

RF Exposure Report

Report No.: SA161125E01H

FCC ID: PY317400403

Test Model: RBW30

Received Date: Nov. 25, 2016

Test Date: Dec. 21 to 22, 2016

Issued Date: Feb. 09, 2018

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 /
Designation Number:** 723255 / TW2022

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Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits for Maximum Permissible Exposure (MPE)	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
2.4 Antenna Gain	6
2.5 Calculation Result of Maximum Conducted Power	7

Release Control Record

Issue No.	Description	Date Issued
SA161125E01H	Original release.	Feb. 09, 2018

1 Certificate of Conformity

Product: Orbi Wall Plug Satellite

Brand: NETGEAR

Test Model: RBW30

Sample Status: ENGINEERING SAMPLE

Applicant: NETGEAR, Inc.

Test Date: Dec. 21 to 22, 2016

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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.

Prepared by : Mary Ko , **Date:** Feb. 09, 2018
Mary Ko / Specialist

Approved by : May Chen , **Date:** Feb. 09, 2018
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				
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/cm²

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 23cm away from the body of the user.
So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

The Directional gain table:

Frequency range (GHz)	Directional Antenna Gain (dBi)
2.4 ~ 2.4835	5.9
5.18 ~ 5.24	4
5.26 ~ 5.32	4
5.50 ~ 5.70	5.89
5.745 ~ 5.825	5.89

2.5 Calculation Result of Maximum Conducted Power

Radio 1 (WLAN: Dual Band):

Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	798.221	5.9	23	0.47693	1
5500-5700	237.807	5.89	23	0.13169	1
5745-5825	567.608	5.89	23	0.30436	1

Radio 2(WLAN: Single Band)

Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
5180-5240	309.071	4	23	0.11179	1
5260-5320	247.69	4	23	0.08959	1

NOTE:

2.4GHz: Directional gain = 5.9dBi

5GHz:

U_NII-1: Directional gain = 4dBi

U_NII-2A: Directional gain = 4dBi

U_NII-2C: Directional gain = 5.89dBi

U_NII-3: Directional gain = 5.89dBi

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(UNII-3) + WLAN 5GHz(UNII-1)

$= 0.47693 / 1 + 0.30436 / 1 + 0.11179 / 1$

$= 0.89308$

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

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