

## RF Exposure Report

**Report No.:** SA170410E06

**FCC ID:** PY317200376

**Test Model:** WAC505

**Received Date:** Apr. 10, 2017

**Test Date:** May 17, 2017

**Issued Date:** May 28, 2017

**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

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### Release Control Record

Issue No.	Description	Date Issued
SA170410E06	Original release.	May 28, 2017

## 1 Certificate of Conformity

**Product:** AC WiFi Business Access Point

**Brand:** NETGEAR

**Test Model:** WAC505

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** NETGEAR, INC.

**Test Date:** May 17, 2017

**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 :** Wendy Wu , **Date:** May 28, 2017  
Wendy Wu / Specialist

**Approved by :** May Chen , **Date:** May 28, 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 <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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

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 22cm away from the body of the user.  
So, this device is classified as **Mobile Device**.

### 2.4 Antenna Gain

Antenna No.	Brand	Model	Ant. Gain(dBi)	Frequency range (GHz)	Antenna Type	Connector Type	Cable Length
1	Master Wave Technology	98P2JMIPF018	3.07	2.4~2.4835	PCB	i-pex(MHF)	79mm
2	Master Wave Technology	98P2JMIPF018	3.07	2.4~2.4835	PCB	i-pex(MHF)	79mm
3	Master Wave Technology	98P2KUIPF020	4.01	5.15~5.85	PCB	i-pex(MHF)	89mm
4	Master Wave Technology	98P2KUIPF019	3.84	5.15~5.85	PCB	i-pex(MHF)	41mm

## 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	621.974	6.08	22	0.41468	1
5180-5240	426.701	6.94	22	0.34679	1
5745-5825	557.248	6.94	22	0.45289	1

NOTE:

2.4GHz: Directional gain = 3.07dBi + 10log(2) = 6.08dBi

5GHz: Directional gain = 10 log[(10<sup>G<sub>1</sub>/20</sup> + 10<sup>G<sub>2</sub>/20</sup>)<sup>2</sup> / 2] = 6.94dBi

### 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 = 0.41468 / 1 + 0.45289 / 1 = 0.86757

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

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