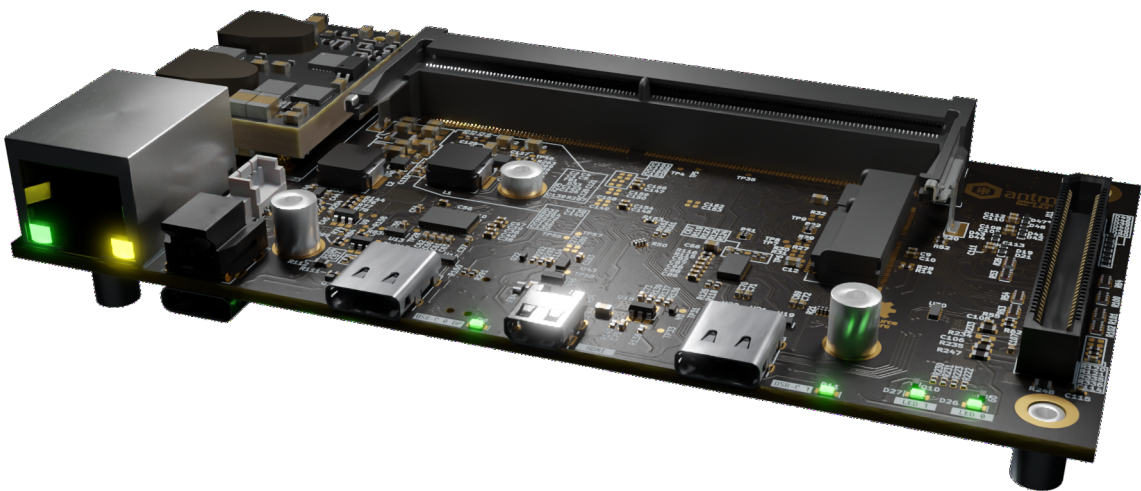


Jetson Orin Baseboard

github.com/antmicro/jetson-orin-baseboard



SoM

File: som.kicad_sch

M.2

File: m-2.kicad_sch

USB Debug, DP

File: usb.kicad_sch

USB3

File: usb3.kicad_sch

HDMI

File: hdmi.kicad_sch

Ethernet

File: ethernet.kicad_sch

CSI

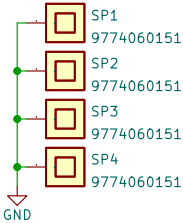
File: csi.kicad_sch

Peripherals

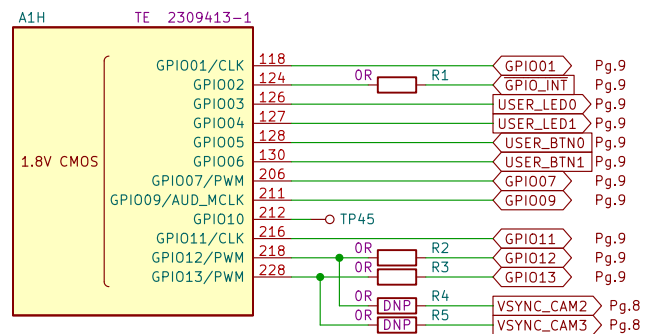
File: peripherals.kicad_sch

Supply

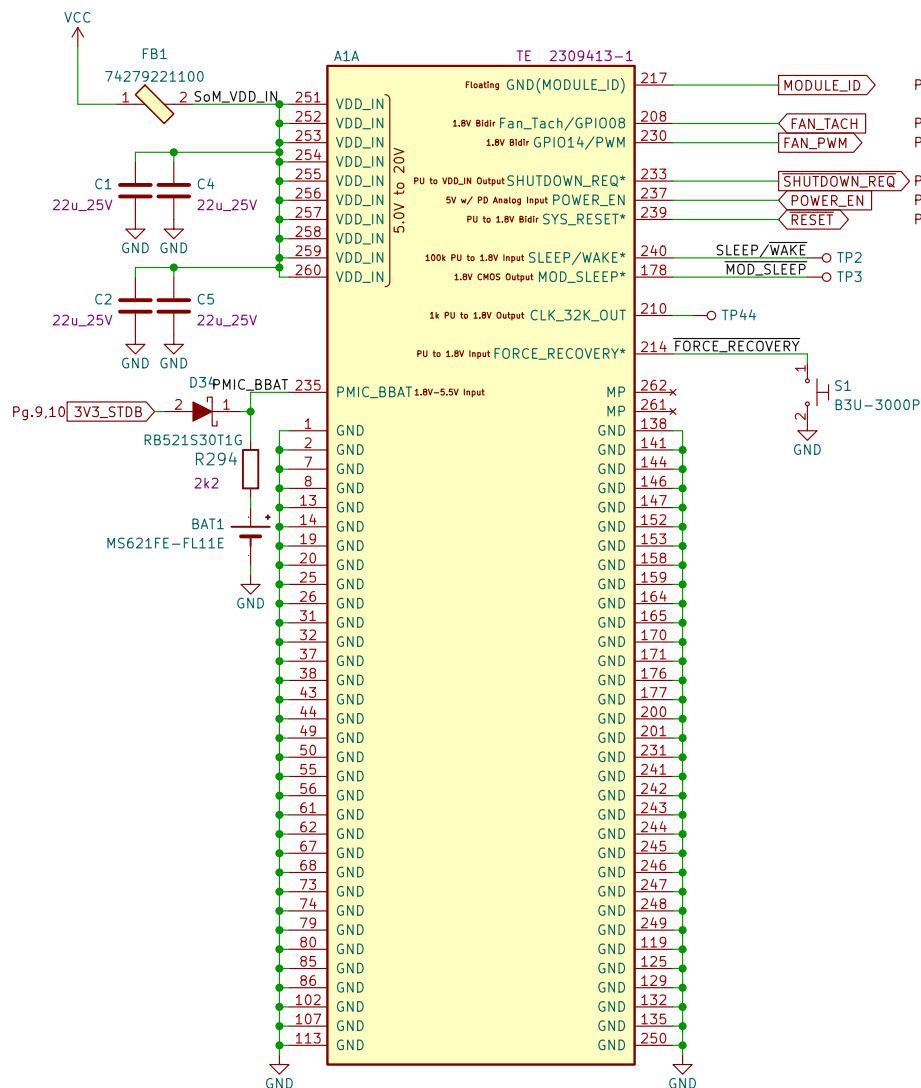
