#### Spectrum Research & Testing Lab., Inc. Rd.,Ling 8, Shan-Tong Li,

No.167,Ln. 780, Shan-Tong Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

#### **TEST REPORT**

Reference No.: A15062402 Report No.: MPE15062402

FCC ID: 2ABL6-NP14

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Date: Jul. 16, 2015

Product Name:

Wireless Communication Product

Model No.:

NP-14

Applicant:

8th FL., No. 56, LE-QUN 3rd Road, Taipei 104, Taiwan

Date of Receipt:

Jun. 24, 2015

Finished date of Test:

Jun. 29, 2015

Applicable Standards:

47 CFR Part 1

KDB 447498

FCC OET Bulletin 65

We, Spectrum Research & Testing Laboratory Inc., hereby certify that one sample of the above was tested in our laboratory with positive results according to the above-mentioned standards. The records in the report are an accurate account of the results. Details of the results are given in the subsequent pages of this report.

Tested By :

houanz. (Boris Lin)

Date: 7 / 16/2015

Approved By:

( Johnson Ho, Director )

Date:

Testing Laboratory

FMNG-059\_1.1 REPORT

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## **TEST REPORT**

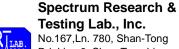
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### **TEST REPORT**

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#### 1. DOCUMENT POLICY AND TEST STATEMENT

#### 1.1 DOCUMENT POLICY

- The report shall not be reproduced except in full, without the written approval of SRT Lab, Inc.

#### 1.2 TEST STATEMENT

- The test results in the report apply only to the unit tested by SRT Lab.
- There was no deviation from the requirements of test standards during the test.
- AC 120V/60Hz was supplied during the test.

#### 1.3 EUT MODIFICATION

- No modification in SRT Lab.



## **TEST REPORT**

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#### 2. DESCRIPTION OF EUT AND TEST MODE

#### 2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless Communication Product
MODEL NO.	NP-14
POWER SUPPLY	AC power source from AC adapter: Brand: Dee Van Enterprise Co., Ltd. Model: DSA-0421S-12 2 Input: 100 ~ 240 V, 50 ~60 Hz 1.2 A Max. Output: +12 V, 2.0 A
FREQUENCY BAND	450 ~ 470 MHz (§90.267)
CARRIER FREQUENCY	457.575
NUMBER OF CHANNEL	1
FREQUENCY DEVIATION	2.5 kHz
CHANNEL SPACING	12.5 kHz
RATED RF OUTPUT POWER	34.14 dBm (2590 mW)
MODULATION TYPE	NFSK
MODE of OPERATION	Simplex
ANTENNA TYPE	External
ANTENNA GAIN	2 dBi
OPERATING TEMPERATURE RANGE	-30 ~ 50°C

**NOTE:** For more detailed information, please refer to the EUT's specification or user's manual provided by manufacturer.



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3. RF POWER EXPOSURE EVALUATION TEST

#### **3.1 LIMIT**

According to the requirements of Part 1.1310(e), KDB 447498 D01 General RF Exposure Guidance v05r02, Section7, and FCC OET Bulletin 65.

#### **Limits for Occupational/Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength(E) (V/m)	Magnetic Field Strength(H) (A/m)	Power density (S) (mW/cm²)	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6

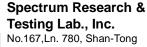
**Limits for General Population/Uncontrolled Exposure** 

Frequency Range (MHz)	Electric Field Strength(E) (V/m)	Magnetic Field Strength(H) (A/m)	Power density (S) (mW/cm²)	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f²)*	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz \*Plane-wave equivalent power density

**NOTE 1:** Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

**NOTE 2:** General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.



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#### 3.2 TEST PROCEDURE

- 1. The EUT was operating in Tx mode.
- The EUT uses an external antenna, the antenna gain of 2 dBi is declared by the manufacturer.
- 3. As discussed in OET Bulletin 65, calculations can be made to predict RF field strength and power density levels around typical RF sources. For example, in the case of a non-directional antenna, a prediction for power density in the far-field of the antenna can be made by use of the general Equations (1) or (2) below [for conversion to electric or magnetic field strength see Equation (3) above]. These equations are generally accurate in the far-field of an antenna but will over-predict power density in the near field, where it could be used for making a" worst case" or conservative prediction.

 $S=PG/4\pi R^2$  (Eq. 1)

S=connect power/ $4\pi R^2$  (Eq. 2)

 $S=E^2/3770=37.7H^2$  (Eq. 3)

where:  $S = power density (mW/cm^2)$ 

E = electric field strength (V/m)

H = magnetic field strength (A/m)

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator (dBi)

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

where: connect power = equivalent (or effective) isotropically radiated power.



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#### 3.3 EUT OPERATING CONDITION

- 1. Setup the EUT and all peripheral devices .
- 2. Turn on the power of all equipment and EUT.
- 3. Set the EUT under continuous transmission condition mode.
- 4. The EUT was set to the highest available power level.

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#### 3.4 CONNECT POWER AT THE ANTENNA CONNECTOR RESULT

Temperature:	23 °C	Humidity:	68% RH	
Spectrum Detector:	PK.	Tested Mode:	Тх	
Tested By:	Boris Lin	Modulation Type:	NFSK	
Tested Date:	Jul. 16, 2015			

CHANNEL NUMBER	CHANNEL FREQUENCY	MPE DISTANCE	ANTENNA GAIN	PEAK POWER OUTPUT		CALCULATED RF EXPOSURE	LIMIT (mW/cm²)
NUMBER	(MHz)	(cm)	(dBi)	dBm	mW	(mW/cm²)	(IIIVV/CIII )
01	457.575	40	2	34.14	2590	0.257	0.305

NOTE: Limits for General Population/Uncontrolled Exposure

CHANNEL NUMBER	CHANNEL FREQUENCY	MPE DISTANCE	ANTENNA GAIN	PEAK POWER OUTPUT		CALCULATED RF EXPOSURE	
NUMBER	(MHz)	(cm)	(dBi)	dBm	mW	(mW/cm²)	(mW/cm²)
01	457.575	20	2	34.14	2590	1.030	1.525

NOTE: Limits for Occupational/Controlled Exposure