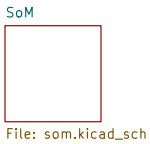
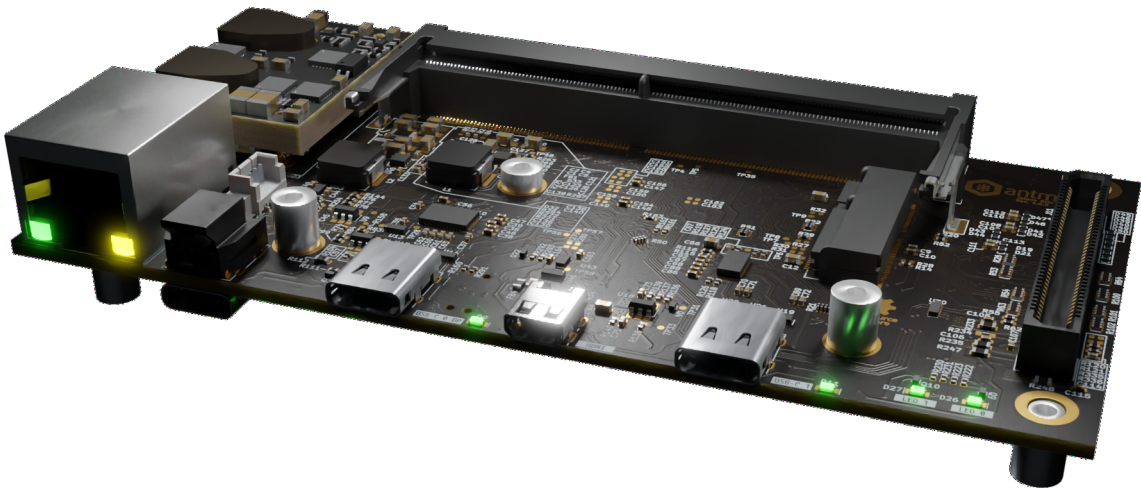
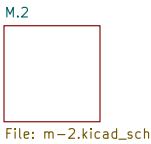


Jetson Orin Baseboard

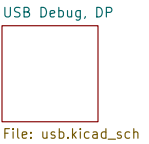
github.com/antmicro/jetson-orin-baseboard



File: som.kicad_sch



File: m-2.kicad_sch



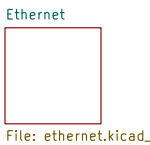
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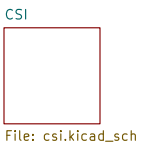
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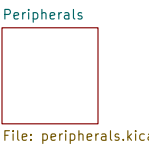
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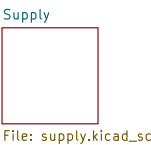
File: ethernet.kicad_sch



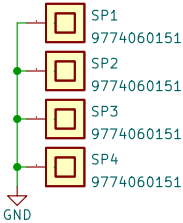
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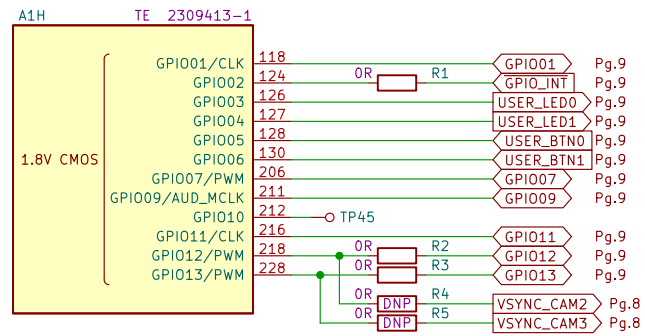
File: peripherals.kicad_sch



