ZI des cinq chemins 56520 GUIDEL
Tél : (33)2 97 02 49 49 - Fax : (33)2 97 65 00 20
www.kannad.com

AIS AtoN Type 3

Rapports de tests « Essais fonctionnels selon la norme IEC62320-2 »

Tests Reports according to IEC62320-2 functionnals tests

PRODUCT: **TRANSPONDER**
Reference / model: 1202559
Serial number:
MANUFACTURER: KANNAD
Address: ZI des Cinq Chemins
B.P. 23
56520 GUIDEL (France)
Responsible: Mr SCHIAVA
DATE(S) OF TEST(S): 8 February to 20 Avril 2011
TESTING LOCATION:

DRD11072	A	12/05/11	DELLASCHIAVA D		PENN M
Id	Version	Date	Rédigé par		Approuvé par

Table des versions

Version	Titre
A	08/02/11

Documents annexes

Id	Titre

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1. INTRODUCTION.

Ce rapport fournit les resultats des tests fonctionnels selon la norme IEC 62320-2, du transponder AIS AtoN 3 model : 1202559

This report provides the results of functionnal tests performed on the Transponder, model: 1202559, according to the standard IEC62320-2.

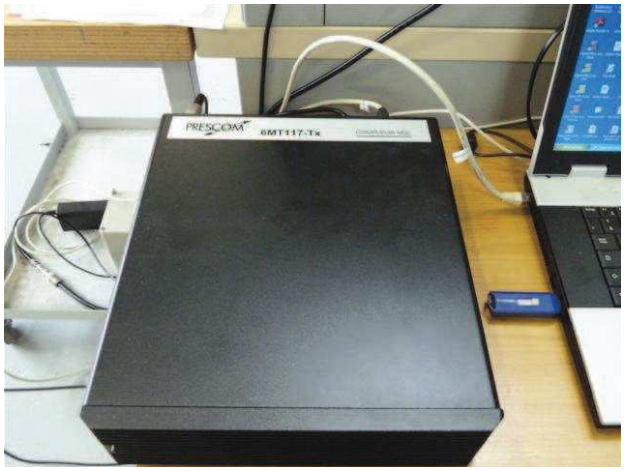
2. TESTS EQUIPMENTS USED

2.1. AIS TRANSMITTER AND RECEIVER

See Annexe 1

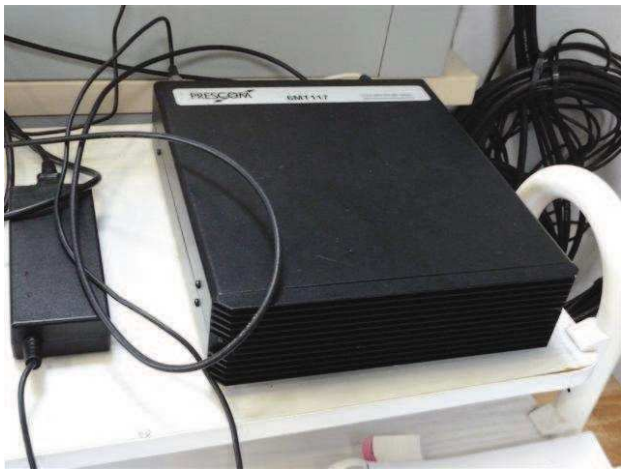
2.1.1. TRANSMITTER AIS

Materiel : MT117-TX
Manufacturer : PRESCOM



2.1.2. RECEIVER AIS

Materiel : Prescom Référence MT117



2.2. REFERENCE AIS TRANSMITTER AND RECEIVER

Fabricant : SAAB
Reference :R40 AIS BASE STATION
P/N 7000 100-971
S/N 2041
Certificat CE: CE0413

2.3. AIS GENERATOR

AGILENT E4438C
ESG Vector signal Generator
S/N: MY45092482
Calibrated on : 23.09.2010
Recal due : 23.09.2012

3. EQUIPMENT UNDER TEST

One Transponder, model: 1202559 S/N AVS-001 supplying by 12Vdc source and in normal mode

Photo :

4. TEST REPORT

4.1. CONFIGURE TEST MESSAGE 21

Chap. 8.1.1 IEC62320-2

4.1.1. CONFIGURATION METHOD

AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

Parameters :

Real AtoN

MMSI number 991234567

Type of AtoN : 20

Name: TEST FLOATING AIS ATON STATION

Position Accuracy 0

dimension/reference for position: “A=B=C=D=5”;

type of EPFS: 1

off-position threshold: 200 m

Power Level 12W

4.1.2. TESTS

A) Read configuration from EUT.

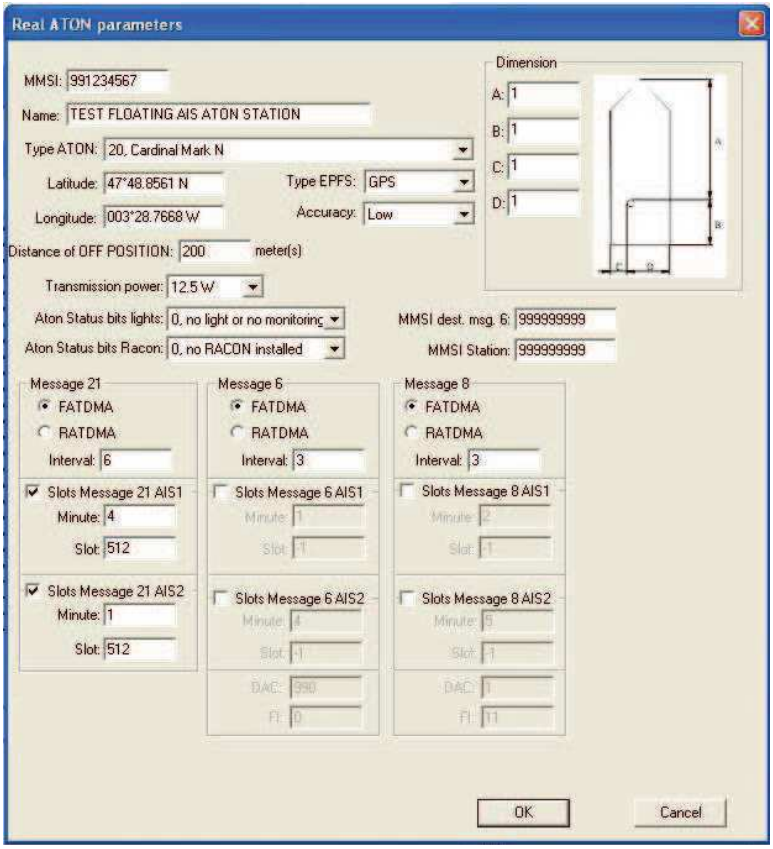
B) Remove power from the EUT for 5 min. Switch on the EUT. Read configuration from EUT

4.1.3. TESTS REPORTS

A)The parameters have been correctly set and accepted by EUT: PASS

B) The parameters have been retained after power cycle: PASS

SCREENSHOT :


Real ATON parameters
MMSI: 991234567
Name: TEST FLOATING AIS ATON STATION
Type ATON: 20, Cardinal Mark N
Latitude: 47°48.8561 N
Longitude: 003°28.7668 W
Type EPFS: GPS
Accuracy: Low
Distance of OFF POSITION: 200 meter(s)
Transmission power: 12.5 W
Aton Status bits lights: 0, no light or no monitoring
Aton Status bits Racon: 0, no RACON installed
MMSI dest. msg. 6: 999999999
MMSI Station: 999999999
Dimension
A: 1
B: 1
C: 1
D: 1
Message 21
FATDMA
RATDMA
Interval: 6
Slots Message 21 AIS1
Minute: 4
Slot: 512
Slots Message 21 AIS2
Minute: 1
Slot: 512
Message 6
FATDMA
RATDMA
Interval: 3
Slots Message 6 AIS1
Slots Message 6 AIS2
Message 8
FATDMA
RATDMA
Interval: 3
Slots Message 8 AIS1
Slots Message 8 AIS2
OK
Cancel

4.2. SCHEDULE MODE A FATDMA MESSAGE 21

Chap 8.1.2 IEC62320-2

4.2.1. CONFIGURATION METHOD

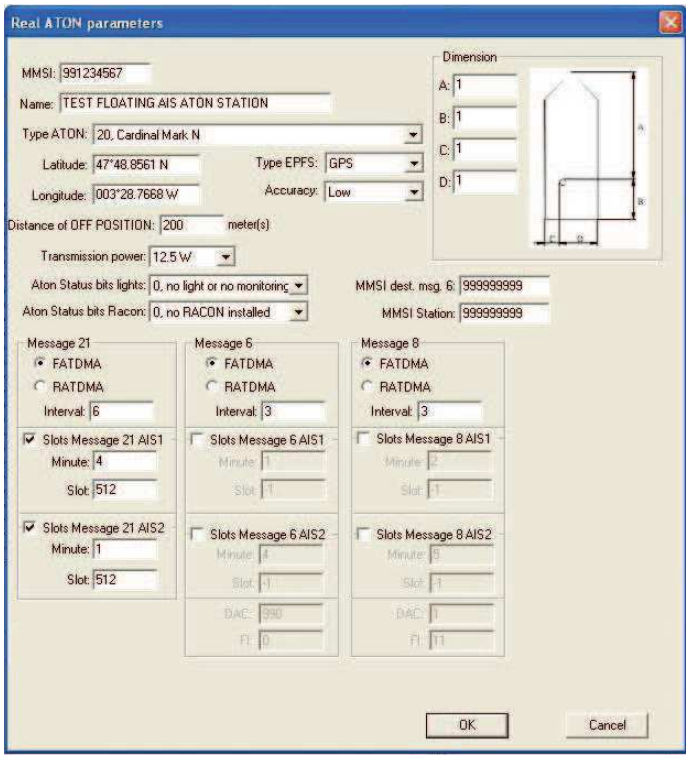
AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

Parameters :

Idem 5.1.1 with

start on Channel 2;
. start slot: 512;
. reporting interval: 3 min;
. frame for the first transmission in every UTC hour: UTC minute: 1;

Screenshot:



4.2.2. TESTS

A) The EUT is started 2minutes ahead of s schedule transmission.
B) Run the test over the hour and day boundary

4.2.3. TESTS REPORTS REAL ATON

A)The channel 1 transmissions occur in minutes 4,10,16,22,28,34,40,46,52,58 in the slot 512:PASS

B) The channel 2 transmissions occur in minutes 1,7,13,19,25,31,37,43,49,55 in the slot 512:PASS

