

A

A

B

B

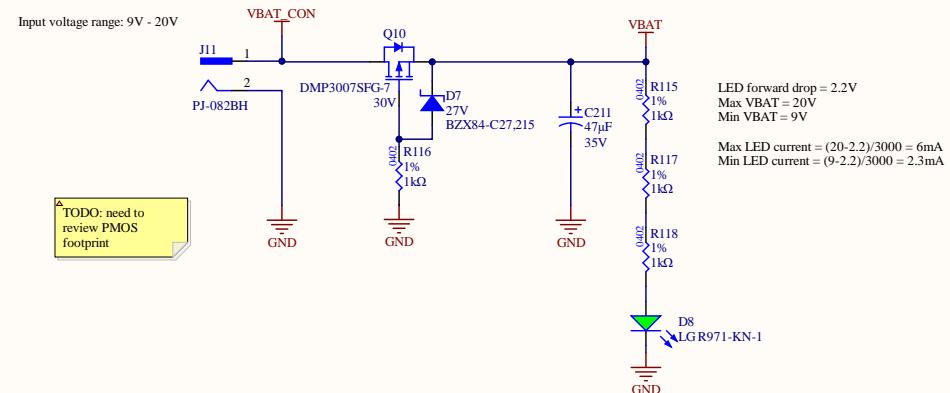
C

C

D

D

Power Jack Reverse Polarity Protection

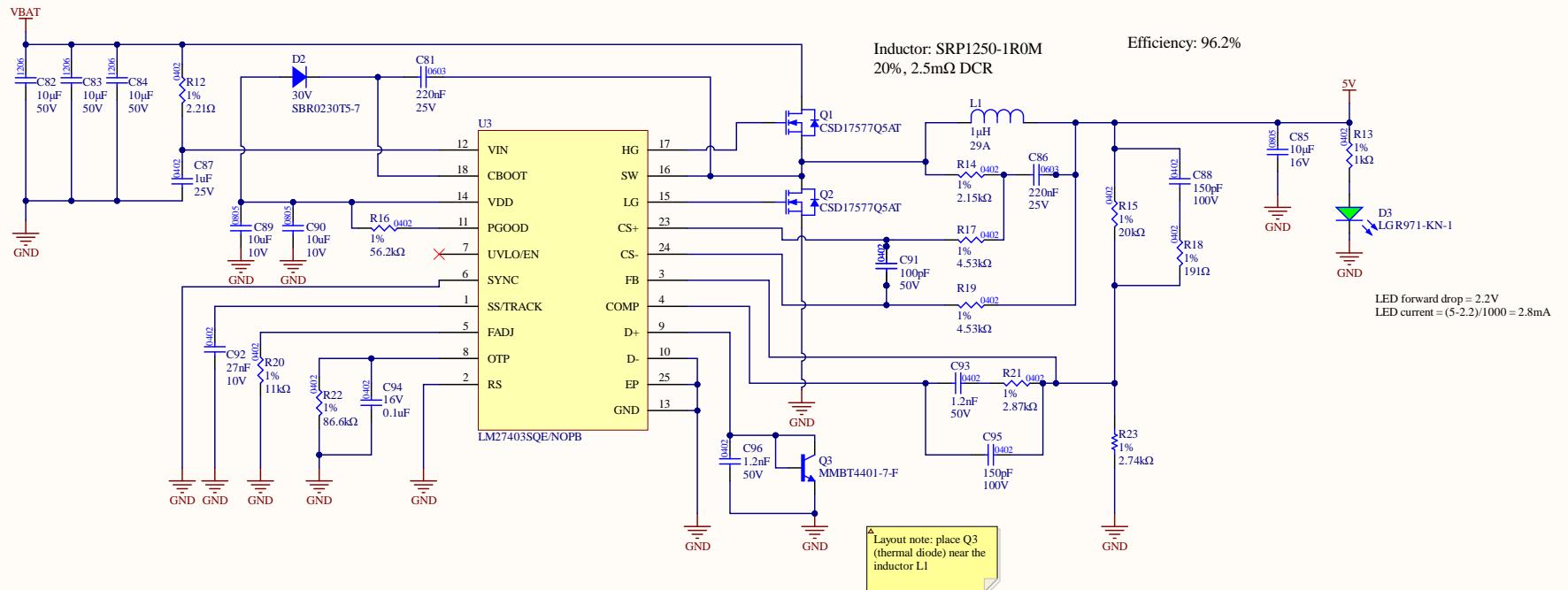


Title: Power Connector	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	
Date: 2021-07-28	Sheet: 1 of 26



5V Buck Converter @ 16A

Input voltage range: 9V - 20V



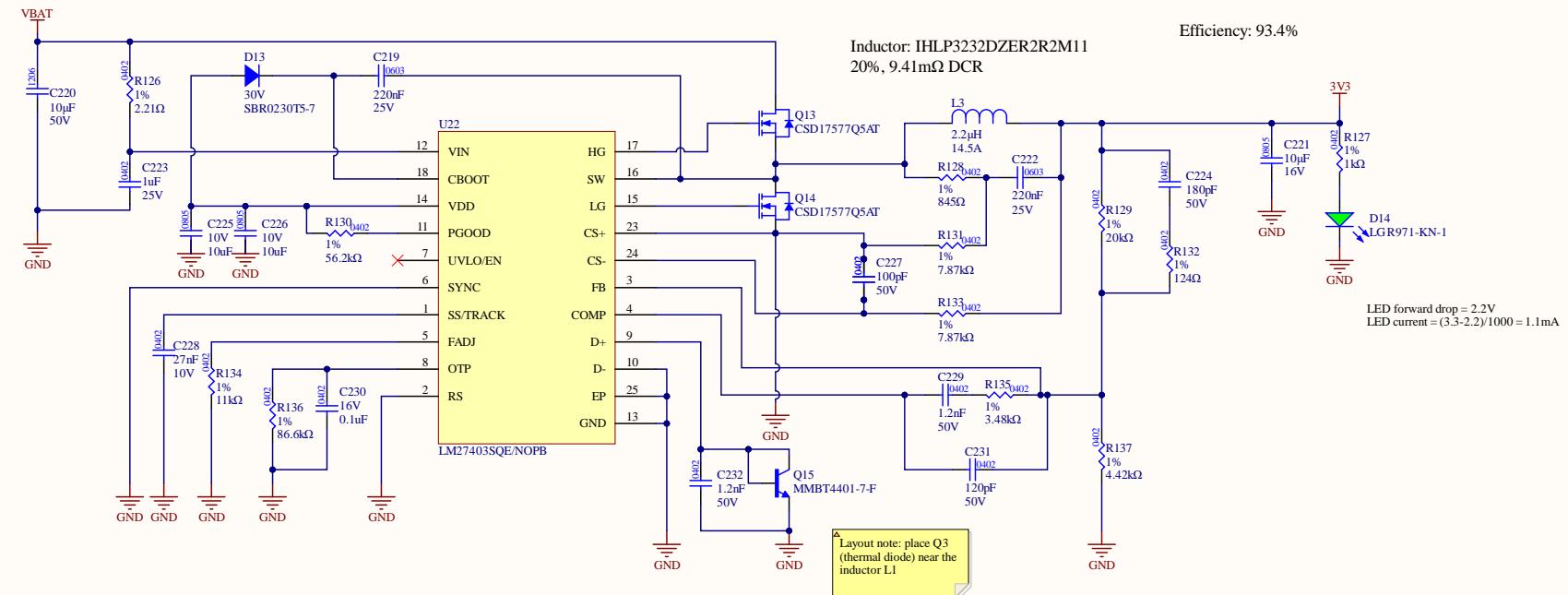
Webbench reference design: <https://webbench.ti.com/appinfo/webbench/scripts/SDP.cgi?ID=E23207869D5F0DD4>

Title: 5V Power	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	Date: 2021-07-28



3.3V Buck Converter @ 6A

Input voltage range: 9V - 20V



Title:	3.3V Power
Project:	Jetson AGX Xavier Carrier Board.PnjPcb
Rev:	1
Reviewer:	*
Engineer:	Cindy Li
Date:	2021-07-28
Sheet:	3 of 26



A

A

B

B

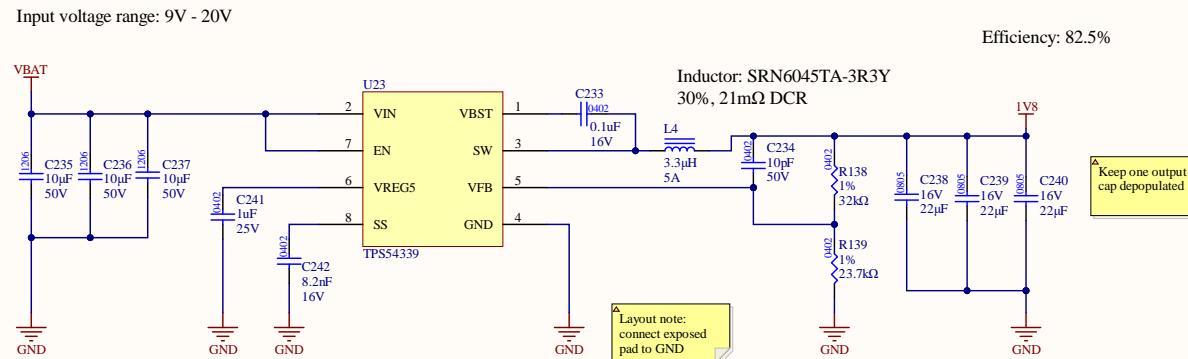
C

C

D

D

1.8V Buck Converter @ 2A



Webench reference design: <https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=57C269DE61431294>

Title: 1.8V Power	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	
Date: 2021-07-28	Sheet: 4 of 26



