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

Address: 14203 Minuteman Dr Suite 201 Draper UT 84020 USA

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

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Table of Contents

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.

Prepared by : _____ , **Date:** _____ Aug. 23, 2016 _____
Wendy Wu / Specialist

Approved by : _____ , **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/cm^2

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	Connecter 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 + ...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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