



## RF Exposure Evaluation Declaration

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**FCC ID:** DD4GLXD2Z3

**APPLICANT:** Shure Incorporated

**Product:** Wireless Handheld Transmitter

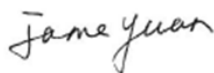
**Model No.:** GLXD2+ Z3

**Trademark:** 

**FCC Rule Part(s):** FCC Part 2 (Section 2.1091)

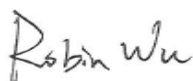
**Test Result:** Complies

Reviewed By:



Jame Yuan

Approved By:



Robin Wu



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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### Revision History

| Report No.    | Version | Description    | Issue Date | Note  |
|---------------|---------|----------------|------------|-------|
| 2106RSU074-U3 | Rev. 01 | Initial Report | 07-23-2021 | Valid |
|               |         |                |            |       |

## 1. Product Information

### 1.1. Equipment Description

|                             |                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------|
| Product Name                | Wireless Handheld Transmitter                                                                     |
| Model No.                   | GLXD2+ Z3                                                                                         |
| Radio Specification         | 2.4GHz & 5.8GHz                                                                                   |
| Antenna Specification       | Refer to clause 1.3                                                                               |
| Operating Temperature       | 0 ~ 45 °C                                                                                         |
| Power Type                  | AC/DC Adapter or Rechargeable Li-ion Battery Input                                                |
| Accessories                 |                                                                                                   |
| AC/DC Adapter               | Model No.: SBC10-USB15WSUSTWJ<br>Input: 100 ~ 240V, 50/60Hz, 0.6A<br>Output: 5.0V=3.0A, 15.0W Max |
| Rechargeable Li-ion Battery | Model No.: SB904<br>Capacitance: 2420mAh/8.71Wh<br>Rated Voltage: 3.6V                            |

Note: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.

### 1.2. Radio Specification

|                            |                                                          |
|----------------------------|----------------------------------------------------------|
| Frequency Range            | 2404 ~ 2478MHz, 5729 ~ 5846MHz                           |
| Declared Channel Bandwidth | Full Bandwidth Mode: 2 MHz<br>Half Bandwidth Mode: 1 MHz |
| Channel Spacing            | 1MHz                                                     |
| Type of Modulation         | 2-level CPM with Gaussian shaping (basically GFSK)       |

### 1.3. Antenna Details

| Antenna Type     | Frequency Band (MHz) | Max Peak Gain (dBi) | Frequency Band (MHz) | Max Peak Gain (dBi) |
|------------------|----------------------|---------------------|----------------------|---------------------|
| Monopole Antenna | 2404                 | 4.71                | 5729                 | 1.23                |
|                  | 2442                 | 4.87                | 5788                 | 2.32                |
|                  | 2478                 | 5.18                | 5846                 | 3.53                |

### 1.4. Applied Standards

KDB 447498 D01v06

## 2. RF Exposure Evaluation

### 2.1. Test Limit

#### SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and $\leq 50$ mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in Note 1 must be applied to determine SAR test exclusion.

| MHz  | 5   | 10  | 15  | 20  | 25  | mm                                         |
|------|-----|-----|-----|-----|-----|--------------------------------------------|
| 150  | 39  | 77  | 116 | 155 | 194 | SAR Test<br>Exclusion<br>Threshold<br>(mW) |
| 300  | 27  | 55  | 82  | 110 | 137 |                                            |
| 450  | 22  | 45  | 67  | 89  | 112 |                                            |
| 835  | 16  | 33  | 49  | 66  | 82  |                                            |
| 900  | 16  | 32  | 47  | 63  | 79  |                                            |
| 1500 | 12  | 24  | 37  | 49  | 61  |                                            |
| 1900 | 11  | 22  | 33  | 44  | 54  |                                            |
| 2450 | 10  | 19  | 29  | 38  | 48  |                                            |
| 3600 | 8   | 16  | 24  | 32  | 40  |                                            |
| 5200 | 7   | 13  | 20  | 26  | 33  |                                            |
| 5400 | 6   | 13  | 19  | 26  | 32  |                                            |
| 5800 | 6   | 12  | 19  | 25  | 31  |                                            |
| MHz  | 30  | 35  | 40  | 45  | 50  | mm                                         |
| 150  | 232 | 271 | 310 | 349 | 387 | SAR Test<br>Exclusion<br>Threshold<br>(mW) |
| 300  | 164 | 192 | 219 | 246 | 274 |                                            |
| 450  | 134 | 157 | 179 | 201 | 224 |                                            |
| 835  | 98  | 115 | 131 | 148 | 164 |                                            |
| 900  | 95  | 111 | 126 | 142 | 158 |                                            |
| 1500 | 73  | 86  | 98  | 110 | 122 |                                            |
| 1900 | 65  | 76  | 87  | 98  | 109 |                                            |
| 2450 | 57  | 67  | 77  | 86  | 96  |                                            |
| 3600 | 47  | 55  | 63  | 71  | 79  |                                            |
| 5200 | 39  | 46  | 53  | 59  | 66  |                                            |
| 5400 | 39  | 45  | 52  | 58  | 65  |                                            |
| 5800 | 37  | 44  | 50  | 56  | 62  |                                            |

Note 1: The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] * \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Note 2: 10-g Extremity SAR Test Exclusion Power Thresholds are 2.5 times higher than the 1-g SAR Test Exclusion Thresholds indicated above. These thresholds do not apply, by extrapolation or other means, to occupational exposure limits.

## 2.2. Test Result

|           |                               |
|-----------|-------------------------------|
| Product   | Wireless Handheld Transmitter |
| Test Item | RF Exposure Evaluation        |

| Frequency Band<br>(MHz) | Maximum Conducted Power<br>(dBm) | Extremity SAR Test Exclusion<br>Threshold (mW) |
|-------------------------|----------------------------------|------------------------------------------------|
| 2404 ~ 2478             | 1.81                             | 25                                             |
| 5729 ~ 5846             | 4.13                             | 15                                             |

Note 1: The device is one handheld transmitter, so 10-g extremity SAR test exclusion power thresholds are 2.5 times 1-g SAR test exclusion thresholds.

Note 2: Per FCC KDB 447498 D01v06, the SAR exclusion threshold for distances < 50mm is defined by the following equation:

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Dist (mm)}} * \sqrt{\text{Frequency (GHz)}} \leq 3.0$$

Based on the maximum conducted power and the antenna to use separation distance, SAR was not required;

For 2.4GHz band, (1.517mW / 5mm) \* (2.478GHz<sup>0.5</sup>) = 0.478 << 3.0;

For 5.8GHz band, (2.588mW / 5mm) \* (5.846GHz<sup>0.5</sup>) = 1.251 << 3.0;

Note 3: When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

The End

## **Appendix - EUT Photograph**

Refer to “2106RSU074-UE” file.