

A

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B

C

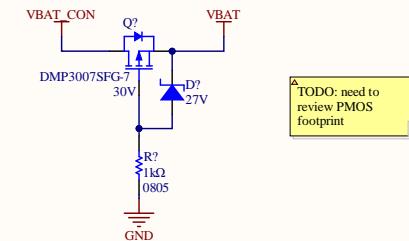
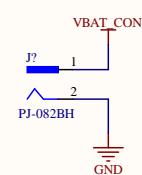
C

D

D

Reverse Polarity Protection

Power Jack



Title: Power Connector	
Project: Jetson AGX Xavier Carrier Board.PrjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	
Date: 2021-07-10	Sheet: 1 of 25

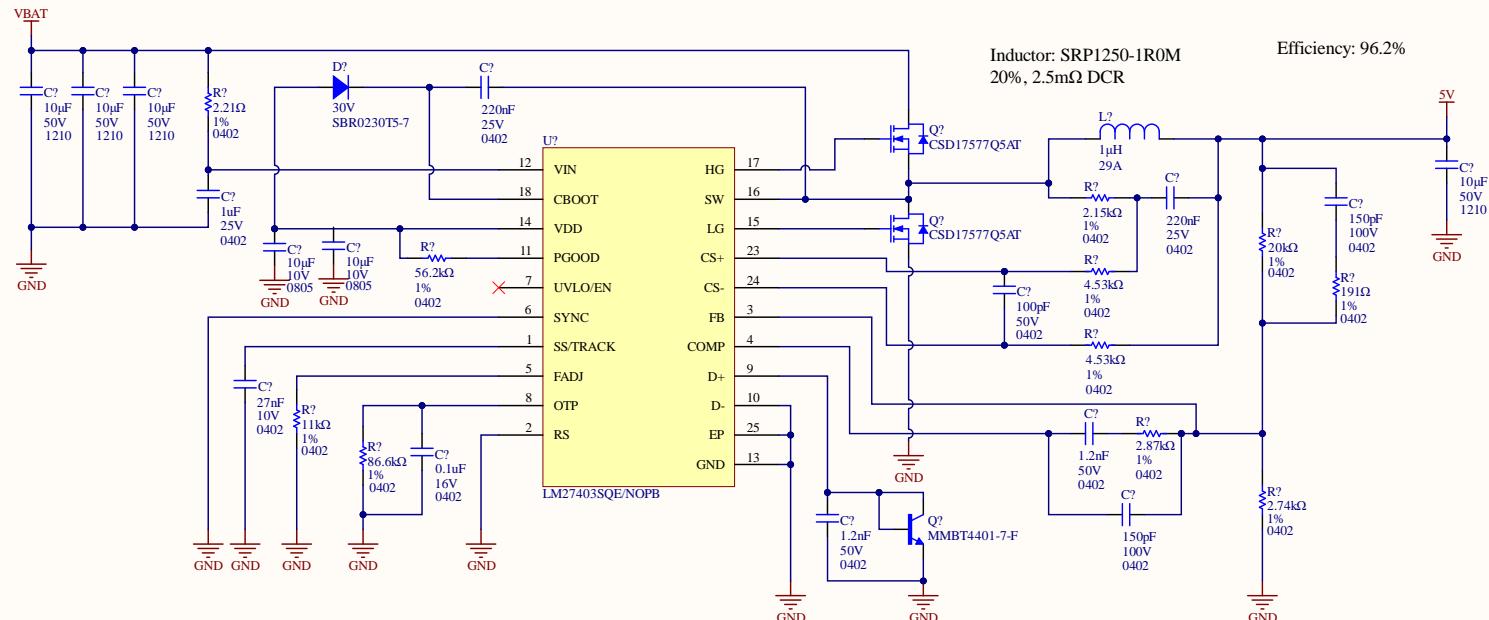


A

A

5V Buck Converter @ 16A

Input voltage range: 9V - 20V



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

Title: 5V Power	
Project: Jetson AGX Xavier Carrier Board.PrjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	Date: 2021-07-10
Sheet: 2	of 25

