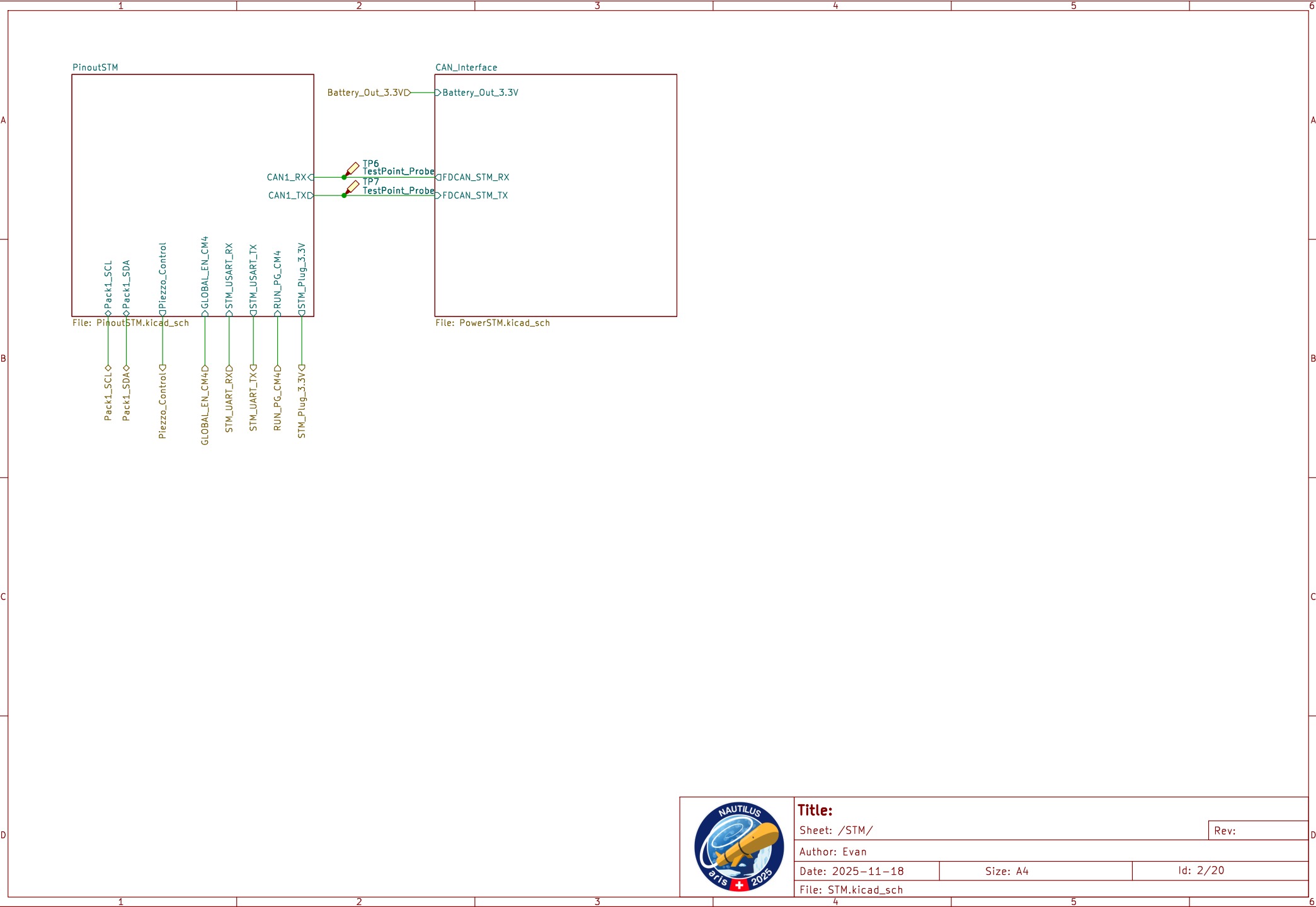
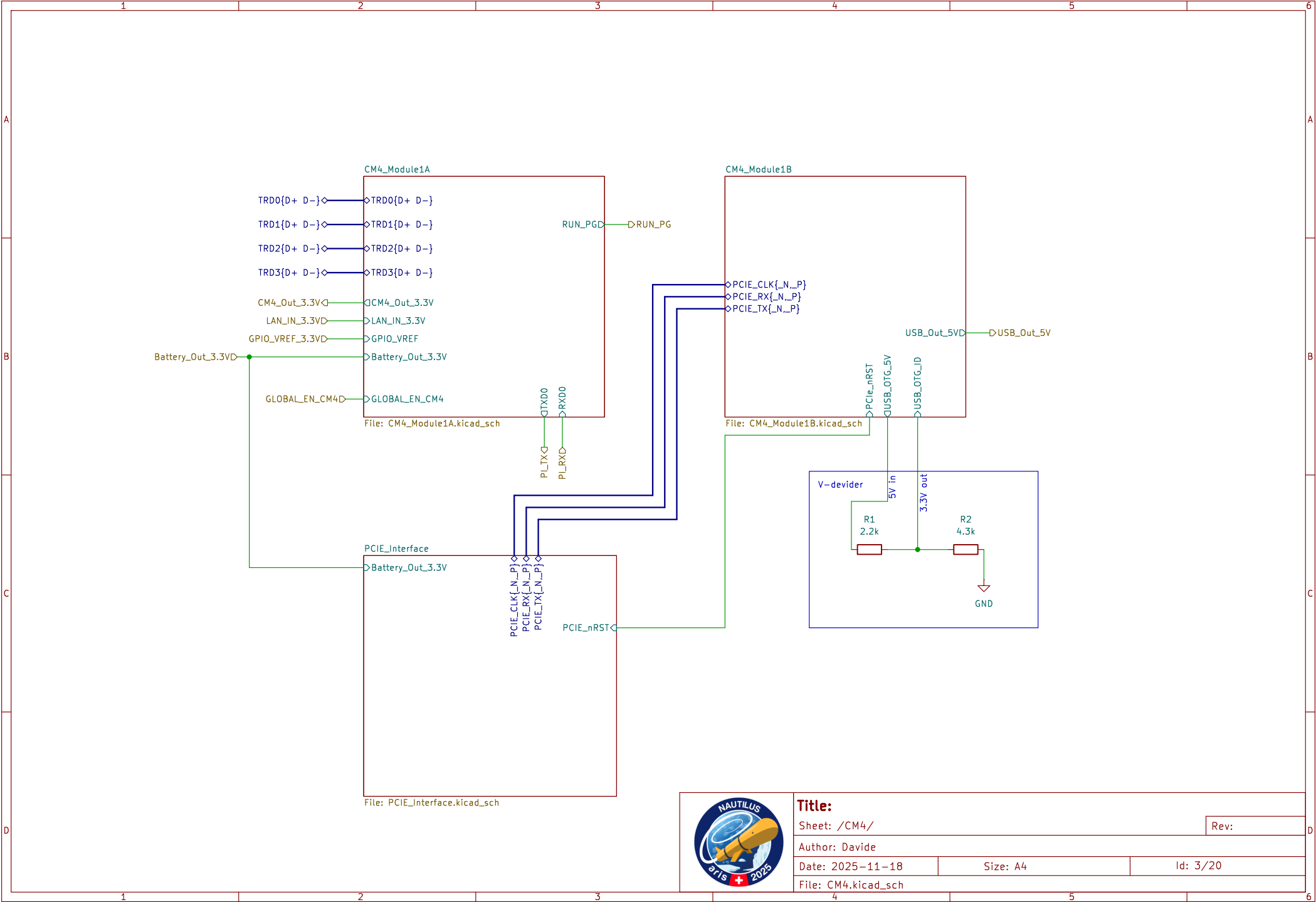


