

## FCC RF Exposure

EUT Description: UHF In Ear Monitor System

Model No.: LDU5047IEM

FCC ID: 2AFF6-LDU5047IEM

Equipment type: Fixed Device

### 1. Limits

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> )	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

F = frequency in MHz

Formula:  $Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$

Where :

Pd = power density in mW/cm<sup>2</sup>,

Pout = output power to antenna in mW;

G = gain of antenna in linear scale,

$\pi$  = 3.14;

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

Pd is the limit of MPE, 1 mW/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. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

## 3. Test Result of RF Exposure Evaluation

Turn-up power	
Mode	Peak power range(dBm)
470MHz- 490MHz	6.00-8.00

470MHz- 490MHz	Output power (dBm/ mW)	Antenna Gain(dBi)	Gain-numeral	Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
	8.00/6.31	1.0	1.259	0.00158	0.31	Pass

Conclusion: No SAR is required