

RF Exposure Report

Report No.: SA181219E01

FCC ID: PY319100440

Test Model: EAX80

Received Date: Dec. 19, 2018

Test Date: May 17, 2019

Issued Date: Aug. 26, 2019

Applicant: NETGEAR, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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**FCC Registration /
Designation Number:** 723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA181219E01	Original release.	Aug. 26, 2019

1 Certificate of Conformity

Product: AX6000 Nighthawk Mesh Extender

Brand: NETGEAR

Test Model: EAX80

Sample Status: ENGINEERING SAMPLE

Applicant: NETGEAR, Inc.

Test Date: May 17, 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 : Wendy Wu , **Date:** Aug. 26, 2019
Wendy Wu / Specialist

Approved by : May Chen , **Date:** Aug. 26, 2019
May Chen / 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/cm²

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 31cm 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	7.24	PIFA	NA
5.15~5.25	7.58		
5.25~5.35	7.49		
5.47~5.725	7.33		
5.725~5.85	7.23		

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

2.5 Calculation Result of Maximum Conducted Power

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN 2.4GHz	2437	980.941	7.24	31	0.43024	1
WLAN U-NII-1	5230	983.82	7.58	31	0.46664	1
WLAN U-NII-2A	5310	246.721	7.49	31	0.11462	1
WLAN U-NII-2C	5670	249.087	7.33	31	0.11182	1
WLAN U-NII-3	5745	950.125	7.23	31	0.41576	1

NOTE:

2.4GHz: The directional gain = 7.24dBi

5GHz:

U-NII-1: The directional gain = 7.58dBi

U-NII-2A: The directional gain = 7.49dBi

U-NII-2C: The directional gain = 7.33dBi

U-NII-3: The directional gain = 7.23dBi

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

$WLAN\ 2.4GHz + WLAN\ 5GHz = 0.43024 / 1 + 0.46664 / 1 = 0.89688$

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

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