

RF Exposure Evaluation

FCC ID: 2AJ7Z-BS0112

1. Client Information

Applicant : Ningbo Xinze Electrical Appliance Co., Ltd
Address : Room 1002, Aolisai Haoru Building, No. 468 Taikang Middle Road, South Commercial Area, Yinzhou, Ningbo, China
Manufacturer : Ningbo Xinze Electrical Appliance Co., Ltd
Address : Room 1002, Aolisai Haoru Building, No. 468 Taikang Middle Road, South Commercial Area, Yinzhou, Ningbo, China

2. General Description of EUT

EUT Name	:	Bluetooth Multipurpose Speaker	
Models No.	:	BS0112, BS0096, BS0097, BS0020, BS0035, BS0044, BS0012	
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 2.1+EDR: 2402~2480 MHz
	:	Number of Channel:	Bluetooth: 79 Channels See Note 2
	:	Max Peak Output Power:	Bluetooth: -1.825 dBm(8-DPSK)
	:	Antenna Gain:	2 dBi PCB Antenna
	:	Modulation Type:	GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC power by USB cable. DC power by Li-ion battery.	
Power Rating	:	DC 5V 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 to 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:

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

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

2.

Calculation:

Test separation: 5mm					
Bluetooth Mode (GFSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-3.006	±0.5	0.562	0.174	3.0
2.441	-4.455	±0.5	0.402	0.126	3.0
2.480	-3.995	±0.5	0.447	0.141	3.0
Bluetooth Mode (π /4-DQPSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-2.099	±0.5	0.692	0.214	3.0
2.441	-3.314	±0.5	0.523	0.163	3.0
2.480	-3.185	±0.5	0.539	0.170	3.0
Bluetooth Mode (8-DPSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-1.825	±0.5	0.737	0.228	3.0
2.441	-2.931	±0.5	0.571	0.179	3.0
2.480	-2.621	±0.5	0.614	0.193	3.0

So standalone SAR measurements are not required.

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