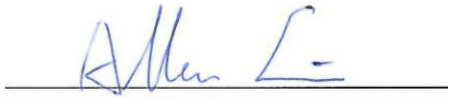
RF Exposure Evaluation Report

Equipment	:	**UniFi WiFi BaseStationXG**
Brand Name	:	**UBIQUITI**
Model No.	:	**UWB-XG, UWB-XG-BK**
FCC ID	:	**SWX-UAPSTMXG**
Contains FCC ID	:	**SWX-M445GL, SWX-M445GH, SWX-M11DB**
Standard	:	**47 CFR Part 2.1091**
Applicant/ Manufacturer	:	**Ubiquiti Networks, Inc. 685 Third Avenue, 27th Floor New York, New York 10017 USA**

The product sample received on Nov. 29, 2017 and completely tested on Dec. 20, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit.

Reviewed by:



Allen Lin

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA661623-30	Rev. 01	Initial issue of report	Jul. 10, 2018

1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	**Frequency Range (MHz)**	**Operating Frequency (MHz)**	**Modulation Type**
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5650 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)

1.2 Table for Multiple Listing

The brand/model names in the following table are all refer to the identical product.

Brand Name	Model Name	Color	Description
UBIQUITI	UWB-XG	White	All the models are identical, the difference as appearance color.
UBIQUITI	UWB-XG-BK	Black	

1.3 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA661623-22

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Modified equipment name and brand name 2.Contains FCC ID (SWX-M11DB)	N/A

1.4 Testing Location

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
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

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at 24 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

E (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = $\frac{30 \times P \times G}{377 \times d^2}$

2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Co-location

FCC ID	Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Ratio (S/Limit)
SWX-M445GL : 5G B1/B2	5.3G;D1D	10.00	19.89	29.89	0.50	30.39	1.09396	24	0.15114	1.00000	0.15114
SWX-M445GH : 5G B3/B4	5.6G;D1D	15.00	14.91	29.91	0.50	30.41	1.09901	24	0.15183	1.00000	0.15183
	5.8G;D1D	15.00	20.98	35.98	0.50	36.48	4.44631	24	0.61428	1.00000	0.61428
SWX-UAPSTMXG : BT	2.4G;BT-LE	2.00	7.23	9.23	0.50	9.73	0.00940	24	0.00130	1.00000	0.00130
SWX-M11DB : 2.4G+5G	5.6G;D1D	4.00	15.94	19.94	0.50	20.44	0.11066	24	0.01529	1.00000	0.01529
										Sum Ratio	0.93384
										Ratio Limit	1

———THE END———