

RF Exposure Evaluation

FCC ID: 2AHYHHFD-810A

1. Client Information

Applicant : Shenzhen Hi-FiD Electronics Tech Co., Ltd
Address : 4F, B7 Building, Hengfeng industrial City, Hezhou Village, Xixiang Town, Bao'an District, Shenzhen City, China
Manufacturer : Shenzhen Hi-FiD Electronics Tech Co., Ltd
Address : 4F, B7 Building, Hengfeng industrial City, Hezhou Village, Xixiang Town, Bao'an District, Shenzhen City, China

2. General Description of EUT

EUT Name	:	Bluetooth Speaker	
Models No.	:	HFD-810A ,BP-WANTS, SP-SKBT810, SP-SKBT812, SP-SKBEAST, HFD-895, HFD-896, HFD-810, HFD-812, WSP-895	
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 4.0: 2402~2480MHz	
	:	Number of Channel:	Bluetooth:79 Channels BLE: 40 Channels
	:	Max Peak Output Power:	Bluetooth: 3.782 dBm(8-DPSK) BLE: 3.820 dBm
	:	Antenna Gain:	0.5 dBi PCB Antenna
	:	Modulation Type:	GFSK 1Mbps(1 Mbps&BLE) π /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC power by AC/DC Adapter. DC power by Li-ion Battery.	
Power Rating	:	Input: AC 100-240V~50/60Hz 0.6A. Output: 15V,1500mA. DC 11.1V by 2250mAh 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 v05r02.

(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					
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	0.816	±0.5	1.354	0.420	3.0
2.441	3.288	±0.5	2.392	0.748	3.0
2.480	2.041	±0.5	1.795	0.565	3.0
Bluetooth Mode ($\pi/4$ -DQPSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	2.509	±0.5	1.999	0.620	3.0
2.441	1.248	±0.5	1.496	0.467	3.0
2.480	3.241	±0.5	2.366	0.745	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	2.978	±0.5	2.227	0.690	3.0
2.441	1.743	±0.5	1.676	0.524	3.0
2.480	3.782	±0.5	2.680	0.844	3.0
BLE 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	3.820	±0.5	2.704	0.838	3.0
2.441	2.642	±0.5	2.062	0.644	3.0
2.480	1.499	±0.5	1.585	0.499	3.0

So standalone SAR measurements are not required.