Title:		
Sheet: /		Rev:
Author: Evan & Davide		
Date: 2025-11-18	Size: A4	Id: 1/20
File: nautilus_mainboard.kicad_sch		

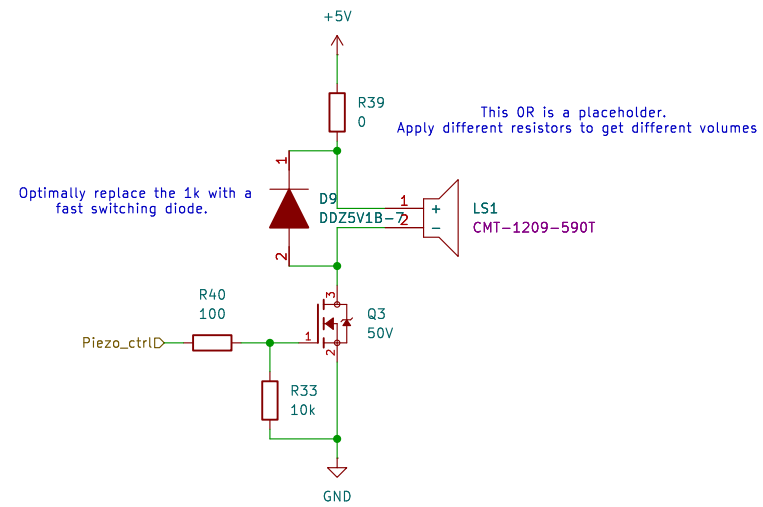


Title:		
Sheet: /STM/		Rev:
Author: Evan		
Date: 2025-11-18	Size: A4	Id: 2/20
File: STM.kicad_sch		



Title:		
Sheet: /CM4/		Rev:
Author: Davide		
Date: 2025-11-18	Size: A4	Id: 3/20
File: CM4.kicad_sch		

Not in the PCB yet as we dont know if we actually need it.



Title:

Sheet: /Piezzo/

Rev:

