

## RF Exposure Report

**Report No.:** SA150702C09

**FCC ID:** A8J-EWS510AP

**Test Model:** EWS510AP

**Received Date:** Jun. 29, 2015

**Test Date:** Jun. 29 ~ Jul. 29, 2015

**Issued Date:** Aug. 04, 2015

**Applicant:** EnGenius Technologies

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**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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## 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>6</b> |



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### Release Control Record

| Issue No.   | Description       | Date Issued   |
|-------------|-------------------|---------------|
| SA150702C09 | Original release. | Aug. 04, 2015 |

## 1 Certificate of Conformity

**Product:** Dual Band Wireless N600 Managed Wall Plate Access Point

**Brand:** EnGenius

**Test Model:** EWS510AP

**Sample Status:** Engineering sample

**Applicant:** EnGenius Technologies

**Test Date:** Jun. 29 ~ Jul. 29, 2015

**Standard:** 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 :**

  
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**Date:** Aug. 04, 2015

**Approved by :**

  
Ken Liu / Senior Manager

**Date:** Aug. 04, 2015

## 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

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

where

Pd = power density in mW/cm<sup>2</sup>

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 20cm 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            | 26.83           | 7.88               | 20            | 0.588                               | 1                           |
| 5180-5240            | 22.26           | 8.26               | 20            | 0.224                               | 1                           |
| 5745-5825            | 21.50           | 8.26               | 20            | 0.188                               | 1                           |

NOTE:

2.4GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.88 \text{ dBi}$

5.0GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.26 \text{ dBi}$

#### 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 = 0.588 + 0.224 = 0.921

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

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