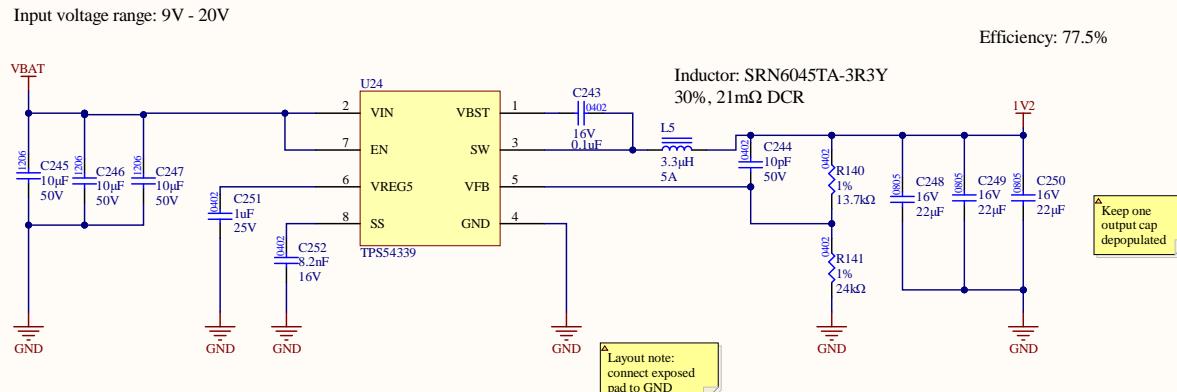
A

A

1.2V Buck Converter @ 2A

B

B



C

C

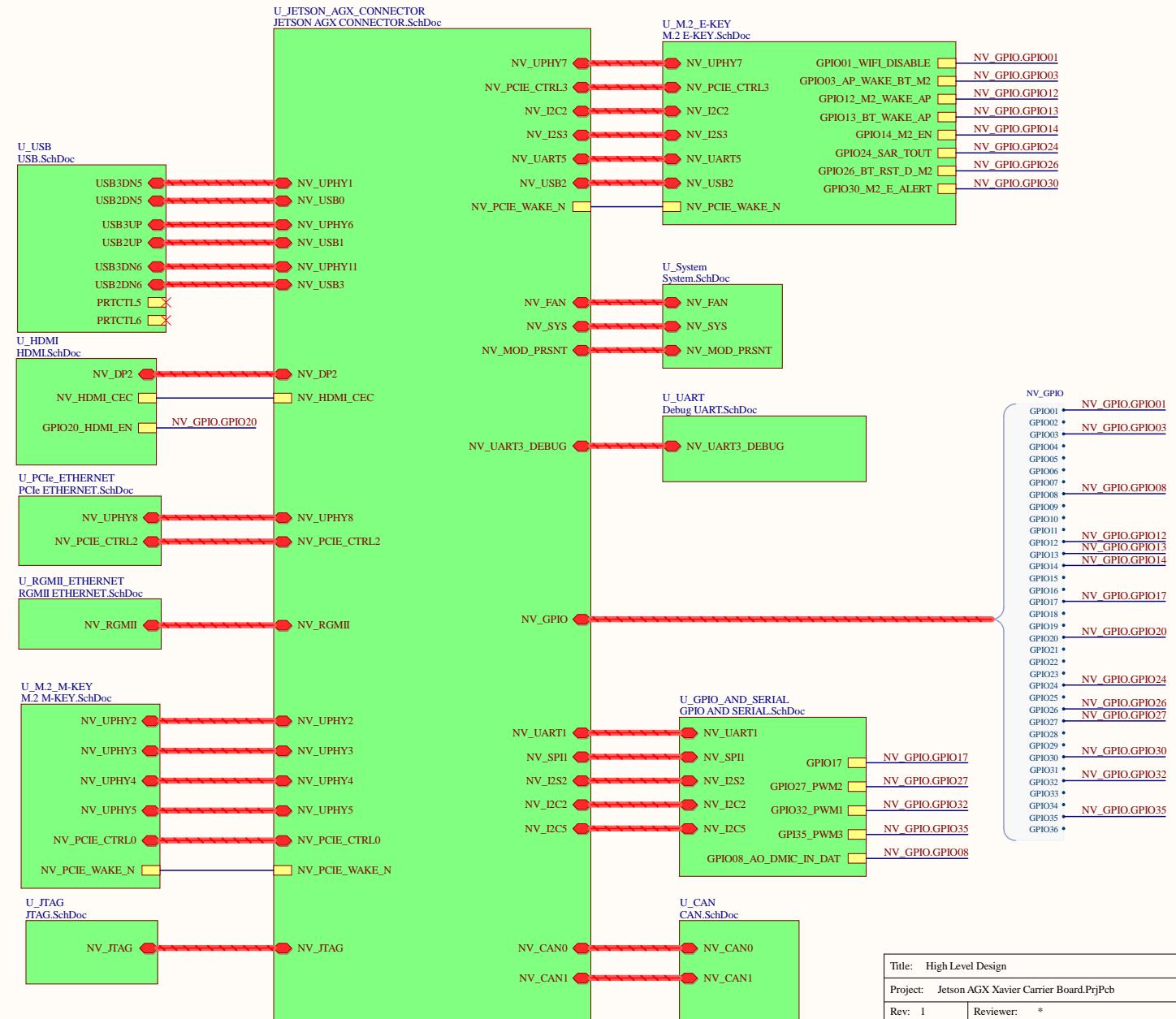
[Webench reference design: https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=348A2FAA81A09D71](https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=348A2FAA81A09D71)

D

D

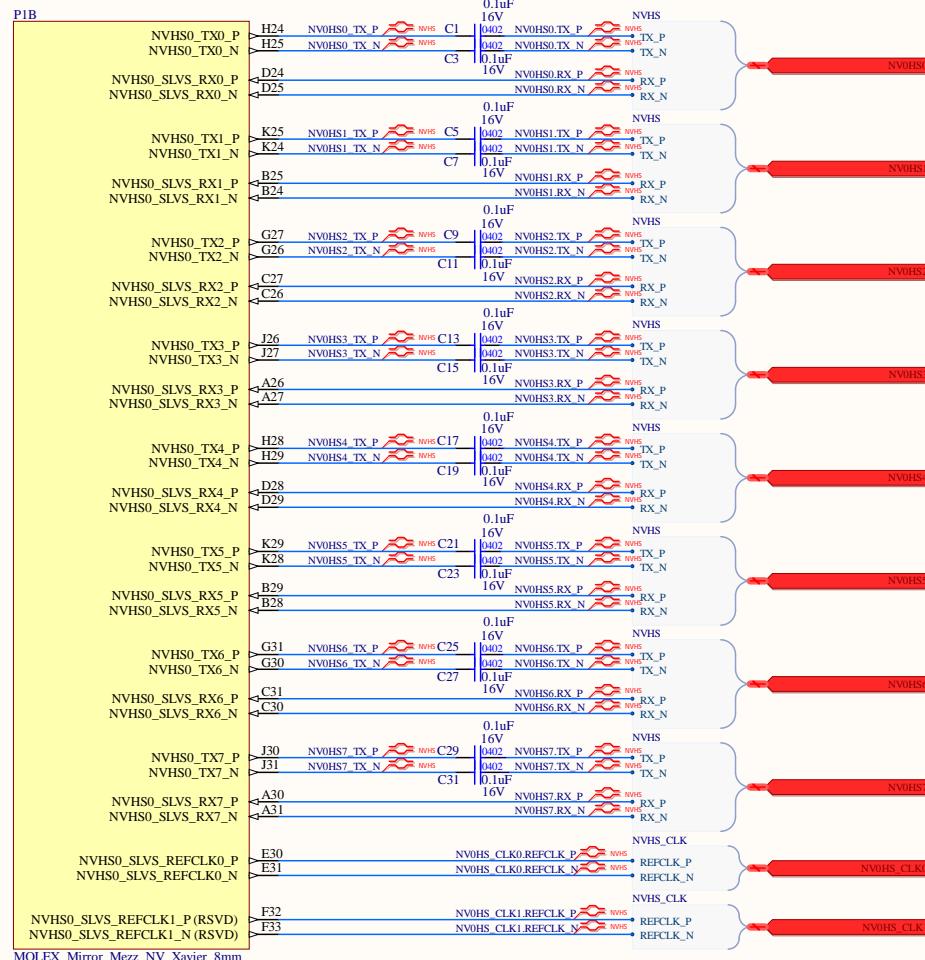
Title: 1.2VPower	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	Date: 2021-07-28
Sheet: 5	of 26





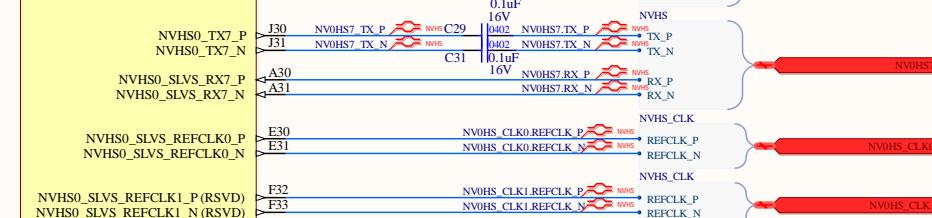
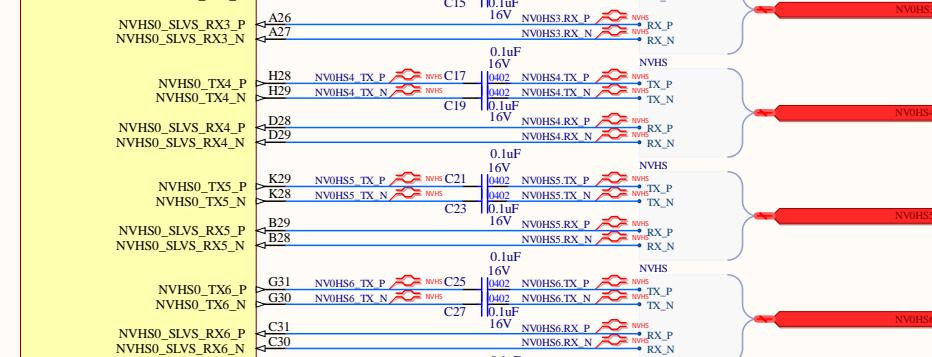


