# RF Exposure Report

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|---|---|
| **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, Taiwan R.O.C. |
| **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)<br>KDB 447498 D01 General RF Exposure Guidance v06<br>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:** May 03, 2018
Phoenix Huang / Specialist

**Approved by :** _____ , **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 ($mW/cm^2$) | 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 | ($180/f^2$)* | 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 $mW/cm^2$

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 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) | Connecter 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 ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|
| 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 = 0.6dBi + 10log(3) = 5.37dBi

**5GHz:** The directional gain = 0.9dBi + 10log(3) = 5.67dBi

**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 = 0.39989 / 1 + 0.52853 / 1 = 0.92842

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

**--- END ---**