

### Title: Nautilus\_Mainboard

Sheet: /STM/

Rev: 0

Author: Evan

Date: 2025-11-19

Size: A4

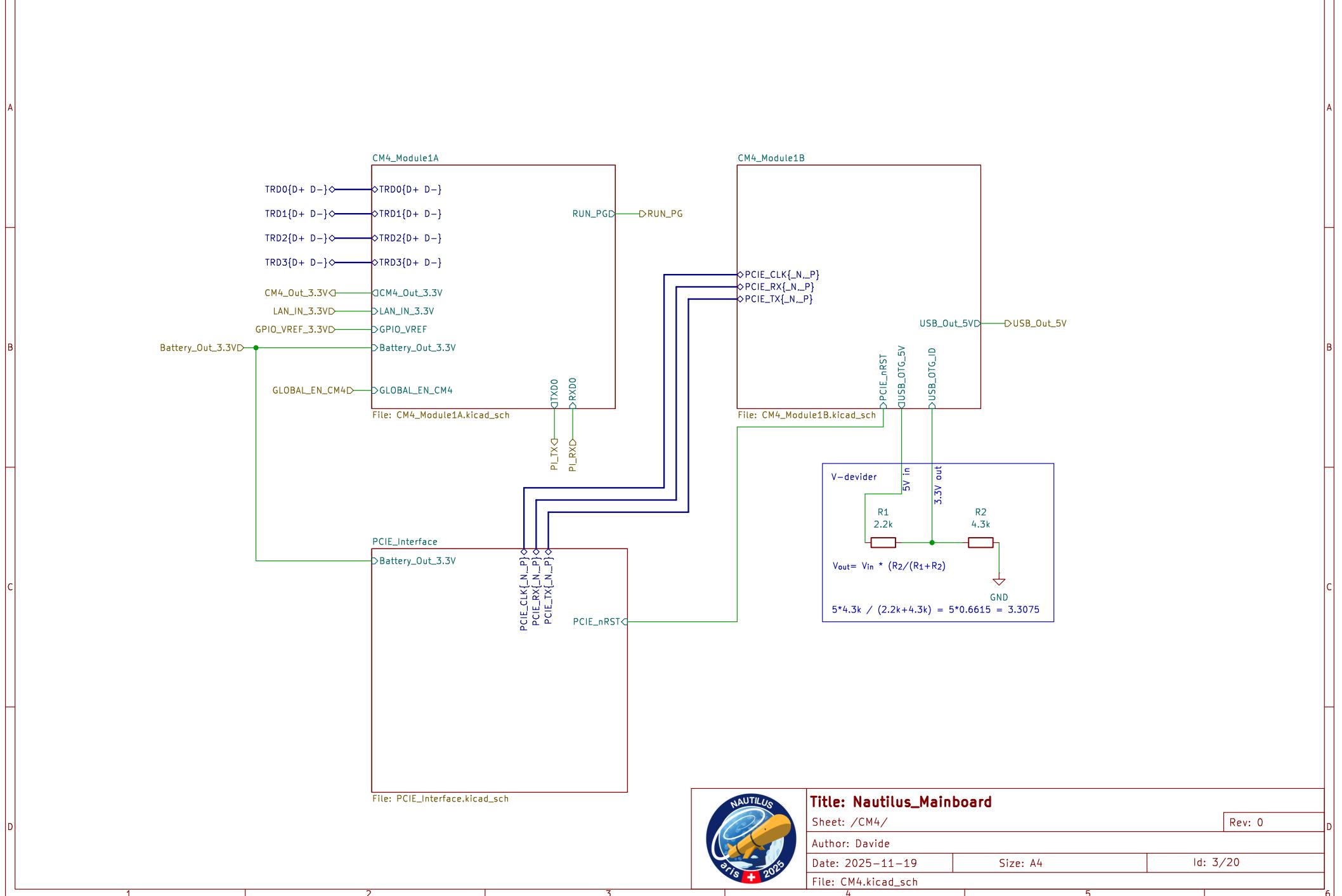
Id: 2/20

File: STM.kicad\_sch

1 2 3 4 5 6

1 2 3 4 5 6

1 2 3 4 5 6



1 2 3 4 5 6

A

A

B

B

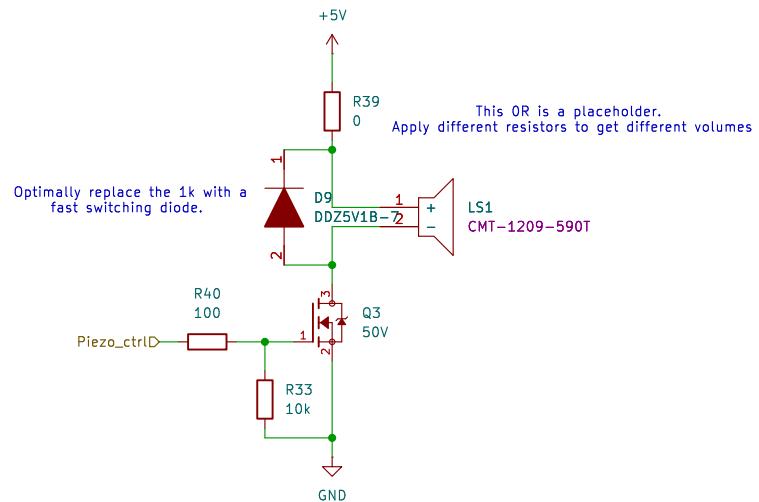
C

C

D

D

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



### Title: Nautilus\_Mainboard

Sheet: /Piezzo/

Rev: 0

Author: Evan

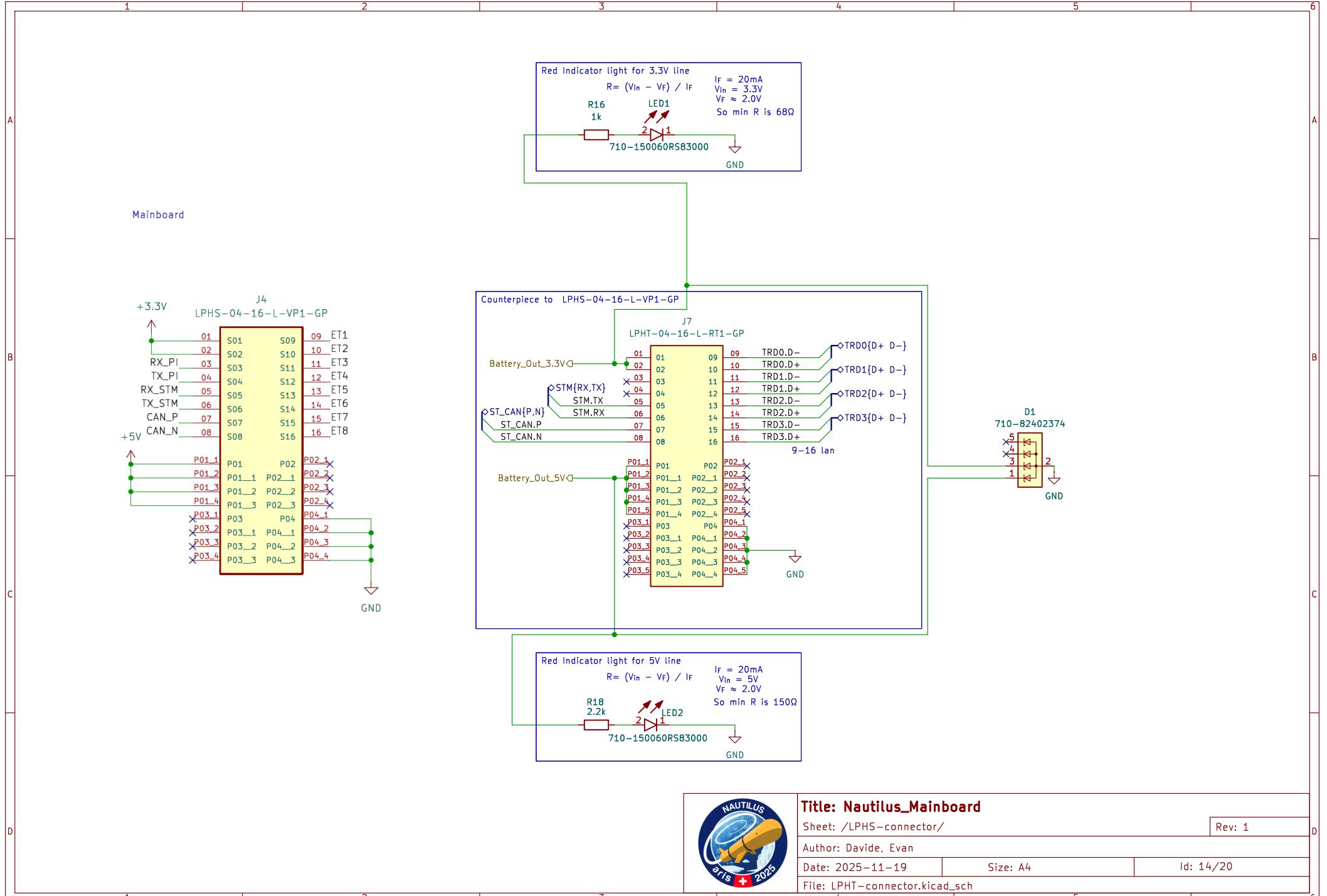
Date: 2025-11-19

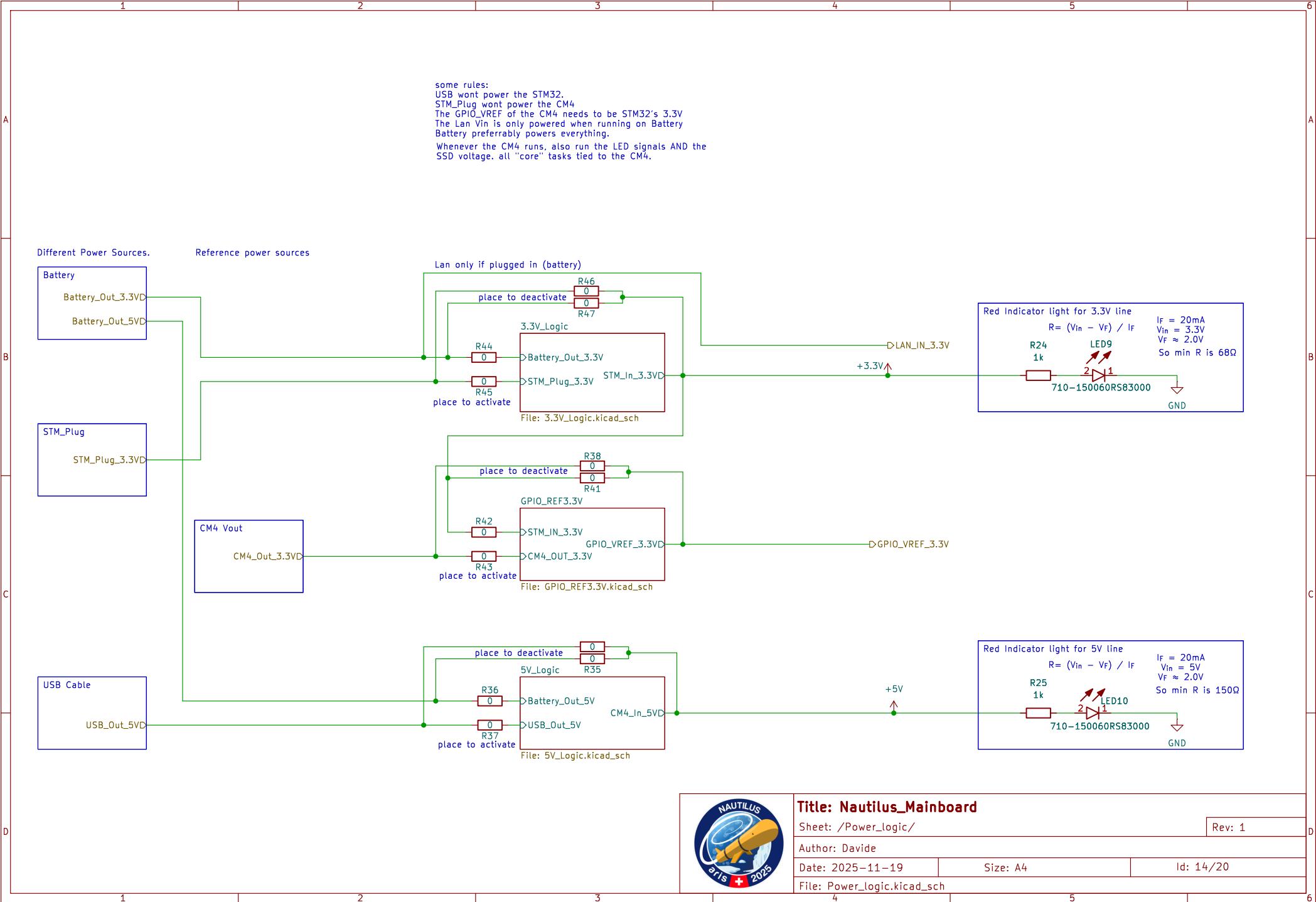
