RF Exposure Report

Report No.:	SA190516E01A
FCC ID:	PY319200447
Test Model:	CAX80
Received Date:	July 05, 2019
Test Date:	July 09, 2019
Issued Date:	Oct. 14, 2019
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 R.O.C.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA190516E01A	Original release.	Oct. 14, 2019

1 Certificate of Conformity

Product:	Nighthawk AX8 AX6000 WiFi Cable Modem Router
Brand:	NETGEAR
Test Model:	CAX80
Sample Status:	ENGINEERING SAMPLE
Applicant:	NETGEAR, Inc.
Test Date:	July 09, 2019
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.3 -2002

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:** Oct. 14, 2019

Wendy Wu / Specialist

Approved by : _____ , **Date:** Oct. 14, 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/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 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	5.97	PIFA	i-pex(MHF)
5.15~5.25	5.91		
5.25~5.35	6.34		
5.47~5.725	6.05		
5.725~5.85	6.13		
Note: More detailed information, please refer to opearating description.			

Frequency Range (GHz)	Antenna Net Gain (dBi)	Antenna Type	Connector Type	Cable Length (mm)
5.15~5.85	1.67 (RX only)	PCB	i-pex(MHF)	260

2.5 Calculation Result of Maximum Conducted Power

For 2.4GHz, 5GHz (U-NII-1, U-NII-3) data was copied from the original test report (Report No.: SA190516E01)

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	995.416	5.97	32	0.30584	1
WLAN U-NII-1	5230	980.958	5.91	32	0.29726	1
WLAN U-NII-2A	5310	243.146	6.34	32	0.08135	1
WLAN U-NII-2C	5670	249.113	6.05	32	0.07796	1
WLAN U-NII-3	5825	995.687	6.13	32	0.31740	1

NOTE:
2.4GHz: The directional gain = 5.97dBi
5GHz:
U-NII-1: The directional gain = 5.91dBi
U-NII-2A: The directional gain = 6.34dBi
U-NII-2C: The directional gain = 6.05dBi
U-NII-3: The directional gain = 6.13dBi

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 = 0.30584 / 1 + 0.31740 / 1 = 0.62324

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

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