RF Exposure Report

Report No.: SABBQZ-WTW-P21091048

FCC ID: PY321300545

Test Model: RAXE300

Received Date: Jul. 01, 2021

Test Date: Aug. 03 ~ Nov. 11, 2021

Issued Date: Dec. 24, 2021

Applicant and Manufacturer: 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-P21091048	Original release	Dec. 24, 2021

1 Certificate of Conformity

Product: NIGHTHAWK AXE7800 Tri-Band WiFi 6E Router

Brand: NETGEAR

Test Model: RAXE300

Sample Status: Engineering sample

Applicant and Manufacturer: NETGEAR, INC.

Test Date: Aug. 03 ~ Nov. 11, 2021

Standards: FCC Part 2 (Section 2.1091)

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 RF characteristics under the conditions specified in this report.

Prepared by : _Pettie Chen_ , **Date:** Dec. 24, 2021

Pettie Chen / Senior Specialist

Approved by : _Jeremy. Lin_ , **Date:** Dec. 24, 2021

Jeremy Lin / 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				
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 23cm 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 AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
CDD Mode					
2412-2462	29.32	4.11	23	0.331	1
5180-5240	29.28	6.26	23	0.539	1
5260-5320	23.36	6.20	23	0.136	1
5500-5720	23.29	6.23	23	0.135	1
5745-5825	29.31	6.27	23	0.544	1
Beamforming Mode					
2412-2462	29.17	4.11	23	0.320	1
5180-5240	29.28	6.26	23	0.539	1
5260-5320	23.36	6.20	23	0.136	1
5500-5720	23.29	6.23	23	0.135	1
5745-5825	29.31	6.27	23	0.544	1

Frequency Band (MHz)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
NSS 1				
5955-6415	27.94	23	0.094	1
6435-6525	28.54	23	0.107	1
6525-6875	26.89	23	0.074	1
6875-7115	26.31	23	0.064	1
NSS 2				
5955-6415	27.98	23	0.094	1
6435-6525	28.57	23	0.108	1
6525-6875	26.97	23	0.075	1
6875-7115	26.71	23	0.071	1

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

2412-2462MHz: Directional gain = 4.11dBi.
5180-5240MHz: Directional gain = 6.26dBi.
5260-5320MHz: Directional gain = 6.20dBi
5500-5720MHz: Directional gain = 6.23dBi
5745-5825MHz: Directional gain = 6.27dBi.

* The detailed antenna information, please refer to the Operational Description-Antenna Specification report.

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

2.4G + 5180-5825MHz + 5955-7115MHz = 0.331 / 1 + 0.544 / 1 + 0.108 / 1 = 0.983

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

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