

## RF Exposure Report

**Report No.:** SA181023C12

**FCC ID:** PY318300422

**Model:** EX7300v2

**Series Model:** EX6400v2

**Received Date:** Oct. 23, 2018

**Test Date:** Oct. 31 ~ Dec. 18, 2018

**Issued Date:** Dec. 18, 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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /** 788550 / TW0003

**Designation Number:**



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## Table of Contents

|                                                              |          |
|--------------------------------------------------------------|----------|
| <b>Release Control Record</b> .....                          | <b>3</b> |
| <b>1 Certificate of Conformity</b> .....                     | <b>4</b> |
| <b>2 RF Exposure</b> .....                                   | <b>5</b> |
| 2.1 Limits for Maximum Permissible Exposure (MPE).....       | 5        |
| 2.2 MPE Calculation Formula .....                            | 5        |
| 2.3 Classification .....                                     | 5        |
| <b>3 Calculation Result of Maximum Conducted Power</b> ..... | <b>6</b> |

### Release Control Record

| Issue No.   | Description       | Date Issued   |
|-------------|-------------------|---------------|
| SA181023C12 | Original release. | Dec. 18, 2018 |

## 1 Certificate of Conformity

**Product:** Nighthawk X4 AC2200 WiFi Mesh Extender, AC1900 WiFi Mesh Extender

**Brand:** NETGEAR

**Model:** EX7300v2

**Series Model:** EX6400v2

**Sample Status:** Engineering sample

**Applicant:** NETGEAR, INC.

**Test Date:** Oct. 31 ~ Dec. 18, 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 RF characteristics under the conditions specified in this report.

**Prepared by :** Polly Chien , **Date:** Dec. 18, 2018  
Polly Chien / Specialist

**Approved by :** Bruce Chen , **Date:** Dec. 18, 2018  
Bruce Chen / Project Engineer

## 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 |                               |                               |                                     |                        |
| 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/cm<sup>2</sup>

$P_{out}$  = 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 21cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 3 Calculation Result of Maximum Conducted Power

| Frequency Band (MHz)   | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|------------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| <b>Model: EX7300v2</b> |                 |                    |               |                                     |                             |
| CDD Mode:              |                 |                    |               |                                     |                             |
| 2412-2462              | 26.19           | 7.60               | 21            | 0.432                               | 1                           |
| 5180-5240              | 29.32           | 5.49               | 21            | 0.546                               | 1                           |
| 5745-5825              | 29.35           | 5.14               | 21            | 0.507                               | 1                           |
| Beamforming Mode       |                 |                    |               |                                     |                             |
| 5180-5240              | 29.05           | 5.49               | 21            | 0.513                               | 1                           |
| 5745-5825              | 29.29           | 5.14               | 21            | 0.500                               | 1                           |
| <b>Model: EX6400v2</b> |                 |                    |               |                                     |                             |
| CDD Mode:              |                 |                    |               |                                     |                             |
| 2412-2462              | 24.88           | 6.07               | 21            | 0.225                               | 1                           |

Note:

#### **Model: EX7300v2**

CDD Mode:

2412 ~ 2462MHz:  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 7.60\text{dBi}$

5180 ~ 5240MHz: Directional gain = 5.49dBi

5745 ~ 5825MHz: Directional gain = 5.14dBi

Beamforming Mode:

5180 ~ 5240MHz: Directional gain = 5.49dBi

5745 ~ 5825MHz: Directional gain = 5.14dBi

#### **Model: EX6400v2**

CDD Mode:

2412 ~ 2462MHz:  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 6.07\text{dBi}$

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$$2.4G + 5G = 0.432 / 1 + 0.546 / 1 = 0.978$$

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

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