

RF Exposure Report

Report No.: SA150807E06

FCC ID: PY313200233

Test Model: R7000

Series Model: R6900, R6700

Received Date: Aug. 07, 2015

Test Date: Sep. 23, 2015

Issued Date: Oct. 01, 2015

Applicant: NETGEAR, Inc.

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

Issue No.	Description	Date Issued
SA150807E06	Original release.	Oct. 01, 2015

1 Certificate of Conformity

Product: R7000 AC1900 Smart WiFi Router,
R6900 AC1900 Smart WiFi Router,
AC1750 Smart WiFi Router

Brand: NETGEAR

Test Model: R7000

Series Model: R6900, R6700

Sample Status: MASS-PRODUCTION

Applicant: NETGEAR, Inc.

Test Date: Sep. 23, 2015

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D03
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 : Phoenix Huang, **Date:** Oct. 01, 2015
Phoenix Huang / Specialist

Approved by : May Chen, **Date:** Oct. 01, 2015
May 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 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

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

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 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:

Antenna No.	Antenna Type	Antenna Gain (dBi)	Frequency range (GHz ~ GHz)	Connector Type
1	Dipole	0.6	2.4~2.4835	Re-SMA
		0.9	5.15~5.85	
2	Dipole	0.6	2.4~2.4835	Re-SMA
		0.9	5.15~5.85	
3	Dipole	0.6	2.4~2.4835	Re-SMA
		0.9	5.15~5.85	

3 Calculation Result of Maximum Conducted Power

The 2.4GHz data was referred to the original test report (Report No.: FR372429-06).

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	818.135	5.37	25	0.35870	1
5745-5825	340.685	5.67	25	0.16005	1

NOTE:

2.4GHz: Directional gain = 0.6dBi + 10log(3) = 5.37dBi

5GHz: Directional gain = 0.9dBi + 10log(3) = 5.67dBi

Conclusion:

Both of the 2.4GHz and 5GHz WLAN can transmit simultaneously, the formula of calculated the MPE is:

$$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is $0.35870 / 1 + 0.16005 / 1 = 0.519$, which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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