

RF Exposure Report

Report No.: SA160906E06H

FCC ID: PY316200351

Test Model: R7000P

Series Model: R6900P

Received Date: Dec. 29, 2016

Test Date: Mar. 03, 2017

Issued Date: Mar. 29, 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
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA160906E06H	Original release.	Mar. 29, 2017

1 Certificate of Conformity

Product: AC2300 Smart WiFi Router

Brand: NETGEAR

Test Model: R7000P

Series Model: R6900P

Sample Status: ENGINEERING SAMPLE

Applicant: NETGEAR, Inc.

Test Date: Mar. 03, 2017

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 :



Date:

Mar. 29, 2017

Wendy Wu / Specialist

Approved by :



Date:

Mar. 29, 2017

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 24cm away from the body of the user.

So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Antenna No.	Brand	Model	Ant. Gain(dBi)	Frequency range (GHz to GHz)	Antenna Type	Connector Type
1	NA	NA	0.5	2.4~2.4835	Dipole	Re-SMA
			1.8	5.15~5.85		
2	NA	NA	0.5	2.4~2.4835	Dipole	Re-SMA
			1.8	5.15~5.85		
3	NA	NA	0.5	2.4~2.4835	Dipole	Re-SMA
			1.8	5.15~5.85		

2.5 Calculation Result of Maximum Conducted Power

For 2.4GHz and 5GHz (U-NII-1 & UNII-3 band) data was copied from the original test report (Report No.: SA160906E06A)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	780.197	5.27	24	0.36272	1
5180-5240	859.026	6.57	24	0.53873	1
5260-5320	244.451	6.57	24	0.15331	1
5500-5700	246.197	6.57	24	0.15440	1
5745-5825	863.244	6.57	24	0.54138	1

NOTE:

2.4GHz: Directional gain = 0.5dBi + 10log(3) = 5.27dBi

5GHz: Directional gain = 1.8dBi + 10log(3) = 6.57dBi

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 = $0.36272 / 1 + 0.54138 / 1 = 0.90410$

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

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