C) reporting behavior is consistent through the hour and day boundaries : PASS

D)Transmitted data is correct: PASS

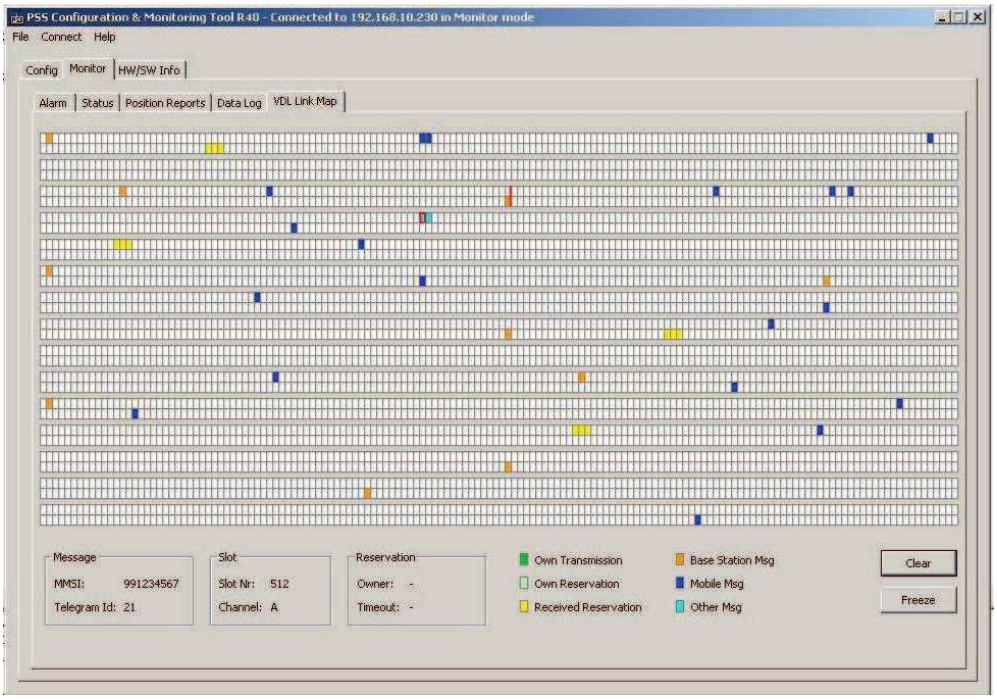
Screenshot “Message 21 Channel A”.

Radio Channel	A	
Payload	E>iD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	32	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479207	3° 28,7524' W
Latitude	47,814290	47° 48,8574' N
Dimension to Bow	1	meters
Dimension to Stern	1	meters
Length	2	meters, (calculated)
Dimension to Port	1	meters
Dimension to Starboard	1	meters
Beam	2	meters, (calculated)
Type of EPFD	1	GPS
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	1	RAIM in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

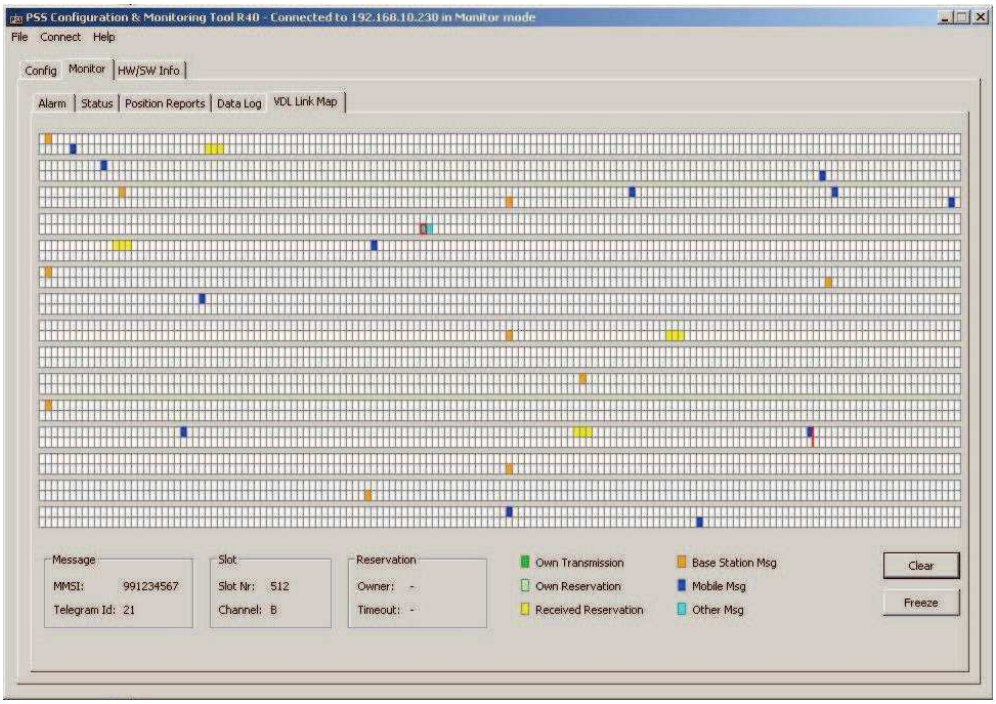
Screenshot “Message 21 Channel B”.

Radio Channel	B	
Payload	E>iD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	34	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479392	3° 28,7635' W
Latitude	47,814220	47° 48,8530' N
Dimension to Bow	1	meters
Dimension to Stern	1	meters
Length	2	meters, {calculated}
Dimension to Port	1	meters
Dimension to Starboard	1	meters
Beam	2	meters, {calculated}
Type of EPFD	1	GPS
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	1	RAIM in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot :”Slot number Message 21 Channel A”



Screenshot :"Slot number Message 21 Channel B"

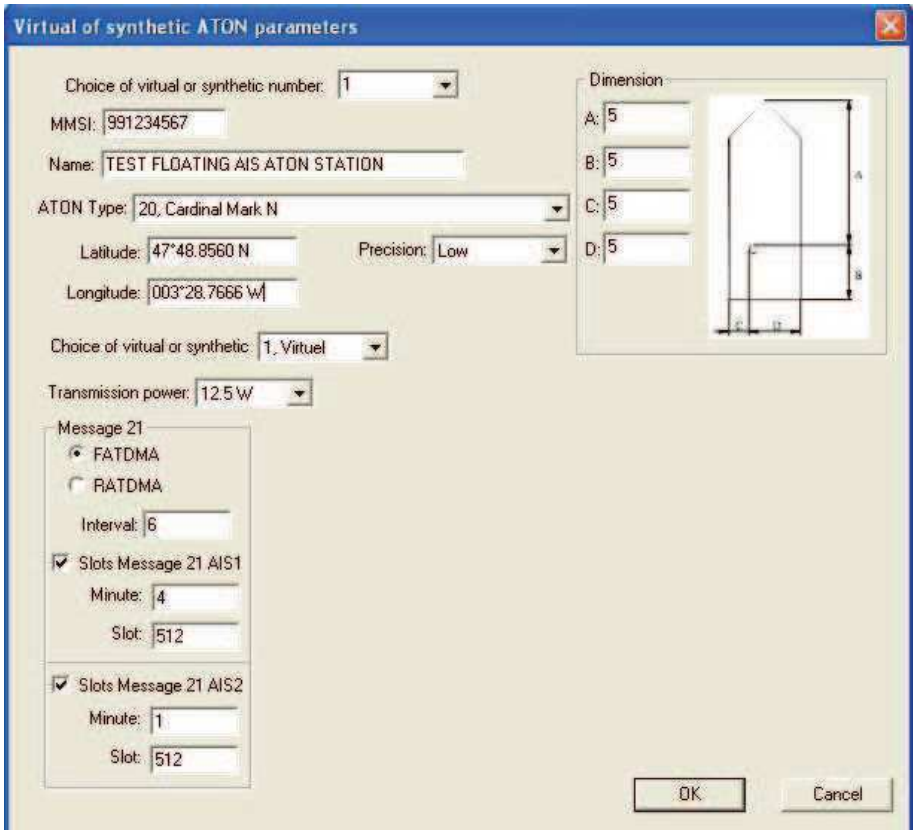


See Annexe A1 for the received data file:

4.2.4. TESTS REPORTS VIRTUAL ATON

The tests is repeated for Virtual AtoN:

Screenshot of configuration:



A)The channel 1 transmissions occur in minutes 4,10,16,22,28,34,40,46,52,58 in the slot 512:PASS
B) The channel 2 transmissions occur in minutes 1,7,13,19,25,31,37,43,49,55 in the slot 512:PASS

C) reporting behavior is consistent through the hour and day boundaries : PASS

D)Transmitted data is correct: PASS

E)Repeat Indicator is 3: PASS

F)Virtual AtoN Flag is 1: PASS

G)Low or High accuracy according parameters: PASS

Screenshot “Message 21 Channel A”. (Low accuracy)

Radio Channel	A	
Payload	EviD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	7F	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	3	Do not repeat
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	0	>= 10m unaugmented GNSS fix (default)
Longitude	-3,479443	3° 28,7666' W
Latitude	47,814270	47° 48,8560' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, {calculated}
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, {calculated}
Type of EPFD	7	Surveyed
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	0	RAIM not in use
Virtual-aid flag	1	simulated aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot “Message 21 Channel B” (Low accuracy).

Radio Channel	B	
Payload	EviD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	7B	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	3	Do not repeat
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	0	>= 10m unaugmented GNSS fix (default)
Longitude	-3,479443	3° 28,7666' W
Latitude	47,814270	47° 48,8560' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	7	Surveyed
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	0	RAIM not in use
Virtual-aid flag	1	simulated aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

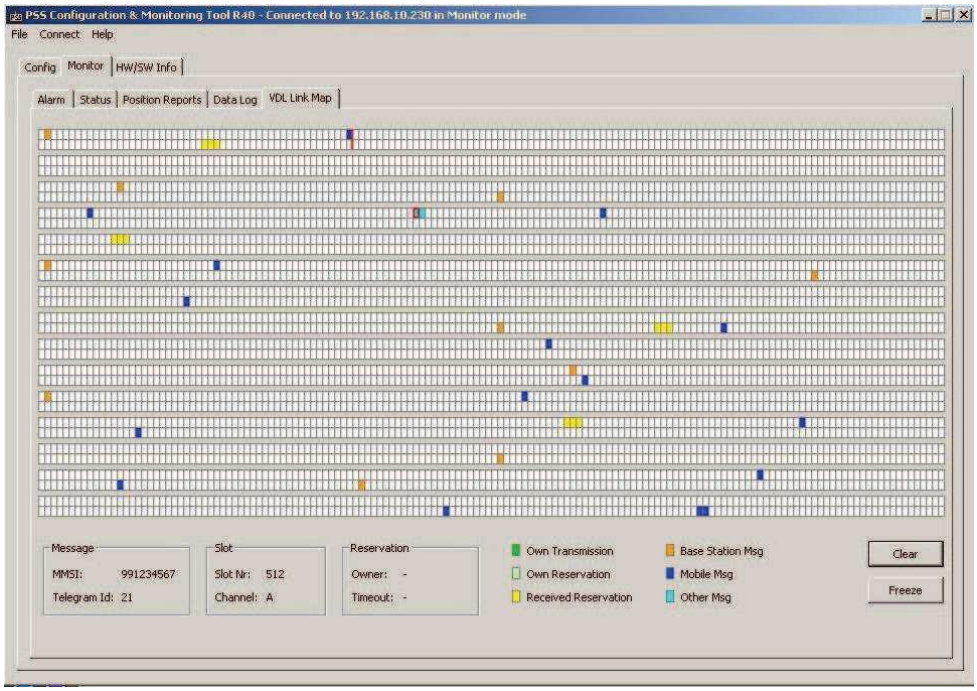
Screenshot “Message 21 Channel A”. (High accuracy)

