

INTERTEK TESTING SERVICES

RF Exposure

The Equipment Under Test (EUT) is a HIGH DEFINITION SPEAKER SYSTEM with Bluetooth functions. The EUT is powered by 110-240V~ 50/60Hz. For more detailed features description, please refer to the user's manual.

Bluetooth Version: 5.0 (Single mode EDR)

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

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

The nominal conducted output power specified: -17dBm (+/-4dB)

The nominal radiated output power (e.i.r.p) specified: -17dBm (+/- 4dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is $80.6 \text{ dB}\mu\text{V/m}$ at 3m in the frequency 2402MHz (EDR mode)

The EIRP = $[(\text{FS}^* \text{D})^2 / 30] \text{ mW} = -14.63 \text{ dBm}$
which is within the production variation.

The minimum peak radiated emission for the EUT is $74.4 \text{ dB}\mu\text{V/m}$ at 3m in the frequency 2480MHz (EDR mode)

The EIRP = $[(\text{FS}^* \text{D})^2 / 30] \text{ mW} = -20.83 \text{ dBm}$
which is within the production variation.

The maximum conducted output power specified is -13dBm = 0.05mW

The source- based time-averaging conducted output power

= $0.05 * \text{Duty factor mW}$ (where Duty Factor ≤ 1)

= 0.05mW

The SAR Exclusion Threshold Level:

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

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

= 9.53 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.