Overview

The EDSWG/A is a 3 channels radio transmitter, equipped with a numerical keypad for entering a security code. It consists of 3 command keys, A, B and C, each associated with a channel that is activated only after having entered a suitable combination. (By channel we mean a different code and not different frequency bands.)
The security code is customisable (it may be changed or deactivated) and is intended to make the device available to a restricted set of authorised users.
The transmitter is tuned to 433.92 MHz, it encodes data with proprietary protocol called FLOR/A and it's powered with one CR2032 Lithium battery

Description of the product

The circuit consists of:

- A microcontroller U1(R5F100AEASP) that implements the application functions (read keypad, check the password) and communication protocols. The internal oscillation clock is set to 1 MHz
- A transceiver U2 (Si4455) that handles the radio channels with OOK modulation (433MHz band). An external 30MHz oscillator is used to generate the incoming clock signals.
  Matching components and filter are used between antenna and transceiver.
- 3 command keys, A, B and C for specific channel
- A numerical keypad for entering a security code
- Backlight Led: every key is backlit by a led that light up when the button is pressed.
- A buzzer that inform the user of the operating status by emitting acoustic tone
- An NFC tag induction circuit (U3, C30, LA PCB)