

RF Exposure Report

Report No.: SA200513C01

FCC ID: A8J-EWS850AP

Test Model: EWS850AP

Series Model: ECW260

Received Date: May 13, 2020

Test Date: May 18 ~ Jun. 08, 2020

Issued Date: Jun. 19, 2020

Applicant: EnGenius Technologies

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
SA200513C01	Original release	Jun. 19, 2020

1 Certificate of Conformity

Product: AX1800 Outdoor Access Point

Brand: EnGenius

Test Model: EWS850AP

Series Model: ECW260

Sample Status: Engineering sample

Applicant: EnGenius Technologies

Test Date: May 18 ~ Jun. 08, 2020

Standards: FCC Part 2 (Section 2.1091)
IEEE C95.3 -2002

References Test Guidance: KDB 447498 D01 General RF Exposure Guidance v06

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.

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Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Jun. 19, 2020
Bruce Chen / Senior 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 ²)	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/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 22cm 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 AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN, CDD Mode					
2412-2462	25.74	8.18	22	0.405	1.00
5180-5240	16.53	8.18	22	0.049	1.00
5745-5825	27.03	8.18	22	0.546	1.00
WLAN, Beamforming Mode					
2412-2462	22.38	8.18	22	0.187	1.00
5180-5240	13.50	8.18	22	0.024	1.00
5745-5825	24.02	8.18	22	0.273	1.00
BT LE					
2402-2480	2.25	4.16	22	0.001	1.00

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2.4GHz: Directional gain = 5.17dBi + 10log(2) = 8.18dBi

5GHz: Directional gain = 5.17dBi + 10log(2) = 8.18dBi

Conclusion:

The WLAN 2.4G & WLAN 5G & BT LE can transmit simultaneously, the formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

$2.4G + 5G + BT LE = 0.405 / 1 + 0.546 / 1 + 0.001 / 1 = 0.952$

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

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