

## RF Exposure Report

**Report No.:** SA170905C13A

**FCC ID:** PY317200377

**Test Model:** RBS50Y

**Received Date:** Sep. 05, 2017

**Test Date:** Sep. 11 ~ Oct. 16, 2017

**Issued Date:** May 29, 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
SA170905C13A	Original release.	May 29, 2018

## 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:** Sep. 11 ~ Oct. 16, 2017

**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:** May 29, 2018  
Celine Chou / Specialist

**Approved by :** Bruce Chen , **Date:** May 29, 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

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

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

Function	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> )
WLAN	CDD Mode						
	2412-2462	2TX	29.14	5.31	27	0.304	1
	5180-5240	1TX	17.16	3.71	27	0.013	1
		2TX	17.17	5.97	27	0.022	1
	5260-5320	2TX	23.74	5.41	27	0.090	1
	5500-5700	4TX	23.64	8.74	27	0.189	1
	5745-5825	4TX	29.69	7.57	27	0.581	1
	Beamforming Mode						
	2412-2462	2TX	27.56	5.31	27	0.211	1
	5180-5240	2TX	14.18	5.97	27	0.011	1
	5260-5320	2TX	23.72	5.41	27	0.089	1
	5500-5700	4TX	21.25	8.74	27	0.109	1
5745-5825	4TX	28.20	7.57	27	0.412	1	
BT LE	2402-2480	1TX	7.83	1.50	27	0.001	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

Frequency Band	Max Power (dBm)		Total Power (dBm)	Power Limit (dBm)
	WLAN	BT LE		
2.4GHz	29.14	7.83	29.17	30

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 + BT LE =  $0.304 + 0.013 + 0.581 + 0.001$   
=  $0.899 < 1$

WLAN 2.4GHz + WLAN 5GHz band 1 (2TX) + WLAN 5GHz band 4 + BT LE =  $0.304 + 0.022 + 0.581 + 0.001$   
=  $0.908 < 1$

WLAN 2.4GHz + WLAN 5GHz band 1 (2TX) + WLAN 5GHz band 3 + BT LE =  $0.304 + 0.022 + 0.189 + 0.001$   
=  $0.516 < 1$

WLAN 2.4GHz + WLAN 5GHz band 2 + WLAN 5GHz band 3 + BT LE =  $0.304 + 0.090 + 0.189 + 0.001$   
=  $0.584 < 1$

WLAN 2.4GHz + WLAN 5GHz band 2 + WLAN 5GHz band 4 + BT LE =  $0.304 + 0.090 + 0.581 + 0.001$   
=  $0.976 < 1$

**---END---**