



RF Exposure Evaluation Declaration

Product Name : Wireless Access point
Model No. : ATOM AP30
FCC ID : WBV-ATOM-AP30

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

Date of Receipt : Dec. 20, 2017
Test Date : Dec. 21, 2017~ Jun. 05, 2018
Issued Date : Jun. 05, 2018
Report No. : 17C2130R-RF-US-P20V01
Report Version : V2.1

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, CNAS 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. Corporation.

Test Report Certification

Issued Date : Jun. 05, 2018

Report No. : 17C2130R-RF-US-P20V01



Product Name : Wireless Access point
Applicant : Aerohive Networks, Inc
Address : Aerohive Networks1011 McCarthy Boulevard
Milpitas, CA 95035 United States
Manufacturer : Aerohive Networks, Inc
Address : Aerohive Networks1011 McCarthy Boulevard
Milpitas, CA 95035 United States
Model No. : ATOM AP30
FCC ID : WBV-ATOM-AP30
Brand Name : Aerohive
EUT Voltage : DC 5V/2A, 10W
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 Registration Number: 800392

Documented By : 

(Adm. Specialist: Kitty Li)

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:

BT:

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 checked="" type="checkbox"/> PIFA		
		<input type="checkbox"/> PCB		
		<input type="checkbox"/> Ceramic Chip Antenna		
		<input type="checkbox"/> Monopole Antenna		
	Antenna Technology	Ant Gain (dBi)		
	<input checked="" type="checkbox"/> SISO	Ant1:1.8		

2.4G:

Model No.	N/A				
Antenna manufacturer	N/A				
Antenna Delivery	<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX	<input type="checkbox"/> 3*TX+3*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 type="checkbox"/> Beam-forming			
Antenna Type	<input type="checkbox"/> External	<input type="checkbox"/> Dipole			
		<input type="checkbox"/> Sectorized			
	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> PIFA			
		<input type="checkbox"/> PCB			
		<input type="checkbox"/> Ceramic Chip Antenna			
		<input type="checkbox"/> Metal plate type F antenna			
	Antenna Technology	Ant Gain (dBi)		Directional Gain (dBi)	
				For Power	For PSD
<input checked="" type="checkbox"/> CDD	Ant1:1.9	Ant2: 1.6	1.9	4.9	

5G:

Antenna Model No.		N/A	
Antenna Manufacturer		N/A	
Antenna Delivery		<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX <input type="checkbox"/> 3*TX+3*RX
Antenna Technology		<input checked="" 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		PIFA Antenna	
Antenna Gain			
Antenna Technology		Ant Gain (dBi)	
<input checked="" type="checkbox"/> SISO	<input checked="" type="checkbox"/> Ant1	5.5	
	<input checked="" type="checkbox"/> Ant2	5.5	
<input checked="" type="checkbox"/> CDD		5.5dBi for Power; 8.5dBi for PSD	

- Output Power into Antenna & RF Exposure Evaluation Distance:

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)
802.11b/g/n(20MHz)	2412 ~ 2462 MHz	21.62	1.9	0.0447	1.0
802.11a/n/ac (20MHz)	5180-5240MHz 5260~5320MHz 5500-5720MHz 5745-5825 MHz	21.60	5.5	0.102	1.0
802.11n/ac (40MHz)	5190-5230MHz 5270~5310MHz 5550~5710MHz 5755-5795 MHz	23.60	5.5	0.1617	1.0
802.11ac(80MHz)	5210MHz 5530MHz 5610MHz 5690MHz 5775MHz	21.98	5.5	0.1114	1.0
BT3.0	2402-2480 MHz	10.98	1.8	0.0038	1.0
BLE	2402-2480 MHz	5.17	1.8	0.0010	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)
2412 ~ 2462	21.62	1.9	0.0447	1.0
5190-5230MHz 5270~5310MHz 5550~5710MHz 5755-5795 MHz	23.60	5.5	0.1617	1.0
2402-2480	10.98	1.8	0.0038	1.0
Simultaneous transmission power density			0.2102	1.0

Note: The simultaneous transmission power density is 0.2102mW/cm² for Wireless Access point without any other radio equipment.

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