









RF Exposure Evaluation Declaration

Product Name: Wireless Access point

Model No. : ATOM-AP30

FCC ID : WBV-ATOM-AP30

Applicant: Aerohive Networks, Inc.

Address : Aerohive Networks1011 McCarthy Boulevard

Milpitas, CA 95035 United States

Date of Receipt: Dec. 20, 2017

Test Date Dec. 21, 2017~ Jan. 20, 2018

Issued Date : Mar. 31, 2018

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

Report Version: V1.1

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: Mar. 31, 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 :

Ketty Le

(Adm. Specialist: Kitty Li)

Frankhe

Reviewed By :

(Senior Engineer: Frank He)

Approved By :

Harry Than

(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/cm2)	Average Time (Minutes)
(A) Limits for C	Dccupational/ Con	trol Exposures		
300-1500			F/300	6
1500-100,000			5	6
(B) Limits for C	General Population	n/ Uncontrolled Ex	posures	
300-1500			F/1500	6
1500-100,000			1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*pi*r2)

Where

Pd = power density in mW/cm2

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

Pd 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.

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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		1*TX+1*R	1*TX+1*RX					
Antenna technology		SISO						
		MIMO		Basic				
				CDD				
				Sectorized				
				Beam-forming				
Antenna Type		External		Dipole				
		LAternal		Sectorized				
			\boxtimes	PIFA				
				PCB				
		Internal		Ceramic Chip Antenna				
				Monopole Antenna				
Antonio Todonio					Ant Gain			
Antenna Technology					(dBi)			
⊠ SISO		Ant1:1.8						



2.4G:

Model No.	N/A							
Antenna manufacturer	N/A							
Antenna Delivery	\boxtimes	1*TX+1*R	1*TX+1*RX					+3*RX
Antenna technology	\boxtimes	SISO	SISO					
		МІМО		Basic				
			\boxtimes	CDD				
				Secto	rized			
				Beam-forming				
Antenna Type	│			Dipole				
	╽╙			Sectorized				
			□ PIFA					
				PCB				
		Internal		Ceramic Chip Antenna				
				Metal	plate type F	antenna		
			Λ - (Dain.		Directional Gain		
Antenna Technology	Ant Gain (dBi)					(dBi)		
						For Po	ower	For PSD
⊠ CDD		Ant1:1.9 Ant2: 1.6 1.9 4.9				4.9		



5G:

Antenna Model N	lo.		N/A								
Antenna Manufac	cture	r	N/A								
Antenna Delivery			\boxtimes	1*TX+1*RX					3*TX+3*RX		
Antenna Technol	ogy		\boxtimes	SISO							
						Basic methodology					
						Secto	rized antenna sy	stems	tems		
				MIMO		Cross-polarized antennas					
					Unequal antenna gains, with equal transmit powers						
						Spatial Multiplexing					
Antenna Type			PIF/	FA Antenna							
Antenna Gain											
Antono Toolonol			Ant Gain								
Antenna Technol	ogy			(dBi)							
Maioo		Ant1					5.5				
SISO		Ant2		5.5							
⊠ CDD				5.5dBi for Power; 8.5dBi for PSD							



• Output Power into Antenna & RF Exposure Evaluation Distance:

Standlone modes

SISO Mode

		Maximum		Power	Power
Test Mode	Frequency	Output Power	Antenna Gain	Density at R =	Density Limit
rest Mode	Band (MHz)	to	(dBi)	20 cm	at R = 20 cm
		Antenna (dBm)		(mW/cm2)	(mW/cm2)
000 445 /2/2 (000415)	2412 ~ 2462	24.62	4.0	0.0447	4.0
802.11b/g/n(20MHz)	MHz	21.62	1.9	0.0447	1.0
902 11 a/p/a	5180-5240MHz				
802.11a/n/ac	5745-5825	20.64	5.5	0.0818	1.0
(20MHz)	MHz				
	5190-5230MHz				
802.11n/ac (40MHz)	5755-5795	20.41	5.5	0.0776	1.0
	MHz				
902 11aa(90MHz)	5210MHz	17.72	5.5	0.0418	4.0
802.11ac(80MHz)	5775MHz	17.72	ე.ე	0.0410	1.0
BT3.0	2402-2480	40.00	1.8	0.0038	4.0
D13.0	MHz	10.98	1.0	0.0036	1.0
BLE	2402-2480	F 47	1.8	0.0010	
DLE	MHz	5.17	1.0	0.0010	1.0



MIMO Mode

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Power Density Limit at R = 20 cm (mW/cm2)
802.11b/g/n(20MHz)	2412 ~ 2462 MHz	23.96	1.9	0.0767	1.0
802.11a/n/ac (20MHz)	5180-5240MHz 5745-5825 MHz	23.09	5.5	0.1438	1.0
802.11n/ac (40MHz)	5190-5230MHz 5755-5795 MHz	23.15	5.5	0.1458	1.0
802.11ac(80MHz)	5210MHz 5775MHz	18.01	5.5	0.0446	1.0

Simultaneous transmission:

Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Power Density Limit at R = 20 cm (mW/cm2)
2412 ~ 2462	23.96	1.9	0.0767	1.0
5180-5240	23.15	5.5	0.1458	1.0
5745-5825				
2402-2480	10.98	1.8	0.0038	1.0
Simultaneo	us transmission powe	er density	0.2263	1.0

Note: The simultaneous transmission power density is 0.2263mW/cm² for Wireless Wireless Access point without any other radio equipment.

————— The End