Radio Channel	A	
Payload	EviD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	0A	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	3	Do not repeat
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479443	3° 28,7666' W
Latitude	47,814270	47° 48,8560' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	7	Surveyed
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	0	RAIM not in use
Virtual-aid flag	1	simulated aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

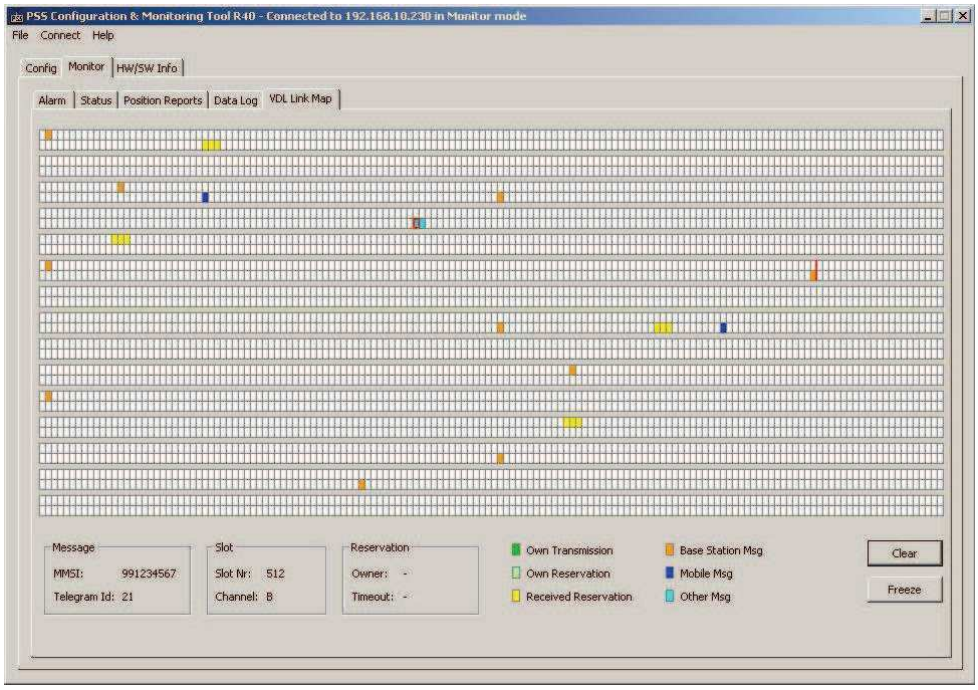
Screenshot “Message 21 Channel B” (High accuracy).

Radio Channel	B	
Payload	EviD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	01	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	3	Do not repeat
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479443	3° 28,7666' W
Latitude	47,814270	47° 48,8560' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	7	Surveyed
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	0	RAIM not in use
Virtual-aid flag	1	simulated aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot :”Slot number Message 21 Channel A”



Screenshot :"Slot number Message 21 Channel B"

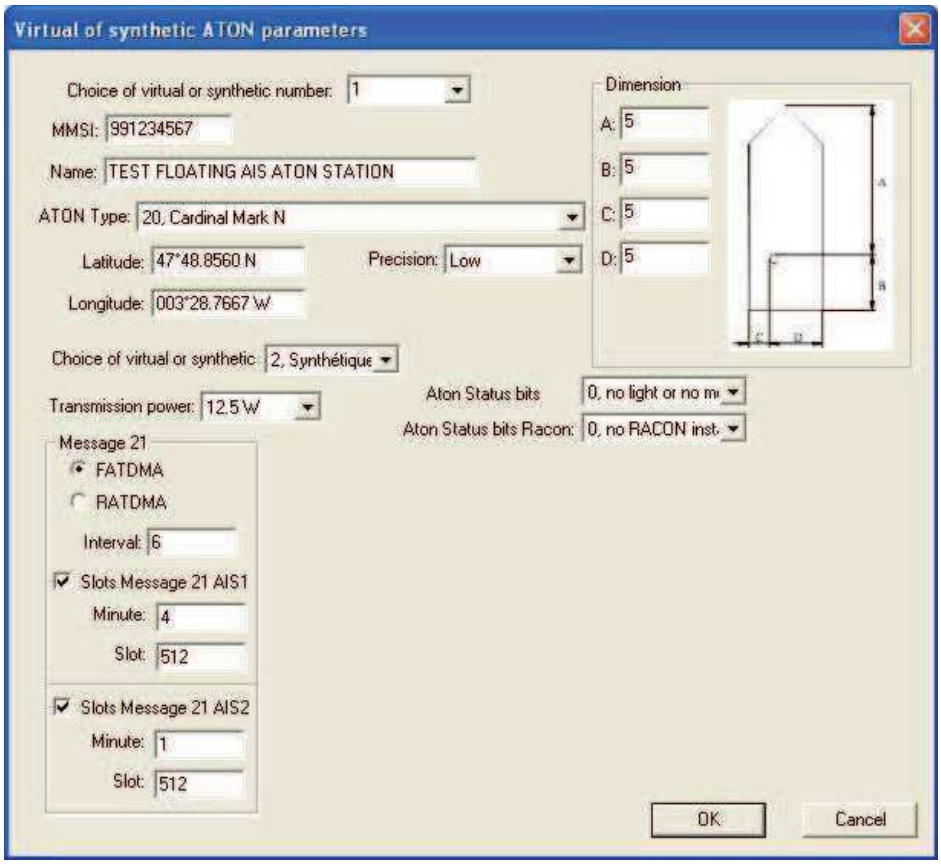


See Annexe B for the received data file:

4.2.5. TESTS REPORTS SYNTHETIC ATON

The tests is repeated for Synthetic AtoN:

Screenshot of configuration:



A)The channel 1 transmissions occur in minutes 4,10,16,22,28,34,40,46,52,58 in the slot 512:PASS
B) The channel 2 transmissions occur in minutes 1,7,13,19,25,31,37,43,49,55 in the slot 512:PASS
C) reporting behavior is consistent through the hour and day boundaries : PASS
D)Transmitted data is correct: PASS
E)Repeat Indicator is 3: PASS
F)Virtual AtoN Flag is 0: PASS
G)Low or High accuracy according parameters: PASS

Screenshot “Message 21 Channel A”. (High accuracy).

Radio Channel	A	
Payload	EviD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	0E	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	3	Do not repeat
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479443	3° 28,7666' W
Latitude	47,814270	47° 48,8560' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	7	Surveyed
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	0	RAIM not in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

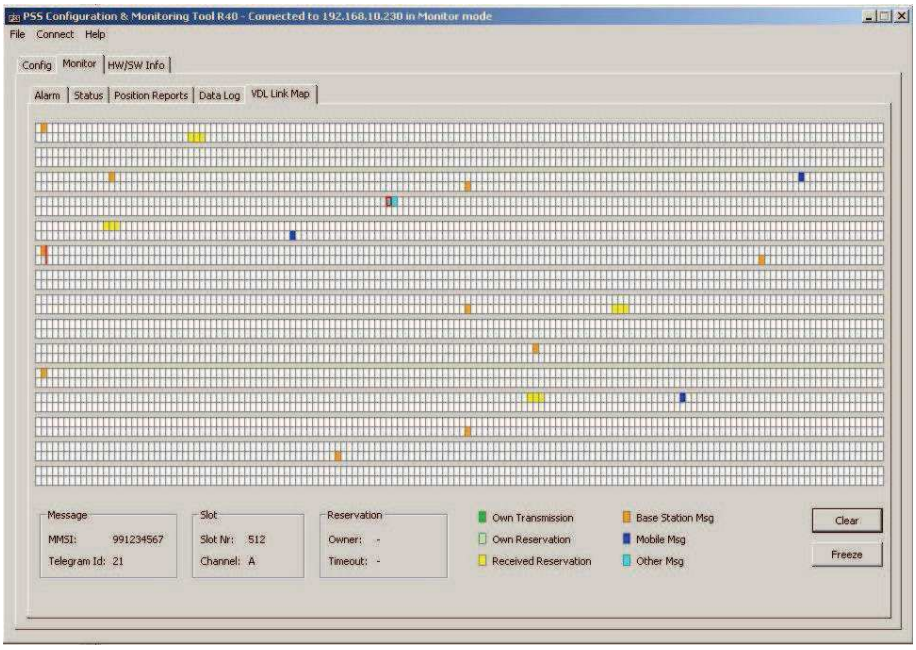
Screenshot “Message 21 Channel B” (Low accuracy).

Radio Channel	B	
Payload	EviD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	7D	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	3	Do not repeat
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	0	>= 10m unaugmented GNSS fix (default)
Longitude	-3,479443	3° 28,7666' W
Latitude	47,814270	47° 48,8560' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	7	Surveyed
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	0	RAIM not in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

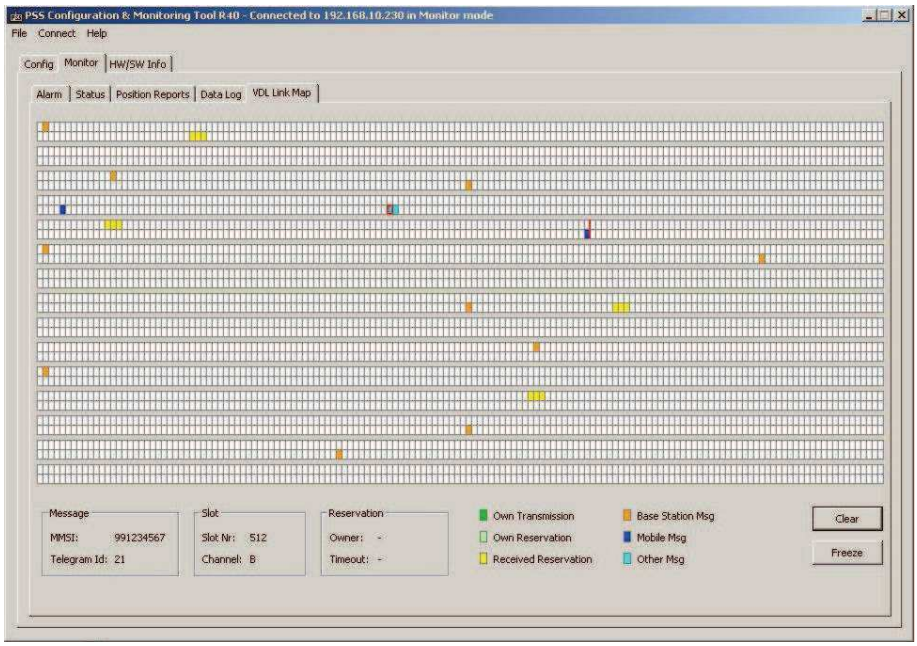
Screenshot “Message 21 Channel B” (High accuracy).

