

## RF Exposure Report

**Report No.:** SA180521E10F

**FCC ID:** PY318200414

**Test Model:** RAX80

**Received Date:** Mar. 14, 2019

**Test Date:** July 16 to 17, 2018; Apr. 01, 2019

**Issued Date:** Sep. 18, 2020

**Applicant:** NETGEAR, Inc.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

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Taiwan R.O.C.

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
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**FCC Registration /  
Designation Number:** 723255 / TW2022

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### Release Control Record

Issue No.	Description	Date Issued
SA180521E10F	Original release.	Sep. 18, 2020

## 1 Certificate of Conformity

**Product:** Nighthawk AX8 8-Stream AX6000 WiFi Router

**Brand:** NETGEAR

**Test Model:** RAX80

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** NETGEAR, Inc.

**Test Date:** July 16 to 17, 2018; Apr. 01, 2019

**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 , **Date:** Sep. 18, 2020  
Phoenix Huang / Specialist

**Approved by :** Clark Lin , **Date:** Sep. 18, 2020  
Clark Lin / Technical 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 <sup>2</sup> )	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 <sup>2</sup> )*	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

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

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 24cm 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)	Antenna Type	Antenna Connector
2.4~2.4835	4.28	Dipole	i-pex(MHF)
5.15~5.25	5.56		
5.25~5.35	5.56		
5.47~5.725	6.22		
5.725~5.85	6.22		

Note: More detailed information, please refer to operating description.

Note: 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.

## 2.5 Calculation Result of Maximum Conducted Power

For 2.4GHz and 5GHz (except for straddle channels) data was copied from the original test report (Report No.: SA180521E10)

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 2.4GHz	2437	998.128	4.28	24	0.36945	1
WLAN (U-NII-1)	5200	988.161	5.56	24	0.49113	1
WLAN (U-NII-2A)	5320	248.698	5.56	24	0.12361	1
WLAN (U-NII-2C)	5500	238.154	6.22	24	0.13779	1
WLAN (U-NII-3)	5755	946.94	6.22	24	0.54788	1
WLAN (Straddle channel)	5690	147.122	6.22	24	0.08512	1

Note: 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:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$\text{WLAN 2.4GHz} + \text{WLAN 5GHz} = 0.36945 / 1 + 0.54788 / 1 = 0.91733$$

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

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