



MRT Technology (Suzhou) Co., Ltd  
Phone: +86-512-66308358  
Fax: +86-512-66308368  
Web: www.mrt-cert.com

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## RF Exposure Evaluation Declaration

**FCC ID:** DD4ULXD6J50

**APPLICANT:** Shure Incorporated

**Application Type:** Certification

**Product:** Wireless Boundary Transmitter

**Model No.:** ULXD6/C J50, ULXD6/O J50

**Brand Name:** SHURE

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

Reviewed By  
Manager : Robin Wu  
( Robin Wu )



Approved By  
CEO : Marlin Chen  
( 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
1609RSU01713	Rev. 01	Initial report	11-02-2016	Invalid
1609RSU01713	Rev. 02	Revised the frequency band	11-29-2016	Valid

## 1. PRODUCT INFORMATION

Product Name	Wireless Boundary Transmitter
Model No.	ULXD6/C J50, ULXD6/O J50 (Note 1)
Frequency Range	J50 Band: 572 ~ 607.875 MHz & 614.125 ~ 636 MHz
Conducted Power Level	1mW & 10mW & 20mW (Note 2)
Antenna Type	PIFA
Antenna Gain	-4.8dBi
<b>Components (Note 3)</b>	
Rechargeable Li-ion Battery	Model: SB900A OUTPUT: 3.7Vdc, 1320mAh, 4.88Wh

Note 1: The difference between ULXD6/C and ULXD6/O is that the EUT has different built-in MIC.

Note 2: The EUT has three power levels (1mW & 10mW & 20mW). Power levels are switchable among these power levels.

Note 3: The EUT is capable of operating with AA alkaline batteries or with the Shure SB900A rechargeable battery pack.

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

## 2.2. Test Result of RF Exposure Evaluation

Product	Wireless Boundary 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 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
572.000 ~ 603.875 614.125 ~ 636.000	12.91	0.0013	0.3813

### CONCULISON:

Therefore, the Max Power Density at R (20 cm) = 0.0013mW/cm<sup>2</sup> < 0.6016mW/cm<sup>2</sup>.

So the EUT complies with the requirement.

The End