RF Exposure Report

Report No.:	SABBQZ-WTW-P20110526C
FCC ID:	PY320300508
Test Model:	RAXE500
Received Date:	Nov. 17, 2020
Test Date:	Dec. 18, 2020
Issued Date:	Apr. 08, 2021
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

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SABBQZ-WTW-P20110526C	Original release.	Apr. 08, 2021

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 : Phoenix Huang , **Date:** Apr. 08, 2021

Phoenix Huang / Specialist

Approved by : , **Date:** Apr. 08, 2021

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^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

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

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 32 cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Original antenna gain refer to original test report (Report No.: SABBQZ-WTW-P20110526)

2nd source of antenna

Antenna	Frequency Range (GHz)	Ant 0 (dBi)	Ant 1 (dBi)	Ant 2 (dBi)	Ant 3 (dBi)	Antenna Type	Antenna Connector
U-NII-5	5.925~6.425	3.16	3.39	2.86	2.82	Dipole	i-pex(MHF)
U-NII-6	6.425~6.525	2.68	3.33	2.24	2.66		
U-NII-7	6.525~6.875	2.86	3.3	2.84	3.4		
U-NII-8	6.875~7.125	2.86	2.79	2.94	3.37		
Note: More detailed information, please refer to Internal photo.							

2.5 Calculation Result

All test data was copied from the original test report (Report No.: SABBQZ-WTW-P20110526)

Operation Mode	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	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^2)	Limit (mW/cm^2)	Pass / Fail
WLAN 6GHz U-NII-5	421.7		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:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The Max. Power = Max. tune up power including tolerance.

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + 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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