RF Exposure

The Equipment under Test (EUT) is a control unit for the 1:16 SUPER CAR MOTION SENSING(LAMBORGHINI - VENENO) operating at 2.4GHz band. It is powered by DC 3.0V (2 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: -14.0dBm (tolerance: +/- 3.0dB).
The normal conducted output power is: -14.0dBm (tolerance: +/- 3.0dB).
Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 81.0dBμV/m at 3m in the frequency 2440MHz
The EIRP = [(FS*D) ^2 / 30] mW = -14.23dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 79.7dBμV/m at 3m in the frequency 2402MHz and 2478MHz
The EIRP = [(FS*D) ^2 / 30] mW = -15.53dBm
which is within the production variation.

The maximum radiated output power specified is -11.0dBm = 0.08mW
The source- based time-averaging conducted output power
= 0.08* Duty cycle mW <0.1 mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.478) mW
= 9.5 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 = 6.0580 ms
Effective period of the cycle = 710.1 μs=0.7101 ms
DC = 0.7101ms / 6.0580 ms = 0.1172 or 11.72%