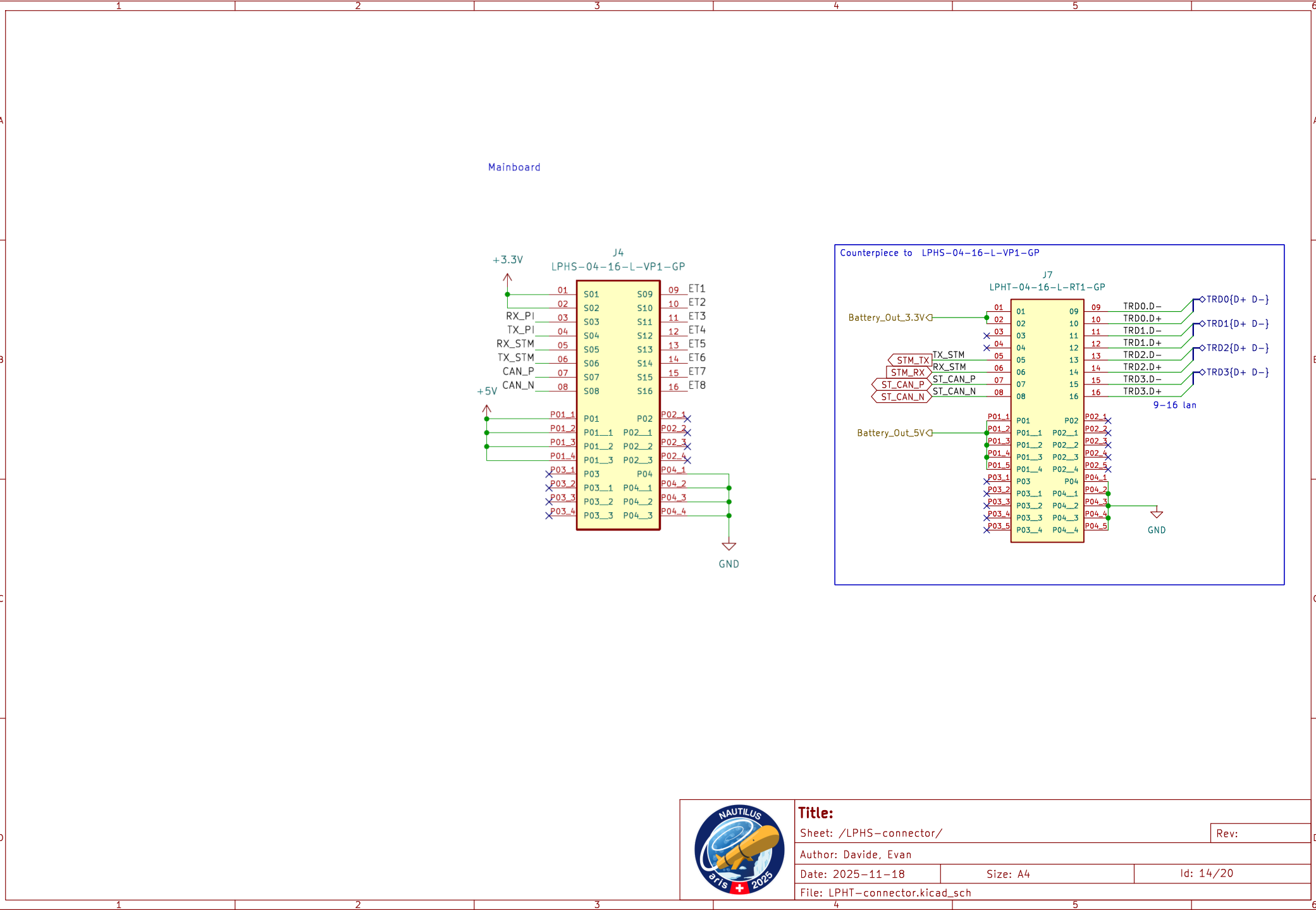
Author: Evan

Date: 2025-11-18

Size: A4

Id: 4/20

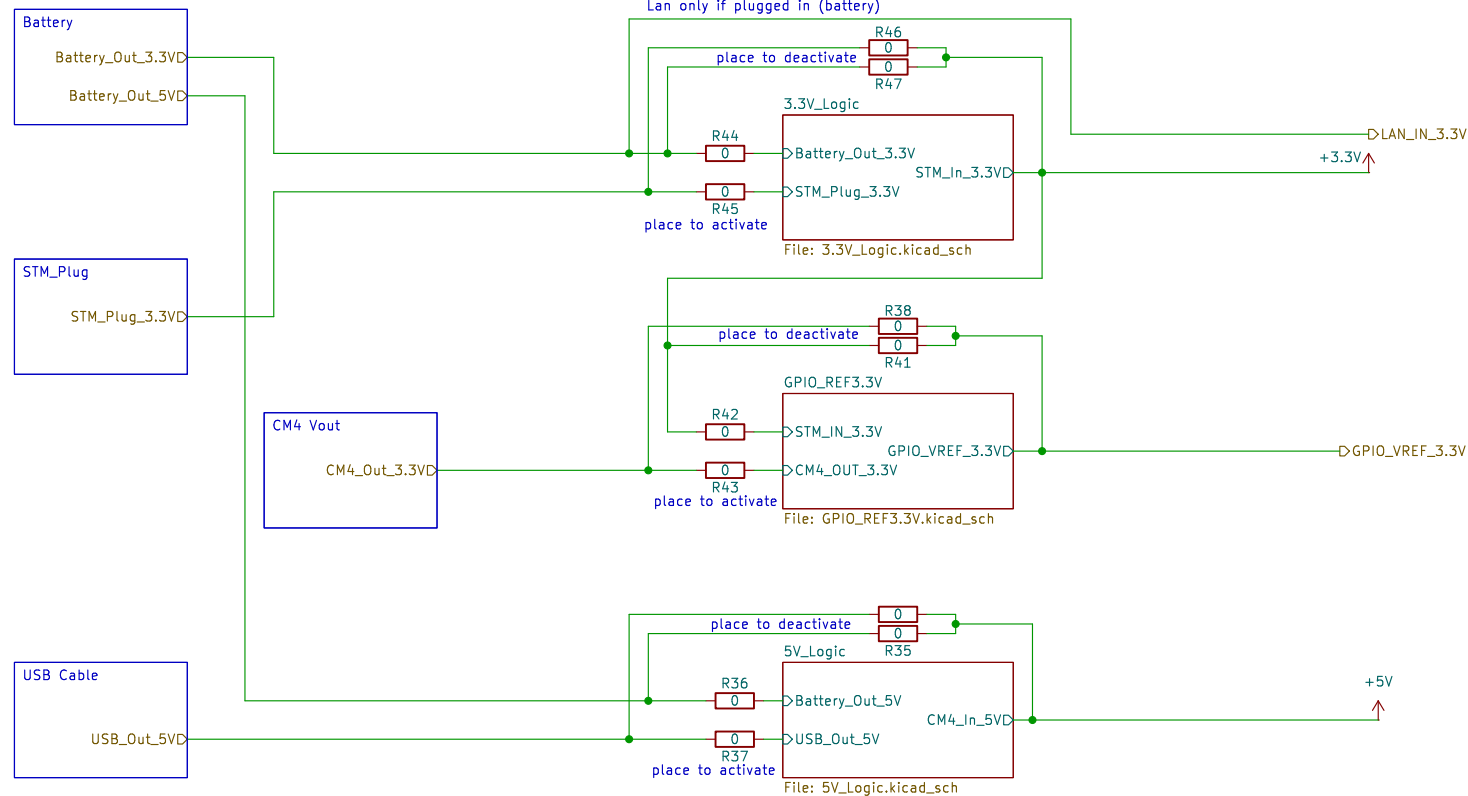
File: Piezzo.kicad_sch



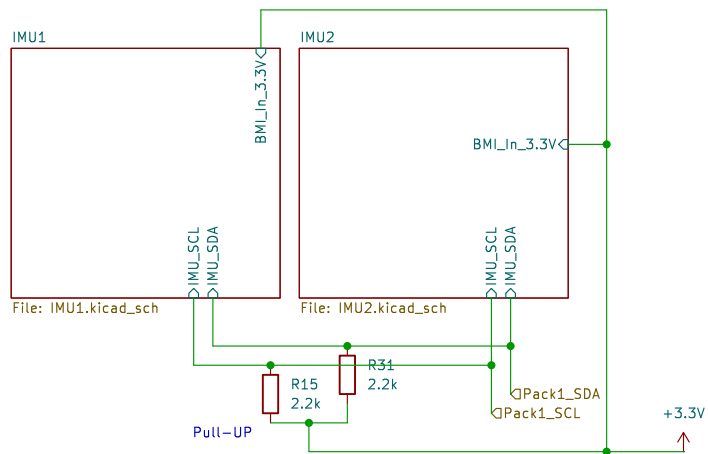
some rules:
 USB wont power the STM32.
 STM_Plug wont power the CM4
 The GPIO_VREF of the CM4 needs to be STM32's 3.3V
 The Lan Vin is only powered when running on Battery
 Battery preferably powers everything.
 Whenever the CM4 runs, also run the LED signals AND the
 SSD voltage, all "core" tasks tied to the CM4.

Different Power Sources.

Reference power sources



Title:		
Sheet: /Power_logic/		Rev:
Author: Davide		
Date: 2025-11-18	Size: A4	Id: 14/20
File: Power_logic.kicad_sch		



Title:

Sheet: /IMU/

Rev:

