

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Mobile Ring Light & Transmitter microphone with mobilephone receiver adaptor with Bluetooth function operating in 2402-2480MHz. The EUT is powered by DC 5V from USB port or DC 3.7V from battery. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK, $\pi/4$ -DQPSK and 8-DPSK

Antenna Gain: 2.6 dBi

Bluetooth Version: 5.0

The nominal conducted output power specified: 1 dBm (± 3 dB)

The nominal radiated output power (e.i.r.p) specified: 3.6 dBm (± 3 dB)

According to the KDB 447498 V06:

The Maximum peak radiated emission for the EUT is 98.3 dB μ V/m at 3m in the frequency 2441MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 3.07dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 94.1 dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -1.13dBm
which is within the production variation.

The maximum EIRP specified is 6.6 dBm = 4.571mW

The maximum conducted output power specified is 4 dBm = 2.51mW

The maximum ERP is 4.45dBm = 2.79mW

The SAR Exclusion Threshold Level:

The source- based time-averaging conducted output power
= $2.51 \cdot \text{Duty factor mW}$ (where Duty Factor ≤ 1)
= 2.51 mW

The SAR Exclusion Threshold Level:

= $3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$
= $3.0 \cdot 5 / \sqrt{2.480}$ mW
= 9.53 mW

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.

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: 2.6dBi

Bluetooth Version: 5.0 BLE

The nominal conducted output power specified: 5 dBm (± 2 dB)

The nominal radiated output power (e.i.r.p) specified: 7.6 dBm (± 2 dB)

According to the KDB 447498 V06:

The Maximum peak radiated emission for the EUT is 101.7 dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 6.47dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 99.2 dB μ V/m at 3m in the frequency 2440MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 3.97dBm
which is within the production variation.

The maximum EIRP specified is 9.6 dBm = 9.120mW

The maximum conducted output power specified is 7dBm = 5.01mW

The maximum ERP is 7.45dBm = 5.56mW

The SAR Exclusion Threshold Level:

The source- based time-averaging conducted output power
= $5.01 \cdot \text{Duty factor mW}$ (where Duty Factor ≤ 1)
= 5.01 mW

The SAR Exclusion Threshold Level:

= $3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$
= $3.0 \cdot 5 / \sqrt{2.480}$ mW
= 9.53 mW

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.