

## RF Exposure Report

**Report No.:** SA170508C09

**FCC ID:** 2AG6R-AN700APOAC

**Test Model:** AN-700-AP-O-AC

**Received Date:** May 08, 2017

**Test Date:** May 27 ~ Jun. 02, 2017

**Issued Date:** Jun. 23, 2017

**Applicant:** Araknis Networks

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

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(R.O.C.)

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33383, TAIWAN (R.O.C.)



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### Release Control Record

Issue No.	Description	Date Issued
SA170508C09	Original release.	Jun. 23, 2017

## 1 Certificate of Conformity

**Product:** Araknis Networks Dual-Band Wireless-AC 1750 Outdoor Access Point

**Brand:** Araknis Networks

**Test Model:** AN-700-AP-O-AC

**Sample Status:** Engineering sample

**Applicant:** Araknis Networks

**Test Date:** May 27 ~ Jun. 02, 2017

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

KDB 447498 D01 General RF Exposure Guidance v06

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:**

Jun. 23, 2017

Pettie Chen / Senior Specialist

**Approved by :**



**Date:**

Jun. 23, 2017

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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

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 30cm 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> )
WLAN 2412~2462	27.52	8.84	30	0.382	1
WLAN 5180~5240	15.26	10.32	30	0.032	1
WLAN 5745~5825	28.33	9.83	30	0.579	1

Note:

2.4GHz: Directional gain =  $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2/3] = 8.84\text{dBi}$

5GHz:

For U-NII-1: Directional gain =  $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2/3] = 10.32\text{dBi}$

For U-NII-3: Directional gain =  $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2/3] = 9.83\text{dBi}$

Conclusion:

The formula of calculated the MPE is:

$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz =  $0.382 + 0.579 = 0.961 < 1$

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