

## RF Exposure Report (Spot Check)

**Report No.:** SA170905C13F

**FCC ID:** PY318400432

**Original FCC ID:** PY317200377

**Test Model:** RBS50Y

**Received Date:** Nov. 26, 2018

**Test Date:** Dec. 20 ~ Dec. 26, 2018

**Issued Date:** Jan. 03, 2019

**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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## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula .....	5
2.3 Classification .....	5
<b>3 Calculation Result of Maximum Conducted Power</b> .....	<b>6</b>

### Release Control Record

Issue No.	Description	Date Issued
SA170905C13F	Original release	Jan. 03, 2019

## 1 Certificate of Conformity

**Product:** Orbi Router, Orbi Satellite, Orbi AC3000 Tri-band WiFi System

**Brand:** NETGEAR

**Test Model:** RBS50Y

**Sample Status:** Engineering sample

**Applicant:** NETGEAR, INC.

**Test Date:** Dec. 20 ~ Dec. 26, 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. 03, 2019  
Celine Chou / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Jan. 03, 2019  
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 27cm 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)	TX Function	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	2TX	29.03	5.31	27	0.297	1
5180-5240	1TX	17.10	3.71	27	0.013	1
	2TX	17.09	5.97	27	0.022	1
5260-5320	2TX	23.65	5.41	27	0.088	1
5500-5700	4TX	23.52	8.74	27	0.184	1
5745-5825	4TX	29.59	7.57	27	0.568	1
Beamforming Mode						
2412-2462	2TX	27.46	5.31	27	0.207	1
5180-5240	2TX	14.13	5.97	27	0.011	1
5260-5320	2TX	23.54	5.41	27	0.086	1
5500-5700	4TX	21.12	8.74	27	0.106	1
5745-5825	4TX	28.11	7.57	27	0.404	1

Note: The Max Power = Max tune up power  
 2412~2462MHz Directional gain = 5.31dBi  
 5180~5240MHz Directional gain = 5.97dBi  
 5260~5320MHz Directional gain = 5.41dBi  
 5500~5700MHz Directional gain = 8.74dBi  
 5745~5825MHz Directional gain = 7.57dBi

**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 (1TX) + WLAN 5GHz band 4 =  $0.297 + 0.013 + 0.568 = 0.878 < 1$

WLAN 2.4GHz + WLAN 5GHz band 1 (2TX) + WLAN 5GHz band 4 =  $0.297 + 0.022 + 0.568 = 0.887 < 1$

WLAN 2.4GHz + WLAN 5GHz band 1 (2TX) + WLAN 5GHz band 3 =  $0.297 + 0.022 + 0.184 = 0.503 < 1$

WLAN 2.4GHz + WLAN 5GHz band 2 + WLAN 5GHz band 3 =  $0.297 + 0.088 + 0.184 = 0.569 < 1$

WLAN 2.4GHz + WLAN 5GHz band 2 + WLAN 5GHz band 4 =  $0.297 + 0.088 + 0.568 = 0.953 < 1$

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