RF Exposure

The equipment under test (EUT) is a Toy RC Stunt Mongoose LED operating at 2.4G Band. The EUT can be powered by DC 9.0V (6 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: 2.0 dBm (±3dB)
The nominal radiated output power (e.i.r.p) specified: 2.0 dBm (±3dB)

According to the KDB 447498 D04 Interim General RF Exposure Guidance v01 (D01 447498 General RF Exposure Guidance v07):

The Maximum peak radiated emission for the EUT is 99.9 dBμV/m at 3m in the frequency 2410MHz
The EIRP = [(FS*D) ^2 / 30] mW = 4.67dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 97.9 dBμV/m at 3m in the frequency 2473MHz
The EIRP = [(FS*D) ^2 / 30] mW = 2.67dBm
which is within the production variation.

The maximum conducted output power specified is 5dBm= 3.162mW
The source- based time-averaging conducted output power
=3.162* Duty cycle mW= 3.162*0.0991 mW=0.3133542 mW

The duty cycle is simply the on-time divided by the period:

The duration of one cycle = 4.8261ms
Effective period of the cycle = 0.4783ms
Duty cycle = 0.4783ms /4.8261ms =0.0991or 9.91%

The SAR Exclusion Threshold Level:

1-mW Test Exemption

Since max. power of the source-based time-averaging conducted output power and effective radiated power (ERP) is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.