

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

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

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR}$$
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0 \text{ for 10-g SAR}$$

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±1	-2	0.631	0.196	3.0
2.441	-3.614	-3±1	-2	0.631	0.197	3.0
2.480	-3.997	-3±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±1	-1	0.794	0.246	3.0
2.441	-2.381	-2±1	-1	0.794	0.248	3.0
2.480	-2.865	-2±1	-1	0.794	0.250	3.0

So standalone SAR measurements are not required.

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