

RF Exposure Report

Report No.: MFBBQZ-WTW-P22031009

FCC ID: PY322100556

Test Model: RBR860, RBS860

Received Date: 2022/4/14

Test Date: 2022/4/27

Issued Date: 2022/6/22

**Applicant and
Manufacturer:** NETGEAR, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

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Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
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**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
MFBBQZ-WTW-P22031009	Original release.	2022/6/22

1 Certificate of Conformity

Product: Orbi Router, Orbi Satellite

Brand: NETGEAR

Test Model: RBR860, RBS860

Sample Status: Engineering sample

**Applicant and
Manufacturer:** NETGEAR, Inc.

Test Date: 2022/4/27

FCC Rule Part: FCC Part 2 (Section 2.1091)

Standards: 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.

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Vivian Huang / Specialist

Approved by : May Chen , **Date:** 2022/6/22
May Chen / 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

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

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	6.1	Dipole	ipex(MHF)
5.15 ~ 5.25	6.29		
5.725 ~ 5.85	6.41		
Note: More detailed information, please refer to antenna specification.			

2.5 Calculation Result of Maximum Conducted Power

CDD Mode

Operation Mode	Evaluation Frequency (MHz)	Max. Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Pass/ Fail
WLAN 2.4GHz	2412-2462	956.856	1.99	32	0.11758	1	Pass
WLAN 5GHz (U-NII-1)	5180-5240	933.866	2.50	32	0.12905	1	Pass
WLAN 5GHz (U-NII-3)	5745-5825	996.461	2.90	32	0.15099	1	Pass

Beamforming Mode

Operation Mode	Evaluation Frequency (MHz)	Max. Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Pass/ Fail
WLAN 2.4GHz	2412-2462	921.853	6.10	32	0.29184	1	Pass
WLAN 5GHz (U-NII-1)	5180-5240	927.018	6.29	32	0.30660	1	Pass
WLAN 5GHz (U-NII-3)	5745-5825	877.931	6.41	32	0.29850	1	Pass

Note:

- 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

CDD Mode

WLAN 2.4GHz + WLAN 5GHz (U-NII-1) + WLAN 5GHz (U-NII-3) = $0.11758 / 1 + 0.12905 / 1 + 0.15099 / 1 = 0.39762$

Beamforming Mode

WLAN 2.4GHz + WLAN 5GHz (U-NII-1) + WLAN 5GHz (U-NII-3) = $0.29184 / 1 + 0.30660 / 1 + 0.29850 / 1 = 0.89694$

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

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