

RF Exposure Evaluation

FCC ID: 2AFMD-FM25

1. Client Information

Applicant : SHENZHEN SPRING TECHNOLOGY CO.,LIMITED
Address : 5/Fablock, NO162 TongFuYu industry park KuKeng GuanLan LongHua new district, Shenzhen, China.
Manufacturer : SHENZHEN SPRING TECHNOLOGY CO.,LIMITED
Address : 5/Fablock, NO162 TongFuYu industry park KuKeng GuanLan LongHua new district, Shenzhen, China.

2. General Description of EUT

EUT Name	:	Bluetooth FM Transmitter	
Models No.	:	FM25	
Model difference	:	N/A	
Product Description	:	Operation Frequency: Bluetooth(BLE):2402~2480MHz	
		Number of Channel:	Bluetooth:79 Channels BLE: 40 channels
	:	Max Peak Output Power:	Bluetooth: 4.469 dBm(GFSK) BLE: -1.759 dBm
		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 from Car Charger.	
Power Rating	:	Car Charger Input: DC 9~26V Output: 5V	
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:

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

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

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	4.445	± 0.5	3.122	0.968	3.0
2.441	4.469	± 0.5	3.140	0.981	3.0
2.480	4.357	± 0.5	3.060	0.964	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	3.064	± 0.5	2.272	0.704	3.0
2.441	3.218	± 0.5	2.354	0.736	3.0
2.480	3.142	± 0.5	2.313	0.729	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	3.204	± 0.5	2.346	0.727	3.0
2.441	3.621	± 0.5	2.583	0.807	3.0
2.480	3.377	± 0.5	2.442	0.769	3.0
BLE(GFSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-1.920	± 0.5	0.721	0.224	3.0
2.442	-1.759	± 0.5	0.748	0.234	3.0
2.480	-2.216	± 0.5	0.674	0.212	3.0

So standalone SAR measurements are not required.