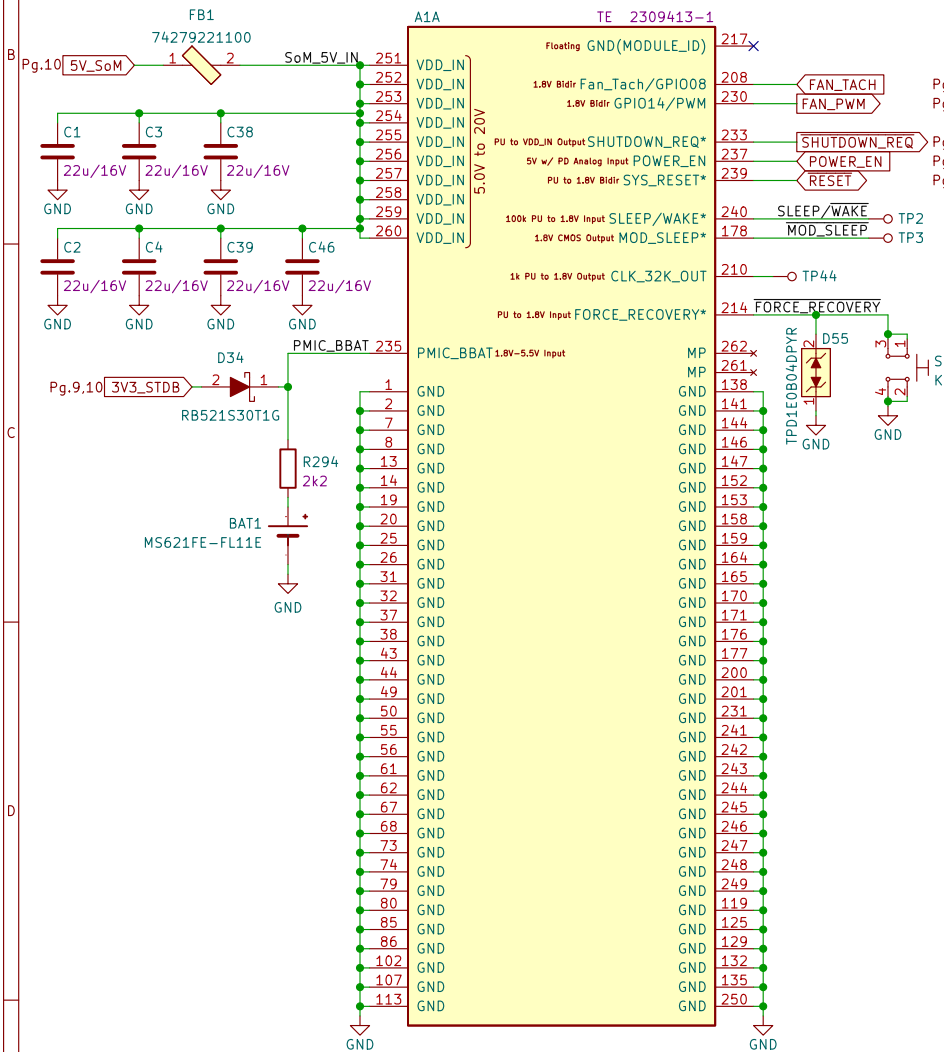
File: supply.kicad_sch



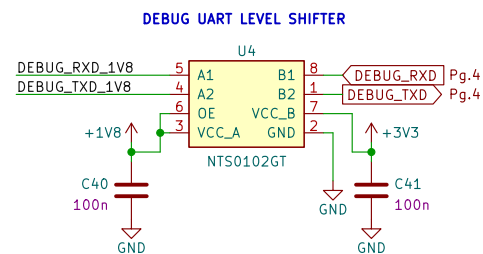
GPIO



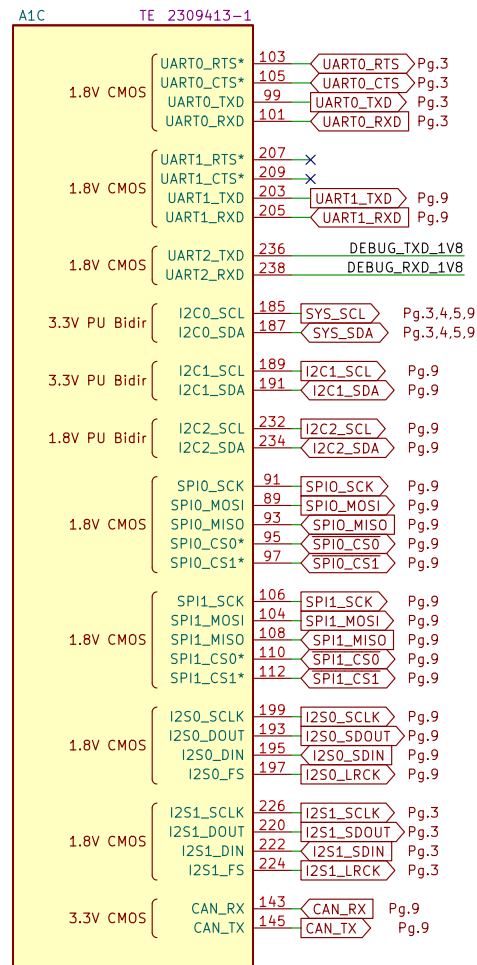
Power & CTRL



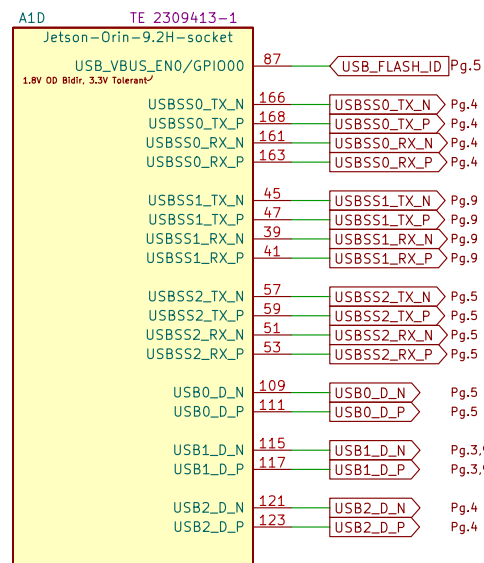
Miscellaneous



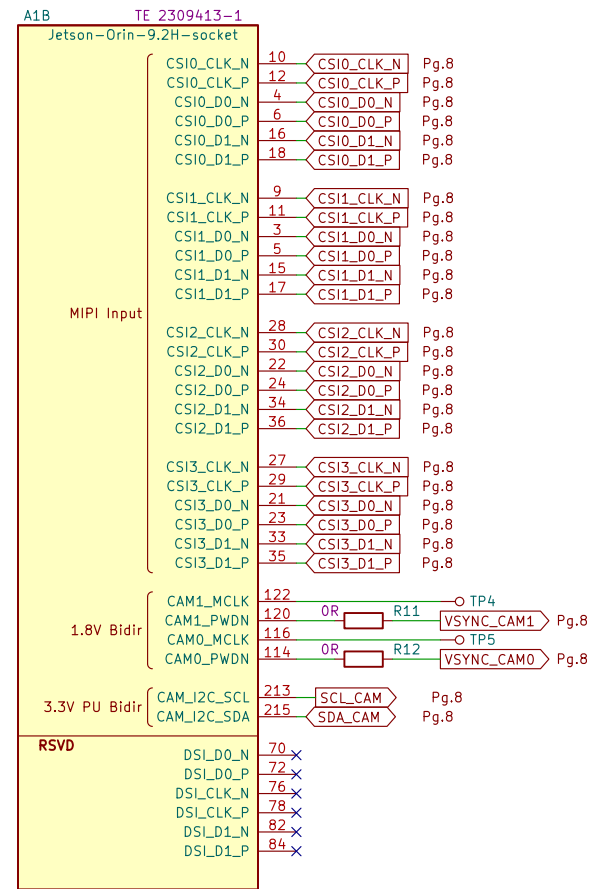
UART/I2C/SPI/I2S/CAN



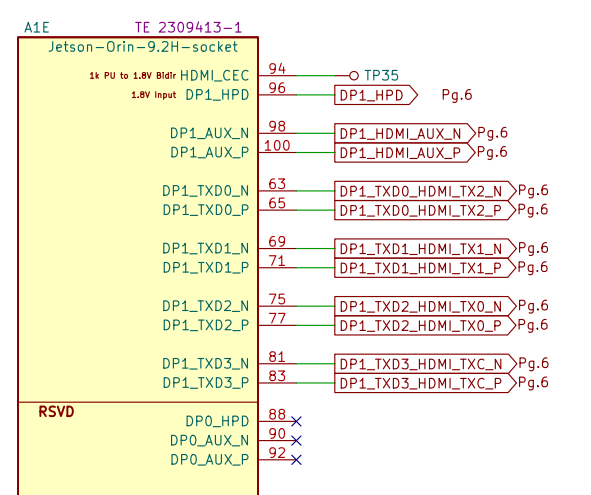
USB



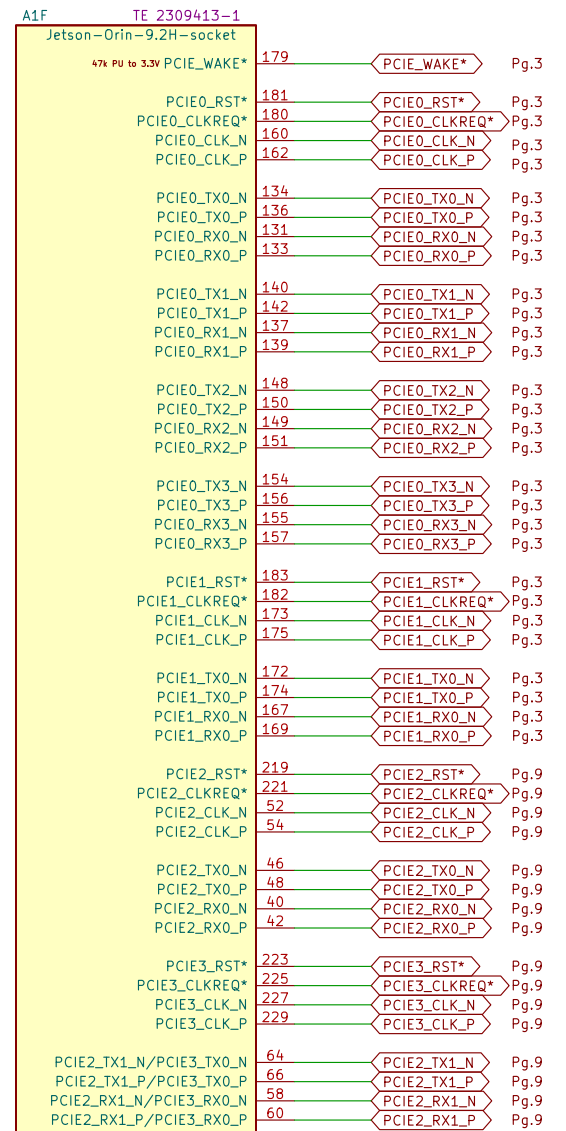
CSI



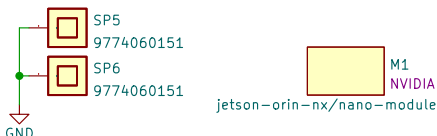
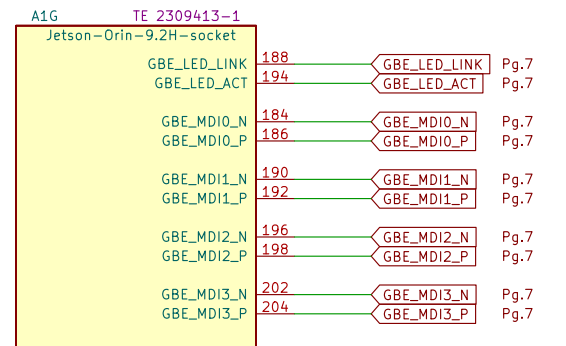
Video Output



PCIe



GbE



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Sheet: /SoM/

File: som.kicad_sch

Title: Jetson Orin Baseboard

Size: A3

Date: 2023-03-03

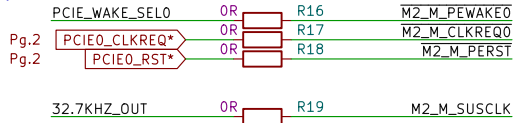
Rev: 1.1.0

KiCad E.D.A. eeschema 6.0.5+dfsg-1-bpo11+1

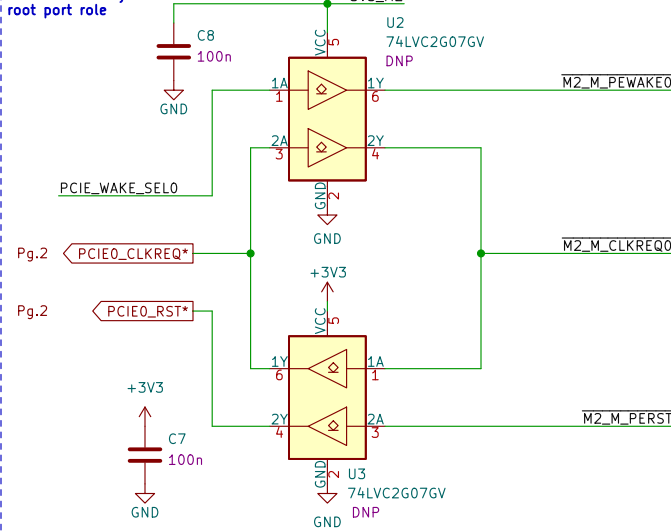
Id: 2/10

PCIe0 Root Port / Endpoint mode selector

NOTE:
DNP for M.2 key M
endpoint role

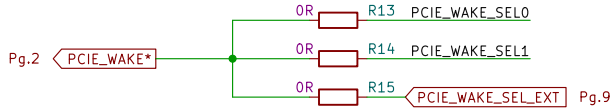


NOTE:
DNP for M.2 key M
root port role

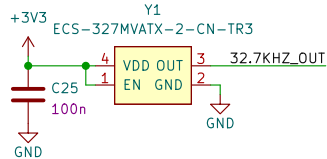


NOTE about PCIe 0 role switching:
For details, refer to the PCIe section of
"Jetson Orin NX Series Product Design Guide"
<https://developer.nvidia.com/jetson-orin-nx-series-design-guide>

