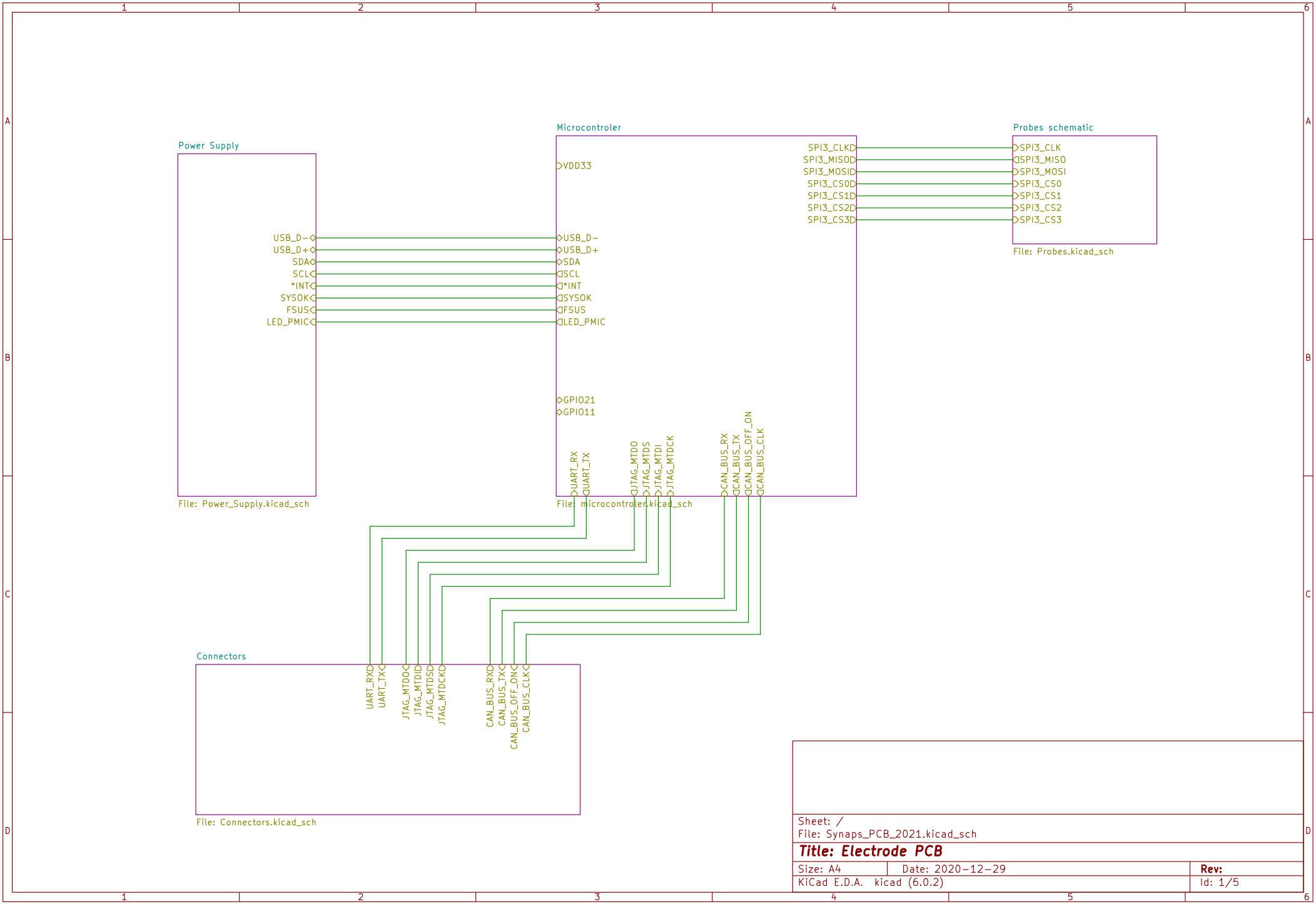
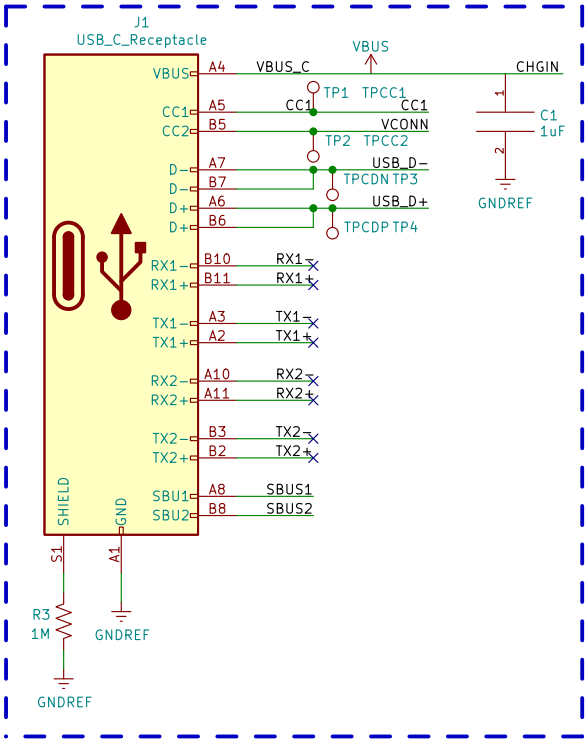
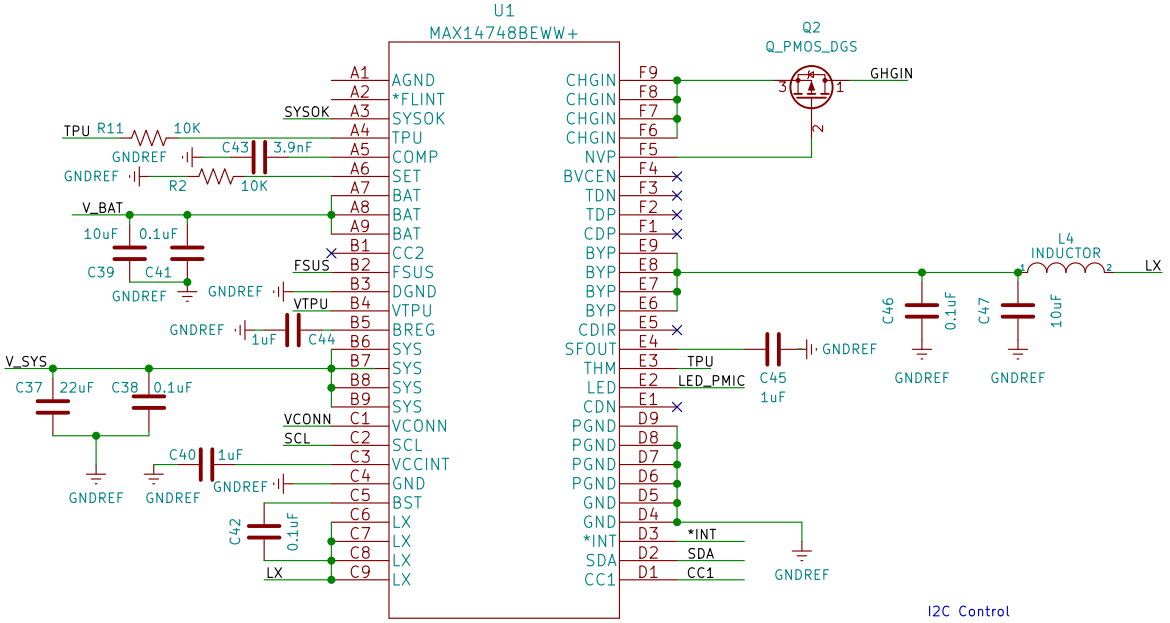
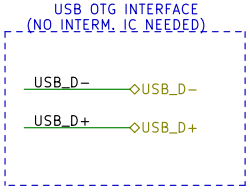
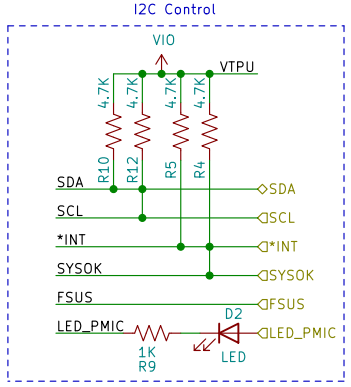

