

RF Exposure Evaluation

FCC ID: 2ALAA-MBS14101

1. Client Information

Applicant : SHENZHEN JIAXINGWEI DIGITAL TECHNOLOGY CO.LTD
Address : 4F, 3Block, YuYe District, Zhoushi Road, XiXiang, BaoAn, Shenzhen, China
Manufacturer : DongGuan JiaXing Electronic&Technology Co.,Ltd
Address : No.4 Xing Sheng Road, HuangNiuPu Industri, HuangJiang, Town GongGuan, China

2. General Description of EUT

EUT Name	: Bluetooth Speaker	
Models No.	: MBS14101, SD-003B, SD-003	
Model Difference	: All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.	
Product Description	Operation Frequency:	Bluetooth V2.0+EDR: 2402~2480 MHz
	Number of Channel:	Bluetooth: 79 Channels See Note 2
	Max Peak Output Power:	Bluetooth: -0.189 dBm(π /4-DQPSK)
	Antenna Gain:	-0.68 dBi PCB Antenna
	Modulation Type:	GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps)
Power Supply	: DC power by USB cable. DC power by Li-ion battery.	
Power Rating	: DC 5.0V by USB cable. DC 3.7V by 400mAh 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	-1.378	-2±1	-1	0.794	0.246	3.0
2.441	-1.568	-2±1	-1	0.794	0.248	3.0
2.480	-2.441	-2±1	-1	0.794	0.250	3.0
Bluetooth Mode (π/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	-0.189	-1±1	0	1.000	0.310	3.0
2.441	-0.375	-1±1	0	1.000	0.312	3.0
2.480	-1.245	-1±1	0	1.000	0.315	3.0

So standalone SAR measurements are not required.

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