

RF Exposure Evaluation Report

Product : NAVIGATION MULTIMEDIA
RECEIVER
Trade mark : Stinger
Model/Type reference : UN1880, UN1880X
Serial Number : N/A
Report Number : EED32K00161903
FCC ID : XBDUN1880
Date of Issue : Jul. 26, 2018
47 CFR Part 1.1307(2015)
Test Standards : 47 CFR Part 1.1310(2015)
KDB447498D01v06
Test result : PASS

Prepared for:

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Prepared by:

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2 Version

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3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS.....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT.....	4
4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD.....	4
4.4 TEST LOCATION.....	5
4.5 DEVIATION FROM STANDARDS.....	5
4.6 ABNORMALITIES FROM STANDARD CONDITIONS.....	5
4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	5
5 RF EXPOSURE EVALUATION.....	6
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	6
5.1.1 Limits.....	6
5.1.2 Test Procedure.....	6
5.1.3 EUT RF Exposure Evaluation.....	7
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....	8

4 General Information

4.1 Client Information

Applicant:	AAMP of Florida, Inc. dba AAMP Global
Address of Applicant:	15500 Lightwave Dr. Suite 202, Clearwater, FL 33760
Manufacturer:	SKYPINE ELECTRONICS (SHEN ZHEN) CO., LTD.
Address of Manufacturer:	A1 Building, No.6, Xinxing Industrial Park, Xinhe Village, Fuyong Town, Bao'an District, Shenzhen City, Guangdong Province, China
Factory:	SKYPINE ELECTRONICS (SHEN ZHEN) CO., LTD.
Address of Factory:	A1 Building, No.6, Xinxing Industrial Park, Xinhe Village, Fuyong Town, Bao'an District, Shenzhen City, Guangdong Province, China

4.2 General Description of EUT

Product Name:	NAVIGATION MULTIMEDIA RECEIVER
Model No.(EUT):	UN1880, UN1880X
Test Model No.:	UN1880
Trade mark:	Stinger
EUT Supports Radios application:	4.2 BT Dual mode, 2402-2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402-2480MHz
Antenna Type:	2.4GHz Inverted-F Antenna
Antenna Gain:	0dBi
Power Supply:	Supply by DC 12V
Conduct Peak Power:	7.102dBm The Conduct Peak Power data refer to the report EED32K00161901.
Firmware version:	AJ0107(manufacturer declare)
Hardware version:	R1(manufacturer declare)
Sample Received Date:	Jun. 25, 2018
Sample tested Date:	Jun. 25, 2018 to Jul. 25, 2018
The tested sample(s) and the sample information are provided by the client. Model No.: UN1880, UN1880X Only the model of UN1880 is tested, since their electrical circuit design, layout, components used and internal wiring are identical, the shape and the material are identical, only the outer decoration is different.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	* (100)	6
3.0–30	1842/f	4.89/f	* (900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	* (100)	30
1.34–30	824/f	2.19/f	* (180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 0dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
Highest	2480	7.102	0	7.102	5.13	20	0.001	1.0	Pass

Note: Refer to report No. EED32K00161901 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32K00161901 for EUT external and internal photos.

*** End of Report ***

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