Test Report issued under the responsibility of:

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Amendment to Test Report

This Amendment is valid only together with the main Test Report

Report Reference No .....:	**129185**
Main Report Reference No .....:	93654
Tested by (printed name and signature) .....:	Mikko Luusalo
Approved by (printed name and signature) .....:	Ole Morten Aaslund
Date of issue .....:	13 October 2009
Testing Laboratory Name .....:	**Nemko A/S** — Phone: (+47) 22 96 03 30
Address .....:	**P.O. Box 73 Blindern, N-0314 Oslo, Norway**
Testing location .....:	CBTL ☐ CCATL ☐ SMT ☐ TMP ☐
Address .....:	Same as above
Applicant's Name .....:	Thrane & Thrane A/S
Address .....:	Lundtoftegaardsvej 93D, 2800 Kgs. Lyngby, Denmark
Test specification	
Standard.....:	IEC 60950-1:2001 and EN 60950-1:2001, A11:2004 First Edition
Test procedure .....:	CB–scheme
Non-standard test method .....:	N/A

Test item description .....:	Satelite communication system
Trademark .....:	SAILOR
Manufacturer .....:	Thrane & Thrane A/S
Model and/or type reference .....:	SAILOR 250FB SAILOR 500FB EXPLORER 727 SAILOR 150FB
Serial number .....:	Test sample without serial number
Rating(s).....:	14-5.5A 10.5-32VDC

Rev. 2007-06

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Report No. 129185

Name and address of production-sites (Factories):
Thrane & Thrane A/S Lundtoftegaardsvej 93D, 2800 Kgs. Lyngby, Denmark

Project history:		
Nemko Report/ Order No.:	Modification to the appliances:	Changes/ Modifications in clause(s):
93654	Main test report	-
100995	Addition of alternative system, EXPLORER 727	Clause 1.5.1, 1.5.2, 1.6.2, 1.7.1, 4.5.1, 5.3.1 and TABLES: 1.5.1, 1.6.2, 4.5 and 5.3
127675	Addition of alternative system, SAILOR 150FB. The system has new antenna TT-3050C that is same as TT-3050A except for antenna element and radome. New BDU unit TT-3739A is downgraded version of TT-3738A.	Clause 1.5.1, 1.5.2, 1.6.2, 1.7.1 and 4.5.1 TABLES: 1.5.1, 1.6.2 and 4.5
129185	Alternative antenna to system SAILOR 500FB. New system name: TT-3740A; consists of TT-3738A (BDU unit) and TT-3052B (antenna) Modified temperature rating for new TT-3740A system.	Clause 1.5.1, 1.5.2, 1.6.2 and 4.5.1 TABLES: 1.5.1, 1.6.2 and 4.5

Test case verdicts	
Test case does not apply to the test object :	N/A
Test item does meet the requirement ..... :	P(ass)
Test item does not meet the requirement .. :	F(ail)
Testing	
Date of receipt of test item ..... :	September 2009
Date(s) of performance of test ..... :	October 2009

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Report No. 129185

General remarks:

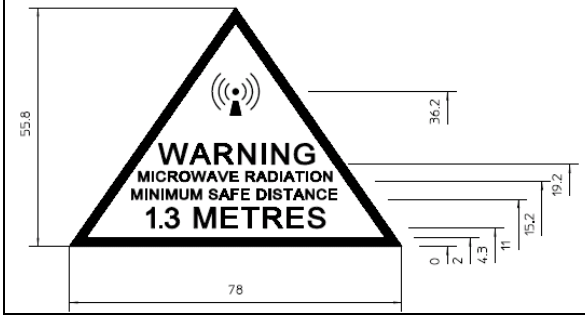
"This report is not valid as a CB Test Report unless appended by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02".

The test result presented in this report relate only to the object(s) tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see attachment #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

Copy of marking on antenna:



General product information:

This amendment, with order no. 129185 shall always be enclosed with main test report order no. 93654 and previous amendments as listed on page 2.

The equipment under test is a satelite communication system. The equipment consists of an antenna and a BDU unit (below deck unit).

SAILOR 500FB (system name: TT-3742A; consists of TT-3052A (antenna) and TT-3738A (BDU unit)
SAILOR 500FB (system name: TT-3740A; consists of TT-3052B (antenna) and TT-3738A (BDU unit)
SAILOR 250FB (system name: TT-3742A; consists of TT-3050A (antenna) and TT-3738A (BDU unit)
EXPLORER 727 (system name: TT-3722A; consists of TT-3053B (antenna) and TT-3736A (BDU unit)
SAILOR 150FB (system name: TT-3744A; consists of TT-3050C (antenna) and TT-3739A (BDU unit)

The TT-3052B antenna is modified version of the TT-3052A antenna. Changes include different stepper motors, antenna elements and mechanical parts. New DSP and receiver section increases power consumption from previous model. Small changes in enclosure shape don't have effect on safety.

