# **RF Exposure Evaluation Report**

APPLICANT: Ubiquiti Networks, Inc.

**EQUIPMENT**: airCube ISP

**BRAND NAME : UBIQUITI** 

MODEL NAME : ACB-ISP

FCC ID : SWX-ACBISP

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

lac-MRA



**Report No. : FA741927** 

#### SPORTON INTERNATIONAL INC.

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 FCC ID: SWX-ACBISP Page Number : 1 of 7

Report Issued Date: May. 19, 2017

Report Version : Rev. 01

#### Report No.: FA741927

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# SPORTON LAB. RF Exposure Evaluation Report

#### **Revision History**

REPORT NO. VERSION		DESCRIPTION	ISSUED DATE		
FA741927	Rev. 01	Initial issue of report	May. 19, 2017		

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## 1. Administration Data

#### 1.1. <u>Testing Laboratory</u>

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				

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	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			

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

Product Feature & Specification				
EUT Type	airCube ISP			
Brand Name	UBIQUITI			
Model Name	ACB-ISP			
FCC ID	SWX-ACBISP			
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz			
Mode	802.11b/g/n HT20/HT40			
EUT Stage	Identical Prototype			

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**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	Maximum Average Power (dBm) MIMO Mode
2.4GHz WLAN	23.5

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#### 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)	
(A) (S)	(A) Limits for O	ccupational/Controlled Expos	sures	80 H2	
0.3-3.0	614	1.63	*(100)	6	
3.0-30	1842/	f 4.89/1	*(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 Gene	ral Population/Uncontrolled I	Exposure		
0.3-1.34	614	1.63	*(100)	30	
1.34-30	824/	f 2.19/1	*(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

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### 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)	(mW)	Power Density at 20cm (mW/cm^2)	(mW/cm^2)
2.4GHz WLAN	2412.0	4.0	23.5	27.500	0.562	562.341	0.112	1.000

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

#### **Conclusion:**

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

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