

## RF Exposure Report

**Report No.:** SA190627C01

**FCC ID:** 2AG6R-AN510APIWAC

**Test Model:** AN-510-AP-IW-AC

**Received Date:** Jun. 27, 2019

**Test Date:** Aug. 01 ~ Aug. 06, 2019

**Issued Date:** Aug. 19, 2019

**Applicant:** Araknis Networks

**Address:** 1800 Continental Blvd. Suite 300 Charlotte North Carolina United States

**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

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

**FCC Registration /** 788550 / TW0003

**Designation Number:**



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### Release Control Record

Issue No.	Description	Date Issued
SA190627C01	Original release.	Aug. 19, 2019

## 1 Certificate of Conformity

**Product:** Araknis Networks® 510-series Indoor Wall Mount Wireless Access Point

**Brand:** Araknis Networks

**Test Model:** AN-510-AP-IW-AC

**Sample Status:** Engineering sample

**Applicant:** Araknis Networks

**Test Date:** Aug. 01 ~ Aug. 06, 2019

**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D01 General RF Exposure Guidance v06  
IEEE C95.3-2002

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 RF characteristics under the conditions specified in this report.

**Prepared by :** Pettie Chen , **Date:** Aug. 19, 2019  
Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Aug. 19, 2019  
Bruce Chen / Senior Project Engineer

## 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.

### 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> )
CDD Mode					
2412-2462	24.39	7.27	20	0.292	1
5180-5240	22.91	8.63	20	0.284	1
5745-5825	25.07	8.63	20	0.466	1
Beamforming Mode					
2412-2462	21.38	7.27	20	0.146	1
5180-5240	19.90	8.63	20	0.142	1
5745-5825	22.06	8.63	20	0.233	1

Note:

- Directional Gain:  
 2.4GHz Band: Directional Gain = 4.26dBi + 10log(2) = 7.27dBi  
 5.0GHz Band: Directional Gain = 5.62dBi + 10log(2) = 8.63dBi
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

#### Conclusion:

2.4GHz & 5GHz Band can transmit at same time.

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 2.4GHz + WLAN 5GHz =  $0.292/1 + 0.466/1 = 0.758$

Therefore the maximum calculations of above situations are less than the "1" limit.

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