

RF Exposure Report

Report No.: SA190625C03

FCC ID: A8J-ENH500V3

Test Model: ENH500v3

Received Date: Jun. 25, 2019

Test Date: Sep. 18 ~ Sep. 23, 2019

Issued Date: Oct. 05, 2019

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
SA190625C03	Original release	Oct. 05, 2019

1 Certificate of Conformity

Product: Outdoor Long Range Wireless Access Point

Brand: EnGenius

Test Model: ENH500v3

Sample Status: Engineering sample

Applicant: EnGenius Technologies

Test Date: Sep. 18 ~ Sep. 23, 2019

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06
IEEE C95.3 -2002

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.

Prepared by : Celine Chou , **Date:** Oct. 05, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Oct. 05, 2019
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 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)
CDD Mode					
2412-2462	7.78	3.50	20	0.003	1
5180-5240	20.86	14.11	20	0.625	1
5745-5825	21.84	14.11	20	0.783	1
Beamforming Mode					
5180-5240	17.85	17.12	20	0.625	1
5745-5825	18.83	17.12	20	0.783	1

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

5GHz: Directional gain = 14.11dBi + 10log(2) = 17.12dBi

Conclusion:

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

2.4G + 5G = 0.003 / 1 + 0.783 / 1 = 0.786

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

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