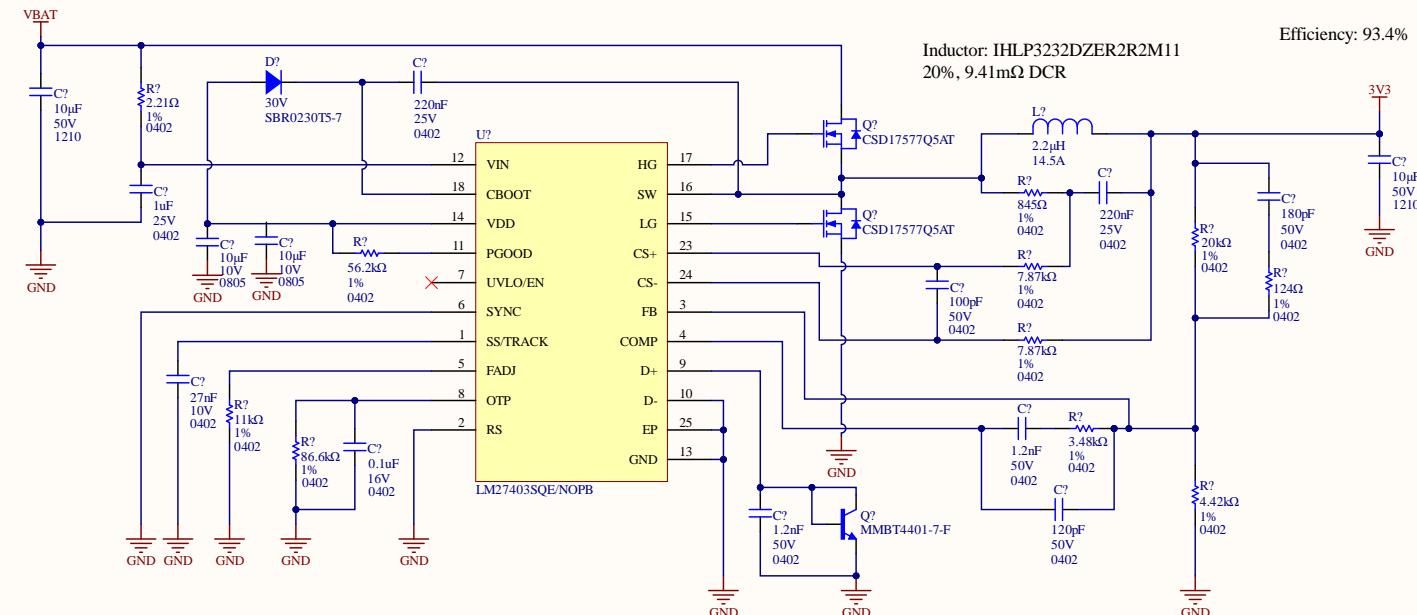


A

A

3.3V Buck Converter @ 6A

Input voltage range: 9V - 20V



Webench reference design: <https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=97FD766931642B43>

Title: 3.3V Power	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	Date: 2021-07-10
Sheet: 3 of 25	



A

A

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B

C

C

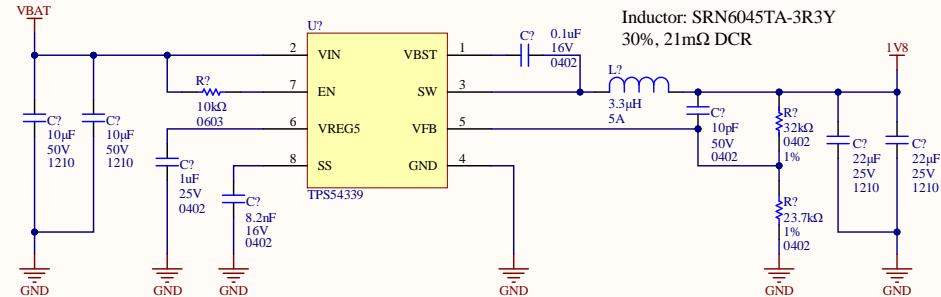
D

D

1.8V Buck Converter @ 2A

Input voltage range: 9V - 20V

Efficiency: 82.5%



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

Title: 1.8V Power	
Project: Jetson AGX Xavier Carrier Board.PrjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	

