

MRT Technology (Suzhou) Co., Ltd

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# **RF Exposure Evaluation Declaration**

FCC ID: DD4ULXD8J50

APPLICANT: Shure Incorporated

**Application Type:** Certification

**Product:** Wireless Gooseneck Transmitter

Model No.: ULXD8 J50

**Brand Name:** SHURE

FCC Classification: Licensed Non-Broadcast Station Transmitter (TNB)

Reviewed By

Manager

Approved By

CEO

( Marlin Chen )



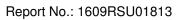


The test results relate only to the samples tested.

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.

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# **Revision History**

Report No.	Version	Description	Issue Date	Note
1609RSU01813	Rev. 01	Initial report	11-02-2016	Invalid
1609RSU01813	Rev. 02	Revised the frequency band	11-29-2016	Valid

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# 1. PRODUCT INFORMATION

Product Name	Wireless Gooseneck Transmitter	
Model No.	ULXD8 J50	
Frequency Range	J50 Band: 572 ~ 607.875 MHz & 614.125 ~ 636 MHz	
Conducted Power Levels	1mW & 10mW & 20mW (Note 1)	
Antenna Type	PIFA	
Antenna Gain	-5.7dBi	
Components (Note 2)		
Rechargeable	Model: SB900A	
Li-ion Battery	OUTPUT: 3.7Vdc, 1320mAh,4.88Wh	

Note 1: The EUT has three power levels (1mW & 10mW & 20mW). Power levels are switchable among these power levels.

Note 2: The EUT is capable of operating with AA alkaline batteries or with the Shure SB900A rechargeable battery pack.

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# 2. RF Exposure Evaluation

#### 2.1. Limits

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	Electric Field	Magnetic Field	Power Density	Average Time	
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm <sup>2</sup> )	(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<sup>2</sup>

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<sup>2</sup>. 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.

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## 2.2. Test Result of RF Exposure Evaluation

Product	Wireless Gooseneck Transmitter	
Test Item	RF Exposure Evaluation	

Antenna Gain: Refer to Clause 1 of antenna description.

### For J50 Band:

Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at $R = 20 \text{ cm}$ $(\text{mW/cm}^2)$	Limit (mW/cm²)
572.000 ~ 603.875 614.125 ~ 636.000	13.23	0.0011	0.3813

### **CONCULISON:**

Therefore, the Max Power Density at R (20 cm) =  $0.0011 \text{mW/cm}^2 < 0.3813 \text{mW/cm}^2$ . So the EUT complies with the requirement.

———— The End