

RF Exposure Evaluation

FCC ID:2A27X-SF-IE0

1. Client Information

Applicant	:	Sunfield Speaker Box (ShenZhen) Co., Ltd.
Address	:	The Ma An Shan Industrial District, No. 299 Nanhuan Road, ShaJing Town, Bao An District, ShenZhen, China
Manufacturer	:	Sunfield Speaker Box (ShenZhen) Co., Ltd.
Address	:	The Ma An Shan Industrial District, No. 299 Nanhuan Road, ShaJing Town, Bao An District, ShenZhen, China

2. General Description of EUT

EUT Name	:	True wireless bluetooth headset	
Model(s)	:	SF-IE0	
Brand Name	:	----	
Product Description	:	Operation Frequency:	Bluetooth V5.1(BT): 2402~2480 MHz
	:	Number of Channel:	Bluetooth: 79 Channels
	:	Max Peak Output Power:	Bluetooth: 7.478 dBm(8-DQPSK)
	:	Antenna Gain:	0dBi Ceramic Antenna
	:	Modulation Type:	GFSK π/4-DQPSK 8-DPSK
Power Supply (Earphone)	:	Input: Output DC 5V DC 3.7V by 50mAh Li-ion battery	
Power Supply (Charger Box)	:	Input: Output DC 5V DC 3.7V by 400mAh Li-ion battery	
Software Version	:	V1.0	
Hardware Version	:	V1.3314(V03)	
Remark: The antenna gain and adapter provided by the applicant, the adapter and verified for the RF conduction test provided by TOBY test lab.			

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:

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

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f(\text{GHz})}] \leq 7.5.0$ 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	4.380	4±1	5	3.162	0.980	3.0
2.441	3.818	3±1	4	2.512	0.785	3.0
2.480	3.623	3±1	4	2.512	0.791	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	6.914	6±1	7	5.012	1.554	3.0
2.441	6.363	6±1	7	5.012	1.566	3.0
2.480	5.973	5±1	6	3.981	1.254	3.0
Bluetooth Mode (8-DPSK)						
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	7.478	7±1	8	6.310	1.956	3.0
2.441	6.818	6±1	7	5.012	1.566	3.0
2.480	6.514	6±1	7	6.310	1.579	3.0

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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