RF Exposure Report

Report No.:	SA141016E01B
FCC ID:	PY315200315
Test Model:	D6400
Received Date:	June 02, 2015
Test Date:	Nov. 06 to 09, 2015
Issued Date:	Nov. 17, 2015
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:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (1):	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (3):	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
SA141016E01B	Original release.	Nov. 17, 2015

1 Certificate of Conformity

Product:	AC1600 WiFi VDSL/ADSL Modem Router
Brand:	NETGEAR
Test Model:	D6400
Sample Status:	ENGINEERING SAMPLE
Applicant:	NETGEAR, Inc.
Test Date:	Nov. 06 to 09, 2015
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D03 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 : _____ , **Date:** Nov. 17, 2015
Lori Chung / Specialist

Approved by : _____ , **Date:** Nov. 17, 2015
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**.

2.4 Antenna Gain

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

For 2.4GHz Band							
PCB Chain No.	Brand	Model	Antenna Gain(dBi) < including cable loss>	Frequency range (GHz ~ GHz)	Antenna Type	Connecter Type	Cable Length (mm)
Chain 0	NETGEAR	98P91MIPF044	2	2.4~2.4835	PCB	I-Pex	85
Chain 1	NETGEAR	98P91MIPF045	2	2.4~2.4835	PCB	I-Pex	150
For 5GHz Band							
PCB Chain No.	Brand	Model	Antenna Gain(dBi) < including cable loss>	Frequency range (GHz ~ GHz)	Antenna Type	Connecter Type	Cable Length (mm)
Chain 0	NETGEAR	98P92UIPF061	3	5.15~5.85	PCB	I-Pex	60
Chain 1	NETGEAR	98P92UIPF062	3	5.15~5.85	PCB	I-Pex	70
Chain 2	NETGEAR	98P92UIPF063	3	5.15~5.85	PCB	I-Pex	80

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	183.097	5.01	20	0.11545	1
5180-5240	327.522	7.77	20	0.38991	1
5745-5825	168.809	7.77	20	0.20097	1

NOTE:
2.4GHz: Directional gain = 2dBi + 10log(2) = 5.01dBi
5GHz: Directional gain = 3dBi + 10log(3) = 7.77dBi

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 = 0.11545 + 0.38991 = 0.505

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

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