RF EXPOSURE REPORT

REPORT NO.:	SA140611E02
MODEL NO.:	NP05LM
FCC ID:	RRK-NECNP05LM
RECEIVED:	June 11, 2014
TESTED:	June 14 to 20, 2014
ISSUED:	July 14, 2014

APPLICANT:	Alpha Networks Inc.
ADDRESS:	No.8 Li-shing 7th Rd., Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS :	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (1):	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140611E02	Original release	July 14, 2014

1. CERTIFICATION

PRODUCT:	Wireless LAN Unit
BRAND NAME:	NEC
MODEL NO.:	NP05LM
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Alpha Networks Inc.
TESTED DATE:	June 14 to 20, 2014
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: NP05LM) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Phoenix Huang , **DATE:** *July 14, 2014*
(Phoenix Huang, Specialist)

APPROVED BY : , **DATE:** *July 14, 2014*
(May Chen, Manager)

2. RF EXPOSURE LIMIT

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

3. MPE CALCULATION FORMULA

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

pi = 3.1416

r = distance between observation point and center of the radiator in cm

4. CLASSIFICATION

This Wireless LAN Unit will be sold and used with Projector. The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Antenna No.	Transmitter Circuit	Brand	Antenna Gain(dBi) < including cable loss>	Frequency range (GHz ~ GHz)	Antenna Type	Connecter Type
1	Chain (0)	ALPHA	2.0	2.4~2.4835	Monopole	None (like solder)
			2.88	5.15~5.850		
2	Chain (1)	ALPHA	2.38	2.4~2.4835	Monopole	None (like solder)
			2.61	5.15~5.850		

NOTE:
1. From the above antennas, Ant. 2 was selected as representative antenna for the 802.11b/g test and its data was recorded in this report.
2. From the above antennas, Ant. 1 was selected as representative antenna for the 802.11a test and its data was recorded in this report.

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For WLAN: 15.247(2.4GHz)

802.11b

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412 - 2462	257.632	2.38	20	0.08866	1.00

802.11g

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412 - 2462	289.734	2.38	20	0.09971	1.00

802.11n (HT20)

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412 - 2462	543.531	2.38	20	0.18705	1.00

802.11n (HT40)

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2422 - 2452	448.295	2.38	20	0.15427	1.00

For WLAN: 15.407(5GHz)

802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5180 - 5240, 5260 - 5320, 5500 – 5700 & 5745 - 5825	138.357	2.88	20	0.05342	1.00

802.11n (HT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5180 - 5240, 5260 - 5320, 5500 – 5700 & 5745 - 5825	198.713	2.88	20	0.07673	1.00

802.11n (HT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5190 - 5230, 5270 - 5310, 5510 – 5670 & 5755 - 5795	169.13	2.88	20	0.06531	1.00

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