



Spectrum Research & Testing Lab., Inc.

No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15062402
Report No.: MPE15062402
FCC ID : 2ABL6-NP14
Page:1 of 8
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 :

Lin, shu-hsuan
(Boris Lin)

Date: 7 / 16 / 2015

Approved By :

Johnson Ho
(Johnson Ho, Director)

Date: 7/16/2015





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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.

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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/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

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/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

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.
2. 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.

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

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

$$S = E^2 / 3770 = 37.7 H^2 \quad (\text{Eq. 3})$$

where: S = power density (mW/cm²)

E = electric field strength (V/m)

H = magnetic field strength (A/m)

S = power density (in appropriate units, e.g. mW/cm²)

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:	Tx
Tested By:	Boris Lin	Modulation Type:	NFSK
Tested Date:	Jul. 16, 2015		

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

NOTE: Limits for General Population/Uncontrolled Exposure

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

NOTE: Limits for Occupational/Controlled Exposure