

## RF Exposure Report

**Report No.:** SA190211C24 R1

**FCC ID:** A8J-EWS377AP

**Test Model:** EWS377AP

**Series Model:** ECW630

**Received Date:** Feb. 04, 2019

**Test Date:** Feb. 04 ~ Mar. 05, 2019

**Issued Date:** Apr. 02, 2019

**Applicant:** EnGenius Technologies

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

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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### Release Control Record

| Issue No.      | Description           | Date Issued   |
|----------------|-----------------------|---------------|
| SA190211C24    | Original release.     | Mar. 18, 2019 |
| SA190211C24 R1 | Revised product name. | Apr. 02, 2019 |

## 1 Certificate of Conformity

**Product:** 802.11AX Indoor Ceiling Mount Access Point

**Brand:**



**Test Model:** EWS377AP

**Series Model:** ECW630

**Sample Status:** Engineering sample

**Applicant:** EnGenius Technologies

**Test Date:** Feb. 04 ~ Mar. 05, 2019

**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D01 General RF Exposure Guidance v06  
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 RF characteristics under the conditions specified in this report.

**Prepared by :** Pettie Chen , **Date:** Apr. 02, 2019  
Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Apr. 02, 2019  
Bruce Chen / Project Engineer

## 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 |                               |                               |                                     |                        |
| 0.3-1.34                                              | 614                           | 1.63                          | (100)*                              | 30                     |
| 1.34-30                                               | 824/f                         | 2.19/f                        | (180/f <sup>2</sup> )*              | 30                     |
| 30-300                                                | 27.5                          | 0.073                         | 0.2                                 | 30                     |
| 300-1500                                              | ...                           | ...                           | f/1500                              | 30                     |
| 1500-100,000                                          | ...                           | ...                           | 1.0                                 | 30                     |

f = Frequency in MHz; \*Plane-wave equivalent power density

### 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 25cm 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> ) |
|-------------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| <b>CDD Mode</b>         |                 |                    |               |                                     |                             |
| 2412-2462               | 26.25           | 9.12               | 25            | 0.438                               | 1                           |
| 5180-5240               | 25.61           | 10.32              | 25            | 0.499                               | 1                           |
| 5745-5825               | 26.10           | 10.32              | 25            | 0.558                               | 1                           |
| <b>Beamforming Mode</b> |                 |                    |               |                                     |                             |
| 2412-2462               | 19.88           | 9.12               | 25            | 0.101                               | 1                           |
| 5180-5240               | 19.59           | 10.32              | 25            | 0.125                               | 1                           |
| 5745-5825               | 20.05           | 10.32              | 25            | 0.139                               | 1                           |

\*Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Note:

2.4GHz Band: Directional Gain = 3.10dBi + 10log(4) = 9.12dBi

5GHz Band: Directional Gain = 4.30dBi + 10log(4) = 10.32dBi

#### Conclusion:

2.4GHz & 5GHz can transmit at same time.

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 = 0.438 + 0.558 = 0.996

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

---END---