

RF Exposure Evaluation

FCC ID: 2ABHA0010

1. Client Information

Applicant : NINGBO CSTAR IMP&EXP CO., LTD.
Address : Floor 4, Building E, No. 655-90, Qiming Road, Yinzhou Investment & Innovation Center, China
Manufacturer : ShenZhen C-Star Electronic Tech. co., Ltd
Address : 2, 3/F, Building B, No. 2 Bada Industrial Park, Yongfu Road, Heping Community, Fuyong Town, Baoan District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Bluetooth Speaker with LED Lights	
Brand Name	:	Cstar	
Models No.	:	RM89627	
Model Difference	:	N/A	
Product Description	:	Operation Frequency: Bluetooth 2.1+EDR: 2402~2480MHz	
	:	Number of Channel:	Bluetooth:79 Channels See Note 2
	:	Max Peak Output Power:	Bluetooth: 2.256 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 Host System by USB cable. DC power by Li-ion Battery.	
Power Rating	:	DC 5.0V by USB cable. DC 3.7V by 450mAh 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 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 (mw)	Calculation Value	Threshold Value
2.402	-0.138	± 0.5	1.087	0.337	3.0
2.441	0.468	± 0.5	1.250	0.390	3.0
2.480	1.118	± 0.5	1.451	0.457	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	0.929	± 0.5	1.390	0.431	3.0
2.441	1.604	± 0.5	1.623	0.507	3.0
2.480	2.256	± 0.5	1.886	0.594	3.0

So standalone SAR measurements are not required.

-----End of Report-----