File: supply.kicad_sch



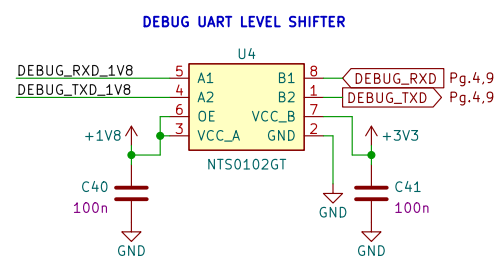
GPIO



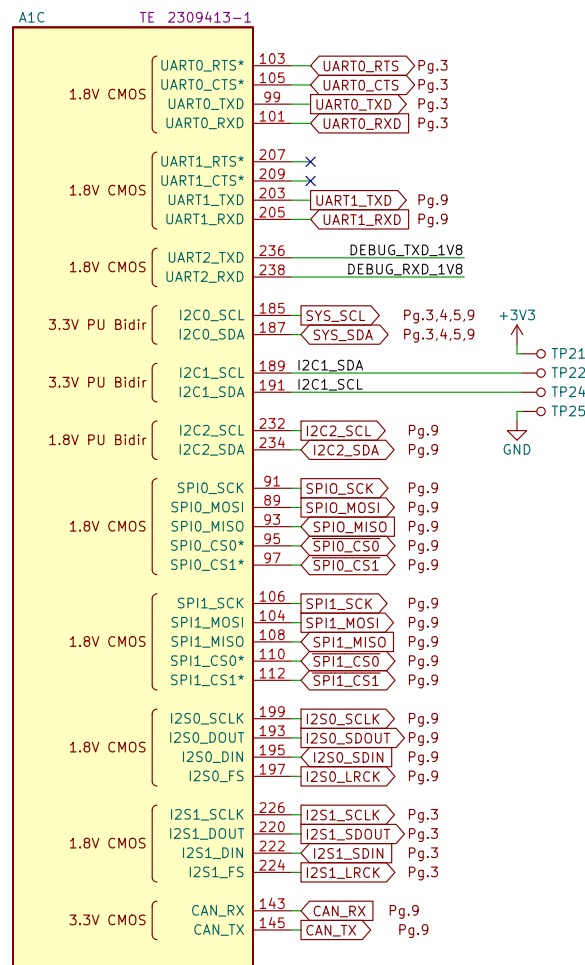
Power & CTRL



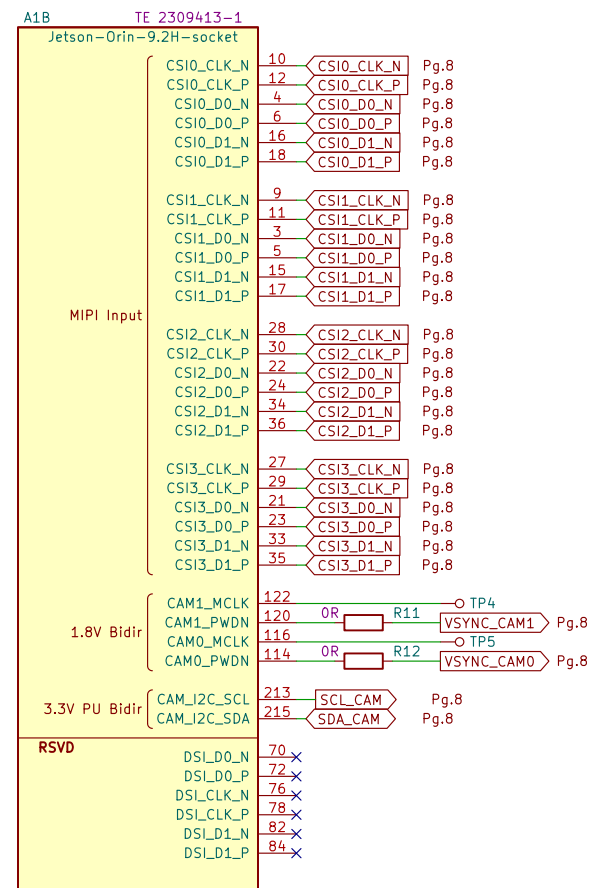
Miscellaneous



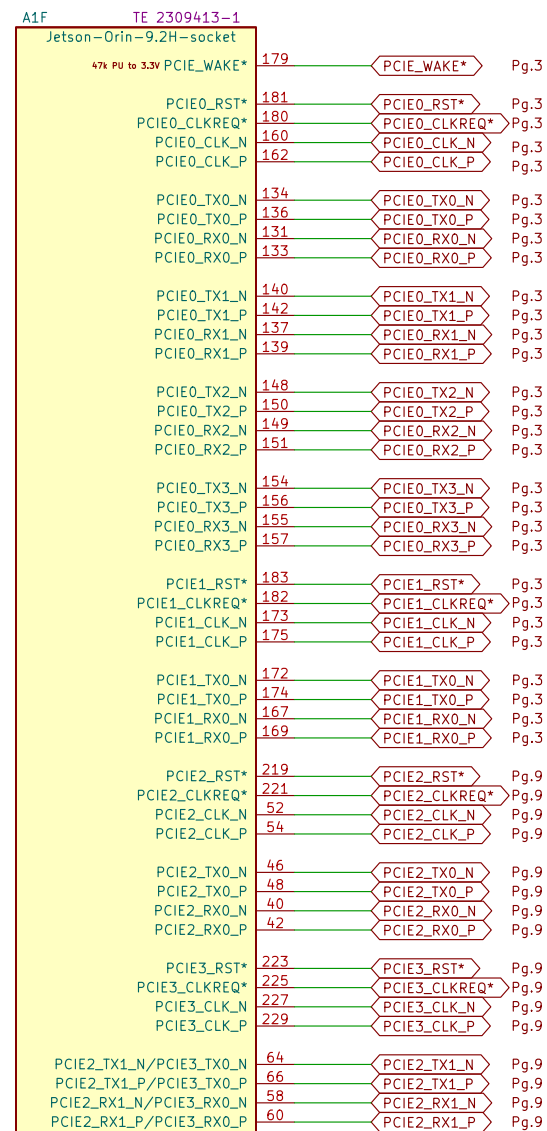
UART/I2C/SPI/I2S/CAN



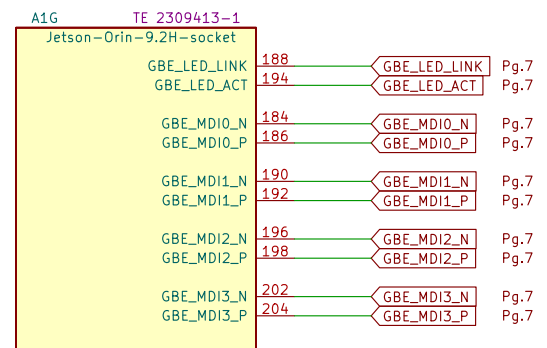
CSI



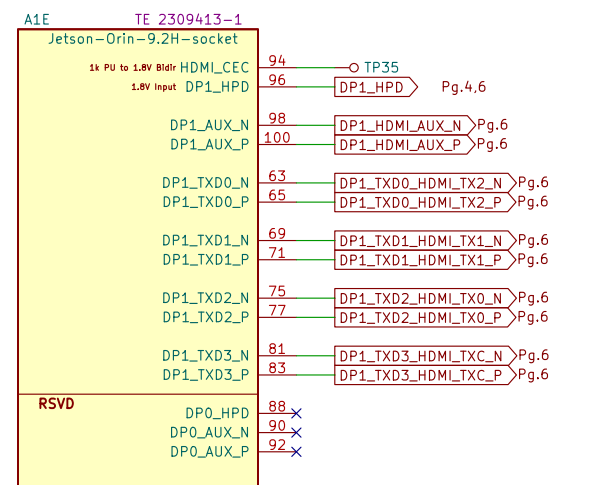
PCIe



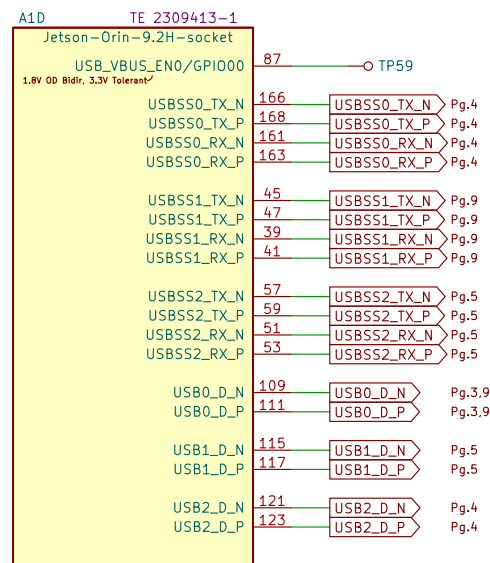
GbE



Video Output

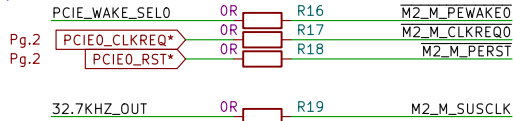


