

RF Exposure Report

Report No.: SA161017C17C R1

FCC ID: PY320100476

Test Model: C6230

Received Date: Oct. 30, 2019

Test Date: Nov. 08, 2019 ~ Feb. 12, 2020

Issued Date: Feb. 14, 2020

Applicant: NETGEAR, INC.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
SA161017C17C	Original release	Jan. 07, 2020
SA161017C17C R1	Removed series model and revised FCC ID ReRecalculated MPE value.	Feb. 14, 2020

1 Certificate of Conformity

Product: Cable Gateway

Brand: Netgear

Test Model: C6230

Sample Status: Engineering sample

Applicant: NETGEAR, INC.

Test Date: Nov. 08, 2019 ~ Feb. 12, 2020

Standards: FCC Part 2 (Section 2.1091)

References Test IEEE C95.3 -2002

Guidance: KDB 447498 D01 General RF Exposure Guidance v06

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 RF characteristics under the conditions specified in this report.

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Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Feb. 14, 2020
Bruce Chen / Senior Project Engineer

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

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

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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**.

3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
CDD Mode					
2412-2462	24.88	5.22	20	0.204	1
5180-5240	26.46	7.44	20	0.488	1
5745-5825	27.39	7.71	20	0.644	1
Beamforming Mode					
5180-5240	26.31	7.44	20	0.472	1
5745-5825	27.39	7.71	20	0.644	1

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2412-2462MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.22\text{dBi}$

5180-5240MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.44\text{dBi}$

5745-5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.71\text{dBi}$

Conclusion:

Both of the WLAN 2.4G & WLAN 5G can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$2.4G + 5G = 0.204 / 1 + 0.644 / 1 = 0.848$

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

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