

FCC RF Exposure

EUT Description: Karaoke Wireless Microphone

Model No.: 24964-DI

FCC ID: 2AND8-BT2205

Equipment type: Portable Device

1. Test Procedure

According to KDB 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]}{\leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}}$$

where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation. The result is rounded to one decimal place for comparison.

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz.

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2. Test Result of RF Exposure Evaluation

| Mode | Channel Freq. (MHz) | Maximum Conducted Output Power (PK) | Conducted Output Power Limit | Tune-up power (dBm) | Max tune-up power (dBm) | Max tune-up power (W) |
|------|---------------------|-------------------------------------|------------------------------|---------------------|-------------------------|-----------------------|
| GFSK | 2402 | -2.902 | 21 | -2.902 \pm 1 | -1.902 | 0.00064 |
| | 2441 | -2.593 | 21 | -2.593 \pm 1 | -1.593 | 0.00069 |
| | 2480 | -3.696 | 21 | -3.696 \pm 1 | -2.696 | 0.00054 |

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]}{= 0.692 / 5 \cdot \sqrt{2.441} = 0.216 \leq 3.0}$$
 Threshold at which no SAR required is and ≤ 3.0 for 1-g SAR, Separation distance is 5mm.