USB

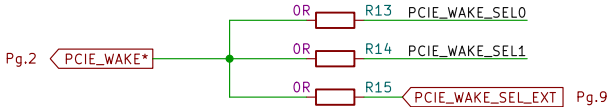


PCIe0 Root Port / Endpoint mode selector

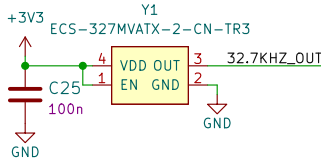
NOTE:
DNP for M.2 key M
endpoint role



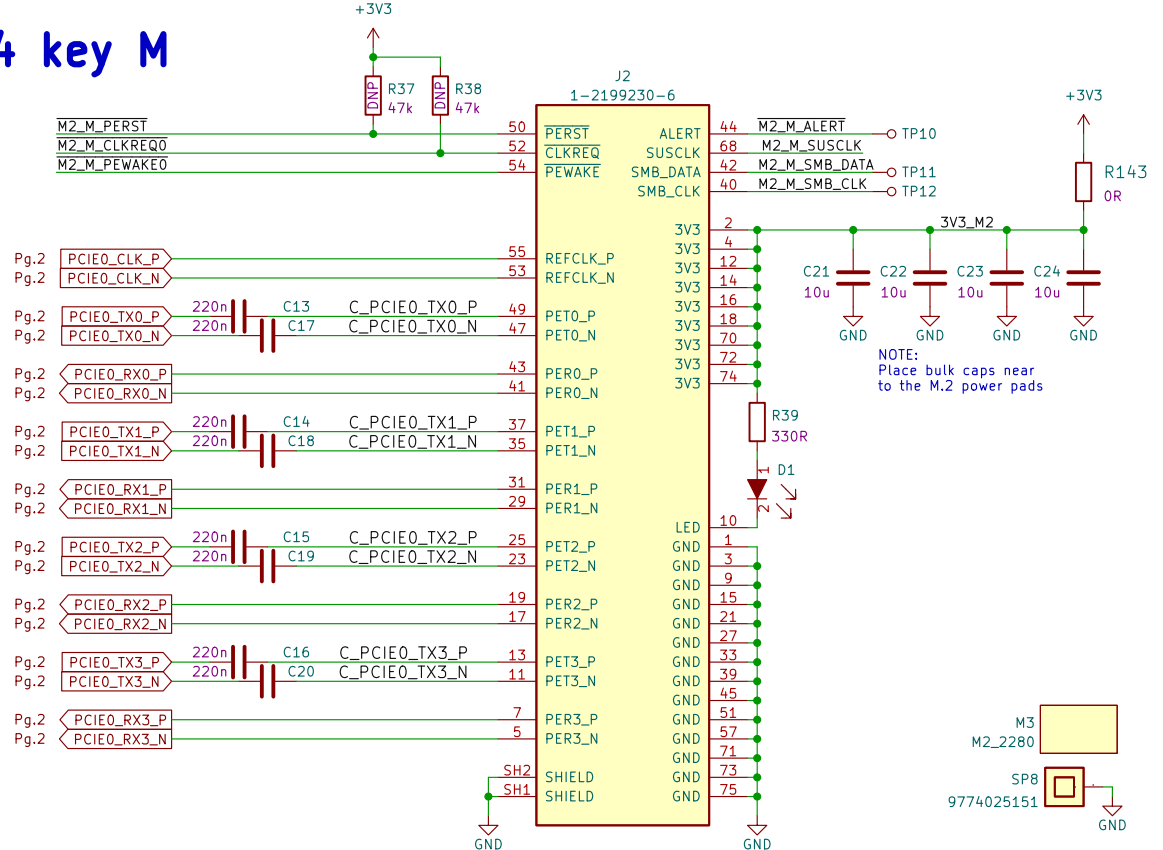
M.2 PCIE_WAKE selector



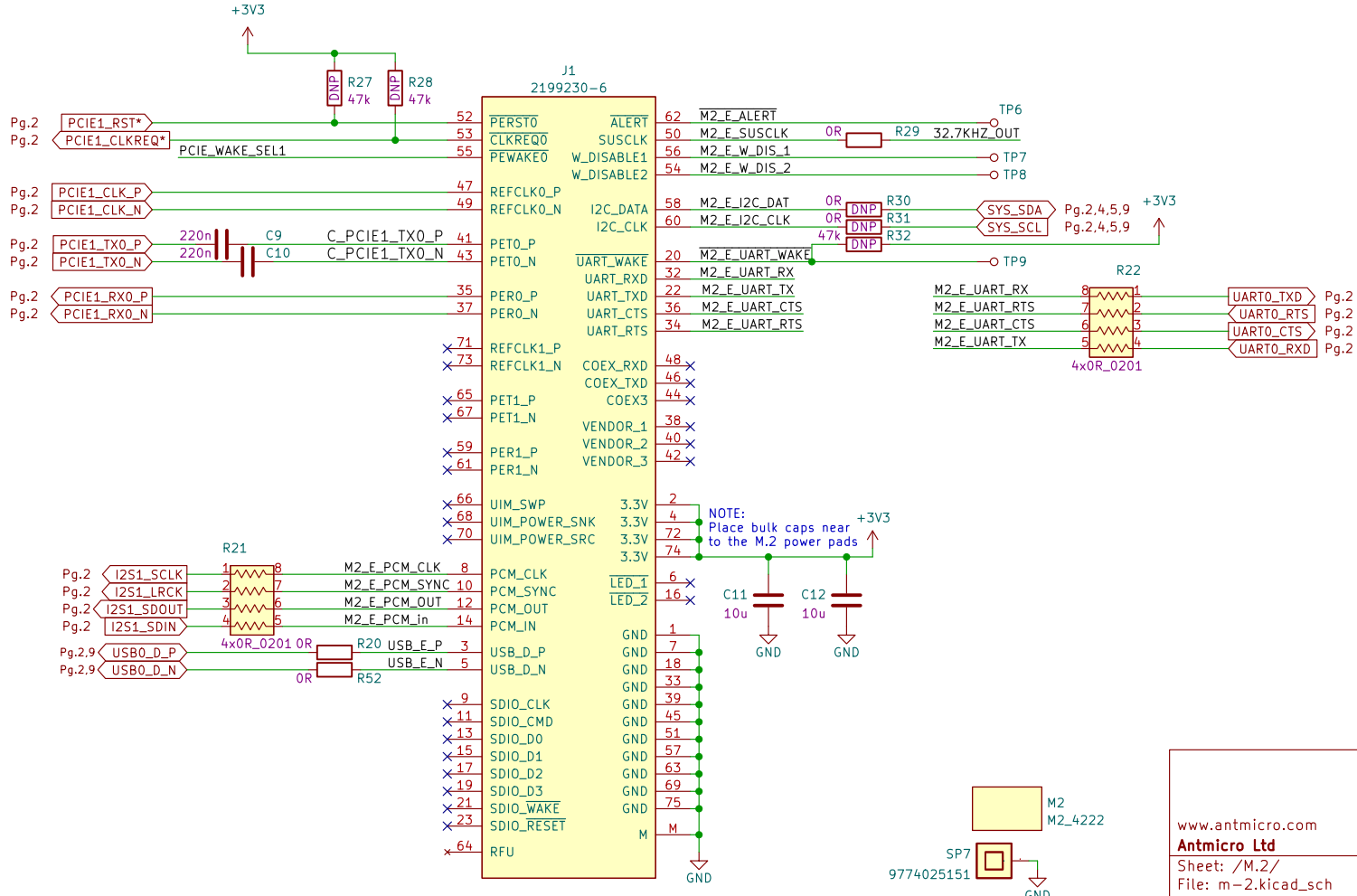
SUSCLK SOURCE



PCIe0 1x4 key M



PCIe1 1x1 key E



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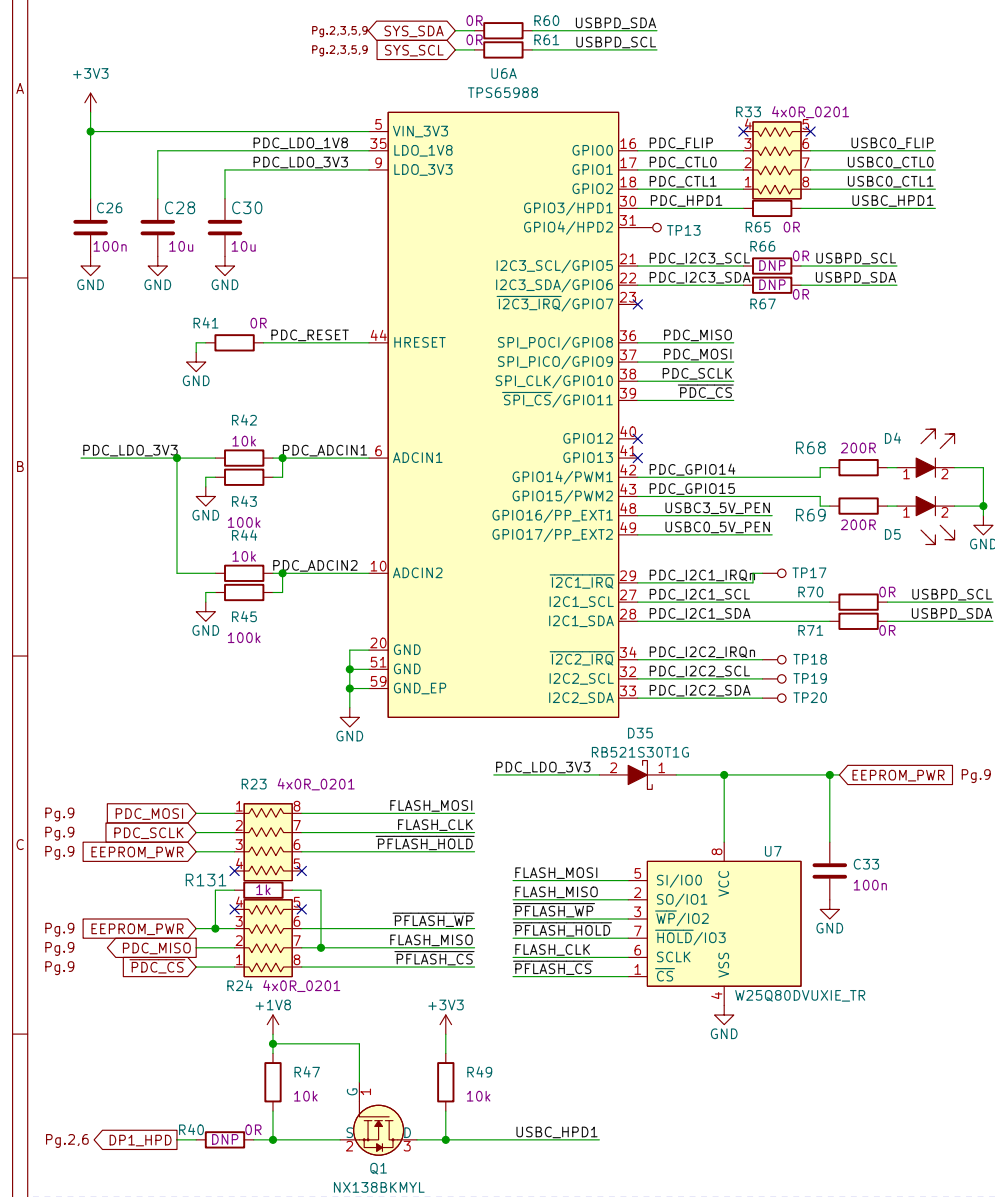
Sheet: /M.2/
File: m-2.kicad_sch

