

## RF Exposure Report

**Report No.:** SA150807E06A

**FCC ID:** PY313200233

**Test Model:** R7000

**Received Date:** Mar. 12, 2018

**Test Date:** Apr. 20, 2018

**Issued Date:** May 03, 2018

**Applicant:** NETGEAR, Inc.

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

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

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
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**FCC Registration /  
Designation Number:** 723255 / TW2022

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### Release Control Record

Issue No.	Description	Date Issued
SA150807E06A	Original release.	May 03, 2018

## 1 Certificate of Conformity

**Product:** AC1900 Smart WiFi Router

**Brand:** NETGEAR

**Test Model:** R7000

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** NETGEAR, Inc.

**Test Date:** Apr. 20, 2018

**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 :** Phoenix Huang , **Date:** May 03, 2018  
Phoenix Huang / Specialist

**Approved by :** May Chen , **Date:** May 03, 2018  
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 <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

f = Frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Formula

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

where

Pd = power density in mW/cm<sup>2</sup>

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 23cm 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	

## 2.5 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	771.988	5.37	23	0.39989	1
5180-5240	279.494	5.67	23	0.15513	1
5745-5825	952.215	5.67	23	0.52853	1

Note:

**2.4GHz:** The directional gain =  $0.6\text{dBi} + 10\log(3) = 5.37\text{dBi}$

**5GHz:** The directional gain =  $0.9\text{dBi} + 10\log(3) = 5.67\text{dBi}$

### Conclusion:

The formula of calculated the MPE is:

$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots\text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

$\text{WLAN } 2.4\text{GHz} + \text{WLAN } 5\text{GHz} = 0.39989 / 1 + 0.52853 / 1 = 0.92842$

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

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