RF Exposure Report

Report No.:	SA150624E06H
FCC ID:	PY315300320
Test Model:	WAC720
Received Date:	Apr. 13, 2016
Test Date:	May 12, 2016
Issued Date:	May 27, 2016
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.

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA150624E06H	Original release.	May 27, 2016

1 Certificate of Conformity

Product:	ProSAFE Dual Band Wireless AC Access Point
Brand:	NETGEAR
Test Model:	WAC720
Sample Status:	MASS-PRODUCTION
Applicant:	NETGEAR, Inc.
Test Date:	May 12, 2016
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 IEEE C95.1

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 27, 2016

Wendy Wu / Specialist

Approved by : , **Date:** May 27, 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^2)	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^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**.

3 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

External Antenna									
PCB Chain No.	Brand	Model	Antenna Gain (dBi) (Excelude cable loss)	Cable Loss (dB)	Net Gain (dBi)	Cable Length (mm)	Frequency range (GHz to GHz)	Antenna Type	Connecter Type
Chain (0) (Left)	Master Wave Tech.	98364PRSX004	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) (Right)	Master Wave Tech.	98364PRSX004	0.8	0.9	-0.1	190	2.4~2.4835	Dipole	R-SMA
			1.5	1.7	-0.2		5.15~5.25		
			1.6	1.7	-0.1		5.25~5.35		
			0.7	1.7	-1		5.47~5.725		
			0.5	1.7	-1.2		5.725~5.85		

Internal Antenna						
PCB Chain No.	Brand	Model	Antenna Gain (dBi)	Frequency range (GHz to GHz)	Antenna Type	Connecter 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 (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		

4 Calculation Result Of Maximum Conducted Power

The data (Except UNII-3 band) was copied from the original test report (Report No.: SA150624E06)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	355.643	8.01	20	0.44745	1
5180-5240	70.602	9.01	20	0.11183	1
5745-5825	308.695	9.01	20	0.48894	1

NOTE:
2.4GHz: Directional gain = 5dBi + 10log(2) = 8.01dBi
5GHz: Directional gain = 6dBi + 10log(2) = 9.01dBi

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 = 0.44745 / 1 + 0.48894 / 1 = 0.93639

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

--- END ---