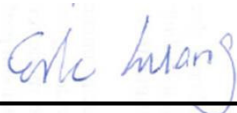


# RF Exposure Evaluation Report

**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



## **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**

<b>Testing Laboratory</b>	
<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	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

<b>Applicant</b>	
<b>Company Name</b>	Ubiquiti Networks, Inc.
<b>Address</b>	2580 Orchard Parkway San Jose, CA 95131

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

## **2. Description of Equipment Under Test (EUT)**

<b>Product Feature &amp; Specification</b>	
<b>EUT Type</b>	PRISM Station AC
<b>Brand Name</b>	UBIQUITI
<b>Model Name</b>	PS-5AC
<b>FCC ID</b>	SWX-PS5AC
<b>Wireless Technology and Frequency Range</b>	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
<b>Mode</b>	802.11a/b/g/n/ac HT20/VHT10/VHT20/VHT30/VHT40/VHT50/VHT60/VHT80
<b>EUT Stage</b>	Identical Prototype
<b>Remark:</b>	
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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	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	$\Sigma$ (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.  $\Sigma$  (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.