

RF Exposure Report

Report No.: SA161109C19

FCC ID: A8J-EWS380AP

Test Model: EWS380AP

Series Model: EAP2200

Received Date: Nov. 09, 2016

Test Date: May 18 ~ Jun. 20, 2017

Issued Date: Jul. 10, 2017

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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Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Calculation Result of Maximum Conducted Power	6

Release Control Record

Issue No.	Description	Date Issued
SA161109C19	Original release.	Jul. 10, 2017

1 Certificate of Conformity

Product: Wireless device

Brand: EnGenius

Test Model: EWS380AP

Series Model: EAP2200

Sample Status: Engineering sample

Applicant: EnGenius Technologies

Test Date: May 18 ~ Jun. 20, 2017

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 EMC characteristics under the conditions specified in this report.

Prepared by : Sunt Lee , **Date:** Jul. 10, 2017
Sunt Lee / Specialist

Approved by : Ken Liu , **Date:** Jul. 10, 2017
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 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 20cm away from the body of the user. So, this device is classified as Mobile Device.

3 Calculation Result of Maximum Conducted Power

Radio	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
CDD Mode						
1	WLAN 2412~2462	25.50	7.63	20	0.409	1
3	WLAN 5180~5240	22.90	8.95	20	0.305	1
2	WLAN 5745~5825	23.41	9	20	0.347	1
Beamforming Mode						
1	WLAN 2412~2462	19.83	7.63	20	0.111	1
3	WLAN 5180~5240	19.84	8.95	20	0.151	1
2	WLAN 5745~5825	20.40	9	20	0.173	1

Note:

2.4GHz: Max. directional gain = 4.62dBi + 10log(2) = 7.63dBi

5180~5240MHz: Max. directional gain = 5.94dBi + 10log(2) = 8.95dBi

5745~5825MHz: Max. directional gain = 5.99dBi + 10log(2) = 9dBi

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Radio 1 + Radio 2 = 0.409 + 0.347 = 0.756 < 1

Radio 1 + Radio 3 = 0.409 + 0.305 = 0.714 < 1

Radio 2 + Radio 3 = 0.347 + 0.305 = 0.652 < 1

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