



## RF Exposure Report

**Report No.:** SA141016E01B

**FCC ID:** PY315200315

**Test Model:** D6400

**Received Date:** June 02, 2015

**Test Date:** Nov. 06 to 09, 2015

**Issued Date:** Nov. 17, 2015

**Applicant:** NETGEAR, Inc.

**Address:** 350 East Plumeria Drive San Jose, CA 95134

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

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### Release Control Record

Issue No.	Description	Date Issued
SA141016E01B	Original release.	Nov. 17, 2015



**1 Certificate of Conformity**

**Product:** AC1600 WiFi VDSL/ADSL Modem Router

**Brand:** NETGEAR

**Test Model:** D6400

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** NETGEAR, Inc.

**Test Date:** Nov. 06 to 09, 2015

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

KDB 447498 D03

KDB 447498 D01

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 :**  , **Date:** Nov. 17, 2015  
Lori Chung / Specialist

**Approved by :**  , **Date:** Nov. 17, 2015  
Moy Chen / Manager

## 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

$$Pd = (P_{out} * G) / (4 * \pi * r^2)$$

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 20cm 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:

For 2.4GHz Band							
PCB Chain No.	Brand	Model	Antenna Gain(dBi) < including cable loss>	Frequency range (GHz ~ GHz)	Antenna Type	Connecter Type	Cable Length (mm)
Chain 0	NETGEAR	98P91MIPF044	2	2.4~2.4835	PCB	I-Pex	85
Chain 1	NETGEAR	98P91MIPF045	2	2.4~2.4835	PCB	I-Pex	150
For 5GHz Band							
PCB Chain No.	Brand	Model	Antenna Gain(dBi) < including cable loss>	Frequency range (GHz ~ GHz)	Antenna Type	Connecter Type	Cable Length (mm)
Chain 0	NETGEAR	98P92UIPF061	3	5.15~5.85	PCB	I-Pex	60
Chain 1	NETGEAR	98P92UIPF062	3	5.15~5.85	PCB	I-Pex	70
Chain 2	NETGEAR	98P92UIPF063	3	5.15~5.85	PCB	I-Pex	80

## 2.5 Calculation Result of Maximum Conducted Power

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	183.097	5.01	20	0.11545	1
5180-5240	327.522	7.77	20	0.38991	1
5745-5825	168.809	7.77	20	0.20097	1

**NOTE:**

2.4GHz: Directional gain = 2dBi + 10log(2) = 5.01dBi

5GHz: Directional gain = 3dBi + 10log(3) = 7.77dBi

**Conclusion:**

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.11545 + 0.38991 = 0.505

**Therefore the maximum calculations of above situations are less than the "1" limit.**

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