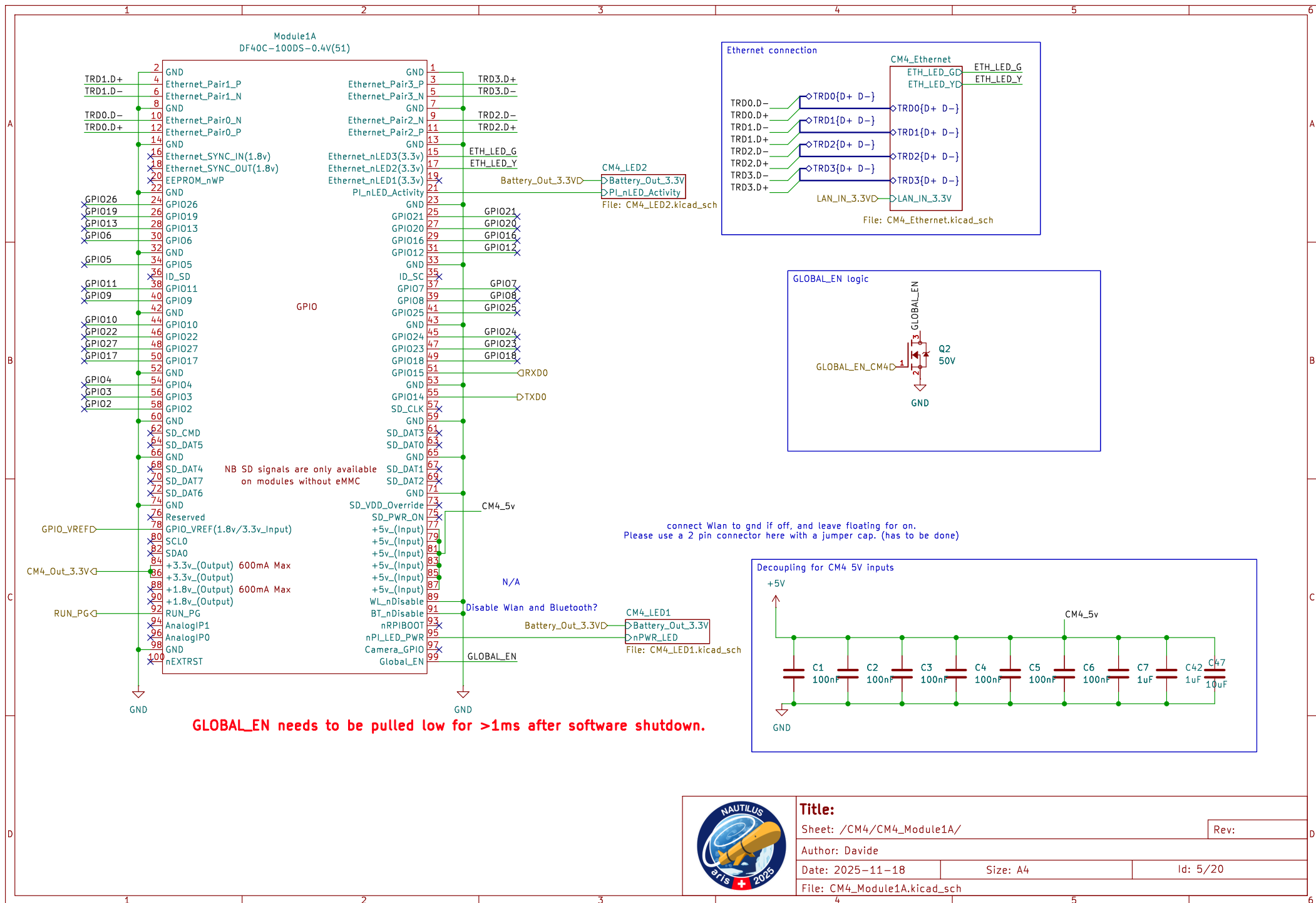
Author: Davide

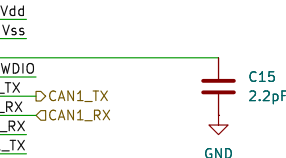
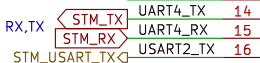
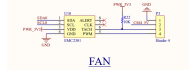
Date: 2025-11-18

Size: A4

Id: 18/20

File: IMU.kicad_sch





Chose a Pin here please.
I chose 7 but please make sure its an actual pin even. I just gambled.

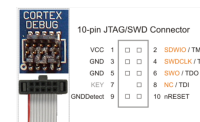
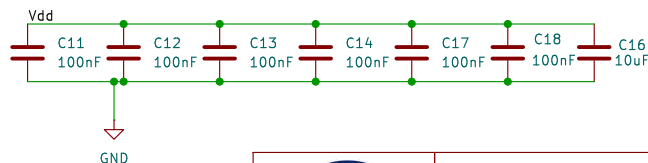
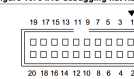


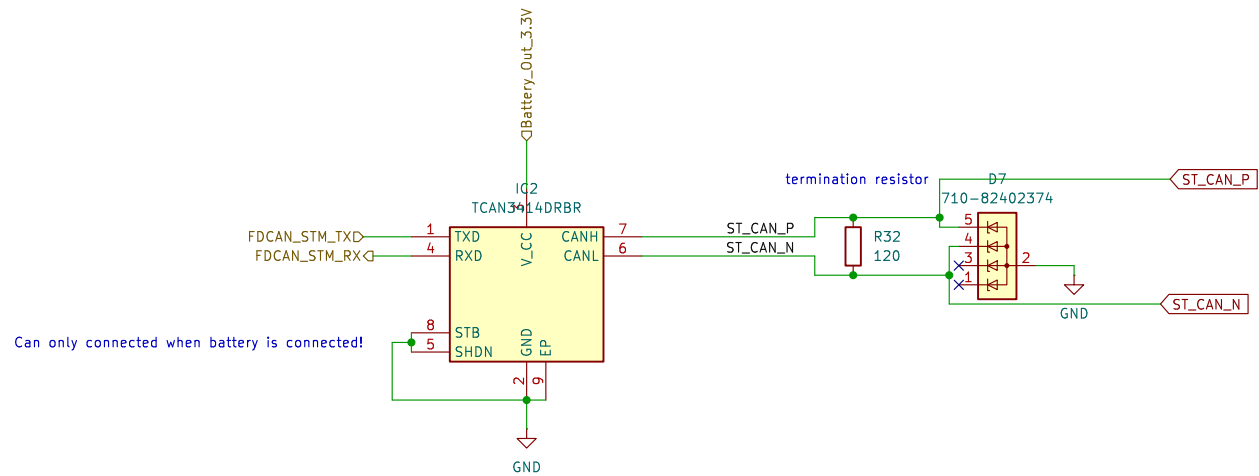
Figure 10. JTAG debugging flat ribbon layout



