

RF Exposure Report

Report No.: SA180104E04A

FCC ID: PY317300396

Test Model: CBR40

Received Date: Jan. 04, 2018

Test Date: Jan. 16, 2018

Issued Date: Apr. 16, 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
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
SA180104E04A	Original release.	Apr. 16, 2018

1 Certificate of Conformity

Product: Orbi Cable Router

Brand: NETGEAR

Test Model: CBR40

Sample Status: ENGINEERING SAMPLE

Applicant: NETGEAR, Inc.

Test Date: Jan. 16, 2018

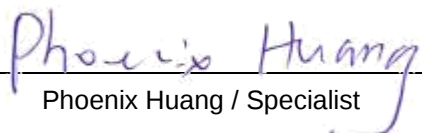
Standards: FCC Part 2 (Section 2.1091)

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 :


Phoenix Huang / Specialist

Date:

Apr. 16, 2018

Approved by :


May Chen / Manager

Date:

Apr. 16, 2018

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

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

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 32cm 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)
2.4~2.4835	6.02
5.15~5.25	6.07
5.25~5.35	6.07
5.5~5.7	6.23
5.725~5.85	6.23

2.5 Calculation Result of Maximum Conducted Power

For 2.4GHz and 5GHz (U-NII-1 & UNII-3 band) data was copied from the original test report (Report No.: SA180104E04)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	985.324	6.02	32	0.30624	1
5180-5240	871.19	6.07	32	0.27391	1
5260-5320	242.426	6.07	32	0.07622	1
5500-5700	235.847	6.23	32	0.07693	1
5745-5825	906.078	6.23	32	0.29557	1

NOTE:

2.4GHz: Directional gain = 6.02dBi

5GHz:

UNII-1: Directional gain = 6.07dBi

UNII-3: Directional gain = 6.23dBi

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 (U-NII-1) + WLAN 5GHz (UNII-3) = $0.30624 / 1 + 0.27391 / 1 + 0.29557 / 1 = 0.89979$

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

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