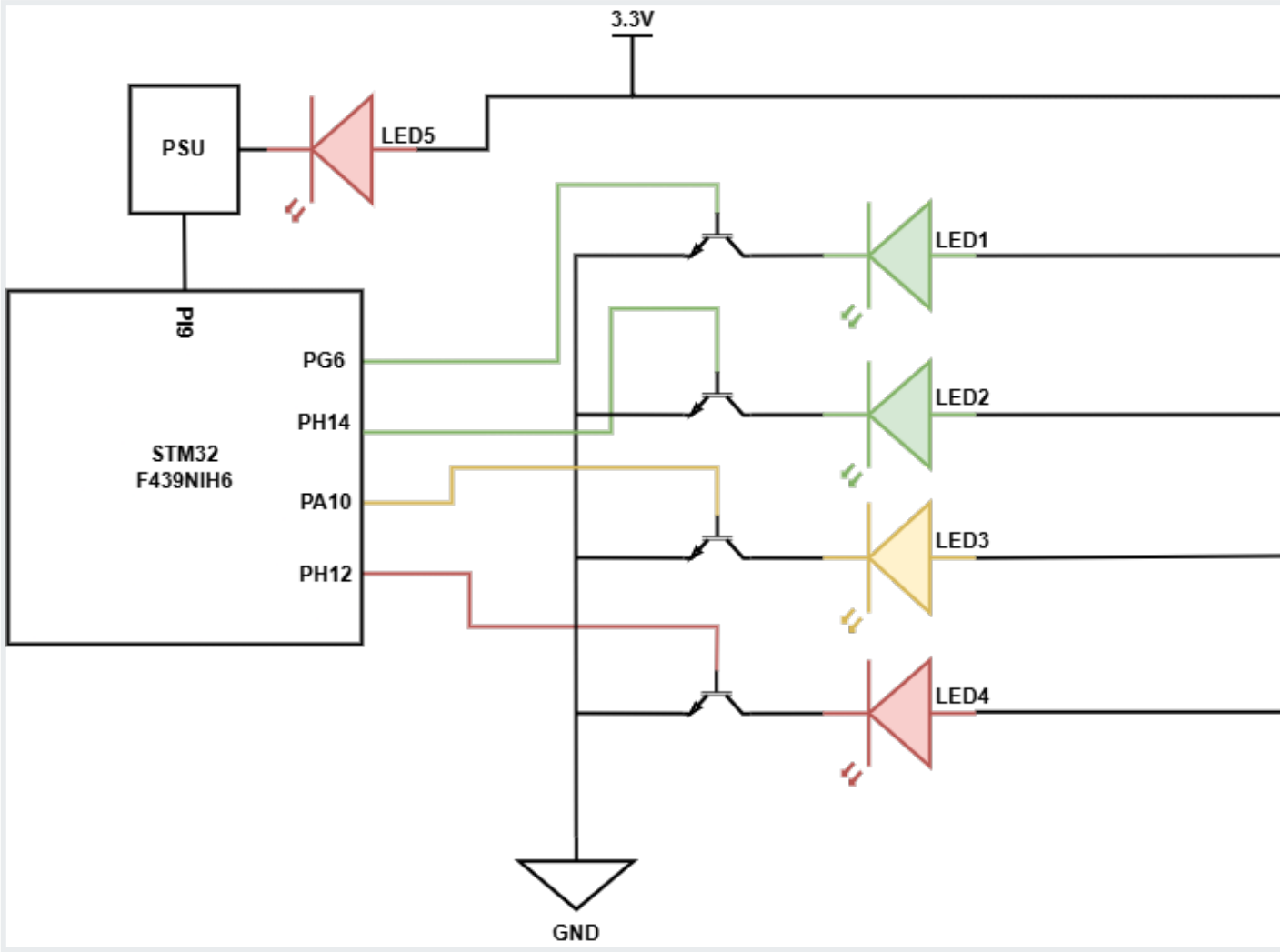
Peripherals

- RGB LED
- Switch
- RS232 and RS485
- Ethernet PHY
- MicroUSB
- I2C EEPROM
- Serial Flash
- I2C Sensors (optional)