Radio Channel	B	
Payload	EviD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	01	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	3	Do not repeat
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479443	3° 28,7666' W
Latitude	47,814270	47° 48,8560' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, {calculated}
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, {calculated}
Type of EPFD	7	Surveyed
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	0	RAIM not in use
Virtual-aid flag	1	simulated aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot :”Slot number Message 21 Channel A”



Screenshot :"Slot number Message 21 Channel B"



See Annexe C for the received data file:

4.3. SCHEDULE MODE B FATDMA MESSAGE 21

Chap 8.1.3 IEC62320-2

4.3.1. CONFIGURATION METHOD

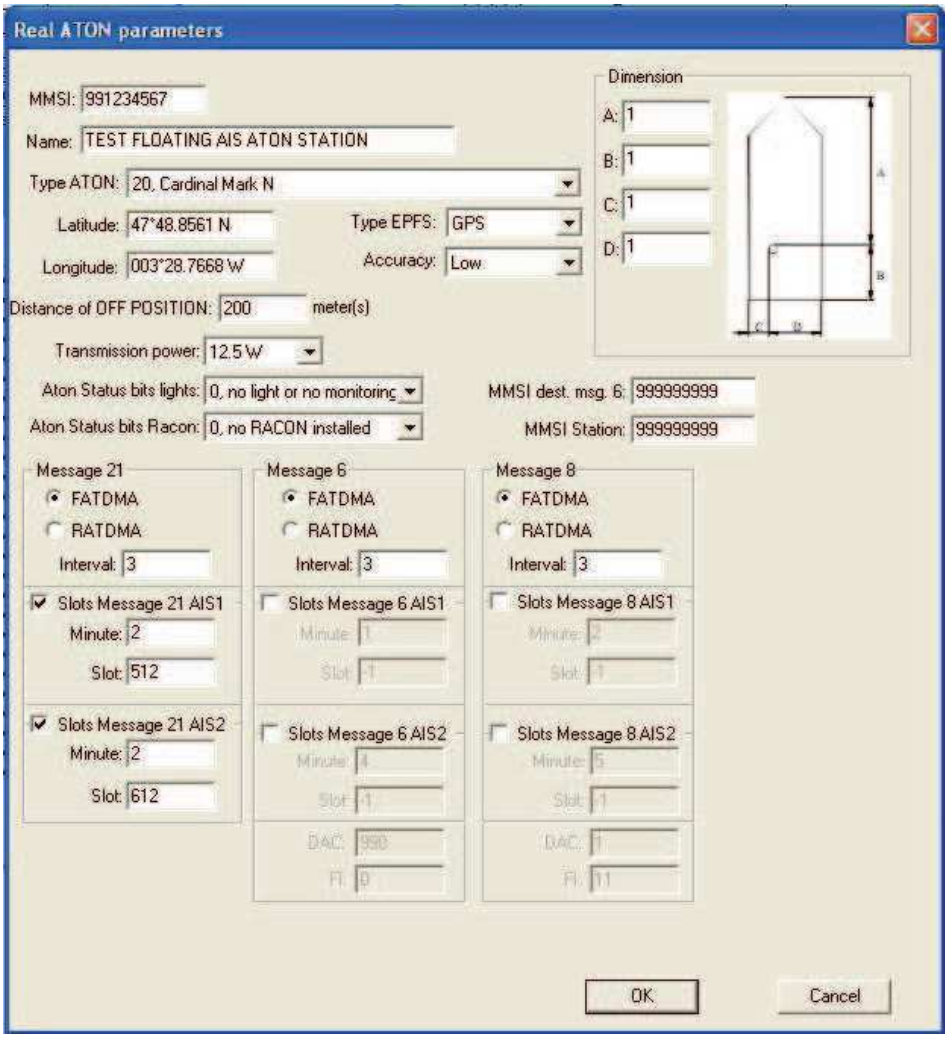
AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

Parameters :

Idem 5.1.1 with

Channel 1: slot 512;
Channel 2: slot 612;
reporting interval: 3 min;
frame for the first transmission in every UTC hour: UTC minute: 2;

Screenshot of configuration:



4.3.2. TESTS

A) The EUT is started 2minutes ahead of s schedule transmission.
B) Run the test over the hour and day boundary

4.3.3. TESTS REPORTS

A)The channel 1 transmissions occur in minutes
2,5,8,11,14,17,20,23,26,29,32,35,38,41,44,47,50,53,56,59 in the slot 512: PASS

B) The channel 2 transmissions occur in minutes
2,5,8,11,14,17,20,23,26,29,32,35,38,41,44,47,50,53,56,59 in the slot 612 PASS

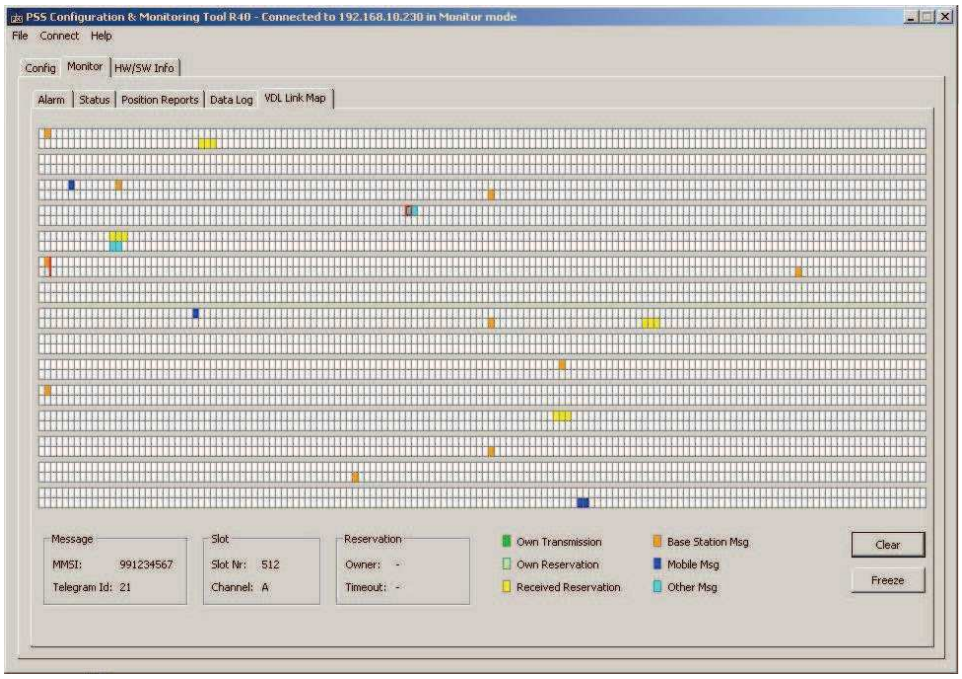
C) reporting behavior is consistent through the hour and day boundaries PASS

D)Transmitted data is correct : PASS

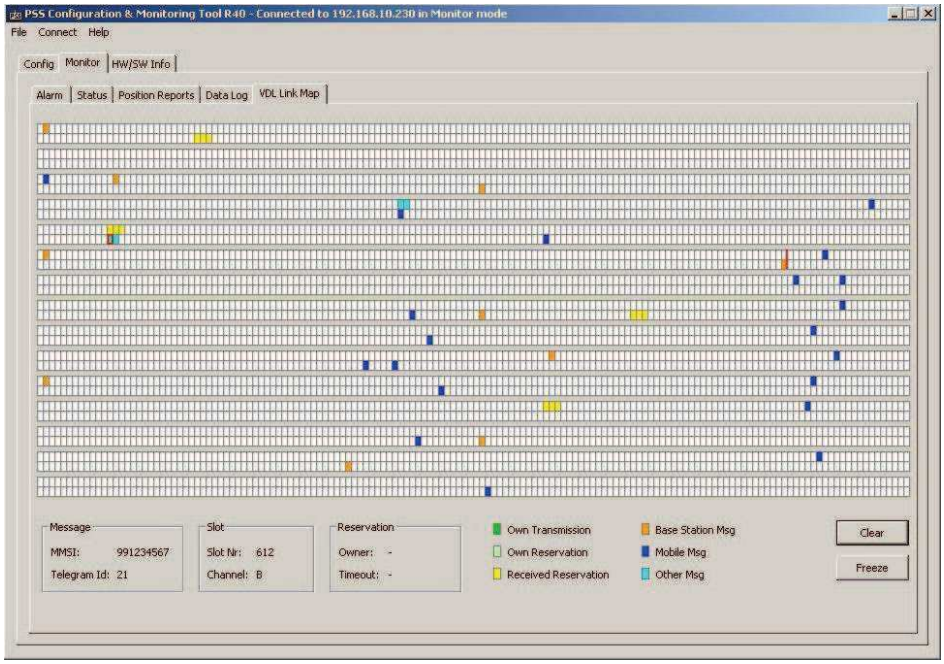
Screenshot “Message 21 Channel A”

Radio Channel	A	
Payload	E>iD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	24	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479408	3° 28,7645' W
Latitude	47,814210	47° 48,8525' N
Dimension to Bow	1	meters
Dimension to Stern	1	meters
Length	2	meters, (calculated)
Dimension to Port	1	meters
Dimension to Starboard	1	meters
Beam	2	meters, (calculated)
Type of EPFD	1	GPS
UTC Second	13	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	1	RAIM in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot :”Slot number Message 21 Channel A”



Screenshot :"Slot number Message 21 Channel B"



See Annexe D for the received data file:

