

RF Exposure Report

Report No.: SA170301C16

FCC ID: PY317100372

Test Model: EX8000

Received Date: Mar. 01, 2017

Test Date: Mar. 10 ~ Apr. 21, 2017

Issued Date: Jun. 22, 2017

Applicant: NETGEAR, INC.

Address: 350 East Plumeria Drive San Jose, CA 95134

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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Release Control Record

Issue No.	Description	Date Issued
SA170301C16	Original release.	Jun. 22, 2017

1 Certificate of Conformity

Product: Nighthawk X6S AC3000 Tri-Band WiFi Range Extender

Brand: NETGEAR

Test Model: EX8000

Sample Status: Engineering sample

Applicant: NETGEAR, INC.

Test Date: Mar. 10 ~ Apr. 21, 2017

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1

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 : Sunt Lee , **Date:** Jun. 22, 2017
Sunt Lee / Specialist

Approved by : Ken Liu , **Date:** Jun. 22, 2017
Ken Liu / Senior 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				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$Pd = (P_{out} * G) / (4 * \pi * r^2)$$

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 24cm 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 Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
CDD Mode					
WLAN 2412~2462	29.26	2.61	24	0.213	1
WLAN 5180~5240	29.22	4.18	24	0.302	1
WLAN 5260~5320	23.26	4.18	24	0.077	1
WLAN 5500~5700	23.17	7.43	24	0.159	1
WLAN 5745~5825	29.55	7.43	24	0.689	1
Beamforming Mode NSS1					
WLAN 2412~2462	29.17	2.61	24	0.208	1
WLAN 5180~5240	29.22	4.18	24	0.302	1
WLAN 5260~5320	23.26	4.18	24	0.077	1
WLAN 5500~5700	21.14	7.43	24	0.099	1
WLAN 5745~5825	27.74	7.43	24	0.454	1
Beamforming Mode NSS2					
WLAN 5745~5825	29.55	4.86	24	0.381	1

Note: The Max Power = Max tune up power

2412~2462MHz Directional gain = 2.61dBi

5180~5240MHz NSS1 Directional gain = 4.18dBi

5260~5320MHz NSS1 Directional gain = 4.18dBi

5500~5700MHz NSS1 Directional gain = 7.43dBi

5745~5825MHz NSS1 Directional gain = 7.43dBi

5745~5825MHz NSS2 Directional gain = 4.86dBi

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 band 4 = $0.213 + 0.689 = 0.902 < 1$

Max.: WLAN 5GHz band 1 + WLAN 5GHz band 4 = $0.302 + 0.689 = 0.991 < 1$

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