

RF Exposure Report

Report No.: SA150318C33

FCC ID: A8J-EAP1200H

Test Model: EAP1200H

Received Date: Mar. 18, 2015

Test Date: Mar. 19 ~ Apr. 07, 2015

Issued Date: Apr. 14, 2015

Applicant: EnGenius Technologies

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

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Release Control Record

Issue No.	Description	Date Issued
SA150318C33	Original release.	Apr. 14, 2015

1 Certificate of Conformity

Product: 2.4GHz b/g/n, 5GHz ac/a/n Indoor AP

Brand: EnGenius

Test Model: EAP1200H

Sample Status: Engineering sample

Applicant: EnGenius Technologies

Test Date: Mar. 19 ~ Apr. 07, 2015

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D03

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. 14, 2015

Pettie Chen / Senior Specialist

Approved by :



Date:

Apr. 14, 2015

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 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)
2412-2462	28.92	6.35	25	0.428	1
5180-5240	28.36	7.78	25	0.523	1
5745-5825	25.53	8.47	25	0.320	1

NOTE:

2.4GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.35 \text{ dBi}$

5.0GHz: **For U-NII-1 Band:** Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.78 \text{ dBi}$

For U-NII-3 Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.47 \text{ dBi}$

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = $0.428 + 0.523 = 0.952$

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

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