

RF Exposure

The equipment under test (EUT) is a Wireless Earbuds with Bluetooth 5.1 EDR function operating in 2402-2480MHz. The EUT is powered by DC 3.7V by battery which can be charged by DC 5V/1A input. The Bluetooth function will be disabled while charging. For more detail information pls. refer to the user manual.

Bluetooth Version: 5.1 EDR mode

Antenna Type: Integral antenna

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

Antenna Gain: 0.58dBi Max

The nominal conducted output power specified: -13.0dBm (+/-3dB)

The nominal radiated output power (e.i.r.p) specified: -12.42dBm (+/- 3dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 84.5dBμV/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -10.73dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 80.7dBμV/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -14.53dBm
which is within the production variation.

The maximum conducted output power specified is -10 dBm = 0.1 mW

The source- based time-averaging conducted output power
= 0.1 * Duty factor mW (where Duty Factor ≤ 1)
= 0.1 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.