4.4. SCHEDULE MODE C FATDMA MESSAGE 21

Chap 8.1.4 IEC62320-2

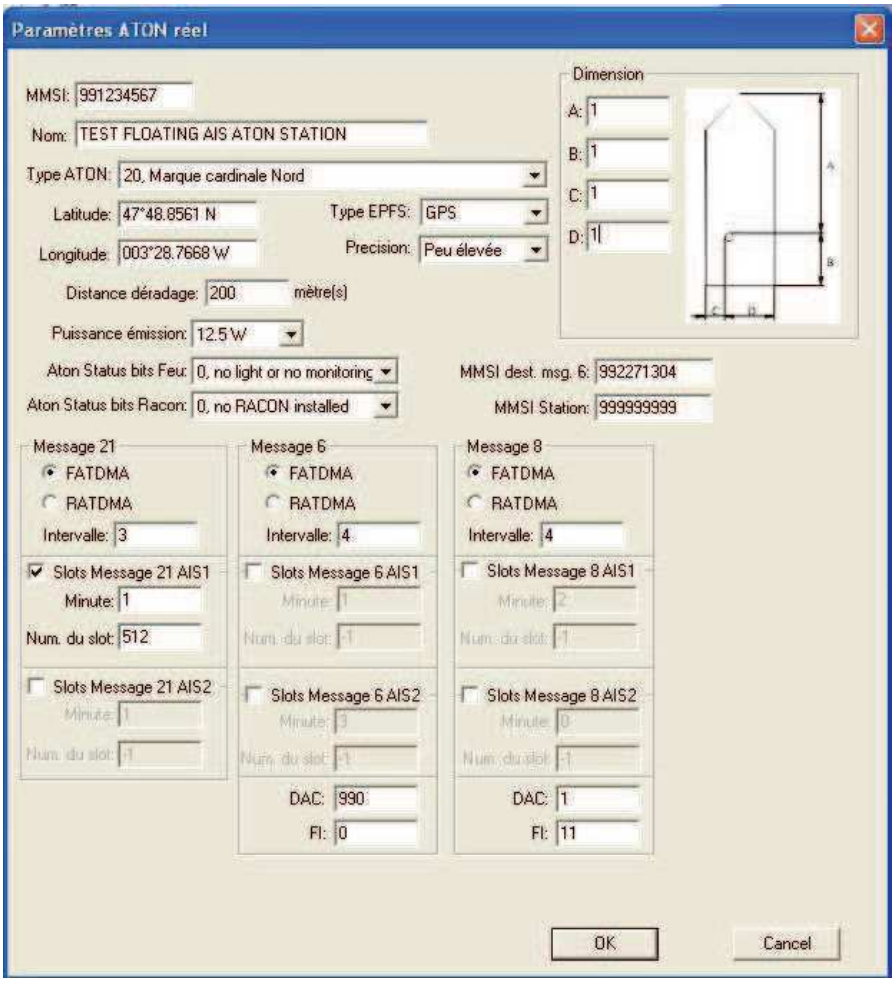
4.4.1. CONFIGURATION METHOD

AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

Parameters :

Idem 5.1.1 with
Channel 1: slot 512;
reporting interval: 3 min;
frame for the first transmission in every UTC hour: UTC minute: 1;

Screenshot of configuration:



4.4.2. TESTS

A) The EUT is started 2minutes ahead of schedule transmission.
B) Run the test over the hour and day boundary

4.4.3. TESTS REPORTS

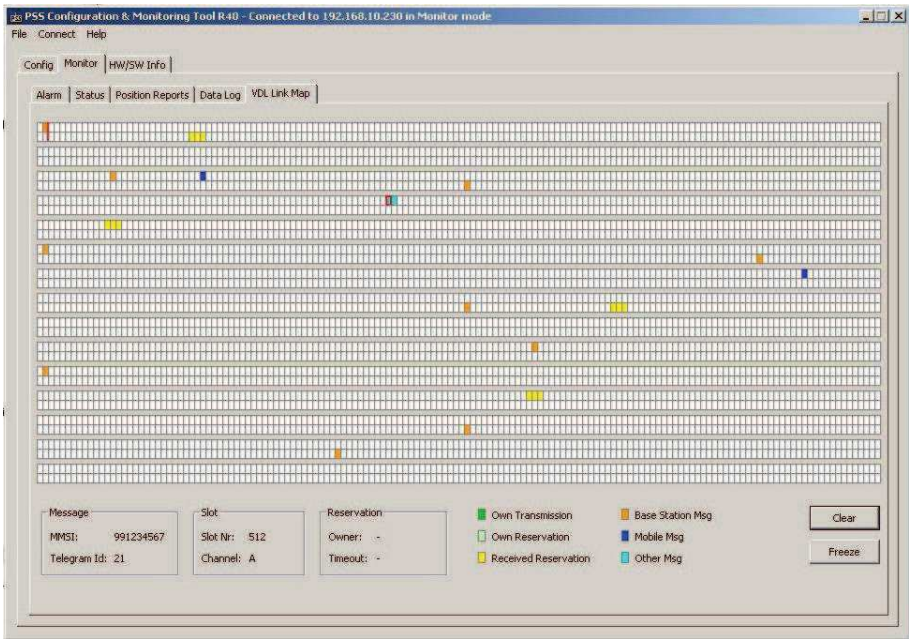
A)The channel 1 transmissions occur in minutes
1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58 in the slot 512: PASS

B) No transmitted data on the The channel 2: PASS

C) reporting behavior is consistent through the hour and day boundaries : PASS

D)Transmitted data is correct : PASS

Screenshot “Message 21 Channel A”



See Annexe E for the received data file:

4.5. SCHEDULE MODE A RATDMA MESSAGE 21

Chap 8.1.5 IEC62320-2

4.5.1. CONFIGURATION METHOD

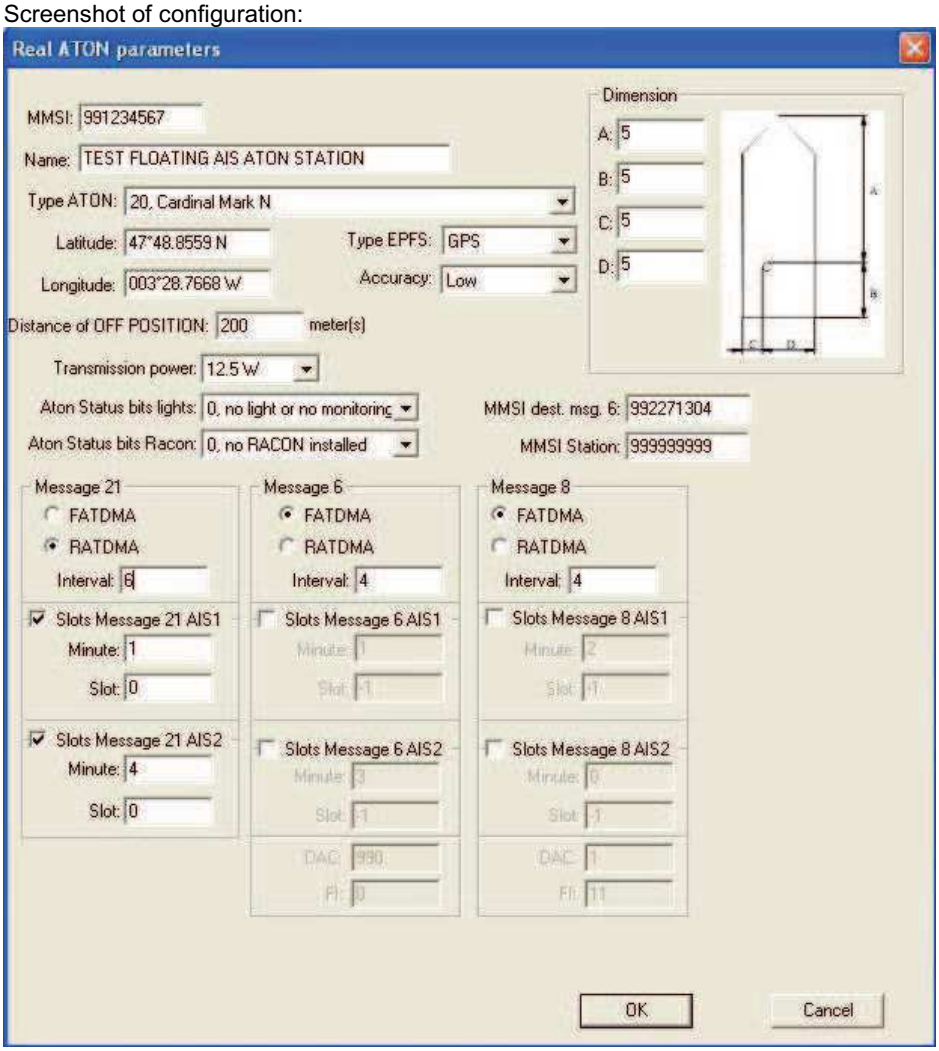
AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

Parameters :

Idem 5.1.1 with

Channel 1: UTC minute 1 with time interval 6mn
Channel 2: UTC minute 4 with time interval 6mn

Screenshot of configuration:



4.5.2. TESTS REPORTS

A)The EUT uses RATDMA mode and tle slot selection is ramdom within the correct frames: PASS

B) THE EUT alternates the transmission channel with the correct reporting intervals: PASS

D)Transmitted data is correct: PASS

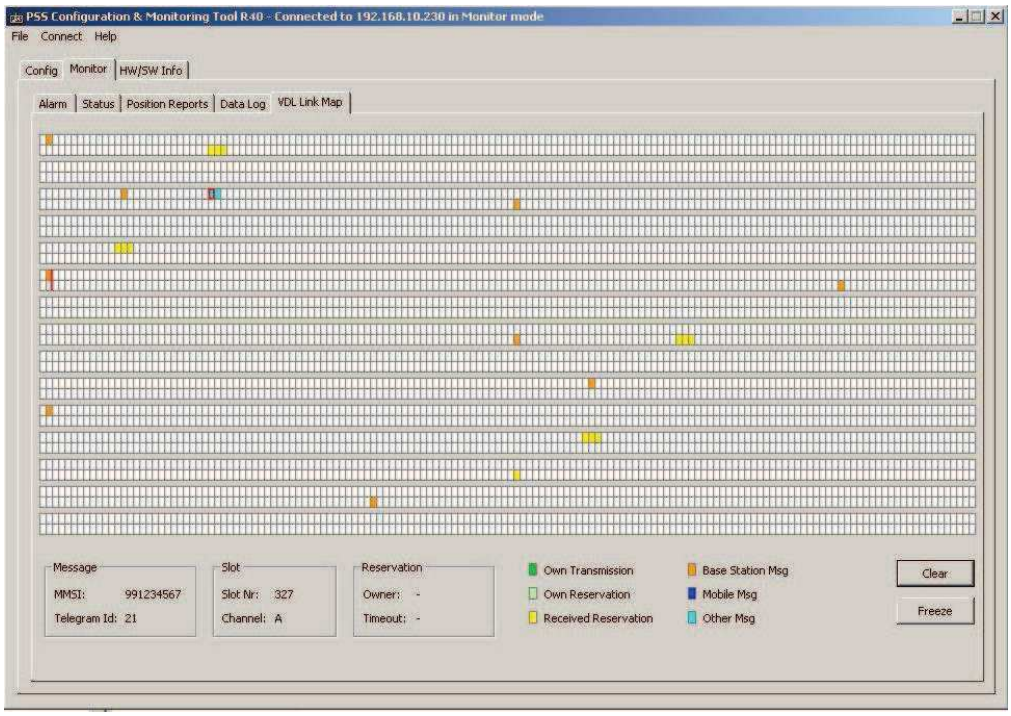
Screenshot “Message 21 Channel A”

Radio Channel	A	
Payload	E>iD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	69	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479462	3° 28,7677' W
Latitude	47,814200	47° 48,8521' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	1	GPS
UTC Second	57	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	1	RAIM in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

