RF Exposure Report

Report No.:	SA200707E04
FCC ID:	SWX-GBEPLUS
Test Model:	GBE-Plus
Received Date:	July 07, 2020
Test Date:	Aug. 20, 2020
Issued Date:	Aug. 27, 2020
Applicant:	Ubiquiti Inc.
Address:	685 Third Avenue, New York, NY 10017, United States
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
SA200707E04	Original release.	Aug. 27, 2020

1 Certificate of Conformity

Product:	GigaBeam Plus
Brand:	UBIQUITI
Test Model:	GBE-Plus
Sample Status:	ENGINEERING SAMPLE
Applicant:	Ubiquiti Inc.
Test Date:	Aug. 20, 2020
Standards:	FCC Part 2 (Section 2.1091) IEEE C95.3 -2002
References Test Guidance:	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 : _____ , **Date:** Aug. 27, 2020

Joyce Kuo / Specialist

Approved by : _____ , **Date:** Aug. 27, 2020

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 85 cm away from the body of the user.

2.4 Calculation Result

For WLAN and Bluetooth data was copied from the original test report (Report No.: FR073101AC R02 and FR073101AE)

Operation Mode	Evaluation Frequency (MHz)	Max. Avg. Power (dBm)	Max .Avg. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2.4GHz	2437	20.21	104.954	2	85	0.00183	1
Bluetooth	2480	9.27	8.453	2	85	0.00015	1

Operation Mode	Evaluation Frequency (MHz)	Max.Avg. EIRP (dBm)	Max. EIRP (mW)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
802.11ad	64800	49.11	81470.4284	85	0.89733	1

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:

WLAN 2.4GHz + 802.11ad =0.00183 / 1 + 0.89733 / 1= 0.89916

Bluetooth +802.11ad = 0.00015 / 1+ 0.89733 / 1= 0.89748

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

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