Power Supply
USB_D-
USB_D+
SDA
SCL
*INT
SYSOK
FSUS
LED_PMIC
File: Power_Supply.kicad_sch
Microcontroler
VDD33
USB_D-
USB_D+
SDA
SCL
*INT
SYSOK
FSUS
LED_PMIC
GPIO21
GPIO11
UART_RX
UART_TX
JTAG_MTDO
JTAG_MTDS
JTAG_MTDI
JTAG_MTDCK
CAN_BUS_RX
CAN_BUS_TX
CAN_BUS_OFF_ON
CAN_BUS_CLK
File: microcontroler.kicad_sch
Probes schematic
SPI3_CLK
SPI3_MISO
SPI3_MOSI
SPI3_CS0
SPI3_CS1
SPI3_CS2
SPI3_CS3
File: Probes.kicad_sch
Connectors
UART_RXD
UART_TX
JTAG_MTDO
JTAG_MTDID
JTAG_MTDSD
JTAG_MTDCKD
CAN_BUS_RXD
CAN_BUS_TX
CAN_BUS_OFF_ON
CAN_BUS_CLK
File: Connectors.kicad_sch
Sheet: /
File: Synaps_PCB_2021.kicad_sch
Title: Electrode PCB
Size: A4
Date: 2020-12-29
Rev:
KiCad E.D.A. kicad (6.0.2)
Id: 1/5

