









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.

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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

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(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	Magnetic Field Strength	Power Density (mW/cm2)	Average Time (Minutes)					
	(V/m)	(A/m)	,	, ,					
(A) Limits for ((A) Limits for Occupational/ Control Exposures								
300-1500			F/300	6					
1500-100,000			5	6					
(B) Limits for C	(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: 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	SISO					
				Basic				
				CDD				
		MIMO		Secto	rized			
				Beam	ı-forming			
Antenna Type	[Fisternal			Dipole				
		External		Sectorized				
		Internal	\boxtimes	PIFA				
				PCB				
				Ceramic Chip Antenna				
				Mono	pole Antenna			
Antono Toologologo	Ant Gain							
Antenna Technology	(dBi)							
⊠ SISO	Ant1:1.8							



2.4G:

Model No.	N/A							
Antenna manufacturer	N/A							
Antenna Delivery		1*TX+1*R	1*TX+1*RX					
Antenna technology		SISO						
		MIMO		Basic				
				CDD				
				Secto	Sectorized			
				Beam-forming				
Antenna Type		External		Dipole				
				Sectorized				
	\boxtimes		\boxtimes	PIFA				
				PCB				
		Internal		Ceramic Chip Antenna				
				Metal	plate type F	- antenna		
					Directional Gain			
Antenna Technology	Ant Gain			(dBi)				
	(dBi)					For Po	ower	For PSD
⊠ CDD		Ant1:1.9 Ant2: 1.6				1.9	9	4.9



5G:

Ante	nna Model No	Э.		N/A						
Ante	nna Manufac	ture	r	N/A						
Ante	nna Delivery			\boxtimes						3*TX+3*RX
Antenna Technology			\boxtimes	⊠ SISO						
							Basic methodology			
							Sectorized antenna systems			
					NAINAO		Cross-polarized antennas			
				MIMO		Unequal antenna gains, with equal transmit powers				
						Spatial Multiplexing				
						\boxtimes	Cyclic Delay Diversity (CDD)			
Ante	nna Type			PIFA Antenna						
Ante	nna Gain									
Antenna Technology			Ant Gain							
		(dBi)								
⊠ siso		Ant1		5.5						
		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)	
902 44b/a/a/20MU=\	2412 ~ 2462	21.62	1.9	0.0447	1.0	
802.11b/g/n(20MHz)	MHz	21.02	1.9	0.0447	1.0	
802.11a/n/ac	5180-5240MHz					
(20MHz)	5745-5825	20.64	5.5	0.0818	1.0	
(ZUIVITZ)	MHz					
	5190-5230MHz					
802.11n/ac (40MHz)	5755-5795	20.41	5.5	0.0776	1.0	
	MHz					
802.11ac(80MHz)	5210MHz	17.72	5.5	0.0418	1.0	
002.11ac(001v1112)	5775MHz	17.72	5.5	0.0418	1.0	
BT3.0	2402-2480	10.98	1.8	0.0038	1.0	
	MHz	10.96	1.0	0.0030	1.0	
BLE	2402-2480	E 17	1.8	0.0010	1.0	
DLL	MHz	5.17	1.0	0.0010		



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	0.4450	1.0
5745-5825	23.13	5.5	0.1458	1.0
2402-2480	10.98	1.8	0.0038	1.0
Simultaneo	us transmission powe	0.2263	1.0	

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