

RF Exposure

The equipment under test (EUT) is a Bluetooth Headphones; The EUT is operated by a 3.7Vdc lithium battery which can be charged by USB Port. The EUT will be switched in Aux-in mode once the Aux-in cable is inserted. For more information please refer to the user manual.

Bluetooth function:

Bluetooth Version: 4.0 EDR

Antenna Type: Integral Antenna.

Antenna Gain: 0dBi.

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

The nominal conducted output power specified: 0dBm (+/-3dB)

The nominal radiated output power (e.i.r.p) specified: 0dBm (+/- 3dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 98.1dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 2.9dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 96.7dB μ V/m at 3m in the frequency 2441MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 1.5dBm
which is within the production variation.

The maximum conducted output power specified is 3dBm = 2mW

The source- based time-averaging conducted output power
= 2 * Duty factor mW (where Duty Factor ≤ 1)
= 2mW

The SAR Exclusion Threshold Level:

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

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.

Bluetooth function:

Bluetooth Version: 4.0 BLE

Antenna Type: Integral Antenna.

Antenna Gain: 0dBi.

Modulation Type: GFSK

The nominal conducted output power specified: 0dBm (+/-3dB)

The nominal radiated output power (e.i.r.p) specified: 0dBm (+/- 3dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 95.4dBμV/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 0.2dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 94.7dBμV/m at 3m in the frequency 2440MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -0.5dBm
which is within the production variation.

The maximum conducted output power specified is 3dBm = 2mW

The source- based time-averaging conducted output power
= 2 * Duty factor mW (where Duty Factor ≤ 1)
= 2mW

The SAR Exclusion Threshold Level:

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