Title: Jetson Orin Baseboard

Size: A3	Date: 2022-10-07
KiCad E.D.A. eeschema 6.0.5+dfsg-1~bpo11+1	

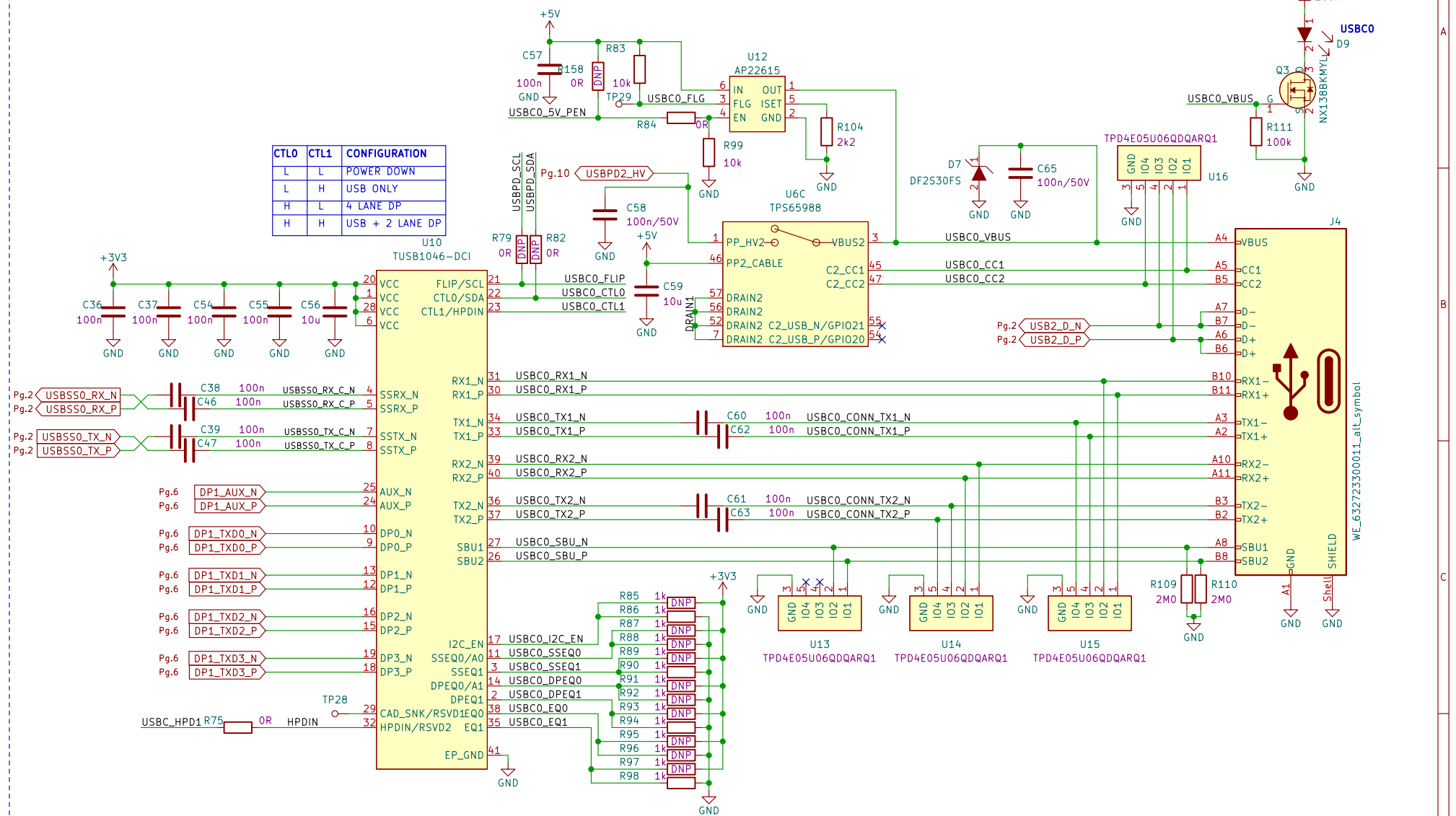
Rev: 1.0.0
Id: 3/10

USB PD Controller

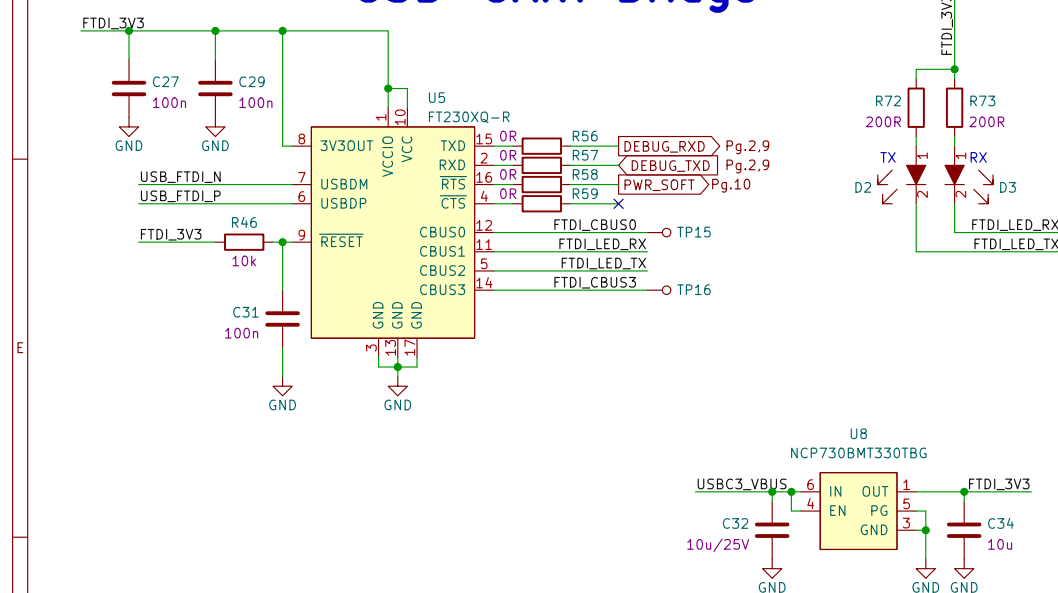


USB-C 0 Display Port alt mode

USB-PD Source/Sink

