RF Exposure Report

Report No.:	SA190715C10
FCC ID:	PY319200449
Test Model:	RBR10
Received Date:	Jul. 15, 2019
Test Date:	Jul. 23 ~ Jul. 25, 2019
Issued Date:	Jul. 26, 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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Release Control Record

Issue No.	Description	Date Issued
SA190715C10	Original release.	Jul. 26, 2019

1 Certificate of Conformity

Product:	Orbi Router
Brand:	NETGEAR
Test Model:	RBR10
Sample Status:	Engineering sample
Applicant:	NETGEAR, INC.
Test Date:	Jul. 23 ~ Jul. 25, 2019
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.3-2002

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 : Pettie Chen , **Date:** Jul. 26, 2019

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Jul. 26, 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^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/cm^2
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)	Mode	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2412~2462	CDD	27.63	4.49	20	0.324	1
	Beamforming	27.18	4.49	20	0.292	1
WLAN 5180~5240	CDD	25.82	5.51	20	0.270	1
	Beamforming	25.69	5.51	20	0.262	1
WLAN 5745~5825	CDD	26.16	6.50	20	0.367	1
	Beamforming	26.16	6.50	20	0.367	1

Note:
1. Directional Gain:
2412~2462MHz Max. Directional Gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}] = 4.49$dBi
5180~5240MHz Max. Directional Gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}] = 5.51$dBi
5745~5825MHz Max. Directional Gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}] = 6.50$dBi

2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Conclusion:
The formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density

WLAN 2.4G+5G = 0.324 / 1 + 0.367 / 1 = 0.691 < 1

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