[1] Power Management

USB

File: usb.kicad_sch

VR

File: vr.kicad_sch

[2] MCU

uC

File: uC.kicad_sch

[3] ADC

ADC

File: adc.kicad_sch

[4] Interfacing

SDCARD

File: sd_card.kicad_sch

Manufacturing Innovation Network Laboratory (MINLab)

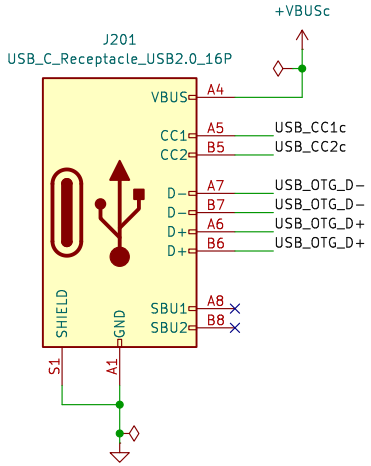
Sheet: /
File: EnergyMonitoringSystem.kicad_sch

Title: Energy Monitoring System

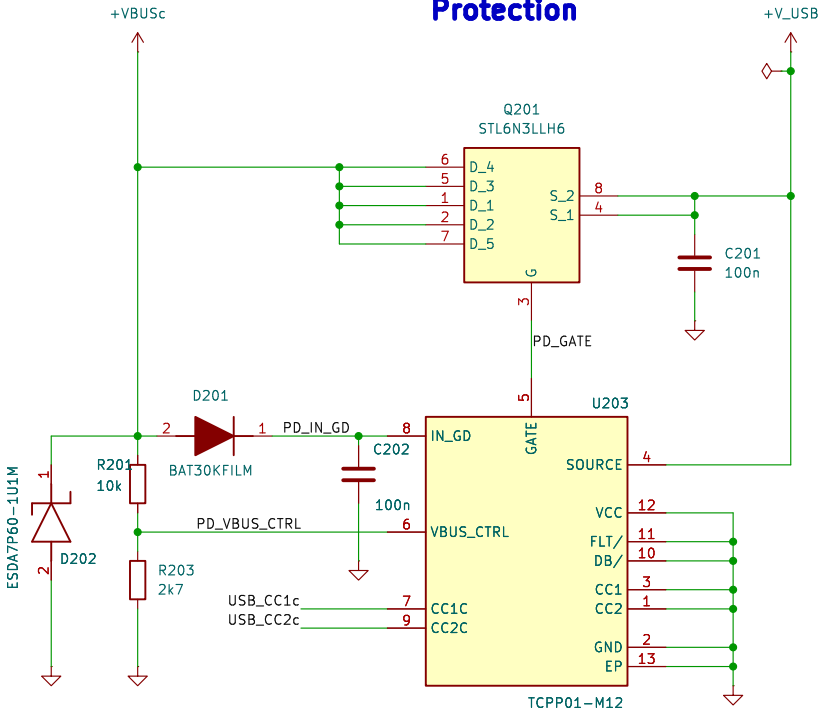
Size: A4	Date: 2024-08-22	**Rev: v1.0.0**
KiCad E.D.A. 8.0.5		Id: 1/6

