RF Exposure Report

Report No.:	SA160913E02A
FCC ID:	PY316200342
Test Model:	R6400v2
Received Date:	Nov. 02, 2016
Test Date:	Nov. 16, 2016
Issued Date:	Mar. 29, 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.

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA160913E02A	Original release.	Mar. 29, 2017

1 Certificate of Conformity

Product:	AC1750 Smart WiFi Router
Brand:	NETGEAR
Test Model:	R6400v2
Sample Status:	ENGINEERING SAMPLE
Applicant:	NETGEAR, Inc.
Test Date:	Nov. 16, 2016
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 : _____ , **Date:** Mar. 29, 2017

Wendy Wu / Specialist

Approved by : _____ , **Date:** Mar. 29, 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				
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 23cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Antenna No.	Brand	Model	Antenna Gain(dBi)	Frequency range (GHz ~ GHz)	Antenna Type	Connecter Type
98612PIPF003	NA	NA	3.4	2.4~2.4835	Dipole	I-pex (MHF)
			3.94	5.15~5.25		
			3.44	5.25~5.35		
			3.44	5.47~5.725		
			3.73	5.725~5.85		
98612PIPF004	NA	NA	3.23	2.4~2.4835	Dipole	I-pex (MHF)
			3.66	5.15~5.25		
			3.83	5.25~5.35		
			3.83	5.47~5.725		
			3.77	5.725~5.85		
98612PIPF005	NA	NA	3.36	2.4~2.4835	Dipole	I-pex (MHF)
			3.32	5.15~5.25		
			3.63	5.25~5.35		
			3.63	5.47~5.725		
			3.74	5.725~5.85		

The Directional gain table:

Frequency (MHz)	Max Gain (dBi)
2412-2462	5.65
5180-5240	5.95
5260-5320	5.95
5500-5700	5.98
5745-5825	5.98

Note:

1. Non-TxBF mode & TxBF mode antenna gain refer to KDB 662911 F 2) f) (ii)

$$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

2.5 Calculation Result Of Maximum Conducted Power

For 2.4GHz and 5GHz (U-NII-1 and UNII-3 band) data was copied from the original test report (Report No.: SA160913E02)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	579.66	5.65	23	0.32026	1
5180-5240	664.278	5.95	23	0.39326	1
5260-5320	235.09	5.95	23	0.13918	1
5500-5700	245.947	5.98	23	0.14661	1
5745-5825	988.92	5.98	23	0.58951	1

NOTE:
2.4GHz: Directional gain = 5.65dBi
5GHz:
UNII-1: Directional gain = 5.95dBi
UNII-2A: Directional gain = 5.95dBi
UNII-2C: Directional gain = 5.98dBi
UNII-3: Directional gain = 5.98dBi

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 = 0.32026 / 1 + 0.58951 / 1 = 0.90977

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

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