

RF Exposure Report

Report No.: SA191129E09

FCC ID: PY319400470

Test Model: RBR750

Series Model: RBS750

Received Date: Nov. 29, 2019

Test Date: Jan. 08 ~ Jan. 13, 2020

Issued Date: Jan. 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
SA191129E09	Original release	Jan. 14, 2020

1 Certificate of Conformity

Product: Orbi Router, Orbi Satellite

Brand: NETGEAR

Test Model: RBR750

Series Model: RBS750

Sample Status: Engineering sample

Applicant: NETGEAR, INC.

Test Date: Jan. 08 ~ Jan. 13, 2020

Standards: FCC Part 2 (Section 2.1091)
IEEE C95.1-1992

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 RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen, **Date:** Jan. 14, 2020
Pettie Chen / Senior Specialist

Approved by : Bruce Chen, **Date:** Jan. 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 30cm 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	29.82	5.46	30	0.298	1
5180-5240	28.41	5.67	30	0.226	1
5745-5825	29.93	6.94	30	0.430	1
Beamforming Mode					
2412-2462	28.11	5.46	30	0.201	1
5180-5240	28.41	5.67	30	0.226	1
5745-5825	29.04	6.94	30	0.350	1

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

1. 2.4GHz: Directional gain = 5.46dBi
2. 5GHz U-NII-1: Directional gain = 5.67dBi
2. 5GHz U-NII-3: Directional gain = 6.94dBi

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 5.0GHz = $0.298 / 1 + 0.226 / 1 + 0.430 / 1 = 0.954$

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

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