

# RF Exposure Evaluation

## FCC ID: 2A2E5-F1

### 1. Client Information

<b>Applicant</b>	:	FuRui Creative (Shenzhen) Technology Co.,Ltd
<b>Address</b>	:	Room 113, Building A, City shanghai Dinghui, No.37 longjingao Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen Guangdong, China
<b>Manufacturer</b>	:	Dongguan Hengdarui Electronic Technology Co., Ltd
<b>Address</b>	:	Room 401, building 2, No.51, Humen Dakeng Road, Humen Town, Dongguan City, Guangdong Province

### 2. General Description of EUT

<b>EUT Name</b>	:	Bluetooth headset
<b>Model(s) No.</b>	:	F1, F2, F5, F6, F8, R1, R2, R5, R6, R8, S1, S2, S5, S6, S8
<b>Model Different</b>	:	All PCB boards and circuit diagrams are the same, the only difference is the color and appearance.
<b>Product Description</b>	Operation Frequency:	Bluetooth V5.2(BDR+EDR): 2402~2480 MHz
	Number of Channel:	Bluetooth 5.2(BDR+EDR): 79 channels
	RF Output Power:	4.882dBm (Max)
	Antenna Gain:	2.65dBi Internal Antenna
	Modulation Type:	GFSK, $\pi/4$ -DQPSK, 8DPSK
<b>Power Supply</b>	Bit Rate of Transmitter:	1/2/3Mbps
	Charging box: Input: DC 5V1.0A Earphone: DC 3.7V by 40mAh Rechargeable Li-ion battery	
<b>Software Version</b>	:	V1.0.0
<b>Hardware Version</b>	:	AB15XX
<b>Remark:</b> The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter 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  $\leq 5$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0$  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	4.882	5±1	6.0	3.98	1.23	3.0
2.441	4.773	5±1	6.0	3.98	1.23	3.0
2.480	4.048	4±1	5.0	3.16	0.98	3.0
Bluetooth Mode (π/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	4.855	5±1	6.0	3.98	1.23	3.0
2.441	4.715	5±1	6.0	3.98	1.23	3.0
2.480	3.993	4±1	5.0	3.16	0.98	3.0
Bluetooth Mode (8DPSK)						
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	4.875	5±1	6.0	3.98	1.23	3.0
2.441	4.748	5±1	6.0	3.98	1.23	3.0
2.480	3.975	4±1	5.0	3.16	0.98	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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