

RF Exposure Evaluation

FCC ID: 2A2E5-F1

1. Client Information

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

2. General Description of EUT

EUT Name	:	Bluetooth headset	
Model(s) No.	:	F1, F2, F5, F6, F8, R1, R2, R5, R6, R8, S1, S2, S5, S6, S8	
Model Different	:	All PCB boards and circuit diagrams are the same, the only difference is the color and appearance.	
Product Description	:	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, π /4-DQPSK, 8DPSK
		Bit Rate of Transmitter:	1/2/3Mbps
Power Supply	:	Charging box: Input: DC 5V1.0A Earphone: DC 3.7V by 40mAh Rechargeable Li-ion battery	
Software Version	:	V1.0.0	
Hardware Version	:	AB15XX	
Remark: 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 ≤ 5 mm are determined by:

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

- [(max. power of channel, including tune-up tolerance, mW)/(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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