

## INTERTEK TESTING SERVICES

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### RF Exposure

The equipment under test (EUT) is a Karaoke Microphone operating at BT5.0 function operating in 2402-2480MHz. The EUT can be powered by DC 3.7V full rechargeable battery and charged by DC 5V form USB port. For more detail information pls. refer to the user manual.

Bluetooth Version: V 5.0

Antenna Type: Integral antenna

Modulation Type: GFSK, p/4-DQPSK and 8DPSK

Antenna Gain: -0.68dBi.

The nominal conducted output power specified: 0 dBm ( $\pm 3$ dB)

The nominal radiated output power (e.i.r.p) specified: -0.68 dBm ( $\pm 3$ dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 96.1dB $\mu$ V/m at 3m in the frequency 2402MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = 0.87dBm

which is within the production variation.

The minimum peak radiated emission for the EUT is 94.0dB $\mu$ V/m at 3m in the frequency 2480MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = -1.23dBm

which is within the production variation.

The maximum conducted output power specified is 3 dBm = 1.995 mW

The source- based time-averaging conducted output power

= 1.995 \* Duty factor mW (where Duty Factor  $\leq 1$ )

= 1.995 mW

The SAR Exclusion Threshold Level:

$$\begin{aligned} P_{th}(\text{mW}) &= ERP_{20\text{cm}} * (d/20\text{cm})^x \quad (X = -\log_{10} \left( \frac{60}{ERP_{20\text{cm}} \sqrt{f}} \right)) \\ &= 3060 * (0.5/20)^{1.9} \text{ mW} \\ &= 2.72 \text{ mW} \end{aligned}$$

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.