RGB LED

STM32 Open IoT and IIoT Gateways (P10 - P12)

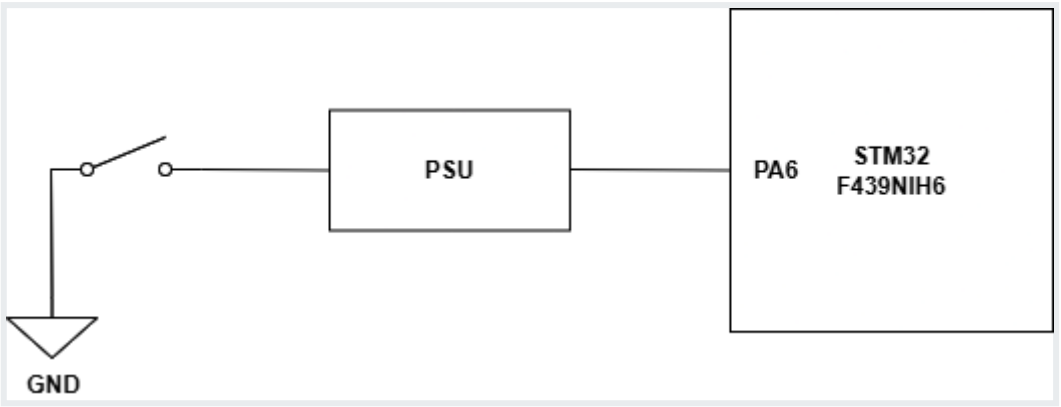
The Gateway is equipped with 5 RGB user LEDs. 4 are mounted directly to the board, and the fifth is next to the not-programmable blue power LED on the PSU board.



Switch

STM32 Open IoT and IIoT Gateways (P10 - P12)

The Open IoT Gateway contains a tactile switch mounted to the PSU board, which can be programmed directly in the MCU.