A

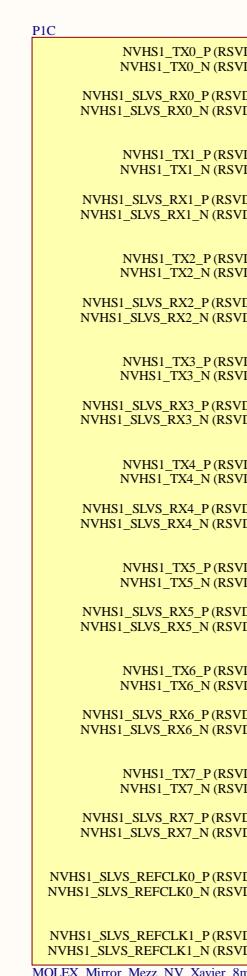


MOLEX_Mirror_Mezz_NV_Xavier_8mm

B



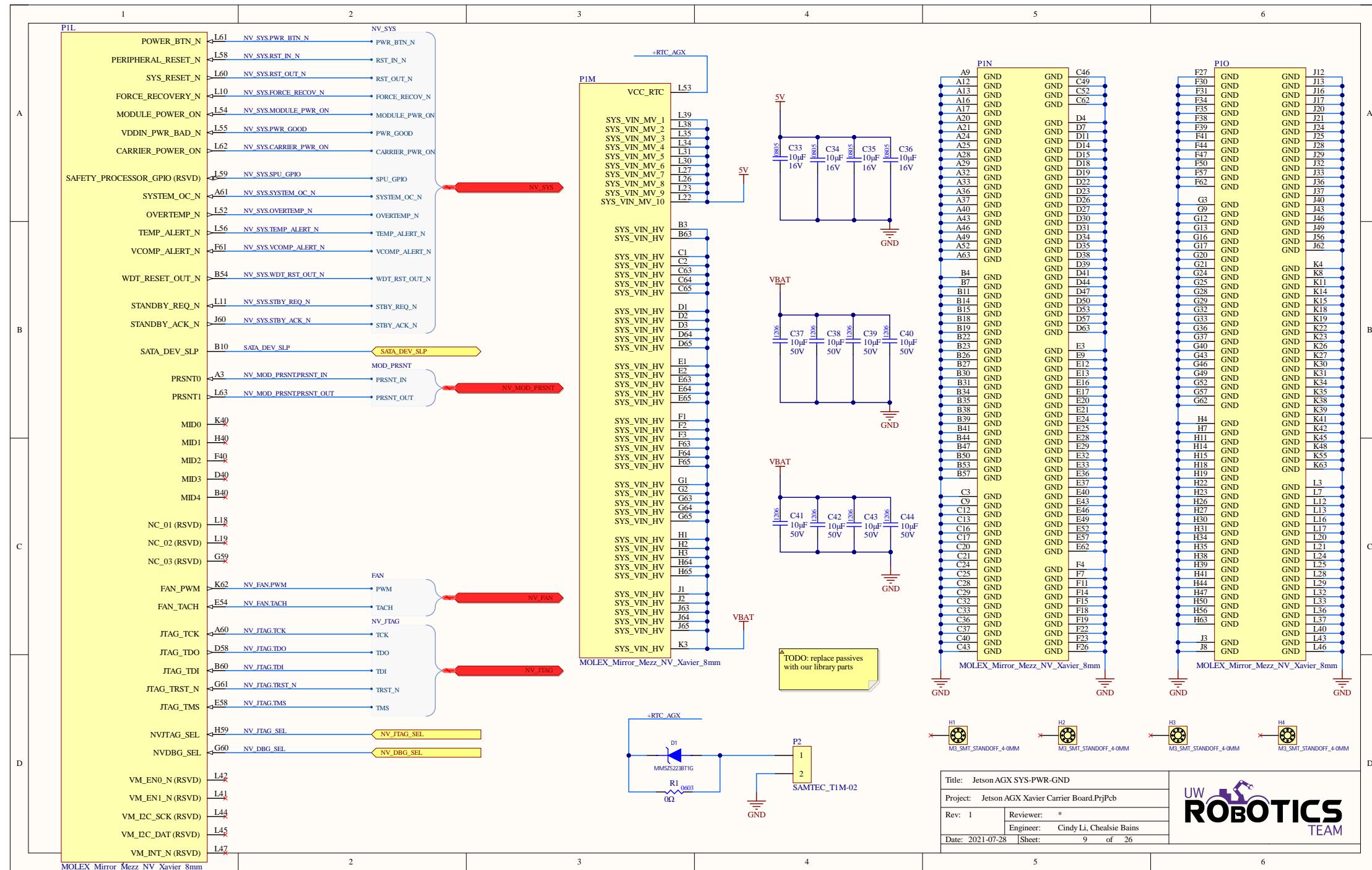
MOLEX_Mirror_Mezz_NV_Xavier_8mm



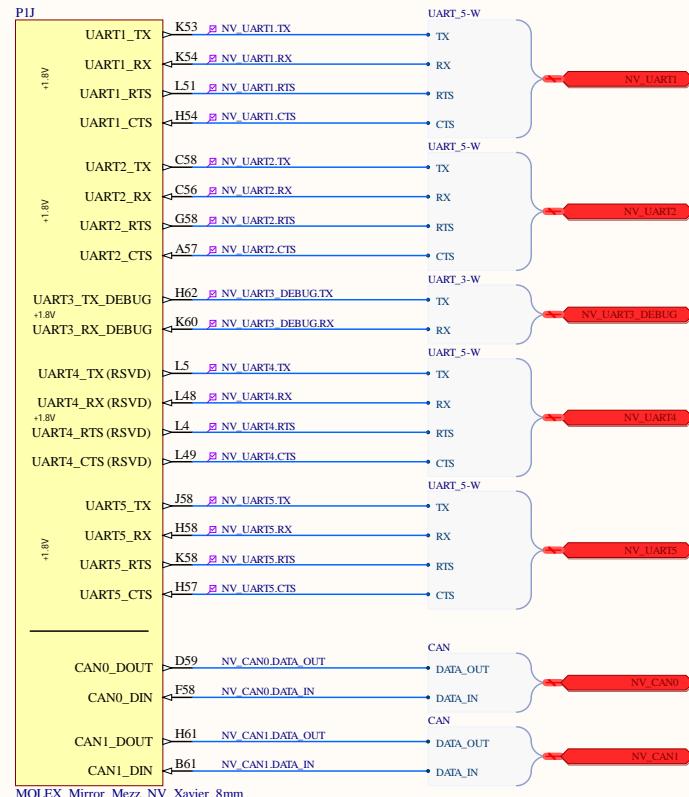
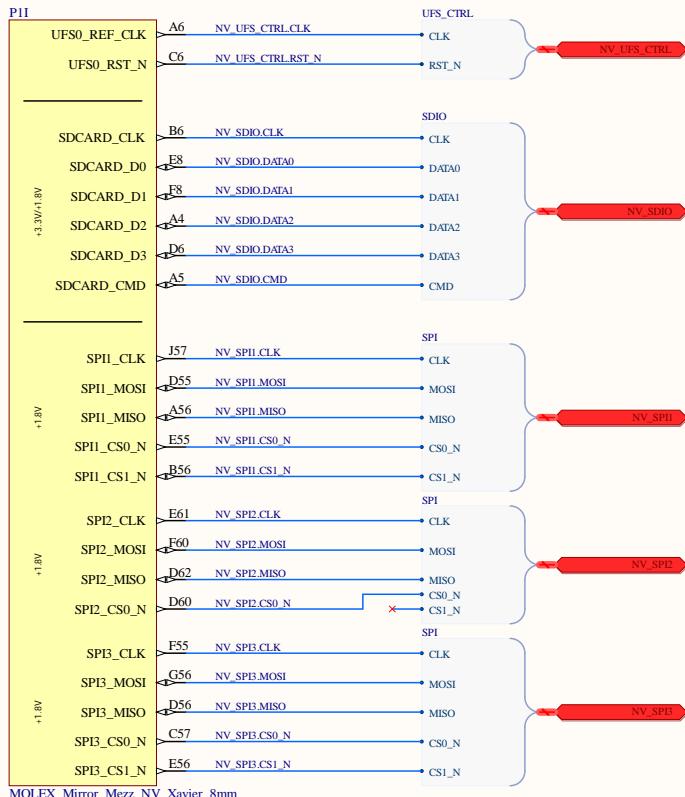
MOLEX_Mirror_Mezz_NV_Xavier_8mm

Title:	Jetson AGX NVHS	
Project:	Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer:	*
Engineer:	Cindy Li, Chealsie Bains	Date: 2021-07-28
Sheet:	8	of 26





