



## 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  
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**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
SA141106E03B	Original release.	Sep. 10, 2015



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## 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 :

  
Lori Chung / Specialist

Date:

Sep. 10, 2015

Approved by :

  
May Chen / Manager

Date:

Sep. 10, 2015

## 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 <sup>2</sup> )	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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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	Connector 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	Connector 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	144.901	6.56	24	0.09066	1

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

##### For 5GHz

CDD Mode					
Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
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

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

#### Conclusion:

The formula of calculated the MPE is:

$$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$\text{WLAN 2.4GHz} + \text{WLAN 5GHz} = 0.09066 + 0.38945 = 0.40811$$

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

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