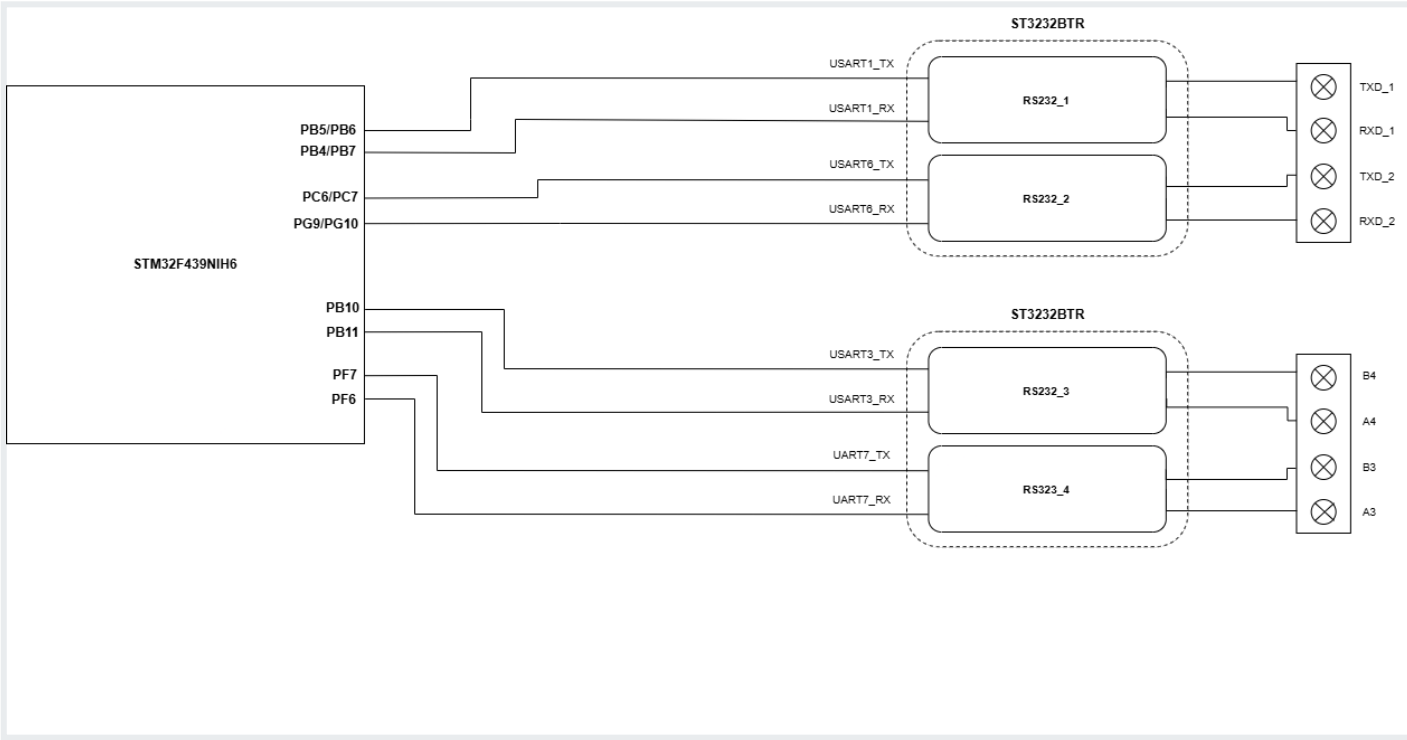
RS232 and RS485

STM32 Open IoT and IIoT Gateways (P10 - P12)

The Gateway has 4 RS232/RS485 sockets depending on the version.

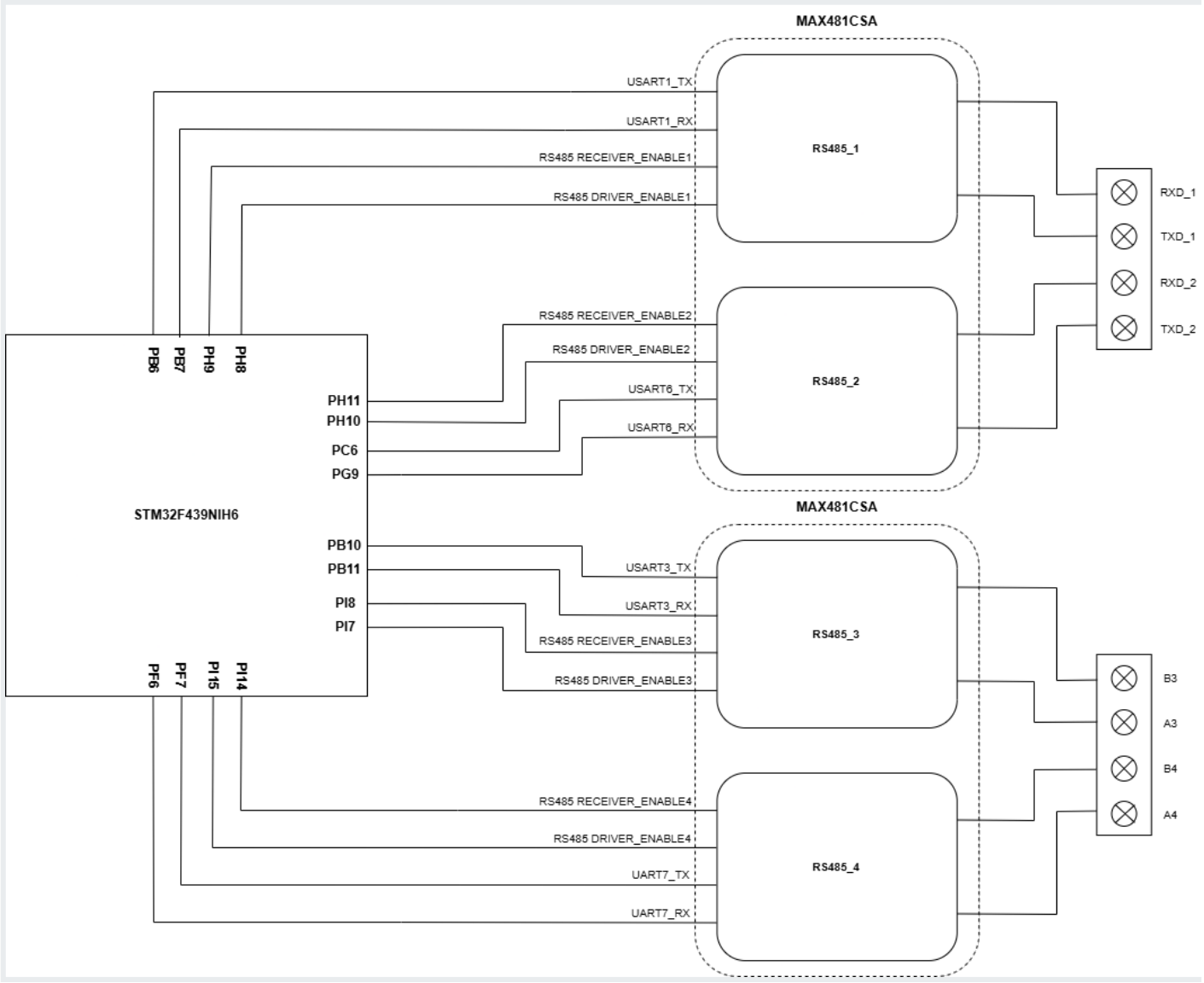
P10 (4x RS232)