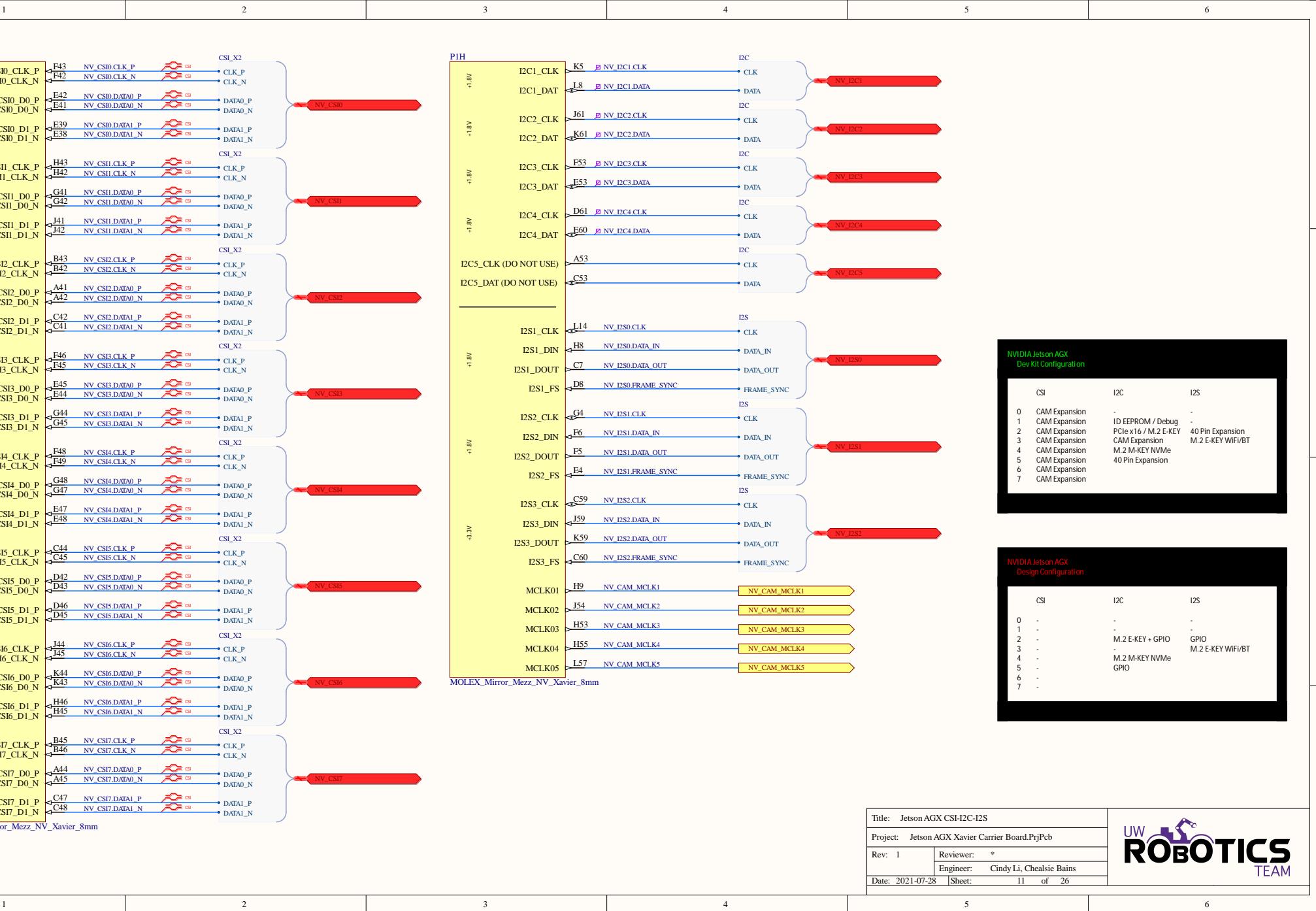
1 2 3 4 5 6

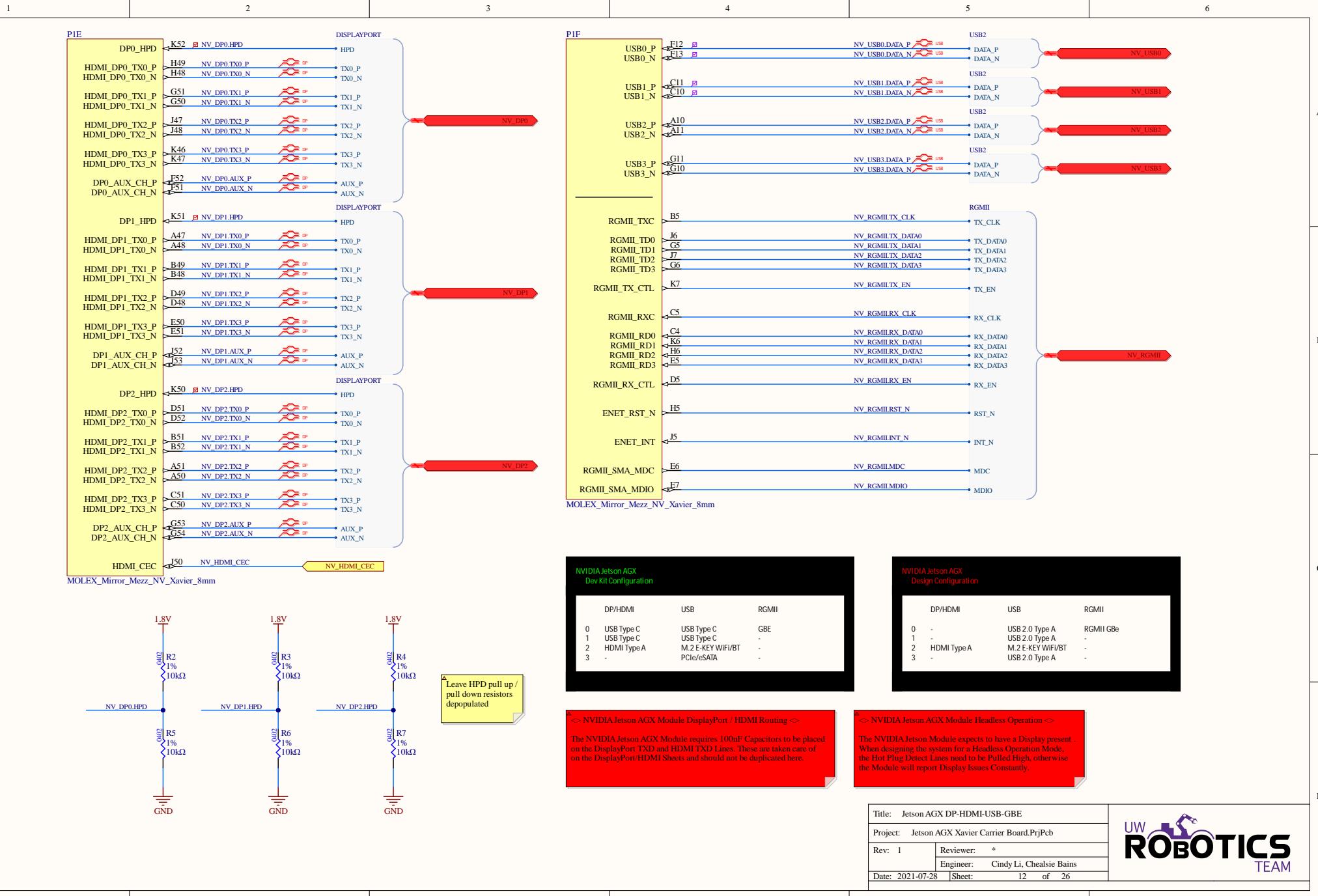


Title: Jetson AGX SDIO-SPI-UART-CAN-GPIO	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li, Chealsie Bains	
Date: 2021-07-28	Sheet: 10 of 26



