RF Exposure

The Equipment under Test (EUT) is a Dinosaur unit for the TOY RC ROBOTIC ROBOTOSAUR TRAINABLE model: 1001938 operating at 2.4GHz band. It is powered by DC 3.7V (1 x 3.7V Rechargeable battery which can be charged by USB port) and can't operate while charging. 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: 1.0dBm (tolerance: +/- 3dB).
The normal conducted output power is: 1.0dBm (tolerance: +/- 3dB).
Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 98.7dBμV/m at 3m in the frequency 2442MHz
The EIRP = [(FS*D) ^2 / 30] mW = 3.47dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 95.1dBμV/m at 3m in the frequency 2407MHz
The EIRP = [(FS*D) ^2 / 30] mW = -0.13dBm
which is within the production variation.

The maximum conducted output power specified is 4dBm = 2.5mW
The source- based time-averaging conducted output power
= 2.5* Duty cycle mW <2.5mW (Duty cycle <100%)

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.477) mW
= 9.53mW

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 = 22.86ms
Effective period of the cycle = 0.460 ms x 1 = 0.460ms
DC = 0.460ms / 22.86ms = 0.0201 or 2.01%