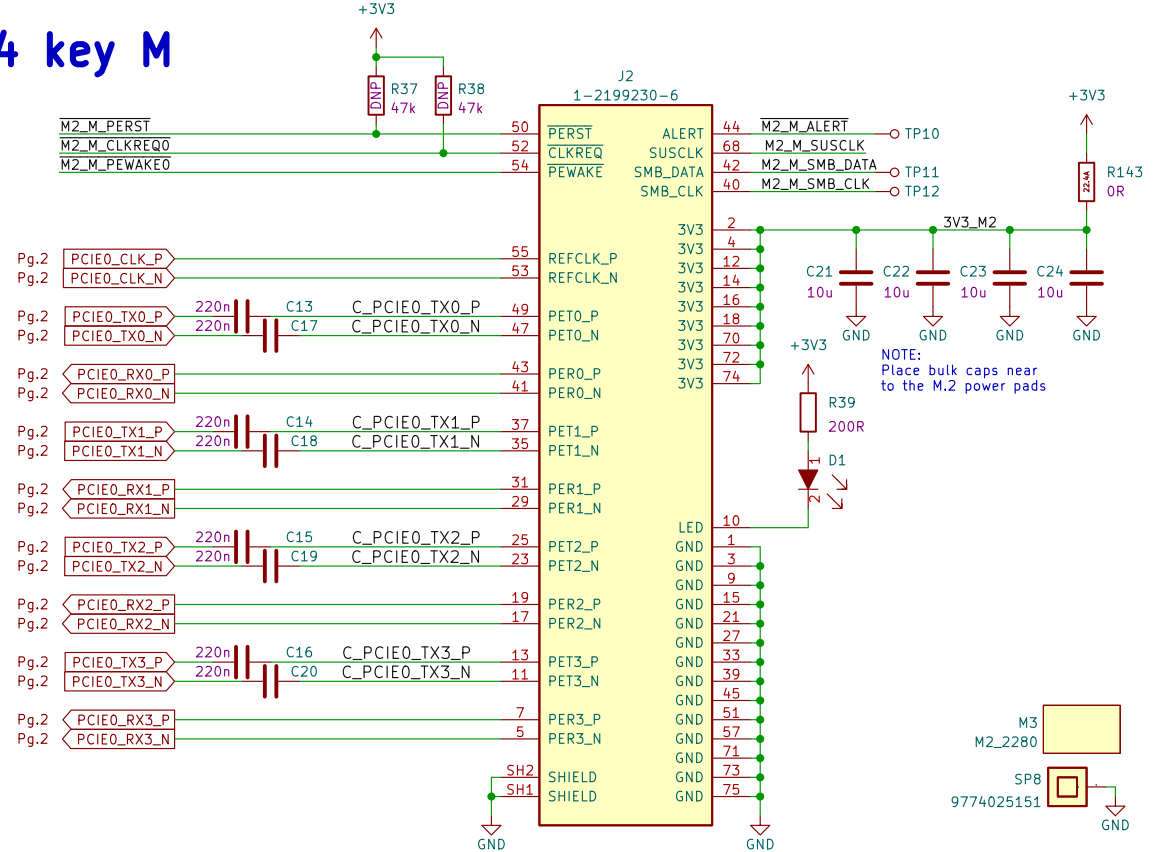
M.2 PCIE_WAKE selector



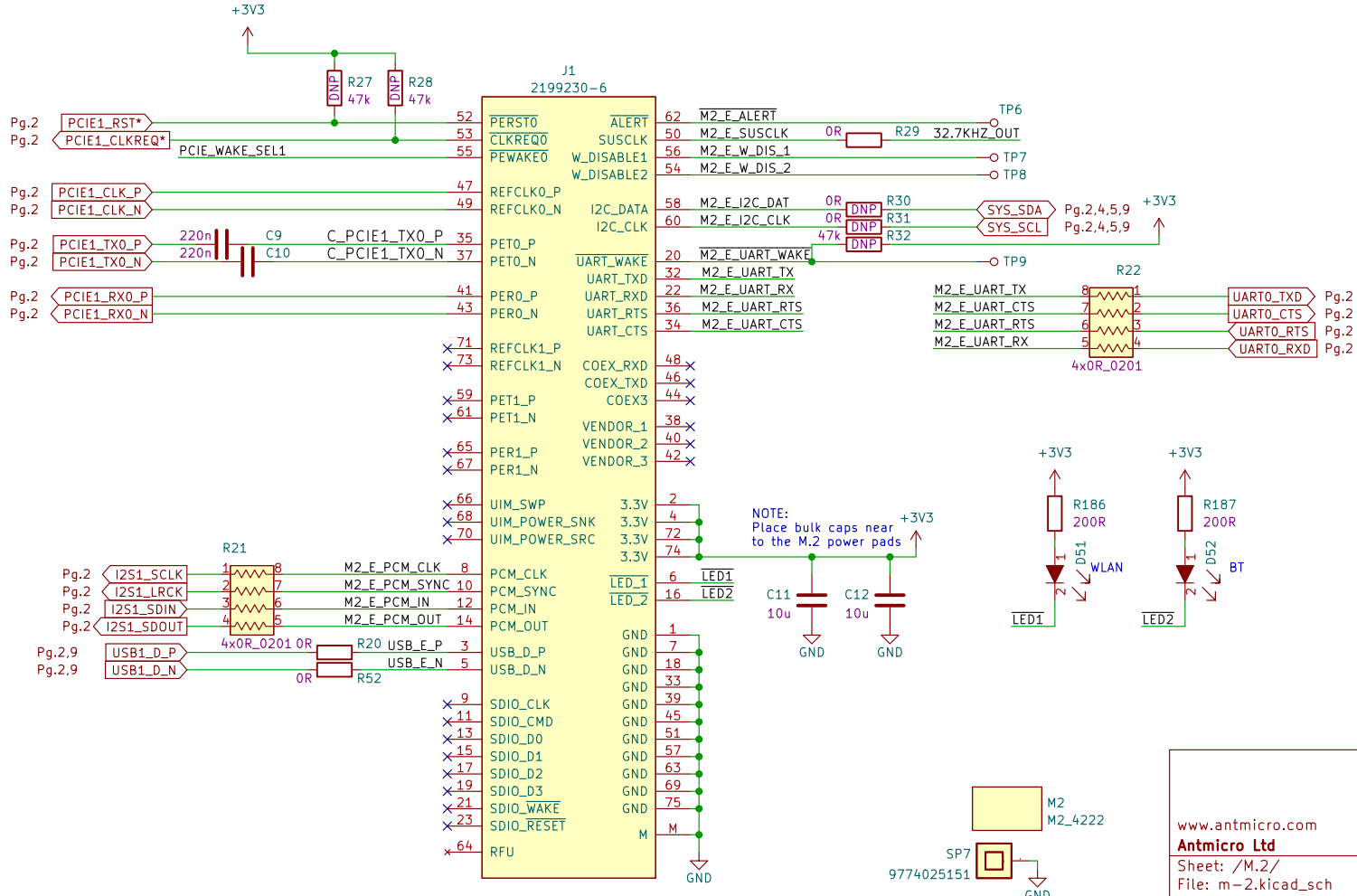
SUSCLK SOURCE



PCIe0 1x4 key M



PCIe1 1x1 key E



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Sheet: /M.2/
File: m-2.kicad_sch

