

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Docking Speaker, Bluetooth Speaker, with Bluetooth FHSS technology operating in 2402-2480MHz. The EUT is powered by AC 120V, 60Hz. The NFC function is passive. For more detail information pls. refer to the user manual.

Bluetooth Version: 3.0+EDR

Antenna Type: Integral antenna

Antenna Gain: 0 dBi

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

The nominal conducted output power specified: 1.0dBm (Tolerance: +/-3dB)

According to the KDB 447498:

The maximum conducted output power for the EUT is 3.3dBm in the frequency 2402MHz and the minimum conducted output power for the EUT is 2.23dBm in the frequency 2480MHz which are within the production variation.

The maximum conducted output power specified is 4.0dBm = 2.5mW

The source- based time-averaging conducted output power

= $2.5 * \text{Duty Cycle mW} < 2.5 \text{ mW}$ (where Duty Cycle < 100%)

The SAR Exclusion Threshold Level:

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

= $3.0 * 5 / \text{sqrt}(2.480) \text{ mW}$

= 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: 3.0+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 Cycle = $5 / 6 = 0.833$