

RF EXPOSURE REPORT

REPORT NO.: SA141007C29

MODEL NO.: WNDR4500v3

FCC ID: PY314200277

RECEIVED: Oct. 07, 2014

TESTED: Oct. 14 ~ Nov. 12, 2014

ISSUED: Nov. 21, 2014

APPLICANT: NETGEAR INC.

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USA

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA141007C29	Original release.	Nov. 21, 2014

1. CERTIFICATION

PRODUCT: N900 Wireless Dual Band Gigabit Router
MODEL: WNDR4500v3
BRAND: Netgear
APPLICANT: NETGEAR INC.
TESTED: Oct. 14 ~ Nov. 12, 2014
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: FCC Part 2 (Section 2.1091)
KDB 447498 D03
IEEE C95.1

The above equipment (Model: WNDR4500v3) 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 :** Nov. 21, 2014
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 25cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 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	27.82	7.90	25	0.475	1

NOTE:

2.4GHz Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 7.90\text{dBi}$

5.0GHz Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 7.90\text{dBi}$

CONCLUSION:

Both of the 2.4 and 5GHz can transmit simultaneously, 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 2.4G + WLAN 5.0G = 0.479 + 0.475 = 0.954

Therefore, the maximum calculation of this situation is 0.954, which is less than the "1" limit.