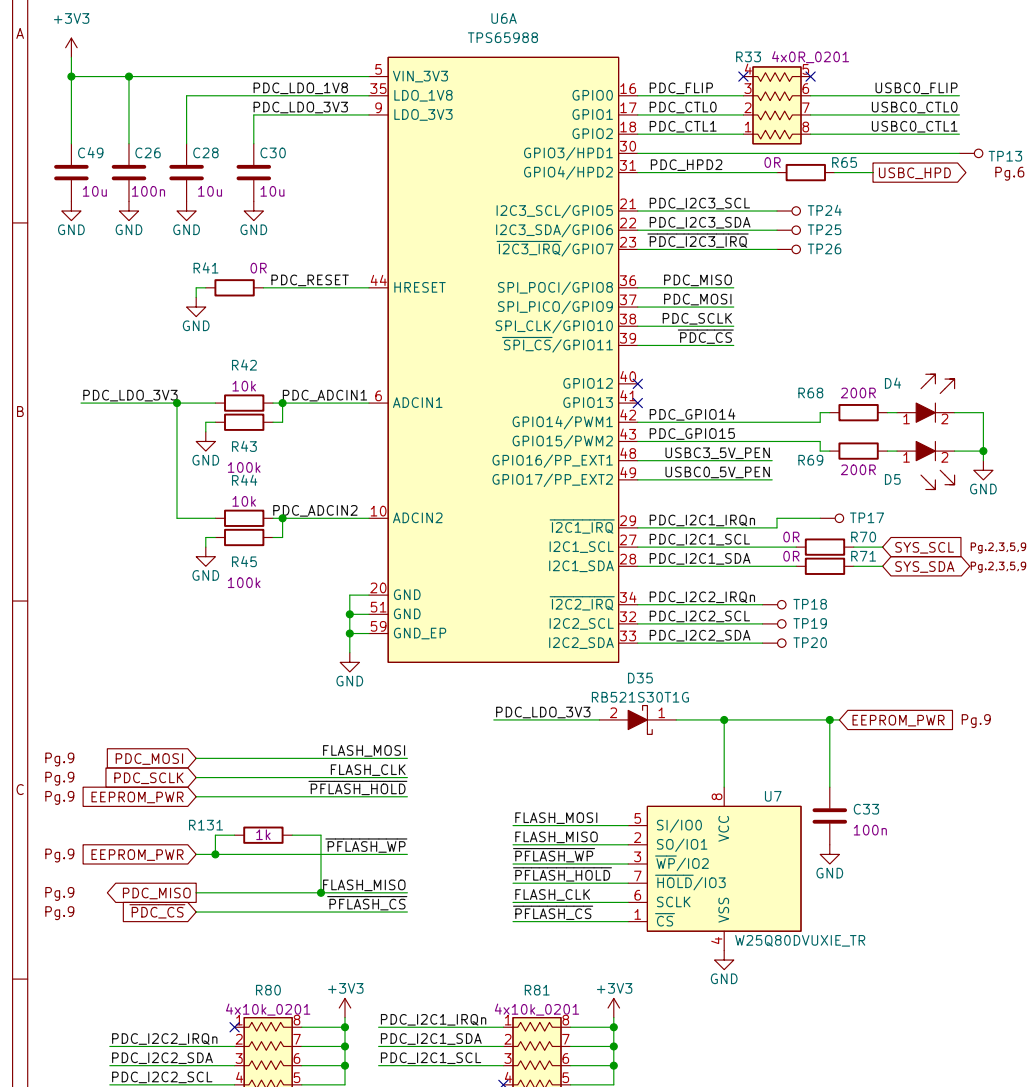
Title: Jetson Orin Baseboard

Size: A3	Date: 2023-03-03
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KiCad E.D.A. eeschema 6.0.5+dfsg-1~bpo11+1