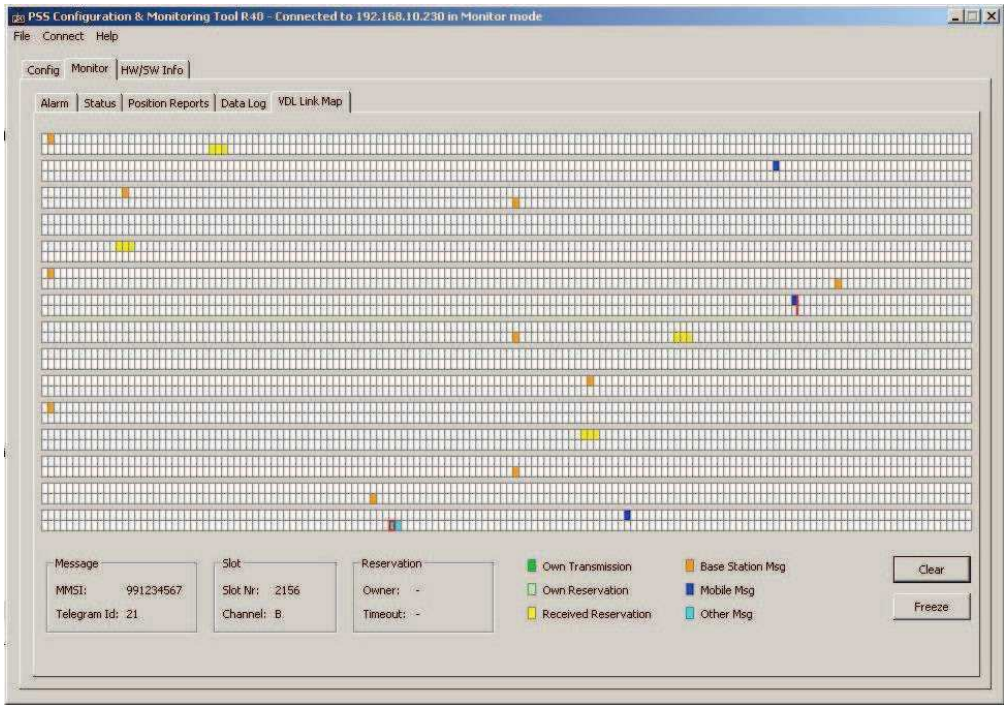
Screenshot “Message 21 Channel B”

Radio Channel	B	
Payload	E>iD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	6A	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479347	3° 28,7608' W
Latitude	47,814250	47° 48,8553' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	1	GPS
UTC Second	08	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	1	RAIM in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot :”Slot number Message 21 Channel A”



Screenshot :"Slot number Message 21 Channel B"



See Annexe F for the received data file:

4.5.3. TESTS REPORTS WITH VDL LOAD

The different test scenarios to verify the algorithms' intentional slot reuse, "according tothe recommendation M1371 are given in Annex F.

Test 1 : Case 8 of M1371

Test 2 : Case 7 of M1371

Test 3 : Case 4 of M1371

Test 4 : Case 3 of M1371

Test 5 : Case 6 of M1371

Test 6 : Case 5 of M1371

Test 7 : Case 2 of M1371

Test 8 : Case 1 of M1371

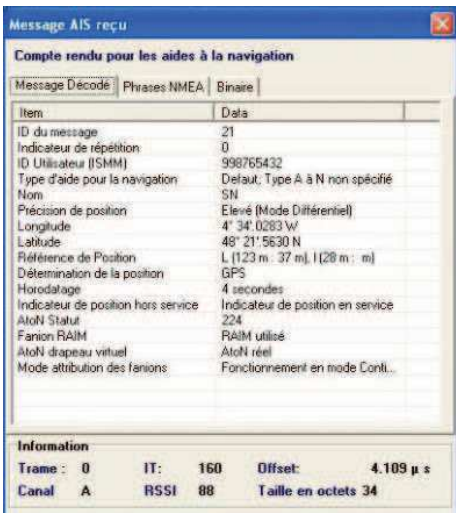
Fichiers XML :

Case 8 : according M1371

AtoN must transmits between slot 152 to 158 on channel A : PASS

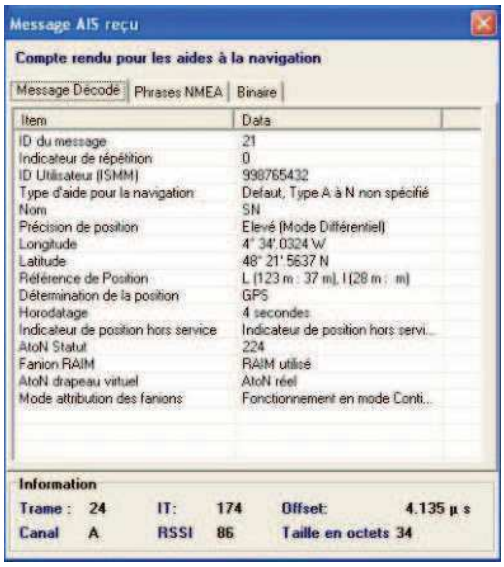
Case 7 : according M1371

AtoN must transmits between slot 160 to 170 on channel A : PASS



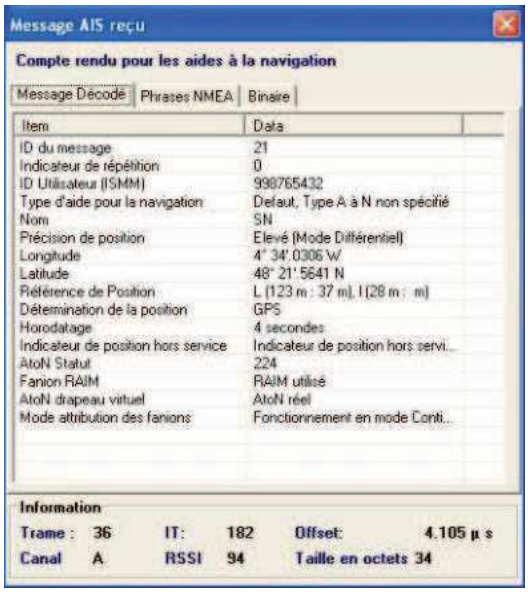
Case 4 : according M1371

AtoN must transmits between slot 174 to 180 on channel A : PASS


Message AIS reçu
Compte rendu pour les aides à la navigation
Message Décodé
Phrases NMEA
Binaire
Item
Data
ID du message
21
Indicateur de répétition
0
ID Utilisateur (ISMM)
998765432
Type d'aide pour la navigation
Défaut, Type A à N non spécifié
Nom
SN
Précision de position
Elevé (Mode Différentiel)
Longitude
4° 34'.0324 W
Latitude
48° 21'.5637 N
Référence de Position
L (123 m : 37 m), I (28 m : m)
Détermination de la position
GPS
Horodatage
4 secondes
Indicateur de position hors service
Indicateur de position hors servi...
AtoN Statut
224
Fanion RAIM
RAIM utilisé
AtoN drapeau virtuel
AtoN réel
Mode attribution des fanions
Fonctionnement en mode Conti...
Information
Trame : 24
IT: 174
Offset: 4.135 µ s
Canal A
RSSI 86
Taille en octets 34