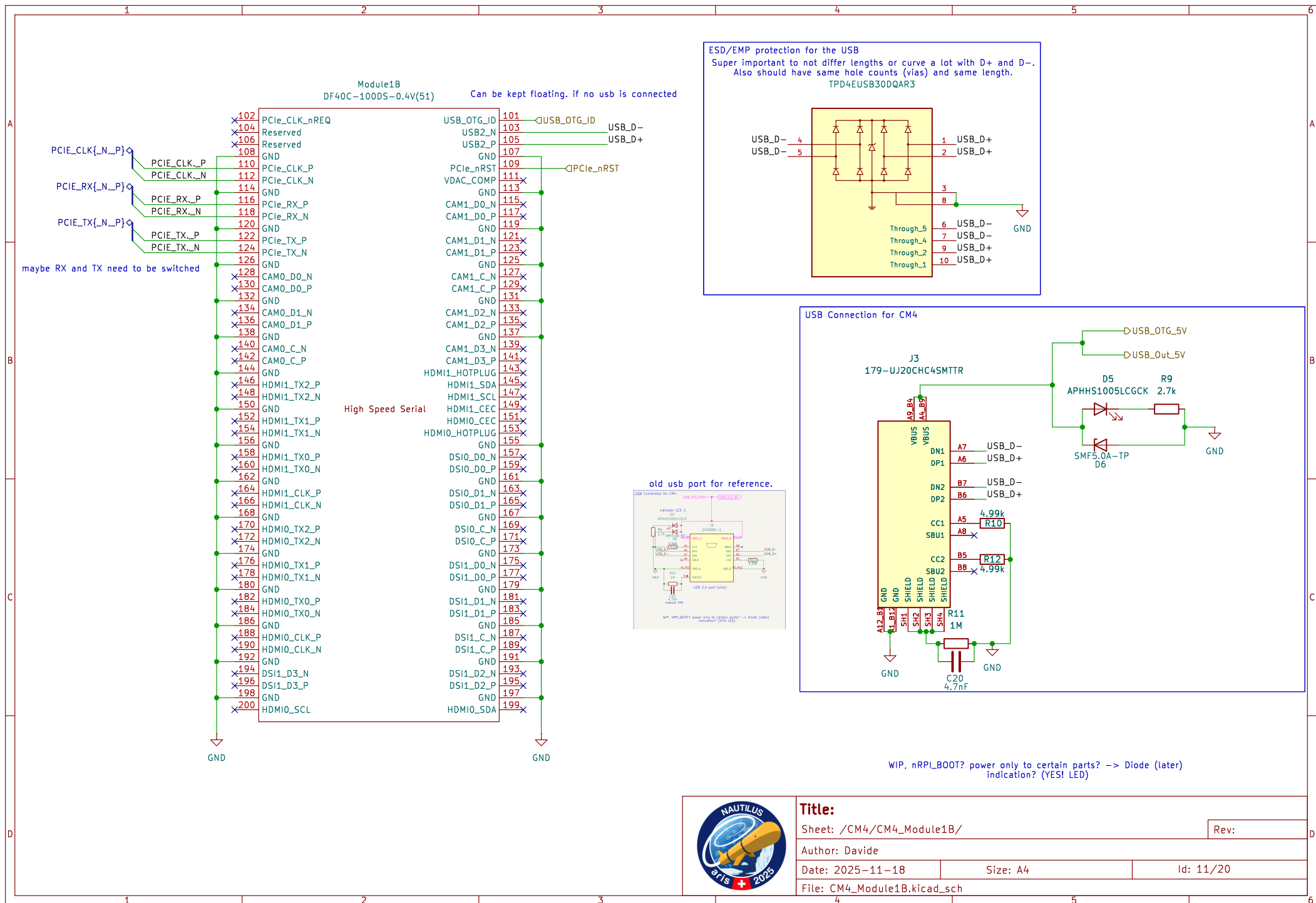
Rev:

Id: 6/20

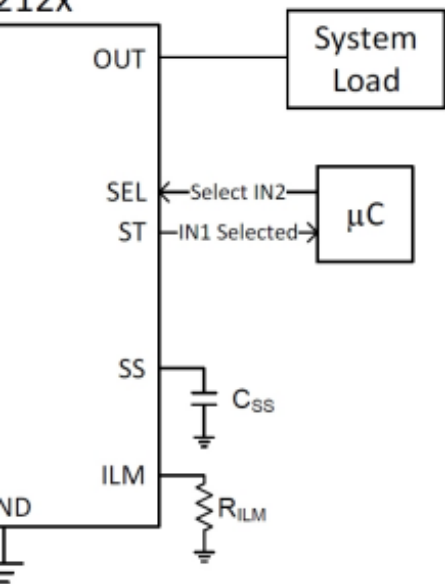
File: PinoutSTM.kicad_sch



Title:		
Sheet: /STM/CAN_Interface/		Rev:
Author: Evan		
Date: 2025-11-18	Size: A4	Id: 7/20
File: PowerSTM.kicad_sch		



212x



for questions about wiring etc please consult the datasheet...
<https://www.ti.com/lit/ds/symlink/tps2120.pdf?ts=1761678178328>

PR1 > CP2 -> IN1 has prio

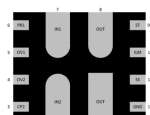
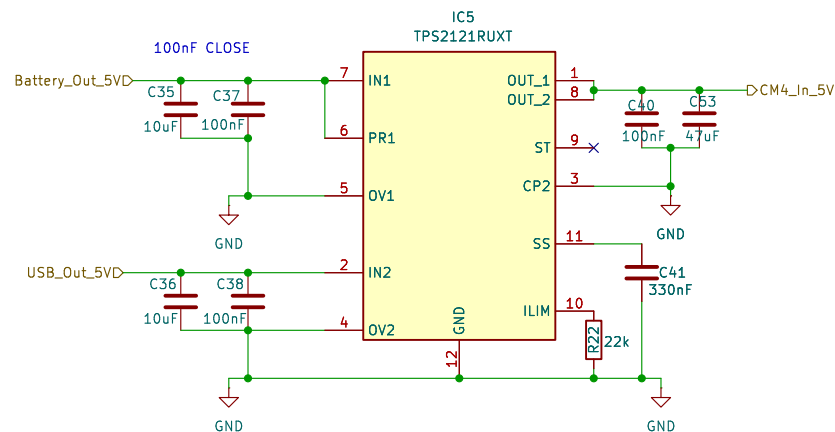


Figure 6-2. TPS2121 (RUX) Package 12-Pin VQFN-HR Bottom View

		PIN		Pin Functions	
NAME	TPS2120	TPS2121	IO	DESCRIPTION	
IN1	B1, B2, C1	7	I	Power Input for Source 1	
IN2	B3, B4, C4	2	I	Power Input for Source 2	
OUT	C2, C3, D1, D2, D3, D4	1, 8	I	Power Output	
ST	E1	9	O	Status output indicating which channel is selected. Connect to GND if not required.	
ILIM	E2	10	O	Output Current Limiting for both channels.	
SS	E3	11	O	Adjusts Input Setting Delay Time and Output Soft Start Time.	
GND	E4	12	—	Device Ground	
PR1	A1	6	I	Enables Priority Operation. Connect to IN1 to set switchover voltage. Connect to GND if not required.	
OV1	A2	5	I	Active Low Enable Supervisor for IN1 Overvoltage Protection. Connect to GND if not required.	
OV2	A3	4	I	Active Low Enable Supervisor for IN2 Overvoltage Protection. Connect to GND if not required.	
SEL	A4	—	I	Active Low Enable for IN1. Allows GPO to override priority operation and manually select IN2. TPS2120 only.	

