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.
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.

Testing Laboratory
2021

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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 : Annie Chang , **Date:** Jul. 21, 2017

Annie Chang / Senior Specialist

Approved by : Rex. Lai , **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

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

where

Pd = power density in mW/cm^2

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 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[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$ / 4] = 9.26dBi
5180-5240MHz Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$ / 4] = 9.61dBi
5745-5825MHz Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$ / 4] = 9.16dBi

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……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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