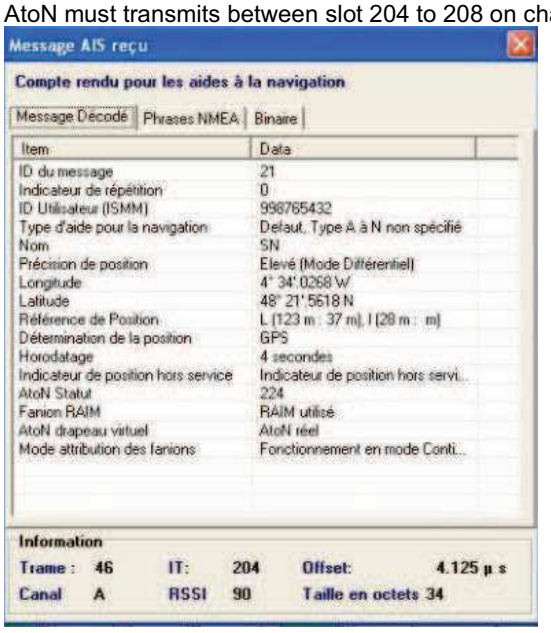
Case 3 : according M1371

AtoN must transmits between slot 182 to 188 on channel A : PASS



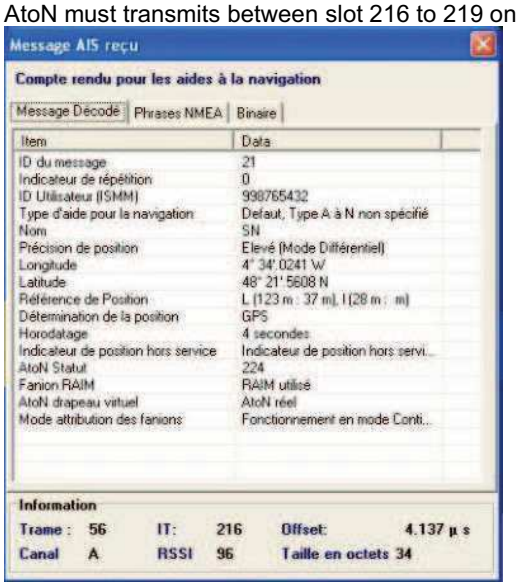
Case 6 : according M1371

AtoN must transmits between slot 204 to 208 on channel A : PASS



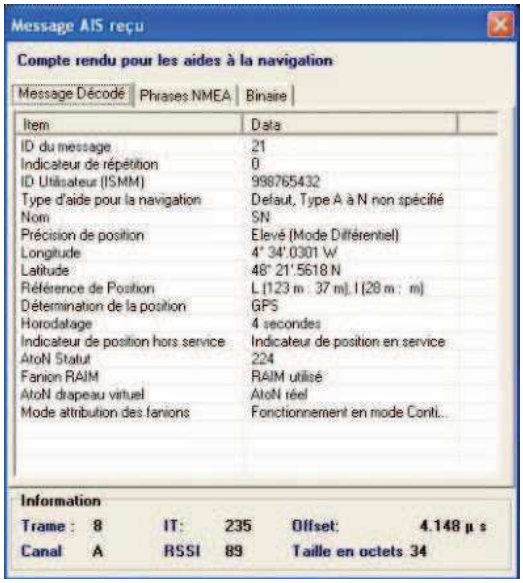
Case 5 : according M1371

AtoN must transmits between slot 216 to 219 on channel A : PASS



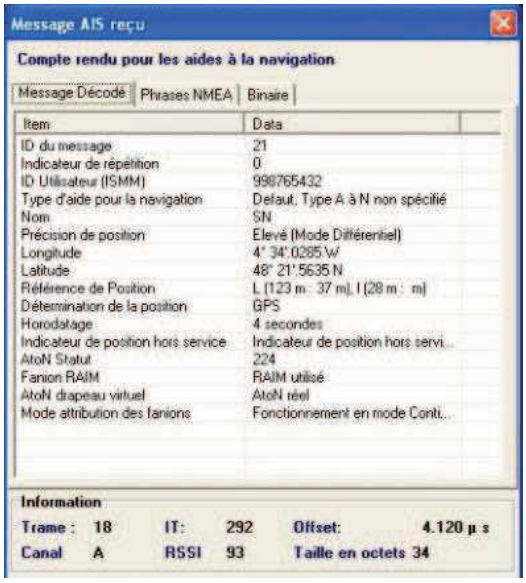
Case 2 : according M1371

AtoN must transmits between slot 234 to 238 on channel A : PASS



Case 1 : according M1371

AtoN must transmits between slot 292 to 296 on channel A : PASS



4.6. SCHEDULE MODE B RATDMA MESSAGE 21

Chap 8.1.6 IEC62320-2

4.6.1. CONFIGURATION METHOD

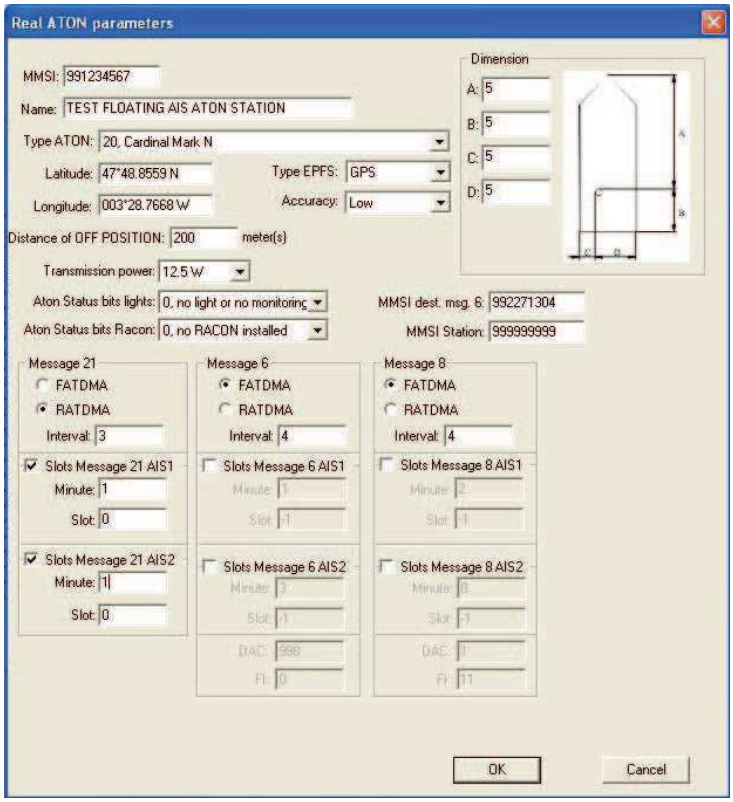
AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

Parameters :

Idem 5.1.1 with

Channel 1: UTC minute 1 with time interval 3mn
Channel 2: UTC minute 4 with time interval 3mn

Screenshot of configuration:



4.6.2. TESTS REPORTS

A)The EUT uses RATDMA mode and tle slot selection is ramdom within the 1min interval :PASS

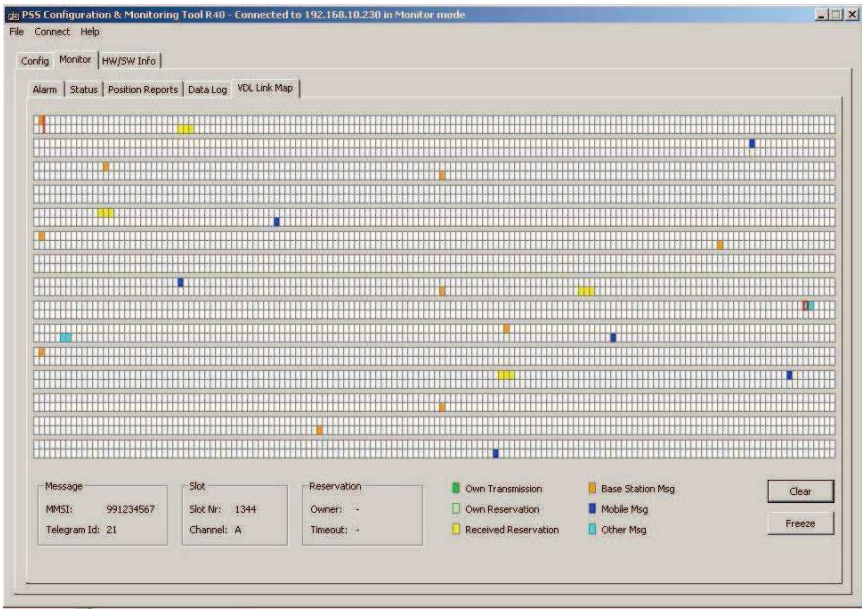
B) THE EUT uses dual report in less than 4 seconds succession : PASS

D)Transmitted data is correct: PASS

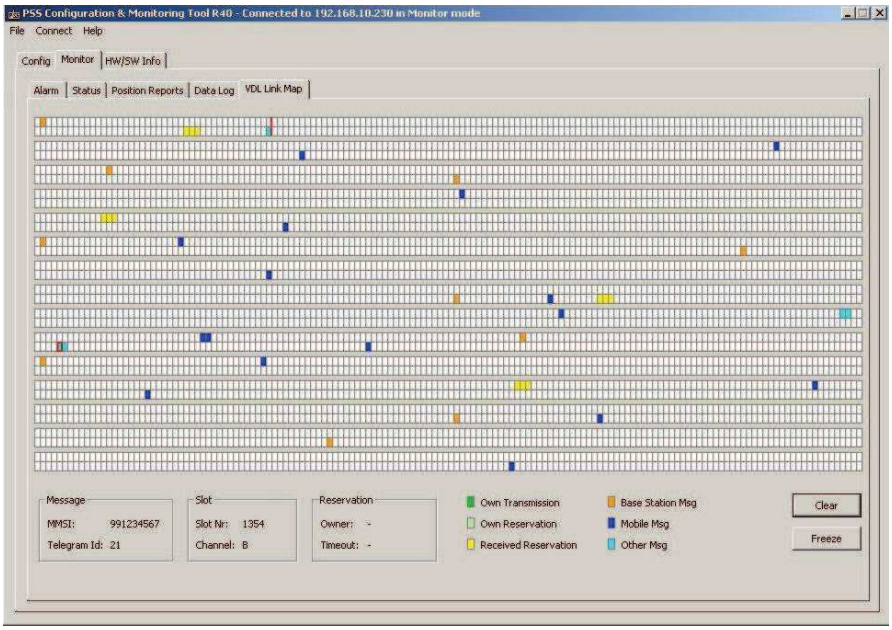
Screenshot “Message 21 Channel A”

Radio Channel	A	
Payload	E>iD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	44	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479370	3° 28,7622' W
Latitude	47,814330	47° 48,8596' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	1	GPS
UTC Second	35	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	1	RAIM in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot :”Slot number Message 21 Channel A”



Screenshot :"Slot number Message 21 Channel B"



See Annexe G for the received data file:

4.7. SCHEDULE MODE C RATDMA MESSAGE 21

Chap 8.1.7 IEC62320-2

4.7.1. CONFIGURATION METHOD

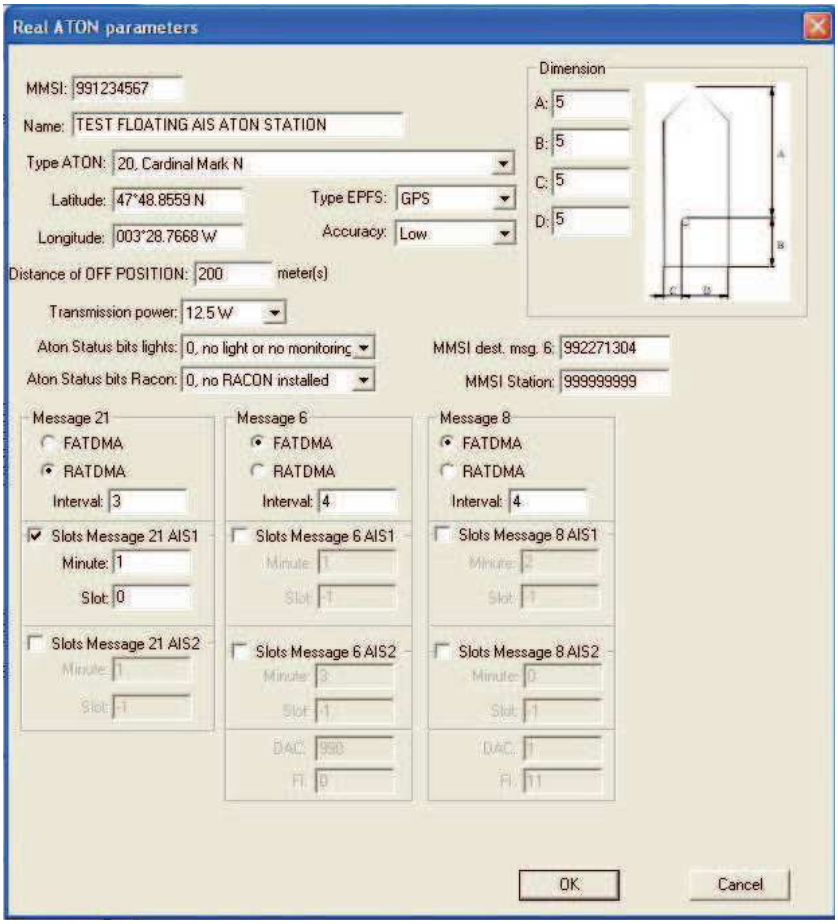
AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

Parameters :

Idem 5.1.1 with

Channel 1: UTC minute 1 with time interval 3mn
Channel 2: no transmission

Screenshot of configuration:



4.7.2. TESTS REPORTS

A)The EUT uses RATDMA mode and tle slot selection is ramdom within the 1min interval: PASS

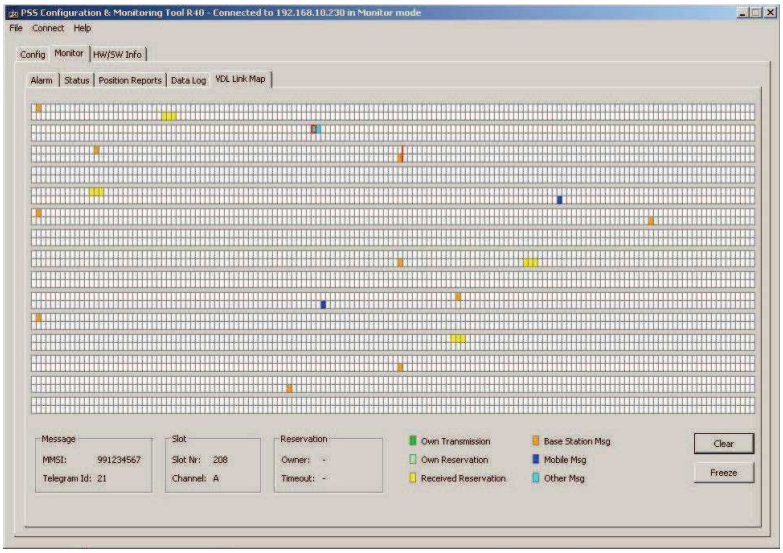
B) THE EUT uses single report on channel 1 : PASS

