RF Exposure Report

Report No.:	SA190814E02
FCC ID:	SWX-GBELR
Test Model:	GBE-LR
Received Date:	Aug. 16, 2019
Test Date:	Sep. 24, 2019
Issued Date:	Oct. 07, 2019
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
SA190814E02	Original release.	Oct. 07, 2019

1 Certificate of Conformity

Product:	GigaBeam LR
Brand:	UBIQUITI
Test Model:	GBE-LR
Sample Status:	ENGINEERING SAMPLE
Applicant:	Ubiquiti Inc.
Test Date:	Sep. 24, 2019
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.3 -2002

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:** Oct. 07, 2019

Approved by : May Chen / Manager , **Date:** Oct. 07, 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 110 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	21.58	143.88	110	0.00150	1
WLAN 5GHz	5790	25.49	353.997	110	0.02931	1
WiGig	64800	51.45	139636.8	110	0.91834	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 + WLAN 5GHz + WiGig = 0.00150 / 1 + 0.02931 / 1 + 0.91834 / 1 = 0.9492

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

--- END ---