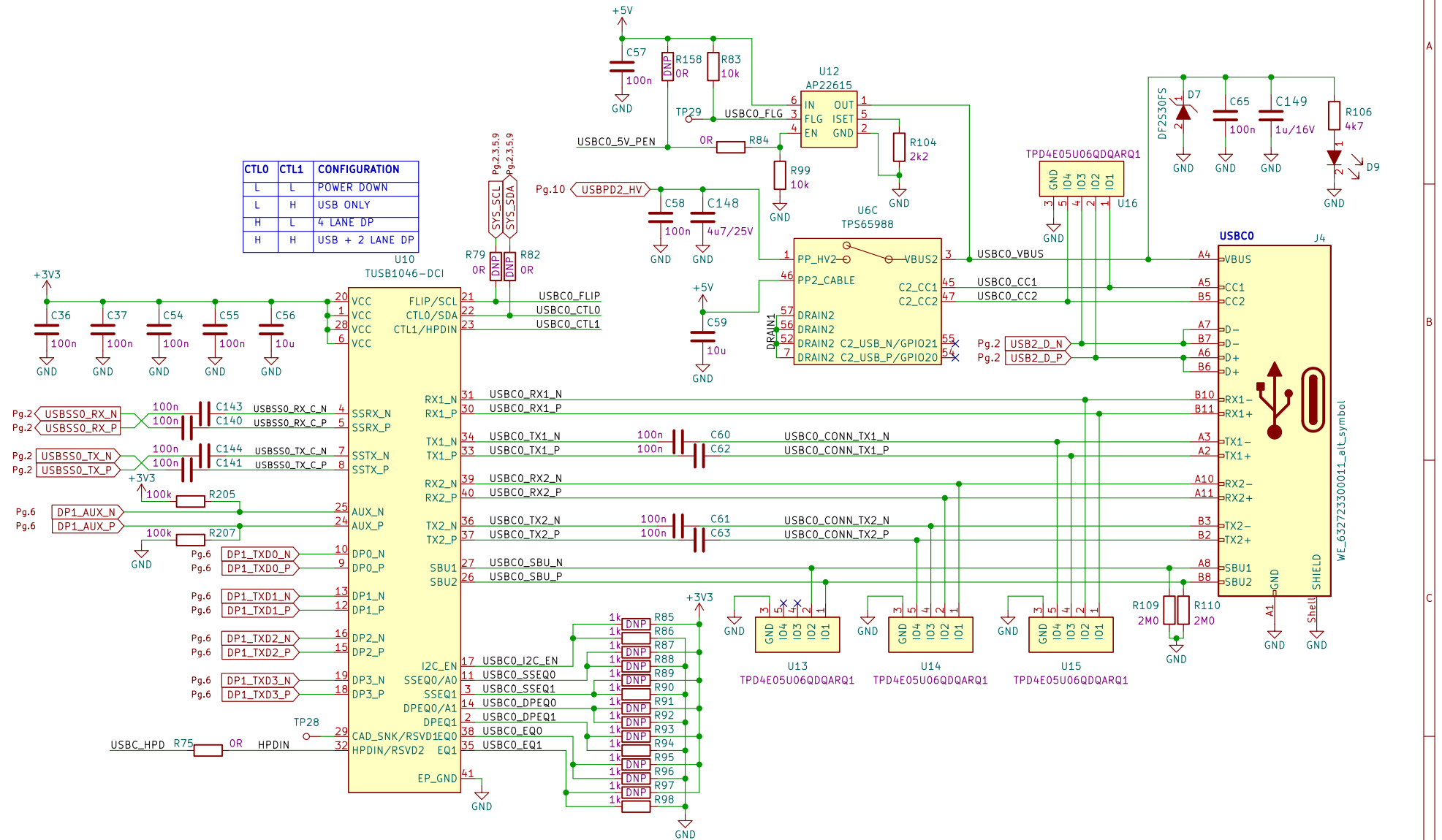
Id: 3/10

USB PD Controller

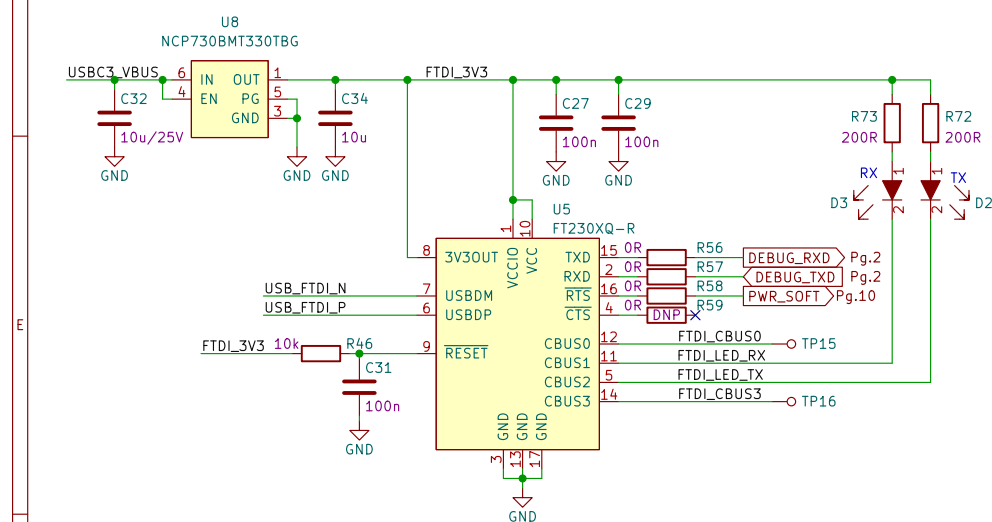


USB-C 0 Display Port alt mode

USB-PD Source/Sink

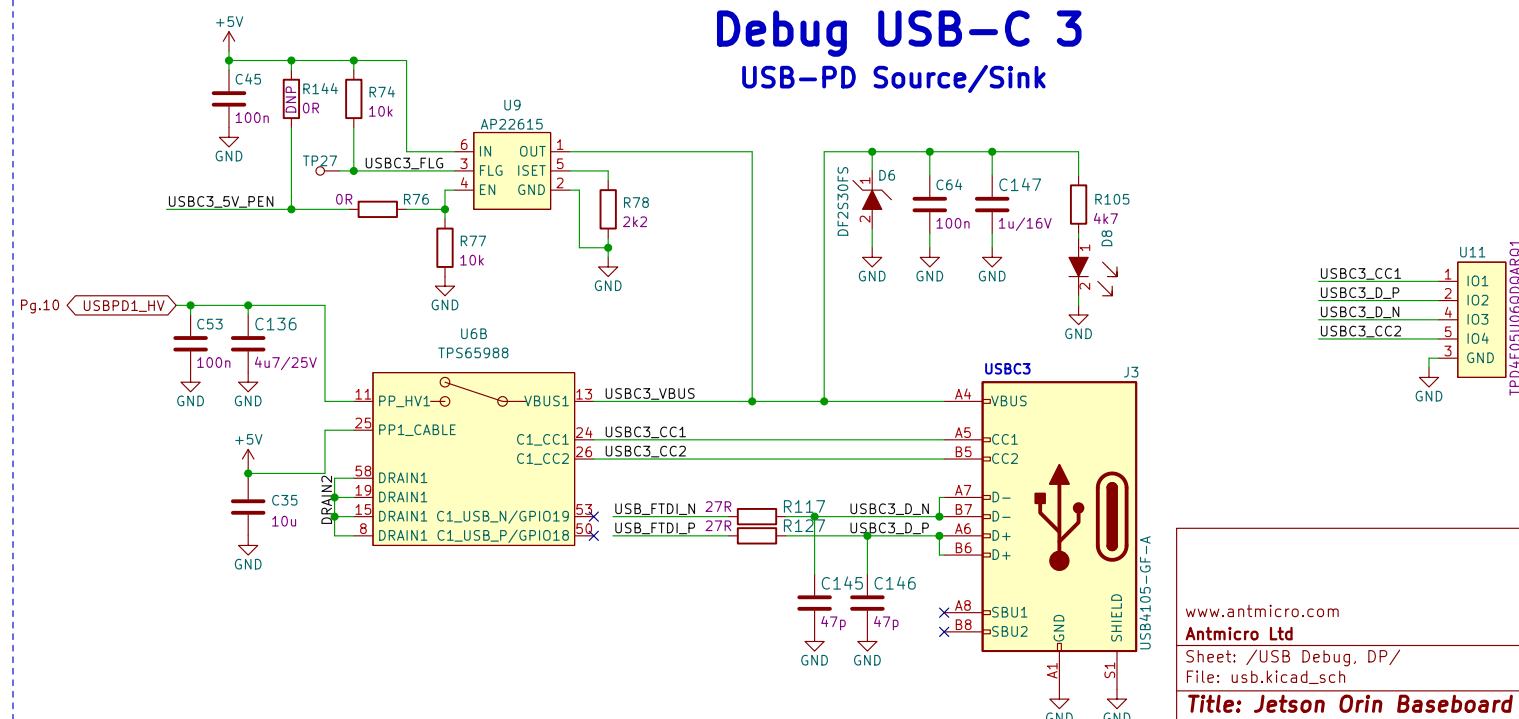


USB-UART Bridge

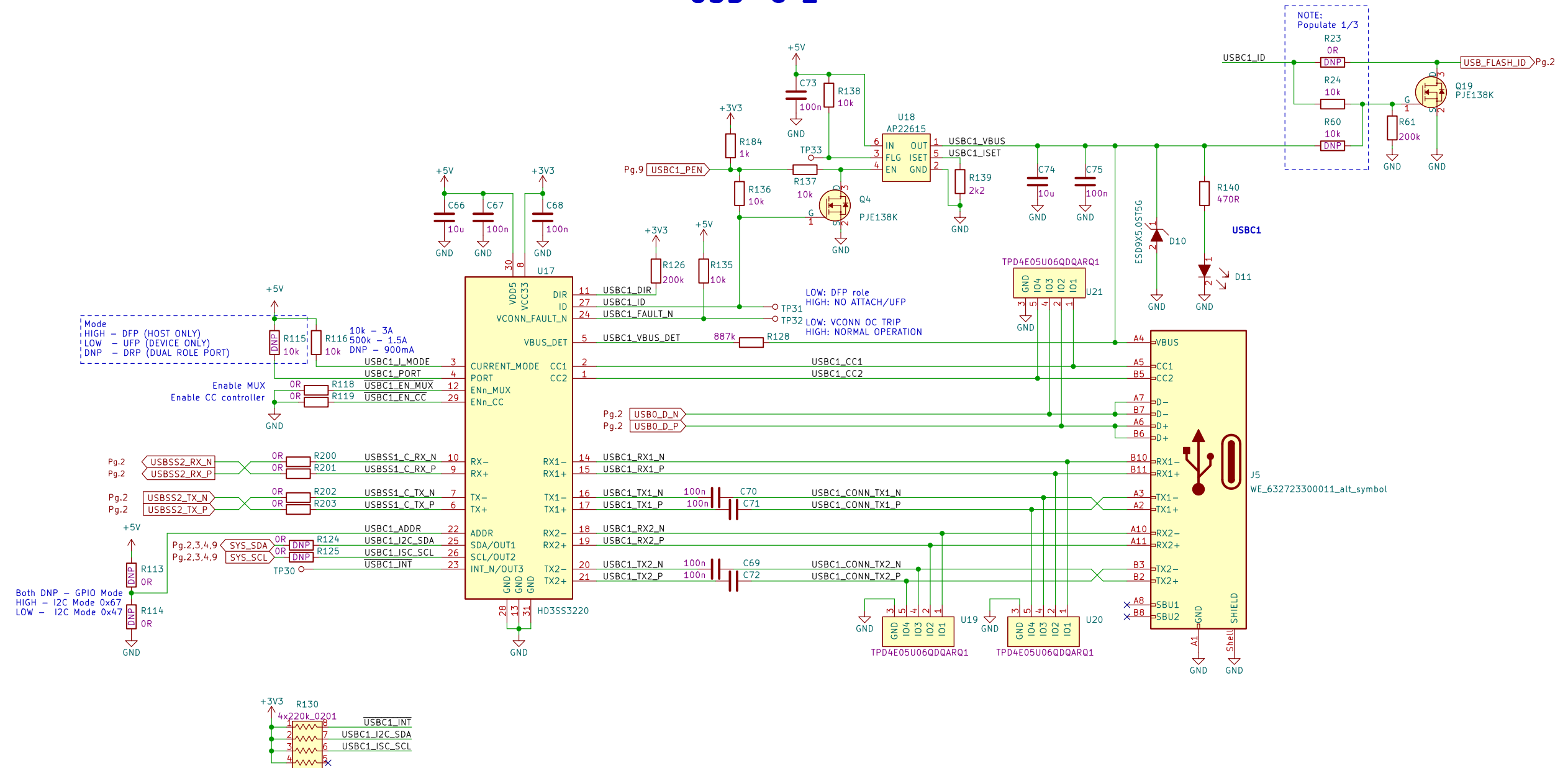


Debug USB-C 3

USB-PD Source/Sink

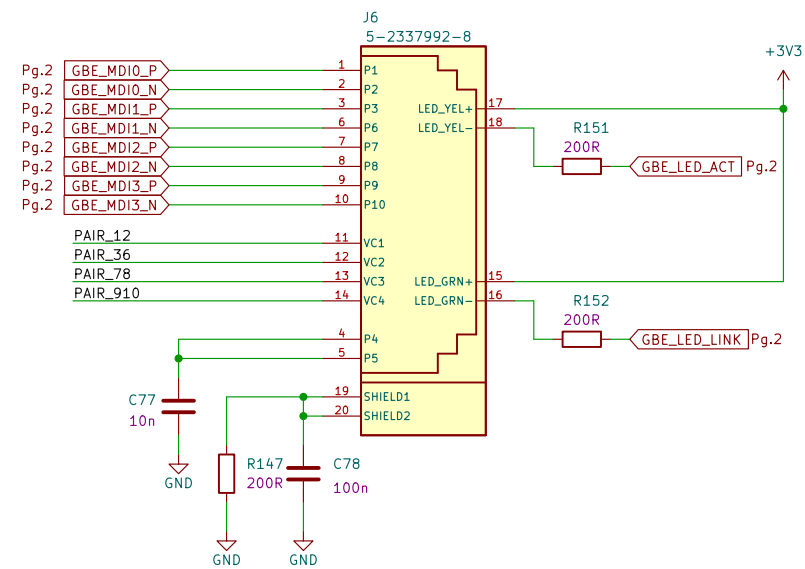


USB-C 1

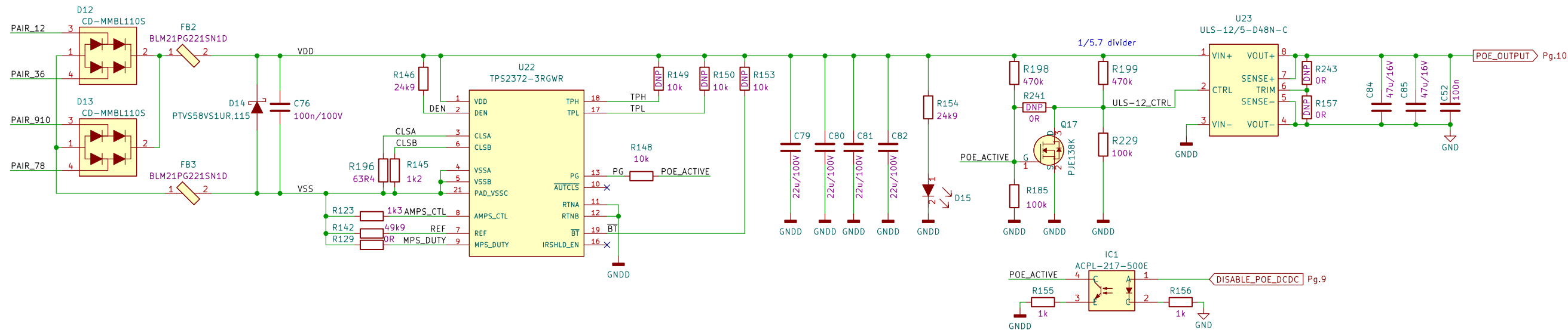


[illegible]

