

## RF Exposure Report

**Report No.:** SA161028D01A

**FCC ID:** PY316200344

**Test Model:** R6800

**Series Model:** R6700v2, R6900v2

**Received Date:** Oct. 28, 2016

**Test Date:** Nov. 11, 2016 ~ Mar. 20, 2017

**Issued Date:** May 10, 2017

**Applicant:** NETGEAR INC.

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

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.



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## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits For Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula .....	5
2.3 Classification .....	5
2.4 Calculation Result Of Maximum Conducted Power .....	6

### Release Control Record

Issue No.	Description	Date Issued
SA161028D01A	Original release.	May 10, 2017

## 1 Certificate of Conformity

**Product:** AC1900 Smart WiFi Router / AC1750 Smart WiFi Router

**Brand:** NETGEAR

**Test Model:** R6800 (**Product:** AC1900 Smart WiFi Router)

**Series Model:** R6700v2 (**Product:** AC1750 Smart WiFi Router)

R6900v2 (**Product:** AC1900 Smart WiFi Router)

**Sample Status:** Engineering sample

**Applicant:** NETGEAR INC.

**Test Date:** Nov. 11, 2016 ~ Mar. 20, 2017

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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:**

May 10, 2017

Annie Chang / Senior Specialist

**Approved by :**



**, Date:**

May 10, 2017

Rex Lai / Assistant 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

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

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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 30cm away from the body of the user.

So, this device is classified as **Mobile Device**.

## 2.4 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462 (Original Approved)	29.16	9.26	35	0.4515	1
5180-5240 (Original Approved)	29.53	9.61	35	0.5329	1
5260-5320	23.94	6.95	35	0.0797	1
5500-5700	23.92	7.14	35	0.0829	1
5745-5825 (Original Approved)	29.62	9.16	35	0.4905	1

### NOTE:

2.4GHz Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 4] = 9.26\text{dBi}$

5180-5240MHz Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 4] = 9.61\text{dBi}$

5.260-5.320GHz Directional gain = 6.95dBi

5.500-5.700GHz Directional gain = 7.14dBi

5745-5825MHz Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 4] = 9.16\text{dBi}$

The directional antenna gain information is declared by manufacturer and more detailed features description please refer to operation description of antenna specifications exhibit.

### 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 = 0.4515 + 0.5329 = 0.9844

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

**--- END ---**