[1] Power Management

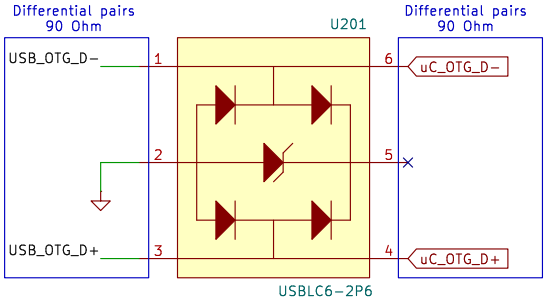
USC-C Receptacle



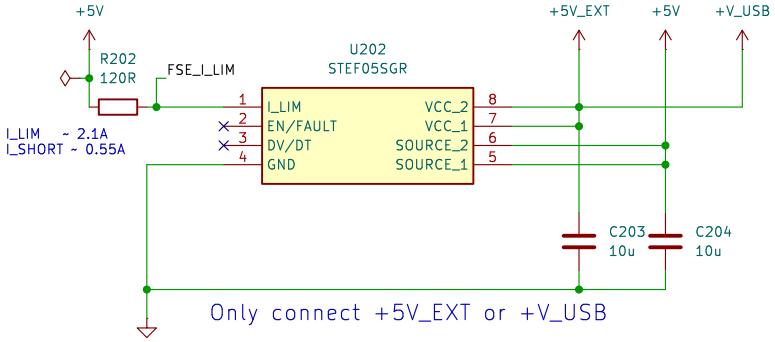
USB-C Power Delivery Protection



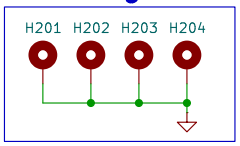
Data Line ESD Protection



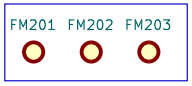
eFUSE Protection



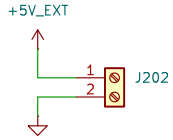
Mounting Holes



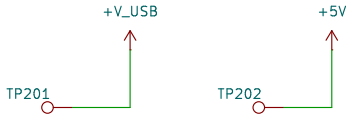
Fiducial



EXT 5V Connector



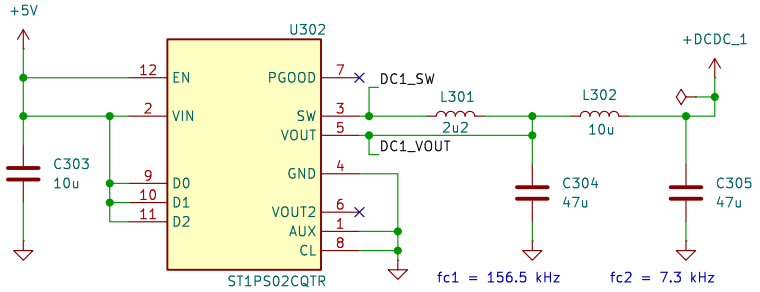
Test Points



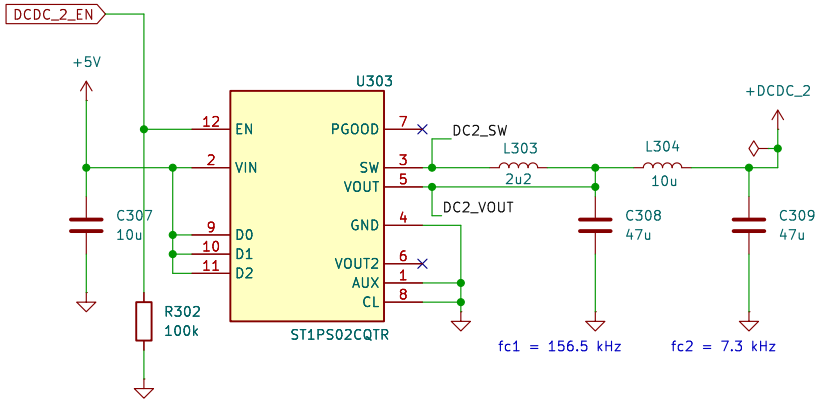
Sheet: /USB/	
File: usb.kicad_sch	
Title:	
Size: A4	Date:
KiCad E.D.A. 8.0.5	Id: 2/6

[1] Power Management

3.3V DC-DC

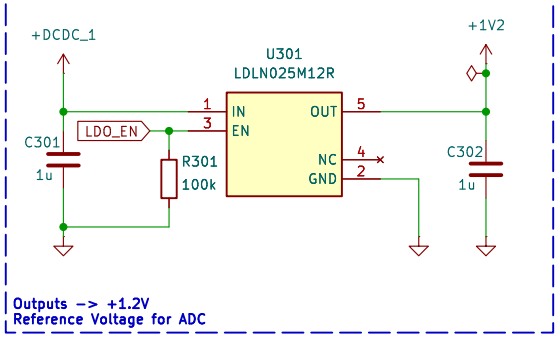


Outputs -> +DCDC_1 (3.3V)
+DCDC_1 supplies MCU, Sensors - Digital, Analog LDO, and BLE

