Check that reporting interval is 15 s.			Passed
f) Speed = 13 kn	Check releasing slot of the old reporting interval.			Passed
	Check slot allocation for new reporting interval.			Passed
	Check that reporting interval is 30 s.			Passed
g) Speed = 1 kn	Check releasing slot of the old reporting interval.			Passed
	Check slot allocation for new reporting interval.			Passed
	Check that reporting interval is 3 minutes.			Passed

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2018-03-06	Tester: Me	Test details: Average values		
Test item		Check	Remark	Result
Modify speed to establish the required reporting intervals. Run the test of each reporting interval for at least 30 min.				
a) Speed = 1 kn		Check that the average reporting interval is 3 minutes +/- 10s.		Passed
		Check that the transmission slots are randomly distributed over the selection interval of 20% of 180 s = 36 s = 1350 slot.		Passed
		Check that the slot offsets are in a range of 180 s +/- 36s = 6750 +/- 1350 slots = 5400…8100 slots.		Passed
b) Speed = 3 kn		Check that the average reporting interval is 30 s +/- 3 s.		Passed
		Check that the transmission slots are randomly distributed over the selection interval 20% of 30s = 6 s = 225 slots.		Passed
		Check that the slot offsets are in a range of 30 s +/- 6 s = 1125 +/- 450 slots = 900…1350 slots.		Passed
b) Speed = 15 kn		Check that the average reporting interval is 15 s +/- 1.5 s		Passed
		Check that the transmission slots are randomly distributed over the selection interval 20% of 15s = 3 s = 112.5 slots.		Passed
		Check that the slot offsets are in a range of 15 s +/- 3 s = 562.5 +/- 112.5 slots = 450…675 slots.		Passed
b) Speed = 24 kn		Check that the average reporting interval is 5 s +/- 0.5 s.		Passed
		Check that the transmission slots are randomly distributed over the selection interval 20% of 5s = 1 s = 37.5 slots.		Passed
		Check that the slot offsets are in a range of 5 s +/- 1 s = 178.5 +/- 37.5 slots = 150…225 slots.		Passed

3.5.2.2 10.5.2.2 Polite behavior

10.5.2.2.1 Purpose

The purpose of this test is to ensure that the EUT adopts the correct reporting interval dependent on VDL loading and SOG.

10.5.2.2.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Simulate a VDL loading of 55 %. Record all messages.

　　a)　*Start with own SOG of 1 kn.*

　　b)　*Increase speed to 20 kn.*

　　c)　*Reduce VDL loading to 40 %.*

　　d)　*Reduce VDL loading to 30 %.*

　　e)　*Increase VDL loading to 45 %.*

　　f)　*Increase VDL loading to 55 %.*

　　g)　*Increase speed to 30 kn.*

　　h)　*Reduce VDL loading to 40 %.*

　　i)　*Reduce VDL loading to 30 %.*

　　j)　*Increase VDL loading to 45 %.*

　　k)　*Increase VDL loading to 55 %.*

　　l)　*Reduce speed to 10 kn.*

　　m)　*Reduce VDL loading to 30 %.*

Record all messages on the VDL.

10.5.2.2.3 Required results

Confirm that

　　a)　*the reporting interval is 3 min,*

　　b)　*the reporting interval of 30 s has been established,*

　　c)　*the reporting interval of 30 s is maintained,*

　　d)　*the reporting interval decreases to 15 s within 4 min to 5 min,*

　　e)　*the reporting interval of 15 s is maintained,*

　　f)　*the reporting interval increases to 30 s within 4 min to 5 min,*

　　g)　*the reporting interval decreases to 15 s,*

　　h)　*the reporting interval of 15 s is maintained,*

　　i)　*the reporting interval decreases to 5 s within 4 min to 5 min,*

　　j)　*the reporting interval of 5 s is maintained,*

　　k)　*the reporting interval increases to 15 s within 4 min to 5 min,*

　　l)　*the reporting interval increases to 30 s,*

m) the reporting interval of 30 s is maintained.

2018-03-06	Tester: Me		Test details: Test of polite behaviour				
Apply speed and VDL load according to the test items. Check the required reporting interval							
No.	SOG (kn)	VDL load (%)	Interval			UTC start	Remark	Result
			Norm.	Redu.	Required			
a	1	55	3 min	3 min	**3 min**			Passed
b	20	55	15 s	30 s	**30s**			Passed
c	20	40	15 s	30 s	**30s**			Passed
d	20	30	15 s	30 s	**15 s within 4…5 min**			Passed
e	20	45	15 s	30 s	**15 s**			Passed
f	20	55	15 s	30 s	**30 s within 4…5 min**			Passed
g	30	55	5 s	15 s	**15 s**			Passed
h	30	40	5 s	15 s	**15 s**			Passed
i	30	30	5 s	15 s	**5 s within 4…5 min**			Passed
j	30	45	5 s	15 s	**5 s**			Passed
k	30	55	5 s	15 s	**15 s within 4…5 min**			Passed
l	10	55	30 s	30 s	**30 s**			Passed
m	10	30	30 s	30 s	**30 s**			Passed

3.5.2.3 10.5.2.3 Static data reporting interval

10.5.2.3.1 Purpose

The purpose of this test is to ensure that the EUT maintains the static data-reporting interval.

10.5.2.3.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Record the transmitted messages and check for static data Messages 24A and 24B.

Repeat the test at an assigned reporting interval of 5 s for Message 18.

10.5.2.3.3 Required results

Confirm that the EUT transmits Messages 24A and 24B every 6 min. Confirm that Message 24B is transmitted within 1 min of transmission of Message 24A, and on the same channel. Transmissions shall alternate between channels A and B, and shall be independent of the Message 18 reporting interval.

2018-03-06	Tester: Me	Test details: ITDMA transmission of Message 24		
Test item	Check	Remark		Result
Record the VDL data of at least 30 frames operating with autonomously scheduled transmissions. Set the reporting interval of message 18 to 30 s.				
Reporting interval	Check that the reporting interval of Message 24A and 24B is 6 min.			Passed
	Check that Message 24B is transmitted within 1 min after 24A.			Passed
	Check that Message 24B is transmitted on the same channel as 24A.			Passed
Message type for allocation	Check that the slots for Message 24A and 24B are allocated by Message 18 with ITDMA CommState.			Passed
Number of slots	Check that the number of slots = 1 (value in CommState = 0).			Passed
Keep flag	Check that the keep flag = 1.			Passed
Slot allocation	Check that the slots allocated by Message 18 are used for Tx of Message 24A and 24B.			Passed
Alternating channels	Check that the pairs of Message 24A/24B are transmitted on alternating channels.			Passed
Independent transmission schedule	Check that the transmission schedule of Message 24A/24B is independent of the Tx schedule of Message 18.			Passed

Set the reporting interval of message 18 by rate assignment to 5 s.			
Reporting interval	Check that the reporting interval of Message 24A and 24B is 6 min.		Passed
	Check that Message 24B is transmitted within 1 min after 24A.		Passed
	Check that Message 24B is transmitted on the same channel as 24A.		Passed
Message type for allocation	Check that the slots for Message 24A and 24B are allocated by Message 18 with ITDMA CommState.		Passed
Number of slots	Check that the number of slots = 1 (value in CommState = 0).		Passed
Keep flag	Check that the keep flag = 1.		Passed
Slot allocation	Check that the slots allocated by Message 18 are used for Tx of Message 24A and 24B.		Passed
Alternating channels	Check that the pairs of Message 24A/24B are transmitted on alternating channels.		Passed
Independent transmission schedule	Check that the transmission schedule of Message 24A/24B is independent of the Tx schedule of Message 18.		Passed

3.6 10.6 Initialisation period
(See 6.5.2, 6.5.4)

10.6.1 Purpose

The purpose of this test is to ensure that the EUT starts to transmit within the permissible initialisation period.

10.6.2 Method of measurement

Set up standard test environment with SOG > 2 kn.

   a) *Switch on the EUT from cold (off-time minimum 1 h) with the EUT operating in autonomous mode.*

   b) *Switch off the EUT for between 15 min to 60 min and switch on again.*

   c) *Make the GNSS sensor position unavailable.*

Record transmitted messages.

10.6.3 Required results

Confirm that the EUT

   a) *starts regular transmission of Message 18 within 2 min and valid position within 30 min after switch on,*

   b) *starts regular transmission of Message 18 within 2 min and valid position within 5 min after switch on,*

   c) *continues transmission with last known position and time stamp "63" (positioning system inoperative) with a reporting interval of 3 min. Change to default position values (91, 181) after 30 min.*

2018-03-09	Tester: Me/Zi	Test details: Initialisation period		
Test item	Check	Remark		Result
Power is off for at least 1 hour Apply a speed > 2 kn.				
a) Switch power on.	Check that EUT starts transmission of Message 18 within 2 min.			Passed
	Check that EUT has a valid position within 30 min.			Passed
b) Switch power off for 15 … 60 min.	Check that EUT starts transmission of Message 18 within 2 min.			Passed
	Check that EUT has a valid position within 5 min.			Passed
c) Make GNSS unavailable.	Check that EUT continues transmission with last known position.			Passed
	Check that time stamp = 63.			Passed
	Check that reporting interval = 3 min.			Passed
After 30 min	Check that position = default.			Passed

3.7 10.7 Alarms and indications, fall-back arrangements
(See 6.6)

3.7.1 10.7.1 Built in integrity test

10.7.1.1 Purpose

The purpose of this test is to ensure that the EUT has a BIIT.

10.7.1.2 Method of measurement

Check manufacturer's documentation on BIIT.

10.7.1.3 Required result

Verify that an indication is provided if a malfunction is detected and the appropriate ALR sentence is output on the PI.

2018-03-09	Tester: Me/Zi	Test details: Built in integrity test		
Test item	Check	Remark		Result
Check manufacturer's documentation on BIIT.	Check that a malfunction indication is provided.			Passed
	Check that an appropriate ALR sentence is output on the PI if a malfunction is detected.			Passed

3.7.2 10.7.2 Transceiver protection
(See 7.6)

10.7.2.1 Purpose

The purpose of this test is to ensure that the EUT is capable of withstanding open and short circuit to the VHF-antenna terminals.

10.7.2.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode with SOG > 23 kn.

a) Open circuit VHF-antenna terminals of the EUT for at least 5 min.

b) Short circuit VHF-antenna terminals of the EUT for at least 5 min.

c) Reconnect the VHF-antenna.

10.7.2.3 Required results

Check that

a) an alarm sentence ALR with alarm ID 002 is sent to the PI,

b) an alarm sentence ALR with alarm ID 002 is sent to the PI,

c) the EUT shall be operative again after refitting the antenna, without damage to the transceiver and check that an alarm sentence ALR with a deactivated alarm ID 002 is sent to the PI.

2018-03-09	Tester: Me/Zi	Test details: Transceiver protection		Result
Test item	Check		Remark	Result
Apply a speed > 23 kn (5 s reporting interval).				
a) open circuit the VHF antenna terminal for at least 5 min.	Check that ALR ID 002 is output.			Passed
	Check that the malfunction indication is activated.			Passed
b) short circuit the VHF antenna terminal for at least 5 min.	Check that ALR ID 002 is output.			Passed
	Check that the malfunction indication is activated.			Passed
c) Reconnect the VHF antenna.	Check that ALR ID 002 is output indicating the deactivation.			Passed
	Check that the EUT is not damaged and continuous normal operation.			Passed
	Check that the malfunction indication is deactivated.			Passed

3.7.3 10.7.3 Transmitter shutdown procedure

10.7.3.1 Purpose

The purpose of this test is to ensure that the EUT has a shutdown procedure that is independent of the operating system software.

10.7.3.2 Method of measurement

Check manufacturer's documentation on transmitter shutdown procedure.

10.7.3.3 Required result

Verify that a transmitter shutdown procedure, independent of the operating software, is provided (see 6.6.2).

2018-03-06	Tester: Me/Zi	Test details: Transmitter shutdown procedure		Result
Test item	Check		Remark	Result
Check manufacturer's documentation on Transmitter shutdown procedure.	Verify the transmitter shutdown procedure.			Passed
	Verify that the transmitter shutdown procedure is independent of software.			Passed

3.7.4 10.7.4 Position sensor fallback conditions

10.7.4.1 Purpose

The purpose of this test is to ensure that the EUT uses position source, position accuracy flag, RAIM flag and position information in accordance with Table 3.

10.7.4.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode.

Apply position sensor data such that the EUT operates as follows:

- *internal DGNSS in use (corrected by Message 17);*

- *internal DGNSS in use (corrected by a beacon), if implemented;*

- *internal GNSS in use;*

- *no sensor position in use.*

Check the position accuracy and RAIM flag in the VDL Message 18 and, where provided, the ALR sentence.

10.7.4.3 Required result

Verify that the use of position source, position accuracy flag, RAIM flag and position information complies with Table 3.

Verify that the position sensor status is maintained for the next scheduled report and changed for subsequent reports.

Verify that the EUT does not accept Message 17 from a station using a non-base station MMSI.

2018-03-12	Tester: Me/Zi	**Test details:** Check of position sensor fall-back conditions		
Test item	Check	Remark		Result
Provide GNSS signal according to the test items, changing upwards				
No GNSS signal available	Check that position = default.			Passed
	Check that PA flag = 0.			Passed
	Check the RAIM flag = 0.			Passed
	Check that ALR ID 007 is output.			Passed
	Check that ALR ID 026 is output.			Passed
	Check that ALR ID 029 is output.			Passed
	Check that ALR ID 030 is output.			Passed
Provide a GNSS signal	Check that position is correct.			Passed
	Check that PA flag = 0.			Passed
	Check the RAIM flag (0 or 1 if RAIM is optionally implemented).			Passed
	Check that ALR ID 026 is output indicating inactivation of alarm.			Passed
	Check that ALR ID 026 is output indicating inactivation of alarm.			Passed

	Check that ALR ID 029 is output indicating inactivation of alarm.		Passed
	Check that ALR ID 030 is output indicating inactivation of alarm.		Passed
	Check that the status is changed after the next scheduled position report		Passed
Provide a beacon signal (Optional)	Check that position is correct.		N/A
	Check that PA flag = 1.		N/A
	Check the RAIM flag (0 or 1 if RAIM is optionally implemented).		N/A
	Check that the status is changed		N/A
Provide Message 17 on VDL (Optional)	Check that position is correct.		Passed
	Check that PA flag = 1.		Passed
	Check the RAIM flag (0 or 1 if RAIM is optionally implemented).		Passed
	Check that the status is changed after the next scheduled position report		Passed
Provide GNSS signal according to the test items, changing upwards			
Remove Message 17 on VDL (Optional)	Check that position is correct		Passed
	Check that PA flag = 0		Passed
	Check the RAIM flag (0 or 1 if RAIM is optionally implemented).		Passed
	Check that the status is changed after the next scheduled position report		Passed
Remove the beacon signal (Optional)	Check that position is correct.		N/A
	Check that PA flag = 0.		N/A
	Check the RAIM flag (0 or 1 if RAIM is optionally implemented).		N/A
	Check that the status is changed		N/A
Remove the GNSS signal	Check that time stamp = 63		Passed
	Check that PA flag = 0.		Passed
	Check the RAIM flag = 0.		Passed
	Check that the status is changed after the next scheduled position report		Passed

2018-03-12	Tester: Me/Zi	Test details: Check of Message 17 from an non-base station MMSI		
Test item	Check	Remark		Result
Connect sensor inputs and correction data according to the test items.				
• GNSS is available. • Apply correction data by Message 17 from a non-base station MMSI.	Check that PA flag = 0.			Passed

3.8 10.8 User interface

3.8.1 10.8.1 Status indication
(See 6.7.1)

10.8.1.1 Purpose

The purpose of this test is to ensure that the status indicators provided on the EUT function correctly.

10.8.1.2 Method of measurement

Perform the following.

a) *Set up standard test environment and operate the EUT in autonomous mode.*

b) *Send Message 23 with a quiet time to EUT.*

c) *Disable GNSS reception.*

Check status indications.

10.8.1.3 Required results

Check that

a) *power indicator is on and the no transmission indicator is off,*

b) *no transmission indicator is on and reverts to off after quiet time elapse,*

c) *the error indicator is on.*

2018-03-07	Tester: Me/Zi	Test details: Status indication		
Test item	Check	Remark		Result
Operate the EUT according to the test items.				
a) Operate under normal conditions in autonomous mode.	Check that the power indicator is on.			Passed
	The "No transmission" indicator is off.			Passed
	Check that the "Error" indicator is off.			Passed
b) Disable transmission by message 23 with quiet time.	Check that the power indicator is on.			Passed
	The "No transmission" indicator is on.			Passed
	Check that the "Error" indicator is off.			Passed
c) Disable GNSS reception (quiet time is finished).	Check that the power indicator is on.			Passed
	The "No transmission" indicator is off.			Passed
	Check that the "Error" indicator is on.			Passed

3.8.2 10.8.2 Message display

(See 6.7.1)

This test is only applicable if a message display is provided.

10.8.2.1 Purpose

The purpose of this test is to ensure that, if a display is provided, the EUT displays the required information.

10.8.2.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode.

   a) *Apply to the VDL Message 12 addressed to EUT.*

   b) *Apply to the VDL Message 12 not addressed to EUT.*

   c) *Apply to the VDL Message 14 to EUT.*

   d) *Apply an active AIS- SART position report to EUT.*

   e) *Apply a test mode AIS-SART position report to EUT.*

   f) *Disable VHF antenna.*

10.8.2.3 Required results

Verify that

   a) *the EUT displays Message 12,*

   b) *the EUT does not display Message 12,*

   c) *the EUT displays Message 14,*

   d) *the EUT displays the AIS- SART position report Message 1, at least ID and position,*

   e) *the EUT displays the AIS-SART position report Message 1, at least ID and position only if unit set to AIS-SART test mode,*

   f) *the EUT displays the alarm status and that the error indicator is on.*

2018-03-06	Tester: Me	Test details: Test of optional Message display		
Test item	Check	Remark		Result
Apply messages according to the test items.				
a) Apply message 12 addressed to the EUT	Check that the message is displayed.			N/A
	Check that the content is correct.			N/A
b) Apply message 12 not addressed to the EUT	Check that the message is not displayed.			N/A
c) Apply message 14	Check that the message is displayed.			N/A
	Check that the content is correct.			N/A
d) Apply an active SART message 1	Check that the SART is displayed.			N/A
	Check that the MMSI is displayed.			N/A
	Check that the position is displayed.			N/A
e) Apply an SART test message 1 EUT in SART test mode	Check that the SART is displayed.			N/A
	Check that the MMSI is displayed.			N/A
	Check that the position is displayed.			N/A
e) Apply an SART test message 1 EUT not in SART test mode	Check that the SART is not displayed.			N/A
f) Disconnect VHF antenna	Check that the alarm status is displayed.			N/A
	Check that the error indicator is on.			N/A

3.8.3 10.8.3 Static data input
(See 6.4, 6.7.2)

10.8.3.1 Purpose

The purpose of this test is to ensure that static data can be input to the EUT according to the manufacturer's documentation and the MMSI cannot be changed once input.

10.8.3.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode.

   a) *Enter all static data except MMSI.*

   b) *Enter an MMSI outside the valid range.*

   c) *Enter an MMSI according to the manufacturer's initialisation procedure.*

   d) *Enter a new MMSI.*

   e) *Enter all other static data.*

10.8.3.3 Required results

Verify that

   a) *the static data is correctly stored according to the manufacturer's initialisation procedure,*

   b) *the unit does not accept the MMSI,*

   c) *the unit accepts the MMSI as entered by the user,*

   d) *the unit does not accept the MMSI as entered by the user,*

   e) *static data can be changed.*

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2018-03-12	Tester: Me	Test details: Static data input		
Test item	Check	Remark		Result
Input static data according to manufacturer's documentation. At test start no valid MMSI is stored in the EUT.				
a) Enter all static data except MMSI and check that they are correctly stored.	Enter and check ships name.	See doc. 1 page 3 (covered by test report BSH 46162/432/0939)		N/T
	Enter and check type of ship and cargo.			N/T
	Enter and check call sign.			N/T
	Enter and check dimension of ship/ reference for position.			N/T
b) Enter an MMSI outside the valid range.	Check that the MMSI is not accepted.			N/T
c) Enter an MMSI inside the valid range.	Check that the MMSI is accepted and correctly stored.			N/T
d) Enter a new MMSI inside the valid range.	Check that the new MMSI is not accepted.			N/T
e) Enter all static data except MMSI and check that they are correctly stored.	Enter and check ships name.			N/T
	Enter and check type of ship and cargo.			N/T
	Enter and check call sign.			N/T
	Enter and check dimension of ship/ reference for position.			N/T

4 11 Physical tests

The physical radio tests are not part of this test report.

5 12 Specific tests of link layer

5.1 12.1 TDMA synchronisation

5.1.1 12.1.1 Synchronisation test using UTC direct and indirect

12.1.1.1 Purpose

The purpose of this test is to ensure that the EUT can operate UTC direct and indirect.

12.1.1.2 Method of measurement

Set up standard test environment; choose test conditions in a way that the EUT operates in the following synchronisation modes:

- a) *UTC direct;*
- b) *UTC indirect (internal synchronisation source disabled; at least one other station UTC direct synchronised);*
- c) *BASE direct (internal GNSS disabled; base station with UTC direct synchronisation within range);*
- d) *UTC indirect (internal GNSS receiver disabled; only Class B SO station UTC direct synchronised).*

Check all CommState parameters in position report. Check reporting interval.

12.1.1.3 Required results

Confirm that

- a) *the SynchState = 0;*
- b) *the SynchState = 1;*
- c) *the SynchState = 1;*
- d) *the SynchState = 1.*

2018-03-07	Tester: Me/Zi	Test details: TDMA Synchronisation		
Test item	Check	Remark		Result
Operate the EUT in an environment according to the test items and check the synchronisation state.				
a) Operate with GPS.	Check that sync state is 0 (UTC direct).			Passed
b) Disable GPS. At least one AIS Class A station with UTC direct.	Check that sync state is 1 (UTC indirect).			Passed
c) GPS disabled, one base station with UTC direct within range.	Check that sync state is 1 (UTC indirect).			Passed
d) GPS disabled, At least one AIS Class B SO station with UTC direct.	Check that sync state is 1 (UTC indirect).			Passed

5.1.2 12.1.2 Synchronisation test without UTC, EUT receiving semaphore

12.1.2.1 Purpose

The purpose of this test is to ensure that the EUT can synchronise to a semaphore.

12.1.2.2 Method of measurement

Set up standard test environment; choose test conditions such that the EUT operates with other units acting as follows.

a) *The EUT is receiving a mobile station that is acting as semaphore with no Base Stations being received.*

b) *Introduce a Base Station that is acting as a semaphore with different timing.*

c) *Enable internal synchronisation source.*

Check all CommState parameters in position report. Check reporting interval.

12.1.2.3 Required results

Confirm that

a) *transmitted SynchState = 3;*

b) *the EUT shall change synchronisation source to the Base Station;*

c) *synchronisation mode shall revert to UTC direct, SynchState = 0.*

2018-03-07	Tester: Me/Zi	Test details: TDMA Synchronisation		
Test item	Check		Remark	Result
Operate the EUT in an environment according to the test items and check the synchronisation state.				
a) GPS disabled At least one AIS Class A station as semaphore.	Check that sync state is 3.			Passed
	Check that the EUT synchronizes to the Class A station.			Passed
b) GPS disabled, Class A without UTC and one base station as semaphore, different timing.	Check that sync state is 2 (Base direct)			Passed
	Check that the EUT synchronizes to the base station.			Passed
c) Enable GPS.	Check that sync state is 0 (UTC direct)			Passed

5.2 12.2 Time division (frame format)

12.2.1 Purpose

The purpose of this test is to ensure that the EUT uses SOTDMA correctly.

12.2.2 Method of measurement

Set the EUT to maximum reporting interval of 5 s by applying a speed of >23 kn. Record VDL Messages and check for used slots. Check parameter slot number in CommState of position report. Check slot length (transmission time).

12.2.3 Required results

Slot number used and slot number indicated in CommState shall match. Slot number shall not exceed 2249. Slot length shall not exceed 26,67 ms.

2018-03-07	Tester: Me/Zi	Test details: TDMA Synchronisation		
Test item	Check	Remark		Result
Operate the EUT with 5 s reporting interval (SOG > 23 kn).				
Slot number	Check that slot number used and slot number indicated in CommState match.			Passed
Slot count	Check that slot number does not exceed 2249.			Passed
Slot length	Check that slot length does not exceed 26,67 ms.			Passed

5.3 12.3 Synchronisation jitter

12.3.1 Definition

Synchronisation jitter (transmission timing error) is the time between nominal slot start as determined by the UTC synchronisation source and the initiation of the "transmitter on" function.

12.3.2 Purpose

The purpose of this test is to ensure that the synchronisation jitter is within the allowable tolerances.

12.3.3 Method of measurement

Set up standard test environment. Set the EUT to 5 s reporting interval using:

  a) *UTC direct synchronisation;*

  b) *UTC indirect synchronisation by disconnecting the synchronisation source of the EUT.*

Record VDL Messages and measure the time between the nominal beginning of the slot (Nominal T_0) and the start flag and calculate it back to T_0.

12.3.4 Required results

The synchronisation jitter shall not exceed:

  a) *±104 µs using UTC direct synchronisation;*

  b) *±312 µs using UTC indirect synchronisation.*

2018-03-07	Tester: Me	Test details: Synchronisation jitter		
Test item	Check		Remark	Result
Operate the EUT with a reporting interval of 5 s (speed > 23 kn). Record the time T_2 using the VDL analyser and calculate it back to T_0.				
a) UTC direct	Check that T_0 is in the range of +/- ±104 µs.			Passed
b) UTC indirect	Check that T_0 is in the range of +/- ±312 µs.			Passed

5.4 12.4 Data encoding (bit stuffing)

(See 7.2.3.6)

12.4.1 Purpose

The purpose of this test is to ensure that the EUT conforms to the data encoding requirements.

12.4.2 Method of measurement

Set up standard test environment.

Set ship's name to HEX-Values "7E 3B 3C 3E 7E" so that bit stuffing will be applied and check the VDL (note that this might require that the manufacturer provides means to input this data).

12.4.3 Required results

Confirm that transmitted VDL Messages 24A and 24B conform to data input.

Data in Hex	7E 3B 3C 3E 7E
Binary (Bytes)	01111110_00111010_00111100_00111110_01111110
Binary (6 bit)	011111_100011_101000_111100_001111_100111_1110xx 　　　_　　　#　　　(　　　<　　　O　　　'　　　8
Name in 6 bit ASCII text (Table 47 of 1371)	_#(<O'8 ('= 27h, Apostrophe) (xx bits set to 0
Binary (after 40 bit header)	xxxx01_111110_001110_100011_110000_111110_011111_10xxxx 　　　　v　　　>　　　S　　　h　　　v　　　O
Coded in 6 bit ASCII in VDM/ VDO (IEC 61162-1 Table C.1)	XXXXXXx**v>ShvO**x

Note: the ship's name does not affect message 24 B. Therefore there is no need to check 24 B.

2018-03-12	Tester: Me	**Test details:** Data encoding (bit stuffing)		
Test item	Check		Remark	Result
Input name "_#(<O'8" to the EUT.				
Evaluate Message 24A	Check that the VDO is according to the ships name (sequence "v>ShvO").		See doc. 1 page 4 (covered by test report BSH 46162/432/0939)	N/T
	Check that the VDM is according to the ships name (sequence "v>ShvO").			N/T
	Check that receiver shows name as "_#(<O'8".			N/T

5.5 12.5 Frame check sequence

12.5.1 Purpose

The purpose of this test is to ensure that the EUT rejects Messages with invalid CRC.

12.5.2 Method of measurement

Apply simulated position report Messages with wrong CRC bit sequence to the VDL.

    a) *Check test output; if a display interface is provided, check this.*

    b) *Repeat test 12.1.2 and check that a station transmitting Messages with wrong CRC are not used for synchronisation.*

12.5.3 Required results

Confirm that Messages with invalid CRC are not accepted by the EUT in cases a) and b).

