

RF Exposure Report

Report No.: SA160707E01

FCC ID: W59XWR1200

Test Model: XWR-1200

Received Date: July 07, 2016

Test Date: Aug. 02, 2016

Issued Date: Aug. 23, 2016

Applicant: Luxul Wireless

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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
SA160707E01	Original release.	Aug. 23, 2016

1 Certificate of Conformity

Product: Dual-Band AC1200 Gigabit Router

Brand: Luxul

Test Model: XWR-1200

Sample Status: ENGINEERING SAMPLE

Applicant: Luxul Wireless

Test Date: Aug. 02, 2016

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.

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Approved by : May Chen , **Date:** Aug. 23, 2016
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				
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 30cm away from the body of the user.

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

2.4 Antenna Gain

Antenna No.	Brand	Model	Antenna Net Gain(dBi)	Frequency range (GHz ~ GHz)	Antenna Type	Connector Type	Cable Length(mm)	Cable Loss(dB)
1	NA	290-20268	4	2.4~2.4835	Dipole	R-SMA	290	-0.41
			3.44	5.15~5.25				-1.01
			2.72	5.25~5.35				-1.01
			2.16	5.47~5.725				-1.01
			2.16	5.725~5.85				-1.01
2	NA	290-20268	4	2.4~2.4835	Dipole	R-SMA	290	-0.41
			3.44	5.15~5.25				-1.01
			2.72	5.25~5.35				-1.01
			2.16	5.47~5.725				-1.01
			2.16	5.725~5.85				-1.01

2.5 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	955.657	7.01	30	0.42447	1
5180-5240	481.427	6.45	30	0.18797	1
5745-5825	370.019	5.17	30	0.10759	1

NOTE:

2.4GHz: Directional gain = 4dBi + 10log(2) = 7.01dBi

5GHz:

UNII-1: Directional gain = 3.44dBi + 10log(2) = 6.45dBi

UNII-3: Directional gain = 2.16dBi + 10log(2) = 5.17dBi

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

$WLAN\ 2.4GHz + WLAN\ 5GHz = 0.42447 / 1 + 0.18797 / 1 = 0.61244$

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

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