

# RF EXPOSURE REPORT

**REPORT NO.:** SA120618C25J  
**MODEL NO.:** SS-300-AT-C-55  
**FCC ID:** U2M-CAP4200AG  
**RECEIVED:** Jan. 03, 2012  
**TESTED:** Jan. 03 ~ Feb. 21, 2013  
**ISSUED:** Mar. 05, 2013

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## RELEASE CONTROL RECORD

| ISSUE NO.    | REASON FOR CHANGE | DATE ISSUED   |
|--------------|-------------------|---------------|
| SA120618C25J | Original release  | Mar. 05, 2013 |

## 1. CERTIFICATION

**PRODUCT:** Wireless 802.11abgn Access Point  
**MODEL NO.:** SS-300-AT-C-55  
**BRAND:** AirTight Networks, Inc.  
**APPLICANT:** Senao Networks, Inc.  
**TESTED:** Jan. 03 ~ Feb. 21, 2013  
**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: SS-300-AT-C-55) 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 :** Mar. 05, 2013  
Pettie Chen / Senior Specialist

**APPROVED BY :**  , **DATE :** Mar. 05, 2013  
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) | 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         | 20.80           | 3                  | 20            | 0.048                               | 1                           |
|                      | 802.11g         | 26.69           | 3                  | 20            | 0.185                               | 1                           |
|                      | 802.11n (20MHz) | 26.65           | 3                  | 20            | 0.184                               | 1                           |
|                      | 802.11n (40MHz) | 26.66           | 3                  | 20            | 0.184                               | 1                           |
| 5180-5240            | 802.11a         | 13.72           | 4                  | 20            | 0.012                               | 1                           |
|                      | 802.11n (20MHz) | 14.60           | 4                  | 20            | 0.014                               | 1                           |
|                      | 802.11n (40MHz) | 16.68           | 4                  | 20            | 0.023                               | 1                           |
| 5260-5320            | 802.11a         | 21.46           | 4                  | 20            | 0.070                               | 1                           |
|                      | 802.11n (20MHz) | 21.32           | 4                  | 20            | 0.068                               | 1                           |
|                      | 802.11n (40MHz) | 22.47           | 4                  | 20            | 0.088                               | 1                           |
| 5500-5700            | 802.11a         | 21.36           | 4                  | 20            | 0.068                               | 1                           |
|                      | 802.11n (20MHz) | 21.26           | 4                  | 20            | 0.067                               | 1                           |
|                      | 802.11n (40MHz) | 22.08           | 4                  | 20            | 0.081                               | 1                           |
| 5745-5825            | 802.11a         | 27.35           | 4                  | 20            | 0.271                               | 1                           |
|                      | 802.11n (20MHz) | 26.98           | 4                  | 20            | 0.249                               | 1                           |
|                      | 802.11n (40MHz) | 26.83           | 4                  | 20            | 0.241                               | 1                           |

### CONCLUSION:

Both of the WLAN 2.4G & 5.0G 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(5180-5240MHz) = 0.185 + 0.023 = 0.208
2. WLAN 2.4G + WLAN 5.0G(5260-5320MHz) = 0.185 + 0.088 = 0.273
3. WLAN 2.4G + WLAN 5.0G(5500-5700MHz) = 0.185 + 0.081 = 0.266
4. WLAN 2.4G + WLAN 5.0G(5745-5825MHz) = 0.185 + 0.271 = 0.456

Therefore, the maximum calculation of this situation is 0.456, which is less than the "1" limit.

\*The CPD of WLAN 2.4G & 5.0G was the worst according the original report.