CP2	—	3	I	Enables Comparator Operation and is compared to PR1 to set switchover voltage. Connect to GND if not required. TPS2121 only.
-----	---	---	---	--



Title:

Sheet: /Power_logic/5V_Logic/

Rev:

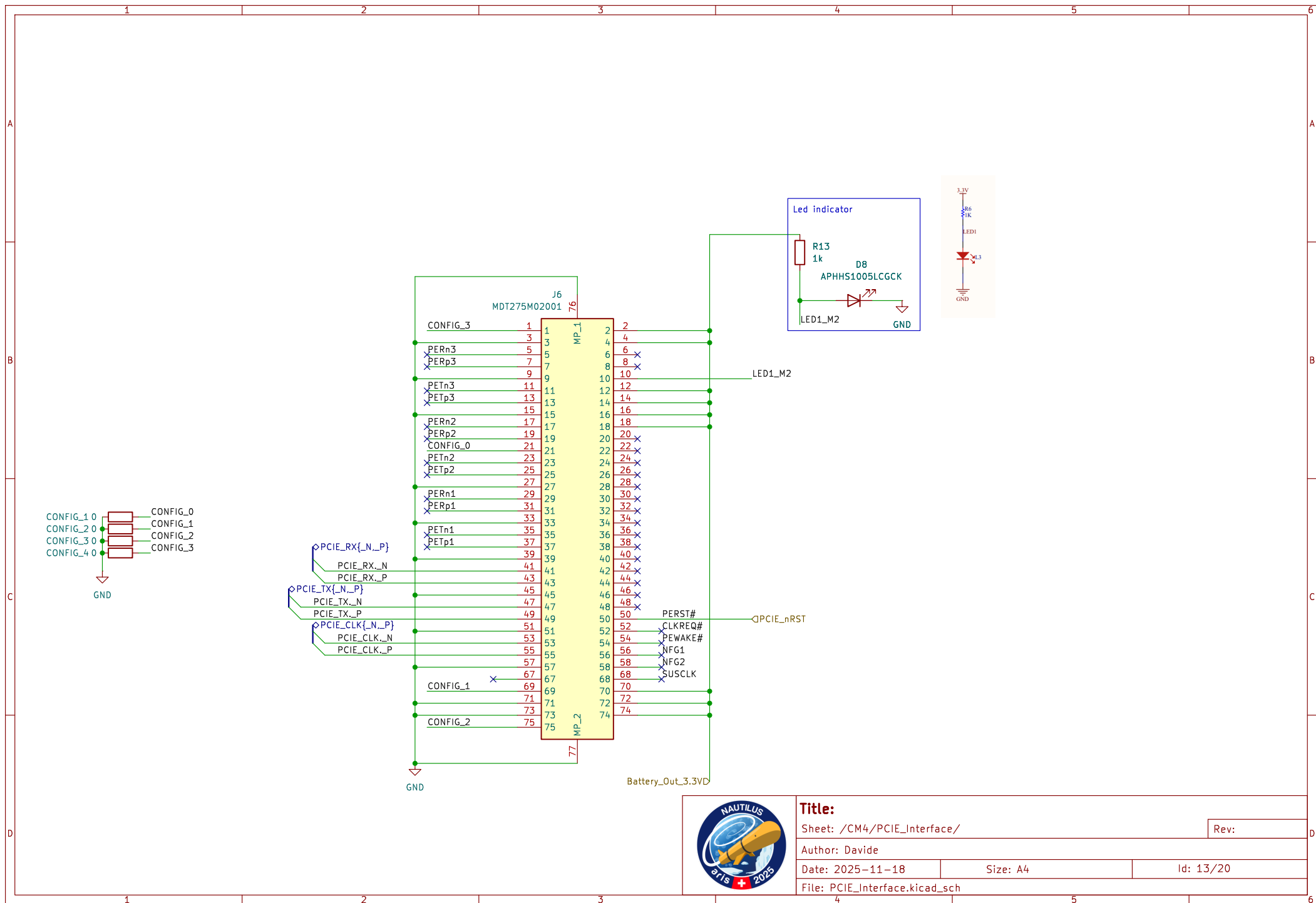
Author: Davide

Date: 2025-11-18

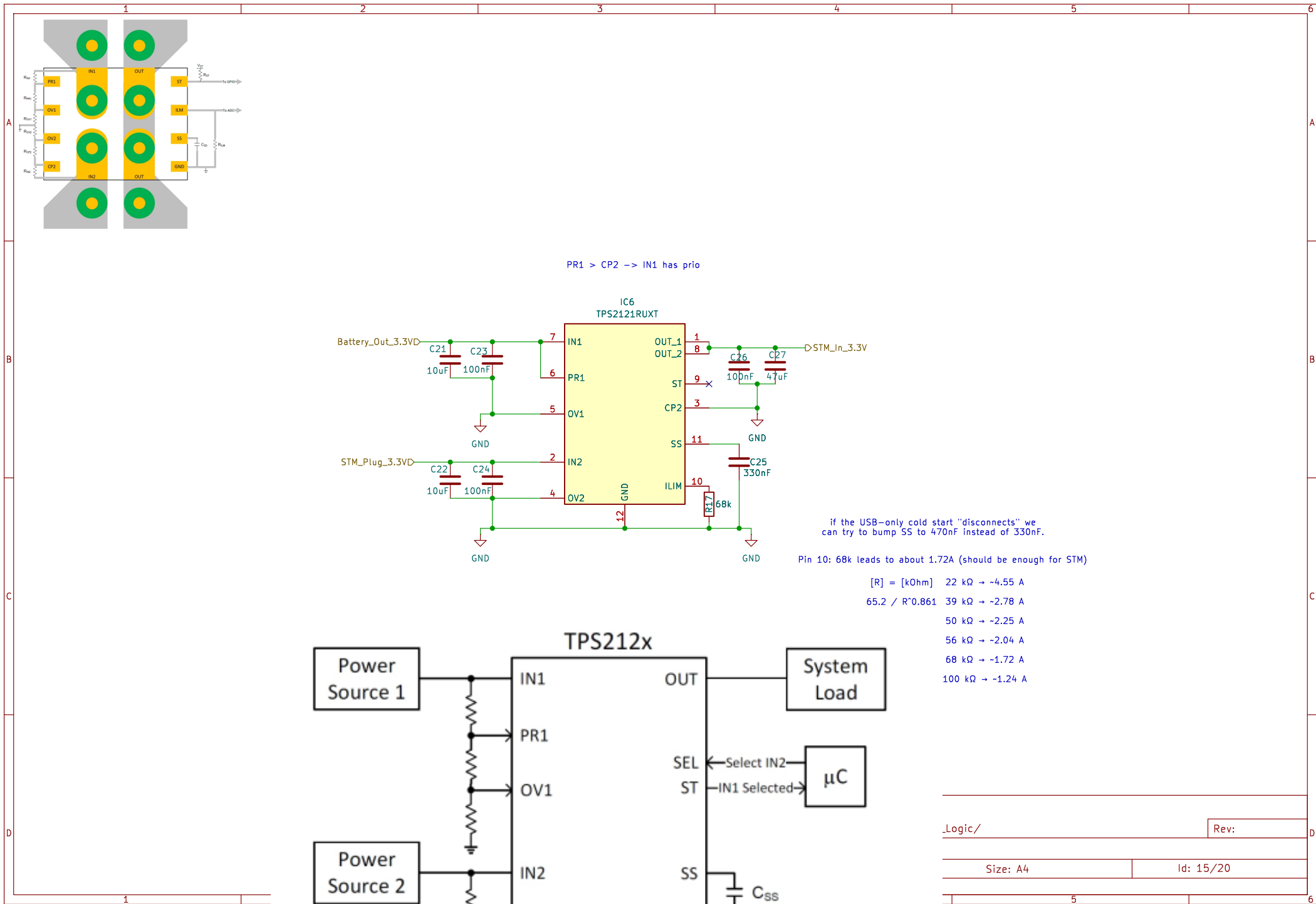
Size: A4

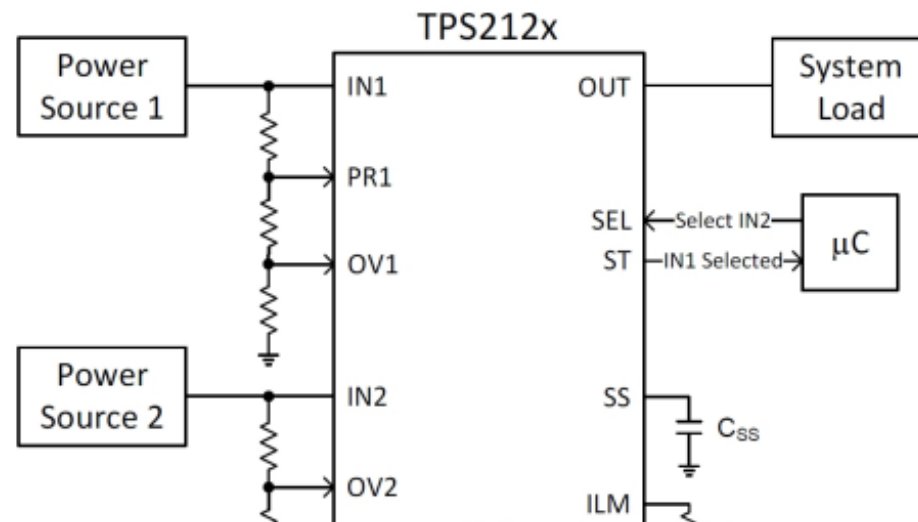
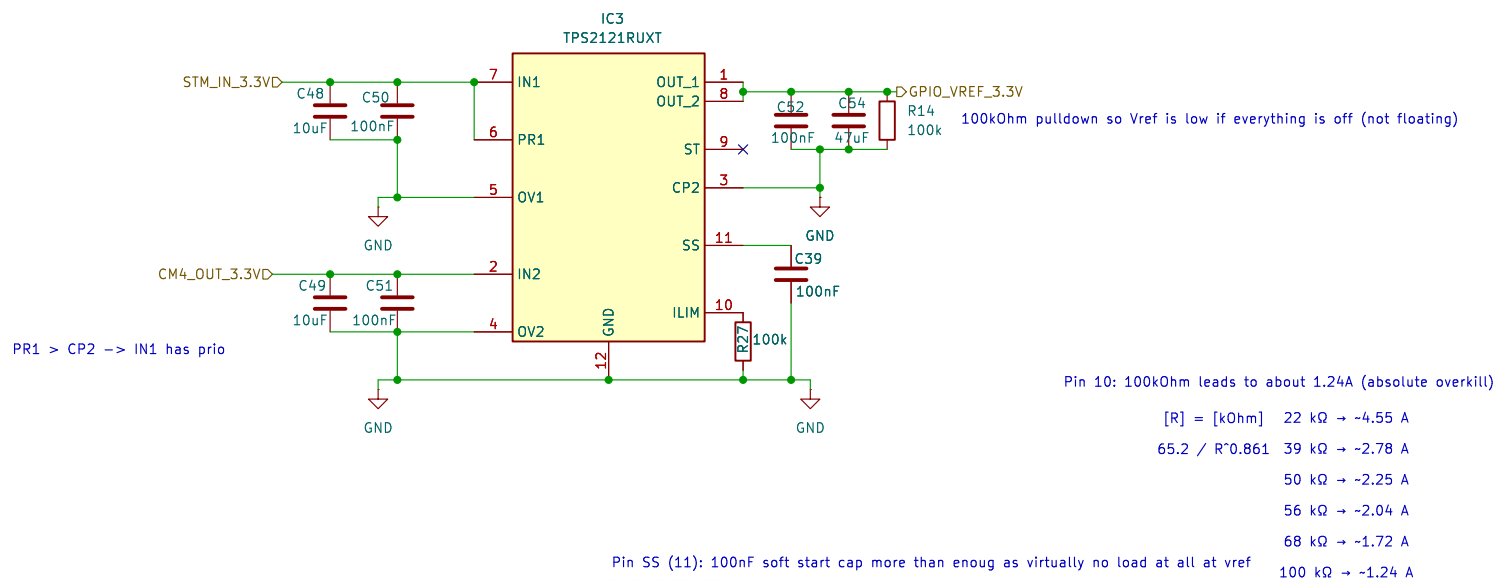
Id: 12/20

File: 5V_Logic.kicad_sch