1 2 3 4 5 6





A

A

B

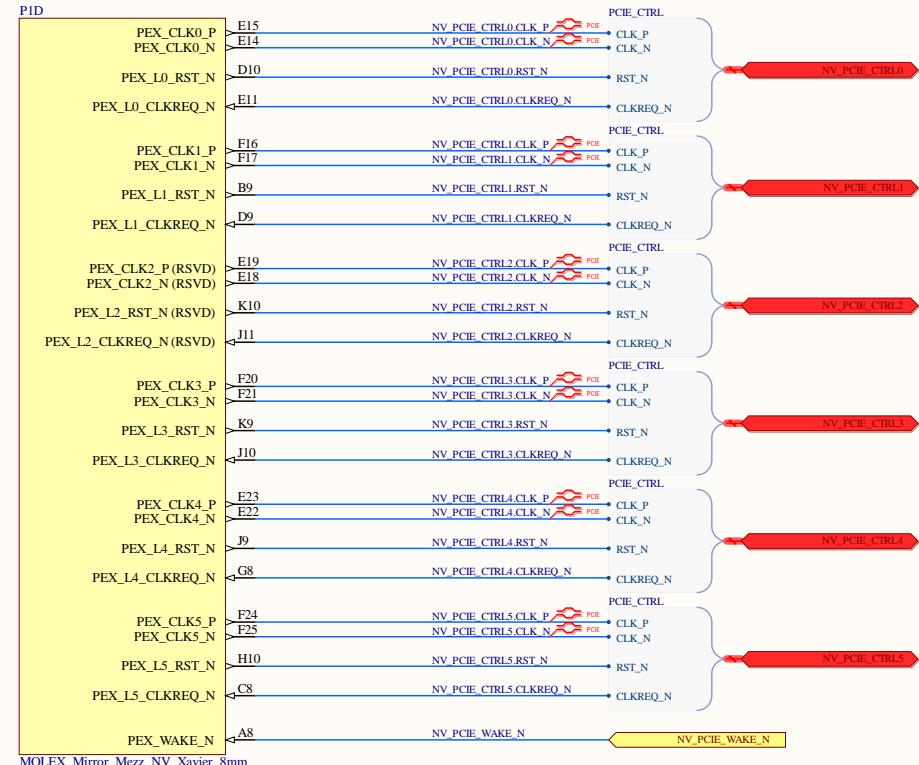
B

C

C

D

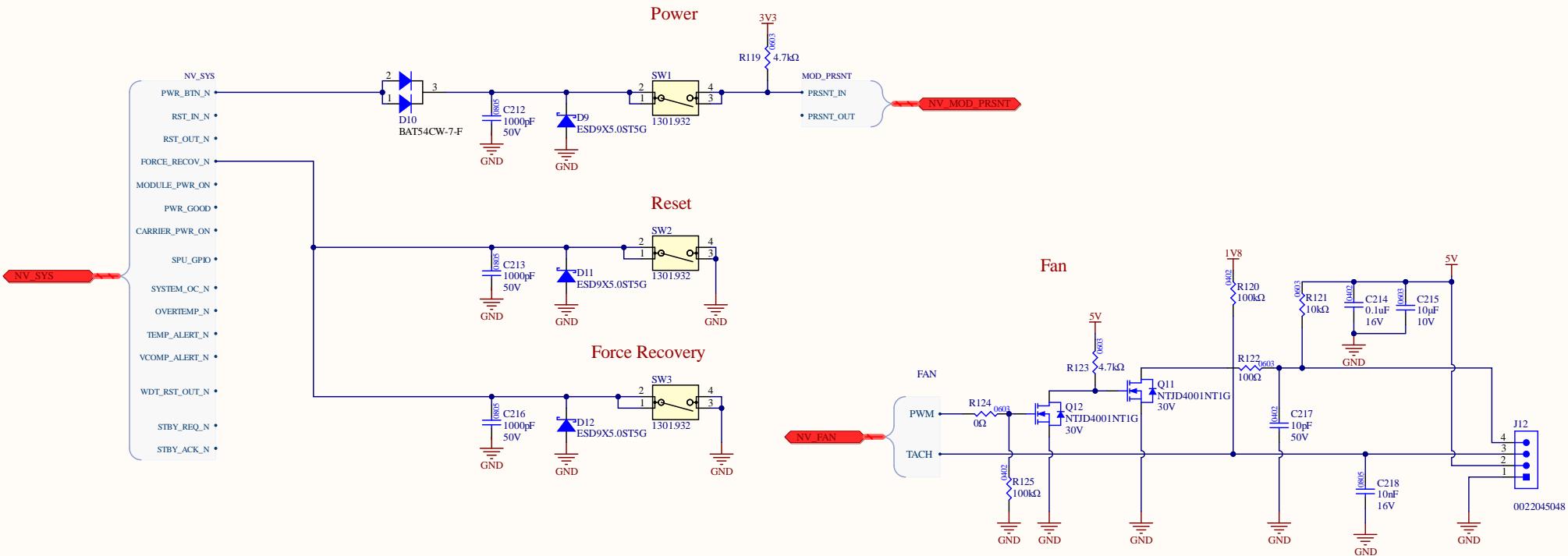
D



Title: Jetson AGX PCIe	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li, Chealsie Bains	
Date: 2021-07-28	Sheet: 13 of 26







Title: System	
Project: Jetson AGX Xavier Carrier Board.PjPcb	
Rev: 1	Reviewer: *
Engineer: Chealsie Bains	Date: 2021-07-28
Sheet: 15	of 26

A

A

B

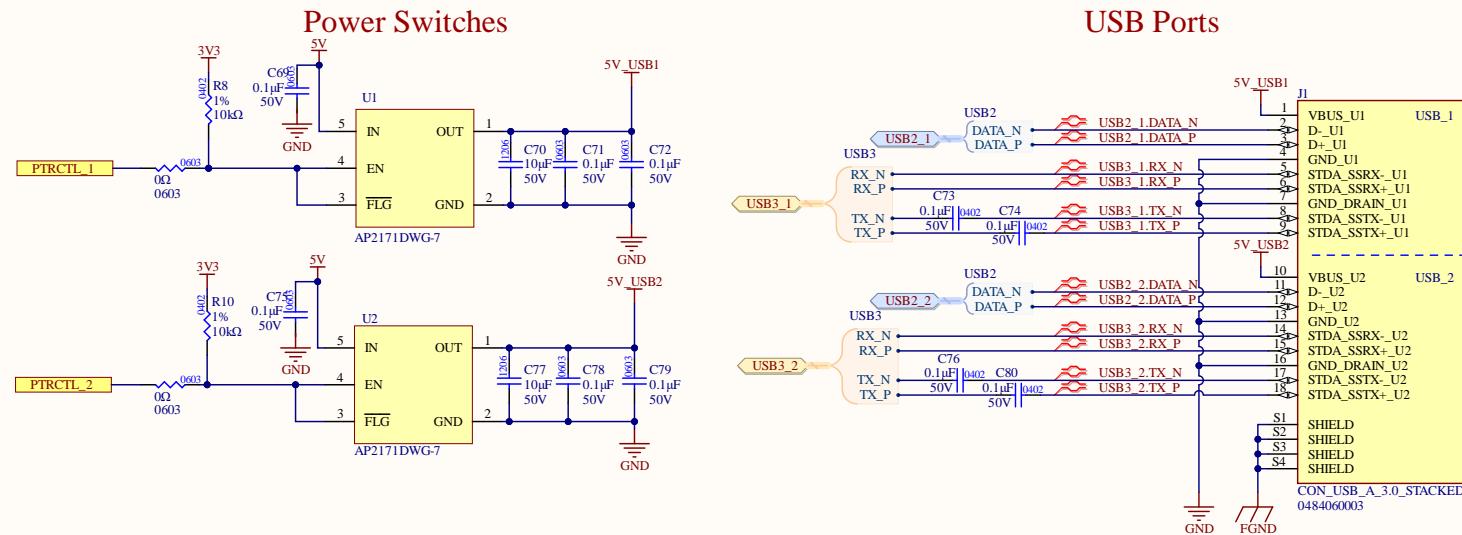
B

C

C

D

D



Title: USB Port

Project: Jetson AGX Xavier Carrier Board.PnjPcb

Rev: 1

Reviewer: *

Engineer: Cindy Li

Date: 2021-07-28

Sheet: 16 of 26



1

2

3

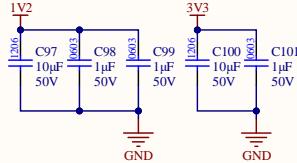
4

5

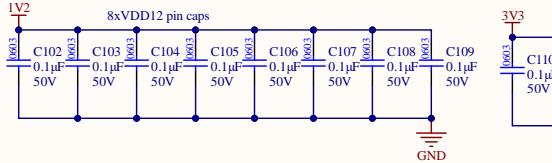
6

A

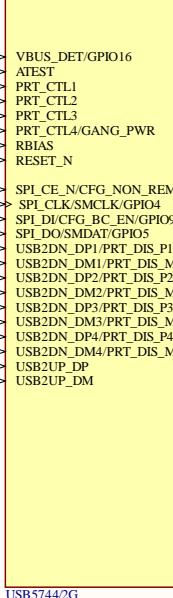
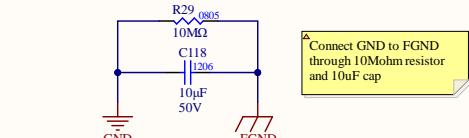
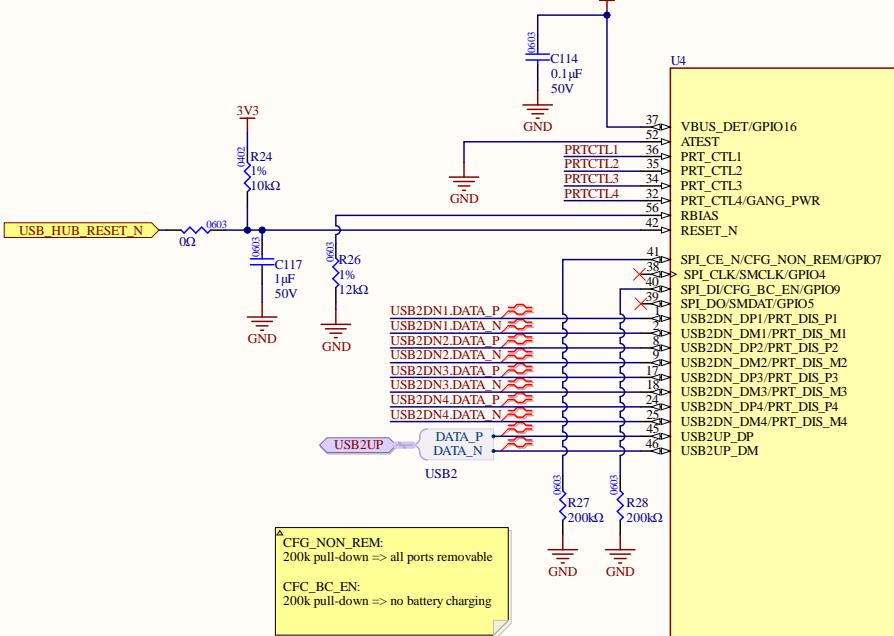
Bulk Capacitors



