

## RF Exposure Report

**Report No.:** SABBQZ-WTW-P20110526

**FCC ID:** PY320300508

**Test Model:** RAXE500

**Received Date:** Nov. 17, 2020

**Test Date:** Dec. 18, 2020

**Issued Date:** Dec. 22, 2020

**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

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

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

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### Release Control Record

Issue No.	Description	Date Issued
SABBQZ-WTW-P20110526	Original release.	Dec. 22, 2020

## 1 Certificate of Conformity

**Product:** Nighthawk AXE11000 Tri-Band WiFi 6E Router

**Brand:** NETGEAR

**Test Model:** RAXE500

**Sample Status:** Engineering sample

**Applicant:** NETGEAR, Inc.

**Test Date:** Dec. 18, 2020

**Standards:** FCC Part 2 (Section 2.1091)  
IEEE C95.3 -2002

**References Test Guidance** KDB 447498 D01 General RF Exposure Guidance v06

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 :**



**Date:**

Dec. 22, 2020

Claire Kuan / Specialist

**Approved by :**



**Date:**

Dec. 22, 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 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)	Antenna Type	Antenna Connector
2.4~2.4835	7.02	Dipole	i-pex(MHF)
5.15~5.25	7.07		
5.25~5.35	6.98		
5.47~5.725	7.09		
5.725~5.85	7.32		

Frequency Range (GHz)	Mode	Nss	Directional Antenna Gain (dBi)		Antenna Type	Antenna Connector
			For Power	For PSD		
5.925~6.425	CDD	Nss1	2.94	4.92	Dipole	i-pex(MHF)
	SDM	Nss4	2.99	2.90		
	Beamforming	Nss1	6.87	6.77		
		Nss4	2.96	2.94		
6.425~6.525	CDD	Nss1	2.91	4.99		
	SDM	Nss4	2.96	2.98		
	Beamforming	Nss1	6.87	6.95		
		Nss4	2.99	2.97		
6.525~6.875	CDD	Nss1	2.99	4.97		
	SDM	Nss4	2.94	2.95		
	Beamforming	Nss1	6.98	6.77		
		Nss4	2.96	2.91		
6.875~7.125	CDD	Nss1	2.92	4.96		
	SDM	Nss4	2.91	2.90		
	Beamforming	Nss1	6.90	6.86		
		Nss4	2.97	2.95		

Note: More detailed information, please refer to antenna specification.

## 2.5 Calculation Result

Operation Mode	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass / Fail
WLAN 2.4GHz	991.895	7.02	32	0.38811	1	Pass
WLAN 5GHz U-NII-1	988.171	7.07	32	0.39113	1	Pass
WLAN 5GHz U-NII-2A	245.795	6.98	32	0.09529	1	Pass
WLAN 5GHz U-NII-2C	249.67	7.09	32	0.09928	1	Pass
WLAN 5GHz U-NII-3	992.202	7.32	32	0.41600	1	Pass
Operation Mode	Max. EIRP (mW)		Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass / Fail
WLAN 6GHz U-NII-5	421.696		32	0.03277	1	Pass
WLAN 6GHz U-NII-6	261.818		32	0.02035	1	Pass
WLAN 6GHz U-NII-7	444.631		32	0.03455	1	Pass
WLAN 6GHz U-NII-8	433.511		32	0.03369	1	Pass

### 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

$$WLAN\ 2.4GHz + WLAN\ 5GHz + WLAN\ 6GHz = 0.38811 / 1 + 0.41600 / 1 + 0.03455 / 1 = 0.83866$$

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

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