RF Exposure

The Equipment under Test (EUT) is a Control unit for Xmods 1/24 Starter Kit model: 6000939 operating at 2.4GHz band. It is powered by 1 x 9.0V AF22 size battery.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: 6.0dBm (tolerance: +/- 3dB).
The normal conducted output power is 6.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 102.9dBμV/m at 3m in the frequency 2441MHz
The EIRP = [(FS*D) ^2 / 30] mW = 7.7dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 101.0dBμV/m at 3m in the frequency 2403MHz
The EIRP = [(FS*D) ^2 / 30] mW = 5.8dBm
which is within the production variation.

The maximum conducted output power specified is 9.0dBm = 7.9mW
The source- based time-averaging conducted output power
= 7.9 * Duty factor mW= 2.0 mW

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.471) 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.

Transmitter Duty Cycle Calculation
The duration of one cycle = 830.0 μs
Effective period of the cycle = 210.0 μs
DC = 210.0 μs / 830.0 μs = 0.253 or 25.3%

This requirement is according to KDB 865664 D02