The P10 gateway is equipped with 2x ST3232BTR to ensure transmission in RS232 standard.



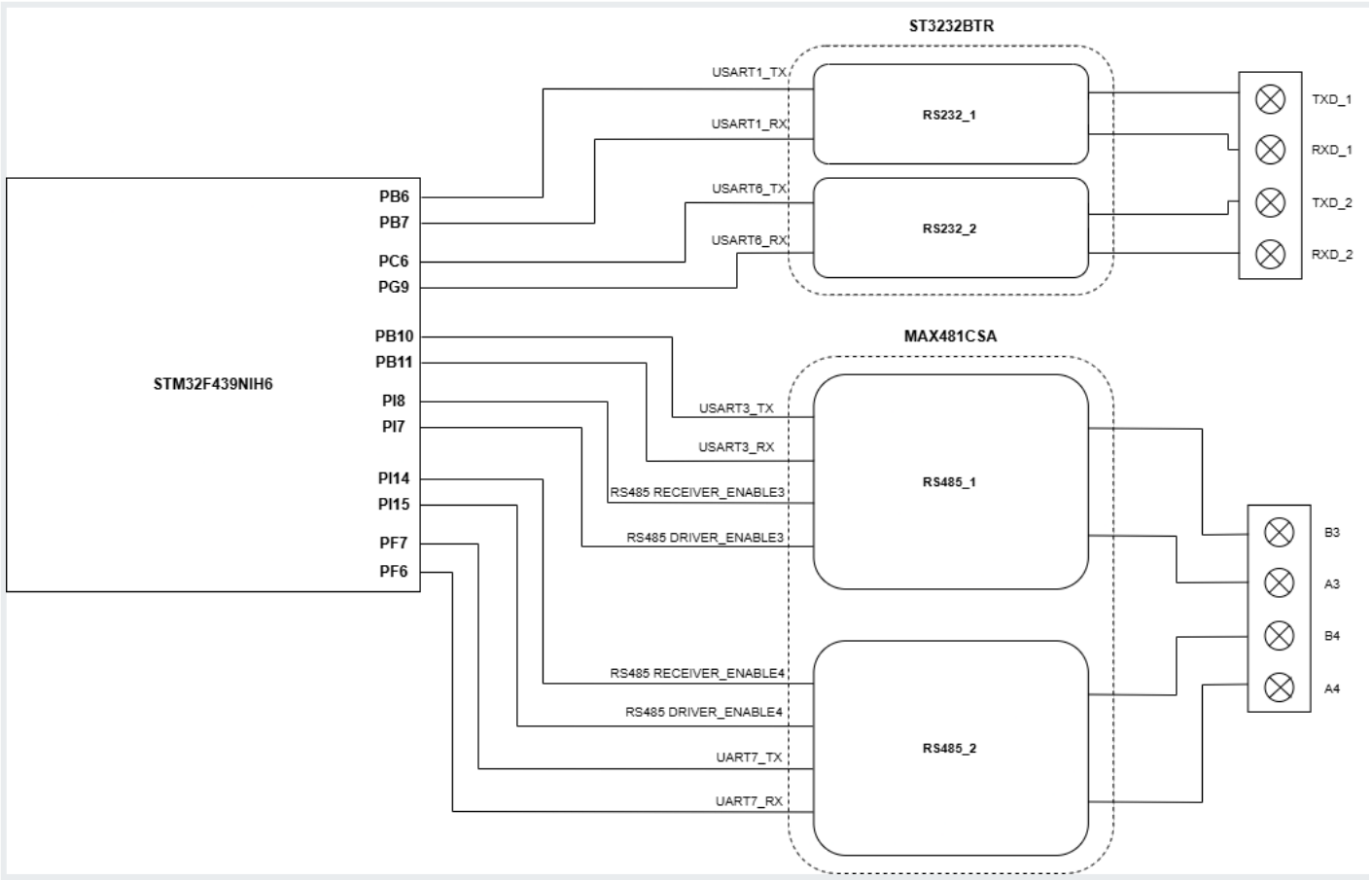
P11 (4x RS485)

