

RF Exposure Evaluation

FCC ID: 2ABHA-RM89855

1. Client Information

Applicant : NINGBO CSTAR IMP&EXP CO., LTD
Address : 8 Floor, Hengyuan Building, No.568 Tiantong South Rd, Yinzhou, Ningbo, China
Manufacturer : SHENZHEN HERITEK ELECTRONIC MANUFACTORY CO., LIMITED
Address : 2ND FLOOR, 11 BUILDING, HUAFENG INDUSTRIAL ZONE, XIAWEIYUAN, GUSHU VILLAGE, XIXIANG TOWN, BAOAN DISTRICT, SHENZHEN, China

2. General Description of EUT

| | | | |
|-------------------------------|---|---|-----------------------------------|
| EUT Name | : | Executive bluetooth speaker | |
| Models No. | : | RM89855 | |
| Model Difference | : | N/A. | |
| Product Description | : | Operation Frequency: Bluetooth:2402~2480MHz | |
| | : | Number of Channel: | Bluetooth:79 Channels |
| | : | Max Peak Output Power: | GFSK:-3.088 dBm (Conducted Power) |
| | : | Antenna Gain: | 0 dBi PIFA Antenna |
| | : | Modulation Type: | GFSK 1Mbps(1 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 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 ≤ 50 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:

| Bluetooth Mode (GFSK) | | | | | | |
|-----------------------|-----------------------|----------------|---------------|---------------|-------------------|-----------------|
| Frequency (GHz) | Conducted Power (dBm) | Ant Gain (dBi) | TX Power (mW) | Distance (mm) | Calculation Value | Threshold Value |
| 2.402 | -5.485 | 0 | 0.283 | 5 | 0.087 | 3.0 |
| 2.441 | -3.088 | 0 | 0.491 | 5 | 0.154 | 3.0 |
| 2.480 | -4.264 | 0 | 0.375 | 5 | 0.118 | 3.0 |

So standalone SAR measurements are not required.