



# RF EXPOSURE REPORT

**REPORT NO.:** SA120531C10H

**MODEL NO.:** AN-300-AP-I-N

**FCC ID:** U2M-AN300APIN

**RECEIVED:** Aug. 12, 2014

**TESTED:** Sep. 09 ~ Sep. 10, 2014

**ISSUED:** Sep. 10, 2014

**APPLICANT:** Senao Networks, Inc.

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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 Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120531C10H	Original release	Sep. 10, 2014



## 1. CERTIFICATION

**PRODUCT:** Araknis Networks 300-series Dual-Band Concurrent  
Wireless-N Indoor Access Point

**MODEL:** AN-300-AP-I-N

**BRAND:** Araknis Networks

**APPLICANT:** Senao Networks, Inc.

**TESTED:** Sep. 09 ~ Sep. 10, 2014

**TEST SAMPLE:** ENGINEERING SAMPLE

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

**KDB 447498 D03**

**IEEE C95.1**

The above equipment (Model: AN-300-AP-I-N) 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.

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Polly Chien / Specialist

**APPROVED BY** : Ken Liu , **DATE** : Sep. 10, 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)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
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 21cm 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	29.91	5.01	21	0.559	1
5180-5240	16.40	5.01	21	0.025	1
5745-5825	28.68	5.01	21	0.422	1

\*Directional gain = 2.0dBi + 10log(2) = 5.01dBi

### 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

WLAN 2.4G + WLAN 5.0G = 0.559 + 0.422 = 0.981

**Therefore, the maximum calculation of this situation is 0.981, which is less than the "1" limit.**