INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Speaker Radio with Bluetooth function. The EUT was powered by AC 100-240V, 50/60Hz. For more detail information pls. refer to the user manual.

Modulation Type: GFSK, π/4 –DQPSK and 8-DPSK.
Bluetooth Version: 2.1 with EDR function.

Antenna Type: Integral antenna.
Antenna Gain: 0dBi.
The nominal conducted output power specified: 2dBm +/-3dB.
The nominal radiated output power (e.i.r.p) specified: 2dBm (+/- 3dB)

According to the KDB 447498:

> The maximun peak radiated emission for the EUT is 98.5dBµV/m at 3m in the frequency 2480MHz
> The EIRP = [(FS*D) ^2 / 30] mW = 3.3dBm
> which is within the production variation.

> The minimum peak radiated emission for the EUT is 97.7dBµV/m at 3m in the frequency 2441MHz
> The EIRP = [(FS*D) ^2 / 30] mW = 2.5dBm
> which is within the production variation.

> The maximun conducted output power specified is 5dBm = 3.2mW
> The source- based time-averaging conducted output power
> = 3.2 * Duty factor mW= 2.7 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.

Transmitter Duty Cycle Calculation

> Based on the Bluetooth Specification (BT version: 2.1 + EDR), the duty factor is dependent of packet type (DH1, DH3 and DH5).For one period for a pseudo-random hopping through all 79 RF channels, for DH5:
> One hop set consists of 5 TX slot and 1 RX slot.
> Duty factor = 5 / 6 = 0.833
> This requirement is according to KDB 865664 D02

FCC ID: ZXX-MODELXLBT