

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 Networks, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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**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 Networks, 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 ²)	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 ²)*	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/cm²

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 ²)	Limit (mW/cm ²)
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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