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 6.0V (4 x 1.5V AA batteries). 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: -1.0 dBm (±3dB)
The nominal radiated output power (e.i.r.p) specified: -1.0 dBm (±3dB)

According to the KDB 447498:

   The Maximum peak radiated emission for the EUT is   95.5   dBµV/m at 3m in the frequency 2470MHz
   The EIRP = [(FS*D) ^2 / 30] mW = 0.27dBm
   which is within the production variation.

   The Minimum peak radiated emission for the EUT is   93.5   dBµV/m at 3m in the frequency 2450MHz
   The EIRP = [(FS*D) ^2 / 30] mW = -1.73dBm
   which is within the production variation.

   The maximum conducted output power specified is   2.0dBm=   1.585mW
   The source- based time-averaging conducted output power
   =1.585* Duty cycle mW <1.585 mW(Duty cycle <100%)

   The SAR Exclusion Threshold Level:

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

$$= 3060 * (0.5/20)^{1.9} \text{ mW}$$

$$= 2.72 \text{ mW}$$

   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 = 15.6957ms
   Effective period of the cycle =   173.9µs x10 = 1.739ms
   DC =1.739ms   / 15.6957ms =0.1108 or 11.08%

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