

RF Exposure Report

Report No.: SA141007C29H

FCC ID: PY314200277

Test Model: WNDR4500v3

Received Date: Jun. 25, 2015

Test Date: Jun. 30 ~ Sep. 18, 2015

Issued Date: Sep. 23, 2015

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
SA141007C29H	Original release	Sep. 23, 2015

1 Certificate of Conformity

Product: N900 Wireless Dual Band Gigabit Router

Brand: Netgear

Test Model: WNDR4500v3

Sample Status: Engineering sample

Applicant: NETGEAR INC.

Test Date: Jun. 30 ~ Sep. 18, 2015

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.

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Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Sep. 23, 2015
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

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

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 25cm 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)
2412-2462	27.85	7.90	25	0.479	1
5180-5240	27.79	7.90	25	0.472	1
5745-5825	27.68	7.90	25	0.460	1

Note:

2.4GHz Band: Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2/3]$ = 7.90dBi

5.0GHz Band: Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2/3]$ = 7.90dBi

CONCLUSION:

Both of the WLAN 2.4G & WLAN 5G can transmit simultaneously, the formula of calculated the MPE is:

$$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$\text{WLAN 2.4G} + \text{WLAN 5.0G} = 0.479 + 0.472 = 0.950$$

Therefore, the maximum calculation of this situation is 0.950, which is less than the "1" limit.

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