

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is an Drone Aeroboost Racer operating at 2.4G Band. The EUT can be powered by DC 3.7V (1 x 3.7V rechargeable battery). And the RF function will be shut down and it can't transmit RF signals while charging. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: 0dBi

The nominal conducted output power specified: -15.0 dBm (± 3 dB)

The nominal radiated output power (e.i.r.p) specified: -15.0 dBm (± 3 dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 79.5 dB μ V/m at 3m in the frequency 2450MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -15.73dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 78.1 dB μ V/m at 3m in the frequency 2470MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -17.13dBm

which is within the production variation.

The maximum conducted output power specified is -12.0dBm= 0.063mW

The source- based time-averaging conducted output power

=0.063* Duty cycle mW <0.063 mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:

$$P_{th}(mW) = ERP_{20cm} * (d/20cm)^x \quad (X = -\log_{10} \left(\frac{60}{ERP_{20cm} \sqrt{f}} \right))$$
$$= 3060 * (0.5/20)^{1.9} mW$$
$$= 2.72 mW$$

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 = 6.8696ms

Effective period of the cycle = 173.9 μ s x10= 1.739ms

DC =1.739ms / 6.8696ms =0.2531 or 25.31%