# RF Exposure Report

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|---|---|
| **Report No.:** | SA170508E05 |
| **FCC ID:** | PY317100369 |
| **Test Model:** | EX6110 |
| **Received Date:** | May. 08, 2017 |
| **Test Date:** | May 18, 2017 |
| **Issued Date:** | July 11, 2017 |
| **Applicant:** | Netgear, Inc. |
| **Address:** | 350 East Plumeria Drive ,San Jose,California 95134,United States |
| **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. |

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## Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| SA170508E05 | Original release. | July 11, 2017 |

## 1 Certificate of Conformity

| | |
|---|---|
| **Product:** | AC1200 WiFi Range Extender |
| **Brand:** | NETGEAR |
| **Test Model:** | EX6110 |
| **Sample Status:** | ENGINEERING SAMPLE |
| **Applicant:** | Netgear, Inc. |
| **Test Date:** | May 18, 2017 |
| **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:** July 11, 2017

Wendy Wu / Specialist

**Approved by :** _____ , **Date:** July 11, 2017

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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 2.4 Antenna Gain

| Ant No. | Antenna Gain(dBi) | Frequency range | Antenna Type |
|---|---|---|---|
| 1 | 1.98 | 2.4~2.4835GHz | PIFA |
| | 2.52 | 5.15~5.25GHz | |
| | 2.68 | 5.25~5.35GHz | |
| | 2.68 | 5.47~5.725GHz | |
| | 2.7 | 5.725~5.85GHz | |
| 2 | 1.34 | 2.4~2.4835GHz | PIFA |
| | 3.15 | 5.15~5.25GHz | |
| | 3.26 | 5.25~5.35GHz | |
| | 3.26 | 5.47~5.725GHz | |
| | 3.24 | 5.725~5.85GHz | |

2.5 Calculation Result of Maximum Conducted Power

| Frequency (MHz) | Max Power (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|
| 2412-2462 | 779.985 | 4.68 | 20 | 0.45584 | 1 |
| 5180-5240 | 198.677 | 5.85 | 20 | 0.15201 | 1 |
| 5745-5825 | 242.326 | 5.98 | 20 | 0.19104 | 1 |

NOTE:
2.4GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 4.68$dBi
5GHz:
UNII-1: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 5.85$dBi
UNII-3: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 5.98$dBi

**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 = 0.45584 / 1 + 0.19104 / 1 = 0.64688
**Therefore the maximum calculations of above situations are less than the "1" limit.**

**--- END ---**