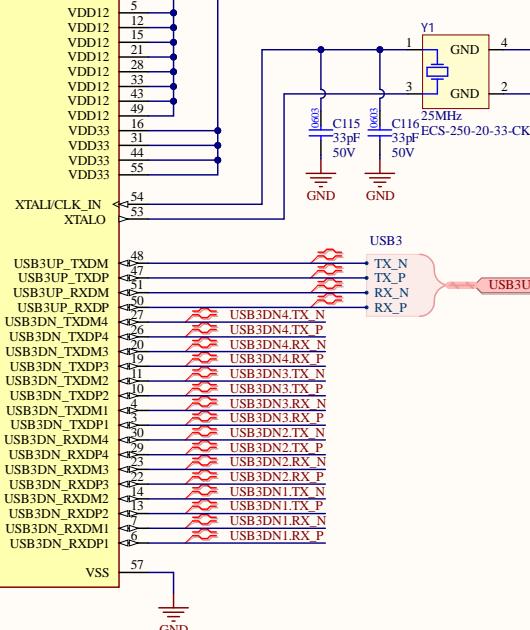
Decoupling Capacitors



USB Controller



USB5744/2G



USB3DN1.TX_N → TX_N
USB3DN1.TX_P → TX_P
USB3DN1.RX_N → RX_N
USB3DN1.RX_P → RX_P

USB2DN1.DATA_P → DATA_P
USB2DN1.DATA_N → DATA_N
USB2UP

PRTCTL1
USB3_1
USB2_1
PRTCTL_1

USB3DN2.TX_N → TX_N
USB3DN2.TX_P → TX_P
USB3DN2.RX_N → RX_N
USB3DN2.RX_P → RX_P

USB2DN2.DATA_P → DATA_P
USB2DN2.DATA_N → DATA_N
USB2UP

PRTCTL2
USB3_2
USB2_2
PRTCTL_2

USB3DN3.TX_N → TX_N
USB3DN3.TX_P → TX_P
USB3DN3.RX_N → RX_N
USB3DN3.RX_P → RX_P

USB2DN3.DATA_P → DATA_P
USB2DN3.DATA_N → DATA_N
USB2UP

PRTCTL3
USB3_1
USB2_1
PRTCTL_1

USB3DN4.TX_N → TX_N
USB3DN4.TX_P → TX_P
USB3DN4.RX_N → RX_N
USB3DN4.RX_P → RX_P

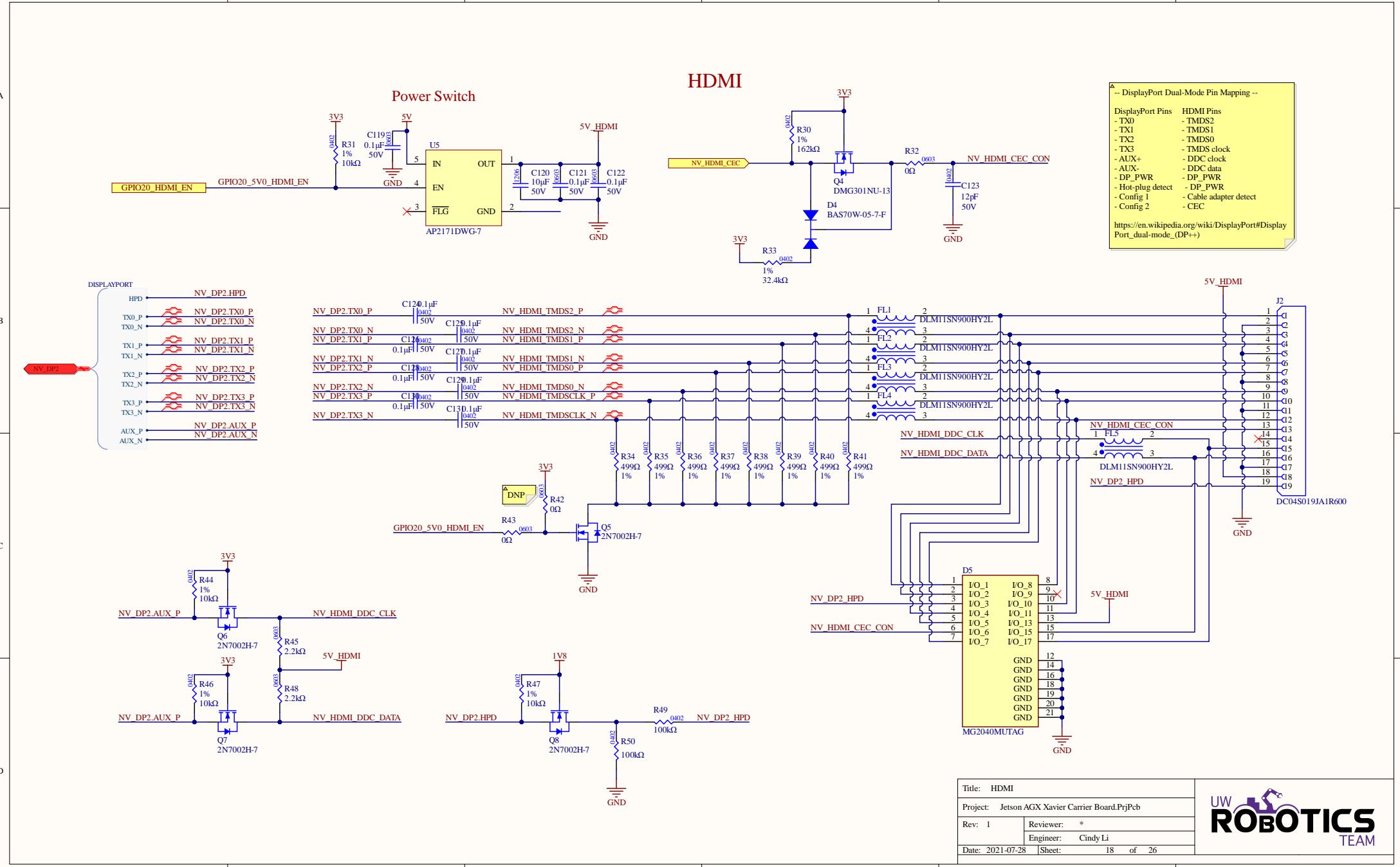
USB2DN4.DATA_P → DATA_P
USB2DN4.DATA_N → DATA_N
USB2UP