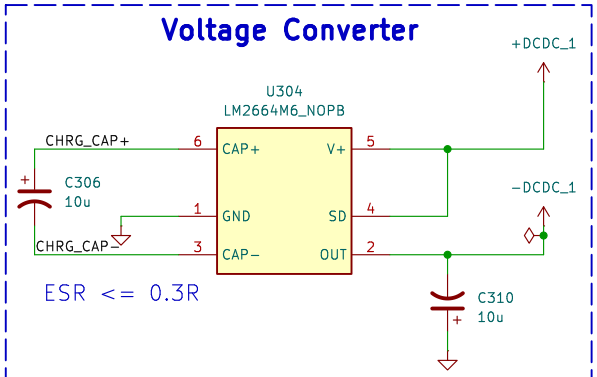


Outputs -> +DCDC_2 (3.3V)
+DCDC_2 supplies SD Card and RS-485

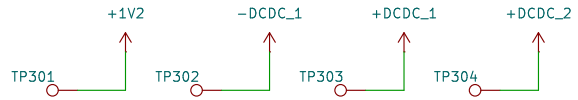
1.2V Analog LDO



Voltage Converter



Test Points

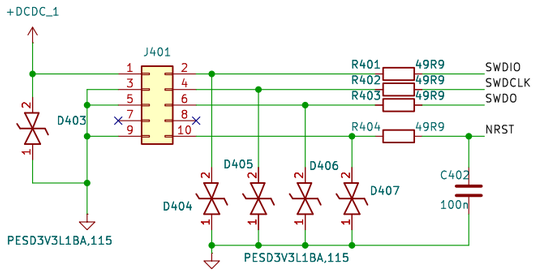


Sheet: /VR/
File: vr.kicad_sch

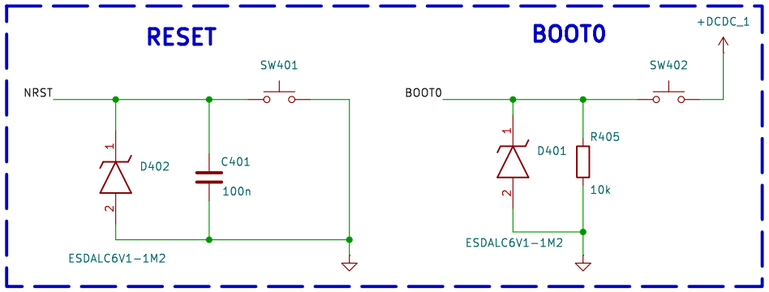
Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.5		Id: 3/6

