

RF Exposure Report

Report No.: SA160930C19

FCC ID: PY316200355

Test Model: WAC510

Received Date: Sep. 23, 2016

Test Date: Sep. 23 ~ Nov. 04, 2016

Issued Date: Nov. 08, 2016

Applicant: NETGEAR, INC.

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

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Release Control Record

Issue No.	Description	Date Issued
SA160930C19	Original release.	Nov. 08, 2016

1 Certificate of Conformity

Product: ProSAFE Dual Band Wireless AC Access Point

Brand: NETGEAR

Test Model: WAC510

Sample Status: Engineering sample

Applicant: NETGEAR, INC.

Test Date: Sep. 23 ~ Nov. 04, 2016

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D03

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 :



Date:

Nov. 08, 2016

Pettie Chen / Senior Specialist

Approved by :



Date:

Nov. 08, 2016

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

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

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 20cm 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					
2412-2462	26.69	5.74	20	0.348	1
5180-5240	26.69	7.68	20	0.544	1
5745-5825	26.77	8.04	20	0.602	1
Beamforming Mode					
2412-2462	26.66	5.74	20	0.346	1
5180-5240	26.69	7.68	20	0.544	1
5745-5825	26.71	8.04	20	0.594	1

NOTE:

2.4GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 5.75\text{dB}$

5180-5240MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 7.68\text{dBi}$

5745-5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N] = 8.04\text{dBi}$

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 = 0.348 + 0.602 = 0.950

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

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