

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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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 ²)	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/cm²

P_{out} = 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 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 ²)	Limit (mW/cm ²)
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:

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

5GHz:

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

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

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

$$\text{WLAN 2.4GHz} + \text{WLAN 5GHz} = 0.382 + 0.579 = 0.961 < 1$$

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