RF Exposure Report

Report No.:	SA170308C17
FCC ID:	A8J-ENS610EXT
Test Model:	ENS610EXT
Received Date:	Feb. 22, 2017
Test Date:	Feb. 22 ~ Apr. 12, 2017
Issued Date:	Apr. 17, 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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Release Control Record

Issue No.	Description	Date Issued
SA170308C17	Original release.	Apr. 17, 2017

1 Certificate of Conformity

Product: AC1300 Dual Concurrent Outdoor Access Point

Brand: EnGenius

Test Model: ENS610EXT

Sample Status: Engineering sample

Applicant: EnGenius Technologies

Test Date: Feb. 22 ~ Apr. 12, 2017

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:** Apr. 17, 2017
Pettie Chen / Senior Specialist

Approved by : _____ , **Date:** Apr. 17, 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

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

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 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^2)	Limit (mW/cm^2)
CDD mode					
2412-2462	23.36	8.18	25	0.182	1
5180-5240	16.57	8.13	25	0.038	1
5745-5825	24.31	8.18	25	0.226	1
Beamforming mode					
2412-2462	20.35	8.18	25	0.091	1
5180-5240	13.56	8.13	25	0.019	1
5745-5825	21.30	8.18	25	0.113	1

Note:
2.4GHz Band: Directional gain = 5.17dBi + 10log(2) = 8.18dBi
5180-5240MHz: Directional gain = 5.12+10 log (2) = 8.13dBi
5745-5825MHz: Directional gain = 5.17+10 log (2) = 8.18dBi

CONCULSION:

Both of the WLAN 2.4G & WLAN 5G 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

WLAN 2.4G + WLAN 5.0G = 0.182 + 0.226 = 0.408

Therefore, the maximum calculation of this situation is 0.408, which is less than the “1” limit.

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