

# 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

<b>EUT Name</b>	:	Bluetooth Speaker
<b>Models No.</b>	:	HFD-810A ,BP-WANTS, SP-SKBT810, SP-SKBT812, SP-SKBEAST, HFD-895, HFD-896, HFD-810, HFD-812, WSP-895
<b>Model Difference</b>	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.
<b>Product Description</b>	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) $\pi$ /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)	
<b>Power Supply</b>	:	DC power by AC/DC Adapter. DC power by Li-ion Battery.
<b>Power Rating</b>	:	Input: AC 100-240V~50/60Hz 0.6A. Output: 15V,1500mA. DC 11.1V by 2250mAh Li-ion Battery.
<b>Connecting I/O Port(S)</b>	:	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  $\leq 5$  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 (mw)	Calculation Value	Threshold Value
2.402	0.816	$\pm 0.5$	1.354	0.420	3.0
2.441	3.288	$\pm 0.5$	2.392	0.748	3.0
2.480	2.041	$\pm 0.5$	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	$\pm 0.5$	1.999	0.620	3.0
2.441	1.248	$\pm 0.5$	1.496	0.467	3.0
2.480	3.241	$\pm 0.5$	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	$\pm 0.5$	2.227	0.690	3.0
2.441	1.743	$\pm 0.5$	1.676	0.524	3.0
2.480	3.782	$\pm 0.5$	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	$\pm 0.5$	2.704	0.838	3.0
2.441	2.642	$\pm 0.5$	2.062	0.644	3.0
2.480	1.499	$\pm 0.5$	1.585	0.499	3.0

So standalone SAR measurements are not required.