Size: A4

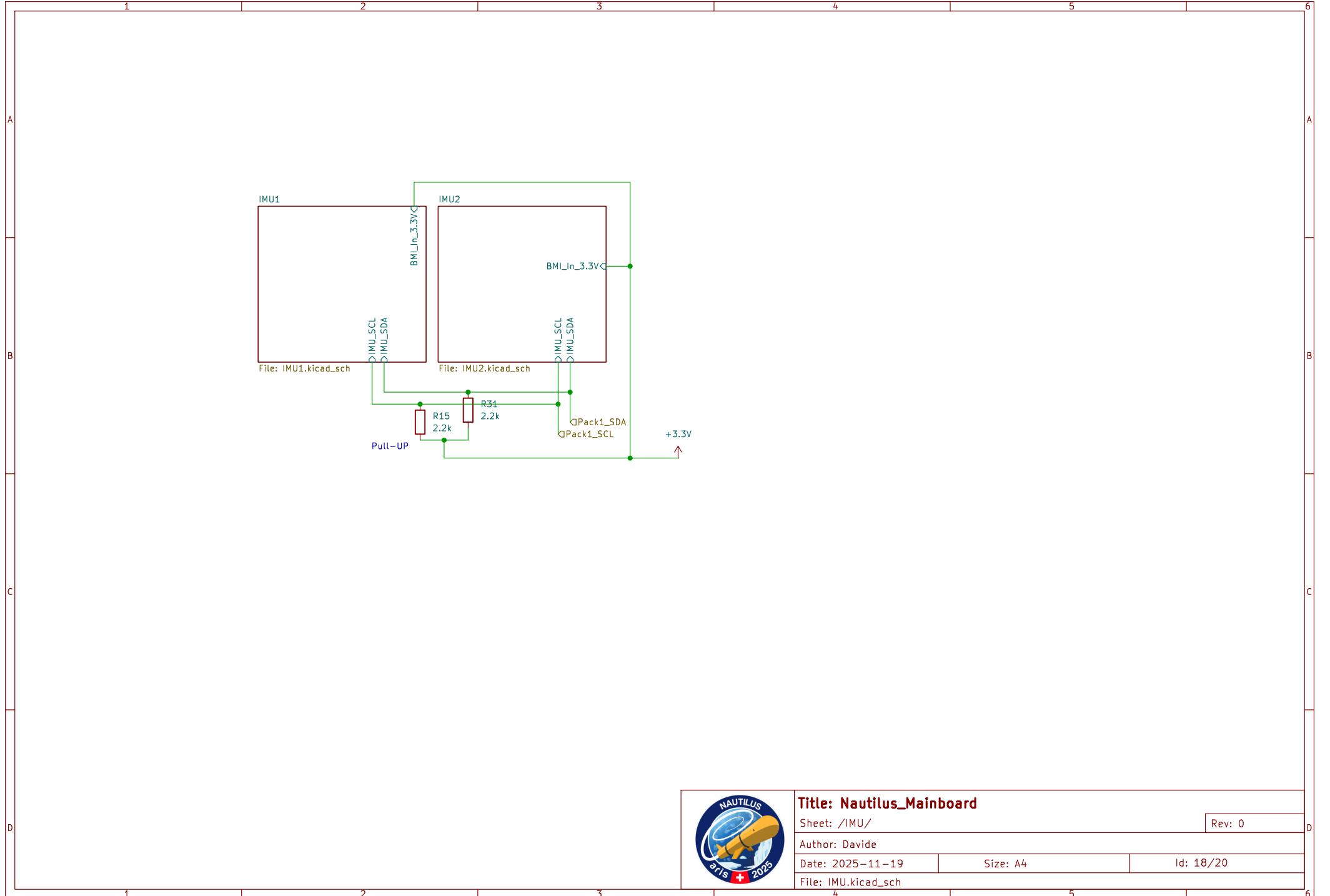
Id: 4/20

File: Piezzo.kicad\_sch

1 2 3 4 5 6






**Title: Nautilus\_Mainboard**

Sheet: /IMU/

Rev: 0

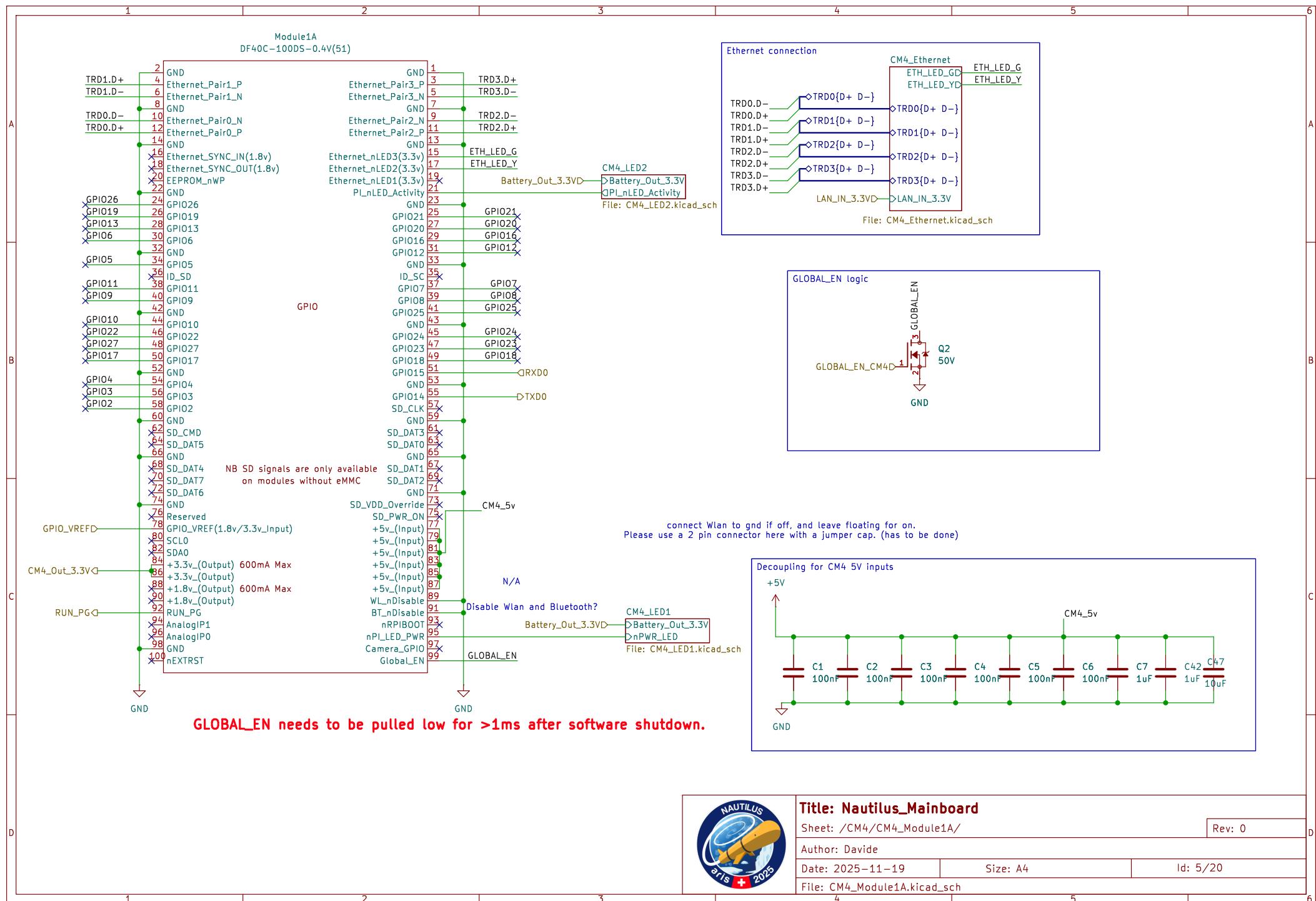
Author: Davide

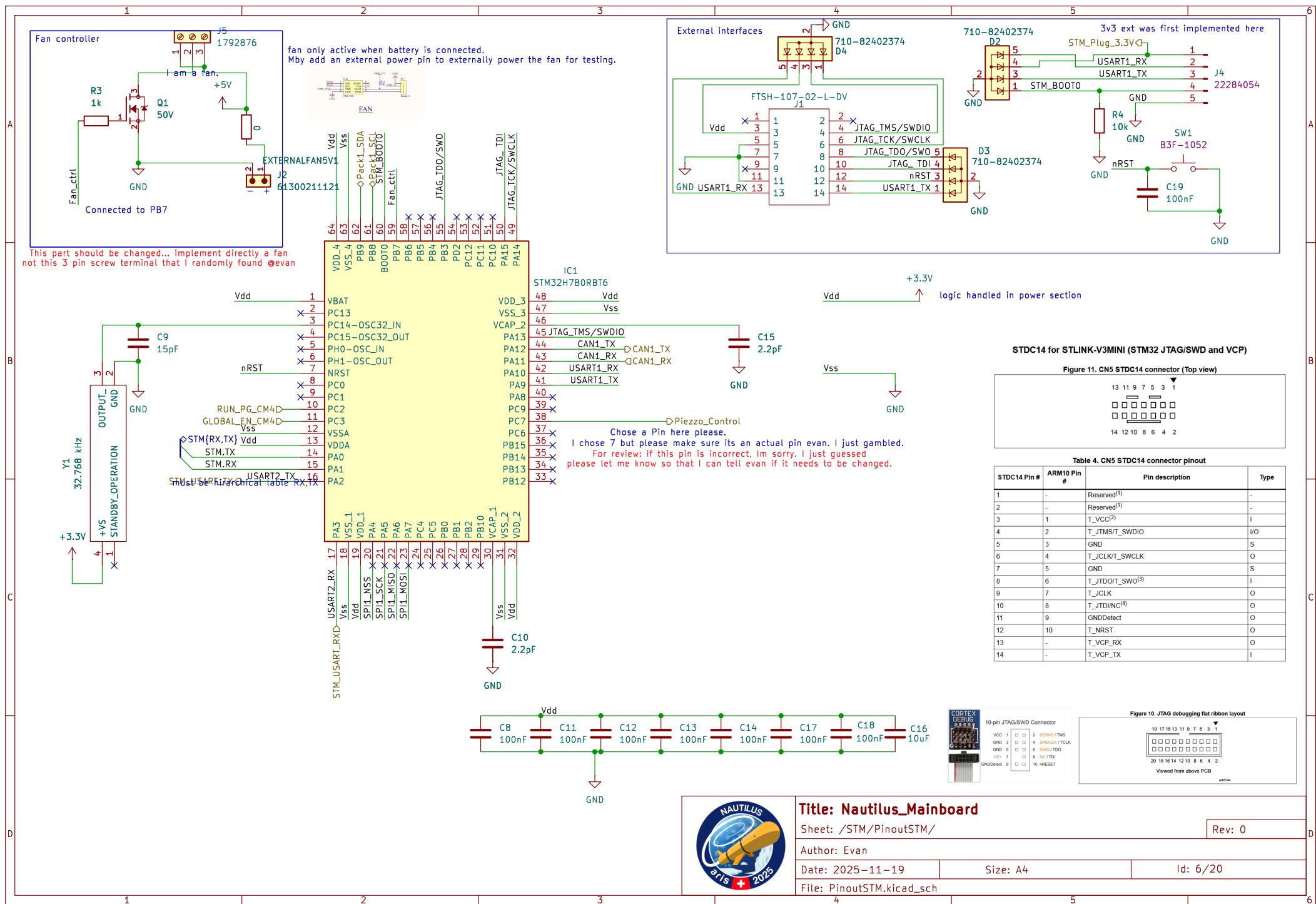
Date: 2025-11-19

Size: A4

Id: 18/20

File: IMU.kicad\_sch





A

A

B

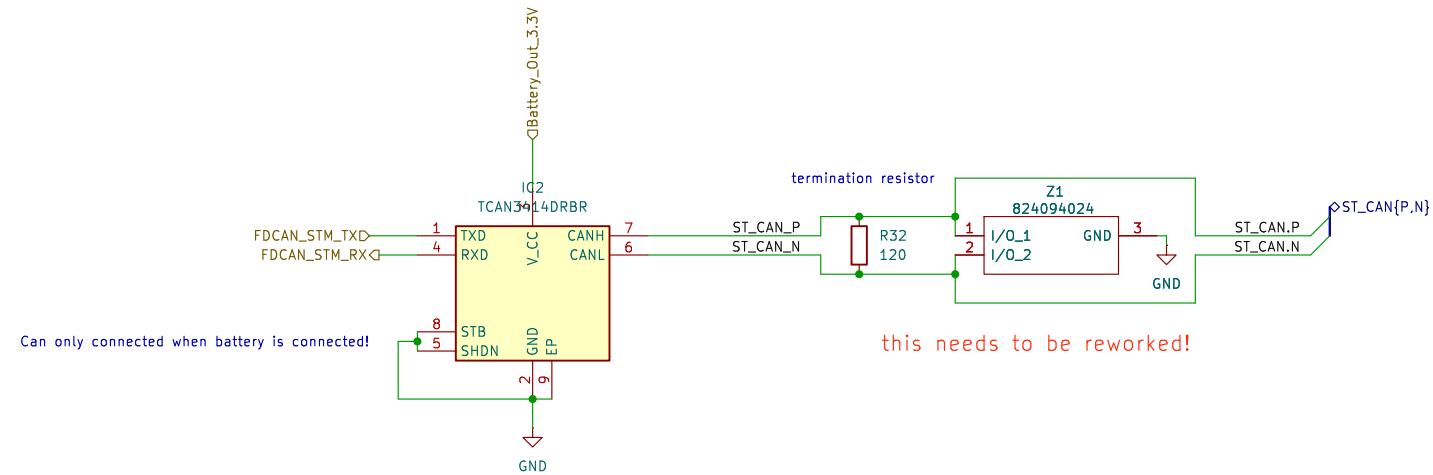
B

C

C

D

D



### Title: Nautilus\_Mainboard

Sheet: /STM/CAN\_Interface/

Rev: 1

Author: Evan & Davide

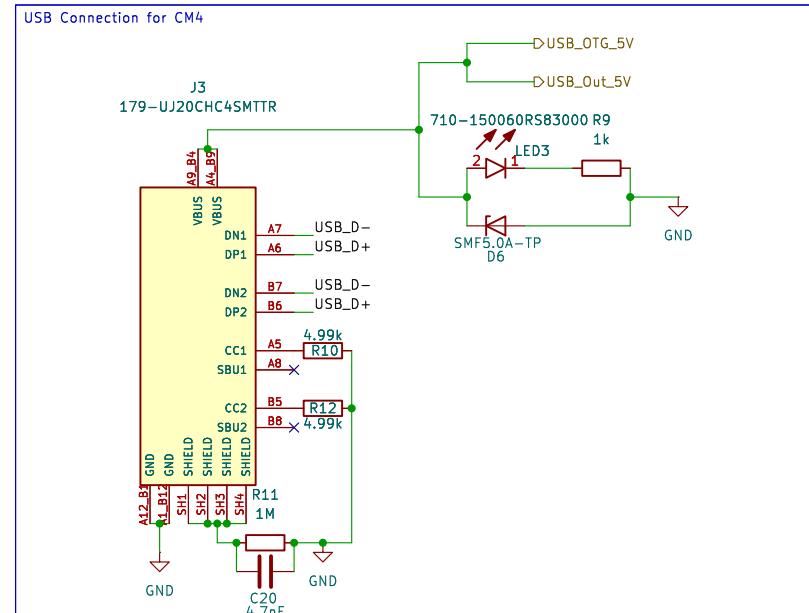
