RF Exposure Evaluation Report

APPLICANT	:	Ubiquiti Networks, Inc.
EQUIPMENT	:	PRISM Station AC
BRAND NAME	:	UBIQUITI
MODEL NAME	:	PS-5AC
FCC ID	:	SWX-PS5AC
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 / Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

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
FA6N2223-02	Rev. 01	Initial issue of report	May 31, 2017

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 Parkway San Jose, CA 95131

Manufacturer	
Company Name	Ubiquiti Networks, Inc.
Address	2580 Orchard Parkway San Jose, CA 95131

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	PRISM Station AC
Brand Name	UBIQUITI
Model Name	PS-5AC
FCC ID	SWX-PS5AC
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: 5250 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5850 MHz
Mode	802.11a/b/g/n/ac HT20/VHT10/VHT20/VHT30/VHT40/VHT50/VHT60/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 5.3GHz/5.5GHz WLAN operation.	

3. Maximum RF average output power among production units

Band	Maximum Average Power (dBm)
5.3/5.5 GHz WLAN	16.0

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/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 23 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 23cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
5.3GHz / 5.5GHz WLAN	5250.0	14.0	16.0	30.000	1.000	1000.000	0.151	1.000	0.151

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

2.4GHz WLAN Power Density / Limit	5GHz WLAN Power Density / Limit	Σ(Power Density / Limit) of 2.4GHz WLAN + 5GHz WLAN
0.024	0.950	0.974

Note:

1. The WLAN2.4GHz/5.8GHz are also in this host and that max power density / limit results is were taking into this report, which can be referred to Sporton RF Exposure Evaluation Report, Report No: FA6N2223-01.
2. ∑(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for 2.4GHZ WLAN + 5GHz WLAN.
3. Considering the 2.4GHZ WLAN collocation with the 5GHz WLAN 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.