2018-03-07	Tester: Me/Zi	Test details: Frame check sequence		
Test item	Check	Remark		Result
Transmit position report message from VDL generator.				
a) Set CRC bit sequence to valid.	Check that the position reports are output as VDM on the PI port.	See doc. 2 page 1 (covered by test report BSH 46162/432/0939)		N/T
	If implemented: Check that the target is displayed on the MKD.			N/T
a) Set CRC bit sequence to wrong.	Check that the position reports are not output as VDM on the PI port.			N/T
	If implemented: Check that the target is not displayed on the MKD.			N/T
b) GPS disabled One AIS Class A with UTC direct, with incorrect CRC	Check that sync state is 3.			N/T
	Check that the EUT does not synchronize to the Class A station.			N/T
b) GPS disabled, One Class A without UTC and one base station as semaphore, both with incorrect CRC	Check that sync state is 3.			N/T
	Check that the EUT does not synchronize to the Class A station and to the base station.			N/T

5.6 12.6 Slot allocation (Channel access protocols)

5.6.1 12.6.1 Network entry

12.6.1.1 Method of measurement

Set up standard test environment; switch on EUT. Record transmitted scheduled position reports for the first 3 min of transmission after initialisation period. Check CommState for channel access mode.

12.6.1.2 Required results

EUT shall start autonomous transmissions of Message 18 (position report) with ITDMA CommState with Keep Flag set true for first minute of transmission and Message 18 with SOTDMA CommState thereafter.

2018-03-07	Tester: Me/Zi	Test details: Channel access protocol		
Test item	Check	Remark		Result
Switch on EUT and record data with VDL analyser. Operate the EUT with 5 s reporting interval (speed > 23 kn).				
Initial message type	Check that the network entry is done with Message 18 with ITDMA CommState.			Passed
Keep flag	Check that the keep flag is set in the ITDMA CommState.			Passed
Slot offsets	Check that the slot offsets the ITDMA CommState are in the range 375 +/- 37.5= 337.5 … 412.5.			Passed
Slot use	Check that the allocated slots are used.			Passed
Comm state	Check that the Comm state is changed to SOTDMA after the first frame.			Passed
Timeout	Check that the timeout in the 2nd frame is between 2 and 6 (Decremented from initial 3…7).			Passed

5.6.2 12.6.2 Autonomous scheduled transmissions (SOTDMA)

12.6.2.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode.

a) *Record transmitted scheduled position reports Message 18 and check frame structure. Check CommState of transmitted messages for channel access mode and parameters number of received stations, slot timeout, slot number and slot offset.*

b) *Repeat the test with 50 % channel loading ensuring there are at least 4 free slots in each SI.*

12.6.2.2 Required results

Check that

a) *nominal reporting interval is achieved ±20 % (allocating slots in selection interval SI). Confirm that the EUT allocates new slots NTS within SI after 3 min to 8 min. Check that slot offset indicated in CommState matches slots used for transmission. Check that Class B "CS" are not included in the number of received stations. Check that during DSC monitoring periods there are no time out values of "0";*

b) *only free slots are used for transmission.*

2018-03-07	Tester: Me/Zi	Test details: Autonomous scheduled transmissions (SOTDMA)		
Test item	Check		Remark	Result
a) Record the VDL data of 10 frames operating with autonomously scheduled transmissions. Evaluate the following test items using the recorded data. Set the condition so that the reporting rate is 5 s (SOG > 23 kn).				
Reporting rate	Check that the reporting rate is 5 s, 12 messages per frame.			Passed
Nominal increment and selection interval	Check that the allocated slots match the nominal and selection interval of 5 s reporting interval.			Passed
Slot interval	Check that the slot intervals are in the range 187.5 +/- 37.5 = 150 … 225.			Passed
Timeout	Check that the timeout is counting down from 3...7 to 0.			Passed
Slots used	Check that the slots indicated in CommState match the slots used.			Passed
Slots allocated at timeout 0	Check that the slots are used in the next frame.			Passed
	Check the slot offset is 2250 +/-SI (2212.5...2287.5).			Passed
CommState sub message	Check that for timeout 3,5,7 the number of received stations is included.			Passed
	Check that Class B CS stations are not counted as received stations.			Passed

	Check that for timeout 2, 4, 6 the correct slot number is included.		Passed
	Check that for timeout 1 the correct value of UTC is included.		Passed
	Check that for timeout 0 the slot increment is included.		Passed
Alternating channels	Check that the position reports are transmitted on alternating channels.		Passed
b) Apply 50 % channel load on both channels			
Free slots	Check that only free slots are used for transmission		Passed

5.6.3 12.6.3 Autonomous scheduled transmissions (ITDMA)

12.6.3.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode. Set NavStatus of EUT to "at anchor" giving a reporting interval of 3 min. Record transmitted scheduled position reports.

12.6.3.2 Required results

Check that EUT transmits Message 18 with ITDMA CommState and allocates slots using ITDMA and that slot offset indicated in CommState matches slots used for transmission. Check that nominal reporting interval is achieved ±20 %.

2018-03-07	Tester: Me/Zi	Test details: Autonomous scheduled transmissions (ITDMA)		
Test item	Check	Remark		Result
Record the VDL data of at least 20 frames operating with autonomously scheduled transmissions. Evaluate the following test items using the recorded data. Set the condition so that the reporting rate is 3 min (SOG < 2 kn).				
Reporting rate	Check that the reporting rate is 3 min.	See test 10.5.2.1		Passed
Message type	Check that ITDMA CommState is used.			Passed
Slot interval	Check that the slot intervals are 3 min +/- 20 %.			Passed
Slot increment	Check that the slot increment = 13500 +/- 10 %.			Passed
Number of slots	Check that the number of slots = 1 (value in CommState = 5).			Passed
Keep flag	Check that the keep flag = 0.			Passed
Alternating channels	Check that the position reports are transmitted on alternating channels.			Passed

5.6.4 12.6.4 Transmission of Messages 24A and 24B (ITDMA)

12.6.4.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode. Record transmitted messages.

12.6.4.2 Required results

Confirm that EUT transmits Messages 24A and 24B using the ITDMA access scheme. The SOTDMA CommState of Messages 18 shall, as far as possible, be changed to ITDMA CommState to allocate slots for Messages 24A and 24B.

2018-03-07	Tester: Me/Zi	Test details: ITDMA transmission of Message 24		
Test item	Check	Remark		Result
Record the VDL data of at least 20 frames operating with autonomously scheduled transmissions. Set the condition so that the reporting rate is 30 s.				
Reporting interval	Check that the reporting rate of msg 24A and 24B is 6 min.	See also test 10.5.2.3		Passed
	Check that msg 24A and 24B are transmitted on the same channel.			Passed
Message type for allocation	Check that the CommState of 2 Message 18 are changed to ITDMA to allocate the slots for message 24 A and 24 B.			Passed
Number of slots	Check that the number of slots = 1 (value in CommState = 0).			Passed
Keep flag	Check that the keep flag = 1.			Passed
Slot allocation	Check that the slots allocated by Message 18 are used for T_X of Message 24A and 24 B.			Passed
Alternating channels	Check that the pairs of Message 24A and 24B are transmitted on alternating channels.			Passed

5.6.5 12.6.5 Assigned operation

(See 4.1.5, 7.3.4.3.3)

5.6.5.1 12.6.5.1 Message 16 with slot assignment

12.6.5.1.1 Purpose

The purpose of this test is to ensure that the EUT can be assigned to use specific slots.

12.6.5.1.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode (SOG < 2 kn).

a) Transmit an assigned mode command Message 16 to the EUT with initial slot offset and increment.

b) Increase speed to 25 kn while still assigned to a reporting interval of 10 s.

c) Every 3 min send further assignment Messages with the same slot assignment.

d) Transmit an assigned mode command Message 16 with a non-base station MMSI to the EUT with initial slot offset and increment.

e) Transmit an assigned mode command Message 16 to an MMSI different to the MMSI of the EUT with initial slot offset and increment.

Record transmitted Messages.

12.6.5.1.3 Required results

Confirm that

a) the EUT transmits a Message 18 in the designated slots. Check that the assigned mode flag is set to 1,

b) the EUT stays in assigned mode using the assigned slots,

c) the EUT continues in assigned mode when it receives a further assignment commands by Message 16. Verify that the slot timeout value is updated for every received Message 16,

d) the EUT ignores Message 16 and continues autonomous mode operation,

e) the EUT ignores Message 16 and continues autonomous mode operation. Confirm that the EUT reverts to autonomous mode with autonomous reporting interval 4 min to 8 min after the last Message 16.

2018-03-07	Tester: Me/Zi	Test details: Slot offset and increment		Result
Test item	Check		Remark	Result
a) Operate the EUT with SOG < 2 kn, autonomous reporting interval = 3 min. Apply an assignment Message 16 on channel A with offset to first assigned slot = 40 and slot increment parameter = 2 (increment = 375, interval = 10s).				
VDM output	Check VDM output of Message 16.			Passed
First message	Check that the first Message in assigned mode is sent 40 slots after Message 16.			Passed
Assigned mode flag	Check that the assigned mode flag is set to 1.			Passed
Initialisation phase (First frame)	Check that EUT continues after the first Message of the assigned mode with the network entry phase.			Passed
	Check that an ITDMA CommState is used.			Passed
Alternating channels	Check that position reports are transmitted alternating on channel A and B.			Passed
Increment	Check that the increment is 375 slots.			Passed
Timeout	Check that all slots of the first frame have the same timeout.			Passed
	Check that the timeout is between 3 and 7.			Passed
	Check that the timeout is decremented after 1 min.			Passed
CommState	Check that after the first frame a SOTDMA CommState is used.			Passed
b) Increase SOG to 25 kn (autonomous reporting interval = 5s)				
Mode	Check that the assigned mode continues.			Passed
c) Repeat Message 16 with same assignment every 3 min				
Mode	Check that the assigned mode continues.			Passed
Timeout	Check that the time-out value is updated for every received Message 16.			Passed
c) Stop transmission of Message 16				
End of assigned mode	Check that EUT reverts to autonomous mode after time-out (4…8 min after last received Message 16).			Passed
	Check that the assigned mode flag in autonomous mode is set to 0.			Passed

	Check that the Slot offset of all messages with time-out 0 is set to 0 to release the old slots.		Passed
	Check that EUT initialises autonomous mode like network entry.		Passed
d) Transmit Message 16 with slot assignment from a non-base station MMSI			
Mode	Check that the EUT ignores Message 16.		Passed
e) Transmit Message 16 with slot assignment addressed to an MMSI different to the EUT			
Mode	Check that the EUT ignores Message 16.		Passed

5.6.5.2 12.6.5.2 Message 16 with rate assignment

12.6.5.2.1 Purpose

The purpose of this test is to ensure that the EUT can be assigned reporting intervals.

12.6.5.2.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode (SOG < 2 kn).

a) *Transmit an assigned mode command Message 16 to the EUT with a designated reporting interval of 5 s.*

b) *Transmit an assigned mode command Message 16 to the EUT with the assigned reporting interval of 10 s.*

c) *Increase speed to 25 kn while still assigned to a reporting interval of 10 s.*

d) *Every 3 min send further assignment Messages with a reporting interval of 10 s.*

e) *Transmit an assigned mode command Message 16 to the EUT with a non-base station MMSI.*

Record transmitted Messages.

12.6.5.2.3 Required results

Confirm that

a) *the EUT transmits with the designated reporting interval of 5 s. Check that the assigned mode flag is set to 1,*

b) *the reporting interval is 10 s,*

c) *the EUT stays in assigned mode with a reporting interval of 10 s,*

d) *the EUT continues in assigned mode when it receives a further assignment commands by Message 16. Verify that the slot timeout value in the CommState is not updated by the received Message 16,*

e) *confirm that the EUT ignores Message 16 and continues autonomous mode operation. Confirm that the EUT reverts to autonomous mode with autonomous reporting interval 4 min to 8 min after the last Message 16.*

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2018-03-07	Tester: Me/Zi	Test details: Rate assignment		
Test item	Check	Remark		Result
a) Operate the EUT with SOG < 2 kn, autonomous reporting interval = 3 min. Apply an assignment message 16 with offset = 120 (reporting interval = 5s).				
VDM output	Check VDM output of Message 16.			Passed
Assigned mode flag	Check that the assigned mode flag is set to 1.			Passed
Initialisation phase (First frame)	Check that EUT starts the assigned mode with a network entry phase.			Passed
	Check that an ITDMA CommState is used.			Passed
Alternating channels	Check that position reports are transmitted alternating on channel A and B.			Passed
Increment	Check that the reporting interval is 5 s.			Passed
Timeout	Check that the timeout of the first frame is between 3 and 7.			Passed
	Check that the timeout is decremented after 1 min.			Passed
CommState	Check that after the first frame a SOTDMA CommState is used.			Passed
b) Send an assignment message 16 with offset = 60 (reporting interval = 10s)				
Reporting interval	Check that the reporting interval is 10 s.			Passed
c) Increase SOG to 25 kn (autonomous reporting interval = 5s)				
Mode	Check that the assigned mode with 10 s interval continues.			Passed
d) Repeat Message 16 with same assignment every 3 min				
Mode	Check that the assigned mode continues.			Passed
Timeout	Check that the time-out values are not updated for every received Message 16.			Passed
d) Stop transmission of Message 16				
End of assigned mode	Check that reverts to autonomous mode after time-out (4…8 min).			Passed
	Check that the assigned mode flag in autonomous mode is set to 0.			Passed
	Check that the slots of the assigned mode schedule are released with time-out 0 and slot offset = 0.			Passed

	Check that EUT initialises autonomous mode like network entry.		Passed
e) Transmit Message 16 with rate assignment from a non-base station MMSI			
Mode	Check that the EUT ignores Message 16.		Passed

5.6.5.3 12.6.5.3 Assigned mode using invalid reporting rates

12.6.5.3.1 Method of measurement

Operate standard test environment and EUT in autonomous mode. Transmit an assigned mode command Message 16 using a base station MMSI to the EUT with

a) *the number of reports per 10 min which is not a multiple of 20,*

b) *the number of reports per 10 min which is higher than 120.*

12.6.5.3.2 Required results

Confirm that

a) *the EUT transmits position reports Message 18 at a reporting rate that corresponds to the next highest multiple of 20 reports per 10 min,*

b) *the EUT transmits position reports Message 18 at a reporting interval of 5 s.*

2018-03-07	Tester: Me/Zi	Test details: Assigned Mode		
Test item	Check	Remark		Result
Send a Message 16 rate assignment with invalid offset values.				
a) Offset value = 110 (not a multiple of 20) EUT = destination ID A	Check that the reporting rate is 120/10min = 12/min = 5 s .			Passed
b) Offset value = 300 (> 120 messages/10 min) EUT = destination ID B	Check that the reporting interval is 5 s.			Passed

5.6.5.4 12.6.5.4 Slot assignment to FATDMA reserved slots

12.6.5.4.1 Definition

This test checks the operation of Message 16 assignment of slots reserved by Message 20.

12.6.5.4.2 Method of measurement

Set up the standard test environment and operate EUT in autonomous mode. Transmit a Data Link Management message (Message 20) using a base station MMSI to the EUT with slot offset and increment. Transmit an Assigned Mode Command (Message 16) using a base station MMSI to the EUT and command it to use one or more of those FATDMA allocated slots.

Record transmitted messages.

12.6.5.4.3 Required results

Confirm that the EUT uses the slots commanded by Message 16 for own transmissions.

2018-03-08	Tester: Me/Zi	Test details: Slot assignment to FATDMA reserved slots		
Test item	Check		Remark	Result
Apply a Message 4 and 20 from VDL Generator with slot offset and increment for slot reservation: Offset = 23, slots = 5, time-out = 7, incr. = 25. Apply a Message 16 from VDL Generator assigning one or more of these reserved slots: Offset = 25, incr. = 3, (= 225 slots).				
R_x of Message 4	Check that Message 4 has been received by EUT (VDM output).			Passed
R_x of Message 20	Check that Message 20 has been received by EUT (VDM output).			Passed
Slot use	Check that slots assigned by the Message 16 are used by the EUT.			Passed

5.6.6 12.6.6 Group assignment

NOTE In the tests of the following subclauses use a base station MMSI to transmit Message 23 with a geographic region so that the EUT is inside this region, unless mentioned otherwise.

5.6.6.1 12.6.6.1 Entering interval assignment

12.6.6.1.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode with a reporting interval of 15 s (SOG = 15 kn). Perform the following tests after time-out of the previous test.

   a) *Transmit a Group Assignment command (Message 23) to the EUT with a reporting interval of 30 s assigned.*

   b) *Transmit a Group Assignment command (Message 23) to the EUT with a reporting interval of 5 s assigned.*

   c) *Using a non-base station MMSI, transmit a Group Assignment command (Message 23) to the EUT with a reporting interval of 5 s assigned.*

   d) *Transmit a Group Assignment command (Message 23) to the EUT with a reporting interval of 2 s assigned.*

   e) *Transmit a Group Assignment command (Message 23) to the EUT with a reporting interval field setting 9 (next shorter autonomous reporting interval).*

   f) *Transmit a Group Assignment command (Message 23) to the EUT with a reporting interval field setting 10 (next longer autonomous reporting interval).*

Monitor the VDL.

12.6.6.1.2 Required result

Verify that

   a) *EUT enters assigned operation mode and transmits position report Message 18 with 30 s reporting interval. Verify that EUT builds up the assigned transmission scheduled according to the network entry procedure. Verify that unused slots of the previous reporting schedule are released. Verify that the EUT reverts to autonomous mode after a time out of 4 min to 8 min building up the autonomous transmission schedule according to the network entry procedure and releases unused slots from previous schedule.*

   b) *EUT enters assigned operation mode and transmits position report Message 18 with 5 s reporting interval. Verify that EUT builds up the assigned transmission scheduled according to network entry procedure. Verify that unused slots of the previous reporting schedule are released. Verify that the EUT reverts to autonomous mode after a time out of 4 min to 8 min building up the autonomous transmission schedule according to the network entry procedure and releases unused slots from the previous schedule.*

   c) *EUT does not react on Message 23.*

   d) *EUT does not react on Message 23.*

   e) *EUT enters assigned operation mode and transmits position report Message 18 with 5 s reporting interval.*

   f) *EUT enters assigned operation mode and transmits position report Message 18 with 30 s reporting interval.*

2018-03-08	Tester: Me/Zi	Test details: Entering interval assignment		
Test item	Check	Remark		Result
a) Operate the EUT with an autonomous reporting interval of 15 s. Apply a group assignment Message 23 with a reporting interval of 30 s (value 5).				
VDM output	Check VDM output of Message 23.			Passed
Initialisation phase	Check that EUT starts immediately with rescheduling to the new reporting rate.			Passed
Assigned mode flag	Check that Assigned mode flag = 1.			Passed
Reporting rate	Check that the reporting interval = 30 s.			Passed
Alternating channels	Check that position reports are transmitted alternating on channel A and B.			Passed
Slot deallocation	Check that the slot of the autonomous reporting interval are released using time-out = 0 and slot offset = 0.			Passed
Initialisation/ Slot allocation	Check that the slots of the assigned reporting interval are allocated according to the network entry procedure.			Passed
Timeout	Check that the assigned timeout is between 2 and 6 in the next frame.			Passed
End of assigned mode	Check that the EUT reverts to autonomous mode after 4…8 min.			Passed
b) Apply a group assignment message 23 with a reporting interval of 5 s (value 8).				
VDM output	Check VDM output of Message 23.	Re-test: 2018-03-14 Ok		Passed
Initialisation phase	Check that EUT starts immediately with rescheduling to the new reporting rate.			Passed
Assigned mode flag	Check that Assigned mode flag = 1.			Passed
Reporting rate	Check that the reporting interval = 5 s.			Passed
Alternating channels	Check that position reports are transmitted alternating on channel A and B.			Passed
Slot deallocation	Check that the slot of the autonomous reporting interval are released using time-out = 0 and slot offset = 0.			Passed
Initialisation/	Check that the slots of the			Passed

Slot allocation	assigned reporting interval are allocated according to the network entry procedure.		
Timeout	Check that the assigned timeout is between 2 and 6 in the next frame.		Passed
End of assigned mode	Check that the reverts to autonomous mode after 4…8 min.		Passed
c) Apply a group assignment message 23 with a reporting interval of 5 s (value 8) from a non-base station MMSI.			
Mode	Check that the EUT ignores message 23.		Passed
d) Apply a group assignment message 23 with a reporting interval of 2 s (value 11).			
Mode	Check that the EUT ignores message 23.		Passed
e) Apply a group assignment message 23 with reporting interval = next shorter interval (value 9).			
VDM output	Check VDM output of Message 23.	Re-test: 2018-03-14 Ok	Passed
Mode	Check that the EUT enters assigned mode.		Passed
Reporting interval	Check that the reporting interval = 5 s.		Passed
f) Apply a group assignment message 23 with reporting interval = next longer interval (value 10).			
VDM output	Check VDM output of Message 23.	Re-test: 2018-03-14 Ok	Passed
Mode	Check that the EUT enters assigned mode.		Passed
Reporting interval	Check that the reporting interval = 30 s.		Passed

5.6.6.2 12.6.6.2 Assignment by region

12.6.6.2.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode with a reporting interval of 15 s and use a base station MMSI to transmit Message 23.

 a) *Transmit a Group Assignment command (Message 23) to the EUT (define station type 0 and geographic region so that the EUT is inside this region). Set the reporting rate to 5 s and apply message to VDL.*

 b) *Transmit a Group Assignment command (Message 23) to the EUT (define station type 0 and geographic region so that the EUT is outside this region). Set the reporting rate to 5 s and apply message to VDL.*

12.6.6.2.2 Required result

Verify that

 a) *EUT switches to assigned mode and transmits position reports with 5 s interval. Verify that EUT reverts to normal operation mode after timeout period,*

 b) *EUT declines Message 23.*

2018-03-08	Tester: Me/Zi	Test details: Assignment by region		
Test item	Check	Remark		Result
Set up the standard test environment and operate EUT in autonomous mode. Operate the EUT with a reporting interval is 15 seconds (SOG = 15 kn).				
a) Transmit Message 23, EUT inside region (Reporting interval value = 8 = 5s)	Check that Message 23 is received (VDM output).	See 12.6.6.1		Passed
	Check that the EUT enters assigned mode.	See 12.6.6.1		Passed
	Check that the reporting interval is changed to 5 s.	See 12.6.6.1		Passed
	Verify that EUT reverts to normal operation mode after 4... 8 min.	See 12.6.6.1		Passed
EUT outside the addressed region				
Transmit Message 23, EUT outside region (Reporting interval = 5 s)	Verify that EUT declines Message 23. Reporting interval = 15 s.			Passed

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5.6.6.3 12.6.6.3 Assignment by station type

12.6.6.3.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode with a reporting interval of 15 s and transmit Message 23 with a reporting interval of 5 s.

a) *Transmit a Group Assignment command with a station type to 0 (all stations).*

b) *Transmit a Group Assignment command with a station type to 1 (Class A).*

c) *Transmit a Group Assignment command with a station type to 2 (All Class B).*

d) *Transmit a Group Assignment command with a station type to 3 (SAR aircraft).*

e) *Transmit a Group Assignment command with a station type to 4 (Class B SO).*

f) *Transmit a Group Assignment command with a station type to 5 (Class B CS).*

g) *Transmit a Group Assignment command with a station type to 6 (Inland AIS).*

12.6.6.3.2 Required result

Verify that

a) *EUT switches to assigned mode with 5 s reporting interval,*

b) *EUT declines Message 23,*

c) *EUT switches to assigned mode with 5 s reporting interval,*

d) *EUT declines Message 23,*

e) *EUT switches to assigned mode with 5 s reporting interval,*

f) *EUT declines Message 23,*

g) *EUT declines Message 23.*

2018-03-08	Tester: Me/Zi	Test details: Assignment by station type		
Test item	Check		Remark	Result
Set up the standard test environment and operate EUT in autonomous mode. Apply sensor information in that way that reporting interval is 15 s (SOG = 15 kn). Transmit Message 23 with different station types according to the test item, Type of ship and cargo = 0, Reporting interval = 5 s, position of EUT inside the addressing area.				
a) Station type = 0	Check that EUT enters assigned mode.			Passed
	Check reporting interval = 5 s.			Passed
Transmit Message 23 with different station types according to the test item,				
b) Station type = 1 (Class A),	Check that Message 23 is ignored.			Passed
	Check reporting interval = 15 s.			Passed
c) Station type = 2 (all types of Class B mobile stations),	Check that EUT enters assigned mode.			Passed
	Check reporting interval = 5 s.			Passed
d) Station type = 3 (SAR airborne mobile station),	Check that Message 23 is ignored.			Passed
	Check reporting interval = 15 s.			Passed
e) Station type = 4 (Class B SO mobile stations only),	Check that EUT enters assigned mode.			Passed
	Check reporting interval = 5 s.			Passed
f) Station type = 5 (Class B CS mobile stations only),	Check that Message 23 is ignored.			Passed
	Check reporting interval = 15 s.			Passed
g) Station type = 6 (Inland Waterways)	Check that Message 23 is ignored.			Passed
	Check reporting interval = 15 s.			Passed

5.6.6.4 12.6.6.4 Addressing by ship and cargo type

12.6.6.4.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode with a reporting interval of 15 s and use a base station MMSI to transmit Message 23.

a) Transmit a Group Assignment command (Message 23) to the EUT. Set the reporting interval to 5 s and the ship and cargo value to the value which is configured in the EUT.

b) Transmit a Group Assignment command (Message 23) to the EUT. Set the reporting interval to 5 s and the ship and cargo value to a value different to the value which is configured in the EUT.

c) Configure the ship and cargo type of the EUT to 72. Transmit a Group Assignment command (Message 23) to the EUT. Set the reporting interval to 5 s and the ship and cargo type value to 70.

12.6.6.4.2 Required result

Verify that

a) EUT switches to assigned mode and transmits position reports with 5 s reporting interval,

b) EUT declines Message 23,

c) EUT switches to assigned mode and transmits position reports with 5 s reporting interval.

2018-03-08	Tester: Me/Zi	Test details: Addressing by ship and cargo type		
Test item	Check	Remark		Result
Operate EUT in autonomous mode with 15 s reporting interval (SOG = 15 kn). Set EUT to ship and cargo type =36. Set station type of Message 23 = 0, reporting interval = 5s and position of EUT inside the addressing area.				
Transmit Message 23 Ship and cargo type = 36	Check that EUT enters assigned mode.			Passed
	Check reporting interval = 5 s.			Passed
Transmit Message 23 Ship and Cargo type not 36	Check that Message 23 has been received (VDM output).			Passed
	Check that message 23 is ignored and the reporting interval is 15 s.			Passed
Set EUT to ship and cargo type = 72				
Transmit Message 23 Ship and Cargo type = 70	Check that EUT enters assigned mode.			Passed
	Check reporting interval = 5 s.			Passed

5.6.6.5 12.6.6.5 Quiet time command

12.6.6.5.1 Method of measurement

Set up the standard test environment and operate EUT in autonomous mode with 15s reporting interval.

Transmit a Group Assignment message (Message 23) to the EUT with a quiet time command.

Record transmitted messages.

12.6.6.5.2 Required results

Confirm that the EUT continues transmission for one frame to release the allocated slots and then stops transmission. Confirm that the EUT starts transmission after the quiet time according to the network entry procedure. The quiet time period starts with the reception of Message 23.

2018-03-08	Tester: Me/Zi	Test details: Addressing by ship and cargo type		
Test item	Check	Remark		Result
Set up the standard test environment and operate EUT in autonomous mode with 15 s reporting interval (SOG = 15 kn).				
Transmit Message 23 EUT inside area, station type = 0 Quiet time = 8 min	Check that EUT releases all slots with time-out = 0 and Slot offset = 0.			Passed
	Check that the EUT stops transmission after one frame.			Passed
After end of quiet time	Check that the EUT starts transmission after end of quiet time.			Passed
	Check that the EUT starts transmission with a network entry procedure.			Passed

5.6.6.6 12.6.6.6 Reverting from interval assignment

12.6.6.6.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode. Transmit a Group Assignment command (Message 23) to the EUT with a reporting interval of 5 s assigned. Monitor the VDL until at least 1 min after timeout occurred. Repeat 10 times (transmissions of Message 23 shall not be synchronised to the initial transmission schedule of the EUT).

