

Overview

The **ON3ELR/A** is a transmitter used to control automation of gates, garage doors and road barriers. When ON3ELR/A transmits a command, the bidirectional receiver recognizes it and transmits the confirmation that the command has been executed. On the bidirectional transmitter, the confirmation is indicated by the vibration. ON3ELR/A may also require the state of automation and indicates it with the colour of the Led. The transmitter operates on 915,75 MHz using LORA modulation 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 and communication protocols. The internal oscillation clock is set to 8MHz.
- A transceiver U3 (SX1276) that handles the radio channels with LORA modulation. An external 32MHz oscillator is used to generate the incoming clock signals. Matching components and filter are used between antenna and transceiver.
- A bi-color LED to inform the user of the programming status and the states of automation.
- Three control keys to transmit and un button to request the state of automations
- A vibrating motor for confirmation that the command has been executed.
- An NFC tag induction circuit (U2, C11, LA PCB)
- PCB antenna
- Max nominal output RF power: -1.14dBm
- Peak gain loop antenna PCB: 0dBd
- Loss and mismatching between SX1276PS and antenna: -10dB
- Tune-up tolerance: -1.5dB / +0.5dB