RF Exposure Evaluation

FCC ID: 2AGBT-ER-M2801

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-M2801	
Model difference	:	N/A	
Product Description	:	Operation Frequency: Bluetooth:2402~2480MHz	
		Number of Channel:	Bluetooth:79 Channels
		Max Peak Output Power:	Bluetooth: -5.17 dBm(8-DPSK)
		Antenna Gain:	0 dBi PCB Antenna
		Modulation Type:	GFSK (1 Mbps) π/4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC Voltage supplied from Host System by USB cable. DC power by Li-ion Battery.	
Power Rating	:	DC 5.0V by USB cable. DC 3.7V 300mAh 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.

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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:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤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 (mw)**	**Calculation Value**	**Threshold Value**
2.402	-5.50	±0.5	0.316	0.098	**3.0**
2.441	-5.33	±0.5	0.329	0.103	**3.0**
2.480	-5.33	±0.5	0.329	0.104	**3.0**
Bluetooth Mode (π/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	-5.77	±0.5	0.297	0.092	**3.0**
2.441	-5.56	±0.5	0.312	0.097	**3.0**
2.480	-5.60	±0.5	0.309	0.097	**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	-5.40	±0.5	0.324	0.100	**3.0**
2.441	-5.17	±0.5	0.341	0.107	**3.0**
2.480	-5.22	±0.5	0.337	0.106	**3.0**

So standalone SAR measurements are not required.