Measure the time T_{rev} between the reception of Message 23 and the first transmission after timeout.

12.6.6.6.2 Required result

Verify that the time out is randomly distributed between 4 min and 8 min.

2018-03-08	Tester: Me/Zi	Test details: Reverting from interval assignment		
Test item	Check	Remark		Result
Set up the standard test environment and operate EUT in autonomous mode with 15 s reporting interval. Repeat the following test 10 times				
Transmit Message 23 EUT inside area, station type = 0 Reporting interval = 5 s	Check that Message 23 has been received. Record R_x time			Passed
	Check that EUT transmits position reports with reporting interval of 5 s.	Observation: Slot-Allocation not random after Msg.23 Re-test: 2018-03-12 Random slot allocation		Passed
End of assigned mode	Check that the slots of the assigned reporting interval are released using time-out = 0 and slot offset = 0			Passed
	Check that the slot of the autonomous reporting interval (15 s) are allocated according to the network entry procedure			Passed
After 10 times group assignment				
Time-out	Check that the time-out time is randomly distributed between 4 and 8 minutes	Re-test: 2018-03-14 Random slot allocation TO measured: 5, 7, 5, 7, 7, 6, 4, 6, 4, 7		Passed

5.6.6.7 12.6.6.7 Assignment priority test – Message 16 and 23

12.6.6.7.1 Purpose

The purpose of this test is to ensure that the EUT selects the correct assignment Message when given both addressed and group assignments.

12.6.6.7.2 Method of Measurement

Set up standard test environment and operate the EUT in autonomous mode.

   a) *Transmit a Message 23, addressed to the EUT, to assign a reporting interval of 15 s. Check that the EUT reporting interval is 15 s. Transmit a Message 16, addressed to the EUT, assigning a reporting interval of 10 s while still assigned by Message 23.*

   b) *Transmit a Message 16, addressed to the EUT, to assign a reporting interval of 15 s. Check that the EUT reporting interval is 15 s. Transmit a Message 23, addressed to the EUT, assigning a reporting interval of 10 s while still assigned by Message 16.*

12.6.6.7.3 Required result

Confirm that:

   a) *the EUT adopts the reporting interval of Message 16;*

   b) *the EUT continues with the reporting interval of Message 16.*

2018-03-08	Tester: Me/Zi	**Test details:** Assignment priority – Message 16 and 23		
Test item	Check	Remark		Result
a) Operate EUT in autonomous mode, reporting interval = 30 s				
Transmit Message 23 with reporting interval = 15 s	Verify that EUT enters assigned mode with 15 s reporting interval.			Passed
During assigned mode: Transmit Message 16 with 10 s reporting interval	Check that EUT changes the reporting interval to 10 s.			Passed
b) Message 23 during Message 16 assignment				
Transmit Message 16 with reporting interval = 15 s	Verify that EUT enters assigned mode with 15 s reporting interval.			Passed
During assigned mode: Transmit Message 23 with 10 s reporting interval	Check that EUT continues with 15 s reporting interval.	Observation: Slot-Allocation not random after Msg.16. Re-test: 2018-03-12 Random slot allocation		Passed

5.6.6.8 12.6.6.8 Assignment priority test – Message 22 and 23

12.6.6.8.1 Purpose

The purpose of this test is to ensure that the EUT selects the correct assignment Message when given group assignments by Messages 22 and 23.

12.6.6.8.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Transmit a Message 22 defining a region with the EUT inside that region Tx/Rx mode = 0.

a) Transmit an Assigned mode command (Message 23) to the EUT with Tx/Rx mode 1.

b) Transmit Message 22 to the EUT with regional settings specifying Tx/Rx mode 2.

c) Transmit an Assigned mode command (Message 23) to the EUT with Tx/Rx mode 1.

d) During assigned mode transmit a Message 22 to the EUT individually addressed and specifying Tx/Rx mode 2.

e) Within 10 min transmit a Message 22 with regional area settings specifying Tx/Rx mode 0.

f) Transmit an Assigned mode command (Message 23) to the EUT with Tx/Rx mode 1 every min for 15 min.

g) After timeout of the last Message 23 transmit a Message 22 with regional settings specifying Tx/Rx mode 0.

Record transmitted messages.

12.6.6.8.3 Required result

The following results are required.

a) Check that Tx/Rx mode = 1. The Tx/Rx mode field setting of Message 23 takes precedence over the Tx/Rx mode field setting of Message 22.

b) Check that Tx/Rx mode = 1. The EUT reverts to the Tx/Rx mode = 2 defined by Message 22 after the timeout of Message 23.

c) Verify that Tx/Rx mode = 1.

d) Check that Tx/Rx mode = 2. The Tx/Rx mode field setting of Message 22 takes precedence over the Tx/Rx mode field setting of Message 23.

e) Check that Tx/Rx mode = 2. The Tx/Rx mode setting of Message 22 are ignored.

f) Check that the Tx/Rx mode remains at 2 min for 10 min after applying Message 22. Check that the Tx/Rx mode is changed to 1 when receiving Message 23 later than 10 min after Message 22. Check that after timeout of the last Message 23 the Tx/Rx mode reverts to 2 according to the individually addressed Message 22.

g) Check that Tx/Rx mode = 0. The Tx/Rx mode setting of Message 22 are accepted.

2018-03-08	Tester: Me/Zi	Test details: Assignment priority – Message 22 and 23		
Test item	Check		Remark	Result
Operate EUT in autonomous mode with 15 s reporting interval. Apply a channel management area with Tx/Rx mode = 0. Test for priority of Message 22 to an area				
a) Transmit Message 23 with Tx/Rx mode = 1.	Verify that Message 23 is received and content is correct.		See doc. 2 page 2 (covered by test report BSH 46162/432/0939)	N/T
	Check that reporting interval is 15 s on channel A (Tx/Rx mode = 1).			N/T
b) Transmit Message 22 with Tx/Rx mode = 2.	Verify that Message 22 is received (ACA output).			N/T
	Check T_x/R_x mode = 1 as defined by Message 23.			N/T
Wait for Assigned mode time-out.	Check that reporting rate = autonomous reporting rate.			N/T
	Check T_x/R_x mode = 2 =mode of Message 22 (T_x on channel B).			N/T
Test for priority of Message 22 individually addressed				
c) Transmit Message 23 with T_x/R_x mode = 1.	Verify that Message 23 is received and content is correct.			N/T
	Confirm that EUT transmit position reports on channel A with 15 s reporting interval (Tx/Rx mode = 1).			N/T
d) Transmit Message 22 individually addressed (MMSI) with T_x/R_x mode = 2.	Verify that Message 22 is received and content is correct.			N/T
	Check T_x/R_x mode = 2 = mode of Message 22 (T_x on channel B).			N/T
e) Within 10 min transmit Message 22 to an area with T_x/R_x mode 0.	Verify that Message 22 is received and content is correct.			N/T
	Check that Tx/Rx mode = 2, the mode of Message 22 is ignored.			N/T
f) Transmit Message 23 with T_x/R_x mode 1 every minute for 15 min.	Verify that Message 23 is received and content is correct.			N/T
	Check that Message 23 is ignored for the first 10 minute.			N/T
	Confirm that EUT changes to Tx/Rx mode 1 after 10 minutes.			N/T
Wait for Assigned mode time-out.	Check that reporting rate = autonomous reporting rate.			N/T
	Check T_x/R_x mode = 2 = mode of Message 22 (T_x on channel B).			N/T

g) Transmit Message 22 to an area with Tx/Rx mode = 0.	Verify that Message 22 is received (ACA output).		N/T
	Check T_x/R_x mode = 0.		N/T

5.6.7 12.6.7 Base station reservations

12.6.7.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode with 5 s reporting interval (SOG = 25 kn). Apply a Message 4 to the VDL using a base station MMSI.

a) *Transmit a Data Link Management message (Message 20) on Channel A from a Base Station within 120 NM to the EUT with slot offset = 5 and increment = 10. Record transmitted messages.*

b) *Repeat the test with a Base Station beyond 120 NM.*

c) *Repeat the test without Base Station Report (Message 4).*

d) *Repeat the test reserving 100 % of the slots.*

e) *Repeat the test with a Base Station within 120 NM and maintain transmission of Message 20. Stop transmission Message 4.*

f) *Repeat test a) using a non-base station MMSI.*

12.6.7.2 Required results

The following results are required.

a) *For the Base Station within 120 NM, confirm that EUT does not use slots allocated by Message 20 for own transmissions until timeout of 4 min to 8 min. Confirm that the EUT does not use the same slots on Channel B.*

b) *For the Base Station beyond 120 NM confirm that the EUT treats the slots as free.*

c) *Confirm that the EUT treats the slots as free.*

d) *Confirm that the EUT stops transmission.*

e) *Confirm that the EUT ignores the slot reservations of a Message 20 which is received after the normal target time-out of Message 4.*

f) *Confirm that the EUT treats the slots as free.*

Test scenario:
Message 20 is transmitted in slot 0 of each frame
Message 20 parameters:
Offset number 1:   25
Number of slots: 5
Time out 1:   7
Increment: 10

FATDMA reservation:
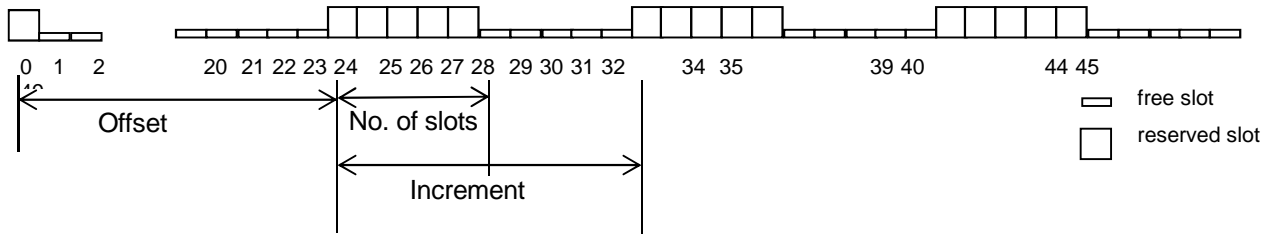
2018-03-08	Tester: Me/Zi	Test details: FATDMA reserved slots		
Test item	Check	Remark		Result
Operate EUT with 5 s reporting interval (SOG = 25 kn) according to the description below.				
a) Transmit base station report Message 4 with distance < 120 NM.	Check that the reserved slots on channel B are not used by the EUT.			Passed
Transmit Message 20 for 5 frames on channel B with slot reservations.	Check that the reserved slots on channel A are not used because of priority rules.			Passed
After time-out of Message 20 of 4…8 minutes.	Check that all slots are used again.			Passed
b) Repeat test with base station distance > 120 NM.	Check that all slots are used.			Passed
c) Repeat test without Message 4.	Check that all slots are used.			Passed
d) Repeat test with 100% slot reservation.	Check that EUT stops transmission.			Passed
e) Transmit Message 4, distance < 120 NM, and Message 20 with slot reservation.	Check that the reserved slots are not used.			Passed
Stop message 4, Continue Message 20.	Check that messages 20 which are received after normal target time-out of Message 4 are ignored and all slots are used.			Passed
f) Repeat test a) using a non-base station MMSI.	Check that the reservation is ignored and all slots are used.			Passed

5.7 12.7 Message formats

5.7.1 12.7.1 Received messages
(See 7.6)

12.7.1.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode. Apply messages according to Table 8 to the VDL including multiple slot messages up to 5 slots. Record messages output by the PI of EUT.

12.7.1.2 Required results

Confirm that EUT outputs corresponding message with correct field contents and format via the PI or responds as appropriate.

For the VDM frame the following items shall be checked:

Field	Value for single sentence	Values for multi sentences
Number of sentences	1	Number of sentences
Check sentence number	1	1, 2, …
Sequential message identifier	Null field	0…9, counting up for each multi sentence group
Channel	A, B	
Fill bits	Depending on message type, in most cases 0	

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2018-03-09	Tester: Me/Zi	Test details: Received messages		
Test item		Check	Remark	Result
Apply all Messages of table 8 to the VDL. Evaluate the VDM output				
Message 1		Check single sentence frame.		Passed
		Check message content.		Passed
Message 2		Check single sentence frame.		Passed
		Check message content.		Passed
Message 3		Check single sentence frame.		Passed
		Check message content.		Passed
Message 4		Check single sentence frame.		Passed
		Check message content.		Passed
Message 5		Check multi (2) sentence frame.		Passed
		Check message content.		Passed
Message 6 Addressed to EUT		Check single sentence frame.		Passed
		Check message content.		Passed
Message 6 Addressed to other station		Check that there is no VDM output.		Passed
Message 7 Addressed to EUT		Check single sentence frame.		Passed
		Check message content.		Passed
Message 7 Addressed to other station		Check that there is no VDM output.		Passed
Message 8		Check single sentence frame.		Passed
		Check message content.		Passed
Message 9		Check single sentence frame.		Passed
		Check message content.		Passed
Message 10		Check that there is no VDM output.		Passed
Message 11		Check single sentence frame.		Passed
		Check message content.		Passed
Message 12 Addressed to EUT		Check single sentence frame.		Passed
		Check message content.		Passed
Message 12 Addressed to other station		Check that there is no VDM output.		Passed

Message 13 Addressed to EUT	Check single sentence frame.		Passed
	Check message content.		Passed
Message 13 Addressed to other station	Check that there is no VDM output.		Passed
Message 14 Single slot	Check single sentence frame.		Passed
	Check message content.		Passed
Message 15 EUT as destination	Check single sentence frame.		Passed
	Check message content.		Passed
Message 15 EUT is not destination	Check that there is no VDM output.		Passed
Message 16 Addressed to EUT	Check single sentence frame.		Passed
	Check message content.		Passed
Message 16 Addressed to other station	Check that there is no VDM output.		Passed
Message 17	Check multi (2) sentence frame.		Passed
	Check message content.		Passed
Message 18	Check single sentence frame.		Passed
	Check message content.		Passed
Message 19	Check single sentence frame.		Passed
	Check message content.		Passed
Message 20	Check single sentence frame.		Passed
	Check message content.		Passed
Message 21	Check single or multi sentence frame.		Passed
	Check message content.		Passed
Message 22 for an area	Check single sentence frame.		Passed
	Check message content.		Passed
Message 22 Addressed to the EUT	Check single sentence frame.		Passed
	Check message content.		Passed
Message 22 Addressed to other station	Check that there is no VDM output.		Passed
Message 23	Check single sentence frame.		Passed
	Check message content.		Passed
Message 24 A	Check single sentence frame.		Passed
	Check message content.		Passed
Message 24 B	Check single sentence frame.		Passed
	Check message content.		Passed
Message 25 Broadcast	Check single sentence frame.		Passed
	Check message content.		Passed
Message 25 Addressed to EUT	Check single sentence frame.		Passed
	Check message content.		Passed
Message 25 Addressed to other station	Check that there is no VDM output.		Passed
Message 26	Check single sentence frame.		Passed

Broadcast	Check message content.		Passed
Message 26 Addressed to EUT	Check single sentence frame.		Passed
	Check message content.		Passed
Message 26 Addressed to other station	Check that there is no VDM output.		Passed
Message 26 Maximum length (1064 bit)	Check multi sentence frame.		Passed
	Check message content.		Passed
Message 27	Check that there is no VDM output.		Passed
Message of undefined type	Check single sentence frame.		Passed
	Check message content.		Passed

5.7.2 12.7.2 Transmitted messages

12.7.2.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode. Initiate the transmission of messages relevant for a mobile station according to Table 8 by the EUT.

Record transmitted messages.

12.7.2.2 Required results

Confirm that EUT transmits messages with correct field contents and format or responses as defined in Table 8.

For the VDM frame the following items shall be checked:

Field	Value for single sentence	Values for multi sentences
Number of sentences	1	Number of sentences
Check sentence number	1	1, 2, …
Sequential message ident.	Null field	0…9, counting up for each multi sentence group
Channel	A, B	
Fill bits	Depending on message type, in most cases 0	

The messages not listed in the following table cannot be transmitted by a Class B SO.

2018-03-09	Tester: Me/Zi	Test details: Transmitted messages		
Test item	Check	Remark	Result	
Apply all Messages of table 8 to the VDL. Evaluate the VDM output				
Message 6	Check single sentence frame.	See test 10.2.2.1	Passed	
Apply ABM sentence	Check message content.		Passed	
Message 7	Check single sentence frame.	See test 10.2.2.3	Passed	
Apply Msg 6 to VDL	Check message content.		Passed	
Message 8	Check single sentence frame.	See test 10.2.2.4	Passed	
Apply BBM sentence	Check message content.		Passed	
Message 13	Check single sentence frame.	See test 10.2.2.3	Passed	
Apply Msg 12 to the VDL	Check message content.		Passed	
Message 18	Check single sentence frame.	See test 10.2.1.1	Passed	
Automatically transmitted	Check message content.		Passed	
Message 19	Check multi (2) sentence frame.	See test 10.2.3	Passed	
Apply Msg 15 interrogation on VDL	Check message content.		Passed	
Message 24 A	Check single sentence frame.	See test 12.6.4	Passed	
Automatically transmitted	Check message content.		Passed	
Message 24 B	Check single sentence frame.	See test 12.6.4	Passed	
Automatically transmitted	Check message content.		Passed	
Message 25 broadcast	Check single sentence frame.	See test 10.2.2.4	Passed	
Apply BBM sentence	Check message content.		Passed	
Message 25 addressed	Check single sentence frame.	See test 10.2.2.1	Passed	
Apply ABM sentence	Check message content.		Passed	
Message 26 broadcast	Check single sentence frame.	See test 10.2.2.4	Passed	
Apply BBM sentence	Check message content.		Passed	
Message 26 addressed	Check single sentence frame.	See test 10.2.2.1	Passed	
Apply ABM sentence	Check message content.		Passed	

6 13 Specific tests of network layer

6.1 13.1 Regional area designation by VDL Message

13.1.1 Purpose

The purpose of this test is to ensure that the EUT transmits on the correct channels when transiting adjacent regional areas.

13.1.2 Method of measurement

Set up the standard test environment.

a) *With no Message 4. Apply channel management messages (Message 22) to the VDL defining two adjacent regional areas, 1 and 2, with different channel assignments for both regions and a transitional zone extending 4 NM either side of the regional boundary,*

b) *With a Base Station within 120 NM transmitting Message 4. Apply the same channel management Messages as in a). Make the EUT approach region 1 from outside region 2 more than 5 NM away from the region boundary, transmitting on default channels. Record transmitted Messages on all 6 channels. This can be accomplished by either using a dedicated test input for simulated position information or a GNSS simulator*
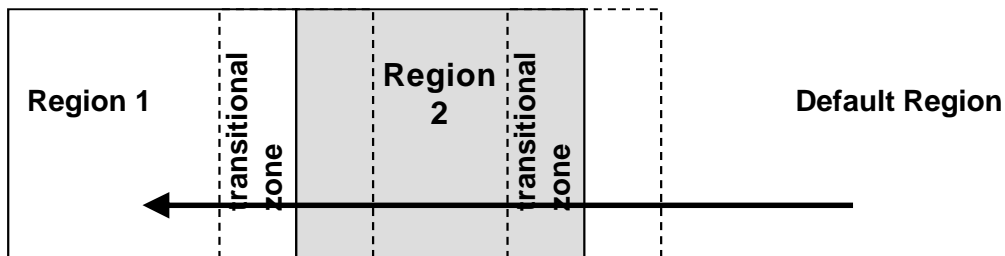
Figure 11 – Regional transitional zones

Table 14 – Regional area scenario

	Primary channel	*Secondary channel*
Region 1	*CH A 1*	*CH B 1*
Region 2	*CH A 2*	*CH B 2*
Default region	*AIS 1*	*AIS 2*

c) *Operate the unit in an area with Tx/Rx mode 1.*

d) *Operate the unit in an area with Tx/Rx mode 2.*

e) *Transmit Message 22 using a non-base station MMSI.*

13.1.3 Required results

The following results are required.

a) *Check that the channel management regions are not stored and not used by the EUT.*

b) *Check that the EUT transmits and receives on the primary channels assigned for each region, alternating channels and halving the reporting interval when passing through the transitional zones (see Table 15). Check that the EUT reverts to default autonomous operation on the regional channels after leaving the transitional zones. Check that TXT and ACA sentences are output when defining the area, crossing the boundary of the area and on request. The In-use flag shall be set to "1" if the position is inside the area which is defined by the two corner points of the area setting (e.g. the grey area defining region 2 in Figure 11).*

Table 15 – Required channels in use

	Area	*Channels in use*
1	*Default region*	*AIS 1, AIS 2*
2	*First transitional zone*	*AIS 1, CH A 2*
3	*Region 2*	*CH A 2, CH B 2*
4	*Second transitional zone*	*CH A 2, CH A 1*
5	*Region 1*	*CH A 1, CH B 1*

c) *Check that the EUT transmits on only channel A with the nominal reporting interval (the number of transmissions doubles on the active channel when transmitting on one channel only).*

d) *Check that the EUT transmits on channel B only with the nominal reporting rate.*

e) *When using a non-base station MMSI, verify that the EUT does not accept the channel management.*

2018-03-12	Tester: Me/Zi	Test details: Check of message 22 acceptance		
Test item	Check	Remark		Result
Transmit message 22 with a new area settings for area 1 and 2				
a) Transmit message 22 from a base station not transmitting message 4	Check that the area setting is not stored			Passed
Transmit message 22 from a base station transmitting message 4, distance > 120 NM	Check that the area setting is not stored			Passed
e) Transmit message 22 from a base station transmitting message 4, distance < 120 NM MMSI of message 4 and 22 is a non-base station MMSI	Check that the area setting is not stored			Passed

Test b) is performed in 2 parts:
- The first part checks the general behaviour including check of ACA and TXT output, check of the borders of area a transitional zone, check of the correct frequency use.

2018-03-12	Tester: Me/Zi	Test details: b) Part 1 - Channel management by VDL message 22		
Test item	Check	Remark		Result
Set up EUT in autonomous mode transmitting on channel AIS 1/AIS 2, apply 2 Messages 22 on the VDL, defining 2 adjacent areas with channels A 1, B 1 and A 2, B 2. *The position is outside of both areas.*				
PI output	Check that the Messages 22 are output as VDM on PI.			Passed
	Check ACA and TXT output on PI when the areas are stored.			Passed
	Check ACA and TXT output on PI on request.			Passed
Item 1: Position in high sea area	Check that channels AIS 1 and AIS 2 are in use.			Passed

Item 2: Move position into outer TZ of region 2	Check the limit of the TZ (5 NM = 8.8 minutes).		Passed
	Check that channels AIS 1 and A 2 are used.		Passed
	Check that reporting rate is doubled.		Passed
Item 3: Move position into inner TZ of region 2 (crossing the area border)	Check ACA and TXT output.		Passed
	ACA: check in use flag of area 2 = 1.		Passed
	ACA: check time of in use flag.		Passed
	Check the border of area.		Passed
Item 4: Move position into region 2 (out of TZ)	Check the limit of the TZ (4 NM = 7 minutes).		Passed
	Check that channels A 2 and B 2 are used.		Passed
	Check that reporting rate is changed back to normal reporting rate.		Passed
Item 5: Move position into TZ between region 1 and 2, inside area 2	Check that channels A 2 and A 1 are used.		Passed
	Check the limit of the TZ (4 NM = 7 minutes).		Passed
	Check that reporting rate is doubled.		Passed
Item 6: Move position into area 1 (inside the TZ) (crossing the area border)	Check ACA and TXT output.		Passed
	Check the border of area.		Passed
Item 7: Move position into region 1 (out of TZ)	Check that channels A 1 and B 1 are used.		Passed
	Check the limit of the TZ (4 NM = 7 minutes).		Passed
	Check that reporting rate is changed back to normal reporting rate.		Passed
Item 8: Move position into TZ of region 1 to high sea	Check that channels A 1 and AIS 1 are used.		Passed
	Check that reporting rate is doubled.		Passed
Item 9: Move position out of area 1 (inside the TZ) (crossing the area border)	Check ACA and TXT output.		Passed
	Check the border of area.		Passed
Move position out of the TZ, into high sea	Check that channels AIS 1 and AIS 2 are used.		Passed
	ACA: check in use flags of area 1 = 0 and time of in use flag.		Passed

| | Check that reporting rate is changed back to normal reporting rate. | | Passed |

- The second part concentrates on the correct slot allocation and usage during a transition from one (high sea) area into another on the different channels.

2018-03-13	Tester: Zi/Me	Test details: b) Part 2 - Channel management by VDL message 22		
Test item	Check	Remark		Result
The same area and movement is used as in test part 1.				
Item 1: In high sea area	Check that channels AIS 1 and AIS 2 are in use.			Passed
Item 2: Move position into transitional area of region 2, first frame after transition	Check that EUT continues T_X on AIS 1 and AIS 2 for 1 frame.			Passed
	Check that EUT releases the slots on AIS 2 by Message 1 with time-out 0 and no slot offset.			Passed
	Check that channels AIS 1 and **A 2** are used for **R_x**.			Passed
Item 3: In outer transitional area of region 2, next frames after transition	Check allocation of additional slots on channel A (AIS 1) using ITDMA CommState			Passed
	Check complete slot allocation on channel B (A 2) using ITDMA CommState.			Passed
	Check that channels AIS 1 and A 2 are used for T_x.			Passed
	Check that channels AIS 1 and A 2 are used for R_x.			Passed
	Check that reporting rate is doubled.			Passed
	Check that messages on AIS 1 are output on PI (VDM/VDO) as channel "A" and A 2 as channel "B".			Passed
Item 4: Move into inner transitional area of region 2, crossing the area border	Check that messages on AIS 1 are output on PI (VDM/VDO) as channel "B" and A 2 as channel "A" (channels reverted).			Passed
	Check that the usage of slots continues			Passed
Item 5: Move position into the area of region 2 (out of TZ), first frame after transition	Check that EUT continues T_X on AIS 1 and A 2 for 1 frame.			Passed
	Check that EUT releases all slots on AIS 1.			Passed
	Check that EUT releases every second slot on channel A 2(for reversion to normal reporting rate).			Passed

	Check		Result
	Check that channels A 2 and **B 2** are used for **R$_x$.**		Passed
Item 6: Inside area of region 2, next frames after transition	Check allocation of slots on channel B (B 2) using ITDMA CommState.		Passed
	Check that channels A 2 and B 2 are used for T$_x$.		Passed
	Check that channels A 2 and B 2 are used for R$_x$.		Passed
	Check that reporting rate is back to normal reporting rate.		Passed
	Check that messages on A 2 are output on PI (VDM/VDO) as channel "A" and B 2 as channel "B".		Passed

2018-03-13	Tester: Zi/Me	Test details: Check of T$_x$/R$_x$-Mode		
Test item	Check	Remark		Result
Transmit message 22 to an area with Tx/Rx mode according to the test item.				
c) Set T$_x$/R$_x$-Mode in Message 22 to 1.	Check that mode is correctly stored.			Passed
	Check that channel A only is used for T$_x$.			Passed
	Check that channels A and B are used for R$_x$.			Passed
	Check that the reporting rate is correct.	15 s		Passed
d) Set T$_x$/R$_x$-Mode in Message 22 to 2.	Check that mode is correctly stored.			Passed
	Check that channel B only is used for T$_x$.			Passed
	Check that channels A and B are used for R$_x$.			Passed

6.2 13.2 Channel management by addressed Message 22

13.2.1 Purpose

The purpose of this test is to ensure that the EUT uses the regional operating settings of an addressed Message 22.