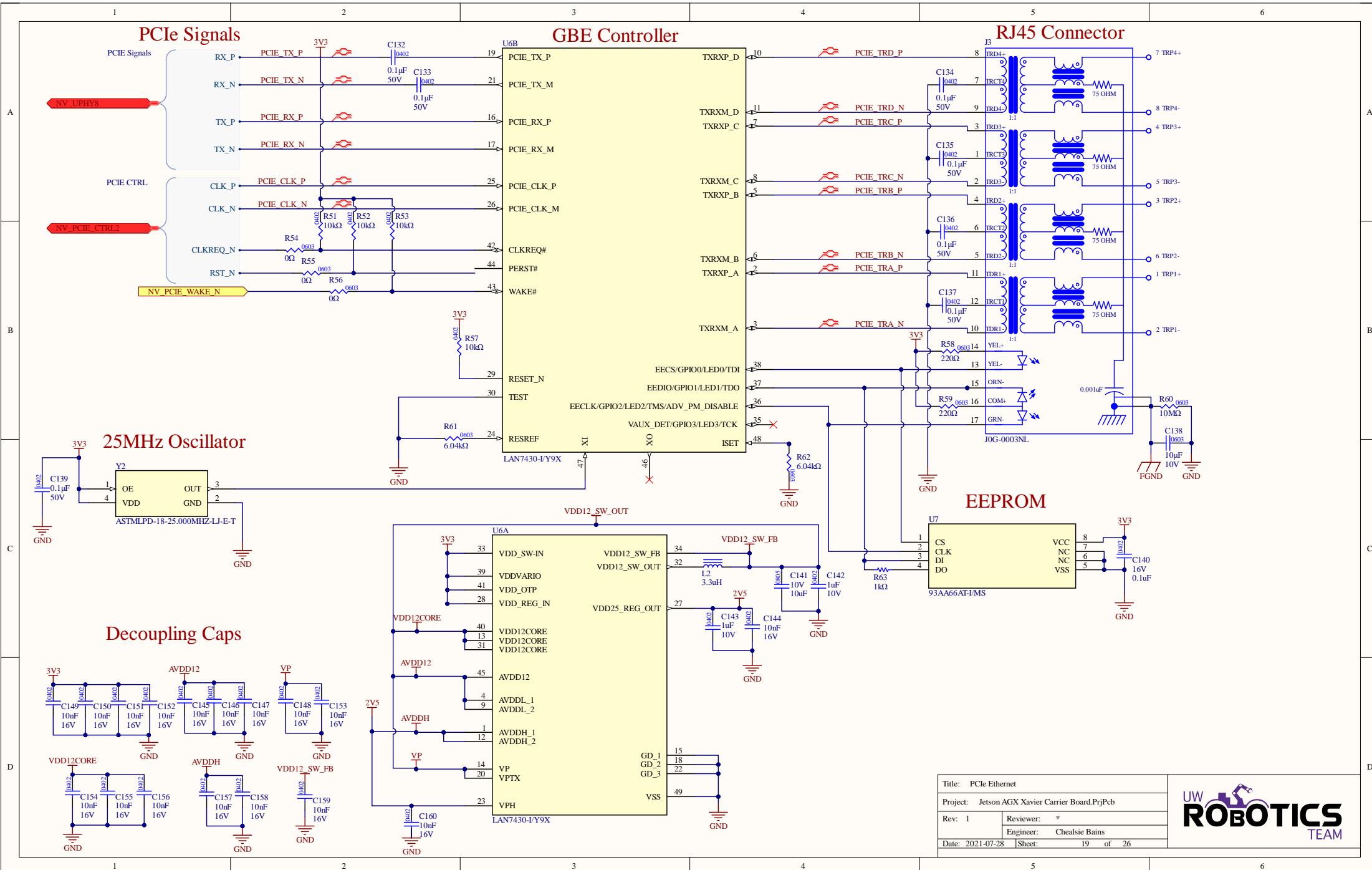
PRTCTL4
USB3_2
USB2_2
PRTCTL_2

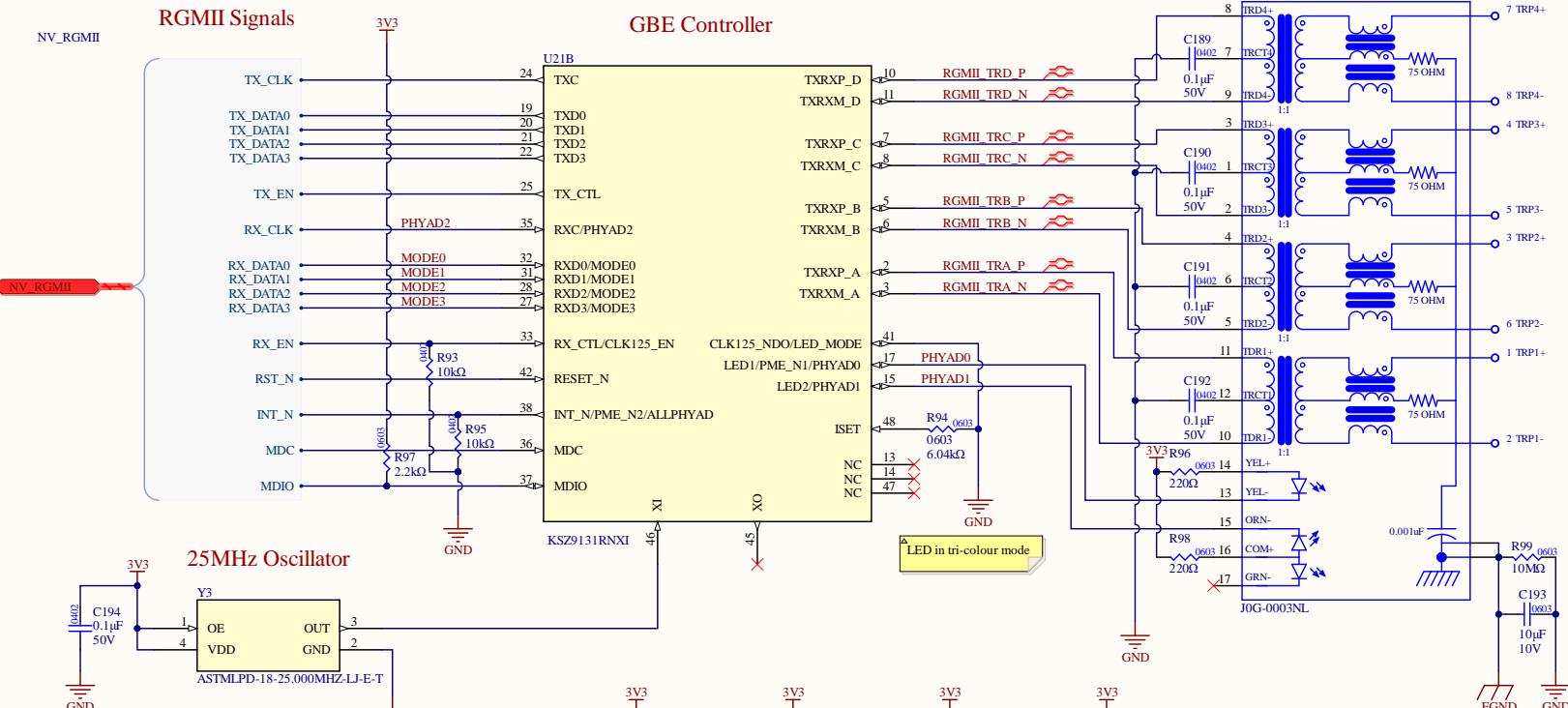
USB3DN5
USB2DN5
PRTCTL5
PRTCTL_1

USB3DN6
USB2DN6
PRTCTL6
PRTCTL_2

Title: USB	
Project: Jetson AGX Xavier Carrier Board.PjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	
Date: 2021-07-28	Sheet: 17 of 26





RJ45 Ethernet Connector

A

A

B

B

C

C

D

D

1

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3

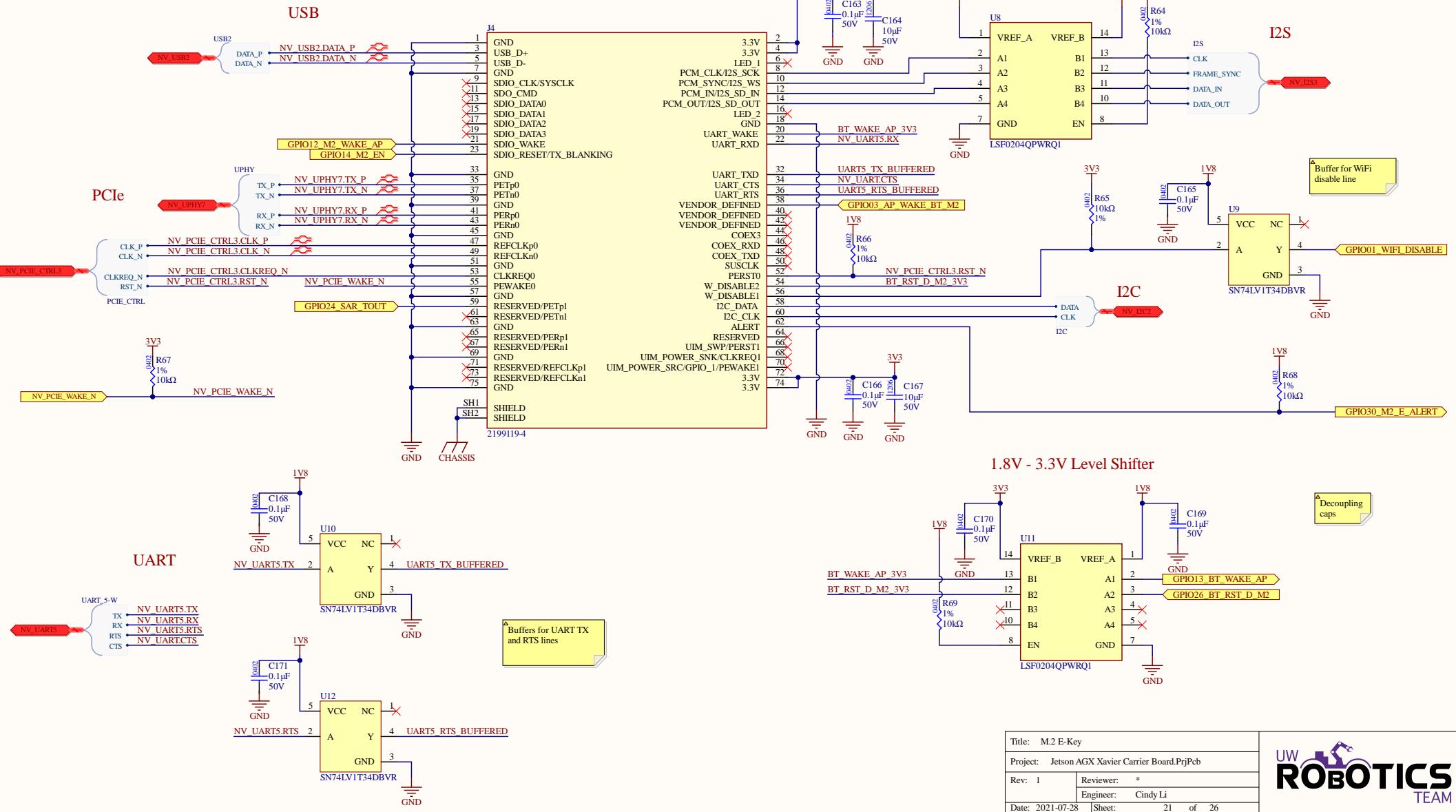
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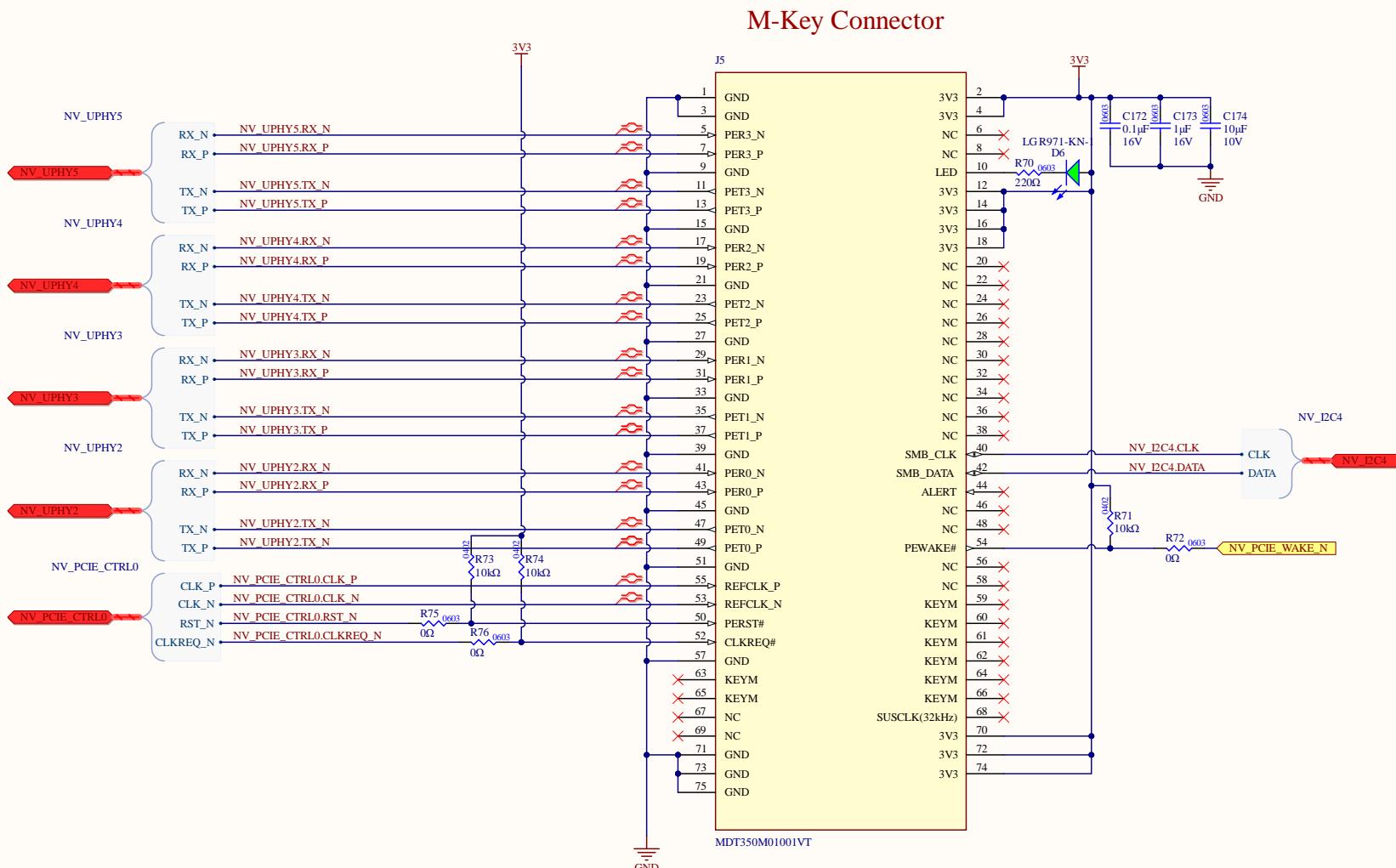
5

6

Title: RGMII Ethernet	
Project: Jetson AGX Xavier Carrier Board.PjPcb	
Rev: 1	Reviewer: *
Engineer: Chealsie Bains	Date: 2021-07-28

M.2 E-Key Wifi/Bluetooth Connector





Title: M.2 M-Key	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Chealsie Bains	Date: 2021-07-28
Sheet: 22	of 26

