

## RF Exposure Report

**Report No.:** SA160201E01

**FCC ID:** W59XAP1410

**Test Model:** XAP-1410

**Received Date:** Feb. 01, 2016

**Test Date:** Feb. 03, 2016

**Issued Date:** Feb. 24, 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

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**Test Location (1):** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

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### Release Control Record

Issue No.	Description	Date Issued
SA160201E01	Original release.	Feb. 24, 2016



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## 1 Certificate of Conformity

**Product:** High Power AC1200 Dual-Band Wireless AP

**Brand:** Luxul

**Test Model:** XAP-1410

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Luxul Wireless

**Test Date:** Feb. 03, 2016

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-2005

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 :** C. C. , **Date:** Feb. 24, 2016  
Claire Kuan / Specialist

**Approved by :** May Chen , **Date:** Feb. 24, 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 <sup>2</sup> )	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/cm<sup>2</sup>

$P_{out}$  = 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 24cm away from the body of the user.

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

### 2.4 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

2.4GHz								
Transmitter Circuit	Brand	Model No.	Ant. Gain (dBi) Including cable loss	Frequency range (GHz to GHz)	Antenna Type	Connector Type	Cable Loss(dB)	Cable Length
Chain (0)	HL	290-20261	4	2.4~2.4835	PIFA	IPEX	NA	43mm
Chain (1)	HL	290-20262	4	2.4~2.4835	PIFA	IPEX	NA	83mm
5GHz								
Transmitter Circuit	Brand	Model No.	Ant. Gain (dBi) Including cable loss	Frequency range (GHz to GHz)	Antenna Type	Connector Type	Cable Loss(dB)	Cable Length
Chain (0)	HL	290-20263	4.5	5.15~5.85	PIFA	IPEX	NA	142mm
Chain (1)	HL	290-20264	4.5	5.15~5.85	PIFA	IPEX	NA	207mm

### 3 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	860.191	7.01	24	0.59698	1
5180-5240	396.725	7.51	24	0.30893	1
5745-5825	361.162	7.51	24	0.28123	1

NOTE:

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

5GHz: Directional gain = 4.5dBi + 10log(2) = 7.51dBi

#### 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 = 0.59698 / 1 + 0.30893 / 1 = 0.90591

**Therefore the maximum calculations of above situations are less than the “1” limit.**

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