13.2.2 Method of measurement

Set up a standard test environment and operate the EUT in autonomous mode.

a) *Send Message 4 within 120 NM and Message 22 with valid regional operating settings that are different from the default operating settings to the EUT. The regional operating area includes the current position of own station.*

b) *Send an addressed Message 22 to the EUT with regional operating settings different from the previous command.*

c) *Move the EUT out of the regional operating area defined by the previous addressed command and into an area without regional operating settings.*

13.2.3 Required results

Check that

a) *the EUT uses the regional operating settings commanded to it in a),*

b) *the EUT uses the regional operating settings commanded to it in b),*

c) *the EUT reverts to default.*

2018-03-13	Tester: Me	Test details: Test of addressed Message 22		
Test item	Check		Remark	Result
a) Send a valid Message 22, position inside.	Check, that the EUT uses the regional operating settings.		See doc. 2 page 3 (covered by test report BSH 46162/432/0939)	N/T
b) Send an addressed message 22 to the EUT with different regional operating settings.	Check, that the EUT uses the regional operating settings.			N/T
b) Send an addressed Message 22, addressed **as ID 2**, to the EUT with different regional operating settings.	Check, that the EUT uses the regional operating settings.			N/T
c) Move the EUT out of the regional operating area defined by the previous addressed telecommand.	Check, that the EUT reverts to default.			N/T

Note)
The purpose of the 10 minutes protection of an addressed Message 22 is to protect this individual station from being overwritten by a broadcast Message 22 which is normally regularly transmitted every few minutes.

It shall not inhibit an addressed Message 22.

6.3 13.3 Invalid regional operating areas

13.3.1 Purpose

The purpose of this test is to ensure that the EUT rejects invalid regional operating areas (three regional operating areas with same corner).

13.3.2 Method of measurement

Set up standard test environment and operate the EUT in autonomous mode. Perform, after completion of all other tests related to change of regional operating settings, the following.

a) *Send three different valid regional operating settings with adjacent regional operating areas, their corners within 8 NM of each other, to the EUT using Message 22. The current own position of the EUT shall be within the regional operating area of the third regional operating setting.*

b) *Move current own position of the EUT consecutively to the regional operating areas of the first two valid regional operating settings.*

13.3.3 Required test results

Check that:

a) *the EUT uses the operating settings that were in use prior to receiving the third regional operating setting,*

b) *the EUT consecutively uses the regional operating settings of the first two received regional operating areas.*

2018-03-13	Tester: Me	**Test details:** Test for invalid regional operating areas		
Test item	Check		Remark	Result
Msg 22 input				
a) Send three different valid regional with adjacent corners by message 22, Position inside third area.	Check, that the third area is refused and settings are not used.		See doc. 2 page 4 (covered by test report BSH 46162/432/0939)	N/T
b) Move own position to the first 2 areas.	Check, that the EUT uses the operational settings of these areas.			N/T

6.4 13.4 Continuation of autonomous mode reporting interval

13.4.1 Purpose

The purpose of this test is to ensure that the EUT maintains autonomous reporting interval in a transitional zone.

13.4.2 Method of test

When in the presence of an assigned mode command, and in a transition zone, check that the EUT continues to report at the autonomous reporting interval.

13.4.3 Required result

Ensure that the autonomous reporting interval is maintained.

2018-03-13	Tester: Zi/Me	Test details: Continuation of autonomous mode reporting rate		
Test item	Check	Remark		Result
Set the EUT into a transitional zone. Send assignment commands message 16 to the EUT.				
Rate assignment command in a transitional zone.	Check that the rate assignment command is ignored in a transitional zone.			Passed
Slot assignment command in a transitional zone.	Check that the slot assignment command is ignored in a transitional zone.			Passed

6.5 13.5 Slot reuse and FATDMA reservations
(See 7.3.2.4)

13.5.1 Method of measurement

Set up standard test environment and operate EUT in autonomous mode. Assure that at test receiver location the signal level received from EUT exceeds the signal level received from test transmitter.

a) *Transmit test targets on channel A with 50 % channel load. Channel B is free. This test covers Rule 0 and 1.*

b) *Transmit near and distant test targets with 100 % channel load on channel A in all selection intervals which are under observation. Channel B is free. There shall be enough different targets to allow the EUT to meet the requirement to reuse only one slot of each target per frame.*

c) *Transmit near and distant test targets with 100 % channel load on channel B in all selection intervals which are under observation. Channel A is free.*

d) *Transmit Message 4 with a position distance < 120 NM and Message 20 with slot reservations on channel A. Transmit near and distant test targets in the unreserved slots on channel A. Channel B is free.*

13.5.2 Required results

Confirm that

a) *only free slots are used for transmission on channel A, confirm that only slots which are free on channel A are used for transmissions on channel B,*

b) *slots of the most distant test targets are used for transmission on channel A. Check that not more than one slot of a station is reused in a frame,*

c) *for transmission on channel A that the candidate slots on channel A are organized according to the most distance station on channel B,*

d) *only unreserved slots are used on channel A. Confirm that slots of the most distant test targets are used for transmission. Confirm that for transmissions on channel B only slots which are not reserved on channel A are used after the next regular time-out 0.*

2018-03-12	Tester: Me	Test details: Slot reuse		
Test item	Check	Remark		Result
Operate the EUT with 5 s reporting interval. a) Test for using free slots if they are available.				
• Apply 50% VDL load on channel A.	Check that only free slots are used on channel A.			Passed
• Apply 0% VDL load on channel B.	Check that only slots which are free on channel A are used on channel B.			Passed
b) Test for using slots of most distant targets				
• Apply 100% VDL load on channel A.	Check that only the slots of odd numbered targets are used.			Passed
• Apply 0% VDL load on channel B.	Check that the slot of a target is not used twice in a frame.			Passed
c) Test for using slots of most distant targets				
• Apply 0% VDL load on channel A. • Apply 100% VDL load on channel B.	Check that only the slots of odd numbered targets are used on channel A.			Passed
d) Check for slot reservation by message 20 < 120 NM in combination with near and distant targets				
• Apply message 20 with slot reservations on channel A and message 4 with distance < 120 NM. • Transmit near and distant test targets in the unreserved slots on channel A.	Check that only unreserved slots are used on channel A.			Passed
	Check that the most distant targets are reused on channel A.			Passed
	Check that on channel B only slots which are not reserved on channel A are selected at time-out 0.			Passed

6.6 13.6 Long-range application by broadcast

(See 7.8)

6.6.1 13.6.1 Long-range broadcast

Method of measurement

Set up standard test environment, enable the EUT to transmit Message 27 and operate EUT in autonomous mode. Use base stations MMSI to transmit Message 4 and Message 23. Record the transmitted messages from the EUT. The designated long-range channels are defined in 8.3.

a) *Do not apply Message 4 and Message 23.*

b) *Apply the Message 4 with the long range control bit set to 1 and 0. Place the EUT inside the RF footprint (Message 4 receiving area) of a base station.*

c) *Apply the Message 4 with the long range control bit set to 1 and 0. Using the same MMSI as the Message 4, broadcast the Message 23 with station type 10 to define the base station coverage area. Place the EUT inside the RF footprint area, but outside the base station coverage area.*

d) *Apply the Message 4 with the long range control bit set to 1 and 0. Using the same MMSI as the Message 4, broadcast the Message 23 with station type 10 to define the base station coverage area. Place the EUT inside the base station coverage area..*

e) *Repeat the test d) using different MMSIs for Message 4 and Message 23.*

f) *Apply the Message 4 with the long range control bit set to 0. Using the same MMSI as the Message 4, broadcast the Message 23 with station type 10 to define the base station coverage area. Place the EUT inside the base station coverage area. After 6 minutes, remove transmissions of Message 23.*

g) *Apply the Message 4 with the long range control bit set to 0. Using the same MMSI as the Message 4, broadcast the Message 23 with station type 10 to define the base station coverage area. Place the EUT inside the base station coverage area. After 6 min. remove transmissions of Message 4.*

Required results

Check that EUT transmits the appropriate messages, e.g. in addition to the normal transmission of Messages 1 and 5 with adequate reporting interval on AIS 1 and AIS2, confirm that:

a) *EUT transmits Message 27 alternating on the designated long-range channels with 3 min reporting interval.*

b) *Irrespective of the Message 4 long range control bit status, EUT transmits Message 27 alternating on the designated long-range channels with 3 min reporting interval.*

c) *Irrespective of the Message 4 long range control bit status, EUT transmits Message 27 alternating on the designated long-range channels with 3 min reporting interval.*

d) *EUT transmits Message 27 alternating on the designated long-range channels with 3 min reporting interval when the Message 4 long-range control bit is set to 1. EUT stops transmitting Message 27 when the Message 4 long-range control bit is set to 0. Verify fields after station type in received Message 23 are ignored.*

e) *Irrespective of the Message 4 long range control bit status, EUT transmits Message 27 alternating on the designated long-range channels with 3 min reporting interval.*

f) *EUT begins transmission of Message 27 no sooner than 4 minutes and no later than 8 minutes after Message 23 was removed.*

g)   EUT begins transmission of Message 27 beyond 3 minutes after Message 4 was removed.

2018-03-13	Tester: Zi/Me	Test details: Long range broadcast		
Test item	Check	Remark		Result
Set up the standard test environment and operate EUT in autonomous mode. Enable the EUT to transmit Message 27, e.g. by configuring the long range broadcast channels, Message 4 and 23 in the following test steps are transmitted from the same base station MMSI.				
a) no message 4 and message 23	Check that message 27 is transmitted			Passed
	Check Tx channels C and D			Passed
	Check that the transmission is alternating between C and D			Passed
	Check reporting interval = 3 min			Passed
	Check message 27 content			Passed
a) Apply 50% VDL channel load This test has been added to verify that the requirement of ITU-R M.1371-5, Annex 4, section 3.3.2 "Access scheme" for slot selection are fulfilled considering the slot reservation on the AIS channels AIS1 and AIS2.				
Apply the channel load on channel A with message 1	Check that only slots which are free on channel A are used			Passed
Apply the channel load on channel B with message 26	Check that only slots which are free on channel B are used			Passed
b) Apply message 4 only without message 23				
Apply message 4 with long range control bit set to 0	Check that message 27 is transmitted with 3 min interval			Passed
Apply message 4 with long range control bit set to 1	Check that message 27 is transmitted with 3 min interval			Passed
c) Apply message 4 and message 23 with station type 10 (long range coverage area), EUT outside the coverage area				
Apply message 4 with long range control bit set to 0	Check that message 27 is transmitted with 3 min interval			Passed
Apply message 4 with long range control bit set to 1	Check that message 27 is transmitted with 3 min interval			Passed
d) Apply message 4 and message 23 with station type 10 (long range coverage area), EUT inside the coverage area				
Apply message 4 with long range control bit set to 0	Check that EUT stops transmission of message 27			Passed
	Verify that the information (Tx/Rx mode, Reporting interval) of message 23 after station type is ignored			Passed
Apply message 4 with long range control bit set to 1	Check that message 27 is transmitted with 3 min interval			Passed
e) Apply message 23 with station type 10, EUT inside the coverage area, apply message 4 with a different MMSI than message 23				
Apply message 4 with long	Check that message 27 is			Passed

range control bit set to 0	transmitted with 3 min interval		
Apply message 4 with long range control bit set to 1	Check that message 27 is transmitted with 3 min interval		Passed
f) Apply message 4 and message 23 with station type 10 (long range coverage area), EUT inside the coverage area			
Apply message 4 with long range control bit set to 0	Check that message 27 is not transmitted		Passed
Stop messages 23 after 6 minutes	Check that EUT starts transmission of Message 27 after the time-out of message 23 (4... 8 min)		Passed
g) Apply message 23 with station type 10 (long range coverage area), EUT inside the coverage area			
Apply message 4 with long range control bit set to 0	Check that message 27 is not transmitted		Passed
Stop message 4 after 6 minutes	Check that EUT starts transmission of Message 27 later than 3 minutes after end of message 4		Passed

6.6.2 13.6.2 Multiple assignment operation

Method of measurement

Set up standard test environment, enable the EUT to transmit Message 27 and operate EUT in autonomous mode with a reporting interval of 10 s. Use base stations MMSI to transmit Message 4 and Message 23. Record the transmitted messages from the EUT.

a) *Transmit a Group Assignment command (Message 23) to the EUT (define geographic region so that the EUT is inside this region). Set the reporting interval to 2 s and the station type to 0 (all stations).*

b) *Using different MMSIs, apply the Message 4 with long range control bit set to 1 and 0 from multiple base stations partially overlapping their RF footprints. Broadcast the Message 23 from multiple base stations with station type 10 to define the base station coverage areas not overlapping. Place the EUT inside the overlapped RF footprint area.*

c) *Using different MMSIs, apply the Message 4 with long range control bit set to 1 and 0 from multiple base stations partially overlapping RF footprints. Broadcast the Message 23 from multiple base stations with station type 10 to define the base station coverage areas partially overlapping the base station coverage areas. Place the EUT inside the overlapped base station coverage area.*

d) *Using different MMSIs, apply the Message 4 with long range control bit set to 1 and 0 from multiple base stations partially overlapping RF footprints. Broadcast the Message 23 from one base station with station type 10 to define the base station coverage areas. Do not broadcast Message 23 from other base stations. Place the EUT inside the RF footprint area of base station not broadcasting Message 23.*

Required results

Verify that:

a) *EUT switches to assigned mode and transmits position reports with 2 s reporting interval. EUT reverts to autonomous mode after timeout period*

b) *Irrespective of the Message 4 long-range control bit status of both base stations, EUT transmits Message 27 alternating on the designated long-range channels with 3 min reporting interval.*

c) *EUT transmits Message 27.*

d) *Irrespective of the Message 4 long range control bit status of both base stations, EUT transmits Message 27 alternating on the designated long-range channels with 3 min reporting interval.*

2018-03-13	Tester: Zi/Me	Test details: Multiple assignments		
Test item	Check	Remark		Result
Set up the standard test environment and operate EUT in autonomous mode. Enable the EUT to transmit Message 27, e.g. by configuring the long range broadcast channels, SOG = 15 kn, reporting interval = 15 s				
a) Transmit Message 23 EUT inside area, station type = 0, Reporting interval = 5 s	Check that Message 23 is received (VDM output)			Passed
Reporting rate	Check that the reporting interval is changed to 5 s			Passed
Message 23 timeout	Verify that EUT reverts to normal operation mode after 4... 8 min			Passed
b) Apply message 4 and 23 with station type 10 (long range coverage area) from two different base station, the coverage area not overlapping EUT outside the coverage areas				
• Long range control bit of station 1 is set to 0 • Long range control bit of station 2 is set to 1	Check that message 27 is transmitted with 3 min interval	See test 13.6.1 c)		Passed
c) Apply message 4 and 23 with station type 10 (long range coverage area) from two different base station, the coverage areas are overlapping EUT inside the overlapping part of the coverage areas				
• Long range control bit of station 1 is set to 0 • Long range control bit of station 2 is set to 1	Check that message 27 is transmitted with 3 min interval			Passed

d) Apply message 4 and 23 with station type 10 (long range coverage area) from one base station and message 4 from a second base station EUT is outside the message 23 coverage area of base station 1			
• Long range control bit of station 1 is set to 0 • Long range control bit of station 2 is set to 1	Check that message 27 is transmitted with 3 min interval	See test 13.6.1 c)	Passed
• Long range control bit of station 1 is set to 1 • Long range control bit of station 2 is set to 0	Check that message 27 is transmitted with 3 min interval	See test 13.6.1 b)	Passed

6.7 13.6 Other features
(See 4.1.4)

The performance of other features provided shall be self-certified by the manufacturer.

7 Annex D DSC functionality

(normative)

7.1 A.4 DSC functionality tests

7.1.1 A.4.1 General

For the tests in this subclause, set the EUT into assigned mode using channels AIS 1 and AIS 2 with a reporting interval of 10 s.

A.4.2 Method of measurement

Send a sequence of valid calls consisting of:

- *DSC test signal number 2;*

- *DSC test signal number 3;*

- *DSC test signal number 2;*

- *DSC test signal number 4;*

- *DSC test signal number 2.*

A.4.3 Required results

Check that the EUT AIS operation is not affected by the interleaved calls.

2018-03-12	Tester: Me	Test details: Sequence of 5 calls		
Test item	Check		Remark	Result
Activate DSC function. Set reporting interval by rate assignment to 10 s and record VDL.				
Start DSC transmission of test sequence.	Check that the transmission schedule of the AIS position reports is not affected by the transmission of the DSC calls.		See doc. 1 page 1 (covered by test report BSH 46162/432/0939)	N/T

7.1.2 A.4.4 Regional area designation

Perform the following tests using DSC test signal number 2.

Send DSC test signal number 2 to the EUT but with symbol numbers appropriate to the geographical regions and channels specified in the test. Note the transition boundary is 5 NM in this test.

7.1.3 A.4.5 Scheduling

A.4.5.1 General

The purpose of this test is to confirm that the EUT's AIS reporting is not affected during the DSC monitoring times and a response is not transmitted.

A.4.5.2 Method of measurement

Send DSC test signal number 2 to the EUT, with EOS = 127 and another signal with EOS=117 (RQ).

A.4.5.3 Required results

Check that the EUT's AIS reporting is not affected during the DSC monitoring times. Check that the EUT accepts the channel management, but a response is not transmitted in either case of EOS = 127 and 117.

2018-03-12	Tester: Me	**Test details:** Scheduling		
Test item	Check		Remark	Result
Set reporting interval to 15 s and record VDL				
Send DSC call test signal number 2.	Check that the AIS reporting is not affected during the DSC monitoring times.		See doc. 1 page 1 (covered by test report BSH 46162/432/0939)	N/T
	Check that not response is transmitted.			N/T
Send a DSC call with EOS=117 (RQ).	Check that not response is transmitted.			N/T

7.1.4 A.4.6 DSC flag in Message 18

A.4.6.1 General

The purpose of this test is to confirm that the DSC flag is set properly when DSC functionality is available.

A.4.6.2 Method of measurement

Perform the following:

 a) *enable DSC monitoring;*

 b) *disable DSC monitoring.*

A.4.6.3 Required results

Check that

 a) *the DSC flag is set to one,*

 b) *the DSC flag is set to zero.*

2018-03-12	Tester: Me	Test details: DSC flag		
Test item	Check	Remark		Result
Record Message 18 on VDL				
DSC enabled	Check that the DSC flag is set.	See doc. 1 page 1 (covered by test report BSH 46162/432/0939)		N/T
DSC disabled	Check that the DSC flag is not set.			N/T

7.1.5 A.4.7 DSC monitoring time plan

A.4.7.1 General

The purpose of this test is to confirm that DSC commands are received during DSC monitoring times and, if time-sharing is used, are not received outside those times.

A.4.7.2 Method of measurement

Perform the following:

   a) *transmit DSC test signal 2 during monitoring time,*

   b) *transmit DSC test signal 2 outside monitoring time.*

A.4.7.3 Required results

Check that

   a) *the DSC call is received,*

   b) *the DSC call is not received.*

2018-03-12	Tester: Me	Test details: DSC monitoring time plan		
Test item	Check		Remark	Result
Delete all area settings				
Send a DSC area setting outside the monitoring time.	If time-sharing is used: Check that the channels are not changed.		See doc. 1 page 1 (covered by test report BSH 46162/432/0939)	N/T
	If time-sharing is **not** used: Check that the channels are changed according to the area setting.			N/T
Send a DSC area setting inside the monitoring time.	Check that the channels are changed according to the area setting.			N/T

7.1.6 A.4.8 Replacement or erasure of dated or remote regional operating settings

A.4.8.1 Method of measurement

Set up standard test environment. Send a valid regional operating setting to the EUT by Message 22 with the regional operating area including the own position of the EUT. Consecutively send a further seven (7) valid regional operating settings to EUT, using both Message 22 and DSC test signal number 2, with regional operating areas not overlapping to the first and to each other. Perform the following in the order shown:

  a) *send a ninth Message 22 to the EUT with valid regional operating areas not overlapping with the previous eight regional operating areas;*

  b) *Step 1: set own position of EUT into any of the regional operating areas defined by the second to the ninth telecommands sent to the EUT previously;*

   Step 2: send a tenth telecommand to the EUT, with a regional operating area which partly overlaps the regional operating area to which the EUT was set by Step 1 but which does not include the own position of the EUT;

  c) *Step 1: move own position of EUT to a distance of more than 500 NM from all regions defined by previous commands;*

   Step 2: consecutively set own position of EUT to within all regions defined by the previous telecommands.

A.4.8.2 Required results

After the initialisation, the EUT shall operate according to the regional operating settings defined by the first Message 22 sent.

  a) *Check that the most distant area is removed.*

  b) *Step 1: check that the EUT changes its operating settings to those of that region which includes own position of the EUT.*

   Step 2: check that the EUT reverts to the default operating settings.

  NOTE Since the regional operating settings to which the EUT was set in Step 1 are erased due to Step 2, and since there is no other regional operating setting due to their non-overlapping definition, the EUT returns to default.

  c) *Step 1: check that the EUT operates with the default settings.*

   Step 2: check that the EUT operates with the default settings.

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2018-03-12	Tester: Me	Test details: Test of replacement or erasure of dated or remote regional operating settings	
Test item	Check	Remark	Result
Send by DSC and msg 22 • 1 area including own position by MSG 22 (msg: B msg 22 Test 13.3.1 Area 1) • 7 areas not overlapping, not including own position, first 3 by msg 22, last 4 by DSC			
Check active area.	Check that EUT uses the channels of area 1.	See doc. 1 page 1 (covered by test report BSH 46162/432/0939)	N/T
a) Send a 9. msg 22 to the EUT not overlapping the previous areas .	Check that most distant area is deleted.		N/T
b) step 1: Set own position to any of the 7 areas.	Check channels of area 2.		N/T
	Check channels of area 3.		N/T
	Check channels of area 4.		N/T
	Check channels of area 5.		N/T
	Check channels of area 6.		N/T
	Check channels of area 7.		N/T
	Check channels of area 8.		N/T
	Check channels of area 9.		N/T
b) step 2: Send an area 10 by DSC, overlapping the area 2 of step 1 not including own position.	Check that the EUT returns to the default operating settings (the area is deleted).		N/T
c) Step 1: Erasure by distance: Move own position of EUT to a distance of more than 500 miles from all regions defined by previous commands.	Check that the EUT operates with the default settings.		N/T
Step 2: Check of erasure: Set own position of EUT to within all regions defined by the previous telecommands.	Check area 2 = default.		N/T
	Check area 3 = default.		N/T
	Check area 4 = default.		N/T
	Check area 5 = default.		N/T
	Check area 6 = default.		N/T
	Check area 7 = default.		N/T
	Check area 8 = default.		N/T
	Check area 10 = default.		N/T

7.1.7 A.4.9 Test of addressed telecommand

A.4.9.1 Method of measurement

Set up a standard test environment and operate EUT in autonomous mode. Perform the following tests in the following order:

 a) *send a DSC test signal number 2 with valid regional operating settings that are different from the default operating settings, to the EUT with a regional operating area, which contains the current position of own station;*

 b) *send an addressed DSC channel management command to the EUT with different regional operating settings than the previous command;*

 c) *move the EUT out of the regional operating area defined by the previous addressed telecommand into an area without regional operating settings.*

A.4.9.2 Required results

Check that

 a) *the EUT uses the regional operating settings commanded to it in a),*

 b) *the EUT uses the regional operating settings commanded to it in b),*

 c) *the EUT reverts to default.*

2018-03-12	Tester: Me	Test details: Test of addressed telecommand		
Test item	Check	Remark		Result
All areas are erased by the previous test.				
a) Send a DSC call with a new area, position inside.	Check that the EUT uses the regional operating settings.	See doc. 1 page 1 (covered by test report BSH 46162/432/0939)		N/T
b) Send an addressed DSC call to the EUT with different regional operating settings.	Check that the EUT uses the settings of the new message.			N/T
c) Move the position out of the area.	Check that the EUT uses the default channels.			N/T

7.1.8 A.4.10 Invalid regional operating areas

A.4.10.1 General

Test for invalid regional operating areas (three regional operating areas with same corner).

A.4.10.2 Method of measurement

Set up standard test environment and operate EUT in autonomous mode. Perform the following tests in the following order after completion of all other tests related to change of regional operating settings:

  a) *send three different valid regional operating settings with adjacent regional operating areas, their corners within eight miles of each other, to the EUT by DSC test signal number 2. The current own position of the EUT shall be within the regional operating area of the third regional operating setting;*

  b) *move current own position of the EUT consecutively to the regional operating areas of the first two valid regional operating settings.*

A.4.10.3 Required results

Check that

  a) *the EUT uses the operating settings that were in use prior to receiving the third regional operating setting,*

  b) *the EUT consecutively uses the regional operating settings of the first two received regional operating areas.*

2018-03-12	Tester: Me	**Test details:** Test for invalid regional operating areas		
Test item	Check		Remark	Result
a) Send three different valid regional with adjacent corners by DSC area call, Position inside 3rd area.	Check that the default channels are used.		See doc. 1 page 1 (covered by test report BSH 46162/432/0939)	N/T
b) Move own position to the first area.	Check that the EUT uses the operational settings of the first area.			N/T
Move own position to the second area.	Check that the EUT uses the operational settings of the second area.			N/T

Annex A Test equipment

A.1 Test equipment summary

#	description	type	identification
1	VDL Analyser / Generator	AIS Test unit MKII	S/N AA08PN Bund BSH/2012, 7200002112 BSH PC10745 AISLog
2	Target simulator software	Furuno Navintra	BSH PC 14731
3	Presentation Interface Monitor	BSH	BSH PC 10756 BSH VC 13416 SW NewMoni V3.2
4	GMDSS-AIS-Testbox (DSC)	Futronic I/S	200 30 405
5	16 Port Serial Device Server	Moxa NPort 5610 RS232	S/N 756
6	16 Port Serial Device Server	Moxa NPort 5630 RS485/RS422	S/N 9440
7	Active retransmitting GPS antenna	RA - 48	4800199
8	Trimble GPS reference receiver	4000RS, Part number 21000-76	S/N 3428A06700
	Auxiliaries:		
9	True RMS Multimeter DMM 916	Tektronix	S/N 138531
11	Unbalanced Standard Attenuator	Rhode & Schwarz DPR BN 18024/50	BUND KK 11201
12	2 fixed voltage power supply (24 V/10A)	SITOP	BUND 102452, 102453
14	2 adjustable power supplies (30 V/5 A)	PS 405 D	S/N 2737, 2768
15	VDL Analyser	AIS-Parser	Version 3.0

A.1.1 VDL Analyser / Generator

The VDL analyser/generator:
- receives the radio data telegrams transmitted by the AIS under test, slot wise evaluates their radio parameters (field strength, SNR, etc.) and provides a transparent display of the decoded radio data telegrams (VDL messages).
- transmits radio data telegrams which have been entered/edited via a control panel. The AIS under test receives these messages and either passes the received data to it's presentation interface and/or responds as appropriate.
- records all data contained in the received radio telegrams and radio parameters in a data base for offline evaluation and documentation purposes.
- simulates AIS targets by transmitting position reports of virtual targets up to the maximum channel capacity of 100% channel load on both channels (4500 messages / minute). The

data are provided via serial interface to the VDL analyser/ Generator.

The VDL analyser is controlled by a user interface software running on a standard PC. This user interface software composes the transmission messages and decodes and displays the received messages.

A.1.2 Target simulator

The target simulator consists of a standard PC with special AIS Target Simulator software.

For tests of AIS transponders the data of up to 75 moving targets defined in text file in plain language are transferred to the „TS" input of the VDL Analyser/ Generator as VDM sentences and transmitted on the VHF data link (VDL) . Thus the AIS VHF data link is loaded with simulated AIS targets in fixed slots or in slots selected by the VDL Analyser/ Generator.

A.1.3 Presentation Interface Monitor

The Presentation Interface Monitor is a PC software running on four standard PCs.
It is used to
- analyse the AIS high speed input / output
- analyse the AIS long range function
- generate DSC calls for the DSC test box and to display, log and evaluate the received DSC calls from EUT.

For that purpose it includes the functions:
- coding / decoding of NMEA 6-bit data fields
- online AIS message filtering
- online AIS message editing
- load and transmit predefined sequences
- online modification of transmitted sequences

A.1.4 Sensor Data Simulator

The Sensor Data Simulator provides simulated sensor data to the serial sensor data inputs of the EUT. The sensor data are provided in text files to the Sensor Data Simulator which modifies the sensor data sentences e.g. adding the actual UTC time, modify some time-varying data and by adding a checksum.

