

## RF Exposure Report

**Report No.:** SA190702C02

**FCC ID:** SWX-AF60

**Test Model:** AF60

**Received Date:** July 02, 2019

**Test Date:** Aug. 08, 2019

**Issued Date:** Aug. 23, 2019

**Applicant:** Ubiquiti Inc.

**Address:** 685 Third Avenue, 27th Floor 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 R.O.C.

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

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

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### Release Control Record

| Issue No.   | Description       | Date Issued   |
|-------------|-------------------|---------------|
| SA190702C02 | Original release. | Aug. 23, 2019 |

## 1 Certificate of Conformity

**Product:** airFiber 60

**Brand:** UBIQUITI

**Test Model:** AF60

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Ubiquiti Inc.

**Test Date:** Aug. 08, 2019

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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 , **Date:** Aug. 23, 2019  
Phoenix Huang / Specialist

**Approved by :** May Chen , **Date:** Aug. 23, 2019  
May Chen / Manager

## 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 40 cm away from the body of the user.

## 2.4 Calculation Result

| 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         | 40            | 0.01137                             | 1                           |
| WLAN 5GHz      | 5790                       | 36.48           | 4446.313       | 40            | 0.22114                             | 1                           |
| BT-LE          | 2402                       | -6.02*          | 0.25           | 40            | 0.00001                             | 1                           |
| WiGig          | 62640                      | 42.65           | 18407.72       | 40            | 0.91552                             | 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:

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

CPD = Calculation power density

LPD = Limit of power density

### Simultaneously transmission condition:

$$\text{WiGig} + \text{WLAN 2.4GHz} + \text{BT-LE} = 0.91552 / 1 + 0.01137 / 1 + 0.00001 / 1 = 0.9269$$

$$\text{WLAN 2.4GHz} + \text{WLAN 5GHz} + \text{BT-LE} = 0.01137 / 1 + 0.22114 / 1 + 0.00001 / 1 = 0.2325$$

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

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