RF Exposure

The equipment under test (EUT) is a WIRELESS EARPHONES with BT 5.0 EDR function operating in 2402-2480MHz. The EUT is powered by DC 3.7V by rechargeable battery and contains right and left earphone which electrical and hardware are exactly the same. The Bluetooth function cannot operate when charging. For more detail information pls. refer to the user manual.

Modulation Type: GFSK, π/4-DQPSK and 8-DPSK
Bluetooth Version: 5.0 (Single Mode EDR)

Antenna Type: Integral antenna.
Antenna Gain: 1.0dBi.
The nominal conducted output power specified: 4dBm (+/-3dB).
The nominal radiated output power (e.i.r.p) specified: 5dBm (+/- 3dB).

According to the KDB 447498:

The maximun peak radiated emission for the EUT is 102.3dBμV/m at 3m in the frequency 2402MHz
The EIRP = [(FS*D) ^2 / 30] mW = 7.07dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 98.3dBμV/m at 3m in the frequency 2480MHz
The EIRP = [(FS*D) ^2 / 30] mW = 3.07dBm
which is within the production variation.

The maximun conducted output power specified is 7dBm = 5mW
The source- based time-averaging conducted output power
= 5 * Duty factor mW (where Duty Factor≤1)
= 5 mW

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 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.