

RF Exposure Evaluation

FCC ID: 2AJ7Z-BS0143

1. Client Information

Applicant	:	Ningbo Xinze Electric Appliance Co., Ltd
Address	:	Room 1002, Aolisai Haoru Building, No. 468 Taikang Middle Road, South Commercial Area, Yinzhou, Ningbo, China
Manufacturer	:	Ningbo Xinze Electric Appliance Co., Ltd
Address	:	Floor, Building A, Yicheng Industrial Tiegang Village, Baoan, Shenzhen, China

2. General Description of EUT

EUT Name	:	Wireless Speaker	
Models No.	:	BS0143, FL9010, FL3163, BS0147, BS0148, BS0149, BS0150, BS0151, BS0152, BS0153	
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 4.2(BT): 2402MHz~2480MHz
		RF Output Power:	BLE:1.443dBm
		Antenna Gain:	2dBi PCB Antenna
Power Supply	:	DC Voltage Supply from USB Port. DC Voltage supplied by Li-ion battery.	
Power Rating	:	DC 5.0V 500mAh by USB cable DC 3.7V by 2000mAh Li-ion battery	
Software Version	:	N/A	
Hardware Version	:	N/A	
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:

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

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

2. Calculation:

Test separation: 5mm						
BLE 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	1.443	1 ± 0.5	1.5	1.413	0.438	3.0
2.442	-1.122	-1 ± 0.5	-0.5	0.891	0.278	3.0
2.480	-1.023	-1 ± 0.5	-0.5	0.891	0.281	3.0

Test separation: 5mm		
The worst RF Exposure Evaluation		
Bluetooth Mode	Total Calculation Value	Threshold Value
BLE	0.438	3.0

The worst RF Exposure Evaluation is $0.438 / \text{cm}^2 < \text{limit } 3.0$, So standalone SAR measurements are not required.

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