

REPORT

N° 22206-R

Hand held VHF Marine Transmitter

NON G.M.D.S.S.

RT 211, RT 211 COMPACT & RT 212

NAVICOM

Edition date : April 2002

- 1 -

CONTENTS

DESCRIPTION	p3
HISTORICAL	p4
OBJECT OF THE REQUEST	p4
DIFFERENCES BETWEEN STANDARDS	
Tx Transmission	p5
Rx Transmission	p6
CEM	p7
SCHEMATIC ANALYSIS	p7
CONCLUSION	p7
APPENDED DOCUMENTS	p8
MEASURING EQUIPMENTS	p8
TESTED POINTS	p8

DESCRIPTION OF THE EQUIPMENT

The equipment is a hand held VHF transmitter working in the marine radio band and intended for use on GMDSS non abiding ships.

Models : RT 211, RT 211 COMPACT & RT 212.

Imported by :

NAVICOM
ZA des Boutries
78700 CONFLANS Ste HONORINE

Represented by Mr Christophe SOARES

Tel. 01 39 72 19 90

Fax. 01 39 19 28 98

Commercial models :

RT 211 5W with standard battery

) Electronics

RT 211 COMPACT 5W With NIMH battery

) strictly

RT 212 5W with semi-waterproof standard battery

) identical

KENTA *Electronic* Route de Coray BP 648 Ergué-Gabéric 29552 QUIMPER Cédex 9

Tel. 33 02 98 52 16 02 Télécopie : 33 02 98 52 14 19

e-mail : KENTA.ELECTRONIC@wanadoo.fr Web : KENTA-ELECTRONIC.com

RAPPORT N° 22206-R

RT 212 NAVICOM

HISTORICAL

This equipment has already been the object of an ART agreement in 1998.

The tested model was an RT 210.

The external appearance of this model having been changed, the ART confirmed its agreement by mail dated from December the 6th 1998.

RT 211 & RT 211 COMPACT
RT 212

) ART Ageement
) N° 980187ERO

The reference documents used for this agreement were :

- LET Radio Report N° A984600017 according to ETS300162 spécification (non defined edition).
- EMITECH's CEM report N° RG-98 91098 RG/FDS according to EN 300828 specification 1998 edition.
- Conformity Report N° RR-98-91098/OH

OBJECT OF THE REQUEST

This equipment having been agreed on in 1998, NAVICOM Company now wishes to distribute this product under the CE label.

The specifications that the products are now subjected are :

EN 301178-1 V1.1.2	2000-08 for radio electric tests.
EN 301178-2 V1.1.1	2000-08 part.2 RTTE frame.
EN 301843-2 V1.1.1	2001-02 for CEM tests.

NOTE :

The LET tests were realised according to ETS 300162 standard as the EN301178 standard was not recognised by the ART at the time.

Differences between EN 301178 & ETS 300162 Standards

Tx Transmitter

Power.

The EN 301178 standard being specific to hand held equipments, the maximum authorised carrier power is 6W.

With a power reduced from 0.1 to 1 W.

Any power between 0.1 and 6 W is therefore authorised.

The announced power for the product is :

RT 211 & 212 / 5W with reduced power < 1W.

Measurments results on channel 16

		Reduced power	Maximum power
RT 211	-15°C	0.91	4.78
	+20°C	0.92	4.8
	+55°C	0.90	4.8
RT 212	-15°C	0.92	5.95
	+20°C	0.90	5.90
	+55°C	0.91	5.80

Result : Positive

Rx Transmitter

The ETS 300162 standard was not compatible with a hand held equipment. It requested 2 W in the speaker.

The EN 301178 requests a 200 mW audio power in the speaker.

1st Measurment :

Tune distortions on channel 16

Normal conditions

Audio Frequency	HF LEVEL	
	60dB μ V	100dB μ V
300 Hz	3.5%	3.3%
500 Hz	5%	5.1%
1000 Hz	3.6%	2.7%

Limit < 10%

Results : Positive

F_n tune distirptions on channel 16

Test conditions	Distortion percentage					
	F _n - 1.5KHz		F _n		F _n + 1.5KHz	
	60dB	100dB	60dB	100dB	60dB	100dB
T.min. :-15°C	V.min. 7	4.6	3.4	3.4	3.2	2.9
	V.max. 7.2	4.5	3.1	3.2	3.4	3.1
T.max. :+55°C	V.min.7	7.7	7	7.5	7.7	6.8
	V.max. 7.2	7.8	7	7.8	7.5	7

Measures repeated on channels 156.3MHz & 162.025MHz

Limit < 10%

Result : Positive

C.E.M.

The C.E.M. specification to this day is EN 301843-2 V.1.1.1 (2001.-02).
The tests to be realised are identical. The original CEM report is therefore valid.

SCHEMATIC ANALYSIS

No difference was noted between the series commercialised today and the diagrams of the product tested by the LET.

CONCLUSION

The marine band hand held VHF Transmitter series :

RT 211 COMPACT (with standard battery or NIMH)
RT 212

do abide by EN 301 178-2 V1.1.1 2000-08 part. 2 and EN 301843-2 V1.1.1 (2001-02) specifications.

Appended documents

- 1) LET test report N° A984600017
- 2) EMITECH test report N° RG98-91098-RG/FDS
- 3) Conformity report N° RR-98-91098
- 4) ART mail dating from December the 6th 1999
- 5) RT 210 Commercial notice
- 6) Service manual
- 7) ETSI search

Measuring equipments used

- Rodhe & Swcharz test bench
- Climatic enclosure

Tested points

Tx Transmitter : Transmitted HF power in 50 Ω dummy load, in normal and extreme conditions.

Rx Transmitter : Audio power on speakers in normal and extreme conditions.

Tune distortions in audio frequencies.

Tests carried out on April , 15th and 16th 2002

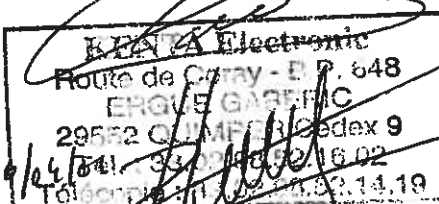
Technician : C. CARIOU

Supervised by : JY. CHRISTIEN

Signature

Signature

Date



KENTA Electronic Route de Coray BP 648 Ergué-Gabéric 29552 QUIMPER Cédex 9

Tel. 33 02 98 52 16 02 Télécopie 33 02 98 52 14 19

e-mail : KENTA.ELECTRONIC@wanadoo.fr Web : KENTA-ELECTRONIC.com