

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

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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 :

Annie Chang

, Date:

May 10, 2017

Annie Chang / Senior Specialist

Approved by :

Rex Lai

, 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 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

2.2 MPE Calculation Formula

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

where

Pd = power density in mW/cm²

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 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 ²)	Limit (mW/cm ²)
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.

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