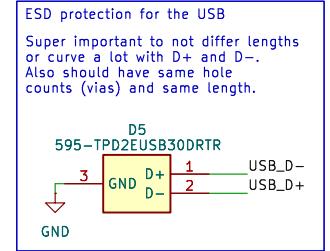
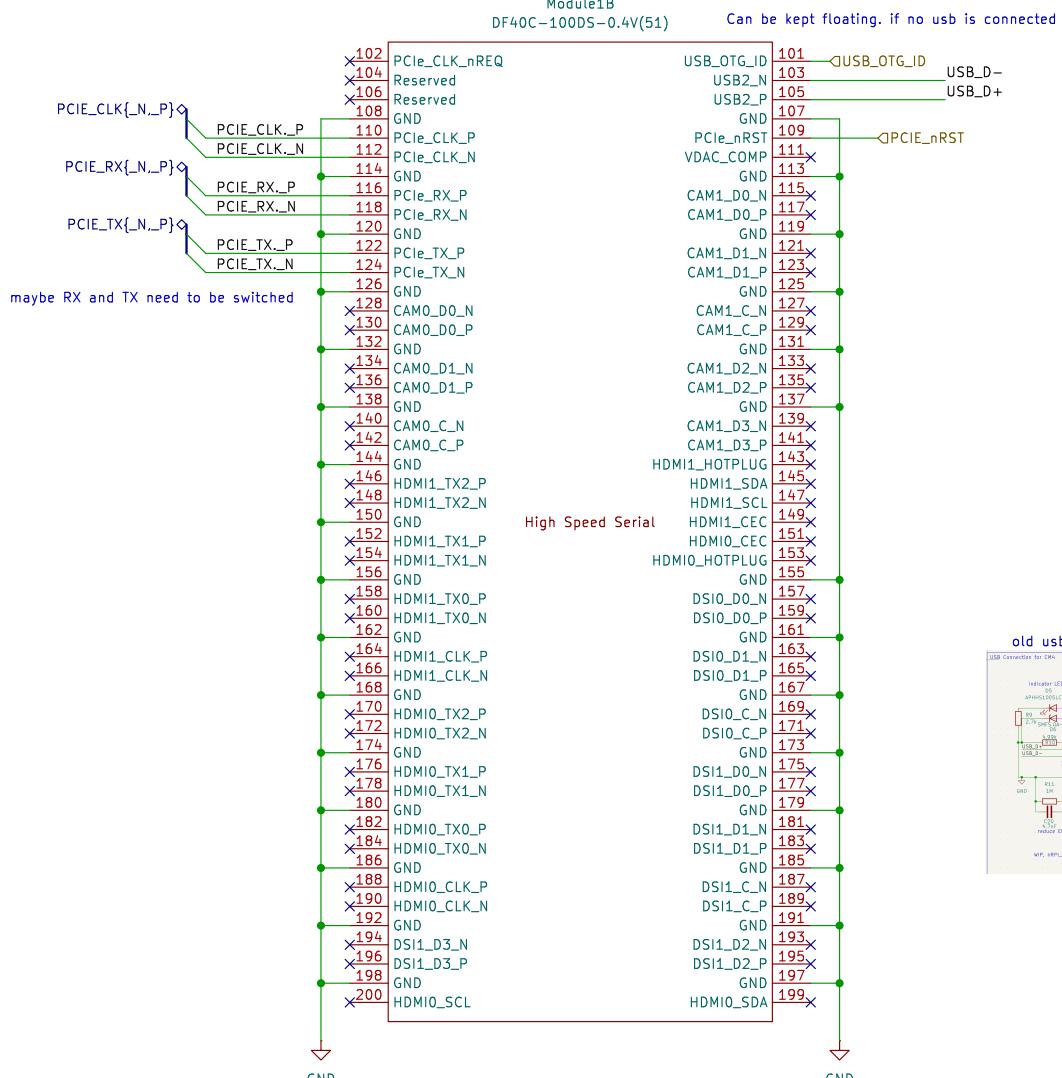
Date: 2025-11-19

Size: A4

Id: 7/20

File: PowerSTM.kicad\_sch

A



WIP, nRPI\_BOOT? power only to certain parts? -> Diode (later) indication? (YES! LED)



## Title: Nautilus\_Mainboard

Sheet: /CM4/CM4\_Module1B/

Rev: 0

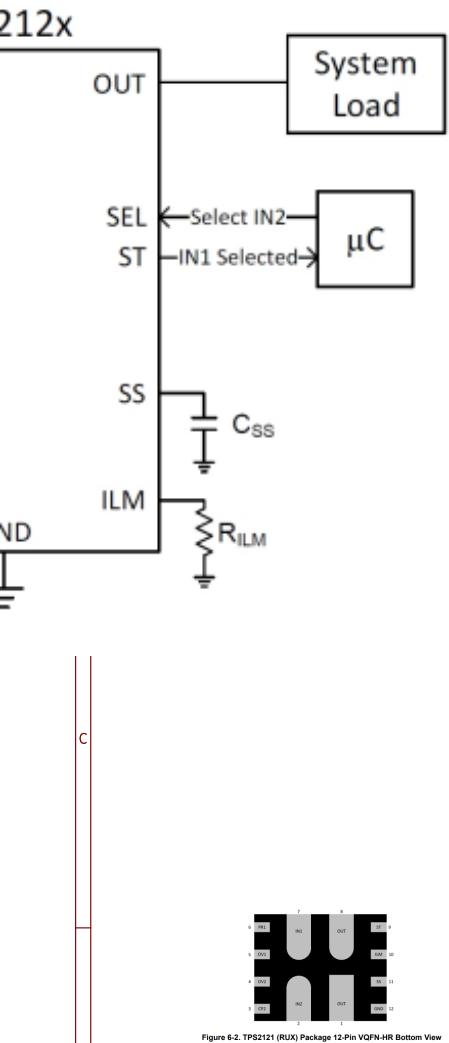
Author: Davide

Date: 2025-11-19

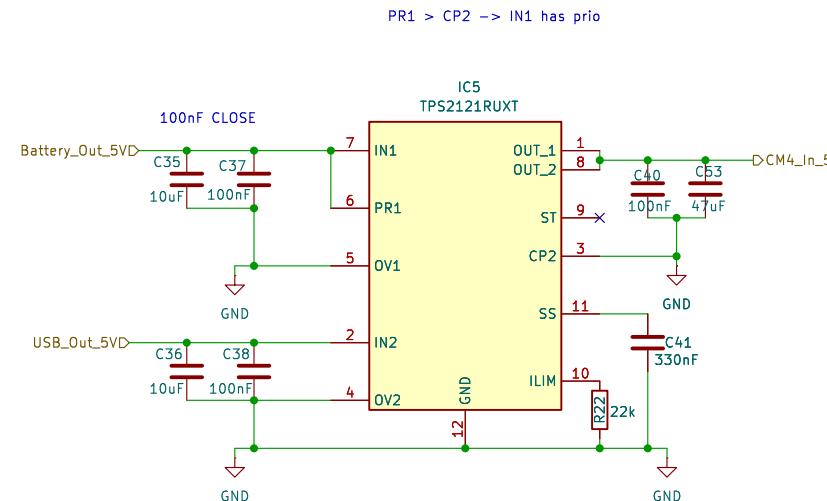
Size: A4

Id: 11/20

File: CM4\_Module1B.kicad\_sch



for questions about wiring etc please consult the datasheet...  
<https://www.ti.com/lit/ds/symlink/tps2120.pdf?ts=176167817832>



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

Pin Functions				
Pin	TP2512P	TP2512I	I/O	Description
NAME	WCSP	VDPIN-HR		
IN1	B1, B2, C1	?	I	Power Input for Source 1
IN2	B3, B4, C2	2	I	Power Input for Source 2
C2	C3, C4	1.8	O	Power Output
DUT	D2, D3, D4			
ST	E1	9	O	Output signal indicating which channel is selected. Connect to GND if not required.
EN	E2	10	O	Output Current Limiting for both channels.
SS	E3	11	O	Adjust Input Setting Delay Time and Output Soft Start Time
GND	E4	12	—	Device Ground
PR1	A1	6	—	Enables Priority Operation. Connect to IN1 to set switcher voltage. Connect to GND if not required.
DV1	A2	5	I	Active Low Enable Suspender for IN1 Overvoltage Protection. Connect to GND if not required.
DV2	A3	4	I	Active Low Enable Suspender for IN2 Overvoltage Protection. Connect to GND if not required.
SEL	A4	—	I	Active low enable for IN1. Allow GPO to override priority operation and manually switch between TP2512P/2512I.