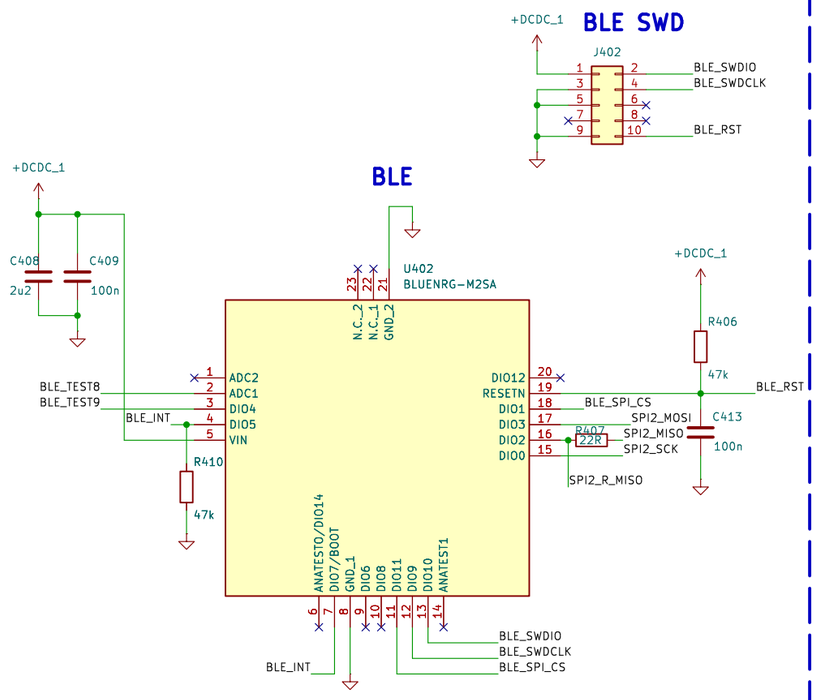
SWD Header



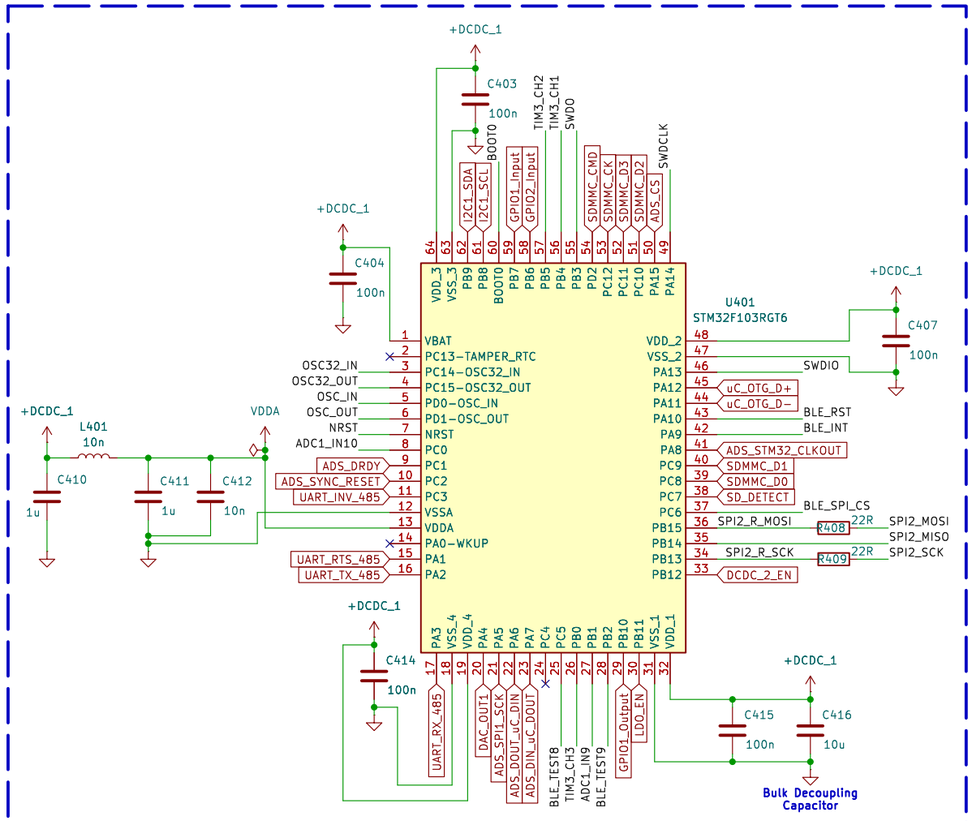
Switch – RESET & BOOT0

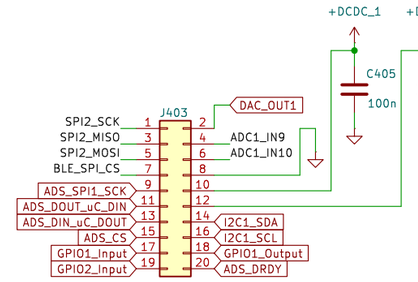


Bluetooth Low Energy (BLE)