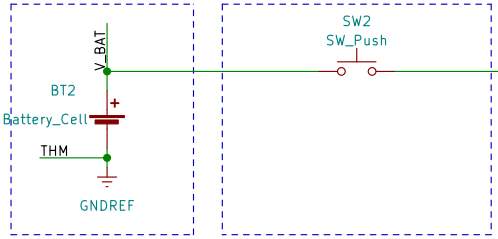
# POWER OVER USB C CONNECTOR



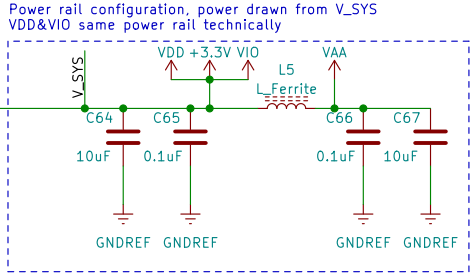



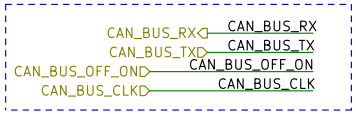






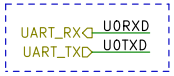

| | |
|---|---|
| Sheet: /Power Supply/ | |
| File: Power_Supply.kicad_sch | |
| **Title:** | |
| Size: A4 | Date: |
| KiCad E.D.A. kicad (6.0.2) | **Rev:** Id: 2/5 |