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



Title: Nautilus Mainboard

Sheet: /Power logic/5V Logic/

Author: David

Date: 2025-11-19

Rev:

File: 5V\_Logic.kicad\_sch

1 2 3 4 5 6

A

A

B

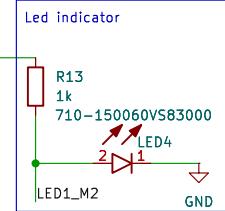
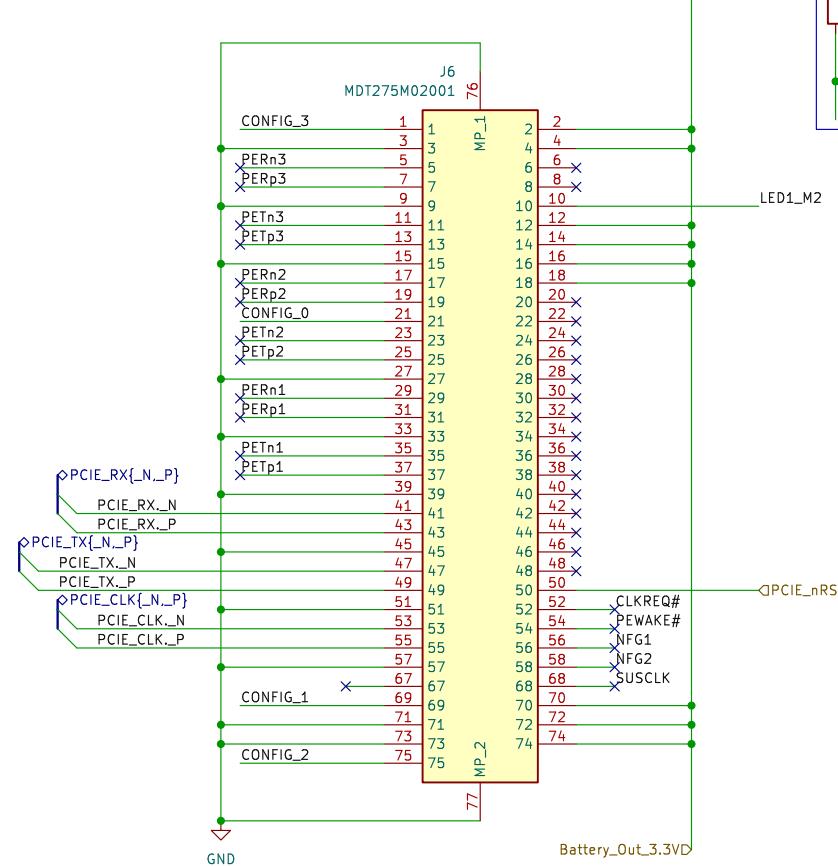
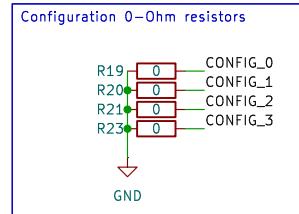
B