The P11 gateway is equipped with 2x MAX481CSA to ensure transmission in RS485 standard.



P12 (2x RS232, 2x RS485)

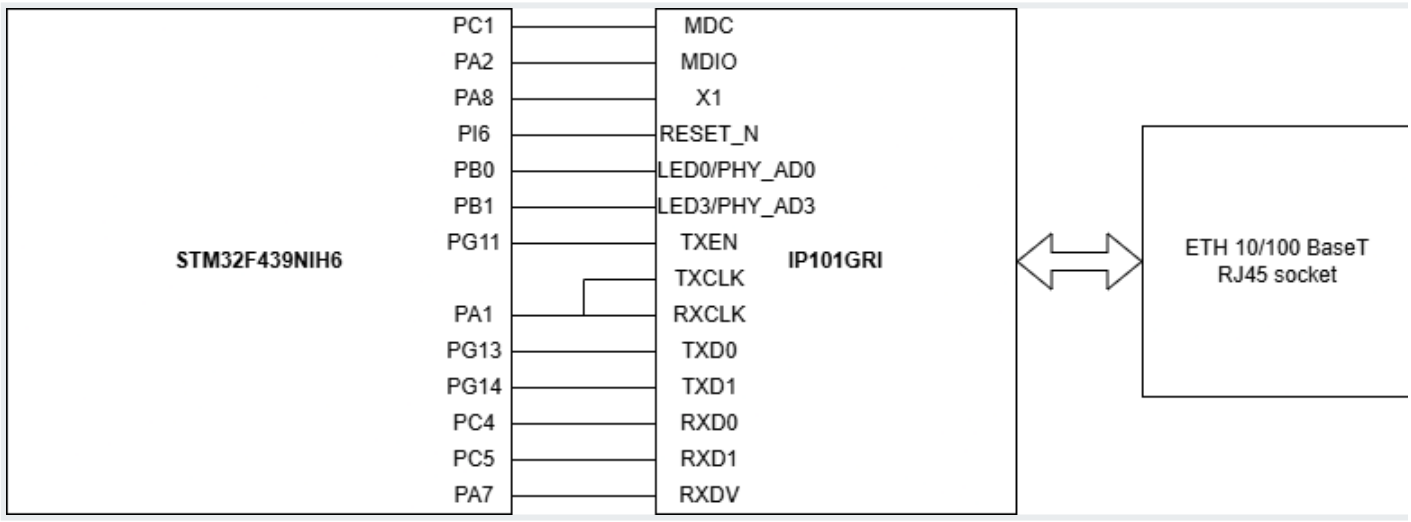
The P12 gateway is equipped with 1x ST3232BTR and 2x MAX481CSA to ensure transmission both in RS232 and RS485 standardsm


