

## RF Exposure Report

**Report No.:** SA130322C25D

**FCC ID:** A8J-ECB600

**Test Model:** ECB600

**Received Date:** Jul. 13, 2015

**Test Date:** Jul. 17 ~ Jul. 31, 2015

**Issued Date:** Aug. 06, 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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### Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula .....	5
2.3 Classification .....	5
<b>3 Calculation Result Of Maximum Conducted Power</b> .....	<b>5</b>



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### Release Control Record

Issue No.	Description	Date Issued
SA130322C25D	Original release	Aug. 06, 2015



# 1 Certificate of Conformity

**Product:** Wireless-N 300+300Mbps Dual Band Concurrent AP/CB  
**Brand:** EnGenius  
**Test Model:** ECB600  
**Sample Status:** Engineering sample  
**Applicant:** EnGenius Technologies  
**Test Date:** Jul. 17 ~ Jul. 31, 2015  
**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03  
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:** Aug. 06, 2015  
Celine Chou / Specialist

**Approved by :** Ken Liu , **Date:** Aug. 06, 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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

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**.

## 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	29.72	8.01	24	0.819	1
5180-5240	22.32	8.01	24	0.149	1
5745-5825	21.93	8.01	24	0.136	1

Note: 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

$$\text{WLAN 2.4GHz} + \text{WLAN 5GHz} = 0.819 + 0.149 = 0.968$$

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

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