RF EXPOSURE REPORT

REPORT NO.: SA140606E08

MODEL NO.: WND930

FCC ID: PY314200281

RECEIVED: June 06, 2014

TESTED: Aug. 07, 2014

ISSUED: Aug. 20, 2014

APPLICANT: Netgear Incorporated

ADDRESS: 350 East Plumeria Drive San Jose, CA 95134

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.

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
SA140606E08	Original release	Aug. 20, 2014

1. CERTIFICATION

PRODUCT:	Outdoor High Power Wireless N Access Point
BRAND NAME:	NETGEAR
MODEL NO.:	WND930
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Netgear Incorporated
TESTED DATE:	Aug. 07, 2014
STANDARDS:	FCC Part 2 (Section 2.1091)
	KDB 447498 D03
	IEEE C95.1

The above equipment (Model: WND930) 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 : _____ , DATE: _Aug. 20, 2014_
(Lori Chung, Specialist)

APPROVED BY : _____ , DATE: _Aug. 20, 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

The antenna of this product, under normal use condition, is at least 26cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

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

Internal Antenna				
Transmitter Circuit	Antenna Gain(dBi) Including cable loss	Frequency range	Antenna Type	Connecter Type
Chain (0)	5	2.4~2.4835GHz	Panel	i-pex(MHF)
Chain (1)	5		Panel	i-pex(MHF)
Chain (0)	5	5.150~5.850GHz	Panel	i-pex(MHF)
Chain (1)	5		Panel	i-pex(MHF)
External Antenna				
Transmitter Circuit	Antenna Gain(dBi) Including cable loss	Frequency range	Antenna Type	Connecter Type
Chain (0)	5	2.4~2.4835GHz	Dipole	N type(M)
Chain (1)	5		Dipole	N type(M)
Chain (0)	7	5.150~5.850GHz	Dipole	N type(M)
Chain (1)	7		Dipole	N type(M)

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

15.247(2.4GHz):

FREQUENCY (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412 ~ 2462	474.558	8.01	26	0.35329	1

Note: Directional gain = 5dBi + 10log(2) = 8.01dBi.

15.247(5GHz):

FREQUENCY (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	507.064	10.01	26	0.59828	1

Note: Directional gain = 7dBi + 10log(2) = 10.01dBi.

15.407(5GHz):

FREQUENCY (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	35.591	10.01	26	0.04199	1

Note: Directional gain = 7dBi + 10log(2) = 10.01dBi.

CONCLUSION:

Both of the 2.4GHz and 5GHz WLAN can transmit simultaneously, the formula of calculated the MPE is:

CPD_1 / LPD_1 + CPD_2 / LPD_2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density

Therefore, the worst-case situation is 0.35329 / 1 + 0.59828 / 1= 0.952, which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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