RF Exposure Evaluation Report

APPLICANT	:	Ubiquiti Network, Inc
EQUIPMENT	:	Access Point
BRAND NAME	:	UBIQUITI
MODEL NAME	:	NBE-5AC-16
FCC ID	:	SWX-NBE5AC16D
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.

Eric Huang

Reviewed by: Eric Huang / Deputy Manager

Jones Tsai

Approved by: Jones Tsai / Manager

ilac-MRA

TAF 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.)

Table of Contents

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA570611	Rev. 01	Initial issue of report	Jul. 27, 2015

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 Network, Inc
Address	12F, No.105, Song Ren Rd.,SinYi District, Taipei 110,Taiwan

Manufacturer	
Company Name	Ubiquiti Network, 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	Access Point
Brand Name	UBIQUITI
Model Name	NBE-5AC-16
FCC ID	SWX-NBE5AC16D
Wireless Technology and Frequency Range	5.8GHz WLAN: 5735 MHz ~ 5840 MHz
Mode	802.11ac
Antenna Type	Dish Antenna
EUT Stage	Production Unit

3. Maximum RF average output power among production units

Band / Mode	IEEE 802.11ac Average Power (dBm)		
	VHT10 / VHT20 / VHT30	VHT40 / VHT50 / VHT60	VHT80
5.8GHz Band	27.50	26.50	22.50

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 43 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 43cm (mW/cm^2)	Limit (mW/cm^2)
5GHz WLAN	5735.0	16.00	27.50	43.500	22.387	22387.211	0.964	1.000

Note: For conservativeness, the lowest uplink 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.