

## RF Exposure Report

**Report No.:** SA150921C13

**FCC ID:** A8J-EMR3000

**Test Model:** EMR3000

**Received Date:** Sep. 10, 2015

**Test Date:** Oct. 08, ~ Oct. 17, 2015

**Issued Date:** Oct. 21, 2015

**Applicant:** EnGenius Technologies

**Address:** 1580 Scenic Avenue, Costa Mesa, CA92626

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

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**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
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### Release Control Record

Issue No.	Description	Date Issued
SA150921C13	Original release.	Oct. 21, 2015

## 1 Certificate of Conformity

**Product:** Mesh Router  
**Brand:** EnGenius  
**Test Model:** EMR3000  
**Sample Status:** Engineering sample  
**Applicant:** EnGenius Technologies  
**Test Date:** Oct. 08, ~ Oct. 17, 2015  
**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D01 (October 23, 2015)  
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.

**Prepared by :** Celine Chou , **Date:** Oct. 21, 2015  
Celine Chou / Specialist

**Approved by :** Ken Liu , **Date:** Oct. 21, 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 <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 23cm 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	27.36	7.01	23	0.411	1
5180-5240	27.65	8.01	23	0.554	1
5745-5825	24.87	8.01	23	0.292	1

Note:

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

5GHz: Directional gain = 5dBi + 10log(2) = 8.01dBi

#### 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 = 0.411 + 0.554 = 0.965

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

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