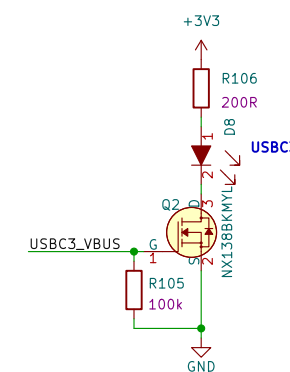
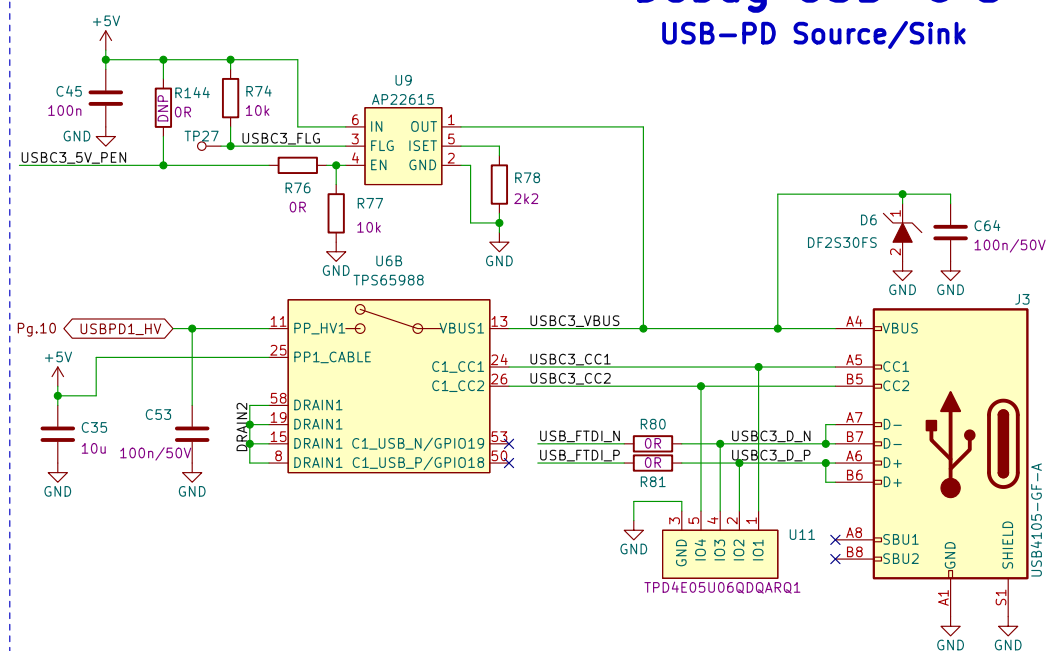


USB-UART Bridge

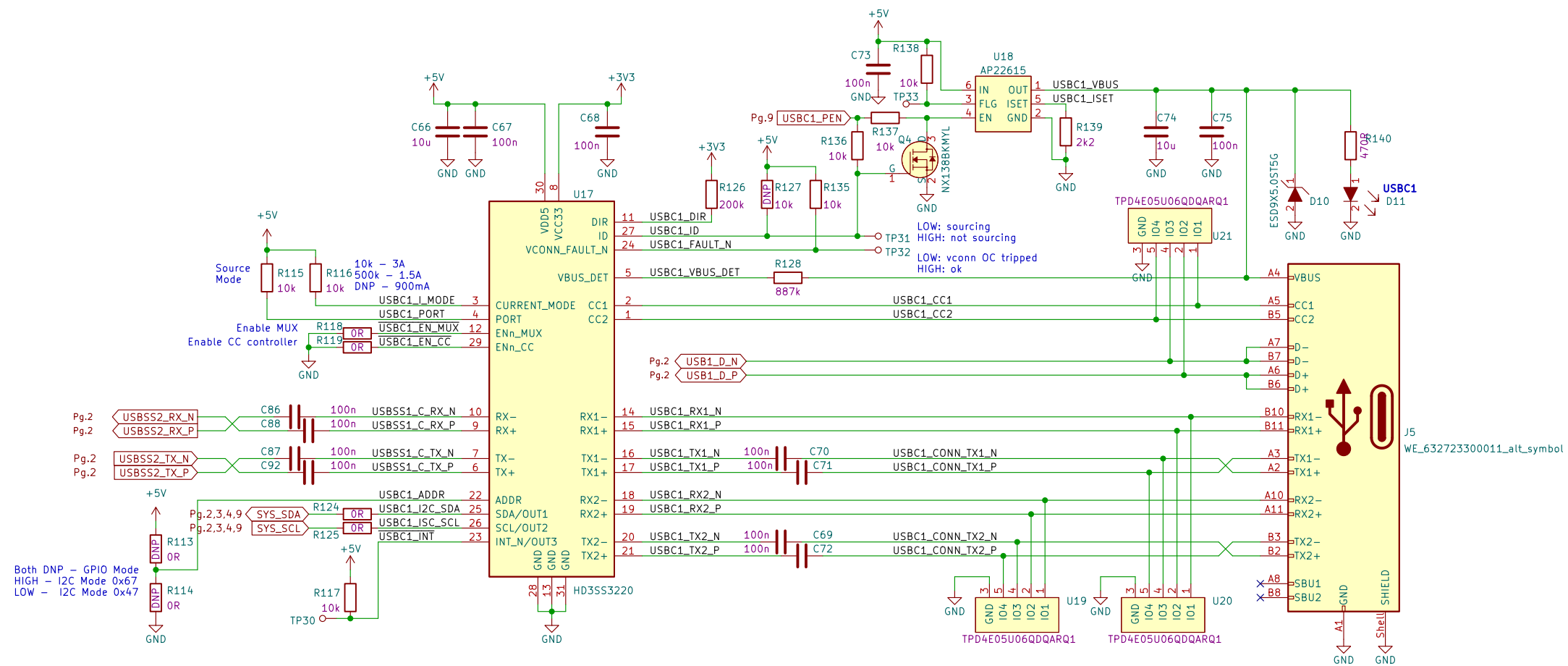


Debug USB-C 3

USB-PD Source/Sink



USB-C 1



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Sheet: /USB3/
File: usb3.kicad_sch