C

C

D

D



### Title: Nautilus\_Mainboard

Sheet: /CM4/PCIE\_Interface/  
Rev: 0

Author: Davide

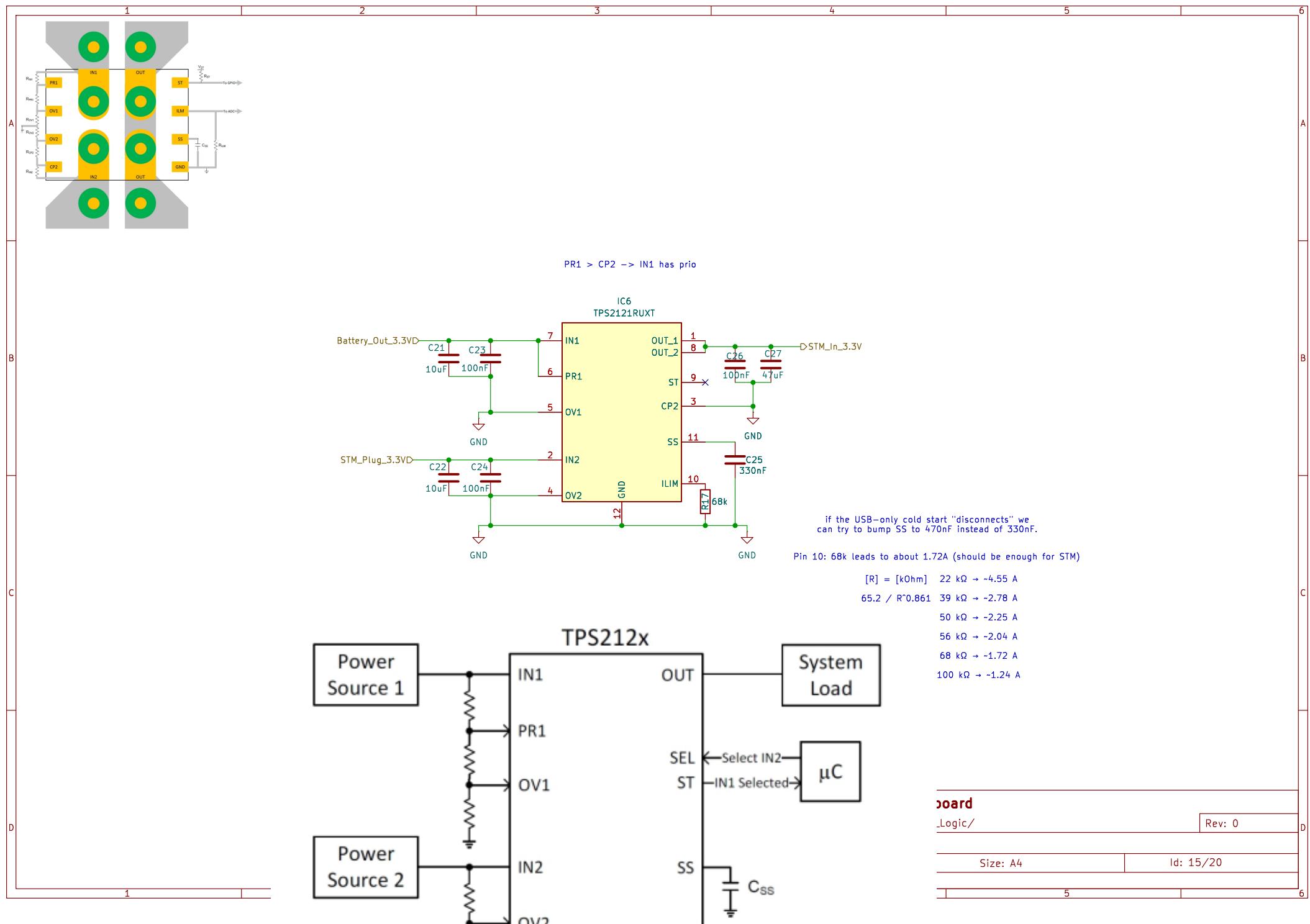
Date: 2025-11-19

Size: A4

Id: 13/20

File: PCIE\_Interface.kicad\_sch

1 2 3 4 5 6



1 2 3 4 5 6

A

A

B

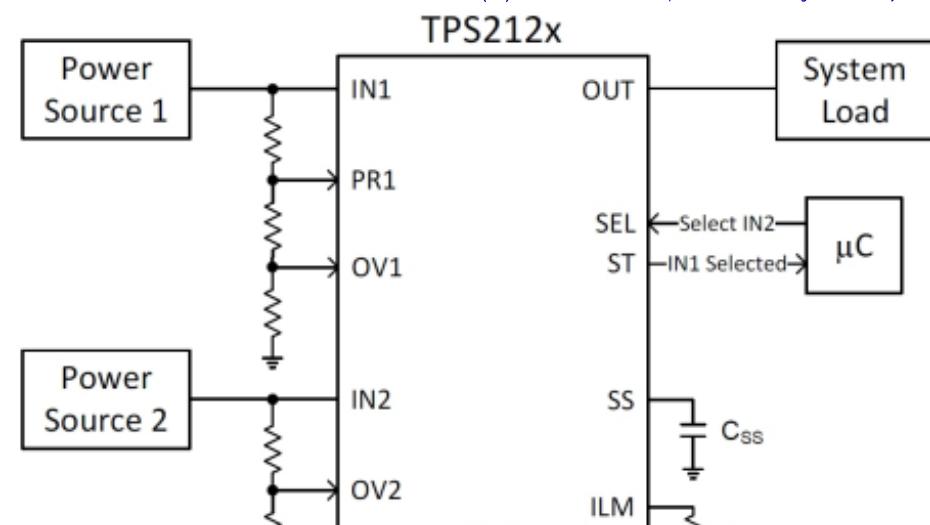
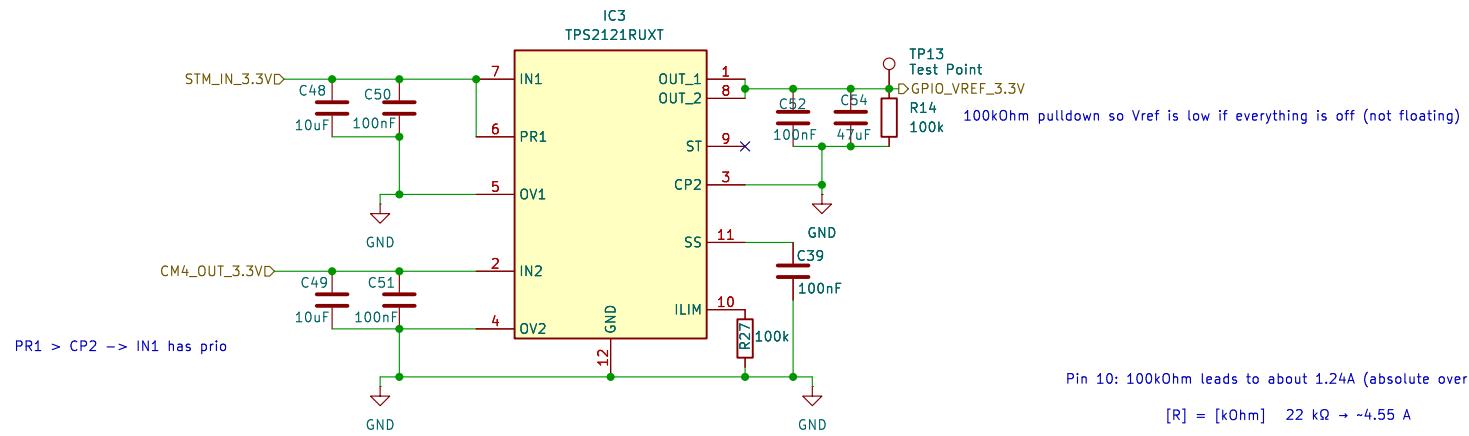
B

