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Report No.: 1609RSU01813
Report Version: V02
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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)

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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.

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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

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 Li-ion Battery	Model: SB900A 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.

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 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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1mW/cm². 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 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 cm (mW/cm ²)	Limit (mW/cm ²)
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 _____