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 / Designation Number:	788550 / TW0003

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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^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

$Pd = (Pout*G) / (4*pi*r^2)$
where
Pd = power density in mW/cm^2
Pout = 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^2)	Limit (mW/cm^2)
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:

1. Directional Gain:
   2.4GHz Band: Directional Gain = 4.26dBi + 10log(2) = 7.27dBi
   5.0GHz Band: Directional Gain = 5.62dBi + 10log(2) = 8.63dBi

2. 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 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

1. 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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