RF Exposure Evaluation Report

APPLICANT	**:**	**Ubiquiti Networks, Inc.**
EQUIPMENT	**:**	**UniFi® AC Access Point**
BRAND NAME	**:**	**UBIQUITI**
MODEL NAME	**:**	**UAP-AC-M**
FCC ID	**:**	**SWX-UAPACM**
STANDARD	**:**	**47 CFR Part 2.1091**

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA661624-01	Rev. 01	The variant report to enable WLAN 5.3GHz / 5.5GHz.	Aug. 12, 2016

1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	Ubiquiti Networks, Inc.
Address	12F, No.105, Song Ren Rd.,SinYi District, Taipei 110,Taiwan

Manufacturer	
Company Name	Ubiquiti Networks, Inc.
Address	12F, No.105, Song Ren Rd.,SinYi District, Taipei 110,Taiwan

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	UniFi® AC Access Point
Brand Name	UBIQUITI
Model Name	UAP-AC-M
FCC ID	SWX-UAPACM
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz
Mode	· 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

3. Maximum RF average output power among production units

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)					
		11a	HT20	HT40	VHT20	VHT40	VHT80
5.3GHz Band Ant 1+2	5260	22.0	**22.5**		22.5		
	5270			22.5		22.5	
	5290						16.5
	5300	22.5	22.5		22.5		
	5310			20.0		20.0	
	5320	21.0	21.0		21.0		
5.5GHz Band Ant 1+2	5500	19.0	19.0		19.0		
	5510			18.5		18.5	
	5530						12.0
	5550			22.0		22.0	
	5580	17.5	17.5		17.5		
	5610						19.0
	5670			21.0		21.0	
	5690						21.5
	5700	19.0	19.0		19.0		
	5710			22.0		22.0	
	5720	21.0	22.0		22.0		

Note: The Max Average Power for WLAN 5.3/5.5GHz within the table are for MIMO mode.

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
5GHz WLAN	5260.0	4.00	22.50	26.500	0.447	446.684	0.089	1.000

Note:

1. For WLAN2.4GHz / WLAN5.2GHz / WLAN 5.8GHz standalone power density calculation can refer to Sporton RF Exposure Evaluation Original Report, Report No: FA661624.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.