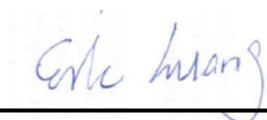


RF Exposure Evaluation Report

APPLICANT : Ubiquiti Networks, Inc.
EQUIPMENT : Mesh Points
BRAND NAME : ULABS
MODEL NAME : AFi-P-LP
AFi-P
FCC ID : SWX-AFP
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



SPORTON INTERNATIONAL INC.

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)



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**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA630314	Rev. 01	Initial issue of report	Jun. 06, 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	Mesh Points
Brand Name	ULABS
Model Name	AFi-P-LP AFi-P
FCC ID	SWX-AFP
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	· 802.11a/b/g/n/HT20/HT40 · Bluetooth EDR/LE
Antenna Type	WLAN: PIFA Antenna Bluetooth: PIFA Antenna
EUT Stage	Production Unit

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

Mode / Band	Average Power (dBm)	
	EDR	LE
2.4 GHz Bluetooth	4.5	4.0

Band / Mode	IEEE 802.11 Average Power (dBm)				
	11a	11b	11g	HT20	HT40
2.4GHz Band		20.0	20.5	19.5	17.0
5.2GHz Band	27.0			27.0	28.5
5.8GHz Band	27.5			27.5	28.0



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/f ²)	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/f ²)	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)	Power Density / Limit
Bluetooth	2402.0	1.0	4.50	5.500	0.004	3.548	0.001	1.000	0.001
2.4GHz WLAN	2412.0	5.0	20.50	25.500	0.355	354.813	0.071	1.000	0.071
5GHz WLAN	5180.0	5.0	28.50	33.500	2.239	2238.721	0.446	1.000	0.446

Note: For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band

5.2. Collocated Power Density Calculation

Max WLAN Power Density / Limit	Max Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WLAN + Bluetooth
0.446	0.001	0.447

Note:

1. Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN + Bluetooth.
2. Considering the WLAN collocation with the Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant.

Conclusion:

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