

RF Exposure Evaluation

FCC ID: 2AHQJPBX-2100

1. Client Information

Applicant : SHENZHEN RAYLAM TECHNOLOGY CO., LTD
Address : BLDG A, SHANG FANG INDUSTRIAL PARK, XINQIAO XINFA, SHA JING TOWN, BAO'AN DISTRICT, SHENZHEN, CHINA
Manufacturer : SHENZHEN RAYLAM TECHNOLOGY CO., LTD
Address : BLDG A, SHANG FANG INDUSTRIAL PARK, XINQIAO XINFA, SHA JING TOWN, BAO'AN DISTRICT, SHENZHEN, CHINA

2. General Description of EUT

EUT Name	:	Bluetooth speaker	
Models No.	:	PBX-2100, RLBT-29, PBX-2105, PBX-2106, RLBT-33	
Model Difference	:	N/A	
Product Description	:	Operation Frequency: Bluetooth 2.1+EDR:2402~2480MHz	
		Number of Channel:	Bluetooth:79 Channels
		Max Peak Output Power:	Bluetooth: 4.445 dBm(π /4-DQPSK)
		Antenna Gain:	0 dBi PCB Antenna
		Modulation Type:	GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps)
Power Supply	:	DC Voltage supplied from Switching Adapter. DC power by Li-ion Battery.	
Power Rating	:	Switching Adapter: Input: AC 100~240V, 50/60Hz, 0.5A Max Output: DC 9.0V, 1.5A DC 7.4V by 2200mAh 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:

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

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

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	3.179	± 0.5	2.333	0.723	3.0
2.441	3.462	± 0.5	2.490	0.778	3.0
2.480	3.553	± 0.5	2.543	0.801	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	4.037	± 0.5	2.842	0.881	3.0
2.441	4.310	± 0.5	3.027	0.946	3.0
2.480	4.445	± 0.5	3.122	0.983	3.0

So standalone SAR measurements are not required.