

## RF Exposure Report

**Report No.:** SA120531C10Q

**FCC ID:** U2M-AN300APIN

**Test Model:** AN-300-AP-I-N

**Received Date:** Jul. 04, 2016

**Test Date:** Jul. 23 ~ Sep. 29, 2016

**Issued Date:** Oct. 14, 2016

**Applicant:** Senao Networks, Inc.

**Address:** 3F, No. 529, Chung Cheng Rd., Hsintien, New Taipei City, R.O.C

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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### Release Control Record

| Issue No.    | Description       | Date Issued   |
|--------------|-------------------|---------------|
| SA120531C10Q | Original release. | Oct. 14, 2016 |

## 1 Certificate of Conformity

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

**Brand:** Araknis Networks

**Test Model:** AN-300-AP-I-N

**Sample Status:** Engineering Sample

**Applicant:** Senao Networks, Inc.

**Test Date:** Jul. 23 ~ Sep. 29, 2016

**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03 (January 17, 2014)  
IEEE C95.1

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 EMC characteristics under the conditions specified in this report.

**Prepared by :**  , **Date:** Oct. 14, 2016  
Pettie Chen / Senior Specialist

**Approved by :**  , **Date:** Oct. 14, 2016  
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 21 cm 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 <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462            | 29.91           | 5.01               | 21            | 0.560                               | 1                           |
| 5180-5240            | 17.99           | 5.01               | 21            | 0.036                               | 1                           |
| 5745-5825            | 21.08           | 5.01               | 21            | 0.073                               | 1                           |

Note: Directional gain = 2.0dBi + 10log(2) = 5.01dBi

### CONCLUSION:

Both of the WLAN 2.4G & WLAN 5G 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

$$\text{WLAN 2.4G} + \text{WLAN 5.0G} = 0.560 + 0.073 = 0.633$$

Therefore, the maximum calculation of this situation is 0.633, which is less than the "1" limit.

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