Title: Jetson Orin Baseboard

Size: A3 Date: 2022-10-07

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

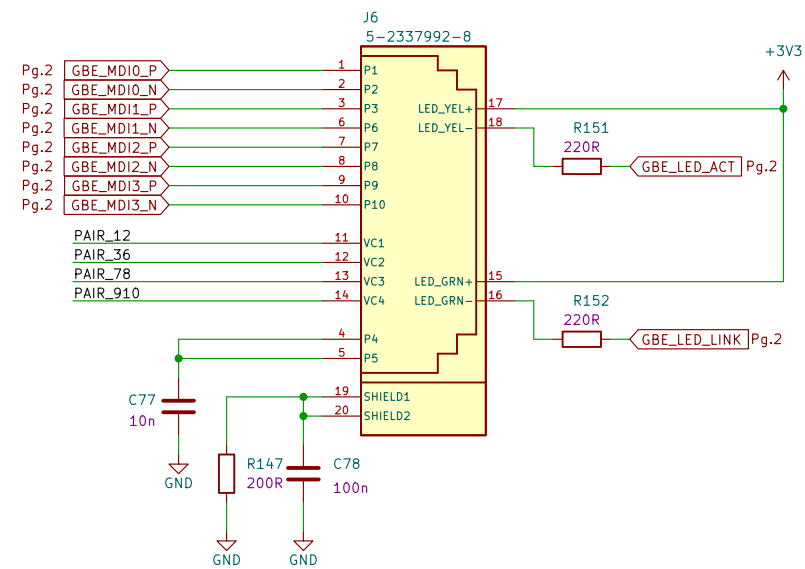
Rev: 1.0.0

Id: 5/10

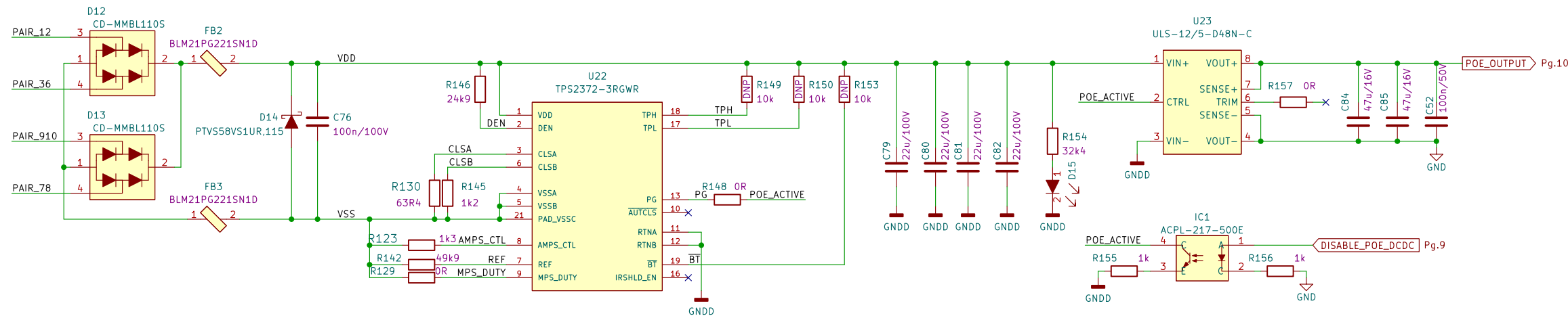
Output selection



Ethernet Connector



Power over Ethernet



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Sheet: /Ethernet/

File: ethernet.kicad_sch

Title: Jetson Orin Baseboard

Size: A3

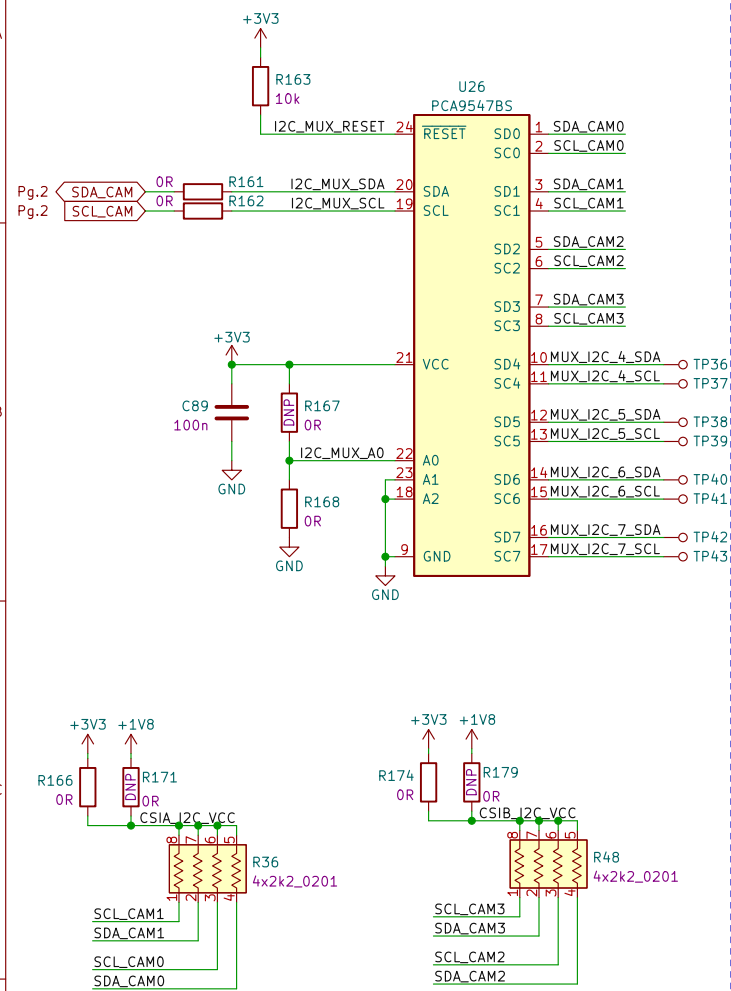
Date: 2022-10-07

Rev: 1.0.0

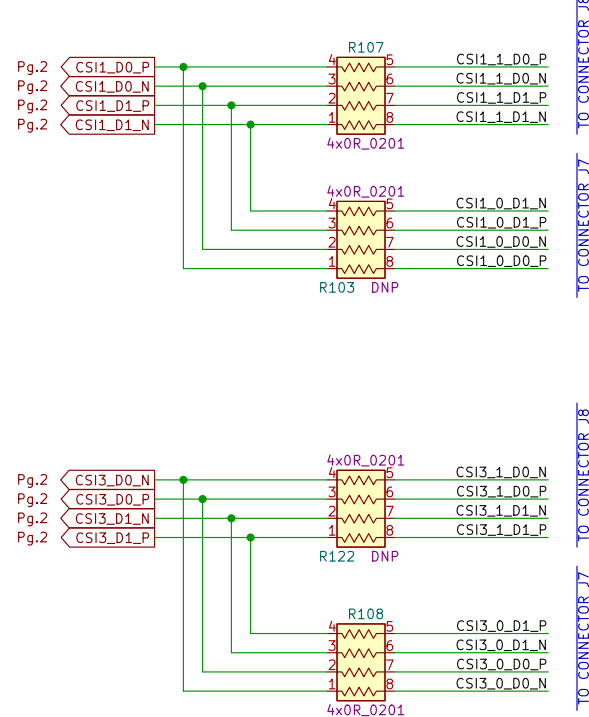
KiCad E.D.A. eeschema 6.0.5+dfsg-1-bpo11+1

Id: 7/10

I2C Mux



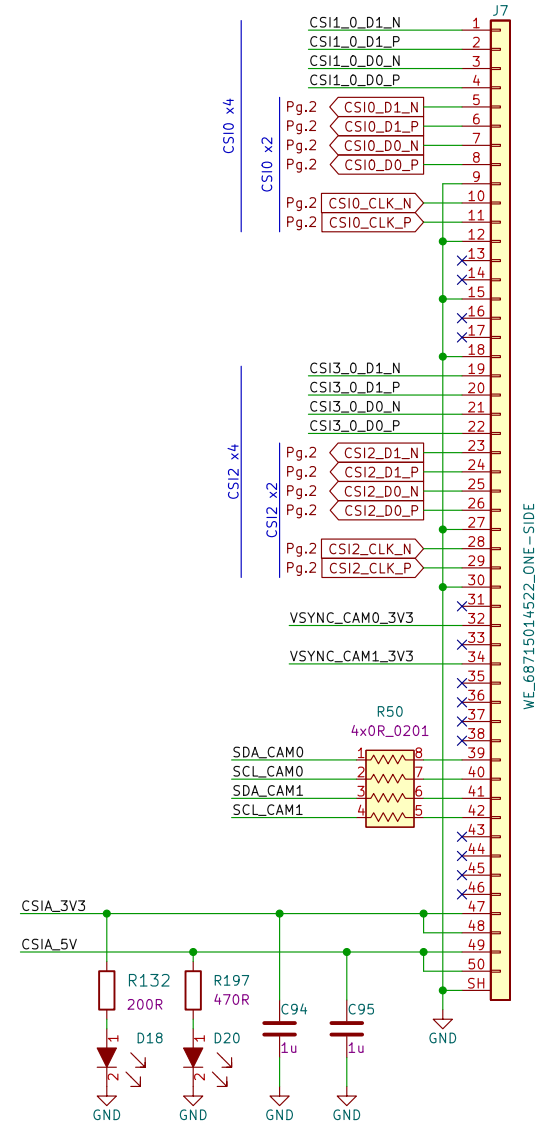
CSI Mux



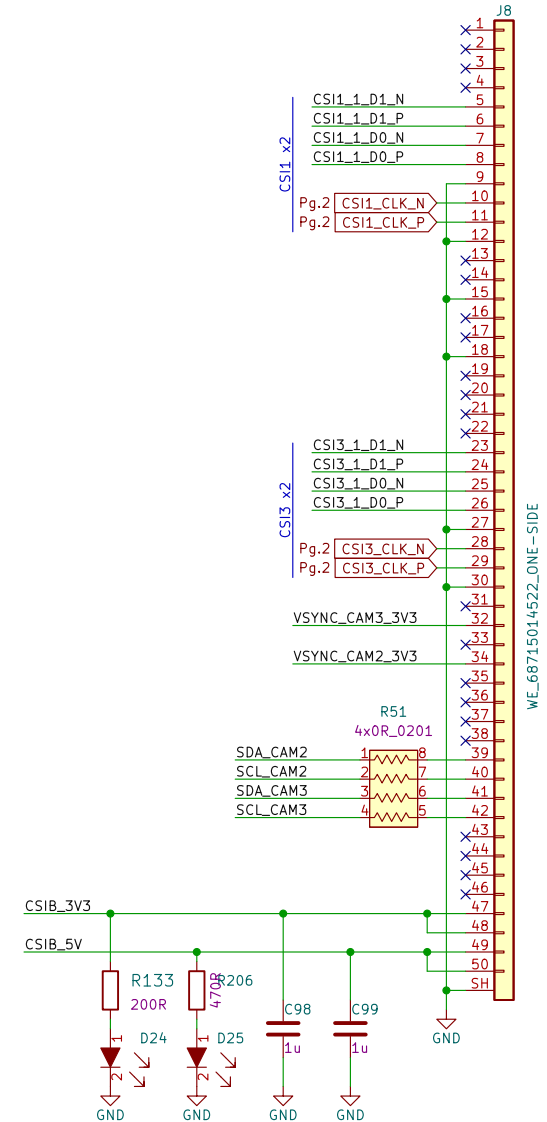
AVAILABLE CSI CONFIGURATIONS:

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

CSI connector J7

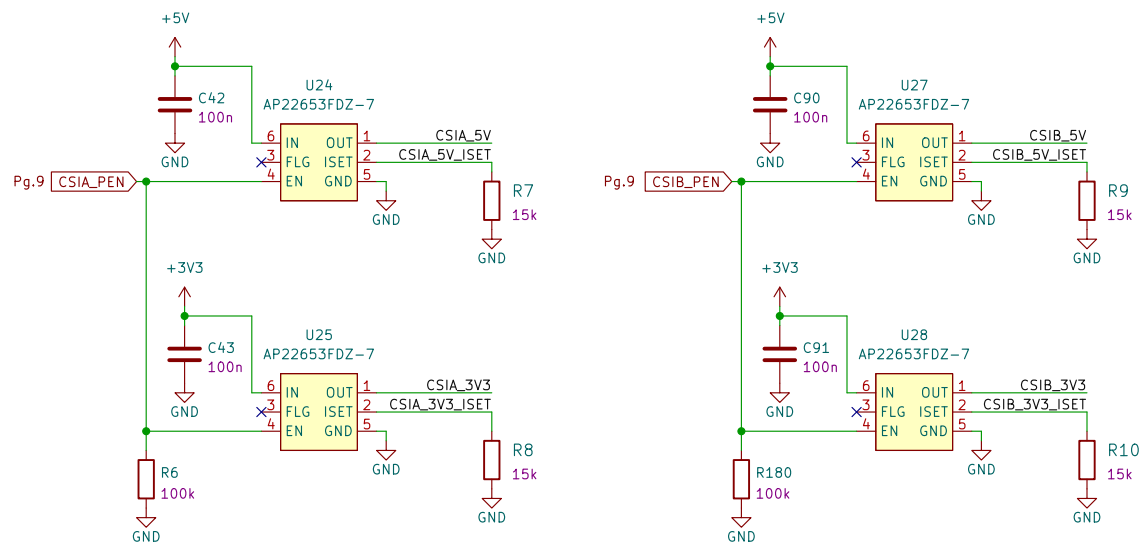


CSI connector J8

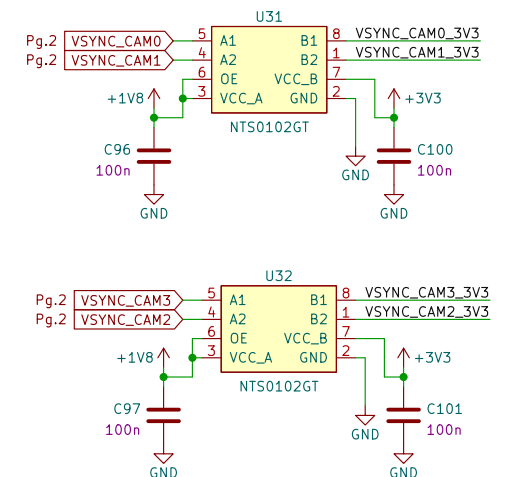


Power switches

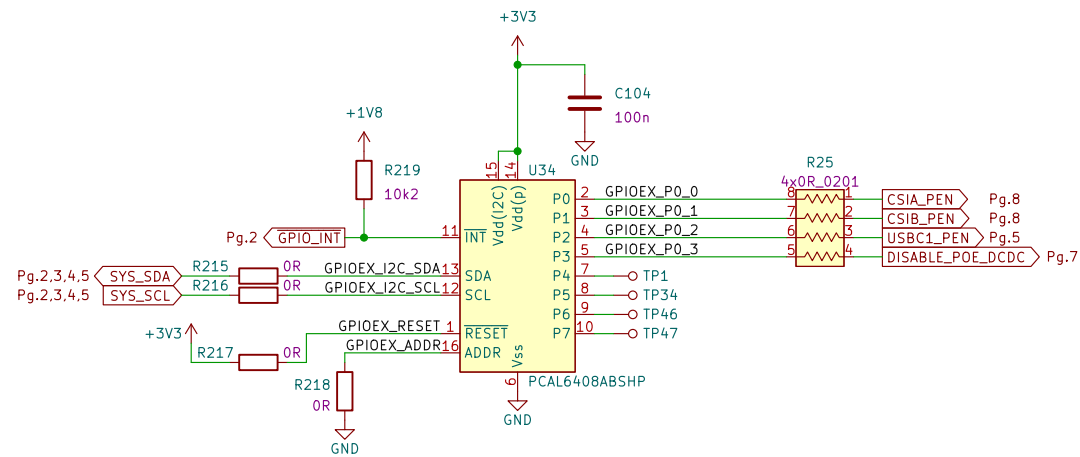
ALL SWITCHES
1.7A CURRENT LIMIT



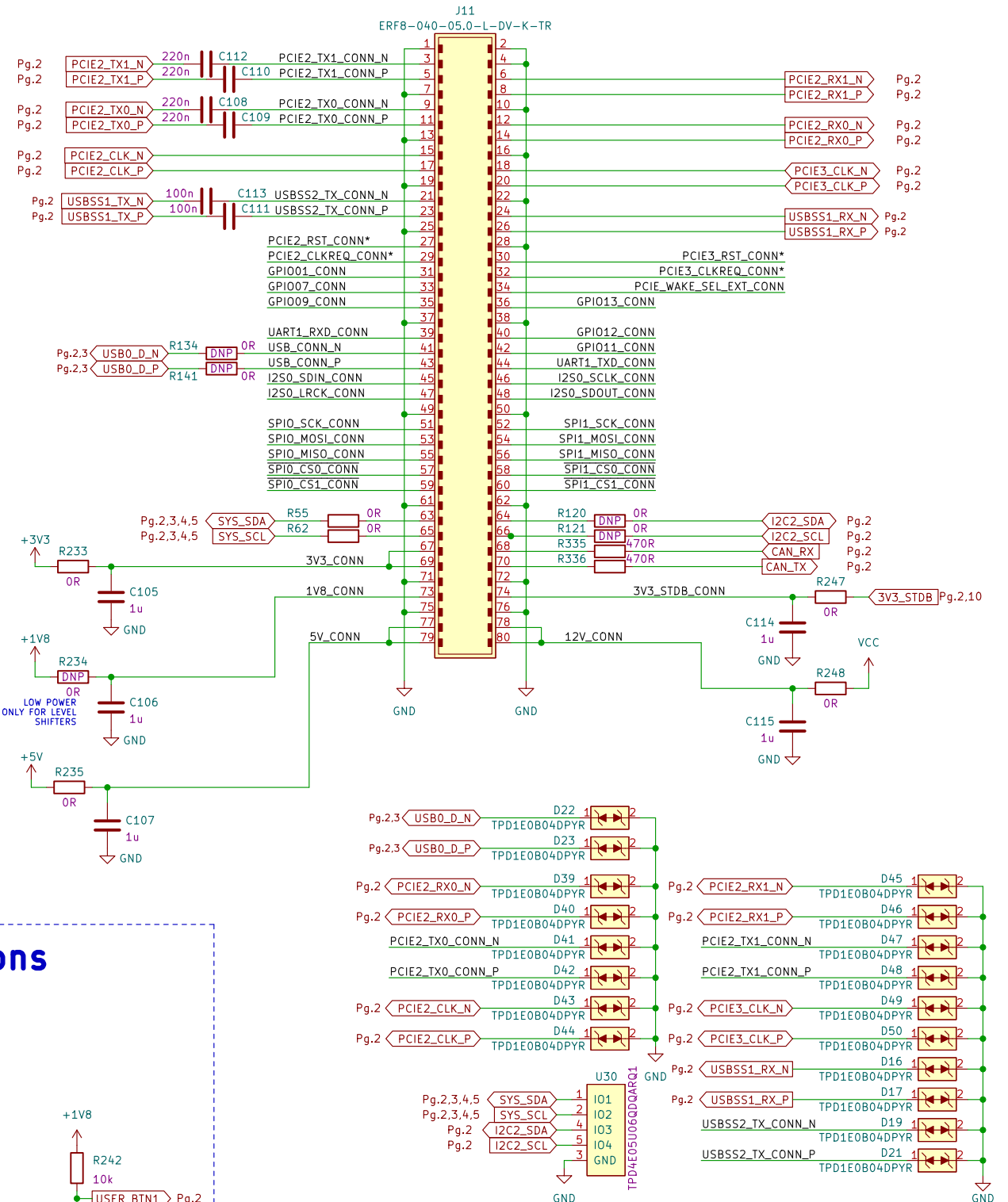
Level shifters



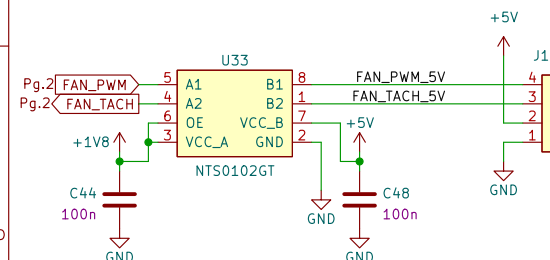
GPIO expander



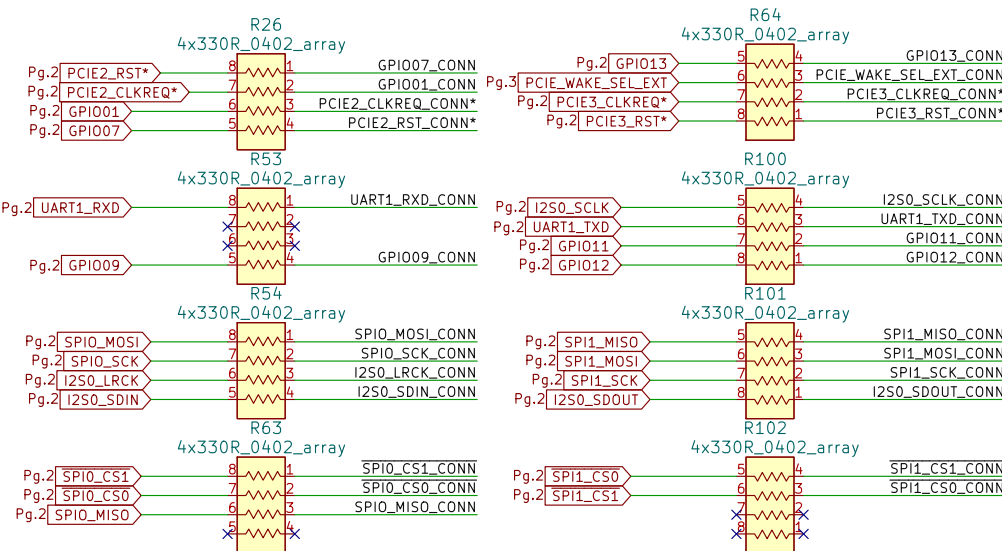
Expansion connector



Fan connector

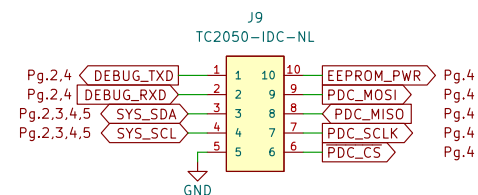


Expansion connector resistors

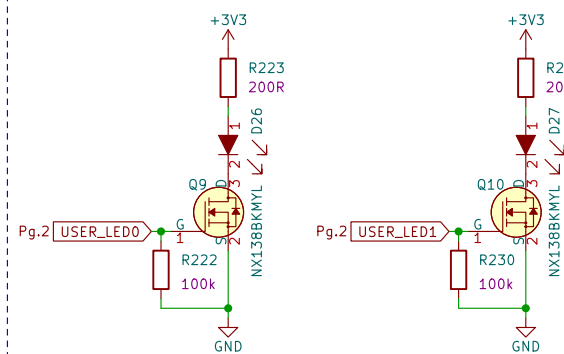


Debug connector

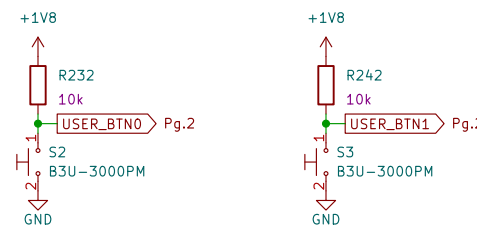
TAG-CONNECT



LED indicators



Buttons



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Sheet: /Peripherals/

File: peripherals.kicad_sch

Title: Jetson Orin Baseboard

Size: A3

Date: 2022-10-07

Rev: 1.0.0

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

Id: 9/10

[illegible]

INPUT SELECTOR AND SOFT START

J12 1054301202

D28 DF2530FS

Q13B

Q13A BCM857BS-7-F

Q15 SSM3J332R

Q16 SSM3J332R

Q14B

Q14A BCM857BS-7-F

R250 10k

R254 10k

R251 10k

R255 10k

R252

R253

Pg.7 POE_OUTPUT

Pg.4 USBPD1_HV

Pg.4 USBPD2_HV

PD CONTROLLER HAS IDEAL DIODE BUILT-IN

VCC_IN

R159 4k7

R164 4k7

C49 1u

R175 DNP

Q18 SSM3J332R

C50 100n

R165 4k7

Q17 NX138BKMYL

Pg.2 MODULE_ID

IF LEGACY MODULE INSERTED NO POWER SUPPLIED

