

# INTERTEK TESTING SERVICES

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## RF Exposure

The Equipment Under Test (EUT) is a DISCO LAMP SPEAKER WITH COLOR/WHITE LED LIGHTING with Bluetooth functions. The EUT is powered by DC 3.7V rechargeable battery which can be powered by adapter. For more detailed features description, please refer to the user's manual.

Bluetooth Version: 5.1 (Dual mode)

Antenna Type: Integral antenna.

Antenna Gain: -0.58dBi.

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

The nominal conducted output power specified: -1.42dBm (+/-3dB)

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

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 94.2dB $\mu$ V/m at 3m in the frequency 2440MHz (BLE mode)

The EIRP =  $[(FS * D)^2 / 30]$  mW = -1.03dBm  
which is within the production variation.

The minimum peak radiated emission for the EUT is 90.9dB $\mu$ V/m at 3m in the frequency 2480MHz (BLE mode)

The EIRP =  $[(FS * D)^2 / 30]$  mW = -4.33dBm  
which is within the production variation.

The maximum conducted output power specified is 1.58dBm = 1.44mW

The source- based time-averaging conducted output power

= 1.44 \* Duty factor mW (where Duty Factor  $\leq$  1)

= 1.44mW

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.