

RF Exposure Report

Report No.: SA161028D01C

FCC ID: PY316200344

Test Model: R6800

Series Model: R6700v2, R6900v2

Received Date: Oct. 28, 2016

Test Date: Nov. 9 ~ Dec. 7, 2016 & Jul. 19, 2017

Issued Date: Jul. 21, 2017

Applicant: NETGEAR INC.

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

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Table of Contents

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

Release Control Record

Issue No.	Description	Date Issued
SA161028D01C	Original release.	Jul. 21, 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. 9 ~ Dec. 7, 2016 & Jul. 19, 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:**

Jul. 21, 2017

Annie Chang / Senior Specialist

Approved by :



, **Date:**

Jul. 21, 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

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

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 35cm away from the body of the user.

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

2.4 Antenna Gain

Frequency Band (MHz)	Chain No.	Antenna Type	Antenna Gain (dBi)	Connectot Type
2412-2462	Chain 0	Dipole	3.14	R-SMA
	Chain 1	Dipole	3.74	R-SMA
	Chain 2	Dipole	2.98	R-SMA
	Chain 3	PIFA	3.06	I-PEX
5180-5240	Chain 0	Dipole	3.83	R-SMA
	Chain 1	Dipole	4.30	R-SMA
	Chain 2	Dipole	3.57	R-SMA
	Chain 3	PIFA	2.56	I-PEX
5745-5825	Chain 0	Dipole	3.86	R-SMA
	Chain 1	Dipole	4.17	R-SMA
	Chain 2	Dipole	3.63	R-SMA
	Chain 3	PIFA	0.39	I-PEX

2.5 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	29.16	9.26	35	0.4515	1
5180-5240	29.53	9.61	35	0.5329	1
5745-5825	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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 4] = 9.61\text{dBi}$

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

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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