ST3232BTR
USART1_TX
USART1_RX
USART6_TX
USART6_RX
RS232_1
RS232_2
TXD_1
RXD_1
TXD_2
RXD_2
PB6
PB7
PC6
PG9
PB10
PB11
PI8
PI7
PI14
PI15
PF7
PF6
STM32F439NIH6
MAX481CSA
USART3_TX
USART3_RX
RS485 RECEIVER_ENABLE3
RS485 DRIVER_ENABLE3
RS485_1
RS485 RECEIVER_ENABLE4
RS485 DRIVER_ENABLE4
UART7_TX
UART7_RX
RS485_2
B3
A3
B4
A4

Ethernet PHY

STM32 Open IoT and IIoT Gateways (P10 - P12)

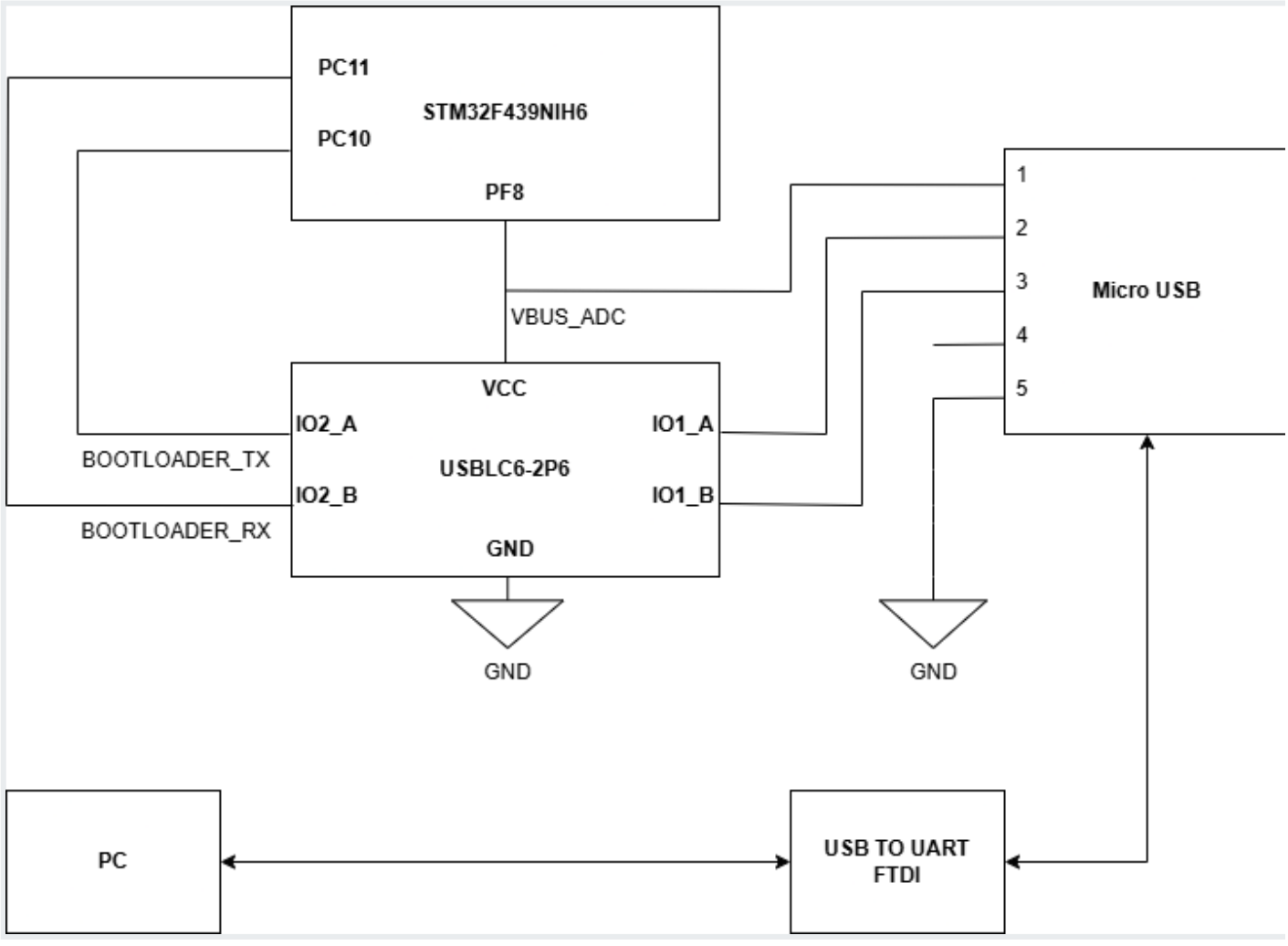
The Ethernet interface is provided by the IP101G physical layer. An external board with an RJ45 socket ensures a wired connection to the network.