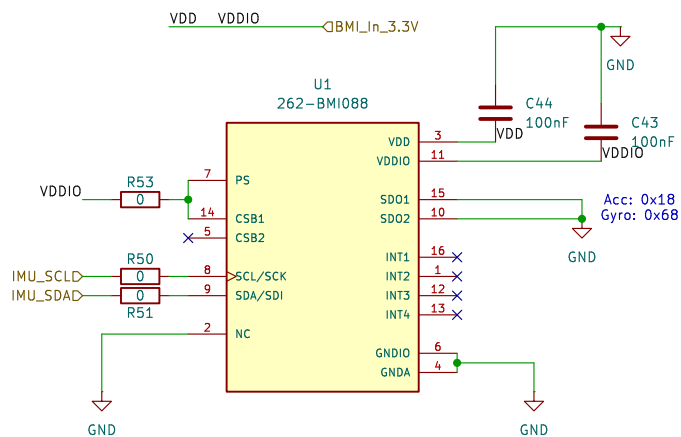
Title:		
Sheet: /CM4/PCIe_Interface/		Rev:
Author: Davide		
Date: 2025-11-18	Size: A4	Id: 13/20
File: PCIe_Interface.kicad_sch		





PS -> 3.3V IIC
CSB1 -> 3.3V NOT SPI

PB8 on STM
PB9 on STM



Accelerometer
SD01 pin pulled to GND (0x18)
SD01 pin pulled to VDDIO: (0x19)

Gyroscope:
SD02 pin pulled to GND: (0x68)
SD02 pin pulled to VDDIO: (0x69)



Title:

Sheet: /IMU/IMU1/

Rev:

