

# RF EXPOSURE REPORT

**REPORT NO.:** SA141112C35

**MODEL NO.:** ENH710EXT

**FCC ID:** A8J-ENH710EXT

**RECEIVED:** Nov. 12, 2014

**TESTED:** Dec. 01 ~ Dec. 15, 2014

**ISSUED:** Dec. 19, 2014

**APPLICANT:** EnGenius Technologies

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

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**TEST LOCATION:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei  
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## RELEASE CONTROL RECORD

| ISSUE NO.   | REASON FOR CHANGE | DATE ISSUED   |
|-------------|-------------------|---------------|
| SA141112C35 | Original release. | Dec. 19, 2014 |

## 1. CERTIFICATION

**PRODUCT:** N600 2T2R Base Station  
**MODEL:** ENH710EXT  
**BRAND:** EnGenius  
**APPLICANT:** EnGenius Technologies  
**TESTED:** Dec. 01 ~ Dec. 15, 2014  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03  
IEEE C95.1

The above equipment (Model: ENH710EXT) 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. 19, 2014  
Pettie Chen / Senior Specialist

**APPROVED BY :**  , **DATE :** Dec. 19, 2014  
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 <sup>2</sup> ) | 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/cm<sup>2</sup>

$P_{out}$  = 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**.

## 2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

| FREQUENCY BAND (MHz) | MAX POWER (dBm) | ANTENNA GAIN (dBi) | DISTANCE (cm) | POWER DENSITY (mW/cm <sup>2</sup> ) | LIMIT (mW/cm <sup>2</sup> ) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462            | 25.23           | 8.01               | 20            | 0.419                               | 1                           |
| 5180-5240            | 13.94           | 10.01              | 20            | 0.049                               | 1                           |
| 5745-5825            | 21.70           | 10.01              | 20            | 0.295                               | 1                           |

### NOTE:

2.4GHz Band: Directional gain = 5dBi + 10log(2) = 8.01dBi

5.0GHz Band: Directional gain = 7dBi + 10log(2) = 10.01dBi

### CONCLUSION:

Both of the 2.4 and 5GHz can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4G + WLAN 5.0G = 0.419 + 0.295 = 0.714

Therefore, the maximum calculation of this situation is 0.714, which is less than the "1" limit.