

Analysis Report

The Equipment Under Test (EUT) is a Alarmbox RC with 433MHz TX + 433MHz RX (433.9MHz Transmitter). When the button of the EUT is activated, the corresponding 433.9MHz remote receiver will sound. The EUT is powered by Battery 3.0VDC (1 x 3V "CR2" Battery).

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 90 dB μ V/m at 3m in frequency 433.9MHz, thus;

It below calculated field strength according to minimum SAR exclusion threshold level as follows:

The worst case of SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt(freq. in GHz)} \\ &= 3.0 * 5 / \text{sqrt}(0.4339) \text{ mW} \\ &= 22.77 \text{ mW} \end{aligned}$$

According to the KDB 412172 D01:

$$\text{EIRP} = [(\text{FS} * \text{D})^2 * 1000 / 30]$$

Calculated Field Strength for 22.77mW is 108.8 dB μ V/m @3m

Since maximum field strength plus production tolerance \leq 108.8dB μ V/m @3m and antenna gain is \geq 0.0dBi, it is concluded that maximum Conducted Power and Field Strength are well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.