RF Exposure Report

Report No.:	SA141106E03B
FCC ID:	PY314300292
Test Model:	C6250
Received Date:	July 16, 2015
Test Date:	Aug. 03, 2015
Issued Date:	Sep. 10, 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, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA141106E03B	Original release.	Sep. 10, 2015

1   Certificate of Conformity

Product:	Wireless Cable Gateway
Brand:	NETGEAR
Test Model:	C6250
Sample Status:	ENGINEERING SAMPLE
Applicant:	NETGEAR, Inc.
Test Date:	Aug. 03, 2015
Standards:	FCC Part 2 (Section 2.1091)
	KDB 447498 D03
	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:** _____ Sep. 10, 2015 _____
Lori Chung / Specialist

Approved by : _____ , **Date:** _____ Sep. 10, 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 24cm 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:

2.4GHz							
PCB Chain No.	Brand	Model	Antenna Gain(dBi) < including cable loss>	Frequency range	Antenna Type	Connecter Type	Cable Length (mm)
Chain 0	Netgear	NA	3.8	2.4~2.4835 GHz	PCB	i-pex(MHF)	125
Chain 1	Netgear	NA	3.3	2.4~2.4835 GHz	PCB	i-pex(MHF)	250
5GHz							
PCB Chain No.	Brand	Model	Antenna Gain(dBi) < including cable loss>	Frequency range	Antenna Type	Connecter Type	Cable Length (mm)
Chain 0	Netgear	NA	3.5	5.15~5.85 GHz	PCB	i-pex(MHF)	113
Chain 1	Netgear	NA	3.6	5.15~5.85 GHz	PCB	i-pex(MHF)	125
Chain 2	Netgear	NA	2.8	5.15~5.85 GHz	PCB	i-pex(MHF)	75

4   Calculation Result of Maximum Conducted Power

For 2.4GHz & 5GHz (5180-5240MHz, 5260-5320MHz & 5500-5700MHz) data was referenced from the original test report.

For 2.4GHz

CDD Mode

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	144.901	6.56	24	0.09066	1

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.56$dBi

For 5GHz

CDD Mode

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
5180-5240	295.272	8.08	24	0.26217	1
5260-5320	171.092	8.08	24	0.15191	1
5500-5700	172.554	8.08	24	0.15321	1
5745-5825	428.828	8.08	24	0.38076	1

Beamforming Mode

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
5180-5240	372.052	8.08	24	0.33035	1
5260-5320	152.282	8.08	24	0.13521	1
5500-5700	176.621	8.08	24	0.15682	1
5745-5825	438.619	8.08	24	0.38945	1

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.08$dBi

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 =0.09066 + 0.38945 = 0.40811

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

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