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# RF EXPOSURE REPORT

**REPORT NO.:** SA120531C10

**MODEL NO.:** EAP600

**FCC ID:** A8J-EAP600

**RECEIVED:** May 09, 2012

**TESTED:** May 09 ~ Jun. 27, 2012

**ISSUED:** Jul. 16, 2012

**APPLICANT:** EnGenius Technologies

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

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This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.



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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120531C10	Original release	Jul. 16, 2012



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## 1. CERTIFICATION

**PRODUCT:** Wireless-N 300Mbps+300Mbps Ceiling Mount Dual Band Concurrent AP

**MODEL:** EAP600

**BRAND:** EnGenius

**APPLICANT:** EnGenius Technologies

**TESTED:** May 09 ~ Jun. 27, 2012

**TEST SAMPLE:** ENGINEERING SAMPLE

**STANDARDS:** FCC Part 2 (Section 2.1091)

FCC OET Bulletin 65, Supplement C (01-01)

IEEE C95.1

The above equipment (Model: EAP600) 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 : Jul. 16, 2012  
Pettie Chen / Specialist

**APPROVED BY** :  , DATE : Jul. 16, 2012  
Gary Chang / Technical Manager



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## 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

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

where

Pd = power density in mW/cm<sup>2</sup>

Pout = 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 21cm away from the body of the user. So, this device is classified as **Mobile Device**.



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## 2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MODULATION MODE	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412-2462	802.11b	29.75	5.0	21	0.539	1
	802.11g	29.91	5.0	21	0.559	1
	802.11n (20MHz)	29.87	2.0	21	0.278	1
	802.11n (40MHz)	18.76	2.0	21	0.021	1
5180-5240	802.11a	14.22	5.0	21	0.015	1
	802.11n (20MHz)	14.62	2.0	21	0.008	1
	802.11n (40MHz)	16.40	2.0	21	0.012	1
5745-5825	802.11a	28.57	5.0	21	0.411	1
	802.11n (20MHz)	28.66	2.0	21	0.210	1
	802.11n (40MHz)	28.68	2.0	21	0.211	1

### 2.4GHz:

**802.11b/g:** Directional gain =  $2.0\text{dBi} + 10\log(2) = 5.0\text{dBi}$

### 5.0GHz:

**802.11a:** Directional gain =  $2.0\text{dBi} + 10\log(2) = 5.0\text{dBi}$

### CONCULSION:

Both of the WLAN 2.4G & 5.0G 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 =  $0.559 + 0.411 = 0.97$

Therefore, the maximum calculation of this situation is 0.97, which is less than the "1" limit.