

RF Exposure Evaluation

FCC ID: 2ASTK-S10

1. Client Information

Applicant	:	Shenzhen Kangmingrui Technology Co., Ltd.
Address	:	F5, Building 2, Shanghe Nanchang Industrial Park, Gushu, Xixiang, Baoan District, Shenzhen, China
Manufacturer	:	Shenzhen Kangmingrui Technology Co., Ltd.
Address	:	F5, Building 2, Shanghe Nanchang Industrial Park, Gushu, Xixiang, Baoan District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Mini Speaker
Models No.	:	S10, C6, Q50, 053040
Model Difference	:	All these models are the same PCB, layout and electrical circuit, the only difference is appearance.
Product Description	Operation Frequency:	Bluetooth 5.0(BT): 2402MHz~2480MHz
	RF Output Power:	GFSK:4.670dBm π /4-DQPSK:5.392dBm
	Antenna Gain:	-0.58dBi PCB Antenna
Power Supply	:	DC Voltage Supply from Adapter DC Voltage supplied by Li-ion battery.
Power Rating	:	lutput: DC 5.0V 0.35A by adapter DC 3.7V by 350mAh Li-ion battery
Software Version	:	V1
Hardware Version	:	V2
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 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:

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

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

2. Calculation:

Test separation: 5mm						
Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	4.646	4 ± 1	5	3.162	0.980	3.0
2.441	4.670	4 ± 1	5	3.162	0.988	3.0
2.480	4.167	4 ± 1	5	3.162	0.996	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	5.379	5 ± 1	6	3.981	1.234	3.0
2.441	5.392	5 ± 1	6	3.981	1.244	3.0
2.480	4.957	5 ± 1	6	3.981	1.254	3.0

Test separation: 5mm		
The worst RF Exposure Evaluation		
Worst Calculation Value	Total Calculation Value	Threshold Value
Bluetooth Mode		
1.254	1.254	3.0

The worst RF Exposure Evaluation is calculated as $1.254 / \text{cm}^2 < \text{limit } 3.0$, So standalone SAR measurements are not required.

-----END OF REPORT-----