Ethernet Connector



Power over Ethernet



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Sheet: /Ethernet/

File: ethernet.kicad_sch

Title: Jetson Orin Baseboard

Size: A3

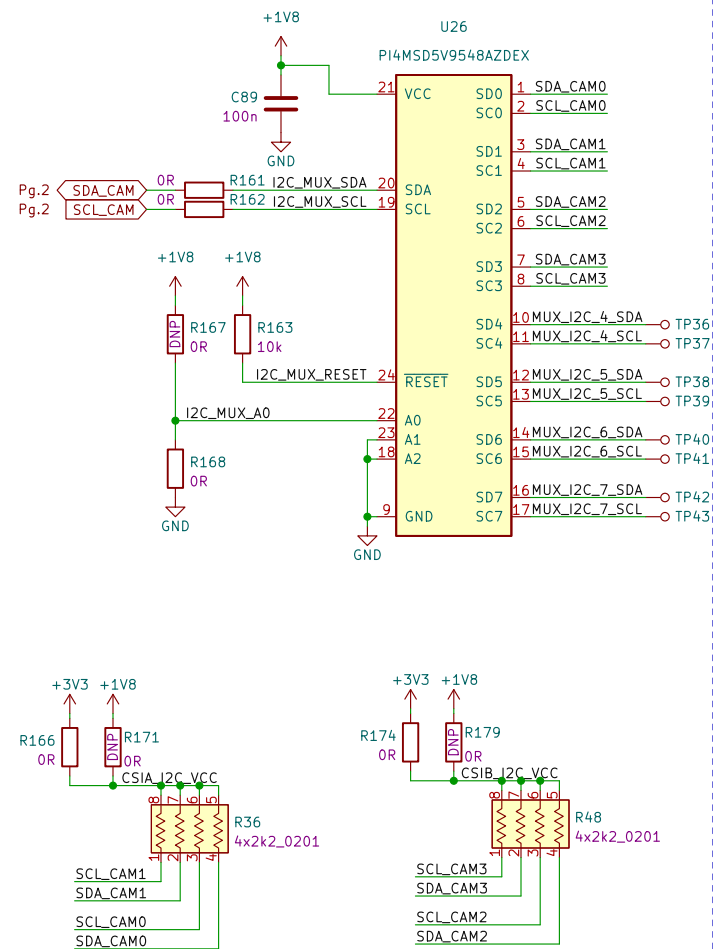
Date: 2023-03-03

Rev: 1.1.0

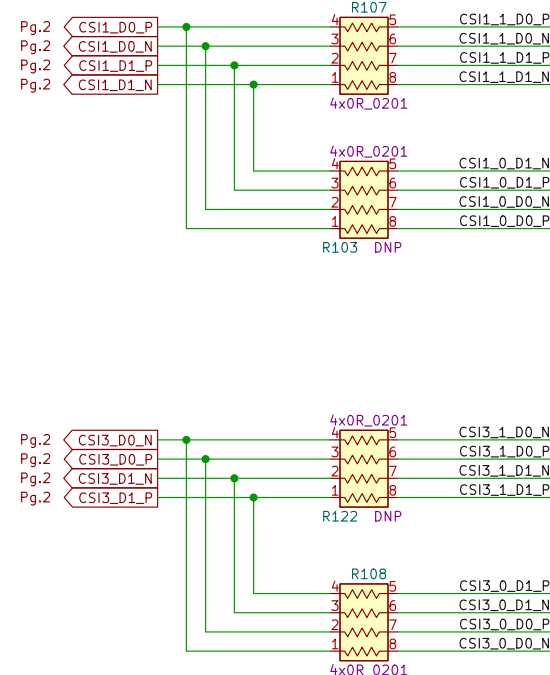
KiCad E.D.A. eeschema 6.0.5+dfsg-1-bpo11+1

Id: 7/10

I2C Mux



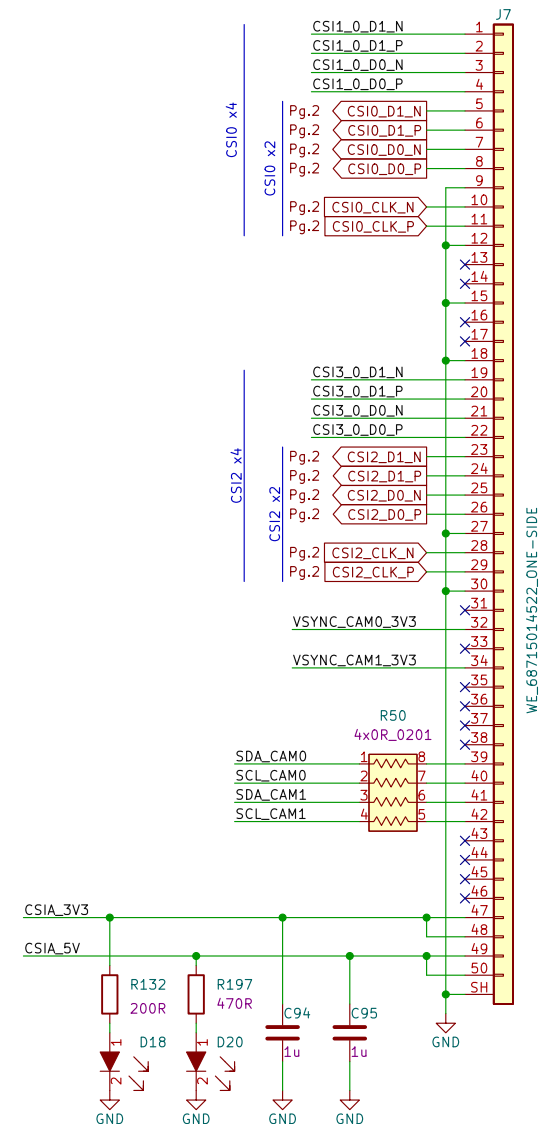
CSI Mux



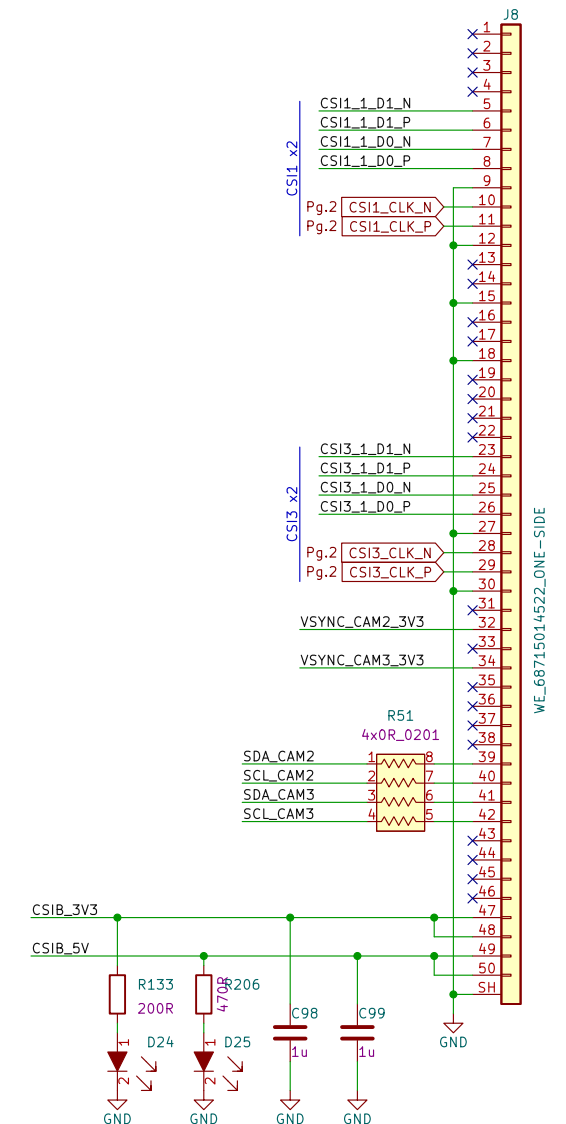
AVAILABLE CSI CONFIGURATIONS:

CONNECTOR J7	CONNECTOR J8
CSI0x4 CSI2x4	NONE
CSI0x4 CSI2x2	CSI3x2
CSI0x2 CSI2x4	CSI1x2
CSI0x2 CSI2x2	CSI3x2 CSI1x2

CSI connector J7

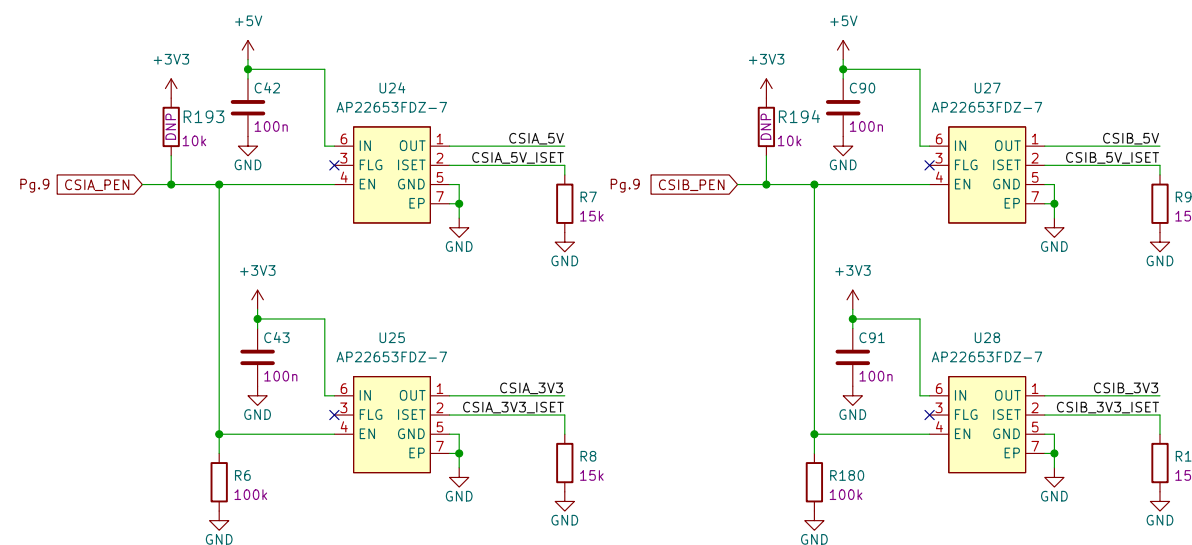


CSI connector J8

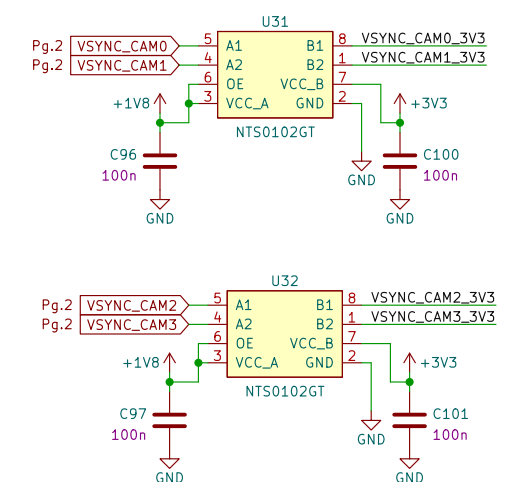


Power switches

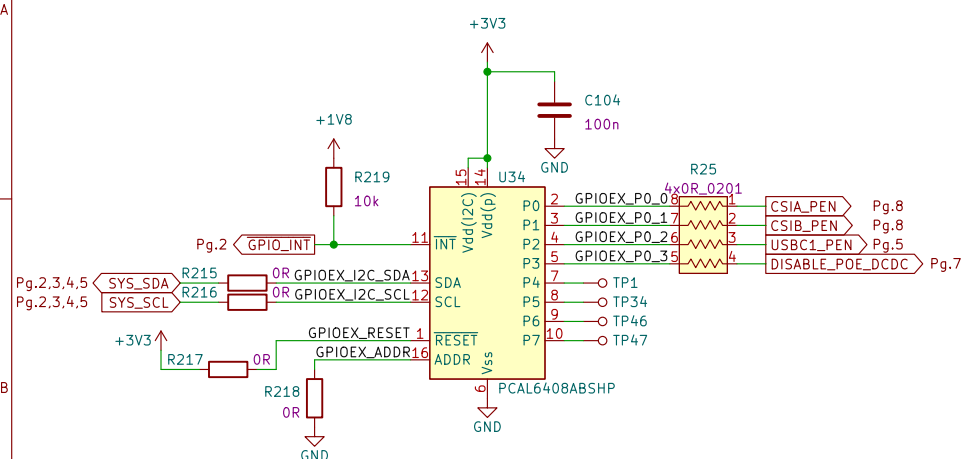
ALL SWITCHES
1.7A CURRENT LIMIT



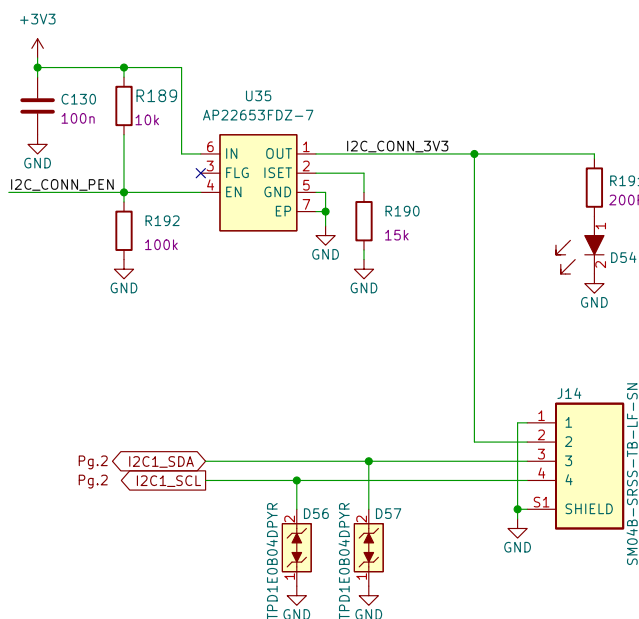
Level shifters



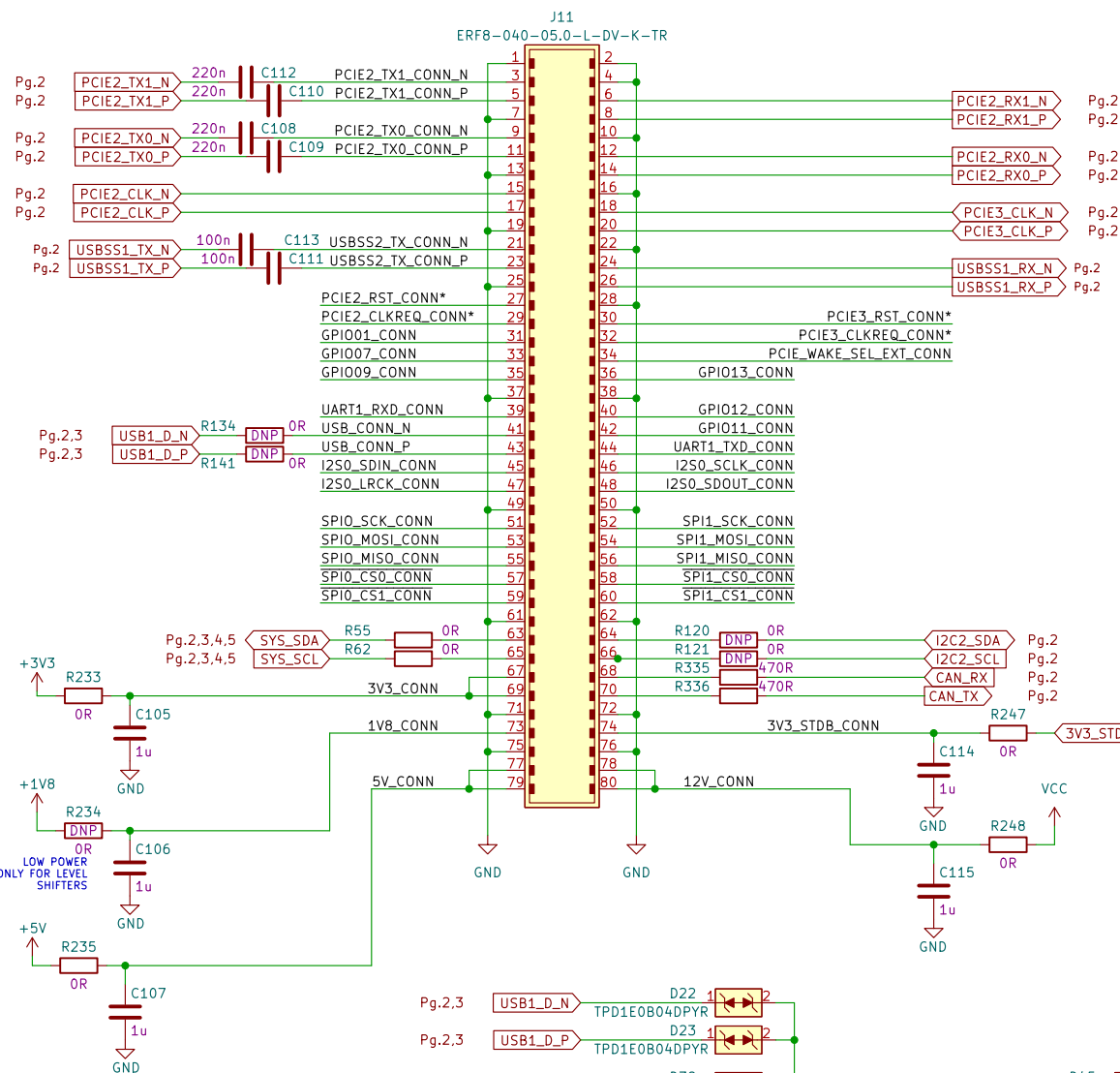
GPIO expander



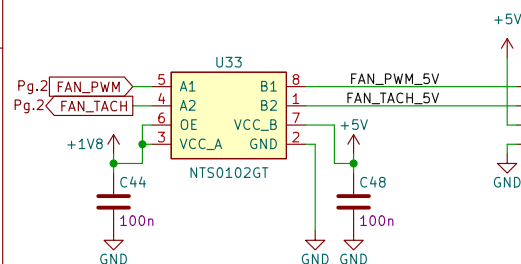
I2C connector



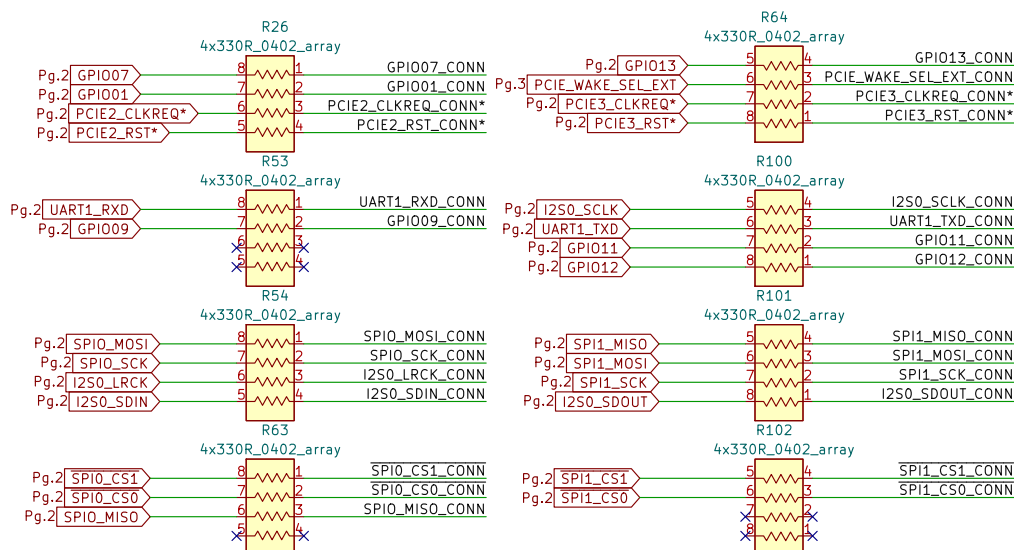
Expansion connector



Fan connector

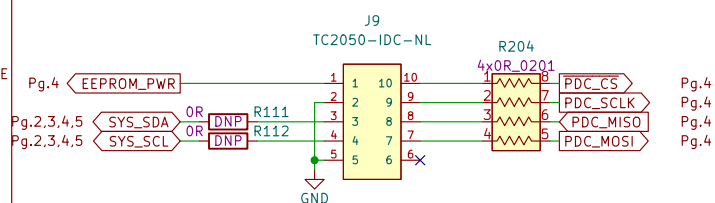


Expansion connector resistors

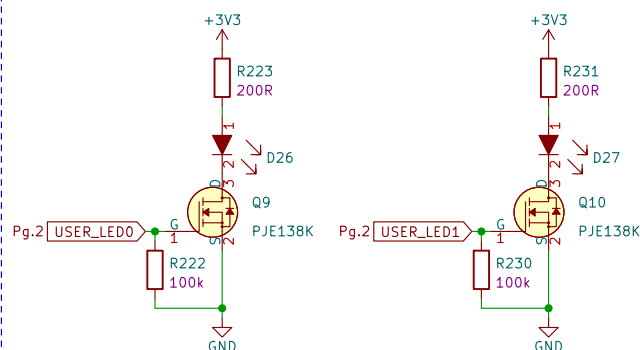


Debug connector

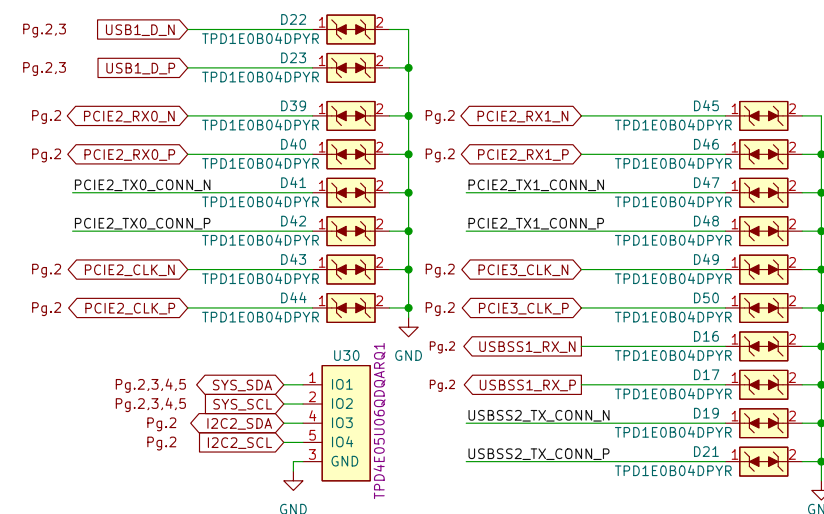
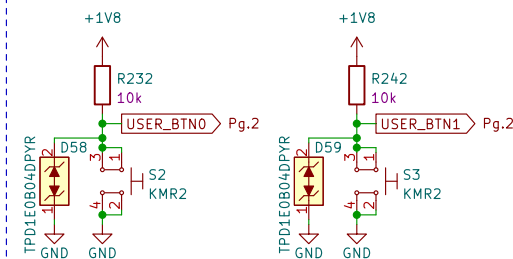
pinout compatible with
www.github.com/antmicro/ftdi-toolkit



LED indicators



Buttons



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Sheet: /Peripherals/
File: peripherals.kicad_sch

Title: Jetson Orin Baseboard

Size: A3	Date: 2023-03-03
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KiCad E.D.A.	eeschema 6.0.5+dfsg-1~bpo11+1
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Rev: 1.1.0

Id: 9/10

POWER-UP AND RESET CIRCUITRY

POWER BUTTON
SHORT PRESS - POWER UP
LONG PRESS - POWER DOWN

NOTE:
SW1 STARTUP CTRL
1-2 AUTO
3-2 MANUAL

RESET BUTTON