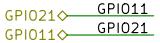
CAN BUS INTERFACE

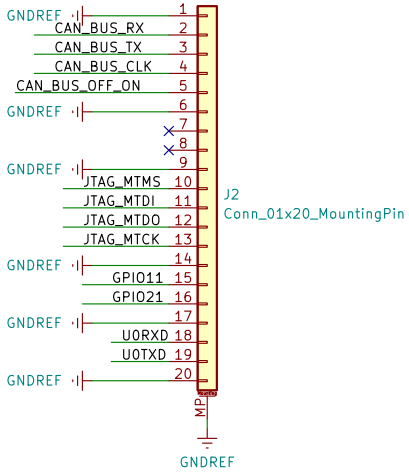



JTAG_INTERFACE


UART INTERFACE



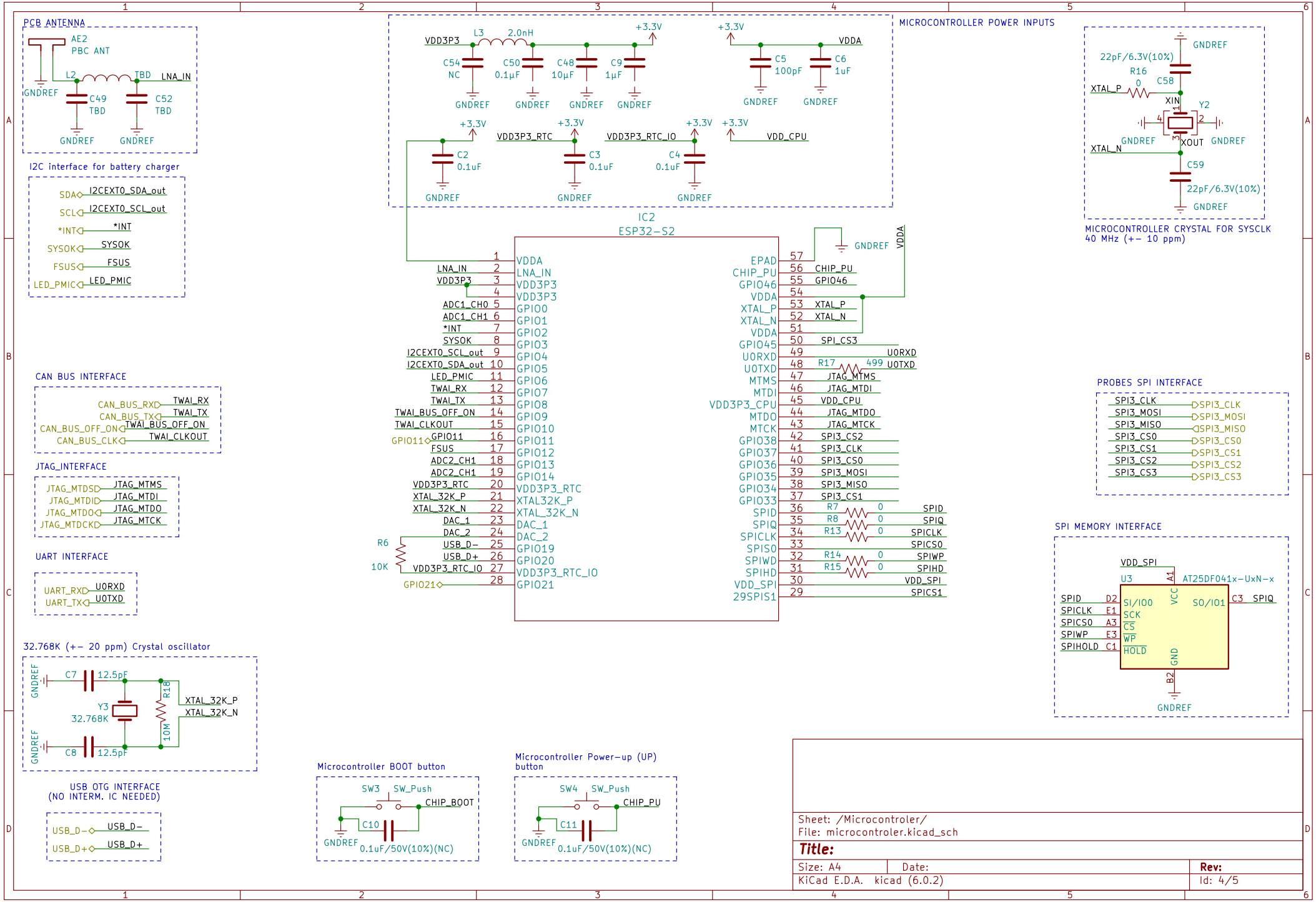




Sheet: /Connectors/
File: Connectors.kicad_sch

**Title:**

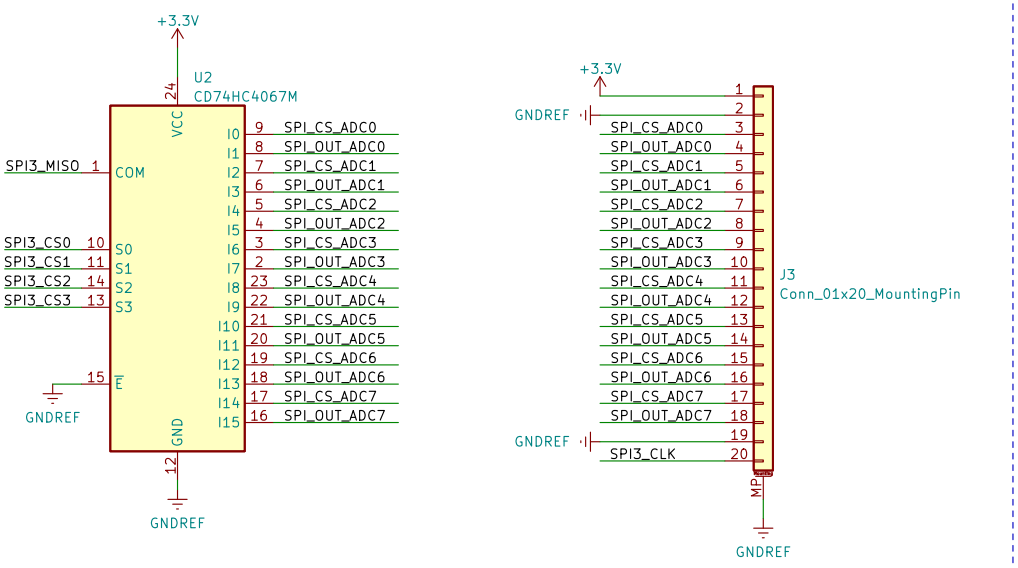
| Size: A4 | Date: | **Rev:** |
|---|---|---|
| KiCad E.D.A. kicad (6.0.2) | | Id: 3/5 |


