



## RF Exposure Report

**Report No.:** SA150624E07D

**FCC ID:** PY315300321

**Test Model:** WAC730

**Received Date:** Oct. 12, 2015

**Test Date:** Oct. 21, 2015

**Issued Date:** June 07, 2016

**Applicant:** NETGEAR, Inc.

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

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**Test Location (1):** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin  
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**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin  
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### Release Control Record

| Issue No.    | Description       | Date Issued   |
|--------------|-------------------|---------------|
| SA150624E07D | Original release. | June 07, 2016 |



**1 Certificate of Conformity**

**Product:** ProSAFE Dual Band Wireless AC Access Point

**Brand:** NETGEAR

**Test Model:** WAC730

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** NETGEAR, Inc.

**Test Date:** Oct. 21, 2015

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D03

447498 D01 GENERAL RF EXPOSURE GUIDANCE V06

IEEE STD C95.1-2005

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 :** Wendy Wu. , **Date:** June 07, 2016  
Wendy Wu / Specialist

**Approved by :** May Chen , **Date:** June 07, 2016  
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 |                               |                               |                                     |                        |
| 300-1500  | ...                           | ...                           | F/1500                              | 30                     |
| 1500-100,000  | ...                           | ...                           | 1.0                                 | 30                     |

F = Frequency in MHz

### 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 25cm 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:

| External Antenna     |                   |              |  |                 |                              |                   |                              |                |                |
|----------------------|-------------------|--------------|--|-----------------|------------------------------|-------------------|------------------------------|----------------|----------------|
| PCB Chain No.        | Brand             | Model        | Antenna Gain (dBi)<br>(Exclude cable loss) | Cable Loss (dB) | Net Gain (dBi)               | Cable Length (mm) | Frequency range (GHz to GHz) | Antenna Type   | Connector Type |
| Chain (0)<br>(Left)  | Master Wave Tech. | 98364PRXS004 | 0.8  | 0.8             | 0                            | 180               | 2.4~2.4835                   | Dipole         | R-SMA          |
|                      |                   |              | 1.5  | 1.5             | 0                            |                   | 5.15~5.25                    |                |                |
|                      |                   |              | 1.6  | 1.5             | 0.1                          |                   | 5.25~5.35                    |                |                |
|                      |                   |              | 0.7  | 1.5             | -0.8                         |                   | 5.47~5.725                   |                |                |
|                      |                   |              | 0.5  | 1.5             | -1                           |                   | 5.725~5.85                   |                |                |
| Chain (1)<br>(Mid)   | Master Wave Tech. | 98364PRXS004 | 0.8  | 0.5             | 0.3                          | 60                | 2.4~2.4835                   | Dipole         | R-SMA          |
|                      |                   |              | 1.5  | 0.9             | 0.6                          |                   | 5.15~5.25                    |                |                |
|                      |                   |              | 1.6  | 0.9             | 0.7                          |                   | 5.25~5.35                    |                |                |
|                      |                   |              | 0.7  | 0.9             | -0.2                         |                   | 5.47~5.725                   |                |                |
|                      |                   |              | 0.5  | 0.9             | -0.4                         |                   | 5.725~5.85                   |                |                |
| Chain (2)<br>(Right) | Master Wave Tech. | 98364PRXS004 | 0.8  | 0.9             | -0.1                         | 190               | 2.4~2.4835                   | Dipole         | R-SMA          |
|                      |                   |              | 1.4  | 1.7             | -0.3                         |                   | 5.15~5.25                    |                |                |
|                      |                   |              | 1.6  | 1.7             | -0.1                         |                   | 5.25~5.35                    |                |                |
|                      |                   |              | 0.7  | 1.7             | -1                           |                   | 5.47~5.725                   |                |                |
|                      |                   |              | 0.7  | 1.7             | -1                           |                   | 5.725~5.85                   |                |                |
| Internal Antenna     |                   |              |  |                 |                              |                   |                              |                |                |
| PCB Chain No.        | Brand             | Model        | Antenna Gain (dBi)                         |                 | Frequency range (GHz to GHz) |                   | Antenna Type                 | Connector Type |                |
| Chain (0)            | NA                | NA           | 5  |                 | 2.4~2.4835                   |                   | PIFA                         | i-pex(MHF)     |                |
|                      |                   |              | 6  |                 | 5.15~5.25                    |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.25~5.35                    |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.47~5.725                   |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.725~5.85                   |                   |                              |                |                |
| Chain (1)            | NA                | NA           | 5  |                 | 2.4~2.4835                   |                   | PIFA                         | i-pex(MHF)     |                |
|                      |                   |              | 6  |                 | 5.15~5.25                    |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.25~5.35                    |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.47~5.725                   |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.725~5.85                   |                   |                              |                |                |
| Chain (2)            | NA                | NA           | 5  |                 | 2.4~2.4835                   |                   | PIFA                         | i-pex(MHF)     |                |
|                      |                   |              | 6  |                 | 5.15~5.25                    |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.25~5.35                    |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.47~5.725                   |                   |                              |                |                |
|                      |                   |              | 6  |                 | 5.725~5.85                   |                   |                              |                |                |

## 2.5 Calculation Result Of Maximum Conducted Power

**For 2.4GHz & 5GHz (U-NII-1 band & U-NII-3 band) data was copied from the original test report. (Report No.: SA150624E07F)**

| 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            | 484.435        | 9.77               | 25            | 0.58498                             | 1                           |
| 5180-5240            | 92.996         | 10.77              | 25            | 0.14138                             | 1                           |
| 5260-5320            | 159.563        | 10.77              | 25            | 0.24257                             | 1                           |
| 5500--5700           | 199.429        | 10.77              | 25            | 0.30318                             | 1                           |
| 5745-5825            | 241.15         | 10.77              | 25            | 0.36660                             | 1                           |

**NOTE:**

2.4GHz: Directional gain = 5dBi + 10log(3) = 9.77dBi

5GHz: Directional gain = 6dBi + 10log(3) = 10.77dBi

**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

WLAN 2.4GHz + WLAN 5GHz =  $0.58498 / 1 + 0.36660 / 1 = 0.95158$

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

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