



## RF Exposure Report

**Report No.:** SA140606E08C

**FCC ID:** PY314200281

**Test Model:** WND930

**Received Date:** July 20, 2014

**Test Date:** Aug. 06, 2014 and Aug. 31, 2015

**Issued Date:** Sep. 10, 2015

**Applicant:** Netgear Incorporated

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
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A D T

### Release Control Record

Issue No.	Description	Date Issued
SA140606E08C	Original release.	Sep. 10, 2015



A D T

## 1 Certificate of Conformity

**Product:** Outdoor High Power Wireless N Access Point

**Brand:** NETGEAR

**Test Model:** WND930

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Netgear Incorporated

**Test Date:** Aug. 06, 2014 and Aug. 31, 2015

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

The above equipment 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 :

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Phoenix Huang / Specialist

Date:

Sep. 10, 2015

Approved by :

May Chen  
May Chen / Manager

Date:

Sep. 10, 2015

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

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

where

Pd = power density in mW/cm<sup>2</sup>

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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 28cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 2.4 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	Connector 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	Connector 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)

### 3 Calculation Result of Maximum Conducted Power

For 15.247 (2.4GHz) Maximum power was refer to the FCC test report (Report No.: RF140606E08)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	474.558	8.01	0.28	0.30462	1
5180-5240	35.591	10.01	0.28	0.03621	1
5745-5825	659.561	10.01	0.28	0.67101	1

NOTE:

2.4GHz: Directional gain = 5dBi + 10log(2) = 8.01dBi

5GHz: Directional gain = 7dBi + 10log(2) = 10.01dBi

#### Conclusion:

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

$$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$$

**CPD = Calculation power density**

**LPD = Limit of power density**

Therefore, the worst-case situation is  $0.30462 / 1 + 0.67101 / 1 = 0.976$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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