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

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
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 : , **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^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 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	Connecter 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^2)	Limit (mW/cm^2)
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[$(10^{G1/20} + 10^{G2/20})^2$ / 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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