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Report No.: 1609RSU01713  
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## RF Exposure Evaluation Declaration

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**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)

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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
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	Model: SB900A
Li-ion Battery	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:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  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.