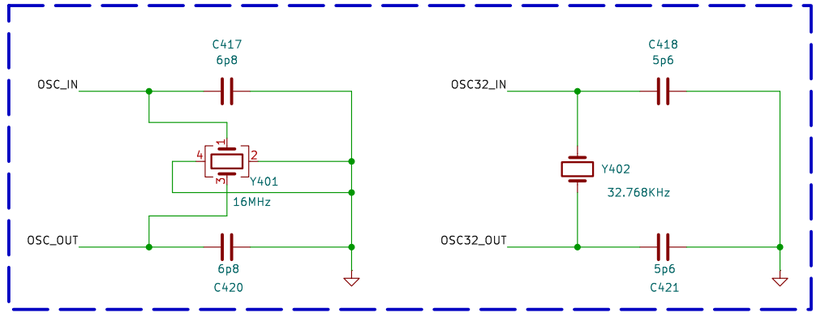


MCU – STM32F103RGT6

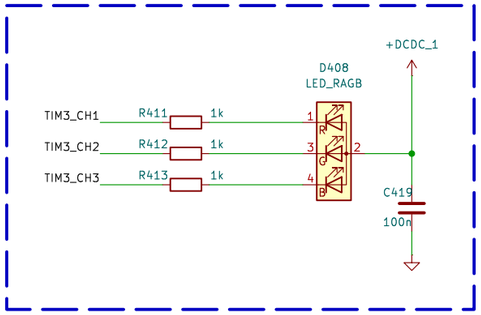




Crystal Oscillator

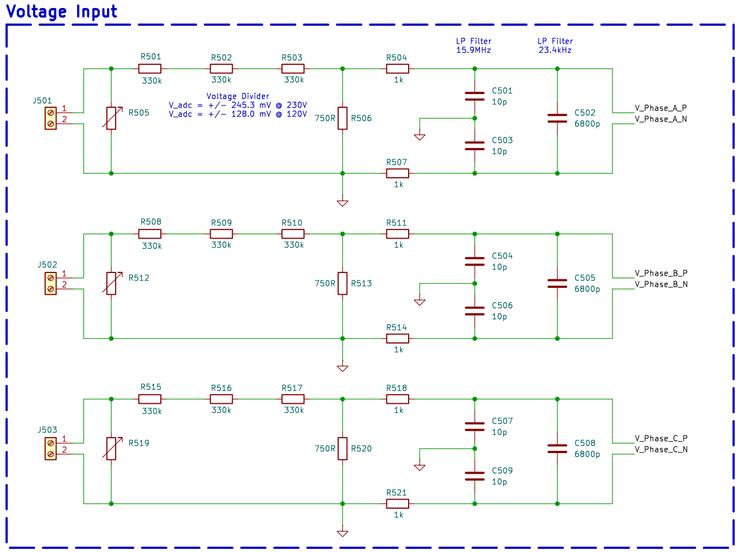


RGB LED

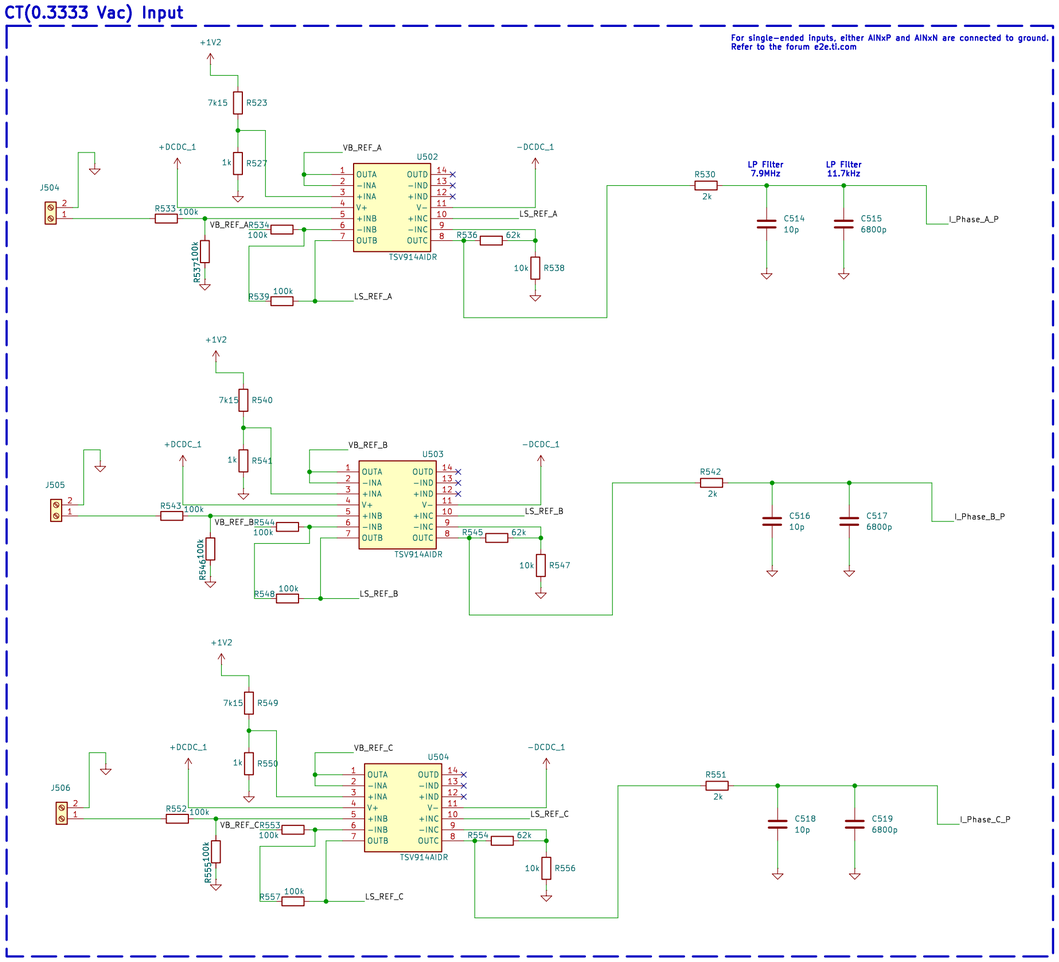


Sheet: /uC/		
File: uC.kicad_sch		
Title:		
Size: A3	Date:	**Rev:**
KiCad E.D.A. 8.0.5		Id: 4/6