C

C

D

D



3V/

Rev: 0

Size: A4

Id: 16/20

5

6

1 2 3 4 5 6

A

A

B

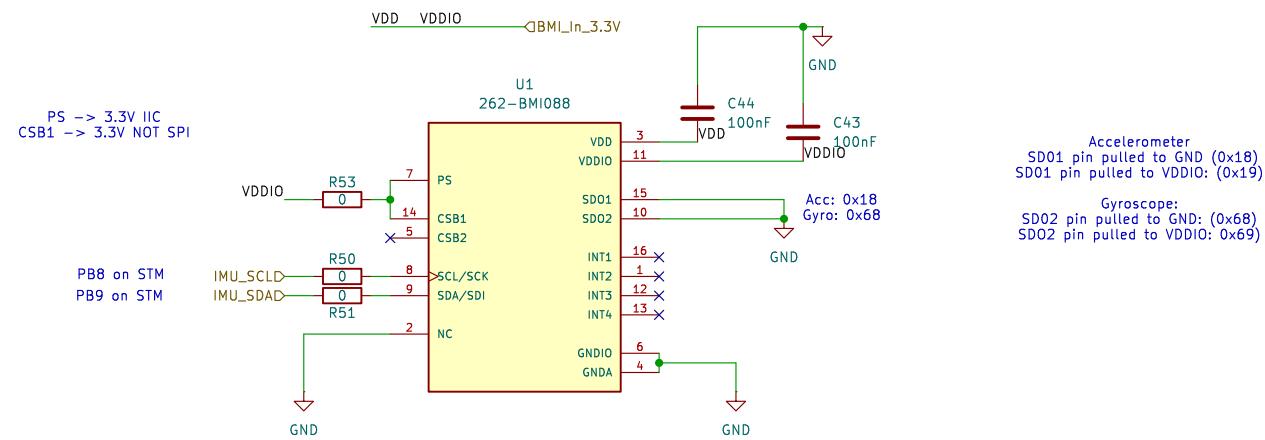
B

C

C

D

D



## Title: Nautilus\_Mainboard

Sheet: /IMU/IMU1/

Rev: 0

Author: Davide

Date: 2025-11-19

Size: A4

Id: 19/20

File: IMU1.kicad\_sch

1 2 3 4 5 6

A

A

B

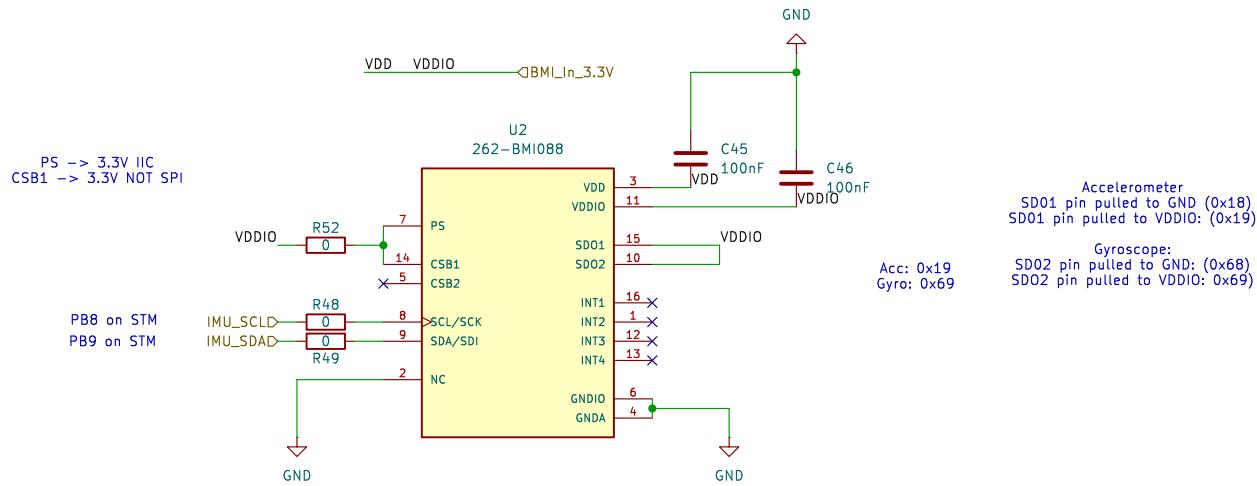
B

C

C

D

D



### Title: Nautilus\_Mainboard

Sheet: /IMU/IMU2/

Rev: 0

Author: Davide

Date: 2025-11-19

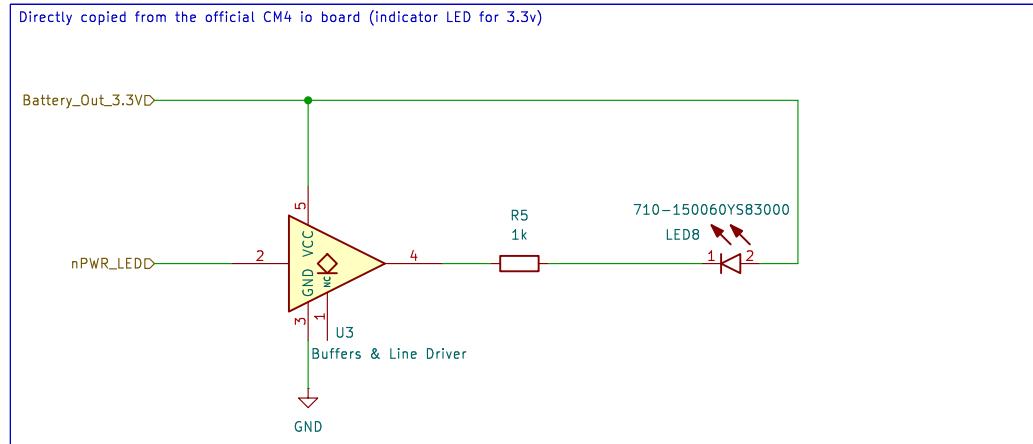
Size: A4

Id: 20/20

File: IMU2.kicad\_sch

A

A



Screenshot  
From the CM4 io board

B

B

C

C

D

D



### Title: Nautilus\_Mainboard

Sheet: /CM4/CM4\_Module1A/CM4\_LED1/

Rev: 0

Author: Davide

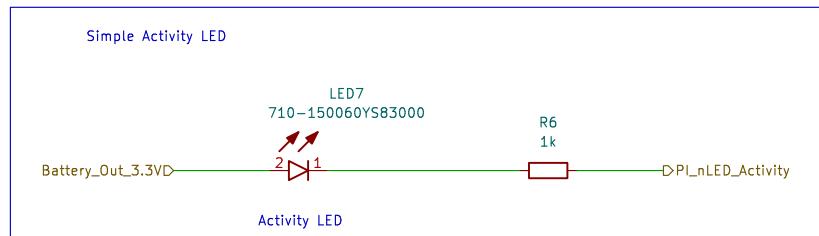
Date: 2025-11-19

Size: A4

Id: 8/20

File: CM4\_LED1.kicad\_sch

A



B

B

C

C

D

D

**Title: Nautilus\_Mainboard**

Sheet: /CM4/CM4\_Module1A/CM4\_LED2/

Rev: 0

Author: Davide

Date: 2025-11-19

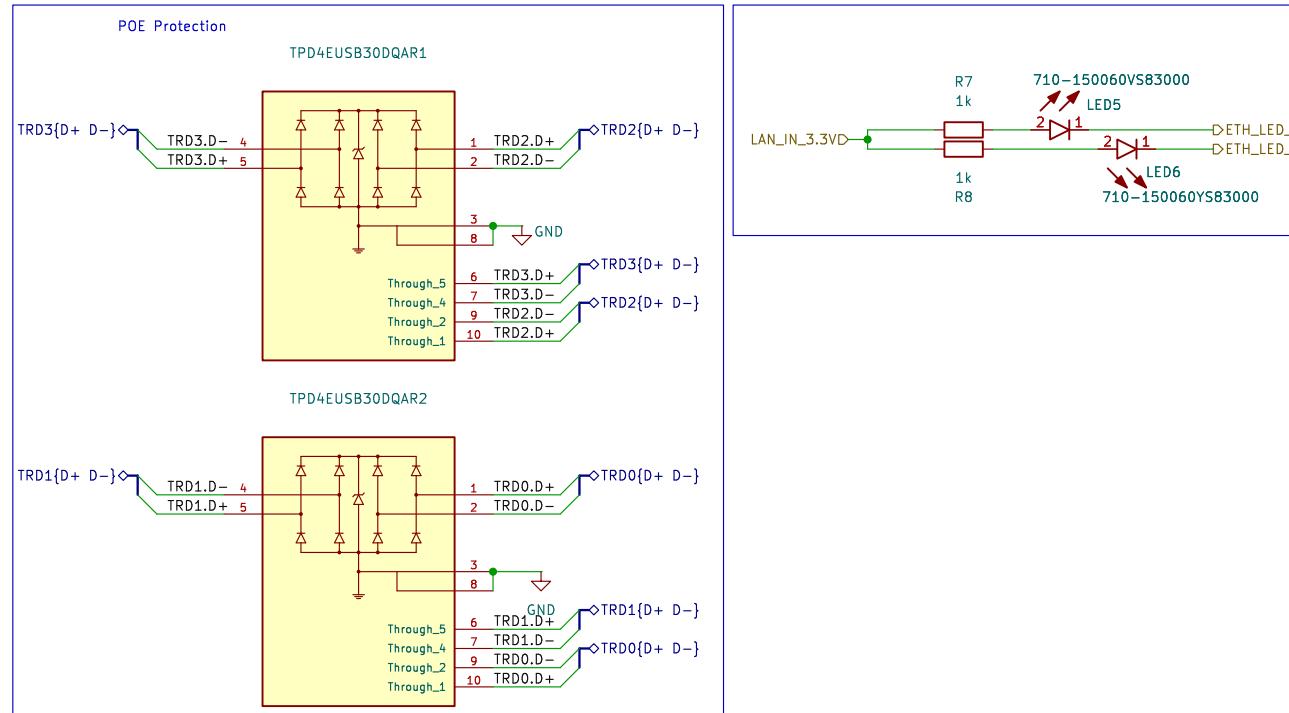
Size: A4

Id: 9/20

File: CM4\_LED2.kicad\_sch

A

A



B

B

C

C

D

D



### Title: Nautilus\_Mainboard

Sheet: /CM4/CM4\_Module1A/CM4\_Ethernet/

Rev: 0

Author: Davide

Date: 2025-11-19

Size: A4

Id: 10/20

File: CM4\_Ethernet.kicad\_sch