The Sensor Data Simulator is basically the same software as the Presentation Interface Monitor using a special part of the functionality of the software.

A.1.5 DSC Test box

The DSC test box is a standard GMDSS-AIS Test box used for the survey of ship stations.

For the DSC testing of AIS equipment in includes a software extension that provides a remote control input/output facility
- to transmit DSC calls according to ITU 825-3 generated in an external PC on DSC channel 70 and
- to output received DSC calls from the EUT to the external PC.

Special PC software is used to generate the DSC calls and to display, log and evaluate received DSC calls. It communicates via the serial remote control interface to the DSC Test box.

A.1.6 Serial Interface Server

The Serial Interface Server consists on two Serial Interface boxes which provides 16 serial lines each which can be connected in a flexible way to the EUT and to equipment of the test environment like the DSC Test box.

The Serial Interface Server is connected to the controlling PCs via Ethernet Network.
It includes:
- One interface box with 16 serial lines according to RS-422 and IEC 61162-1/2
- One interface box with 16 serial lines according to RS-232

A.1.7 Laboratory Network

A special laboratory network connects controlling PCs with equipment of the test environment (VDL Generator/ analyser) and with EUT if equipped with an Ethernet interface.

A.1.8 GPS Re-transmitter

All AIS equipment includes a GPS receiver for the exact timing and for getting position and speed information.

To avoid the need to connect all AIS equipment to GPS antennas outside the laboratory a re-transmitting GPS antenna is installed in the lab. It amplifies and radiates a GPS signal in the laboratory which is received by active GPS antenna on the roof.

A.2 Test environment overview

GPS Antenna

GPS Antenna

Roof

GPS Antenna

GPS Tx Antenna

GPS Antenna

EUT
Equipment under test

VDL – VHF Data Link

VDL analyser/ generator

Other AIS transponder

Laboratory Network

Network Switch

RS422

RS

RS 232

Serial Interface Server Moxa
N_port server

DSC- Test box

PC with Presentation Int VDL

PC with Target-Simulator

PC with User interface of VDL analyser/generator

PC with Presentation Interface Monitor

BSH Network for exchange evaluation data

Annex B Test sentences

B.1 IEC 61162 Test Sentences

Many of the test sentences are modified manually during the test according to the requirements of the actual test items.

Mainly the MMSI in all addressed sentences are adapted to the actual MMSI of the EUT or of the unit the EUT communicates with.

In addition the files containing these sentences contain also some control information used by the monitor program like:

<UTC>	is replaced by the actual UTC time at time of output
<WAIT EVENT>	waiting for user action before next output
<WAIT xxxx>	waiting xxx ms before next output

This control information is not shown in the following sentence examples because it is not sent to the EUT.

B.1.1 Messages (ABM, BBM)

The addressed messages include a MMSI number which is changed according to the actual MMSI number of the EUT

Messages (ABM, BBM)	
File name	Description
Sentences	
AIABM_bin.sst	Standard addressed binary message
!AIABM,1,1,2,211001028,1,6,07i@E=@,2	
AIABM_safety.sst	Standard addressed safety related message
!AIABM,1,1,2,211001028,1,12,D5CD,0	
AIABM_4_bin.sst	Set of 4 addressed binary messages
!AIABM,1,1,3,211001028,1,6,07i@E=B34,2	
!AIABM,1,1,0,211001028,2,6,07i@E=B38,2	
!AIABM,1,1,1,211001028,1,6,07i@E=B3<,2	
!AIABM,1,1,2,211001028,2,6,07i@E=B3@,2	
AIBBM_bin.sst	Standard binary broadcast message
!AIBBM,1,1,6,1,8,07i@E=@,2	
AIBBM_safety.sst	Standard safety related broadcast message
!AIBBM,1,1,6,1,14,D5CD,0	

AIABM_BBM_msg25_26.sst	Collecton of addressed and broadcast message 25/26
`<WAIT_EVENT>` `!AIABM,1,1,0,211001028,1,70,upGd45L22B2J2B2H,0` `<WAIT,10000>` `!AIABM,1,1,1,211001028,2,25,upGd45L22B2J2B2H,0` `<WAIT,10000>` `!AIABM,1,1,2,211001028,1,71,ur3d45L0h`S0,0` `<WAIT,10000>` `!AIABM,1,1,3,211001028,2,26,ur3d45L0h`S0,0` `<WAIT,10000>` `!AIBBM,1,1,4,1,70,up?d45L2N`UKPFl>o8?`00,4` `<WAIT,5000>` `!AIBBM,1,1,5,2,25,up?d45L2N`UKPFl>o8?`00,4` `<WAIT,5000>` `!AIBBM,1,1,6,1,71,upkd45L1E9PR200JGP,4` `<WAIT,5000>` `!AIBBM,1,1,7,2,26,upkd45L1E9PR200JGP,4`	
AIBBM_multi_bin_3_slot.sst	Long 3 slot binary broadcast message

`!AIBBM,3,1,6,2,8,07i@4567890123456789012345678901234567890123456789,0`
`!AIBBM,3,2,6,2,8,01234567890123456789012345678901234567890123456789,0`
`!AIBBM,3,3,6,2,8,01234567890,2`	

Annex C Test Diagrams

C.1   10.2.2   Single message

(g) Re-test:

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest.ID	DAC	FI	Comm F		Comm State		
26	0	211000001	1	0	211001028			1	0	4617	4	0

O^E;AAW@ $ &

(h) Re-test:

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest.ID	DAC	FI	Comm F		Comm State		
26	0	211000001	1	1	211001028	247	33	1	0	4617	4	0

^0PU0HIHI(

C.2   10.2.2.4   Transmit a broadcast binary Message 8

(d) Re-test:

```
NEW MONITOR   V3.2   TCL 8.5

Port1  Port2  Interface  AIS Port 1  AIS Port 2      AIS        Radar Port1  Radar Port2  Radar LAN  Alive        About

Port1 Transmit & Receive  COM 25  38400 Baud    R/S  Halt  Cls    Load  Edit  Once  Delay

$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
\5AA6820B,0296,999*13\!AIVDO,1,1,,A,B39>Jh@0UP;MsLWalo;L;wSPj01A,0*6B
\5AA6820C,0301,999*1D\!AIVDO,1,1,,A,I39>Jh@oQNh@Eh8989`989P,0*46
$AIABK,,,A,70,0,3*29
$GPRMC,133508,A,5330.1234,N,01001.2345,E,15,352.2,120318,2.0,E,A,S*4E
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
$GPRMC,133509,A,5330.1234,N,01001.2345,E,15,352.2,120318,2.0,E,A,S*4F
$HEHDT,359.9,T*29
```

(e) Re-test:

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest ID	DAC	FI
25	0	211000001	0	1		222	5

;AAW@ $ & $ &

(g) Re-test:

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest.ID	DAC	FI	Comm F		Comm State		
26	0	211000001	0	1		222	5	0	0	0	0	0

;AAW@ $ & $ &@@
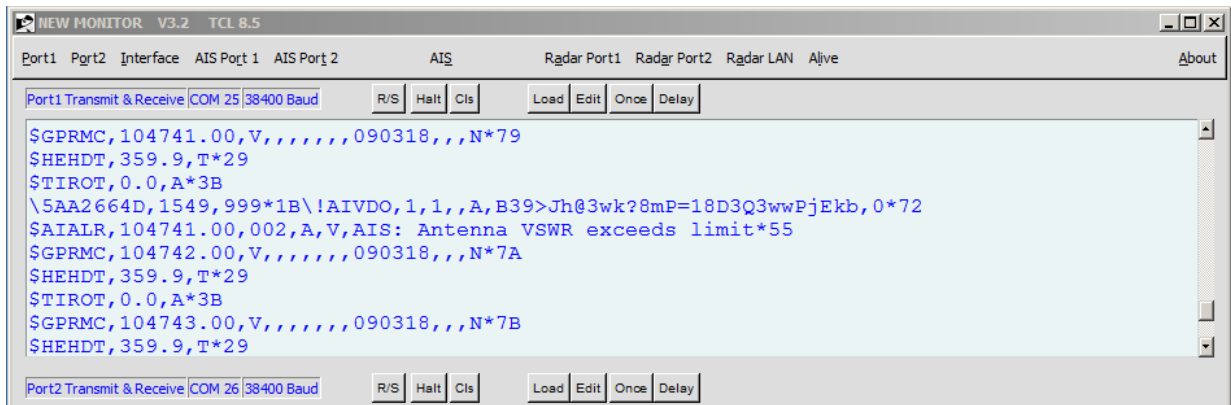
C.3   10.5.1   Information content

Re-test:

M ID	RI	User ID	Rgl App	SOG	PA	Longitude	Latitude	COG	T Head	TS	Rgl App	B-Unit	B-MKD	B-DSC	B-Band	B-MSG22	Mode	RAIM	Comm F		Comm State
18	0	211000001	0	15.0	0	10°01.2345 E	53°30.1234 N	352.2	511	22	0	0	0	0	1	1	0	0	0	0	2244

C.4   10.7.2   Transceiver protection
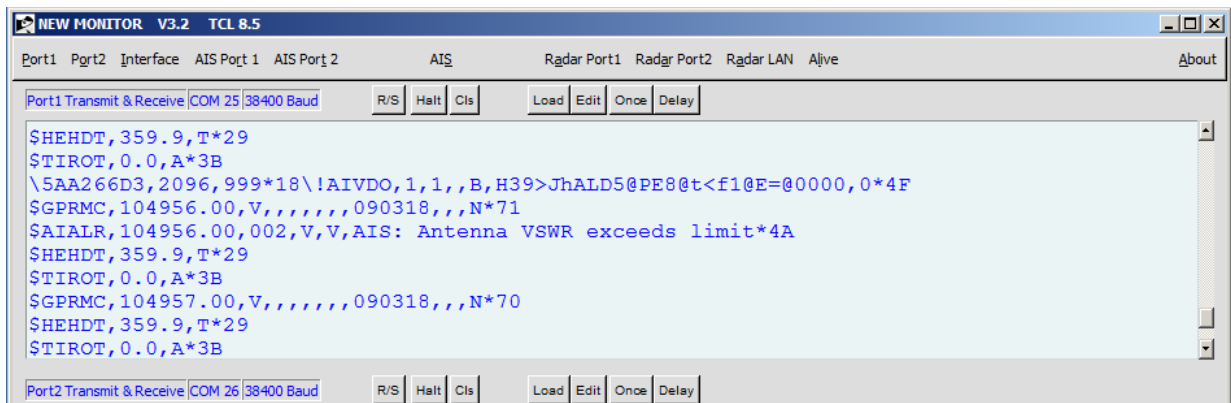
a)

```
$GPRMC,104741.00,V,,,,,,,090318,,,N*79
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
\5AA2664D,1549,999*1B\!AIVDO,1,1,,A,B39>Jh@3wk?8mP=18D3Q3wwPjEkb,0*72
$AIALR,104741.00,002,A,V,AIS: Antenna VSWR exceeds limit*55
$GPRMC,104742.00,V,,,,,,,090318,,,N*7A
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
$GPRMC,104743.00,V,,,,,,,090318,,,N*7B
$HEHDT,359.9,T*29
```

(recover from open circuit)
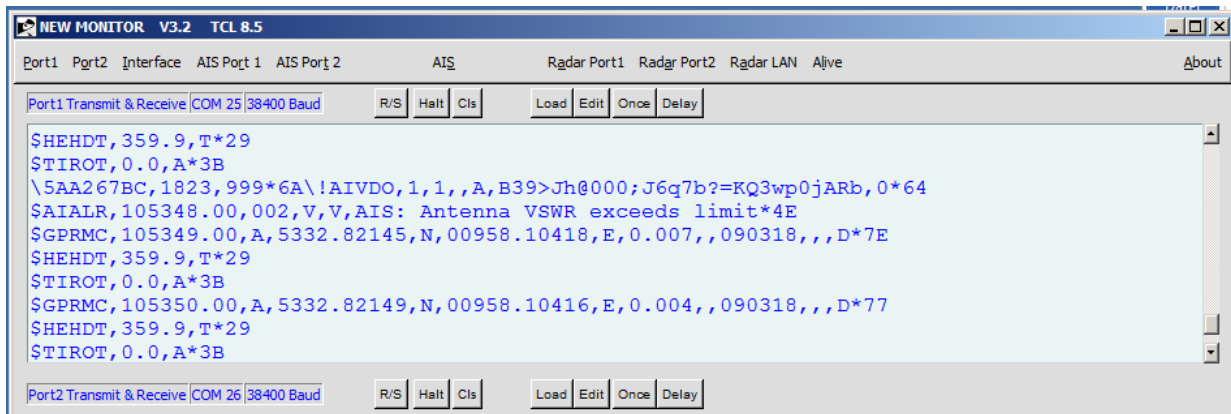
```
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
\5AA266D3,2096,999*18\!AIVDO,1,1,,B,H39>JhALD5@PE8@t<f1@E=@0000,0*4F
$GPRMC,104956.00,V,,,,,,,090318,,,N*71
$AIALR,104956.00,002,V,V,AIS: Antenna VSWR exceeds limit*4A
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
$GPRMC,104957.00,V,,,,,,,090318,,,N*70
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
```

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BSH

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SEESCHIFFFAHRT
UND
HYDROGRAPHIE

b)

```
NEW MONITOR  V3.2   TCL 8.5                                                    _ □ ×

Port1  Port2  Interface  AIS Port 1  AIS Port 2        AIS        Radar Port1  Radar Port2  Radar LAN  Alive        About

Port1 Transmit & Receive COM 25 38400 Baud    R/S  Halt  Cls    Load  Edit  Once  Delay

$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
$AIALR,105040.00,002,A,V,AIS: Antenna VSWR exceeds limit*52
$AIALR,100154.00,007,A,V,AIS: UTC sync invalid*01
$AIALR,100154.00,009,A,V,AIS: internal/external GNSS position mismatch*3A
$GPRMC,105148.00,V,,,,,,,090318,,,N*77
$AIALR,100154.00,029,A,V,AIS: no valid SOG information*59
$AIALR,100154.00,030,A,V,AIS: no valid COG information*41
$AIALR,103153.00,026,A,V,AIS: No GPS since 30 min*4C
$HEHDT,359.9,T*29

Port2 Transmit & Receive COM 26 38400 Baud    R/S  Halt  Cls    Load  Edit  Once  Delay
```

c)

```
NEW MONITOR  V3.2   TCL 8.5                                                    _ □ ×

Port1  Port2  Interface  AIS Port 1  AIS Port 2        AIS        Radar Port1  Radar Port2  Radar LAN  Alive        About

Port1 Transmit & Receive COM 25 38400 Baud    R/S  Halt  Cls    Load  Edit  Once  Delay

$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
\5AA267BC,1823,999*6A\!AIVDO,1,1,,A,B39>Jh@000;J6q7b?=KQ3wp0jARb,0*64
$AIALR,105348.00,002,V,V,AIS: Antenna VSWR exceeds limit*4E
$GPRMC,105349.00,A,5332.82145,N,00958.10418,E,0.007,,090318,,,D*7E
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
$GPRMC,105350.00,A,5332.82149,N,00958.10416,E,0.004,,090318,,,D*77
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B

Port2 Transmit & Receive COM 26 38400 Baud    R/S  Halt  Cls    Load  Edit  Once  Delay
```

C.5   12.1.1 Synchronisation test using UTC direct and indirect

(b)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
508	10:42:39	2	1505	1 >>	211000007		0	6	1505	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	39		
509	10:42:48	2	1835	18	211000007	+0326	1	6	1835	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-73	-0150
510	10:42:50	1	1890	1 >>	211000007		0	7	R:0	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	50		
511	10:43:01	2	0053	1 >>	211000007		0	3	R:0	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	1		
512	10:43:03	1	0140	18	211000007	+0326	1	0	2236	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-66	-0125
513	10:43:10	1	0387	1 >>	211000007		0	7	R:0	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	10		

(c)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
548	10:46:22	2	0844	4 >>	002110005		0	0	800	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
549	10:46:32	1	1231	4 >>	002110005		0	0	795	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
550	10:46:32	1	1224	18	211000001	+0326	1	1	10:45	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-66	-0100
551	10:46:43	2	1644	4 >>	002110005		0	0	737	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
552	10:46:48	2	1835	18	211000001	+0326	1	2	1835	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-75	-0125
553	10:46:53	1	2026	4 >>	002110005		0	0	746	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
554	10:47:03	2	0131	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
555	10:47:03	1	0126	18	211000001	+0326	1	3	R:2	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-67	-0125

(d)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
565	10:48:03	1	0120	18	211000001	+0326	1	2	120	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-66	-0125
566	10:48:17	2	0656	18	211000001	+0326	1	2	656	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	17	-74	-0150
567	10:48:34	1	1309	18	211000001	+0326	1	6	1309	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-67	-0125
569	10:48:47	1	1790	18 >>	211001819		0	0	0	53° 31,0000 N	009° 58,0000 E	320	800	85	Crc Ok	3		
570	10:48:48	2	1835	18	211000001	+0326	1	0	2212	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-73	-0125
571	10:49:03	1	0126	18	211000001	+0326	1	1	10:47	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-67	-0125
572	10:49:17	2	0656	18	211000001	+0326	1	1	10:47	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-74	-0325
574	10:49:30	1	1139	18 >>	211001819		0	0	0	53° 31,0000 N	009° 58,0000 E	320	800	85	Crc Ok	3		
575	10:49:34	1	1309	18	211000001	+0326	1	5	R:3	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-66	-0150

C.6   12.1.2   Synchronisation test without UTC, EUT receiving semaphore

(a)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
597	10:54:34	1	1309	18	211000001	+0323	1	0	2195	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-66	-0125
599	10:54:49	1	1850	3 >>	211000007		3	n0-k1	i:780	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	49		
600	10:54:50	2	1875	18	211000001	+0326	3	6	1875	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-74	-0125
601	10:54:58	2	2212	3 >>	211000007		3	n0-k1	i:759	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	58		
602	10:55:05	1	0191	18	211000001	+0323	3	0	2259	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-67	-0125
603	10:55:09	1	0380	3 >>	211000007		3	n0-k1	i:717	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	9		
604	10:55:18	2	0721	3 >>	211000007		3	n0-k1	i:802	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	18		
605	10:55:19	2	0737	18	211000001	+0326	3	0	2239	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-74	-0350
606	10:55:28	1	1097	3 >>	211000007		3	n0-k1	i:753	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	28		
607	10:55:33	1	1254	18	211000001	+0323	3	3	R:2	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-67	-0150
608	10:55:40	2	1523	1 >>	211000007		3	6	1523	53° 33,8200 N	009° 58,1017 E	110	1700	175	Crc Ok	40		

(b)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
625	10:57:19	2	0726	18	211000001	+0326	3	4	726	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-73	-0350
627	10:57:33	1	1254	18	211000001	+0323	3	1	10:55	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-66	-0100
628	10:57:50	2	1875	18	211000001	+0326	3	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-74	-0350
630	10:57:57	2	2167	24	211000001	+0326	--	--	--	----	----	--	--	--	Crc Ok	0	-74	-0325
631	10:58:05	1	0200	18	211000001	+0323	3	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-67	-0125
632	10:58:11	1	0456	4 >>	002110005		1	0	749	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
635	10:58:19	2	0726	18	211000001	+0323	3	n0-k1	i:14	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-73	-0150
636	10:58:19	2	0740	24	211000001	+0326	--	--	--	----	----	--	--	--	Crc Ok	0	-73	-0150
637	10:58:21	2	0815	4 >>	002110005		1	0	810	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
638	10:58:31	1	1205	4 >>	002110005		1	0	731	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
639	10:58:33	1	1254	18	211000001	+0323	2	0	2248	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-67	-0125

c)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
714	11:07:03	2	0129	4 >>	002110005		1	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
715	11:07:12	1	0470	4 >>	002110005		1	0	2229	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
716	11:07:15	1	0598	18	211000001	+0344	0	n0-k1	i:1135	53° 32,8187 N	009° 58,1019 E	0	3600	511	Crc Ok	15	-67	-0125
717	11:07:22	2	0864	4 >>	002110005		1	0	2208	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
718	11:07:30	2	1141	18	211000001	+0344	0	n0-k1	i:1106	53° 32,8181 N	009° 58,1034 E	0	3600	511	Crc Ok	30	-73	-0350
719	11:07:32	1	1242	4 >>	002110005		1	4	1242	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
720	11:07:42	2	1622	4 >>	002110005		1	7	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
721	11:07:46	1	1733	18	211000001	+0344	0	n0-k1	i:0	53° 32,8172 N	009° 58,1039 E	0	3600	511	Crc Ok	46	-66	-0125
722	11:07:52	1	1996	4 >>	002110005		1	2	1996	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
723	11:07:59	2	2247	18	211000001	+0341	0	n0-k1	i:0	53° 32,8173 N	009° 58,1031 E	0	3600	511	Crc Ok	59	-74	-0325
724	11:08:03	2	0129	4 >>	002110005		1	2	129	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		

C.7 12.2 Time division (frame format)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
769	11:14:24	1	0923	18	211000001	+0339	0	n5-k1	i:14366	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	23	-66	-0100
770	11:14:29	2	1101	18	211000001	+0344	0	4	1101	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	28	-73	-0125
771	11:14:34	1	1298	18	211000001	+0341	0	4	1298	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	33	-66	-0125
772	11:14:40	2	1501	18	211000001	+0339	0	5	R:1	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	39	-73	-0125
773	11:14:45	1	1693	18	211000001	+0341	0	6	1693	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	44	-66	-0125
774	11:14:47	2	1775	24	211000001	+0341	--	--	--	--	----	--	--	--	Crc Ok	0	-74	-0150
775	11:14:49	2	1859	18	211000001	+0341	0	n0-k1	i:49	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	49	-74	-0125
776	11:14:50	2	1908	24	211000001	+0339	--	--	--	--	----	--	--	--	Crc Ok	0	-74	-0125
777	11:14:54	1	2048	18	211000001	+0341	0	4	2048	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	54	-66	-0125
778	11:14:59	2	2244	18	211000001	+0344	0	4	2244	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	59	-73	-0125
779	11:15:05	1	0191	18	211000001	+0341	0	3	R:1	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	4	-66	-0125

C.8 12.6.1 Network entry

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1294	13:07:00	2	0006	18	211000001	+0344	0	0	0	53° 30,1234 N	010° 01,2345 E	0	3522	511	Crc Ok	59	-74	-0325
1295	13:07:05	1	0208	18	211000001	+0344	0	0	0	53° 30,1234 N	010° 01,2345 E	0	3522	511	Crc Ok	5	-67	-0100
1296	13:09:10	1	0404	18	211000001	+0344	0	n0-k1	i:373	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	9	-66	-0125
1297	13:09:15	2	0576	18	211000001	+0344	0	n0-k1	i:379	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	14	-74	-0300
1298	13:09:20	1	0777	18	211000001	+0344	0	n0-k1	i:375	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	19	-67	-0125
1299	13:09:25	2	0955	18	211000001	+0344	0	n0-k1	i:373	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	24	-74	-0325
1300	13:09:30	1	1152	18	211000001	+0344	0	n0-k1	i:369	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	29	-66	-0100
1301	13:09:35	2	1328	18	211000001	+0344	0	n0-k1	i:394	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	34	-74	-0300
1302	13:09:40	1	1521	18	211000001	+0341	0	n0-k1	i:365	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	39	-66	-0125
1303	13:09:45	2	1722	18	211000001	+0344	0	n0-k1	i:372	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	45	-73	-0325
1304	13:09:50	1	1886	18	211000001	+0344	0	n0-k1	i:404	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	50	-67	-0100
1305	13:09:55	2	2094	18	211000001	+0344	0	n0-k1	i:389	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	55	-66	-0350
1306	13:10:01	1	0040	18	211000001	+0344	0	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	0	-66	-0100
1307	13:10:06	2	0233	18	211000001	+0344	0	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	5	-74	-0150
1308	13:10:10	1	0404	18	211000001	+0341	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	10	-67	-0100
1309	13:10:15	2	0576	18	211000001	+0344	0	n5-k1	i:14421	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	14	-73	-0150
1310	13:10:20	1	0777	18	211000001	+0344	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	20	-66	-0125
1311	13:10:25	2	0955	18	211000001	+0344	0	4	955	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	25	-73	-0150
1312	13:10:30	1	1152	18	211000001	+0346	0	4	1152	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	30	-66	-0125
1313	13:10:35	2	1328	18	211000001	+0346	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	34	-73	-0125
1314	13:10:39	1	1480	24	211000001	+0344	--	--	--	--	----	--	--	--	Crc Ok	0	-66	-0100
1315	13:10:40	1	1521	18	211000001	+0344	0	n0-k1	i:104	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	40	-66	-0125
1316	13:10:43	1	1625	24	211000001	+0344	--	--	--	--	----	--	--	--	Crc Ok	0	-67	-0100
1317	13:10:45	2	1722	18	211000001	+0344	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	45	-74	-0175
1318	13:10:50	1	1886	18	211000001	+0344	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	49	-66	-0100
1319	13:10:55	2	2094	18	211000001	+0344	0	5	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	55	-73	-0125
1320	13:11:01	1	0040	18	211000001	+0346	0	6	40	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	0	-67	-0100
1321	13:11:06	2	0233	18	211000001	+0344	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	5	-74	-0325
1322	13:11:10	1	0404	18	211000001	+0344	0	2	404	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	10	-67	-0075
1323	13:11:15	2	0576	18	211000001	+0344	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	14	-74	-0325
1324	13:11:20	1	0777	18	211000001	+0344	0	2	777	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	19	-67	-0050
1325	13:11:25	2	0955	18	211000001	+0344	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	24	-74	-0325
1326	13:11:30	1	1152	18	211000001	+0344	0	3	R:0	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	29	-67	-0100
1327	13:11:35	2	1328	18	211000001	+0344	0	2	1328	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	34	-74	-0325

