

NRF52840 microcontroller

Zephyr specific

RTOS

- Scheduling
- Task priorities
- Kernel tick

Hardware specific

- System initialization
- Various peripheral drivers
- Devicetree

SPI driver

GPIO driver

UART driver

Application specific

System control and monitoring

- Sleep state transition
- Power source monitoring
- System messages

Wireless communication

- LoraWAN OTAA join
- Preparing outgoing data
- Handling incoming data

LR1110 driver

Inference requester

- Waits for wakeup interrupt
- Controls power to STM32

MOSFET control

PIR sensor handling

Simple shell

- Communication interface between STM32F767 and NRF52840

Power source

Dual MOSFET chip

PIR sensor

LR1110 chip

STM32F767 microcontroller