Model: Sailor 250FB, consists of a 250mm antenna and a BDU unit.
Model: Sailor 500FB, consists of a 500mm antenna and a BDU unit.
Model: EXPLORER 727, consists of a flat 500mm antenna and a BDU unit.
Model: Sailor 150FB, consists of a 250mm antenna and a BDU unit.

Maximum recommended ambient (Tmra) for TT-3740A: 45/55°C. The lower temperature rating is for BDU in locations where unintentional contact with the enclosure is likely.

Maximum recommended ambient (Tmra) other systems: 50/55°C. The lower temperature rating is for BDU in locations where unintentional contact with the enclosure is likely.

1.5.1	General		P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950 and the relevant component standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950.	P

1.6.2	Input current	Not required. Results in appended table 1.6.2 are for reference only.	N

4.5.1	Maximum temperatures	(see appended table 4.5)	P
	Normal load condition per Annex L..... :	-	P

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Report No. 129185

1.5.1	TABLE: list of critical components	P

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
Antenna unit (TT-3052B):					
DC stepper motors	Motion Control Products	FL57STH51-2804A FL42STH38-1684A	2.8 A, 2.3 V DC, Class A, Stepper type 1.68 A, 2.8 V DC, Class A, Stepper type	IEC 60950-1	Tested in the unit
Enclosure material (Radome)	Lorenz	Lopreg SMC 0430/P115	HB, min 1.4mm thickness	IEC 60695-11-10	N [2])
Fan	Adda	AD0805HX-D71	0.43A, 5V, 16.3CFM	UL507	UL (E132139)
PCB	Various	Various	Min. 94V-0 min. 105°C	UL94	UL
Internal connectors	Various	Various	Min. 94V-2 min. 105°C	UL94	UL

supplementary information:

[1]) An asterisk indicates a mark which assures the agreed level of surveillance

[2]) The plastic material was tested according to IEC60695-11-10 for compliance with the requirement for HB material. The material passed the tests. The result is kept on file at Nemko AS.

1.6.2	TABLE: electrical data (in normal conditions)	P

fuse #	Irated (A)	U (V)	P (W)	I (A)	condition/status
	14	10.5	-	11.2	Normal load
	-	12	-	9.6	Normal load
	-	24	-	6.1	Normal load
	5.5	32	-	4.6	Normal load

supplementary information:

Results are for reference only.

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Report No. 129185

4.5	TABLE: maximum temperatures, **horizontal mounting**						P
	test voltage (V) ..... :	32	-	10.5	-		—
	t_{amb} (°C) ..... :	22	55	23	55		—

maximum temperature T of part/at:	T (°C)					allowed T_{max} (°C)
	1)	**2)**	**3)**	**4)**		**5)**
Main unit						
T300	50	83	60	92		120
T1000	51	84	49	81		120
T800	56	89	57	89		120
L1000	57	90	51	83		120
L800	56	89	57	89		120
DC input connector	43	76	46	78		125
L600	51	84	59	91		120
C602	52	85	54	86		105
PCB (TT38-124511-B)	51	84	58	90		105
PCB (TT38-124510-B)	51	84	51	83		105
Enclosure	44	77	45	77		[6])
Main unit						
DC fan	38	71	38	70		90
Stepper motor (FL57STH51-1004A-01)	38	71	38	70		90
Amplifier unit	46	79	46	78		-
Stepper motor (FL42STH38-0604A-02) - upper	47	80	48	80		90
Stepper motor (FL42STH38-0604A-02) - lower	45	78	47	79		90
Enclosure	27	60	27	59		95

supplementary information:

1) Measurement results with 32 V supply voltage at room temperature

2) Measurement results with 32 V supply voltage corrected to 55°C (recommended maximum temperature)

3) Measurement results with 10.5 V supply voltage at room temperature

4) Measurement results with 32 V supply voltage corrected to 55°C (recommended maximum temperature)

5) Limits are for temperatures corrected to recommended maximum temperature

6) Max. 45°C ambient when mounted in a public area. Max. 55°C ambient when mounted in an area where unintentional contact is unlikely. The unit is marked with symbol 60417-1-IEC-5041 and relevant installation instructions are provided. The allowed temperature limit (70°C) is not exceeded at 45°C ambient temperature.

If no limit is stated, temperature is for reference only.

Photos:

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