RF Exposure Evaluation Report

APPLICANT	:	**Ubiquiti Networks, Inc.**
EQUIPMENT	:	**UniFi AC In-Wall Wi-Fi Access Point**
BRAND NAME	:	**UBIQUITI**
MODEL NAME	:	**UAP-AC-IW**
FCC ID	:	**SWX-UAPACIW**
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
FA6O0709-02	Rev. 01	Initial issue of report	Dec. 23, 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	2580 Orchard Pkwy., San Jose, CA95131, U.S.A

Manufacturer	
Company Name	Ubiquiti Networks, Inc.
Address	2580 Orchard Pkwy., San Jose, CA95131, U.S.A

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	UniFi AC In-Wall Wi-Fi Access Point
Brand Name	UBIQUITI
Model Name	UAP-AC-IW
FCC ID	SWX-UAPACIW
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: 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description. 2. Variant report to enable 5.3/5.5GHz WLAN.	

3. Maximum RF average output power among production units

Mode	Maximum Average Power (dBm)
5.3/5.5GHz WLAN	Ant 1+2 (MIMO Mode)
	22.5

Note: MIMO Ant. 1+2 average power is a combined result from sum of the power MIMO Ant. 1 and MIMO Ant. 2

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)
5.3/5.5GHz WLAN	5260.0	2.00	22.50	24.500	0.282	281.838	0.056	1.000

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band
2. For 2.4GHz WLAN / 5.2GHz WLAN / 5.8GHz WLAN standalone power density calculation can refer to Sporton RF Exposure Evaluation Original Report, Report No: FA6O0709-01.

Conclusion:

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