

INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a Portable Bluetooth speaker. The EUT was powered by DC 3.7V Internal Lithium battery and charging by USB Port. For more detail information pls. refer to the user manual.

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

Bluetooth Version: 3.0 with EDR function (without AFH mode)

Antenna Type: Integral antenna

Antenna Gain: 0dBi

The nominal radiated output power (e.i.r.p) specified: 0dBm (Tolerance: +/- 3dB)

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

According to the KDB 447498:

The worst-case radiated emission for the EUT is 96.6dB μ V/m at 3m in the frequency 2.402GHz

= [(FS*D) ^2 / 30] mW

= 1.4dBm which is within the production variation.

The maximum conducted output power specified is 3dBm = 2.0mW

The source- based time-averaging conducted output power

= 2.0 * Duty cycle mW= 1.7 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: 3.0 + EDR), transmitter duty cycle 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 hopset consists of 5 TX slot and 1 RX slot.

Duty cycle = 5 / 6 = 0.833

This requirement is according to KDB 865664 D02