



RF Exposure Evaluation Declaration

Product Name : Wireless Access point
Model No. : AP122, AP122X
FCC ID : WBV-AP122

Applicant : Aerohive Networks, Inc.
Address : Aerohive Networks, 1011 McCarthy Boulevard,
Milpitas, CA 95035, United States

Date of Receipt : Oct. 10, 2017
Test Date : Oct. 10, 2017~ Nov. 24, 2017
Issued Date : Dec. 13, 2017
Report No. : 17A2003R-RF-US-P20V01
Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, A2LA or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.

Test Report Certification

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Product Name : Wireless Access point

Applicant : Aerohive Networks, Inc.

Address : Aerohive Networks, 1011 McCarthy Boulevard, Milpitas,
CA 95035, United States

Manufacturer : Aerohive Networks, Inc.

Address : Aerohive Networks, 1011 McCarthy Boulevard, Milpitas,
CA 95035, United States

Model No. : AP122, AP122X

FCC ID : WBV-AP122

Brand Name : Aerohive

EUT Voltage : PoE 48V

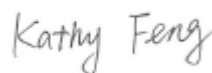
Test Voltage : AC 120V/60Hz

Applicable Standard : KDB 447498D01V06
FCC Part1.1310

Test Result : Complied

Performed Location : DEKRA Testing and Certification (Suzhou) Co., Ltd.
Corporation - Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,
215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Designation Number: CN1199

Documented By :



(Project Assistant: Kathy Feng)

Reviewed By :



(Senior Engineer: Frank He)

Approved By :



(Engineering Manager: Harry Zhao)

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

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

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

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Wireless Access point
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Information:

2.4G:

Model No.	N/A						
Antenna manufacturer	N/A						
Antenna Delivery	☒	1*TX+1*RX	☒	2*TX+2*RX	☐	3*TX+3*RX	
Antenna technology	☒	SISO					
	☒	MIMO	☐	Basic			
			☒	CDD			
			☐	Sectorized			
			☒	Beam-forming			
Antenna Type	☒	External	☒	Dipole			
			☐	Sectorized			
	☐	Internal	☐	PIFA			
			☐	PCB			
			☐	Ceramic Chip Antenna			
			☐	Metal plate type F antenna			
	Antenna Technology		Ant Gain (dBi)			Directional Gain (dBi)	
For Power						For PSD	
☒	CDD	Ant1:4 Ant2: 4			4	7.01	
☒	Beam-forming	Ant1:4 Ant2: 4			7.01	7.01	

5G:

Antenna Model No.	N/A			
Antenna Manufacturer	N/A			
Antenna Delivery	☒ 1*TX+1*RX	☒ 2*TX+2*RX	☐ 3*TX+4*RX	
Antenna Technology	☒ SISO			
	☒ MIMO	☐ Basic methodology		
		☐ Sectorized antenna systems		
		☐ Cross-polarized antennas		
		☐ Unequal antenna gains, with equal transmit powers		
		☐ Spatial Multiplexing		
	☒ Cyclic Delay Diversity (CDD)			
Antenna Type	Dipole Antenna			
Antenna Technology	Ant Gain (dBi)	Directional Gain (dBi)		
		For Power	For PSD	
☒ CDD	Ant1:4 Ant2: 4	4	7.01	
☒ Beam-forming	Ant1:4 Ant2: 4	7.01	7.01	

- **Power Density**

Standalone modes

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Power Density Limit at R = 20 cm (mW/cm ²)
BLE	2400 ~ 2483.5	4.84	3.96	0.001	1.0
802.11b/g/n(20MHz) with SISO	2412 ~ 2462	18.41	4	0.035	1.0
802.11b/g/n(20MHz) with CDD	2412 ~ 2462	20.88	4	0.061	1.0
802.11n(20MHz) with Beam-forming	2412 ~ 2462	20.20	7.01	0.105	1.0
802.11a/n/ac (20MHz) with SISO	5150 ~ 5250 5725 ~ 5850	18.36	4	0.034	1.0
802.11n/ac (40MHz) with SISO	5150 ~ 5250 5725 ~ 5850	18.76	4	0.038	1.0
802.11ac(80MHz) with SISO	5150 ~ 5250 5725 ~ 5850	13.73	4	0.012	1.0
802.11a/n/ac (20MHz) with CDD	5150 ~ 5250 5725 ~ 5850	21.44	4	0.070	1.0
802.11n/ac (40MHz) with CDD	5150 ~ 5250 5725 ~ 5850	20.54	4	0.057	1.0
802.11ac(80MHz) with CDD	5150 ~ 5250 5725 ~ 5850	16.28	4	0.021	1.0
802.11n/ac(20MHz) with Beamforming	5150 ~ 5250 5725 ~ 5850	20.45	7.01	0.111	1.0
802.11n/ac(40MHz) with Beamforming	5150 ~ 5250 5725 ~ 5850	20.34	7.01	0.108	1.0
802.11ac(80MHz) with Beamforming	5150 ~ 5250 5725 ~ 5850	16.09	7.01	0.041	1.0

Simultaneous transmission:

Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Power Density Limit at R = 20 cm (mW/cm ²)
2400 ~ 2483.5	4.84	3.96	0.001	1.0
2412 ~ 2462	20.20	7.01	0.105	1.0
5150 ~ 5250 5725 ~ 5850	20.45	7.01	0.111	1.0
Simultaneous transmission power density			0.217	1.0

Note: The simultaneous transmission power density is 0.217 mW/cm² for Wireless Access Point without any other radio equipment.

_____ The End _____