

## RF Exposure Report

**Report No.:** SA170906C12D

**FCC ID:** PY317400402

**Test Model:** RBR20

**Series Model:** RBS20

**Received Date:** Aug. 25, 2017

**Test Date:** Aug. 25, 2017 ~ Jan. 25, 2018

**Issued Date:** Jan. 26, 2018

**Applicant:** NETGEAR, INC.

**Address:** 350 East Plumeria Drive San Jose, CA 95134

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SA170906C12D	Original release.	Jan. 26, 2018

## 1 Certificate of Conformity

**Product:** Orbi Router, Orbi Satellite

**Brand:** NETGEAR

**Test Model:** RBR20

**Series Model:** RBS20

**Sample Status:** Engineering sample

**Applicant:** NETGEAR, INC.

**Test Date:** Aug. 25, 2017 ~ Jan. 25, 2018

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

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 RF characteristics under the conditions specified in this report.

**Prepared by :** Celine Chou , **Date:** Jan. 26, 2018  
Celine Chou / Specialist

**Approved by :** Bruce Chen , **Date:** Jan. 26, 2018  
Bruce Chen / 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 <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

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = 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 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
CDD Mode					
2412-2462	24.93	5.71	20	0.231	1
5180-5240	23.24	5.01	20	0.133	1
5745-5825	27.89	4.65	20	0.357	1
Beamforming Mode					
2412-2462	24.10	5.71	20	0.190	1
5180-5240	23.24	5.01	20	0.133	1
5745-5825	27.89	4.65	20	0.357	1

Note: The Max Power = Max tune up power  
 2412~2462MHz Directional gain = 5.71dBi  
 5180~5240MHz Directional gain = 5.01dBi  
 5745~5825MHz Directional gain = 4.65dBi

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 band 1 + WLAN 5GHz band 4 =  $0.231 + 0.133 + 0.357 = 0.721 < 1$

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