RF Exposure

The equipment under test (EUT) is a PJ Masks 9" Gekko RC Vehicle operating at 2.4G Band. The EUT can be powered by DC 9.0V (1 x 9.0V 6LR61 battery). 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: 0.0 dBm (±3dB)
The nominal radiated output power (e.i.r.p) specified: 0.0 dBm (±3dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 95.7 dBμV/m at 3m in the frequency 2410MHz
The EIRP = [(FS*D) ^2 / 30] mW = 0.47dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 94.3 dBμV/m at 3m in the frequency 2473MHz
The EIRP = [(FS*D) ^2 / 30] mW = -0.93dBm
which is within the production variation.

The maximum conducted output power specified is 3dBm= 1.995mW
The source- based time-averaging conducted output power
=1.995* Duty cycle mW <1.995 mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:

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

= 3060 * (0.5/20)$^{1.9}$ mW
= 2.72 mW

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.

The duty cycle is simply the on-time divided by the period:
The duration of one cycle = 0.7913ms
Effective period of the cycle = 0.15072ms
DC =0.15072ms / 0.7913ms =0.1905 or 19.05%