RF Exposure Report

Report No.: SA160719C17B

FCC ID: A8J-EWS550AP

Model: EWS550AP

Received Date: Jul. 19, 2016

Test Date: Jul. 20 ~ Oct. 06, 2016

Issued Date: Dec. 20, 2016

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
SA160719C17B	Original release	Dec. 20, 2016

1 Certificate of Conformity

Product: Wireless AC1300 Managed Wall Plate Access Point

Brand: EnGenius

Model: EWS550AP

Sample Status: Engineering sample

Applicant: EnGenius Technologies

Test Date: Jul. 20 ~ Oct. 06, 2016

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D03 (January 17, 2014)

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 : _____ , **Date:** ___Dec. 20, 2016___

Pettie Chen / Senior Specialist

Approved by : _____ , **Date:** ___Dec. 20, 2016___

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

Pd = (Pout*G) / (4*pi*r^2)

where

Pd = power density in mW/cm^2

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^2)	Limit (mW/cm^2)
WLAN 2.4GHz: CDD mode					
2412-2462	23.44	7.01	20	0.221	1
WLAN 2.4GHz: Beamforming mode					
2412-2462	21.48	7.01	20	0.141	1
WLAN 5GHz: CDD mode					
5180-5240	23.05	8.87	20	0.310	1
5745-5825	22.92	8.87	20	0.300	1
WLAN 5GHz: Beamforming mode					
5180-5240	22.86	8.87	20	0.296	1
5745-5825	23.12	8.87	20	0.315	1
BT LE					
2402-2480	2.95	3.51	20	0.001	1
Zigbee					
2405-2480	3.25	3.51	20	0.001	1

Note:

2.4GHz Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2]$ = 7.01dBi

5GHz Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2]$ = 8.87 dBi

Frequency Band	Max Power (dBm)			Total Power (dBm)	Power Limit (dBm)
	WLAN	BT LE	Zigbee		
2.4GHz	23.44	2.95	-	23.48	30
2.4GHz	23.44	-	3.25	23.48	30

Conclusion:

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

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

CPD = Calculation power density

LPD = Limit of power density

1. WALN 2.4GHz + WALN 5GHz + BT LE

= 0.221 + 0.315 + 0.001 = 0.537

2. WALN 2.4GHz + WALN 5GHz + Zigbee

= 0.221 + 0.315 + 0.001 = 0.537

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

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