C.8.1 12.6.6 Group assignment
C.8.1.1 12.6.6.1 Entering group assignment

b)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
343	08:20:35	1	1320	18	211000001	+0326	1	4	1320	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-66	-0150
344	08:20:43	1	1638	4 >>	002110005		0	0	772	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
345	08:20:52	2	1986	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-74	-0350
346	08:20:54	2	2067	4 >>	002110005		0	0	715	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
347	08:21:03	1	0160	4 >>	002110005		0	0	785	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
348	08:21:07	1	0288	18	211000001	+0331	1	1	08:20	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-66	-0150
349	08:21:13	2	0532	4 >>	002110005		0	0	776	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
350	08:21:20	2	0753	18	211000001	+0328	1	2	753	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-74	-0150
351	08:21:22	1	0835	24	211000001	+0331	--	--	--	----		----	--	--	--	Crc Ok	0	-67	-0125
352	08:21:24	1	0945	4 >>	002110005		0	0	693	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
355	08:21:27	1	1050	23 >>	002110005		--	--	--	----		----	--	--	--	Crc Ok	0		
357	08:21:30	1	1149	18	211000001	+0328	1	n0-k1	i:367	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-67	-0150
358	08:21:35	1	1320	18	211000001	+0328	1	n0-k0	i:108	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-66	-0150
359	08:21:35	2	1325	18	211000001	+0331	1	n0-k1	i:365	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-74	-0150
360	08:21:38	1	1428	24	211000001	+0328	--	--	--	----		----	--	--	--	Crc Ok	0	-66	-0125
361	08:21:40	1	1516	18	211000001	+0328	1	n0-k1	i:371	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-67	-0125
362	08:21:45	2	1690	18	211000001	+0331	1	n0-k1	i:390	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-74	-0150
363	08:21:50	1	1887	18	211000001	+0331	1	n0-k1	i:400	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-66	-0125
364	08:21:53	2	1986	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-74	-0125
365	08:21:55	2	2080	18	211000001	+0328	1	n0-k1	i:394	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	54	-74	-0125
366	08:22:01	1	0037	18	211000001	+0328	1	n0-k1	i:360	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-66	-0150
367	08:22:06	2	0224	18	211000001	+0333	1	n0-k1	i:349	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-74	-0350
368	08:22:07	1	0288	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-67	-0150
369	08:22:10	1	0397	18	211000001	+0328	1	n0-k1	i:374	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-66	-0125
370	08:22:15	2	0573	18	211000001	+0331	1	n0-k1	i:372	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-73	-0350
371	08:22:20	2	0753	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-73	-0350
372	08:22:20	1	0771	18	211000001	+0331	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-67	-0150
373	08:22:25	2	0945	18	211000001	+0331	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-73	-0325
374	08:22:30	1	1149	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-66	-0150
375	08:22:35	2	1325	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-73	-0350
376	08:22:40	1	1516	18	211000001	+0323	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-67	-0175
377	08:22:45	2	1690	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-74	-0350
378	08:22:50	1	1887	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-66	-0125
379	08:22:55	2	2080	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	54	-74	-0325
380	08:23:01	1	0037	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-66	-0150
381	08:23:06	2	0224	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-74	-0125
382	08:23:10	1	0397	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-66	-0125
383	08:23:15	2	0573	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-73	-0150
384	08:23:20	1	0771	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-67	-0150
385	08:23:25	2	0945	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-73	-0150
386	08:23:30	1	1149	18	211000001	+0331	1	4	1149	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-66	-0125

c)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
45989	07:37:10	1	0382	18	211000001	+0240	2	4	382	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-67	-0125
45990	07:37:21	1	0802	4 >>	211222555		1	0	778	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
45991	07:37:26	2	1006	18	211000001	+0240	2	1	07:37	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-74	-0325
45992	07:37:32	2	1247	4 >>	211222555		1	0	695	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
45994	07:37:41	1	1580	4 >>	211222555		1	0	749	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
45995	07:37:41	1	1569	18	211000001	+0240	2	1	07:37	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	41	-67	-0150
45996	07:37:43	1	1654	23 >>	211555222		--	--	--	----		----	--	--	--	Crc Ok	0		
45999	07:37:56	2	2131	18	211000001	+0240	2	0	2232	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-73	-0350
46000	07:38:10	1	0382	18	211000001	+0242	2	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-67	+0050
46001	07:38:26	2	1006	18	211000001	+0240	2	0	2227	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-73	-0150
46002	07:38:41	1	1569	18	211000001	+0240	2	0	2179	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	41	-67	+0025
46003	07:38:56	2	2113	18	211000001	+0234	2	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-73	-0175
46004	07:39:10	1	0382	18	211000001	+0240	2	2	382	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-67	-0150
46005	07:39:26	2	0983	18	211000001	+0242	2	4	983	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-74	-0350
46006	07:39:39	1	1498	18	211000001	+0242	2	n5-k1	i:15681	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-66	-0175
46007	07:39:56	2	2113	18	211000001	+0240	2	4	2113	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-74	-0350
46008	07:40:10	1	0382	18	211000001	+0240	2	1	07:40	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-66	-0150
46009	07:40:26	2	0983	18	211000001	+0242	2	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-74	-0125
46010	07:40:39	1	1498	18	211000001	+0240	2	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-66	-0150
46011	07:40:40	2	1525	24	211000001	+0240	--	--	--	----		----	--	--	--	Crc Ok	0	-75	-0150
46012	07:40:56	2	2113	18	211000001	+0240	2	n0-k1	i:108	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-74	-0150

d)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
46017	07:41:39	1	1498	18	211000001	+0242	2	2	1498	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-67	-0150
46018	07:41:41	1	1577	4 >>	002110005		0	0	713	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
46020	07:41:43	1	1641	23 >>	002110005		--	--	--	----	----	--	--	--	Crc Ok	0		
46023	07:41:56	2	2113	18	211000001	+0328	1	2	2113	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-73	-0325
46024	07:42:10	1	0393	18	211000001	+0328	1	6	393	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-67	-0125
46025	07:42:26	2	0983	18	211000001	+0328	1	1	07:42	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-73	-0175
46026	07:42:39	1	1498	18	211000001	+0328	1	1	07:42	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-67	-0150
46027	07:42:56	2	2113	18	211000001	+0328	1	1	07:42	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-74	-0175
46028	07:43:10	1	0393	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-66	-0125
46029	07:43:26	2	0983	18	211000001	+0328	1	0	2179	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-74	-0350

e)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
227	08:09:49	2	1866	18	211000001	+0328	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-74	-0100
228	08:10:05	1	0194	18	211000001	+0326	1	2	194	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-66	-0150
229	08:10:20	2	0785	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-73	-0375
231	08:10:35	1	1315	18	211000001	+0328	1	2	1315	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-66	-0150
232	08:10:49	2	1866	18	211000001	+0326	1	2	1866	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-74	-0350
233	08:10:50	1	1895	4 >>	002110005		0	0	735	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
236	08:10:54	1	2046	23 >>	002110005		--	--	--	----	----	--	--	--	Crc Ok	0		
238	08:10:59	1	2215	18	211000001	+0328	1	n0-k1	i:354	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-67	-0150
239	08:11:03	2	0124	18	211000001	+0328	1	n0-k1	i:384	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-73	-0150
240	08:11:05	1	0194	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-66	-0125
241	08:11:08	1	0319	18	211000001	+0328	1	n0-k1	i:366	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-67	-0125
242	08:11:13	2	0508	18	211000001	+0326	1	n0-k1	i:394	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-73	-0150
243	08:11:18	1	0685	18	211000001	+0326	1	n0-k1	i:391	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	17	-67	-0150
244	08:11:20	2	0785	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-73	-0175
245	08:11:24	2	0902	18	211000001	+0326	1	n0-k1	i:341	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-73	-0150
246	08:11:28	1	1076	18	211000001	+0326	1	n0-k1	i:370	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-67	-0100
247	08:11:33	2	1243	18	211000001	+0326	1	n0-k1	i:410	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-74	-0150
248	08:11:35	1	1315	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-66	-0150
249	08:11:38	1	1446	18	211000001	+0328	1	n0-k1	i:366	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-67	-0150
250	08:11:44	2	1653	18	211000001	+0328	1	n0-k1	i:374	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-74	-0125
251	08:11:48	1	1812	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	47	-66	-0125
252	08:11:49	2	1866	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-74	-0150
253	08:11:54	2	2027	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-73	-0175
254	08:11:59	1	2215	18	211000001	+0326	1	4	2215	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-66	-0150
255	08:12:03	2	0124	18	211000001	+0326	1	4	124	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-74	-0350
256	08:12:08	1	0319	18	211000001	+0326	1	4	319	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-67	-0150
257	08:12:13	2	0508	18	211000001	+0328	1	4	508	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-74	-0350
258	08:12:18	1	0685	18	211000001	+0328	1	4	685	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	17	-67	-0125
259	08:12:24	2	0902	18	211000001	+0326	1	4	902	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-73	-0350
260	08:12:28	1	1076	18	211000001	+0326	1	4	1076	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-67	-0175
261	08:12:33	2	1243	18	211000001	+0326	1	4	1243	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-74	-0350
262	08:12:38	1	1446	18	211000001	+0326	1	4	1446	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-66	-0150
263	08:12:44	2	1653	18	211000001	+0326	1	4	1653	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-73	-0375
264	08:12:48	1	1812	18	211000001	+0326	1	4	1812	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	47	-67	-0125
265	08:12:54	2	2027	18	211000001	+0323	1	4	2027	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-73	-0350
266	08:12:59	1	2215	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-66	-0150
267	08:13:03	2	0124	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-74	-0125
268	08:13:08	1	0319	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-67	-0175
269	08:13:13	2	0508	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-73	-0175
270	08:13:18	1	0685	18	211000001	+0323	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	17	-67	-0150
271	08:13:24	2	0902	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	22	-74	-0125

f)

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
475	08:33:00	1	0012	18	211000001	+0328	1	2	12	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-66	-0150
476	08:33:05	1	0205	4 >>	002110005		0	0	765	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
477	08:33:14	2	0558	4 >>	002110005		0	0	767	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
478	08:33:15	2	0568	18	211000001	+0326	1	1	08:32	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-74	-0150
479	08:33:23	1	0878	24	211000001	+0326	--	--	--	--	----		--	--	--	Crc Ok	0	-66	-0125
480	08:33:25	1	0970	4 >>	002110005		0	0	769	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
481	08:33:30	1	1132	18	211000001	+0323	1	n0-k1	i:13	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-66	-0125
482	08:33:30	1	1145	24	211000001	+0323	--	--	--	--	----		--	--	--	Crc Ok	0	-67	-0125
483	08:33:35	2	1325	4 >>	002110005		0	0	747	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
486	08:33:38	1	1470	23 >>	002110005			--	--	--	----		--	--	--	Crc Ok	0		
488	08:33:45	2	1715	18	211000001	+0326	1	n0-k0	i:1627	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-73	-0150
489	08:34:00	1	0012	18	211000001	+0323	1	4	12	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-0125
490	08:34:15	1	0568	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-73	-0350
491	08:34:29	2	1092	18	211000001	+0323	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-74	-0325
492	08:34:30	1	1132	18	211000001	+0323	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-66	-0150
493	08:35:00	1	0012	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-0125
494	08:35:29	2	1092	18	211000001	+0323	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-73	-0175
495	08:36:00	1	0012	18	211000001	+0326	1	2	12	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-0150
496	08:36:29	2	1092	18	211000001	+0323	1	2	1092	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-73	-0325
497	08:37:00	1	0012	18	211000001	+0323	1	1	08:36	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-0100
498	08:37:29	2	1092	18	211000001	+0323	1	1	08:36	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-73	-0150
499	08:38:00	1	0012	18	211000001	+0323	1	0	2324	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-0125
500	08:38:29	2	1092	18	211000001	+0323	1	0	2423	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-74	-0325
501	08:38:34	1	1285	18	211000001	+0323	1	n0-k1	i:1116	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-66	-0125
502	08:38:48	2	1813	18	211000001	+0323	1	n0-k1	i:1174	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	47	-73	-0350
503	08:39:02	1	0086	18	211000001	+0323	1	n5-k0	i:14297	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	1	-67	-0100
504	08:39:04	1	0151	18	211000001	+0323	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-67	-0125

C.8.1.2   12.6.6.4   Addressing by ship and cargo type

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
46849	09:24:14	2	0531	18	211000001	+0328	1	n0-k1	78	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-73	-0150
46850	09:24:16	2	0612	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-74	-0150
46851	09:24:26	1	1003	18	211000001	+0328	1	6	1003	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-66	-0150
46852	09:24:43	2	1637	18	211000001	+0328	1	4	1637	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-74	-0150
46853	09:24:56	1	2127	18	211000001	+0331	1	6	2127	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66	-0150
46854	09:25:14	2	0531	18	211000001	+0328	1	6	531	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-73	-0375
46855	09:25:26	1	1003	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-67	-0150
46856	09:25:43	2	1637	18	211000001	+0328	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-73	-0350
46857	09:25:56	1	2127	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-67	-0125
46858	09:26:14	2	0531	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0150
46859	09:26:26	1	1003	18	211000001	+0328	1	4	1003	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-67	-0150
46861	09:26:43	2	1637	18	211000001	+0326	1	2	1637	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-74	-0125
46862	09:26:51	2	1938	4 >>	002110005		0	0	705	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
46865	09:26:56	1	2127	18	211000001	+0328	1	4	2127	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66	-0175
46866	09:26:57	1	2167	23 >>	002110005			--	--	--	----		--	--	--	Crc Ok	0		
46867	09:27:14	2	0531	18	211000001	+0328	1	4	531	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0350
46868	09:27:26	1	1003	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-66	-0150
46869	09:27:43	2	1637	18	211000001	+0331	1	1	09:27	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-74	-0350
46870	09:27:56	1	2127	18	211000001	+0328	1	n5-k1	i:15185	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66	-0150
46871	09:28:14	2	0531	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0125
46872	09:28:26	1	1003	18	211000001	+0328	1	2	1003	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-66	-0150
46873	09:28:41	2	1547	24	211000001	+0328	--	--	--	--	----		--	--	--	Crc Ok	0	-73	-0175
46874	09:28:43	2	1637	18	211000001	+0328	1	0	2278	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-73	-0175
46875	09:28:56	1	2127	18	211000001	+0328	1	2	2127	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-67	-0125
46876	09:29:14	2	0531	18	211000001	+0328	1	n0-k1	i:123	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0350
46877	09:29:17	2	0654	24	211000001	+0328	--	--	--	--	----		--	--	--	Crc Ok	0	-74	-0350
46878	09:29:26	1	1003	18	211000001	+0326	1	1	09:29	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-66	-0125
46880	09:29:44	2	1665	18	211000001	+0328	1	7	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-74	-0325
46881	09:29:56	1	2127	18	211000001	+0328	1	1	09:29	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66	-0150
46882	09:30:01	1	0081	4 >>	002110005		0	0	694	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
46885	09:30:08	1	0336	23 >>	002110005			--	--	--	----		--	--	--	Crc Ok	0		
46886	09:30:09	1	0361	18	211000001	+0328	1	n0-k1	i:375	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-67	-0150
46887	09:30:14	2	0531	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0125
46888	09:30:14	2	0548	18	211000001	+0326	1	n0-k1	i:375	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-73	-0150
46889	09:30:19	1	0736	18	211000001	+0328	1	n0-k1	i:375	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-66	-0150

C.8.1.3   12.6.6.5   Quiet time command

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
47005	09:39:21	2	0795	18	211000001	+0328	1	6	795	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-74	-0325
47006	09:39:36	1	1353	18	211000001	+0328	1	n5-k1	i:15930	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-67	-0150
47007	09:39:52	2	1983	18	211000001	+0328	1	4	1983	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-74	-0350
47009	09:40:05	1	0220	18	211000001	+0328	1	2	220	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-67	-0125
47010	09:40:13	1	0514	4 >>	002110005		0	0	786	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47012	09:40:21	1	0799	23 >>	002110005			--	--	--	----	----	--	--	--	Crc Ok	0		
47013	09:40:21	2	0795	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-73	-0150
47014	09:40:23	2	0906	4 >>	002110005		0	0	757	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47015	09:40:34	1	1300	4 >>	002110005		0	0	706	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47016	09:40:36	1	1353	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-67	-0125
47017	09:40:44	2	1663	4 >>	002110005		0	0	723	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47018	09:40:52	2	1983	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-73	-0200
47019	09:40:53	1	2006	4 >>	002110005		0	0	758	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47020	09:41:03	2	0136	4 >>	002110005		0	6	136	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47021	09:41:05	1	0220	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-67	-0150
47022	09:41:13	1	0514	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47023	09:41:21	2	0795	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-73	-0375
47024	09:41:23	2	0906	4 >>	002110005		0	6	906	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47025	09:41:34	1	1300	4 >>	002110005		0	4	1300	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47026	09:41:44	2	1663	4 >>	002110005		0	6	1663	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47027	09:41:53	1	2006	4 >>	002110005		0	7	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47028	09:42:03	2	0136	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47029	09:42:13	1	0514	4 >>	002110005		0	4	514	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47030	09:42:23	2	0906	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47031	09:42:34	1	1300	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47032	09:42:44	2	1663	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47033	09:42:53	1	2006	4 >>	002110005		0	6	2006	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47034	09:43:03	2	0136	4 >>	002110005		0	4	136	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47035	09:43:13	1	0514	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47036	09:43:23	2	0906	4 >>	002110005		0	4	906	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47037	09:43:34	1	1300	4 >>	002110005		0	2	1300	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47038	09:43:44	2	1663	4 >>	002110005		0	4	1663	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47039	09:43:53	1	2006	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47040	09:44:03	2	0136	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47041	09:44:13	1	0514	4 >>	002110005		0	2	514	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47042	09:44:23	2	0906	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47050	09:45:44	2	1663	4 >>	002110005		0	2	1663	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47051	09:45:53	1	2006	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47052	09:46:03	2	0136	4 >>	002110005		0	1	09:46	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47053	09:46:13	1	0514	4 >>	002110005		0	0	2224	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47054	09:46:23	2	0906	4 >>	002110005		0	1	09:46	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47055	09:46:34	1	1298	4 >>	002110005		0	7	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47056	09:46:44	2	1663	4 >>	002110005		0	1	09:46	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47057	09:46:53	1	2006	4 >>	002110005		0	2	2006	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47058	09:47:03	2	0136	4 >>	002110005		0	0	2233	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47059	09:47:12	1	0488	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47060	09:47:23	2	0906	4 >>	002110005		0	0	2196	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47061	09:47:34	1	1298	4 >>	002110005		0	6	1298	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47062	09:47:44	2	1663	4 >>	002110005		0	0	2226	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47063	09:47:53	1	2006	4 >>	002110005		0	1	09:47	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47064	09:48:02	2	0119	4 >>	002110005		0	4	119	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47065	09:48:12	1	0488	4 >>	002110005		0	2	488	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47066	09:48:22	2	0852	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47067	09:48:26	1	0993	18	211000001	+0326	1	n0-k1	i:1120	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-66	-0175
47068	09:48:34	1	1298	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47069	09:48:43	2	1614	18	211000001	+0328	1	n0-k1	i:1155	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-74	-0125
47070	09:48:43	2	1639	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47071	09:48:53	1	2006	4 >>	002110005		0	0	2243	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47072	09:48:56	1	2113	18	211000001	+0323	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-66	-0150
47073	09:49:02	2	0119	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47074	09:49:12	1	0488	4 >>	002110005		0	1	09:49	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47075	09:49:13	2	0519	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-74	-0350
47076	09:49:22	2	0852	4 >>	002110005		0	4	852	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47077	09:49:26	1	0993	18	211000001	+0328	1	2	993	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-66	-0125
47078	09:49:34	1	1298	4 >>	002110005		0	4	1298	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47079	09:49:43	2	1614	18	211000001	+0326	1	n0-k1	i:6649	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-74	-0350
47080	09:49:43	2	1639	4 >>	002110005		0	4	1639	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47081	09:49:53	1	1999	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
47082	09:49:56	1	2113	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-67	-0150

C.8.1.4   12.6.6.6   Reverting from group assignment

Assignment #01:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
539	08:46:34	1	1305	18	211000001	+0323	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-67	-0125
541	08:46:49	2	1855	18	211000001	+0323	1	0	2254	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-73	-0350
542	08:46:58	1	2186	4 >>	002110005		0	0	724	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
543	08:47:04	1	0166	18	211000001	+0326	1	4	166	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-67	-0125
546	08:47:09	1	0384	23 >>	002110005		--	--	--	----		----	--	--	--	Crc Ok	0		
548	08:47:11	1	0435	18	211000001	+0328	1	n0-k1	i:363	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-66	-0150
549	08:47:17	2	0642	18	211000001	+0326	1	n0-k1	i:350	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-74	-0125
550	08:47:18	2	0683	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	17	-73	-0150
551	08:47:21	1	0798	18	211000001	+0328	1	n0-k1	i:372	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-67	-0125
552	08:47:26	2	0992	18	211000001	+0328	1	n0-k1	i:376	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-74	-0150
553	08:47:31	1	1170	18	211000001	+0326	1	n0-k1	i:407	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-66	-0125
554	08:47:34	1	1305	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-67	-0100
555	08:47:36	2	1368	18	211000001	+0326	1	n0-k1	i:377	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-73	-0175
556	08:47:42	1	1577	18	211000001	+0326	1	n0-k1	i:362	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	41	-66	-0125
557	08:47:46	2	1745	18	211000001	+0323	1	n0-k1	i:367	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0175
558	08:47:49	2	1859	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-73	-0150
559	08:47:51	1	1939	18	211000001	+0328	1	n0-k1	i:378	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-67	-0125
560	08:47:56	2	2112	18	211000001	+0328	1	n0-k1	i:399	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-74	-0150
561	08:48:01	1	0067	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-67	-0150
562	08:48:04	1	0166	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-66	-0150
563	08:48:07	2	0261	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-73	-0350
564	08:48:11	1	0435	18	211000001	+0326	1	4	435	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-67	-0125
565	08:48:17	2	0642	18	211000001	+0328	1	4	642	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-74	-0350
566	08:48:21	1	0798	18	211000001	+0328	1	4	798	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-67	-0125
567	08:48:26	2	0992	18	211000001	+0326	1	4	992	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-74	-0325
568	08:48:31	1	1170	18	211000001	+0328	1	4	1170	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-66	-0125
569	08:48:36	2	1368	18	211000001	+0326	1	4	1368	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-74	-0350
570	08:48:42	1	1577	18	211000001	+0326	1	4	1577	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-66	-0125
571	08:48:46	2	1745	18	211000001	+0328	1	4	1745	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0350
572	08:48:51	1	1939	18	211000001	+0328	1	4	1939	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-66	-0125
573	08:48:56	2	2112	18	211000001	+0328	1	4	2112	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-74	-0325
574	08:49:01	1	0067	18	211000001	+0328	1	4	67	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-67	-0125
575	08:49:06	2	0261	18	211000001	+0328	1	4	261	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-74	-0125
576	08:49:11	1	0435	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	11	-66	-0125
577	08:49:17	2	0642	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-73	-0150
578	08:49:21	1	0798	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20 ·	-66	-0125
579	08:49:26	2	0992	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-73	-0175
580	08:49:31	1	1170	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-66	-0125

Bundesamt für Seeschifffahrt und Hydrographie
Federal Maritime and Hydrographic Agency

BSH

BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

Assignment_#02:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
640	08:54:04	2	0165	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-74	-0350
641	08:54:06	2	0251	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-73	-0350
642	08:54:19	1	0728	18	211000001	+0323	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-67	-0150
643	08:54:34	2	1295	18	211000001	+0326	1	2	1295	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-74	-0350
644	08:54:49	1	1863	18	211000001	+0328	1	4	1863	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-67	-0125
645	08:55:04	2	0165	18	211000001	+0328	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-74	-0175
646	08:55:19	1	0728	18	211000001	+0328	1	2	728	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-66	-0100
648	08:55:34	2	1295	18	211000001	+0326	1	1	08:55	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-73	-0150
649	08:55:49	1	1851	4 >>	002110005		0	0	771	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
650	08:55:49	1	1863	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-67	-0125
653	08:55:52	1	1970	23 >>	002110005		--	--	--	----		----	--	--	--	Crc Ok	0		
655	08:55:54	1	2051	18	211000001	+0328	1	n0-k1	i:394	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-66	-0125
656	08:55:59	2	2242	18	211000001	+0326	1	n0-k1	i:367	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-73	-0150
657	08:56:04	2	0165	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-74	-0350
658	08:56:05	1	0195	18	211000001	+0328	1	n0-k1	i:351	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-67	-0100
659	08:56:09	2	0359	18	211000001	+0328	1	n0-k1	i:398	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-74	-0325
660	08:56:14	1	0546	18	211000001	+0326	1	n0-k1	i:373	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-66	-0125
661	08:56:19	1	0728	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-66	-0125
662	08:56:20	2	0757	18	211000001	+0326	1	n0-k1	i:360	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-74	-0350
663	08:56:24	1	0919	18	211000001	+0326	1	n0-k1	i:399	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-66	-0150
664	08:56:29	2	1117	18	211000001	+0328	1	n0-k1	i:381	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-73	-0350
665	08:56:34	2	1295	18	211000001	+0326	1	n5-k0	i:15246	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-73	-0350
666	08:56:35	1	1318	18	211000001	+0328	1	n0-k1	i:357	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-67	-0150
667	08:56:39	2	1498	18	211000001	+0326	1	n0-k1	i:362	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-73	-0350
668	08:56:44	1	1675	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-66	-0125
669	08:56:49	2	1860	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-74	-0350
670	08:56:49	1	1863	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-66	-0125
671	08:56:54	1	2051	18	211000001	+0326	1	6	2051	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	54	-67	-0125
672	08:56:59	2	2242	18	211000001	+0328	1	6	2242	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-74	-0325
673	08:57:05	1	0195	18	211000001	+0328	1	6	195	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-66	-0125
674	08:57:09	2	0359	18	211000001	+0326	1	6	359	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-74	-0150
675	08:57:14	1	0546	18	211000001	+0326	1	6	546	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-66	-0150
676	08:57:20	2	0757	18	211000001	+0326	1	6	757	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-74	-0150
677	08:57:24	1	0916	24	211000001	+0326	--	--	--	----		----	--	--	--	Crc Ok	0	-66	-0125
678	08:57:24	1	0919	18	211000001	+0326	1	n0-k1	i:60	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-66	-0125
679	08:57:26	1	0979	24	211000001	+0326	--	--	--	----		----	--	--	--	Crc Ok	0	-67	-0100
680	08:57:29	2	1117	18	211000001	+0328	1	6	1117	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-73	-0125
681	08:57:35	1	1318	18	211000001	+0328	1	6	1318	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-66	-0125
682	08:57:39	2	1498	18	211000001	+0328	1	6	1498	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-74	-0125
683	08:57:44	1	1675	18	211000001	+0326	1	6	1675	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-66	-0150

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Assignment #03:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq
784	09:07:24	1	0913	18	211000001	+0326	1	4	913	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-66	-012
785	09:07:37	2	1403	18	211000001	+0328	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-74	-012
786	09:07:53	1	1989	18	211000001	+0326	1	0	2214	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-66	-012
787	09:08:07	2	0281	18	211000001	+0328	1	1	09:08	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-74	-032
789	09:08:24	1	0913	18	211000001	+0326	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-67	-010
790	09:08:25	1	0968	4 >>	002110005		0	0	706	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
791	09:08:34	2	1323	4 >>	002110005		0	0	721	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
792	09:08:37	2	1403	18	211000001	+0326	1	n5-k1	i:15239	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-73	-035
796	09:08:46	1	1751	23 >>	002110005		--	--	--	----		----	--	--	--	Crc Ok	0		
798	09:08:50	1	1890	18	211000001	+0326	1	n0-k1	i:355	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-67	-012
799	09:08:52	1	1953	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-66	-012
800	09:08:55	2	2093	18	211000001	+0323	1	n0-k1	i:356	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-74	-035
801	09:08:59	1	2245	18	211000001	+0328	1	n0-k1	i:386	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-66	-012
802	09:09:05	1	0199	18	211000001	+0326	1	n0-k1	i:394	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-74	-012
803	09:09:07	2	0281	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-73	-015
804	09:09:10	1	0381	18	211000001	+0326	1	n0-k1	i:381	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-67	-007
805	09:09:15	2	0593	18	211000001	+0326	1	n0-k1	i:370	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-74	-012
806	09:09:20	1	0762	18	211000001	+0326	1	n0-k1	i:392	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-67	-010
807	09:09:24	1	0913	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-66	-012
808	09:09:24	1	0934	24	211000001	+0326	--	--	--	----		----	--	--	--	Crc Ok	0	-67	-012
809	09:09:25	2	0963	18	211000001	+0326	1	n0-k1	i:374	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-74	-015
810	09:09:30	1	1154	18	211000001	+0326	1	n0-k1	i:360	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-67	-012
811	09:09:35	2	1337	18	211000001	+0328	1	n0-k1	i:356	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-73	-015
812	09:09:37	2	1403	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-74	-012
813	09:09:40	1	1514	18	211000001	+0323	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-66	-012
814	09:09:45	2	1693	18	211000001	+0323	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-74	-012
815	09:09:50	1	1890	18	211000001	+0320	1	n0-k1	i:106	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-66	-012
816	09:09:53	1	1996	24	211000001	+0326	--	--	--	----		----	--	--	--	Crc Ok	0	-67	-010
817	09:09:55	2	2093	18	211000001	+0326	1	4	2093	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	54	-73	-015
818	09:09:59	1	2245	18	211000001	+0326	1	4	2245	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-012
819	09:10:05	2	0199	18	211000001	+0326	1	4	199	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-74	-032
820	09:10:10	1	0381	18	211000001	+0323	1	4	381	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-66	-010
821	09:10:15	2	0593	18	211000001	+0326	1	4	593	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-73	-037
822	09:10:20	1	0762	18	211000001	+0326	1	4	762	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-66	-010
823	09:10:25	2	0963	18	211000001	+0328	1	4	963	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-73	-035
824	09:10:30	1	1154	18	211000001	+0326	1	4	1154	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-66	-012
825	09:10:35	2	1337	18	211000001	+0328	1	4	1337	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-74	-035
826	09:10:40	1	1514	18	211000001	+0326	1	4	1514	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-66	-015
827	09:10:45	2	1693	18	211000001	+0326	1	4	1693	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-73	-030
828	09:10:50	1	1890	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01.2345 E	150	3522	511	Crc Ok	49	-66	-010

