

## RF Exposure Report

**Report No.:** SA190702C02A

**FCC ID:** SWX-AF60

**Test Model:** AF60

**Received Date:** Sep. 11, 2019

**Test Date:** Sep. 18, 2019

**Issued Date:** Nov. 29, 2019

**Applicant:** Ubiquiti Inc.

**Address:** 685 Third Avenue, New York, New York 10017 USA

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan

**FCC Registration /  
Designation Number:** 723255 / TW2022

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### Release Control Record

Issue No.	Description	Date Issued
SA190702C02A	Original release.	Nov. 29, 2019

## 1 Certificate of Conformity

**Product:** airFiber 60

**Brand:** UBIQUITI

**Test Model:** AF60

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Ubiquiti Inc.

**Test Date:** Sep. 18, 2019

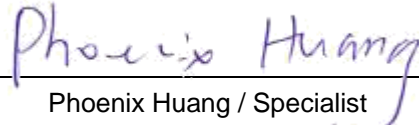
**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.3 -2002

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :**

  
Phoenix Huang / Specialist

**Date:**

Nov. 29, 2019

**Approved by :**



Clark Lin / Technical Manager

**Date:**

Nov. 29, 2019

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
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

f = Frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 45 cm away from the body of the user.

## 2.4 Calculation Result

For maximum power was copied from the original test report (Report No.: SA190702C02)

Operation Mode	Evaluation Frequency (MHz)	Max. EIRP (dBm)	Max. EIRP (mW)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 2.4GHz	2462	23.59	228.56	45	0.00898	1
WLAN 5GHz	5790	36.48	4446.313	45	0.17473	1
BT-LE	2402	-6.02*	0.25	45	0.00001	1
WiGig (2GHz BW worst)	62640	42.65	18407.72	45	0.72338	1

Note:

- \*For BT-LE:  $P \text{ (dBm EIRP)} = E \text{ (dBuV/m)} - 95.2$   
 $P \text{ (dBm EIRP)} = 89.12\text{dBuV/m} - 95.2 = -6.02 \text{ dBm}$

### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

### Simultaneously transmission condition:

$WiGig + WLAN \ 2.4GHz + WLAN \ 5GHz + BT-LE = 0.72338 / 1 + 0.00898 / 1 + 0.17473 / 1 + 0.00001 / 1 = 0.9071$

Therefore the maximum calculations of above situations are less than the "1" limit.

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