RF Exposure

The equipment under test (EUT) is a Bluetooth Speakerbox, with Bluetooth FHSS technology operating in 2402-2480MHz. The EUT is powered by DC 12V from external adapter with DC 12.0V 1.0A Output or 8 AA batteries. For more detail information pls. refer to the user manual.

Bluetooth Version: 2.1+EDR
Antenna Type: Integral antenna
Antenna Gain: 0 dBi
Modulation Type: GFSK, π/4-DQPSK and 8-DPSK

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

According to the KDB 447498:

The maximum conducted output power for the EUT is 0.04dBm in the frequency 2402MHz and the minimum conducted output power for the EUT is -0.82dBm in the frequency 2480MHz which are within the production variation.

The maximun conducted output power specified is 3.0 dBm = 2.0mW
The source- based time-averaging conducted output power
= 2.0 * Duty Cycle mW (where Duty Cycle < 100%) < 2.0 mW

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.480) mW
= 9.5 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.

Transmitter Duty Cycle Calculation:

Based on the Bluetooth Specification (BT version: 2.1+EDR), transmitter ON time is independent of packet type (DH1, DH3 and DH5). For one period for a pseudo-random hopping through all 79 RF channels, for DH5:
One hopset consists of 5 TX slot and 1 RX slot.
Duty factor = 5 / 6 = 0.833