MicroUSB

STM32 Open IoT and IIoT Gateways (P10 - P12)

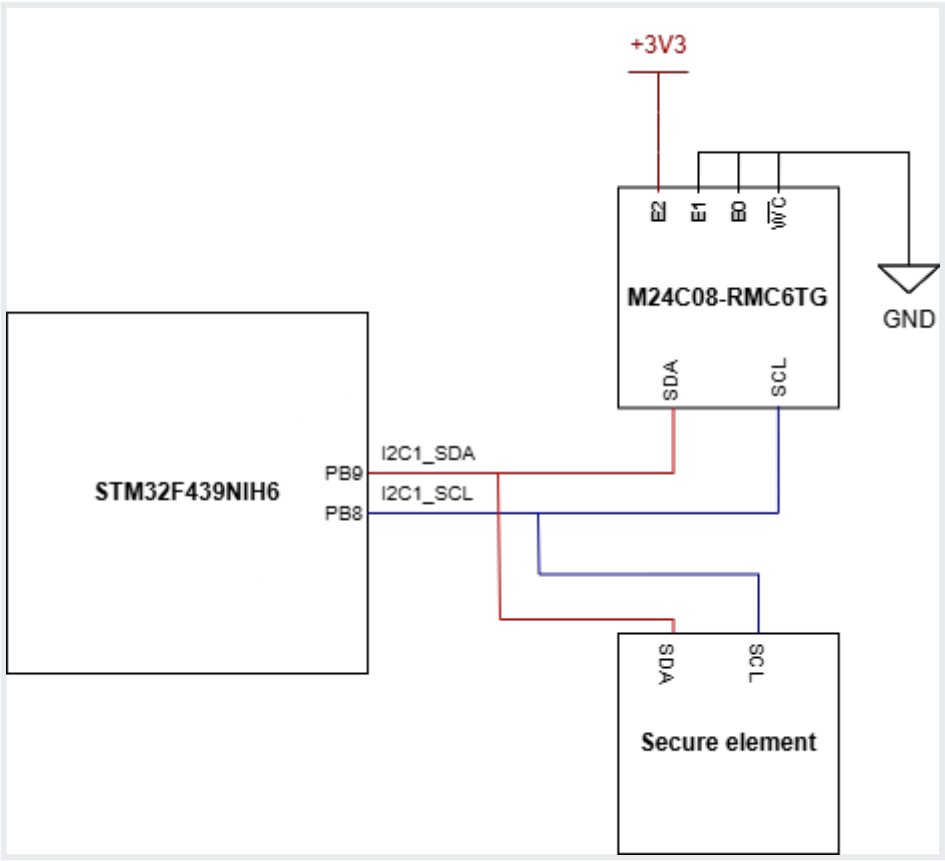
MicroUSB ensures access straight to UART interface (UART4). The Open IoT Gateway does not have inbuild FTDI converter so an external USB to UART FTDI converter is needed to run a serial port monitor on a PC.