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Assignment #04:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
892	09:15:40	2	1535	18	211000001	+0323	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-73	-0150
893	09:15:44	2	1685	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-73	-0175
894	09:15:56	1	2103	18	211000001	+0326	1	4	2103	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-67	-0100
895	09:16:09	2	0351	18	211000001	+0326	1	2	351	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-74	-0300
896	09:16:25	1	0944	18	211000001	+0326	1	4	944	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-67	-0125
897	09:16:40	2	1535	18	211000001	+0326	1	6	1535	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-73	-0375
899	09:16:56	1	2103	18	211000001	+0326	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-67	-0125
900	09:16:59	1	2226	4 >>	002110005		0	0	710	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
903	09:17:01	1	0081	23 >>	002110005			--	--	--	----	----	--	--	--	Crc Ok	0		
905	09:17:05	1	0210	18	211000001	+0328	1	n0-k1	i:370	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-66	-0125
906	09:17:09	2	0351	18	211000001	+0328	1	n0-k0	i:61	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-73	-0150
907	09:17:11	2	0412	18	211000001	+0328	1	n0-k1	i:362	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-73	-0150
908	09:17:15	1	0580	18	211000001	+0331	1	n0-k1	i:377	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-66	-0125
909	09:17:20	2	0774	18	211000001	+0328	1	n0-k1	i:403	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-73	-0150
910	09:17:25	1	0944	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-67	-0125
911	09:17:25	1	0957	18	211000001	+0331	1	n0-k1	i:403	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-66	-0125
912	09:17:31	2	1177	18	211000001	+0331	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-74	-0125
913	09:17:36	1	1360	18	211000001	+0328	1	n0-k1	i:379	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-66	-0125
914	09:17:40	2	1535	18	211000001	+0331	1	n0-k1	i:392	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-73	-0150
915	09:17:46	1	1739	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-67	-0175
916	09:17:51	2	1927	18	211000001	+0328	1	n0-k1	i:350	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-73	-0175
917	09:17:56	1	2103	18	211000001	+0328	1	7	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-67	-0125
918	09:18:00	2	0027	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-73	-0350
919	09:18:05	1	0210	18	211000001	+0328	1	6	210	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	4	-67	-0100
920	09:18:11	2	0412	18	211000001	+0328	1	6	412	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-74	-0325
921	09:18:15	1	0580	18	211000001	+0328	1	6	580	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-66	-0125
922	09:18:20	2	0774	18	211000001	+0328	1	6	774	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-74	-0325
923	09:18:25	1	0957	18	211000001	+0328	1	6	957	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-67	-0125
924	09:18:31	2	1177	18	211000001	+0331	1	6	1177	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	31	-74	-0350
925	09:18:36	1	1360	18	211000001	+0328	1	6	1360	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-67	-0150
926	09:18:40	2	1535	18	211000001	+0328	1	6	1535	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-73	-0350
927	09:18:46	1	1739	18	211000001	+0328	1	6	1739	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	46	-66	-0125
928	09:18:51	2	1927	18	211000001	+0328	1	6	1927	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-74	-0325
929	09:18:56	1	2103	18	211000001	+0331	1	6	2103	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-66	-0125
930	09:19:00	2	0027	18	211000001	+0328	1	6	27	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-75	-0125
931	09:19:05	1	0210	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-66	-0125
932	09:19:11	2	0412	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-74	-0150
933	09:19:15	1	0580	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-66	-0100
934	09:19:20	2	0774	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-74	-0125
935	09:19:25	1	0957	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-66	-0125
936	09:19:31	2	1177	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-74	-0125

Assignment #05:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1049	09:32:22	2	0844	18	211000001	+0328	1	n5-k1	i:15814	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	22	-74	-0325
1050	09:32:37	1	1389	18	211000001	+0328	1	0	2263	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-66	-0100
1051	09:32:51	2	1941	18	211000001	+0328	1	4	1941	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-74	-0325
1052	09:33:08	1	0308	18	211000001	+0328	1	2	308	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-67	-0100
1054	09:33:20	1	0795	4 >>	002110005		0	0	746	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1055	09:33:22	2	0844	18	211000001	+0328	1	2	844	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-73	-0150
1058	09:33:24	1	0918	24	211000001	+0326	--	--	----		----	--	--	--	Crc Ok	0	-67	-0100
1059	09:33:25	1	0953	23 >>	002110005		--	--	--	----		----	--	--	--	Crc Ok	0		
1061	09:33:29	1	1102	18	211000001	+0328	1	n0-k1	i:351	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-67	-0075
1062	09:33:34	2	1293	18	211000001	+0328	1	n0-k1	i:365	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-74	-0125
1063	09:33:37	1	1402	18	211000001	+0328	1	n0-k0	i:126	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-67	-0100
1064	09:33:38	1	1453	18	211000001	+0328	1	n0-k1	i:408	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	38	-67	-0125
1065	09:33:40	1	1528	24	211000001	+0328	--	--	--	----		----	--	--	--	Crc Ok	0	-66	-0125
1066	09:33:44	2	1658	18	211000001	+0326	1	n0-k1	i:388	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-74	-0150
1067	09:33:49	1	1861	18	211000001	+0328	1	n0-k1	i:349	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-66	-0125
1068	09:33:51	2	1941	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-74	-0125
1069	09:33:54	2	2046	18	211000001	+0328	1	n0-k1	i:360	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-73	-0150
1070	09:33:58	1	2210	18	211000001	+0328	1	n0-k1	i:390	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-66	-0100
1071	09:34:04	2	0156	18	211000001	+0328	1	n0-k1	i:391	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-73	-0325
1072	09:34:08	1	0308	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-67	-0125
1073	09:34:09	1	0350	18	211000001	+0328	1	n0-k1	i:374	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-66	-0150
1074	09:34:14	2	0547	18	211000001	+0328	1	n0-k1	i:339	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0325
1075	09:34:19	1	0724	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-67	-0125
1076	09:34:22	2	0844	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-73	-0350
1077	09:34:23	2	0886	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	22	-74	-0350
1078	09:34:29	1	1102	18	211000001	+0328	1	6	1102	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-66	-0100
1079	09:34:34	2	1293	18	211000001	+0328	1	6	1293	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-73	-0350
1080	09:34:38	1	1453	18	211000001	+0328	1	6	1453	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-67	-0125
1081	09:34:44	2	1658	18	211000001	+0328	1	6	1658	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-73	-0350
1082	09:34:49	1	1861	18	211000001	+0328	1	6	1861	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-67	-0150
1083	09:34:54	2	2046	18	211000001	+0326	1	6	2046	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-74	-0300
1084	09:34:58	1	2210	18	211000001	+0328	1	6	2210	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	57	-66	-0125
1085	09:35:04	2	0156	18	211000001	+0328	1	6	156	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-74	-0150
1086	09:35:09	1	0350	18	211000001	+0328	1	6	350	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-66	-0150
1087	09:35:14	2	0547	18	211000001	+0328	1	6	547	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0125
1088	09:35:19	1	0724	18	211000001	+0326	1	6	724	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-66	-0150
1089	09:35:23	2	0886	18	211000001	+0328	1	6	886	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-74	-0125
1090	09:35:29	1	1102	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-67	-0100
1091	09:35:34	2	1293	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-75	-0125
1092	09:35:38	1	1453	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	38	-66	-0125

Assignment #06:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1181	09:42:45	2	1717	18	211000001	+0328	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0300
1182	09:43:01	1	0070	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	1	-66	-0100
1183	09:43:16	2	0635	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-74	-0125
1184	09:43:32	1	1213	18	211000001	+0328	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-66	-0125
1185	09:43:45	2	1717	18	211000001	+0328	1	2	1717	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0150
1187	09:44:00	1	0036	4 >>	002110005		0	0	730	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1188	09:44:01	1	0070	18	211000001	+0326	1	4	70	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	1	-66	-0100
1191	09:44:05	1	0199	23 >>	002110005		--	--	--	----			--	--	--	Crc Ok	0		
1192	09:44:07	1	0276	18	211000001	+0328	1	n0-k1	i:362	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-67	-0100
1194	09:44:12	2	0455	18	211000001	+0328	1	n0-k1	i:387	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	11	-73	-0325
1195	09:44:16	2	0635	18	211000001	+0326	1	n5-k0	i:16051	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-74	-0350
1196	09:44:17	1	0638	18	211000001	+0328	1	n0-k1	i:369	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-67	-0125
1197	09:44:22	2	0842	18	211000001	+0328	1	n0-k1	i:340	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-74	-0325
1198	09:44:26	1	1007	18	211000001	+0326	1	n0-k1	i:393	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-66	-0125
1199	09:44:31	2	1182	18	211000001	+0328	1	n0-k1	i:396	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-74	-0325
1200	09:44:32	1	1213	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	31	-66	-0125
1201	09:44:37	1	1400	18	211000001	+0326	1	n0-k1	i:362	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-67	-0100
1202	09:44:42	2	1578	18	211000001	+0328	1	n0-k1	i:369	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	41	-73	-0350
1203	09:44:45	2	1717	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0350
1204	09:44:47	1	1762	18	211000001	+0328	1	n0-k1	i:372	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	46	-67	-0075
1205	09:44:51	2	1947	18	211000001	+0323	1	n0-k1	i:360	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-74	-0300
1206	09:44:56	1	2134	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66	-0125
1207	09:45:01	2	0057	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-74	-0125
1208	09:45:01	1	0070	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	1	-66	-0125
1209	09:45:07	1	0276	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-67	-0100
1210	09:45:12	2	0455	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	11	-74	-0125
1211	09:45:17	1	0638	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-66	-0125
1212	09:45:22	2	0842	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-74	-0150
1213	09:45:24	1	0933	24	211000001	+0328	--	--	----			--	--	--	Crc Ok	0	-66	-0100
1214	09:45:26	1	1007	18	211000001	+0326	1	n0-k1	i:24	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	26	-66	-0125
1215	09:45:27	1	1031	24	211000001	+0326	--	--	----			--	--	--	Crc Ok	0	-66	-0125
1216	09:45:31	2	1182	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-74	-0125
1217	09:45:37	1	1400	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-66	-0100
1218	09:45:42	2	1578	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	41	-74	-0125
1219	09:45:47	1	1762	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	46	-66	-0125
1220	09:45:51	2	1947	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-74	-0125
1221	09:45:56	1	2134	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-66	-0125
1222	09:46:01	2	0057	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-73	-0350
1223	09:46:07	1	0276	18	211000001	+0328	1	4	276	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-67	-0075
1224	09:46:12	2	0455	18	211000001	+0326	1	4	455	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	11	-73	-0350

Assignment #07:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1292	09:51:41	2	1558	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	41	-73	-0150
1293	09:51:47	1	1771	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	46	-66	-0100
1294	09:51:51	2	1943	18	211000001	+0328	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-75	-0150
1295	09:51:57	1	2144	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66	-0125
1296	09:52:02	2	0085	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	1	-73	-0325
1297	09:52:07	1	0274	18	211000001	+0328	1	6	274	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-67	-0075
1298	09:52:21	2	0818	18	211000001	+0326	1	2	818	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-73	-0350
1299	09:52:36	1	1377	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-67	-0100
1301	09:52:51	2	1943	18	211000001	+0328	1	2	1943	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-73	-0350
1302	09:53:07	1	0274	18	211000001	+0328	1	5	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-67	-0100
1303	09:53:07	1	0308	4 >>	002110005		0	0	697	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1306	09:53:13	1	0508	23 >>	002110005			--	--	--	----	----	--	--	--	Crc Ok	0		
1308	09:53:15	1	0597	18	211000001	+0326	1	n0-k1	i:360	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-66	-0125
1309	09:53:20	2	0776	18	211000001	+0326	1	n0-k1	i:376	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	19	-74	-0125
1310	09:53:21	2	0818	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-74	-0125
1311	09:53:25	1	0957	18	211000001	+0326	1	n0-k1	i:391	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	24	-67	-0100
1312	09:53:30	2	1152	18	211000001	+0326	1	n0-k1	i:370	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-73	-0150
1313	09:53:35	1	1348	18	211000001	+0328	1	n0-k1	i:366	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	34	-66	-0125
1314	09:53:36	1	1377	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-66	-0150
1315	09:53:40	2	1522	18	211000001	+0326	1	n0-k1	i:355	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	39	-74	-0125
1316	09:53:45	1	1714	18	211000001	+0326	1	n0-k1	i:374	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-66	-0125
1317	09:53:50	2	1877	18	211000001	+0326	1	n0-k1	i:404	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-73	-0150
1318	09:53:51	2	1943	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-74	-0125
1319	09:53:55	1	2088	18	211000001	+0328	1	n0-k1	i:380	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-66	-0125
1320	09:54:00	2	0031	18	211000001	+0326	1	n0-k1	i:378	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-73	-0350
1321	09:54:05	1	0218	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-67	-0125
1322	09:54:07	1	0274	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-66	-0125
1323	09:54:10	2	0409	18	211000001	+0323	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-74	-0325
1324	09:54:15	1	0597	18	211000001	+0320	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-67	-0150
1325	09:54:20	2	0776	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-74	-0325
1326	09:54:25	1	0957	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-67	-0125
1327	09:54:30	2	1152	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-74	-0325
1328	09:54:35	1	1348	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-66	-0150
1329	09:54:40	2	1522	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-74	-0300
1330	09:54:45	1	1714	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-66	-0125
1331	09:54:50	2	1877	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	49	-74	-0325
1332	09:54:55	1	2088	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-66	-0125
1333	09:55:00	2	0031	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-74	-0150
1334	09:55:05	1	0218	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-66	-0125
1335	09:55:10	2	0409	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-74	-0150

Assignment #08:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1394	10:00:17	1	0667	18	211000001	+0326	1	4	667	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-67	-0075
1395	10:00:31	2	1169	18	211000001	+0328	1	2	1169	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-74	-0325
1397	10:00:46	1	1737	18	211000001	+0326	1	2	1737	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-67	-0100
1398	10:00:47	1	1805	4 >>	002110005		0	0	731	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1400	10:00:51	1	1950	23 >>	002110005		--	--	--	----	----	--	--	--	Crc Ok	0		
1402	10:00:53	1	2005	18	211000001	+0326	1	n0-k1	i:363	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-66	-0125
1404	10:00:58	2	2204	18	211000001	+0320	1	n0-k1	i:359	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	57	-74	-0350
1405	10:01:03	1	0118	18	211000001	+0328	1	n0-k1	i:408	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-66	-0125
1406	10:01:03	2	0136	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-74	-0150
1407	10:01:08	2	0313	18	211000001	+0326	1	n0-k1	i:398	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-73	-0150
1408	10:01:14	1	0526	18	211000001	+0326	1	n0-k1	i:356	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-67	-0150
1409	10:01:17	1	0667	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	16	-67	-0125
1410	10:01:19	1	0711	18	211000001	+0326	1	n0-k1	i:353	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	17	-73	-0150
1411	10:01:23	1	0882	18	211000001	+0326	1	n0-k1	i:370	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-67	-0100
1412	10:01:28	2	1064	18	211000001	+0323	1	n0-k1	i:384	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-74	-0150
1413	10:01:31	2	1169	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	31	-73	-0150
1414	10:01:33	1	1252	18	211000001	+0328	1	n0-k1	i:380	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-67	-0100
1415	10:01:38	2	1448	18	211000001	+0326	1	n0-k1	i:376	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	38	-73	-0150
1416	10:01:43	1	1632	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-66	-0150
1417	10:01:46	1	1737	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	46	-67	-0150
1418	10:01:48	2	1824	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-73	-0150
1419	10:01:53	1	2005	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-67	-0100
1420	10:01:58	2	2204	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-73	-0150
1421	10:02:03	1	0118	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-67	-0125
1422	10:02:08	2	0313	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-73	-0325
1423	10:02:14	1	0526	18	211000001	+0323	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-67	-0150
1424	10:02:19	2	0711	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-73	-0325
1425	10:02:23	1	0882	18	211000001	+0326	1	n5-k1	i:15786	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-67	-0100
1426	10:02:28	2	1064	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-74	-0350
1427	10:02:33	1	1252	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-66	-0125
1428	10:02:38	2	1448	18	211000001	+0326	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	38	-74	-0350
1429	10:02:43	1	1632	18	211000001	+0320	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-66	-0150
1430	10:02:48	2	1824	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-74	-0325
1431	10:02:53	1	2005	18	211000001	+0326	1	4	2005	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-66	-0125
1432	10:02:58	2	2204	18	211000001	+0326	1	4	2204	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-73	-0375
1433	10:03:03	1	0118	18	211000001	+0326	1	4	118	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	2	-67	-0150
1434	10:03:08	2	0313	18	211000001	+0326	1	4	313	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-74	-0150
1435	10:03:14	1	0526	18	211000001	+0326	1	4	526	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-67	-0125
1436	10:03:19	2	0711	18	211000001	+0326	1	4	711	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-73	-0150
1437	10:03:23	1	0882	18	211000001	+0326	1	4	882	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	22	-66	-0125
1438	10:03:23	2	0891	24	211000001	+0326	--	--	--	----	----	--	--	--	Crc Ok	0	-73	-0150

Assignment #09:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1518	10:10:45	1	1632	18	211000001	+0326	1	4	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-73	-0325
1519	10:11:00	1	0034	18	211000001	+0326	1	4	34	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-67	-0125
1520	10:11:15	2	0565	18	211000001	+0326	1	1	10:11	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-73	-0175
1521	10:11:32	1	1201	18	211000001	+0326	1	4	1201	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	31	-67	-0100
1523	10:11:45	2	1692	18	211000001	+0326	1	2	1692	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-74	-0125
1524	10:11:53	1	2003	4 >>	002110005		0	0	786	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1527	10:11:57	1	2160	23 >>	002110005		--	--	--	----	----	--	--	--	Crc Ok	0		
1529	10:12:00	1	0034	18	211000001	+0331	1	n0-k1	i:382	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-0125
1530	10:12:06	2	0232	18	211000001	+0331	1	n0-k1	i:368	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-73	-0350
1531	10:12:11	1	0416	18	211000001	+0328	1	n0-k1	i:378	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-66	-0125
1532	10:12:15	2	0565	18	211000001	+0331	1	0	2	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-73	-0325
1533	10:12:16	2	0600	18	211000001	+0331	1	n0-k1	i:382	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	14	-74	-0325
1534	10:12:21	1	0794	18	211000001	+0328	1	n0-k1	i:357	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-66	-0100
1535	10:12:26	2	0982	18	211000001	+0328	1	n0-k1	i:348	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-74	-0325
1536	10:12:30	1	1151	18	211000001	+0328	1	n0-k1	i:367	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-66	-0150
1537	10:12:32	1	1201	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	31	-67	-0125
1538	10:12:35	2	1330	18	211000001	+0326	1	n0-k1	i:398	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-73	-0325
1539	10:12:40	1	1518	18	211000001	+0331	1	n0-k1	i:394	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-66	-0125
1540	10:12:45	2	1692	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	44	-74	-0325
1541	10:12:46	2	1728	18	211000001	+0328	1	n0-k1	i:375	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0350
1542	10:12:51	1	1912	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-67	-0125
1543	10:12:56	2	2103	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-74	-0350
1544	10:13:00	1	0034	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-66	-0150
1545	10:13:06	2	0232	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-74	-0125
1546	10:13:11	1	0416	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-66	-0125
1547	10:13:16	2	0600	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-74	-0125
1548	10:13:21	1	0794	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	20	-67	-0075
1549	10:13:26	2	0982	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	25	-74	-0150
1550	10:13:30	1	1151	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-67	-0125
1551	10:13:35	2	1330	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	35	-73	-0150
1552	10:13:40	1	1518	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-67	-0125
1553	10:13:46	2	1728	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-73	-0175
1554	10:13:51	1	1912	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-67	-0150
1555	10:13:56	2	2103	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	55	-73	-0150
1556	10:14:00	1	0034	18	211000001	+0328	1	2	34	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-67	-0075
1557	10:14:06	2	0232	18	211000001	+0328	1	2	232	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-73	-0325
1558	10:14:11	1	0416	18	211000001	+0328	1	2	416	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	10	-67	-0100

Bundesamt für Seeschifffahrt und Hydrographie
Federal Maritime and Hydrographic Agency

BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

Assignment #10:

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1607	10:18:16	2	0602	18	211000001	+0331	1	2	602	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-74	-0325
1608	10:18:30	1	1161	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	30	-66	-0125
1609	10:18:46	2	1733	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0325
1610	10:19:00	1	0019	18	211000001	+0331	1	3	R:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	59	-67	-0125
1612	10:19:16	2	0602	18	211000001	+0328	1	1	10:19	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-73	-0150
1613	10:19:23	1	0883	4 >>	002110005		0	0	718	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1615	10:19:25	1	0979	23 >>	002110005		--	--	----		--	--	--	Crc Ok	0		
1618	10:19:29	1	1092	18	211000001	+0331	1	n0-k1	i:368	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-67	-0125
1619	10:19:30	1	1161	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	29	-67	-0150
1620	10:19:33	2	1251	18	211000001	+0331	1	n0-k1	i:400	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-73	-0150
1621	10:19:38	1	1460	18	211000001	+0328	1	n0-k1	i:373	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-67	-0125
1622	10:19:44	2	1651	18	211000001	+0328	1	n0-k1	i:362	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-74	-0125
1623	10:19:46	2	1733	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	45	-74	-0150
1624	10:19:48	1	1833	18	211000001	+0328	1	n0-k1	i:362	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	47	-66	-0150
1625	10:19:53	2	2013	18	211000001	+0328	1	n0-k1	i:371	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-74	-0150
1626	10:19:58	2	2195	18	211000001	+0323	1	n0-k1	i:374	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-67	-0125
1627	10:20:00	1	0019	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	0	-66	-0125
1628	10:20:03	2	0134	18	211000001	+0328	1	n0-k1	i:364	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-74	-0325
1629	10:20:08	1	0319	18	211000001	+0326	1	n0-k1	i:391	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-66	-0150
1630	10:20:13	2	0498	18	211000001	+0328	1	n0-k1	i:389	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	13	-74	-0325
1631	10:20:16	2	0602	18	211000001	+0328	1	n5-k0	i:15944	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	15	-74	-0350
1632	10:20:18	1	0710	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-67	-0150
1633	10:20:23	2	0887	18	211000001	+0331	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-73	-0350
1634	10:20:29	1	1092	18	211000001	+0328	1	6	1092	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-67	-0125
1635	10:20:33	2	1251	18	211000001	+0331	1	6	1251	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	33	-73	-0375
1636	10:20:38	1	1460	18	211000001	+0331	1	6	1460	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	38	-67	-0125
1637	10:20:44	2	1651	18	211000001	+0328	1	6	1651	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-73	-0325
1638	10:20:48	1	1833	18	211000001	+0328	1	6	1833	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	48	-67	-0125
1639	10:20:53	2	2013	18	211000001	+0328	1	6	2013	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-74	-0350
1640	10:20:58	1	2195	18	211000001	+0328	1	6	2195	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	58	-66	-0125
1641	10:21:03	2	0134	18	211000001	+0328	1	6	134	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	3	-74	-0150
1642	10:21:08	1	0319	18	211000001	+0328	1	6	319	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	8	-66	-0125
1643	10:21:13	2	0498	18	211000001	+0328	1	6	498	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-73	-0175
1644	10:21:18	1	0710	18	211000001	+0328	1	6	710	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	18	-66	-0125
1645	10:21:23	1	0883	24	211000001	+0328	--	--	--	----		--	--	--	Crc Ok	0	-66	-0125
1646	10:21:23	2	0887	18	211000001	+0331	1	6	887	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	23	-73	-0150
1647	10:21:29	1	1092	18	211000001	+0328	1	n0-k1	i:99	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	28	-67	-0125
1648	10:21:31	1	1191	24	211000001	+0328	--	--	--	----		--	--	--	Crc Ok	0	-66	-0150
1649	10:21:33	2	1251	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	32	-74	-0125
1650	10:21:38	1	1460	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	38	-66	-0150
1651	10:21:44	2	1651	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	43	-74	-0150

C.8.1.5   12.6.6.8   Assignment priority test – Message 22 and 23

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level
685	14:15:41	2	1542	18	211000001	+0331	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	40	-74
686	14:15:48	1	1826	4 >>	002110005		0	0	773	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0	
688	14:15:54	1	2054	18	211000001	+0328	1	3	R:43	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	53	-67
689	14:15:56	1	2148	22 >>	002110005		--	--	--	----		--	--	--	Crc Ok	0	
690	14:15:59	2	2233	4 >>	002110005		0	0	715	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0	
692	14:16:09	2	0369	18	211000001	+0328	1	6	369	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	9	-73
693	14:17:37	1	1395	18	211000001	+0326	1	n0-k1	i:1100	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-66
694	14:17:51	2	1915	18	211000001	+0328	1	n0-k1	i:1176	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-74
695	14:18:06	1	0245	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-66
696	14:18:22	2	0841	18	211000001	+0326	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-74
697	14:18:37	1	1395	18	211000001	+0328	1	n5-k1	i:14301	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-67
698	14:18:51	2	1915	18	211000001	+0326	1	2	1915	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-73
699	14:18:58	2	2190	24	211000001	+0326	--	--	--	----		--	--	--	Crc Ok	0	-73
700	14:19:06	1	0245	18	211000001	+0328	1	3	R:43	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-66
702	14:19:22	2	0841	18	211000001	+0328	1	n0-k1	i:12	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-74
703	14:19:22	2	0853	24	211000001	+0328	--	--	--	----		--	--	--	Crc Ok	0	-73
704	14:19:27	1	1024	4 >>	002110005		0	0	743	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0	
707	14:19:37	1	1395	18	211000001	+0320	1	1	14:19	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-67
708	14:19:39	1	1492	23 >>	002110005		--	--	--	----		--	--	--	Crc Ok	0	
709	14:19:42	1	1609	18	211000001	+0328	1	n0-k1	i:536	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-66
710	14:19:51	2	1915	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	50	-74
711	14:19:57	1	2145	18	211000001	+0326	1	n0-k1	i:589	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66
712	14:20:06	1	0245	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	5	-67
713	14:20:12	1	0484	18	211000001	+0328	1	n0-k1	i:562	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-66
714	14:20:22	2	0841	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-73
715	14:20:27	1	1046	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-67

