

INTERTEK TESTING SERVICES

RF Exposure

The Equipment under Test (EUT) is a Control unit for Move and Shake –Hedgehog & Fox Model: 3093/3094(5226546/5226547) operating at 2.4GHz band. It is powered by DC 3.0V (1 x 3.0V Size CR2032 battery). For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

The normal radiated output power (e.i.r.p) is: -24.0dBm (tolerance: +/- 3dB).

The normal conducted output power is -24.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 70.8dBμV/m at 3m in the frequency 2405MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -24.4dBm

which is within the production variation.

The maximum conducted output power specified is -21.0dBm = 0.008mW

The source- based time-averaging conducted output power
= 0.008 * Duty Cycle mW < 0.1 mW (Duty Cycle < 100%)

The SAR Exclusion Threshold Level:

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

= $3.0 * 5 / \sqrt{2.405}$ mW

= 9.7 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 = 10.1304ms

Effective period of the cycle = 0.1739ms x 1 = 0.1739ms

DC = 0.1739ms / 10.1304ms = 0.0172 or 1.72%

Therefore, the averaging factor is found by $20 \log_{10} 0.0172 = -35.3\text{dB}$

FCC ID: 2ADTA01