RF Exposure Report

Report No.: SABBQZ-WTW-P20070219

FCC ID: PY320100478

Test Model: RAX70

Series Model: RAX78

Received Date: Jul. 10, 2020

Test Date: Jul.14 ~ Jul. 31, 2020

Issued Date: Aug. 26, 2020

Applicant: NETGEAR, INC.

Address: 350 East Plumeria Drive, San Jose, CA 95134, USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

FCC Registration / Designation Number: 788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
SABBQZ-WTW-P20070219	Original release	Aug. 26, 2020

1   Certificate of Conformity

Product:	NIGHTHAWK ® AX8 8-Stream Tri-Band AX WiFi Router
Brand:	NETGEAR
Test Model:	RAX70
Series Model:	RAX78
Sample Status:	Engineering sample
Applicant:	NETGEAR, INC.
Test Date:	Jul.14 ~ Jul. 31, 2020
Standards:	FCC Part 2 (Section 2.1091)
References Test Guidance:	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 : _____ , **Date:** _____Aug. 26, 2020_____
Polly Chien / Specialist

Approved by : _____ , **Date:** _____Aug. 26, 2020_____
Bruce Chen / Senior 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 28cm 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)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)
CDD Mode					
2412-2462	29.32	4.15	28	0.226	1
5180-5240	29.18	6.18	28	0.349	1
5260-5320	23.53	6.11	28	0.093	1
5500-5720	23.33	7.38	28	0.120	1
5745-5825	29.26	6.61	28	0.392	1
Beamforming Mode					
2412-2462	29.31	4.15	28	0.225	1
5180-5240	29.05	6.18	28	0.338	1
5260-5320	23.42	6.11	28	0.091	1
5500-5720	22.58	7.38	28	0.101	1
5745-5825	29.26	6.61	28	0.392	1

Note:

1. 2412 ~ 2462MHz: Directional gain = 4.15dBi

    5180 ~ 5240MHz: Directional gain = 6.18dBi

    5260 ~ 5320MHz: Directional gain = 6.11dBi

    5500 ~ 5720MHz: Directional gain = 7.38dBi

    5745 ~ 5825MHz: Directional gain = 6.61dBi
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

Conclusion:

Both of the WLAN 2.4G & WLAN 5G can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

2.4G + 5G Band 1 + 5G Band 4 = 0.226 / 1 + 0.349 / 1 + 0.392 / 1 = 0.967

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

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