RF Exposure Report

Report No.: SA140710C17B

FCC ID: PY314200260

Test Model: C6300BD

Received Date: July 22, 2014

Test Date: Jan. 28, 2015

Issued Date: May 19, 2015

Applicant: NETGEAR INC.

Address: 350 East Plumeria Drive, San Jose CA 96134, USA

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.

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Release Control Record

Issue No.	Description	Date Issued
SA140710C17B	Original release.	May 19, 2015

1   Certificate of Conformity

Product: Wireless Cable Data Gateway

Brand: NETGEAR

Test Model: C6300BD

Sample Status: ENGINEERING SAMPLE

Applicant: NETGEAR INC.

Test Date: Jan. 28, 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:** _____ May 19, 2015 _____
Lori Chung / Specialist

Approved by : _____ , **Date:** _____ May 19, 2015 _____
May Chen / Manager

2   RF Exposure Limit

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 35cm 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:

For 2.4GHz used						
Ant. No.	Transmitter Circuit	Brand	Model	Antenna Type	Antenna Gain (dBi)	Connector type
1	Chain (0)	Master Wave	98P92UIPF030	PCB	2	I-PEX
2	Chain (1)		98P92UIPF031		2	
3	Chain (2)		98P92UIPF033		2	

For 5GHz used						
Ant. No.	Transmitter Circuit	Brand	Model	Antenna Type	Antenna Gain (dBi)	Connector type
4	Chain (0)	Master Wave	98P92UIPF033	PCB	2	I-PEX
5	Chain (1)		98P92UIPF034		2	
6	Chain (2)		98P92UIPF034		2	

4 Calculation Result of Maximum Conducted Power

For 15.247(2.4GHz), 15.247(5GHz) and 15.407 (U-NII-1 band) data was copied from the original test report (Report No.: SA140710C17)

For 15.247(2.4GHz):

802.11b

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412 - 2462	683.701	6.77	35	0.21112	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11g

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412 - 2462	661.388	6.77	35	0.20423	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11n (HT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412 - 2462	476.954	6.77	35	0.14728	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11n (HT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2422 - 2452	200.838	6.77	35	0.06202	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

For 15.247(5GHz):

802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	829.037	6.77	35	0.25599	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	831.402	6.77	35	0.25672	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5755 ~ 5795	814.961	6.77	35	0.25165	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5775	526.577	6.77	35	0.16260	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

For 15.407:

802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	221.398	6.77	35	0.06836	1
5260 ~ 5320	141.429	6.77	35	0.04367	1
5500 ~ 5700	207.65	6.77	35	0.06412	1

NOTE: For U-NII-1 Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2A Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2C Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	269.654	6.77	35	0.16235	1
5260 ~ 5320	189.964	6.77	35	0.05866	1
5500 ~ 5700	209.626	6.77	35	0.06473	1

NOTE: For U-NII-1 Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2A Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2C Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5190 ~ 5230	237.371	6.77	35	0.07330	1
5270 ~ 5310	186.526	6.77	35	0.05760	1
5510 ~ 5670	205.495	6.77	35	0.06345	1

NOTE: For U-NII-1 Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2A Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2C Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5210	86.452	6.77	35	0.02669	1
5290	61.024	6.77	35	0.01884	1
5530 ~ 5610	185.667	6.77	35	0.05733	1

NOTE: For U-NII-1 Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2A Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

For U-NII-2C Band: Directional gain = 2dBi + 10log(3) = 6.77dBi

Conclusion:

Both of the 2.4GHz and 5GHz WLAN can transmit simultaneously, the formula of calculated the MPE is:

CPD_1 / LPD_1 + CPD_2 / LPD_2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is 0.21112 / 1 + 0.25672 / 1 = 0.468, which is less than "1".

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