



RF Exposure Evaluation Declaration

Product Name : Wireless Access Point

Model No. : AP630

FCC ID : WBV-AP630

Applicant : Aerohive Networks, Inc.

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

Date of Receipt : Jul. 18, 2018

Issued Date : Sep. 10, 2018

Report No. : 1872112R-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

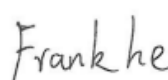
Issued Date : Sep. 10, 2018

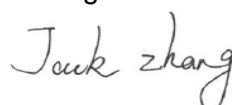
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Product Name : Wireless Access Point
Applicant : Aerohive Networks, Inc.
Address : Aerohive Networks, 1011 McCarthy Boulevard, Milpitas,
CA 95035, United States
Manufacturer : Aerohive Networks, Inc.
Address : Aerohive Networks, 1011 McCarthy Boulevard, Milpitas,
CA 95035, United States
Model No. : AP630
FCC ID : WBV-AP630
Brand Name : Aerohive
EUT Voltage : PoE 57V
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
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FCC Designation Number: CN1199

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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 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:

BLE:

Model No.	N/A				
Antenna manufacturer	N/A				
Antenna Delivery	<input checked="" type="checkbox"/>	1*TX+1*RX	<input type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX
Antenna technology	<input checked="" type="checkbox"/>	SISO			
	<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic	
			<input type="checkbox"/>	CDD	
			<input type="checkbox"/>	Sectorized	
			<input type="checkbox"/>	Beam-forming	
Antenna Type	<input type="checkbox"/>	External	<input type="checkbox"/>	Dipole	
			<input type="checkbox"/>	Sectorized	
	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA	
			<input type="checkbox"/>	PCB	
			<input type="checkbox"/>	Ceramic Chip Antenna	
			<input checked="" type="checkbox"/>	Metal plate type F antenna	
	Antenna Technology		Ant Gain (dBi)		
<input checked="" type="checkbox"/>	SISO	4.18			

2.4G:

Model No.	N/A									
Antenna manufacturer	N/A									
Antenna Delivery	<input type="checkbox"/>	1*TX+1*RX	<input checked="" type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/>	3*TX+3*RX	<input checked="" type="checkbox"/>	4*TX+4*RX		
Antenna technology	<input checked="" type="checkbox"/>	SISO								
	<input checked="" type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic						
			<input checked="" type="checkbox"/>	CDD						
			<input type="checkbox"/>	Sectorized						
			<input checked="" type="checkbox"/>	Beam-forming						
Antenna Type	<input type="checkbox"/>	External	<input type="checkbox"/>	Dipole						
<input type="checkbox"/>			Sectorized							
	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA						
			<input type="checkbox"/>	PCB						
			<input type="checkbox"/>	Ceramic Chip Antenna						
			<input checked="" type="checkbox"/>	Metal plate type F antenna						
Antenna Technology(2*TX+2*RX)	Ant Gain (dBi)							Directional Gain (dBi)		
								For Power	For PSD	
<input checked="" type="checkbox"/> CDD	Ant0:3.92 Ant1:3.85 (Not1)							3.89	6.89	
<input checked="" type="checkbox"/> Beam-forming								6.89	6.89	
Antenna Technology(4*TX+4*RX)	Ant Gain (dBi)							Directional Gain (dBi)		
								For Power	For PSD	
<input checked="" type="checkbox"/> CDD	Ant0:3.92 Ant1:3.85 Ant2: 4.52 Ant3:4.56							4.23	10.24	
<input checked="" type="checkbox"/> Beam-forming								10.24	10.24	

5G:

Antenna Model No.	N/A									
Antenna Manufacturer	N/A									
Antenna Delivery	<input type="checkbox"/>	1*TX+1*RX	<input checked="" type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/>	3*TX+3*RX	<input checked="" type="checkbox"/>	4*TX+4*RX		
Antenna Technology	<input type="checkbox"/>	SISO								
	<input checked="" type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic methodology						
			<input type="checkbox"/>	Sectorized antenna systems						
			<input type="checkbox"/>	Cross-polarized antennas						
			<input type="checkbox"/>	Unequal antenna gains, with equal transmit powers						
			<input type="checkbox"/>	Spatial Multiplexing						
			<input checked="" type="checkbox"/>	Cyclic Delay Diversity (CDD)						
Antenna Type	Metal Antenna									
Antenna Technology(2*TX+2*RX)	Ant Gain (dBi)				Directional Gain (dBi)					
					For Power		For PSD			
<input checked="" type="checkbox"/> CDD	Ant0:4.74 Ant1: 5.17				4.96		7.97			
<input checked="" type="checkbox"/> Beam-forming					7.97		7.97			
Antenna Technology(4*TX+4*RX)	Ant Gain (dBi)				Directional Gain (dBi)					
					For Power		For PSD			
<input checked="" type="checkbox"/> CDD	Ant0:4.74 Ant1: 5.17				5.01		11.03			
<input checked="" type="checkbox"/> Beam-forming	Ant2:5.19 Ant3: 4.92				11.03		11.03			

Power Density

Standalone modes:

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 21 cm (mW/cm ²)	Power Density Limit at R = 21 cm (mW/cm ²)
802.11b/g/n/ac/ax (20MHz) with CDD	2412 ~ 2462	25.89	4.23	0.186	1.0
802.11n/ac/ax (40MHz) with CDD	2422 ~ 2452	18.43	4.23	0.033	1.0
802.11a/n/ac/ax (20MHz) with CDD	5180 ~ 5350 5500 ~ 5850	24.84	5.01	0.174	1.0
802.11n/ac/ax (40MHz) with CDD	5180 ~ 5350 5500 ~ 5850	26.56	5.01	0.259	1.0
802.11ac/ax (80MHz) with CDD	5500 ~ 5850 5500 ~ 5850	22.34	4.96	0.097	1.0
802.11ax (160MHz) with CDD	5180 ~ 5350 5500 ~ 5850	18.70	4.96	0.042	1.0
802.11b/g/n/ac/ax (20MHz) with Beam-forming	2412 ~ 2462	23.56	6.89	0.200	1.0
802.11n/ac/ax (40MHz) with Beam-forming	2422 ~ 2452	15.63	6.89	0.032	1.0
802.11a/n/ac/ax (20MHz) with Beam-forming	5180 ~ 5350 5500 ~ 5850	24.94	11.03	0.713	1.0
802.11n/ac/ax (40MHz) with Beam-forming	5180 ~ 5350 5500 ~ 5850	24.90	11.03	0.707	1.0
802.11ac/ax (80MHz) with Beam-forming	5500 ~ 5850 5500 ~ 5850	21.61	7.97	0.164	1.0
802.11ax (160MHz) with Beam-forming	5180 ~ 5350 5500 ~ 5850	17.96	7.97	0.071	1.0
BLE	2402 ~ 2480	5.83	4.18	0.002	1.0

Simultaneous transmission:

Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 21 cm (mW/cm ²)	Power Density Limit at R = 21 cm (mW/cm ²)
2412 ~ 2462	23.56	6.89	0.200	1.0
5180 ~ 5350 5500 ~ 5850	24.94	11.03	0.713	1.0
2402 ~ 2480	5.83	4.18	0.002	1.0
Simultaneous transmission power density			0.915	1.0

Note: The simultaneous transmission power density is 0.915mW/cm² for Wireless Access Point without any other radio equipment.

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