RF Exposure Report

Report No.:	SABFPJ-WTW-P20120228
FCC ID:	SWX-AF60XR
Test Model:	AF60-XR
Received Date:	Dec. 08, 2020
Test Date:	Nov. 22, 2021
Issued Date:	Dec. 10, 2021
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

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SABFPJ-WTW-P20120228	Original release.	Dec. 10, 2021

1 Certificate of Conformity

Product:	airFiber 60 XR
Brand:	UBIQUITI
Test Model:	AF60-XR
Sample Status:	Engineering sample
Applicant:	Ubiquiti Inc.
Test Date:	Nov. 22, 2021
Standards:	FCC Part 2 (Section 2.1091)
	KDB 447498 D01 General RF Exposure Guidance v06

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 : Vivian Huang , **Date:** Dec. 10, 2021

Vivian Hunag / Specialist

Approved by : , **Date:** Dec. 10, 2021

Clark Lin / Technical 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/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 1000 cm away from the body of the user.

So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Antenna No.	Antenna Net Gain (dBi)	Frequency Range	Antenna Type	Connector Type
WiGig (60GHz)	47	57-71GHz	Dish	None
WLAN(5GHz)	26	5150~5850MHz	Dish	None
BT	2	2.4~2.4835GHz	internal	None

* The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2.5 Calculation Result

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Result
WLAN 5GHz (U-NII-1)	5180-5240	2.506	26	1000	0.00008	1	Pass
WLAN 5GHz (U-NII-3)	5745-5825	2.483	26	1000	0.00008	1	Pass
Bluetooth	2402~2480	5.89	2	1000	0	1	Pass

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Operation Mode	Evaluation Frequency (MHz)	Max EIRP (dBm)	Max EIRP (mW)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Result
WiGig 60GHz	58320~69120	70.47	11142945.34	1000	0.88673	1	Pass

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WiGig 60GHz + WLAN 5GHz(U-NII-1) + WLAN 5GHz(U-NII-3) + Bluetooth
= 0.88673 / 1 + 0.00008 / 1 + 0.00008 / 1 + 0 / 1 = 0.88689

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

---END---