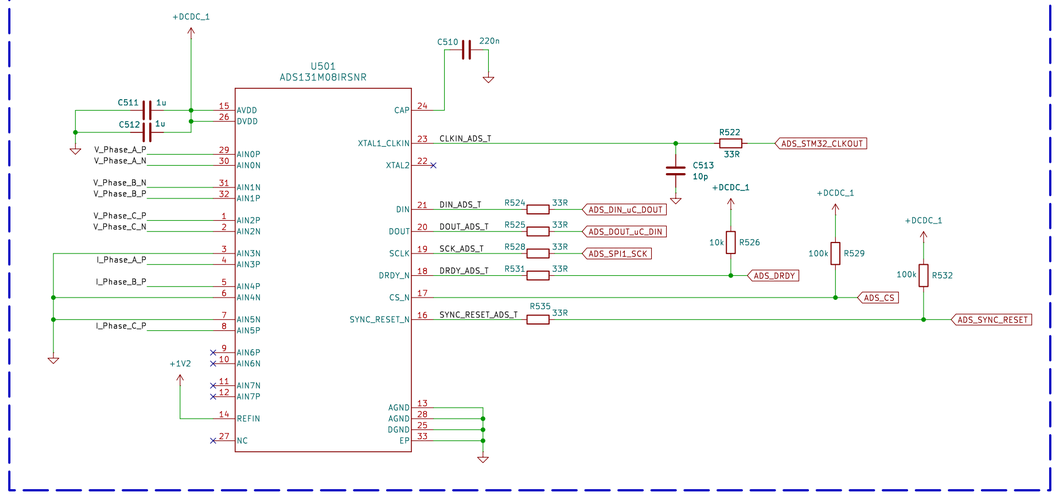
Voltage Input



CT(0.3333 Vac) Input



Synchronous ADC



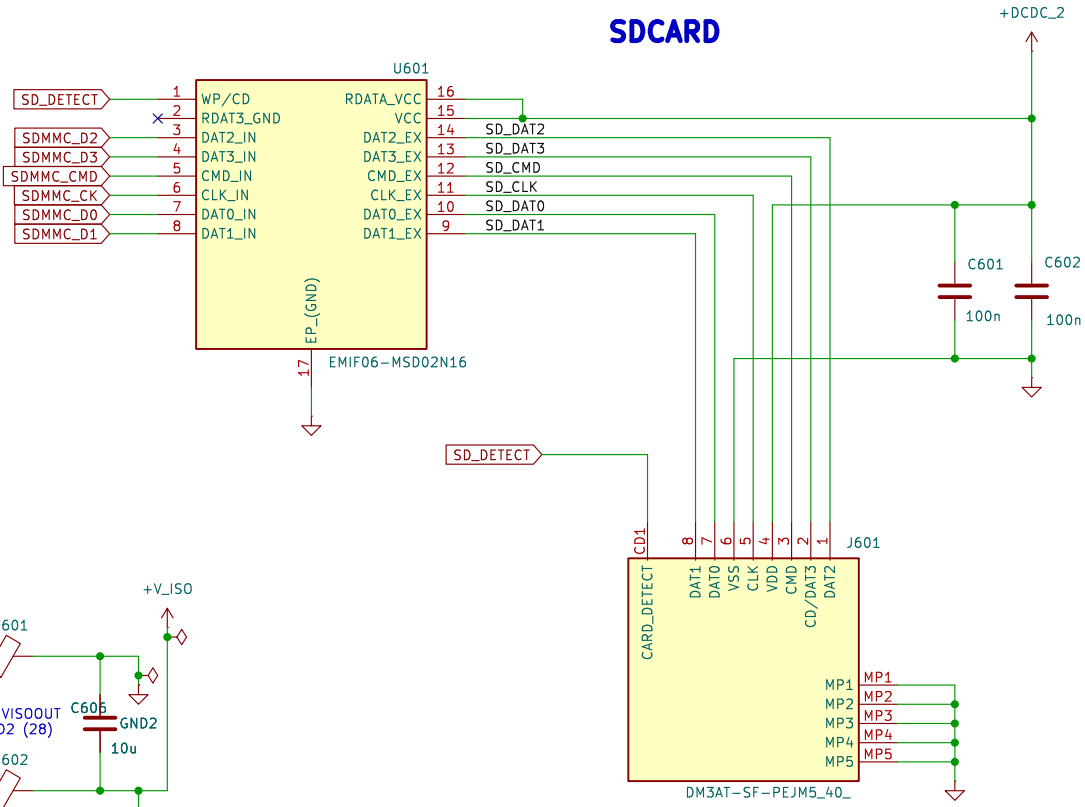
Manufacturing Innovation Network Laboratory (MINLab)

Sheet: /ADC/
File: adc.kicad_sch

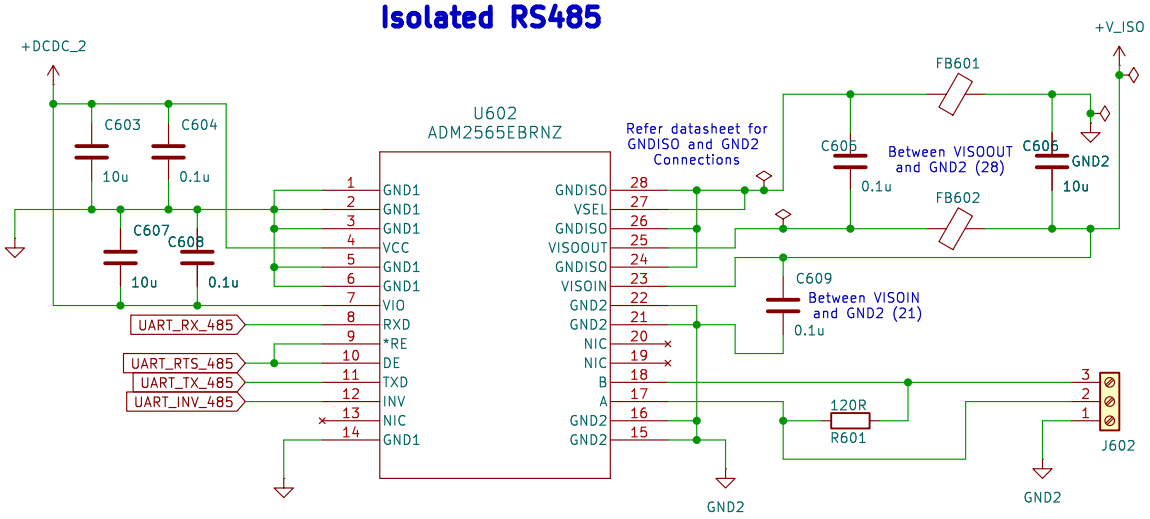
Title:

Size: A2	Date:	Rev: v1.0.0
KiCad E.D.A. 8.0.5		Id: 5/6

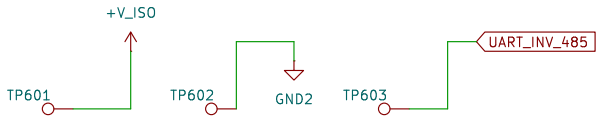
SDCARD



Isolated RS485



Test Points



Sheet: /SDCARD/
File: sd_card.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.5		Id: 6/6