

# INTERTEK TESTING SERVICES

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## Analysis Report

The equipment under test (EUT) is a Clock Radio Dock with BT and NFC. The EUT was powered by AC 120 V, 60 Hz. For more detail information pls. refer to the user manual.

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

Bluetooth Version: 2.1 with EDR function

Antenna Type: Integral antenna

Antenna Gain: 2 dBi

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

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

According to the KDB 447498:

The maximum radiated emission for the EUT is  $89.3 \text{ dB}\mu\text{V/m}$  at 3m in the frequency 2.402GHz

=  $[(FS^*D)^2 / 30] \text{ mW}$

= -5.9dBm which is within the production variation.

The minimum radiated emission for the EUT is  $87.9 \text{ dB}\mu\text{V/m}$  at 3m in the frequency 2.480GHz

=  $[(FS^*D)^2 / 30] \text{ mW}$

= -7.3dBm which is within the production variation.

The maximum conducted output power specified is 2dBm = 1.6mW

The source- based time-averaging conducted output power

=  $1.6 * \text{Duty cycle mW} = 1.3 \text{ mW}$

The SAR Exclusion Threshold Level:

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

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

= 9.5 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 ON time

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