

INTERTEK TESTING SERVICES

RF Exposure

The Equipment under Test (EUT) is a Control unit for HOTWHEELS BLADEZ DRONE RACERZ model: BTH01, BTQ01 operating at 2.4GHz band. It is 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.

Antenna Gain: 0dBi.

The normal radiated output power (e.i.r.p) is: -7.0dBm (tolerance: +/- 3dB).

The normal conducted output power is: -7.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 88.1dB μ V/m at 3m in the frequency 2405MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -7.13dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 87.2dB μ V/m at 3m in the frequency 2475MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -8.03dBm

which is within the production variation.

The maximum conducted output power specified is -4.0dBm = 0.4mW

The source- based time-averaging conducted output power

= $0.4 \cdot \text{Duty Cycle}$ mW < 0.4mW (Duty Cycle < 100%)

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.470}$ mW

= 9.54mW

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 duration of one cycle = 6.700ms

Effective period of the cycle = 2.000ms

DC = 2.000ms/6.700ms = 0.2985 or 29.85%