

# RF Exposure Evaluation

## FCC ID: 2AOKR-L2-BTS2

### 1. Client Information

**Applicant** : Dongguan Zhanlian Plastic Manufacture Co.,Ltd.  
**Address** : Building M, Dongxing Industrial Shanxia Zone, Hengli Town, Dongguan City, Guangdong Province, China  
**Manufacturer** : Dongguan Zhanlian Plastic Manufacture Co.,Ltd.  
**Address** : Building M, Dongxing Industrial Shanxia Zone, Hengli Town, Dongguan City, Guangdong Province, China

### 2. General Description of EUT

<b>EUT Name</b>	:	Bluetooth Speaker	
<b>Models No.</b>	:	L2-BTS2, T2MS2	
<b>Model Difference</b>	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance color.	
<b>Product Description</b>	:	Operation Frequency:	Bluetooth V4.1: 2402~2480 MHz
		RF Output Power:	Bluetooth: -2.381dBm( $\pi$ /4-DQPSK)
		Antenna Gain:	-0.58dBi PCB Antenna
<b>Power Supply</b>	:	DC Voltage supplied by USB Cable DC Voltage supplied by Li-ion battery	
<b>Power Rating</b>	:	DC 5V by USB Cable DC 3.7V by 1200mAh Li-ion battery	
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual	

**Note:** More test information about the EUT please refer the RF Test Report.



## SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance  $\leq 5$  mm are determined by:

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR}$$

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0 \text{ for 10-g SAR}$$

## 2. Calculation:

Test separation: 5mm						
Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-3.834	$-3 \pm 1$	-2	0.631	0.196	3.0
2.441	-3.614	$-3 \pm 1$	-2	0.631	0.197	3.0
2.480	-3.997	$-3 \pm 1$	-2	0.631	0.199	3.0
Bluetooth Mode ( $\pi/4$ -DQPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-2.652	$-2 \pm 1$	-1	0.794	0.246	3.0
2.441	-2.381	$-2 \pm 1$	-1	0.794	0.248	3.0
2.480	-2.865	$-2 \pm 1$	-1	0.794	0.250	3.0

So standalone SAR measurements are not required.

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