

RF Exposure Evaluation

FCC ID: 2AF5JER-M127C

1. Client Information

Applicant : Shenzhen E-Ran Technology Co., Ltd
Address : 6 Floor, Block 9A, Xiangjiang Industrial Park, Songbai Road, Shiyan Town, Baoan District, Shenzhen, China
Manufacturer : Shenzhen E-Ran Technology Co., Ltd
Address : 6 Floor, Block 9A, Xiangjiang Industrial Park, Songbai Road, Shiyan Town, Baoan District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Bluetooth MP4	
Models No.	:	ER-M127C	
Model difference	:	N/A	
Product Description	:	Operation Frequency: Bluetooth:2402~2480MHz	
		Number of Channel:	Bluetooth:79 Channels
		Max Peak Output Power:	Bluetooth: 4.24 dBm(GFSK)
		Antenna Gain:	0 dBi PCB Antenna
		Modulation Type:	GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC Voltage supplied by AC/DC Adapter. DC power by Li-ion Battery.	
Power Rating	:	AC/DC Adapter: Input: AC 100~240V 50/60Hz 0.5A Output: DC 5V 2A. DC 3.7V 160mAh 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:

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

- $$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{GHz}}}] \leq 7.5.0 \text{ for 10-g SAR}$$

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	3.780	± 0.5	2.679	0.830	3.0
2.441	4.060	± 0.5	2.858	0.893	3.0
2.480	4.240	± 0.5	2.979	0.938	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	4.080	± 0.5	2.871	0.890	3.0
2.441	4.030	± 0.5	2.838	0.887	3.0
2.480	3.900	± 0.5	2.754	0.867	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	2.700	± 0.5	2.089	0.648	3.0
2.441	2.890	± 0.5	2.183	0.682	3.0
2.480	2.710	± 0.5	2.094	0.660	3.0

So standalone SAR measurements are not required.