RF Exposure Evaluation Declaration

FCC ID:	DD4GLXD4Z3
APPLICANT:	Shure Incorporated
Application Type:	Certification
Product:	Wireless Portable Receiver
Model No.:	GLXD4+ Z3
Brand Name:	SHURE, SHURE
FCC Rule Part(s):	FCC Part 2 (Section 2.1091)
Test Date:	November 22, 2020 ~ April 07, 2021

Reviewed By: Jame Yuan

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2103RSU001-U3	Rev. 01	Initial Report	04-13-2021	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Wireless Portable Receiver
Model No.	GLXD4+ Z3
Test Device Label No.	Radiated Sample: 20210301Sample#16 Conducted Sample: 20210301Sample#18
Radio Specification	2.4GHz & 5.8GHz
Operating Temperature	0 ~ 45 °C
Power Type	AC/DC Adapter
Accessories	
AC/DC Adapter	Model No.: PS43US Input Power: 100 - 240V ~ 50/60Hz, Max. 250mA Output Power: 15VDC 600mA

1.2. RF Specification

Frequency Range	2404 ~ 2478MHz 5729 ~ 5846MHz
Declared Channel Bandwidth	Full Bandwidth Mode: 2 MHz Half Bandwidth Mode: 1 MHz
Channel Number	2.4GHz: 36 5.8GHz: 55
Channel Spacing	1MHz
Type of Modulation	2-level CPM with Gaussian shaping (basically GFSK)
Antenna Number	2

Note 1: Total working frequencies refer to operation description.

Note 2: Two RF paths and antenna are the same and only one antenna can work during normal operation, it is switchable.

Note 3: All product information is provided by the manufacturer.

1.3. Antenna Details

Antenna Type	Frequency Band (MHz)	Max Peak Gain (dBi)
Dipole Antenna	2404	1.86
	2442	2.56
	2478	3.46
	5729	4.70
	5788	3.93
	5846	3.57

1.4. Applied Standards

KDB 447498 D01v06

2. RF Exposure Evaluation

2.1. Test Limit

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

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

Pd is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result

Product	Wireless Portable Receiver
Test Item	RF Exposure Evaluation

Frequency Band (MHz)	Maximum Turn-up E.I.R.P (dBm)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)
2404 ~ 2478	10	0.0020	1
5729 ~ 5846	10	0.0020	1

Note: 2.4GHz band and 5.8GHz band can't work simultaneously.

CONCLUSION:

The Max Power Density at R (20 cm) = 0.0020mW/cm^2 < 1mW/cm^2.

So the EUT complies with the requirement.

The End

Appendix - EUT Photograph

Refer to “2103RSU001-UE” file.