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, Π/4DQPSK, 8DPSK
Bluetooth Version: 2.1 with EDR
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 maximum radiated emission for the EUT is 96.3dBμV/m at 3m in the frequency 2.441GHz
= [(FS*D) ^2 / 30] mW
= 1.1dBm which is within the production variation.

The minimum radiated emission for the EUT is 95.5dBμV/m at 3m in the frequency 2.480GHz
= [(FS*D) ^2 / 30] mW
= 0.3dBm which is within the production variation.

The maximun 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
= 9.5 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), 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