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

Approved by : May Chen / Manager , **Date:** Aug. 23, 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^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/cm^2

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:

1. *For BT-LE: P (dBm EIRP) = E (dBuV/m) - 95.2
   P (dBm EIRP) = 89.12dBuV/m - 95.2 = -6.02 dBm

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Simultaneously transmission condition:

WiGig + WLAN 2.4GHz + BT-LE = 0.91552 / 1 + 0.01137 / 1 + 0.00001 / 1 = 0.9269

WLAN 2.4GHz + WLAN 5GHz + 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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