RF Exposure

The Equipment Under Test (EUT) is a BT Speaker with Bluetooth functions. The EUT is powered by DC 3.7V rechargeable battery which can be powered by adapter. For more detailed features description, please refer to the user's manual.

Bluetooth Version: 5.0 BLE
Antenna Type: Integral antenna.
Antenna Gain: -0.68dBi.
Modulation Type: GFSK
The nominal conducted output power specified: -5.52dBm (+/-4dB)
The nominal radiated output power (e.i.r.p) specified-6.2dBm (+/- 4dB)

According to the KDB 447498:

The maximun peak radiated emission for the EUT is 93.0dBμV/m at 3m in the frequency 2480MHz (BLE mode)
The EIRP = [(FS*D) ^2 / 30] mW = -2.23dBm
The minimum peak radiated emission for the EUT is 87.9dBμV/m at 3m in the frequency 2402MHz (BLE mode)
The EIRP = [(FS*D) ^2 / 30] mW = -7.33dBm
which is within the production variation.

The maximum conducted output power specified is -1.52dBm = 0.7 mW
The source- based time-averaging conducted output power
= 0.7 * Duty factor mW (where Duty Factor≤1)
= 0.7mW

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

Bluetooth Version: 5.0 EDR
Antenna Type: Integral antenna.
Antenna Gain: -0.68dBi.
Modulation Type: GFSK, π/4-DQPSK and 8-DPSK
The nominal conducted output power specified: -5.52dBm (+/-4dB)
The nominal radiated output power (e.i.r.p) specified-6.2dBm (+/- 4dB)

According to the KDB 447498:

The maximun peak radiated emission for the EUT is 89.0dBμV/m at 3m in the frequency 2480MHz (EDR mode)
The EIRP = [(FS*D) ^2 / 30] mW = -6.23dBm
The minimum peak radiated emission for the EUT is 85.3dBμV/m at 3m in the frequency 2402MHz (EDR mode)
The EIRP = [(FS*D) ^2 / 30] mW = -9.93dBm
which is within the production variation.

The maximum conducted output power specified is -1.52dBm = 0.7 mW
The source- based time-averaging conducted output power
= 0.7 * Duty factor mW (where Duty Factor≤1)
= 0.7mW

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.