

INTERTEK TESTING SERVICES

RF Exposure

The Equipment under Test (EUT) is a Control unit for model: LC & LC+TX operating at 2.4GHz band. It is powered by DC 4.5V (3 x 1.5V AAA batteries). For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

Modulation Type: GFSK.

The normal conducted output power is 2.0dBm (tolerance: +/- 3dB).

The normal radiated output power (e.i.r.p) is: 2.0dBm (tolerance: +/- 3dB).

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 97.5 dB μ V/m at 3m in the frequency 2439MHz

The EIRP = [(FS*D) ² / 30] mW = 2.27dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 95.7dB μ V/m at 3m in the frequency 2479MHz

The EIRP = [(FS*D) ² / 30] mW = 0.47dBm

which is within the production variation.

The maximum conducted output power specified is 5.0dBm = 3.2mW

The source- based time-averaging conducted output power

= 3.2* Duty Cycle mW < 3.2 mW (Duty Cycle<100%)

The SAR Exclusion Threshold Level:

= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)

= 3.0 * 5 / sqrt (2.479) 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.

The duty cycle is simply the on-time divided by the period:

The duration of one cycle = 12.5652 ms

Effective period of the cycle = 130.4 μ s x 4=0.5216 ms

DC = 0.5216ms / 12.5652 ms = 0.0415 or 4.15%