PCB ANTENNA
AE2
PBC ANT
L2
TBD
LNA_IN
GNDREF
C49
TBD
C52
TBD
I2C interface for battery charger
SDA
I2CEXT0_SDA_out
SCL
I2CEXT0_SCL_out
*INT
*INT
SYSOK
SYSOK
FSUS
FSUS
LED_PMIC
LED_PMIC
CAN BUS INTERFACE
CAN_BUS_RX
TWAI_RX
CAN_BUS_TX
TWAI_TX
CAN_BUS_OFF_ON
TWAI_BUS_OFF_ON
CAN_BUS_CLK
TWAI_CLKOUT
JTAG_INTERFACE
JTAG_MTDS
JTAG_MTMS
JTAG_MTDI
JTAG_MTDI
JTAG_MTDO
JTAG_MTDO
JTAG_MTDCK
JTAG_MTCK
UART INTERFACE
UART_RX
U0RXD
UART_TX
U0TXD
32.768K (+- 20 ppm) Crystal oscillator
GNDREF
C7
12.5pF
Y3
32.768K
R18
10M
XTAL_32K_P
XTAL_32K_N
C8
12.5pF
USB OTG INTERFACE
(NO INTERM. IC NEEDED)
USB_D-
USB_D-
USB_D+
USB_D+
VDD3P3
L3
2.0nH
+3.3V
C54
NC
C50
0.1µF
C48
10µF
C9
1µF
C5
100pF
C6
1uF
VDDA
C2
0.1uF
VDD3P3_RTC
C3
0.1uF
VDD3P3_RTC_IO
C4
0.1uF
VDD_CPU
MICROCONTROLLER POWER INPUTS
IC2
ESP32-S2
1 VDDA
2 LNA_IN
3 VDD3P3
4 VDD3P3
5 GPIO0 ADC1_CH0
6 GPIO1 ADC1_CH1
7 GPIO2 *INT
8 GPIO3 SYSOK
9 GPIO4 I2CEXT0_SCL_out
10 GPIO5 I2CEXT0_SDA_out
11 GPIO6 LED_PMIC
12 GPIO7 TWAI_RX
13 GPIO8 TWAI_TX
14 GPIO9 TWAI_BUS_OFF_ON
15 GPIO10 TWAI_CLKOUT
16 GPIO11 GPIO011
17 GPIO12 FSUS
18 GPIO13 ADC2_CH1
19 GPIO14 ADC2_CH1
20 VDD3P3_RTC
21 XTAL32K_P XTAL_32K_P
22 XTAL32K_N XTAL_32K_N
23 DAC_1 DAC_1
24 DAC_2 DAC_2
25 GPIO19 USB_D-
26 GPIO20 USB_D+
27 VDD3P3_RTC_IO
28 GPIO21
R6
10K
57 EPAD GNDREF
56 CHIP_PU CHIP_PU
55 GPIO46 GPIO46
54 VDDA
53 XTAL_P XTAL_P
52 XTAL_N XTAL_N
51 VDDA
50 GPIO45 SPI_CS3
49 U0RXD U0RXD
48 U0TXD R17 499 U0TXD
47 MTMS JTAG_MTMS
46 MTDI JTAG_MTDI
45 VDD3P3_CPU VDD_CPU
44 MTDO JTAG_MTDO
43 MTCK JTAG_MTCK
42 GPIO38 SPI3_CS2
41 GPIO37 SPI3_CLK
40 GPIO36 SPI3_CS0
39 GPIO35 SPI3_MOSI
38 GPIO34 SPI3_MISO
37 GPIO33 SPI3_CS1
36 SPID R7 0 SPID
35 SPIQ R8 0 SPIQ
34 SPICLK R13 0 SPICLK
33 SPICS0
32 SPIWP R14 0 SPIWP
31 SPIHD R15 0 SPIHD
30 VDD_SPI
29 SPIS1 SPICS1
MICROCONTROLLER CRYSTAL FOR SYSCLK
40 MHz (+- 10 ppm)
22pF/6.3V(10%)
R16
0
C58
XTAL_P
XIN
Y2
XOUT
XTAL_N
C59
22pF/6.3V(10%)
PROBES SPI INTERFACE
SPI3_CLK
SPI3_MOSI
SPI3_MISO
SPI3_CS0
SPI3_CS1
SPI3_CS2
SPI3_CS3
SPI MEMORY INTERFACE
VDD_SPI
U3
AT25DF041x-UxN-x
SPID D2 SI/IO0
SPICLK E1 SCK
SPICS0 A3 CS
SPIWP E3 WP
SPIHOLD C1 HOLD
VCC A1
GND B2
SO/IO1 C3 SPIQ
Microcontroller BOOT button
SW3 SW_Push
CHIP_BOOT
C10
0.1uF/50V(10%)(NC)
Microcontroller Power-up (UP) button
SW4 SW_Push
CHIP_PU
C11
0.1uF/50V(10%)(NC)
Sheet: /Microcontroler/
File: microcontroler.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad (6.0.2)
Id: 4/5

PROBES SPI INTERFACE

SPI3_CLK
SPI3_MOSI
SPI3_MISO
SPI3_CS0
SPI3_CS1
SPI3_CS2
SPI3_CS3

Probes connector branch out




Sheet: /Probes schematic/
File: Probes.kicad_sch

**Title:**

| Size: A4 | Date: | **Rev:** |
|---|---|---|
| KiCad E.D.A. kicad (6.0.2) | | Id: 5/5 |