I2C EEPROM

STM32 Open IoT and IIoT Gateways (P10 - P12)

The Open IoT Gateway has a built-in Serial EEPROM with a secure element connected to the STM32 via I2C bus.



Serial Flash

STM32 Open IoT and IIoT Gateways (P10 - P12)

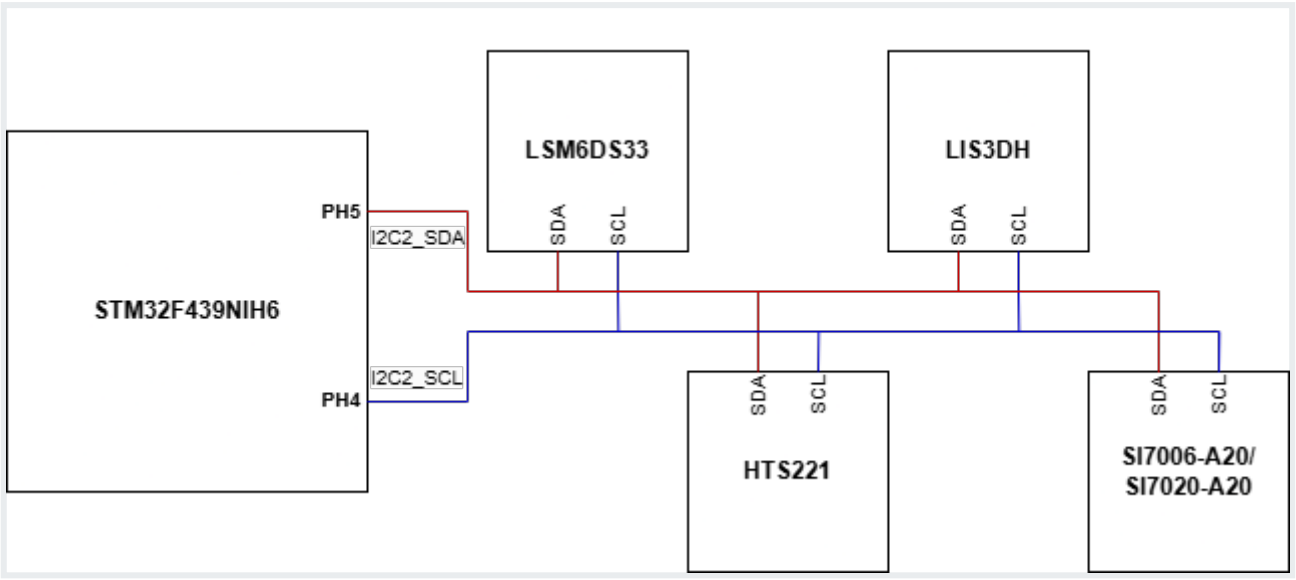
The Gateway has a Serial flash memory which can be programmed via SPI.



I2C Sensors (optional)

STM32 Open IoT and IIoT Gateways (P10 - P12)

There is a possibility of connecting peripheral I2C sensors. The board has dedicated pins for soldering devices. Below is a proposal for additional sensors that match the hardware.



- LSM6DS33 - 3D accelerometer and 3D gyroscope
- LIS3DH - 3-axis "nano" accelerometer
- HTS221 - capacitive digital sensor for relative humidity and temperature measurements
- SI7006-A20 / SI7020-A20 - humidity and temperature sensor

> The presented devices are not included in the Open IoT Gateway.