

RF Exposure Evaluation Report

Product : ALL IN ONE DVD PLAYER
Trade mark : Clarion
Model/Type reference : NX807, VX807
Serial Number : N/A
Report Number : EED32I00292904
FCC ID : V8VNX807
Date of Issue : Dec. 13, 2016
47 CFR Part 1.1307(2015)
Test Standards : 47 CFR Part 1.1310(2015)
KDB447498D01v06
Test result : PASS

Prepared for:

SKYPINE ELECTRONICS (SHEN ZHEN) CO., LTD.
A1 BUILDING, NO.6 XINXING INDUSTRIAL PARK, XINHE VILLAGE,
FUYONG TOWN, BAOAN, SHENZHEN, China, 518000

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China

TEL: +86-755-3368 3668

FAX: +86-755-3368 3385

Tested By:

Tom chen

Tom chen (Test Project)

Compiled by:

Kevin lan

Kevin lan (Project Engineer)

Reviewed by:

Kevin yang

Kevin yang (Reviewer)

Approved by:

Sheek Luo

Sheek Luo (Lab supervisor)



Date:

Dec. 13, 2016

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2 Version

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4 General Information

4.1 Client Information

Applicant:	SKYPINE ELECTRONICS (SHEN ZHEN) CO., LTD.
Address of Applicant:	A1 BUILDING, NO.6 XINXING INDUSTRIAL PARK, XINHE VILLAGE, FUYONG TOWN, BAOAN, SHENZHEN, China, 518000
Manufacturer:	SKYPINE ELECTRONICS (SHEN ZHEN) CO., LTD.
Address of Manufacturer:	A1 BUILDING, NO.6 XINXING INDUSTRIAL PARK, XINHE VILLAGE, FUYONG TOWN, BAOAN, SHENZHEN, China, 518000
Factory:	SKYPINE ELECTRONICS (SHEN ZHEN) CO., LTD.
Address of Factory:	A1 BUILDING, NO.6 XINXING INDUSTRIAL PARK, XINHE VILLAGE, FUYONG TOWN, BAOAN, SHENZHEN, China, 518000

4.2 General Description of EUT

Product Name:	ALL IN ONE DVD PLAYER
Model No.:	NX807, VX807
Test Model No.:	NX807
Trade Mark:	Clarion
EUT Supports Radios application:	BT 4.0 Dual mode(2402-2480MHz), GPS(L1: 1575.42MHz)
Power Supply:	DC 12V

4.3 Product Specification subjective to this standard

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	BT 4.0 Dual mode
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Test Power Grade:	255
Test Software of EUT:	BlueTest 2.5.8
Antenna Type:	PCB Inverted-F Antenna
Antenna Gain:	0dBi
Test Voltage:	DC 12V
Conducted Peak Power:	6.752dBm
Sample Received Date:	Nov. 18, 2016
Sample tested Date:	Nov. 18, 2016 to Dec. 13, 2016
The tested sample and the sample information are provided by the client. Model No.: NX807, VX807 Only the model NX807 was tested, since the circuitry design, PCB layout, electrical components used, internal wiring and functions were identical for the above models, with difference on front-panel(including colour and decoration of plastic enclosure, position of button and PWB) and NX807 with Navi function and VX807 without Navi function.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

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

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1910

Centre Testing International Group Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories..

A2LA-Lab Cert. No. 3061.01

Centre Testing International Group Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 886427

Centre Testing International Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 886427.

IC-Registration No.: 7408A-2

The 3m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408A-2 .

IC-Registration No.: 7408B-1

The 10m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408B-1.

NEMKO-Aut. No.: ELA503

Centre Testing International Group Co., Ltd. has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10.

VCCI

The Radiation 3 & 10 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-4096.

Main Ports Conducted Interference Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-4563.

Telecommunication Ports Conducted Disturbance Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-2146.

The Radiation 3 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-758

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Conditions

None.

4.8 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.

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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	6.752	0	6.752	4.73	20	0.001	1.0	Pass

Note:

Refer to report No. EED32I00292902, EED32I00292903 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32I00292902 for EUT external and internal photos.

***** End of Report *****

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