Author: Davide

Date: 2025-11-18

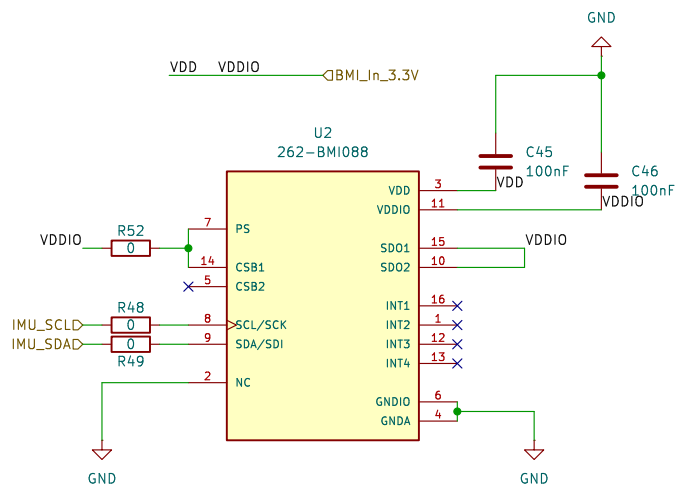
Size: A4

Id: 19/20

File: IMU1.kicad_sch

PS -> 3.3V IIC
CSB1 -> 3.3V NOT SPI

PB8 on STM
PB9 on STM



Acc: 0x19
Gyro: 0x69

Accelerometer
SD01 pin pulled to GND (0x18)
SD01 pin pulled to VDDIO: (0x19)

Gyroscope:
SD02 pin pulled to GND: (0x68)
SD02 pin pulled to VDDIO: 0x69



Title:

Sheet: /IMU/IMU2/

Rev:

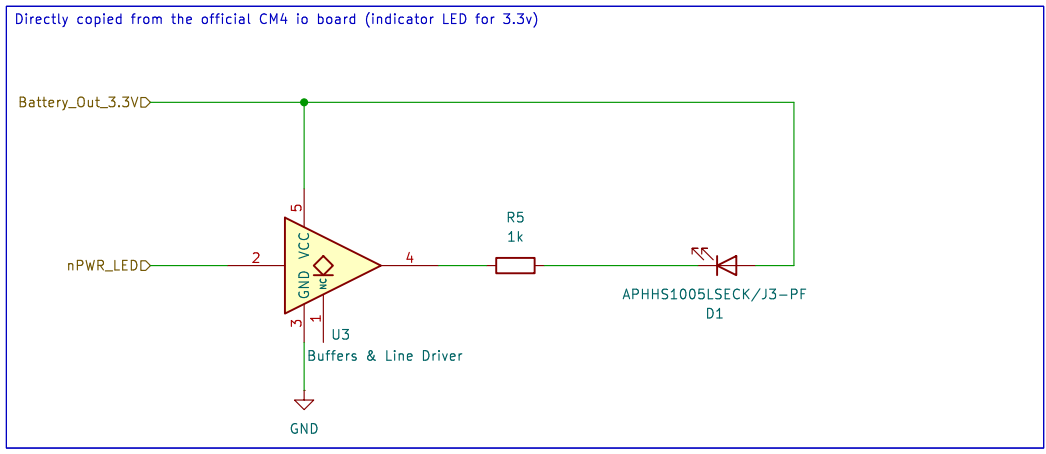
Author: Davide

Date: 2025-11-18

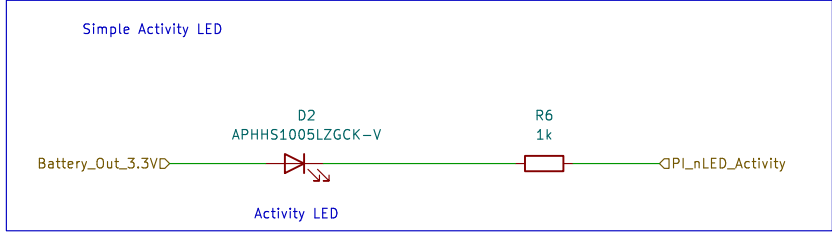
Size: A4

Id: 20/20

File: IMU2.kicad_sch



Title:		
Sheet: /CM4/CM4_Module1A/CM4_LED1/		Rev:
Author: Davide		
Date: 2025-11-18	Size: A4	Id: 8/20
File: CM4_LED1.kicad_sch		



Title:

Sheet: /CM4/CM4_Module1A/CM4_LED2/

Rev:

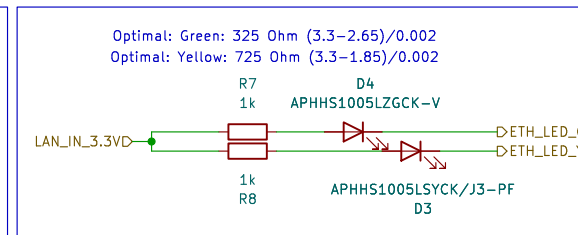
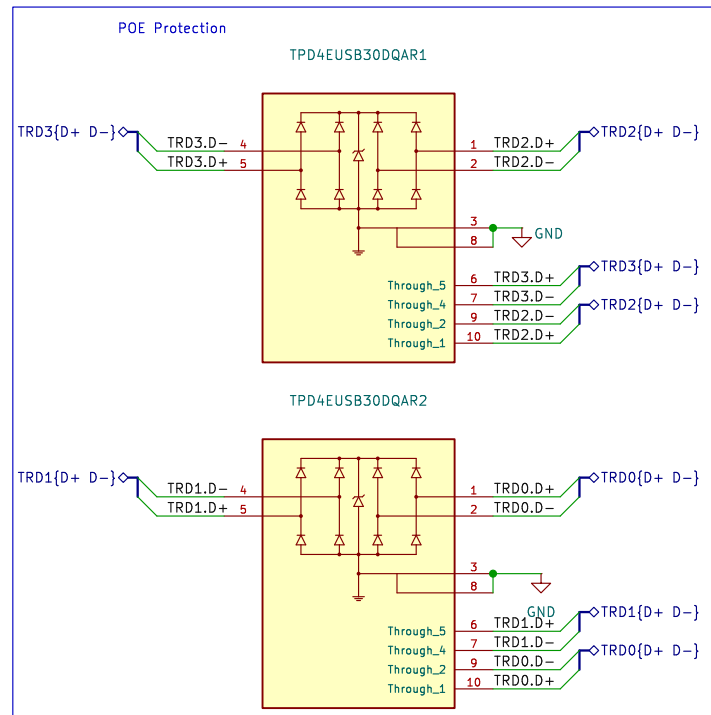
Author: Davide

Date: 2025-11-18

Size: A4

Id: 9/20

File: CM4_LED2.kicad_sch



Title:

Sheet: /CM4/CM4_Module1A/CM4_Ethernet/

Rev:

Author: Davide

Date: 2025-11-18

Size: A4

Id: 10/20

File: CM4_Ethernet.kicad_sch