

RF Exposure Evaluation Report

Product : NAVIGATION MULTIMEDIA RECEIVER
Trade mark : Stinger
Model/Type reference : UN1810, UN1810X, UN1810OE,
UN1810XOE, UN1810M, UN1810PS
Serial Number : N/A
Report Number : EED32L00178103
FCC ID : XBDUN1810
Date of Issue : Aug. 07, 2019
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498D01v06
Test result : PASS

Prepared for:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	AAMP of Florida, Inc. dba AAMP Global
Address of Applicant:	15500 Lightwave Drive, Suite 202 Clearwater, FL 33760
Manufacturer:	SKYPINE ELECTRONICS (SHEN ZHEN) CO.,LTD.
Address of Manufacturer:	A1,A5 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,A5 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):	UN1810, UN1810X, UN1810OE, UN1810XOE, UN1810M, UN1810PS
Trade Mark:	Stinger
EUT Supports Radios application	BT 4.2 Dual mode, 2402-2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Test Power Grade:	DH5:52/52/36 2DH5:50 3DH5:50
Test Software of EUT:	BlueTest 3 (manufacturer declare)
Antenna Type:	internal antenna
Antenna Gain:	0dBi
Power Supply:	DC 12V
Max Conducted Peak Output Power:	5.477dBm The Max Conducted Peak Output Power data refer to the report EED32L00178101
Sample Received Date:	Jul. 04, 2019
Sample tested Date:	Jul. 04, 2019 to Aug. 07, 2019
<p>The tested sample(s) and the sample information are provided by the client. Model No.: UN1810, UN1810X, UN1810OE, UN1810XOE, UN1810M, UN1810PS Only the model UN1810 was tested, Software, mechanical and package is a bit different, the main hardware is the same 10inch. Details as below: They are place holders in the event we have customers that need different kitting. In all cases the same radio / package would be sold as is, the different part number would indicate additional items kitting with the radio. UN1810X would be the same product but includes the optional iGO Navigation card that is normally sold separate. UN18100E would be the same product but sold with a vehicle specific mounting kit not the universal</p>	

bracket.

UN1810XOE would be the same product and include the iGO Navigation card with a vehicle specific mounting kit

UN1810M would be the same product but sold with marine mounting hardware and cover system.

UN1810PS would be the same product but sold with power sports type mounting and cover system.

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 33683668 Fax:+86 (0) 755 33683385

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	5.477	0	5.477	3.53	20	0.0001	1.0	Pass

Note: Refer to report No. EED32L00178101 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00178101 for EUT external and internal photos.

*** End of Report ***

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