

RF Exposure Report

Report No.: SA191219E11

FCC ID: PY320100477

Test Model: CBR750

Received Date: Dec. 20, 2019

Test Date: Jan. 20 to 27, 2020

Issued Date: Feb. 10, 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 /
Designation Number:** 723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA191219E11	Original release.	Feb. 10, 2020

1 Certificate of Conformity

Product: Orbi Cable Modem Router
Brand: NETGEAR
Test Model: CBR750
Sample Status: ENGINEERING SAMPLE
Applicant: NETGEAR, Inc.
Test Date: Jan. 20 to 27, 2020
Standards: FCC Part 2 (Section 2.1091)
IEEE C95.3 -2002
References Test 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 EMC characteristics under the conditions specified in this report.

Prepared by : Phoenix Huang , **Date:** Feb. 10, 2020
Phoenix Huang / Specialist

Approved by : Clark Lin , **Date:** Feb. 10, 2020
Clark Lin / Technical 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

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 32 cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Antenna Connector
2.4 ~ 2.4835	5.34	Dipole	i-pex(MHF)
5.15 ~ 5.25	5.52		
5.25 ~ 5.35	5.45		
5.47 ~ 5.725	6.88		
5.725 ~ 5.85	6.97		
Note: More detailed information, please refer to antenna specification.			

2.5 Calculation Result of Maximum Conducted Power

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN 2.4GHz	2437	985.266	5.34	32	0.26184	1
WLAN (U-NII-1)	5200	834.824	5.52	32	0.23125	1
WLAN (U-NII-3)	5785	995.5	6.97	32	0.38506	1

Note:

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

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$WLAN\ 2.4GHz + WLAN\ 5GHz\ (U-NII-1) + WLAN\ 5GHz\ (U-NII-3) = 0.26184 / 1 + 0.23125 / 1 + 0.38506 / 1 = 0.87815$

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

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