

# INTERTEK TESTING SERVICES

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## Analysis Report

The equipment under test (EUT) is a Clock Radio, Lightning Speaker with Bluetooth function operating in 2402-2480MHz. The EUT is powered by AC/DC Adaptor (Model No.: K15S050200U, Input: 100-240Vac, 50/60Hz, 0.5A, Output: 5.0Vdc, 2.0A). For more detail information pls. refer to the user manual.

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

Bluetooth Version: 3.0 with EDR function

Antenna Type: Integral antenna (Gain: 0 dBi)

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

The nominal conducted output power specified: 2dBm (Tolerance: +/-3dB)

According to the KDB 447498:

The maximum radiated emission for the EUT is  $98.3 \text{ dB}\mu\text{V/m}$  at 3m in the frequency 2.402GHz =  $[(\text{FS}^*D)^2 / 30] \text{ mW}$   
= 3.1dBm which is within the production variation

The minimum radiated emission for the EUT is  $96.7 \text{ dB}\mu\text{V/m}$  for at 3m in the frequency 2.480GHz =  $[(\text{FS}^*D)^2 / 30] \text{ mW}$   
= 1.5dBm which is within the production variation.

The maximum conducted output power specified is 5dBm = 3.2mW

The source- based time-averaging conducted output power  
=  $3.2 * \text{Duty cycle mW} < 3.2 \text{ mW}$  (Duty Cycle<100%)

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.