3V3 STANDBY LDO

1V8 LDO

MODIFIED CIRCUIT FROM TI'S SCEA048B AN

1V8 LDO

The schematic diagram is divided into two main sections: the Input Selector and Soft Start circuit, and the 5V DCDC converter.

Input Selector and Soft Start: This section shows a 9-15V input (J12) connected to a network of diodes (D28, D29), transistors (Q13B, Q13A, Q15, Q16), and resistors (R175, R188, R250, R254, R263). It includes a soft start circuit with a MOSFET (Q18) and a capacitor (C150). The output is VCC, which is connected to a 5V DCDC converter.

5V DCDC: This section shows a 5V DCDC converter (U1, TPS56C230) with various input and output capacitors (C5, C6, C93, C102, C103, C129, C120, C153) and resistors (R169, R170, R181, R182). The output is +5V, which is connected to the 5V pin of the microcontroller.

3V3 DCDC

3V3 DCDC

The schematic diagram illustrates a 3V3 DCDC converter circuit. The input VCC is connected to a network of capacitors (C151, C121, C122, C123) and a RESET pin (Pg.2) connected to a resistor (R264) and a capacitor (C123). The main component is the U29 TPS56C230, which has its VIN connected to VCC, EN to 3V3_EN, and VCC to VCC. The output of the converter is connected to a network of capacitors (C126, C127, C128, C154) and a resistor (R178) to produce the +3V3 output. The circuit also includes a feedback network (R176, R177) and a diode (D33) for protection.