Analysis Report

The equipment under test (EUT) is a transmitter for Street Security System operating at 433.880MHz. The EUT is powered by one 3.0V Button Cell. For more detailed features description, please refer to the user's manual.

Type of the antenna: Integral Antenna
Modulation Type: ASK
Antenna Gain: -4dBi
The nominal radiated output power (e.r.p) specified: -20.00dBm (+/- 3dB)

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 75.4dBμV/m at 3m in the frequency 433.88MHz
The EIRP = [(FS*D) ^2 / 30] mW= -19.83dBm
The ERP = EIRP – 2.15 = -21.98 dBm
which is within the production variation.

The maximun conducted output power specified is -17.0dBm = 0.02mW
The source- based time-averaging conducted output power
= 0.02 * Duty Cycle Mw < 0.02 mW

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (0.43388) mW
= 22.77 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 = 1.02ms
Effective period of the cycle = 0.52ms

DC = 0.52ms / 1.02ms = 0.5098 or 50.98%