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level
714	14:20:22	2	0841	18	211000001	+0328	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-73
715	14:20:27	1	1046	18	211000001	+0328	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-67
716	14:20:37	1	1395	18	211000001	+0326	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	36	-66
717	14:20:42	1	1609	18	211000001	+0326	1	2	1609	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-67
718	14:20:57	1	2145	18	211000001	+0326	1	2	2145	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66
719	14:21:12	1	0484	18	211000001	+0326	1	2	484	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	11	-67
720	14:21:27	1	1046	18	211000001	+0328	1	2	1046	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-66
722	14:21:42	1	1609	18	211000001	+0326	1	1	14:21	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-67
723	14:21:48	1	1833	4 >>	002110005		0	0	741	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0	
725	14:21:57	1	2145	18	211000001	+0331	1	1	14:21	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-66
726	14:22:12	1	0484	18	211000001	+0331	1	1	14:22	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-67
728	14:22:16	1	0612	22 >>	002110005			--	--	--	----	--	--	--	Crc Ok	0	
729	14:22:27	1	1046	18	211000001	+0331	1	1	14:22	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-66
730	14:22:42	1	1609	18	211000001	+0331	1	0	2268	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-67
732	14:22:52	1	1992	22 >>	002110005			--	--	--	----	--	--	--	Crc Ok	0	
733	14:22:57	1	2145	18	211000001	+0331	1	0	2302	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-67
734	14:23:12	1	0484	18	211000001	+0331	1	0	2256	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	12	-67
735	14:23:27	1	1046	18	211000001	+0331	1	0	2242	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-67
736	14:23:38	2	1437	18	211000001	+0331	1	n0-k1	i:547	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-73
737	14:23:43	1	1627	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	42	-67
738	14:23:52	2	1984	18	211000001	+0331	1	n0-k1	i:540	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-73
739	14:23:58	1	2197	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	56	-67
740	14:24:07	2	0274	18	211000001	+0331	1	n0-k1	i:575	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-73
741	14:24:13	1	0490	18	211000001	+0331	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	11	-66
742	14:24:22	2	0849	18	211000001	+0331	1	n0-k1	i:0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	22	-74
743	14:24:27	1	1038	18	211000001	+0333	1	0	0	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	27	-66
744	14:24:38	2	1437	18	211000001	+0331	1	n5-k1	i:14286	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	38	-74
745	14:24:52	2	1984	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-73
746	14:24:58	1	2196	24	211000001	+0331	--	--	--	----	----	--	--	--	Crc Ok	0	-67
747	14:25:07	2	0274	18	211000001	+0331	1	6	274	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-74
748	14:25:22	2	0849	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	22	-73
749	14:25:38	2	1437	18	211000001	+0326	1	3	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-74
750	14:25:52	2	1984	18	211000001	+0331	1	2	1984	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	52	-73
751	14:25:55	1	2063	24	211000001	+0331	--	--	--		----	--	--	--	Crc Ok	0	-67
752	14:26:07	2	0274	18	211000001	+0333	1	5	R:1	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	6	-73
753	14:26:22	2	0849	18	211000001	+0331	1	2	849	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	21	-74
754	14:26:38	2	1437	18	211000001	+0331	1	2	1437	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-73
755	14:26:52	2	1984	18	211000001	+0331	1	1	14:26	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	51	-74
756	14:27:07	2	0274	18	211000001	+0331	1	4	274	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	7	-73
757	14:27:22	2	0849	18	211000001	+0331	1	1	14:27	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	22	-73
758	14:27:38	2	1437	18	211000001	+0328	1	1	14:27	53° 30,1234 N	010° 01,2345 E	150	3522	511	Crc Ok	37	-75

C.9   12.6.7   Base station reservations

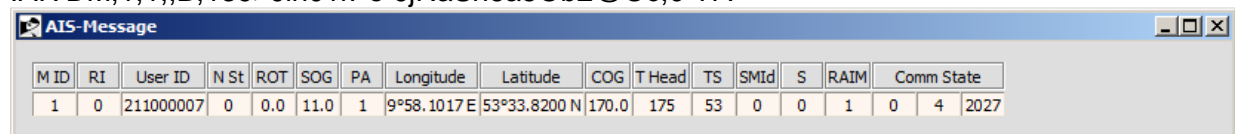a)   Reserved slot-numbers ending with xxx5, xxx6, xxx7, xxx8, xxx9 are not used by EUT:

b– f)   accordingly

No	Time	Ch.	Slot	Msg	MMSI	Start	Sync	To/n-k	Sub/Inc	Latitude	Longitude	SOG	COG	HDG	CRC	TS	Level	Freq.
1190	15:03:40	2	1513	4 >>	002110005		0	1	15:03	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1191	15:03:40	2	1503	18	211000001	+0328	1	4	1503	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	39	-73	-0325
1192	15:03:44	1	1660	18	211000001	+0328	1	1	15:03	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	43	-66	-0125
1193	15:03:49	2	1844	18	211000001	+0328	1	0	2248	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	48	-73	-0350
1194	15:03:50	1	1919	4 >>	002110005		0	6	1919	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1195	15:03:55	1	2061	18	211000001	+0328	1	6	2061	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	53	-66	-0125
1196	15:03:59	2	2230	18	211000001	+0328	1	2	2230	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	59	-73	-0350
1197	15:04:00	2	0016	4 >>	002110005		0	4	16	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1198	15:04:04	1	0181	18	211000001	+0328	1	1	14:57	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	4	-66	-0125
1199	15:04:10	2	0374	18	211000001	+0331	1	1	14:57	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	9	-74	-0125
1200	15:04:10	1	0399	4 >>	002110005		0	0	2201	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1201	15:04:14	1	0542	18	211000001	+0328	1	6	542	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	14	-66	-0100
1202	15:04:19	2	0736	4 >>	002110005		0	6	736	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1203	15:04:19	2	0743	18	211000001	+0331	1	1	14:57	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	19	-73	-0150
1204	15:04:24	1	0910	18	211000001	+0328	1	4	910	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	23	-66	-0100
1205	15:04:29	1	1126	4 >>	002110005		0	2	1126	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1206	15:04:30	2	1124	18	211000001	+0331	1	1	14:57	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	29	-74	-0125
1207	15:04:34	1	1282	18	211000001	+0328	1	7	R:1	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	33	-66	-0125
1208	15:04:40	2	1513	4 >>	002110005		0	0	2245	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1209	15:04:40	2	1503	18	211000001	+0328	1	3	R:1	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	39	-73	-0175
1210	15:04:44	1	1660	18	211000001	+0328	1	0	2262	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	43	-66	-0125
1211	15:04:49	2	1842	18	211000001	+0331	1	6	1842	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	48	-73	-0175
1212	15:04:50	1	1919	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1213	15:04:55	1	2061	18	211000001	+0331	1	5	R:1	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	54	-67	-0075
1214	15:04:59	2	2230	18	211000001	+0331	1	1	14:57	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	58	-74	-0125
1215	15:05:00	2	0016	4 >>	002110005		0	3	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1216	15:05:04	1	0181	18	211000001	+0328	1	0	2225	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	4	-66	-0125
1217	15:05:09	1	0350	4 >>	002110005		0	6	350	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1218	15:05:10	2	0374	18	211000001	+0326	1	3	2228	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	9	-73	-0325
1219	15:05:14	1	0542	18	211000001	+0328	1	5	R:1	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	14	-67	-0100
1220	15:05:19	2	0736	4 >>	002110005		0	5	R:0	53° 32,8200 N	009° 58,1017 E	--	--	--	Crc Ok	0		
1221	15:05:19	2	0743	18	211000001	+0328	1	0	2225	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	19	-74	-0350
1222	15:05:24	1	0910	18	211000001	+0331	1	3	R:1	53° 30,1234 N	010° 01,2345 E	250	3522	511	Crc Ok	23	-67	-0100

C.10   12.7.1   Received messages
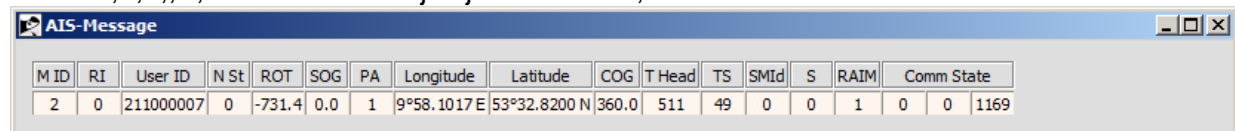
Msg.1:
!AIVDM,1,1,,B,139>Jih01fPe`JjNaSn6a5Ob2@Oc,0*7A

M ID	RI	User ID	N St	ROT	SOG	PA	Longitude	Latitude	COG	T Head	TS	SMId	S	RAIM	Comm State
1	0	211000007	0	0.0	11.0	1	9°58.1017 E	53°33.8200 N	170.0	175	53	0	0	1	0	4	2027

Msg.2:
!AIVDM,1,1,,A,239>JihP00Pe`JjN`tj>4?wR20BA,0*6F

M ID	RI	User ID	N St	ROT	SOG	PA	Longitude	Latitude	COG	T Head	TS	SMId	S	RAIM	Comm State
2	0	211000007	0	-731.4	0.0	1	9°58.1017 E	53°32.8200 N	360.0	511	49	0	0	1	0	0	1169

Msg.: 3
!AIVDM,1,1,,A,339>Jih01fPe`JjNaSn6a5OH22pQ,0*2E

AIS-Message

M ID	RI	User ID	N St	ROT	SOG	PA	Longitude	Latitude	COG	T Head	TS	SMId	S	RAIM	Comm State		
3	0	211000007	0	0.0	11.0	1	9°58.1017 E	53°33.8200 N	170.0	175	44	0	0	1	0	738	0	1

Msg.4:

!AIVDM,1,1,,A,439hEhAv8l`6UPe`JjN`tj1020;g,0*27

AIS-Message

M ID	RI	User ID	UTC Y	UTC M	UTC D	UTC h	UTC m	UTC s	PA	Longitude	Latitude	Dev	S	RIAM	Comm State	
4	0	211555777	2018	3	9	8	6	37	1	9°58.1017 E	53°32.8200 N	1	0	1	0	0	751

Msg. 5:

!AIVDM,2,1,3,A,539>Jih0Bm`L48?7;?AH@jm@E=@E80000000000j<Q@D:5U5?Gj0C@UDQh00,0*41
!AIVDM,2,2,3,A,00000000000,2*27

AIS-Message

M ID	RI	User ID	AIS V	IMO Nr	Call Sign	Name	Ship	A	B	C
5	0	211000007	0	1234567	ABC1234	VDL-TESTER@@@@@@@@@@	50	100	80	20

D	Dev	ETA	Draught	Destination	DTE	S
10	1	6 10 5:15	9.5	HAMBURG@@@@@@@@@@@@	0	0

Msg.6:

!AIVDM,1,1,,A,639>JipjCVd407i@E=@,2*4C

AIS-Message

M ID	RI	Source ID	Seq	Dest ID	Retrans F	S	DAC	FI
6	0	211000007	2	211000001	0	0	1	60
		TEST						

Msg. 7

!AIVDM,1,1,,B,739>JihjCVd5001u1P00;gL004p`,0*52

AIS-Message

M ID	RI	Source ID	S	Destination ID 1	Seq ID 1	Destination ID 2	Seq ID 2	Destination ID 3	Seq ID 3	Destination ID 4	Seq ID 4
7	0	211000007	0	211000001	1	8001	2	3005	3	5002	0

Msg. 8:

!AIVDM,1,1,,A,8020j=@0O51Dm0,4*5D

AIS-Message

M ID	RI	Source ID	S	DAC	FI
8	0	2110005	0	1	60
		TEST			

Msg. 9:
!AIVDM,1,1,,A,91aoPkhI?`0jFb0NqRP3Q;h060Bi,0*3A

	AIS-Message																_ □ ×

M ID	RI	User ID	Altitude	SOG	PA	Longitude	Latitude	COG	TS	Rgl App	DTE	S	AS	RAIM	Comm F	Comm State		
9	0	111009999	100	1000	0	11°00.0000 E	54°00.0000 N	90.0	47	0	0	0	1	1	0	75	0	1

Msg. 10: no output

Msg.11:
!AIVDM,1,1,,A,;39>Jiiv8l`@fPeWs0NaS4200000,0*6C

M ID	RI	User ID	UTC Y	UTC M	UTC D	UTC h	UTC m	UTC s	PA	Longitude	Latitude	Dev	S	RAIM	Comm State		
11	0	211000007	2018	3	9	8	16	46	1	9°58.0000 E	53°33.8000 N	2	0	0	0	0	0

Msg. 12:
!AIVDM,1,1,,B,<020j=DjCVd4C165DIPD5CDi,0*24

M ID	RI	Source ID	Seq Nr	Destination ID	Retrans F	S
12	0	2110005	1	211000001	0	0
				SAFETY TEST1		

Msg. 12: not addressed to EUT => no output

Msg. 13:
!AIVDM,1,1,,A,=020j=@jCVd5001u1P00;gL004p`,0*01

M ID	RI	Source ID	S	Destination ID 1	Seq ID 1	Destination ID 2	Seq ID 2	Destination ID 3	Seq ID 3	Destination ID 4	Seq ID 4
13	0	2110005	0	211000001	1	8001	2	3005	3	5002	0

Msg.13: not addressed to EUT => no output

Msg. 14:
!AIVDM,1,1,,A,>020j=@P4hhv1<4HEAV1@EQ@,0*29

M ID	RI	Source ID	S
14	0	2110005	0
	HALLO SAFETY TEXT		

Msg. 15:
Output with Tag-Block (UNIX-Time, Slot, Tar):
\0058CAEA,0541,117*60\!AIVDM,1,1,,A,?39>JihjCVd5P1@H0N39>JhDP2P,2*3D
\0058CAEA,0551,999*6F\!AIVDO,1,1,,A,B39>Jh@0L0;MsLWalo;L;wW0rP00,0*7E
\0058CAEA,0561,999*6C\!AIVDO,1,1,,A,H39>JhALD5@PE8@t<f1@E=@0000,0*4C
\0058CAEB,0571,999*6E\!AIVDO,1,1,,A,H39>JhALD5@PE8@t<f1@E=@0000,0*4C
\0058CAF7,1022,999*1A\!AIVDO,1,1,,A,H39>JhDUG43hhhh>f1f000000000,0*14
\0058CB04,1524,999*6F\!AIVDO,1,1,,A,H39>JhDUG43hhhh>f1f000000000,0*14

M ID	RI	Source ID	S	Dest ID 1	Msg ID 1.1	Slot Offset 1.1	S	Msg ID 1.2	S Offset 1.2	S	Dest ID 2	Msg ID 2.1	Slot Offset 2.1	S
15	0	211000007	0	211000001	24	20	0	24	30	0	211000001	18	10	0

M ID	RI	User ID	Rgl App	SOG	PA	Longitude	Latitude	COG	T Head	TS	Rgl App	B-Unit	B-MKD	B-DSC	B-Band	B-MSG22	Mode	RAIM	Comm F	Comm State
18	0	211000001	0	11.2	0	10°01.2345 E	53°30.1234 N	352.2	511	14	0	0	0	0	1	1	1	0	1	1	0	0	0

M ID	RI	User ID	P.Nr	Name	Ship Type	Manu.ID	Model Code	Serial No.	Call Sign	A	B	C	D	S
24	0	211000001	0	WEATHERDOCK TEST@@@@										

M ID	RI	User ID	P.Nr	Name	Ship Type	Manu.ID	Model Code	Serial No.	Call Sign	A	B	C	D	S
24	0	211000001	1		37	WDC	12	199728	N.A.@@@	0	0	0	0	0

Msg. 15: not addressed to EUT => no output

Msg. 16:
!AIVDM,1,1,,A,@020j=@jCVd4Bh00,0*46

M ID	RI	Source ID	S	Dest ID A	Slot Offset A	Incr A	Dest ID B	Slot Offset B	Incr B	S
16	0	2110005	0	211000001	300	0	0			

Msg. 16: not addressed to EUT => no output

Msg. 17:
!AIVDM,1,1,,A,A020j=@6T=0;02Oa05E@000;000F000Q,0*26

M ID	RI	Source ID	S	Longitude	Latitude	S	Msg Type	Station ID	Z Count	Seq	N	Health
17	0	2110005	0	11°12.3000 E	54°45.6000 N	0	9	1001	6.0	5	10	0
					@@@K@@@V@@@!							

Msg.18: (Class B CS)
!AIVDM,1,1,,A,B39>Qp01@0;Ivh7auK0j0bQUF001,0*7F

M ID	RI	User ID	Rgl App	SOG	PA	Longitude	Latitude	COG	T Head	TS	Rgl App	B-Unit	B-MKD	B-DSC	B-Band	B-MSG22	Mode	RAIM	Comm F	Comm State
18	0	211001824	0	32.0	0	9°58.0000 E	53°31.0000 N	80.0	85	3	0	1	0	1	0	1	0	1	1	0	0	0	1

Msg.18: (Class B SO)
!AIVDM,1,1,,B,B39>Qp01@0;Ivh7auK0j0bQUDD00,0*0B

M ID	RI	User ID	Rgl App	SOG	PA	Longitude	Latitude	COG	T Head	TS	Rgl App	B-Unit	B-MKD	B-DSC	B-Band	B-MSG22	Mode	RAIM	Comm F	Comm State	
18	0	211001824	0	32.0	0	9°58.0000 E	53°31.0000 N	80.0	85	3	0	1	0	1	0	1	0	1	0	5	0

Msg.19:
!AIVDM,1,1,,A,C39>Qnh1@0;Ivh7auK0j0bkPVP::8jv>NLI2H:V00000BRP?52bP,0*6E

M ID	RI	User ID	Rgl App	SOG	PA	Longitude	Latitude	COG	T Head	TS	Rgl App	Name
19	0	211001819	0	32.0	0	9°58.0000 E	53°31.0000 N	80.0	85	39	0	SPEEDY_GONZALES@@@@@

Ship	A	B	C	D	Dev	RAIM	DTE	AS	S
37	40	30	10	5	5	0	1	0	0

Msg.20:
!AIVDM,1,1,,A,DP20j=@6@@4d<PR9HBhlGLI16L8,2*7B

M ID	RI	Source ID	S	Slot Off 1	Sl 1	TO 1	Incr 1	Slot Off 2	Sl 2	TO 2	Incr 2	Slot Off 3	Sl 3	TO 3	Incr 3	Slot Off 4	Sl 4	TO 4	Incr 4	S
20	2	2110005	0	100	1	0	75	200	2	1	150	300	3	2	375	400	4	3	450	

Msg.21:
!AIVDM,1,1,,A,E>h8sjOUTRV2a@1:QT:@62bQT::0I;E0?Li@040`hqDh25DSLLdu=Mev>@,4*4E

M ID	RI	User ID	Aids Type	Aids Name	PA	Longitude	Latitude	A	B	C	D	Dev	TS	Off Pos	Rgl App	RAIM	A2N
21	0	990002121	31	KIELER BUCHT LEUCHTT	0	11°00.0000 E	54°00.0000 N	4	5	6	7	2	41	1	0	1	0

AS	S	Aid to Nav.Ext.	S
0	0	URM123456789	

Msg.22: (area)
!AIVDM,1,1,,A,F020j=B2B2H0<CR0r0FA3pL1P000,0*7B

M ID	RI	Station ID	S	Channel 1	Channel 2	Tx/Rx	P	Longitude 1	Latitude 1	Longitude 2	Latitude 2	Pos/Add	Ch1 Band	Ch2 Band	TZS	S
22	0	2110005	0	2084	2086	0	0	10°30.0000 E	55°00.0000 N	9°30.0000 E	53°00.0000 N	0	0	0	3	0

Msg.22: (addressed to EUT)
!AIVDM,1,1,,A,F020j=B2B2H1TW=H8000000AP000,0*13

M ID	RI	Station ID	S	Channel 1	Channel 2	Tx/Rx	P	Longitude 1	Latitude 1	Longitude 2	Latitude 2	Pos/Add	Ch1 Band	Ch2 Band	TZS	S
22	0	2110005	0	2084	2086	0	0	51513	2753	0	0	1	0	0	3	0

Msg.22: (addressed to other): => no output

Msg.23:
!AIVDM,1,1,,A,G020j=@69hwB0;8Qt>000000700,2*0B

AIS-Message

M ID	RI	Station ID	S	Longitude 1	Latitude 1	Longitude 2	Latitude 2	Stn-Type	Ship-Type	S	Tx/Rx	Rep.Rate	Quiet	S
23	0	2110005	0	10°30.0000 E	54°00.0000 N	9°30.0000 E	53°00.0000 N	0	0	0	0	7	0	0

Msg.24A:
!AIVDM,1,1,,A,H39>Qp1=0DDAV0Ltq`4hE<00000,2*5E

AIS-Message

M ID	RI	User ID	P.Nr	Name	Ship Type	Manu.ID	Model Code	Serial No.	Call Sign	A	B	C	D	S
24	0	211001824	0	SPEEDY GONZALES@@@@@										

Msg.24B:
!AIVDM,1,1,,A,H39>Qp4U123ijk0123iklm0`I340,0*6F

AIS-Message

M ID	RI	User ID	P.Nr	Name	Ship Type	Manu.ID	Model Code	Serial No.	Call Sign	A	B	C	D	S
24	0	211001824	1		37	ABC	12	470208	ABC1345	5	25	3	4	0

Msg. 25: (broadcast)
!AIVDM,1,1,,A,I39>Jil0O51Dm0,4*72

AIS-Message

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest ID	DAC	FI
25	0	211000007	0	1		1	60
		TEST					

Msg.25: (addressed to EUT)
!AIVDM,1,1,,A,I020j=HjCVd407i@E=@,2*79

AIS-Message

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest ID	DAC	FI
25	0	2110005	1	0	211000001		
		@A<TEST					

Msg.25: (addressed to other): => no output
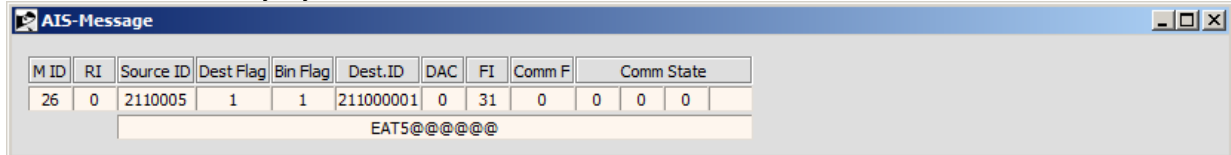
Msg.26: (broadcast)
!AIVDM,1,1,,A,J020j=D0O51Dm000000000000000,0*2F

AIS-Message

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest.ID	DAC	FI	Comm F	Comm State		
26	0	2110005	0	1		1	60	0	0	0	0
		TEST@@@@@@@@@@@@									

Msg.26: (addressed to EUT)
!AIVDM,1,1,,A,J020j=LjCVd407i@E=@000000000,0*4C

M ID	RI	Source ID	Dest Flag	Bin Flag	Dest.ID	DAC	FI	Comm F	Comm State		
26	0	2110005	1	1	211000001	0	31	0	0	0	0
					EAT5@@@@@@						

Msg.26: (addressed to other): => no output

Msg.27: => no output

Msg. (undefined)
!AIVDM,1,1,,A,WUNDEFINED@MESSAGE12,0*23

C.11   13.1 Regional area designation by VDL Message

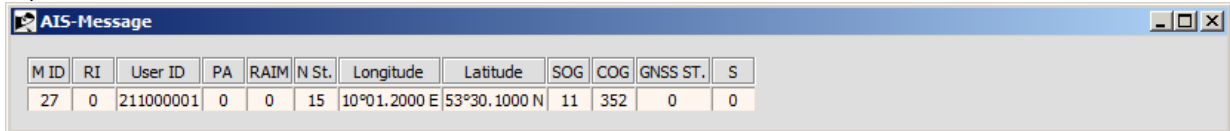## C.11.1 a) Area border transition

Item 1.:

```
\5AA6A6F1,1244,120*6F\!AIVDM,1,1,,A,F020j=Av9v@0<q23@0GL41l2P000,0*01
$AITXT,01,01,36,Channel management parameters changed*5D
$AIACA,0,5600.0,N,01100.0,E,5500.0,N,01000.0,E,6,2018,,2020,,0,,B,0,161233*2E
$GPRMC,161233,A,5530.1234,N,01215.2345,E,15,352.2,120318,2.0,E,A,S*47
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
$GPRMC,161234,A,5530.1234,N,01215.2345,E,15,352.2,120318,2.0,E,A,S*40
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
$PWDC,RES,ADC,0052,0001,4b,48,,,,,03ff,0096,0120*7D
$GPRMC,161235,A,5530.1234,N,01215.2345,E,15,352.2,120318,2.0,E,A,S*41
$HEHDT,359.9,T*29
$TIROT,0.0,A*3B
\5AA6A6F3,1326,120*68\!AIVDM,1,1,,A,F020j=AvIvP8>423@0Ij41l2P000,0*06
$AITXT,01,01,36,Channel management parameters changed*5D
$AIACA,0,5600.0,N,01100.0,E,5500.0,N,01000.0,E,6,2018,,2020,,0,,B,0,161233*2E
$AIACA,1,5600.0,N,01200.0,E,5500.0,N,01100.0,E,6,2022,,2024,,0,,B,0,161235*26
```

Item 2:

```
$AITXT,01,01,36,Channel management parameters changed*5D
$AIACA,0,5600.0,N,01100.0,E,5500.0,N,01000.0,E,6,2018,,2020,,0,,B,0,161233*2E
$AIACA,1,5600.0,N,01200.0,E,5500.0,N,01100.0,E,6,2022,,2024,,0,,B,1,160920*29
```

C.12   13.6   Long-range broadcast

a)

M ID	RI	User ID	PA	RAIM	N St.	Longitude	Latitude	SOG	COG	GNSS ST.	S
27	0	211000001	0	0	15	10°01.2000 E	53°30.1000 N	11	352	0	0

Annex D   Photos of equipment under test

D.1   Transponder unit

Figure 1 - EUT Front view

Figure 2 - EUT - Inside View

D.2
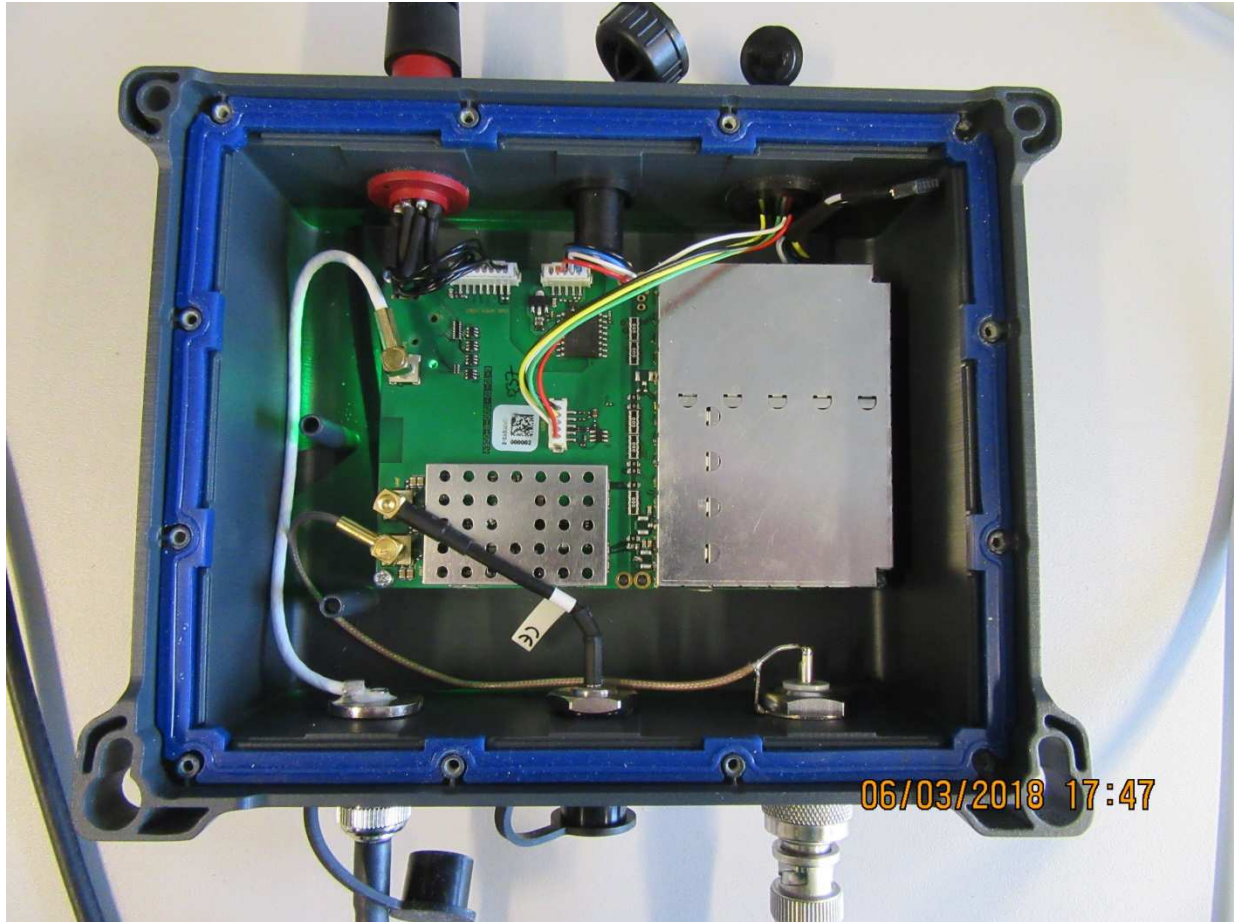
D.3 GPS antenna

Figure 3 - Test-Setup with GPS antenna