A

A

B

B

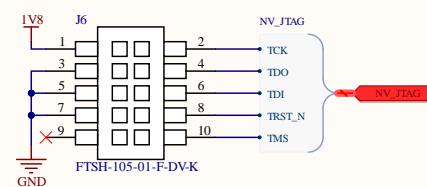
C

C

D

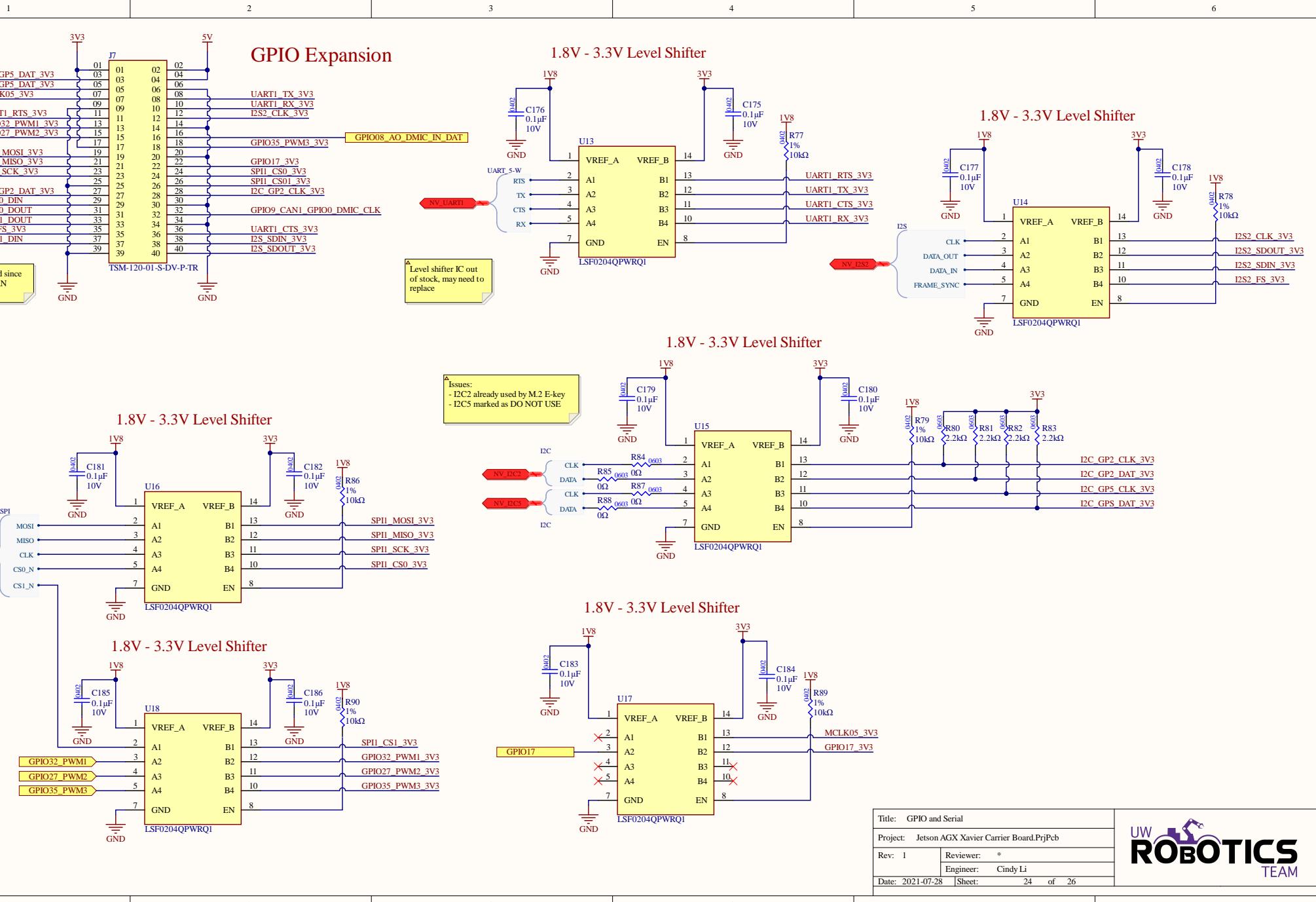
D

JTAG

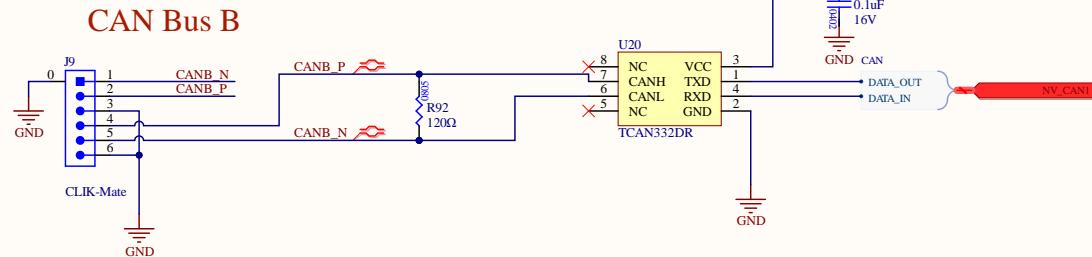
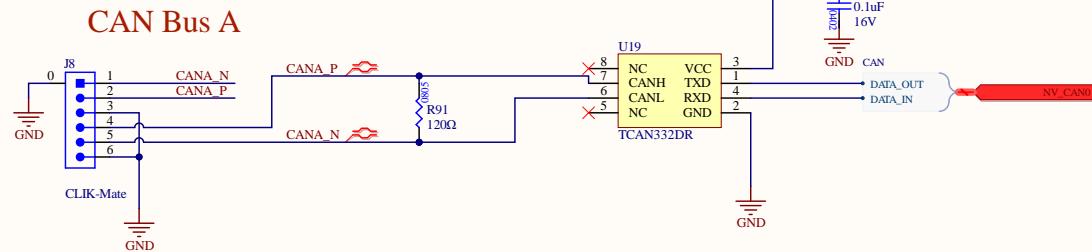


Title: JTAG	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
	Engineer: Cindy Li
Date: 2021-07-28	Sheet: 23 of 26





CAN Transceivers

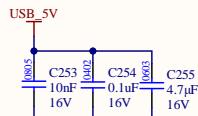


Title: CAN	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	
Date: 2021-07-28	Sheet: 25 of 26



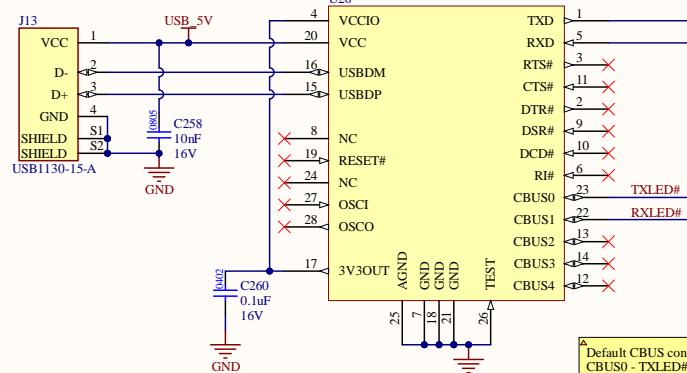
A

A



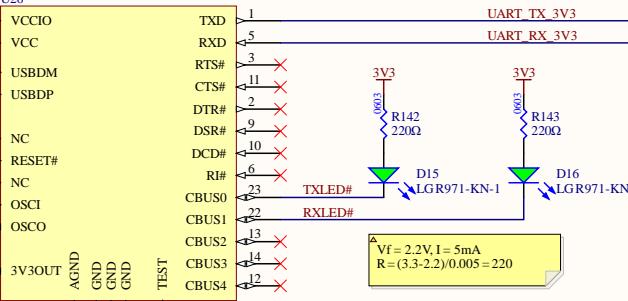
UART to USB

USB-A 2.0 Connector



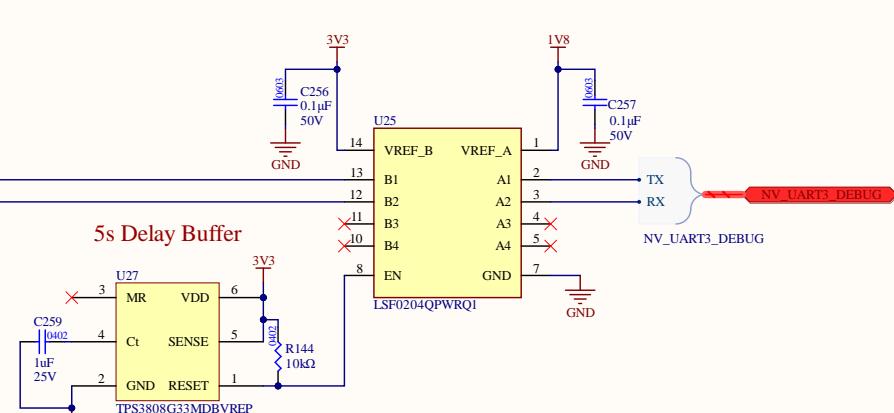
The power descriptors in the internal EEPROM of the FT232R should be programmed to match the current drawn by the device.

UART to USB



Default CBUS configurations:
CBUS0 - TXLED#
CBUS1 - RXLED#
CBUS2 - TXDEN
CBUS3 - PWREN#
CBUS4 - SLEEP#

1.8V - 3.3V Level Shifter



Vf = 2.2V, I = 5mA
R = (3.3-2.2)/0.005 = 220Ω
For a 5s delay:
Ct = (5 - 0.5E-3) * 175n = 875nF
Can use 1000nF ie 1uF for a 5.7 s delay which is close enough

Title: Debug UART

Project: Jetson AGX Xavier Carrier Board.PjPcb

Rev: 1 Reviewer: *

Engineer: Chealsie Bains

Date: 2021-07-28 Sheet: 26 of 26



Board Stack Report