D)Transmitted data is correct: PASS

Screenshot “Message 21 Channel A”

Radio Channel	A	
Payload	E>iD:1r:2ab@367Pb4W3h	336 bits (42 8-bit words)
Fill bits	0	
CRC check	53	
Vessel Name		Not yet received
AIS Message Type	21	Aid-to-Navigation Report
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Aid type	20	Cardinal Mark N
Name	TEST FLOATING AIS AT	20 characters
Position Accuracy	1	<= 10m DGPS quality fix
Longitude	-3,479330	3° 28,7598' W
Latitude	47,814420	47° 48,8651' N
Dimension to Bow	5	meters
Dimension to Stern	5	meters
Length	10	meters, (calculated)
Dimension to Port	5	meters
Dimension to Starboard	5	meters
Beam	10	meters, (calculated)
Type of EPFD	1	GPS
UTC Second	05	Second of UTC timestamp
Off-Position Indicator	0	on position
Regional reserved	224	8 bits
RAIM Flag	1	RAIM in use
Virtual-aid flag	0	real aid
Assigned	0	Station operating in autonomous mode (default)
Spare	0	1 bits
Name Extension	ON STATION	10 characters

Screenshot :”Slot number Message 21 Channel B”



See Annexe H for the received data file:

4.8. ADDRESSED BINARY DATA MESSAGE 6

Chap 8.1.8 IEC62320-2

4.8.1. CONFIGURATION METHOD

see recommendation IALA A126

AtoN AIS is configured with proprietary software "KanAton3_configV1.0.1.exe"

The technical message 6 to emit are received on the RS232 serial link on a request made by a NMEA sentence to an interface card. The interface card responds to this request with a phrase containing NMEA data to be issued (See manual)

Query:

$AIMCR,MMMMMM,01,Q*hh<CR><LF>

With MMMM=MMSI of the AtoN

Response:

$AIMCR,MMMMM,01,DDD..DDD,R*hh<CR><LF>

With MMMM=MMSI of the AtoN

With DD…DDD=donnee pour message 6

Maximum number of data : 36

Minimum numbert of data : 2

Parameters :

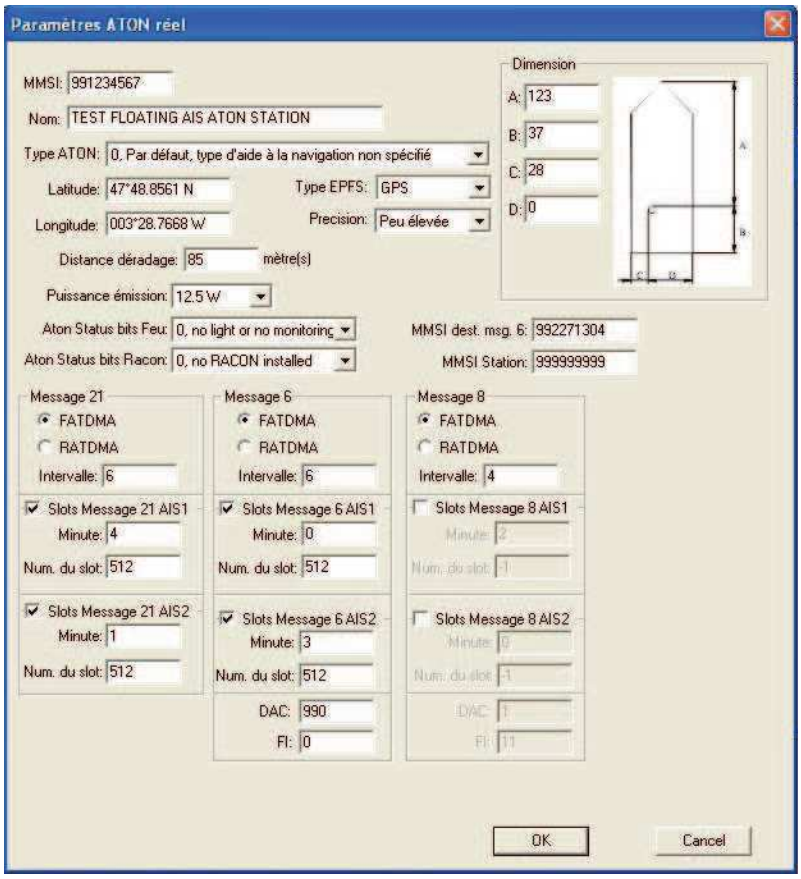
For message 21 :Idem 5.1.1 and 5.2.1

4.8.2. TESTS FATDMA MODE A

4.8.2.1. **Configuration**

A) configure the EUT with FATDMA mode A: slot 512

Screenshot of configuration



B) Without Acknoledgement
NMEA SENTENCE :
$AIMCR,991234567,01,7E3B3C3E7E,R*40

C) Transmit sentence $AIMCR with 37 data
NMEA SENTENCE :
$AIMCR,991234567,01,7E3B3C3E7E7E3B3C3E7E7E3B3C3E7E7E3B3C3E7E7E3B3
C3E7E7E3B3C3E7E7E3B3C3E7E7E3B,R*43

D) Transmit sentence $AIMCR with 36 data
$AIMCR,991234567,01,7E3B3C3E7E7E3B3C3E7E7E3B3C3E7E7E3B3C3E7E7E3B3
C3E7E7E3B3C3E7E7E3B3C3E7E7E,R*32

4.8.2.2.TestS REPORTS FATDMA mode A

A)The channel 1 transmissions occur in minutes 4,10,16,22,28,34,40,46,52,58 in the slot 512 : PASS
The channel 2 transmissions occur in minutes 1,7,13,19,25,31,37,43,49,55 in the slot 512 : PASS
The message content is conform : PASS
The message 21 is always transmitted: PASS

B)The message is always sent : PASS
C) The message is not sent : PASS
D)Transmitted data is correct : PASS

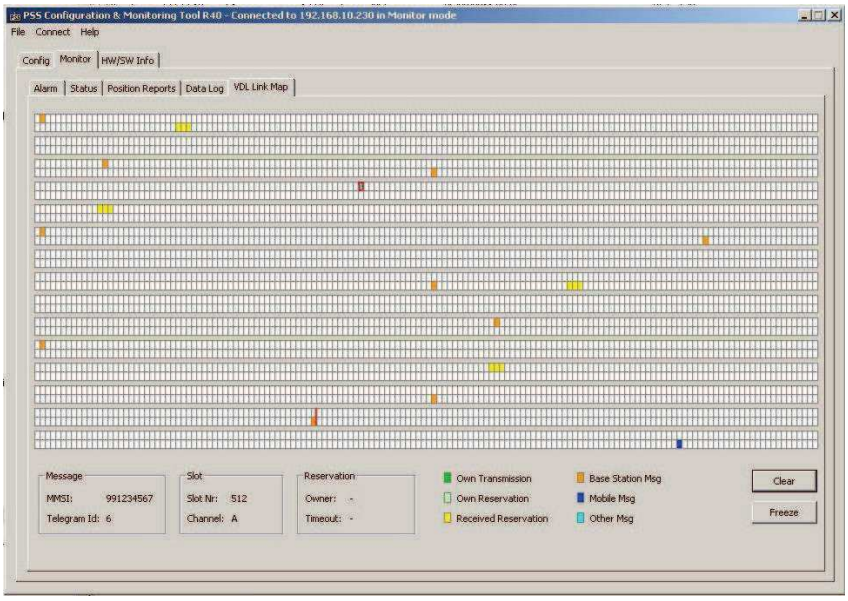
Screenshot of message 6 channel A:

Radio Channel	A	
Payload	6>iD:1kdTntPOSdt?Wp	112 bits (14 8-bit words)
Fill bits	2	
CRC check	38	
Vessel Name		Not yet received
AIS Message Type	6	Addressed Binary Message
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Sequence Number	0	
Destination MMSI	992271304	Aid to Navigation
MID	227	France
Retransmit Flag	0	
Spare	0	1 bits
Binary Data	13320323033003321332	Hex Binary Data (40 bits)
DAC	504	not in use
DAC	504	not in use

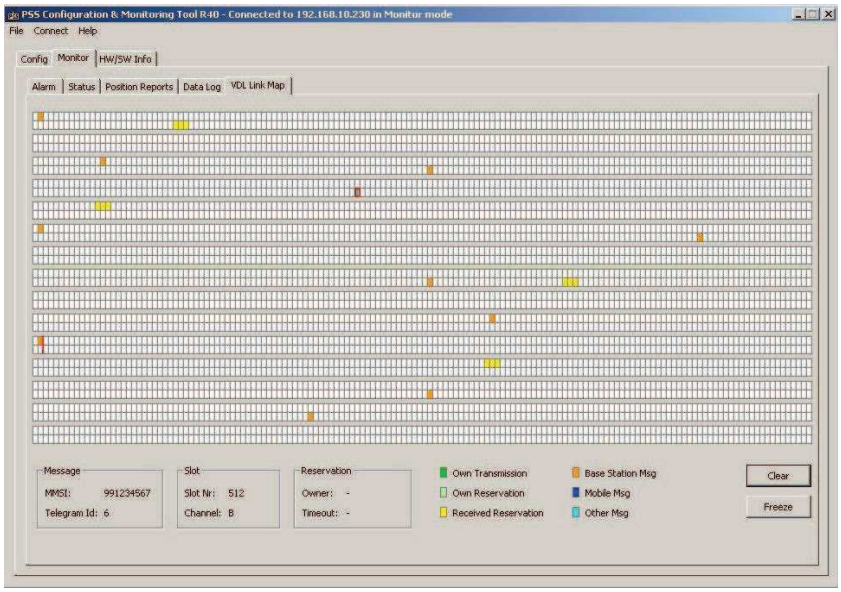
Screenshot of message 6 channel B:

Radio Channel	B	
Payload	6>iD:1kdTntPOSdt?Wp	112 bits (14 8-bit words)
Fill bits	2	
CRC check	3B	
Vessel Name		Not yet received
AIS Message Type	6	Addressed Binary Message
Repeat Indicator	0	Repeatable
MMSI	991234567	Aid to Navigation
MID	0	Not defined
Sequence Number	0	
Destination MMSI	992271304	Aid to Navigation
MID	227	France
Retransmit Flag	0	
Spare	0	1 bits
Binary Data	13320323033003321332	Hex Binary Data (40 bits)
DAC	504	not in use
DAC	504	not in use

Slot number of message 6 channel A:



Slot number of message 6 channel B:



Slot number of message 21 channel A: