RF Exposure

The equipment under test (EUT) is a Toy RC Tornado 360 Spheric 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.
Antenna Gain: 0dBi.
The normal peak radiated output power (e.i.r.p) is: -4.0dBm (tolerance: +/- 3dB).
The normal peak conducted output power is -4.0dBm (tolerance: +/- 3dB).
Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 90.7 dBμV/m at 3m in the frequency 2418MHz
The EIRP = [(FS*D) ^2 / 30] mW = -4.53dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 90.3dBμV/m at 3m in the frequency 2462MHz
The EIRP = [(FS*D) ^2 / 30] mW = -4.93dBm
which is within the production variation.

The maximum conducted output power specified is -1dBm= 0.794mW
The source- based time-averaging conducted output power
=0.794* Duty cycle mW <0.794 mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.462) mW
= 9.56 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 = 7.8261ms
Effective period of the cycle = 0.8696ms + 0.4348ms = 1.2969ms
DC =1.2969ms / 7.8261ms =0.1657 or 16.57%