Analysis Report

The equipment under test (EUT) is a portable radio with Bluetooth function. The EUT can play music from mobile phone, computer or other devices through Bluetooth function or Audio Input. The EUT is operated from a rechargeable lithium battery which can be charged by AC/DC adapter. For more information, please refer to user manual.

Antenna Type: Integral antenna
Antenna Gain: 2dBi

The nominal radiated output power (e.i.r.p.) specified: 2dBm (tolerance: +/- 3dB)

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

Modulation Type: GFSK, Π/4DQPSK, 8DPSK

According to the KDB 447498:

The worst-case radiated emission for the EUT is 98.5dBμV/m at 3m in the frequency 2.441GHz
= [(FS*D) ^2 / 30] mW
= 3.27dBm which is within the production variation.

The maximun conducted output power specified is 3.0dBm = 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: 2.1+EDR, without AFH function), 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