VCC

TP14

D29 DF2530FS

TP23

5V DCDC

VCC

C120 22u_25V

C122 22u_25V

C125 22u_25V

C127 100n/50V

5V0_INT_VCCB

C129 1u

U39 MP2386GG-P

EN

PG

BST

5V0_PG

5V0_BST

5V0_SW

C132 220n

L1 2.2u

5V0_REG

R269 40k2_1%

C138 22u

C140 22u

C143 22u

R274

+5V

TP53

5V @8A

D32

ESD9X5.0ST5G

3V3 DCDC

VCC

C121 22u_25V

C123 22u_25V

C126 22u_25V

C128 100n/50V

3V3_INT_VCCB

C130 1u

U40 MP2386GG-P

EN

PG

BST

3V3_PG

3V3_BST

3V3_SW

C133 220n

L2 2.2u

3V3_REG

R271 40k2_1%

C139 22u

C141 22u

C144 22u

R275

+3V3

TP54

3V3 @8A

D33

ESD9X5.0ST5G

3V3 rail discharge

Pg.2,9 3V3_STDB

R262 100k

Q19 NX138BKMYL

3V3_EN

GND

3V3_REG

R265 5R6

Q21 NX138BKMYL

GND

DC Jack 12V

PoE PHE++

Isolated DCDC 12V @5A

USB-C PD connector 12V @3-5A

5V @3A max 12V @1.5A max

PD controller

SRC1/SNK1 CTRL

12V @3-5A

SRC2/SNK2 CTRL

5V @3A max 12V @1.5A max

5V0 DCDC

1V8 LDO

Voltage translators & pullup

5V ICs

USB-C connector

Expansion connector

Camera A connector

Camera B connector

3V3 ICs

M.2 key M

M.2 key E

Standby circuitry

3V3 LDO

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Sheet: /Supply/

File: supply.kicad_sch

Title: Jetson Orin Baseboard

Size: A3 Date: 2022-10-07 Rev: 1.0.0

KiCad E.D.A. eeschema 6.0.5+dfsg-1-bpo11+1 Id: 10/10

Pg.2.9

3V3_STDB

R262
100k

Q19
NX138BKMYL

3V3_EN

GND

3V3_REG

R265
5R6

Q21
NX138BKMYL

GND