Date: 2021-07-10 Sheet: 4 of 25



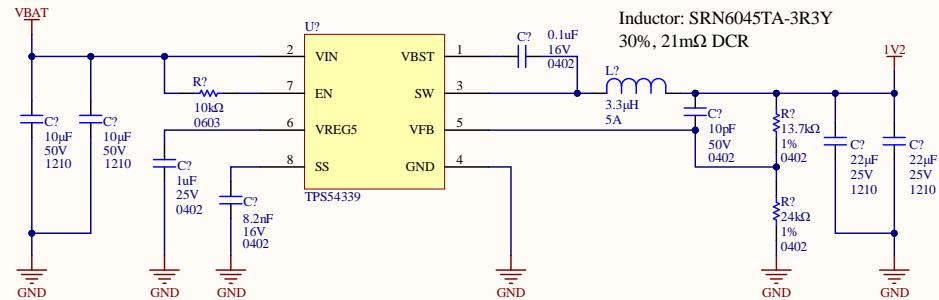
A

1

1.2V Buck Converter @ 2A

Input voltage range: 9V - 20V

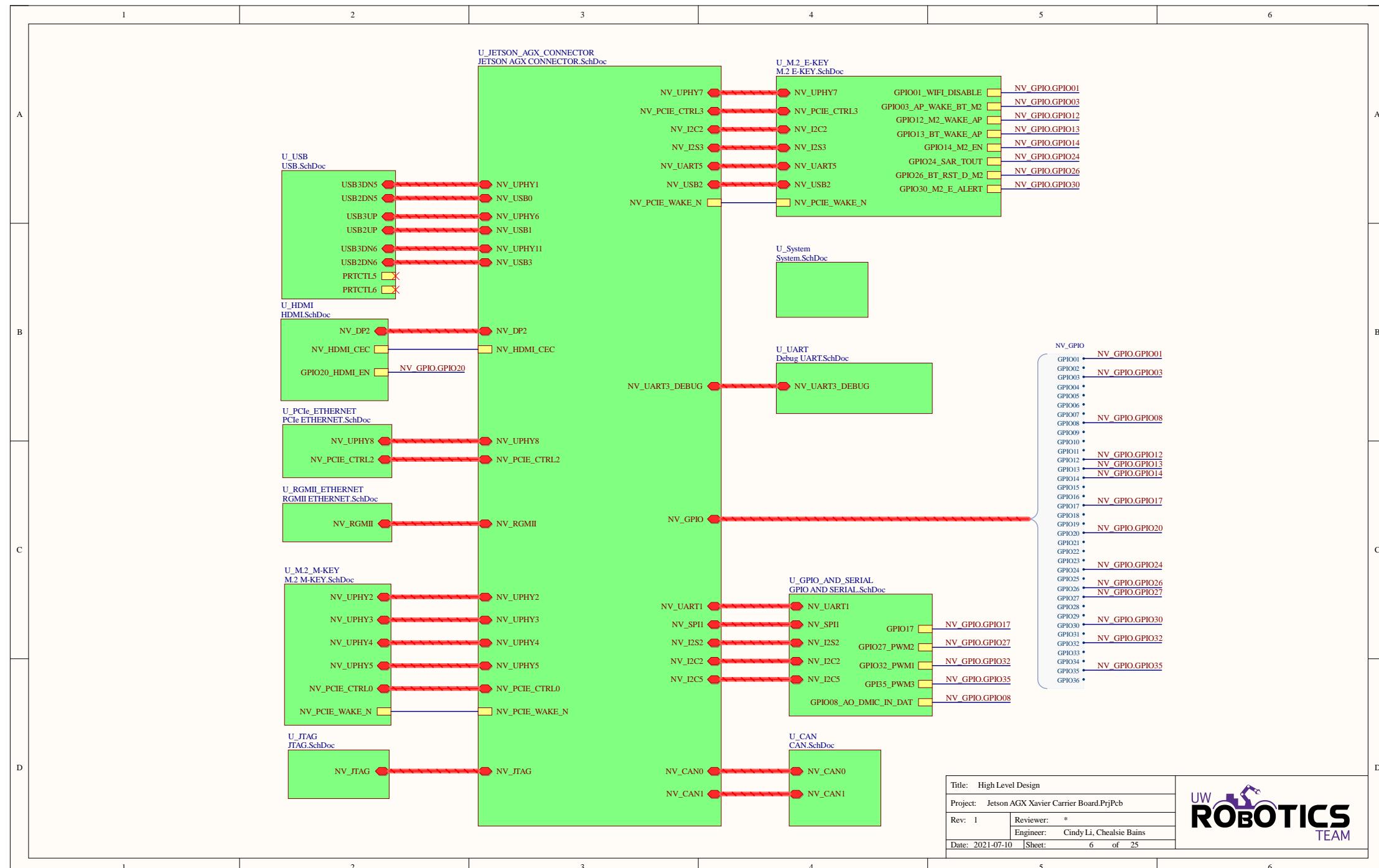
Efficiency: 77.5%



Webbench reference design: <https://webbench.ti.com/appinfo/webbench/scripts/SDP.cgi?ID=348A2FAA81A09D71>

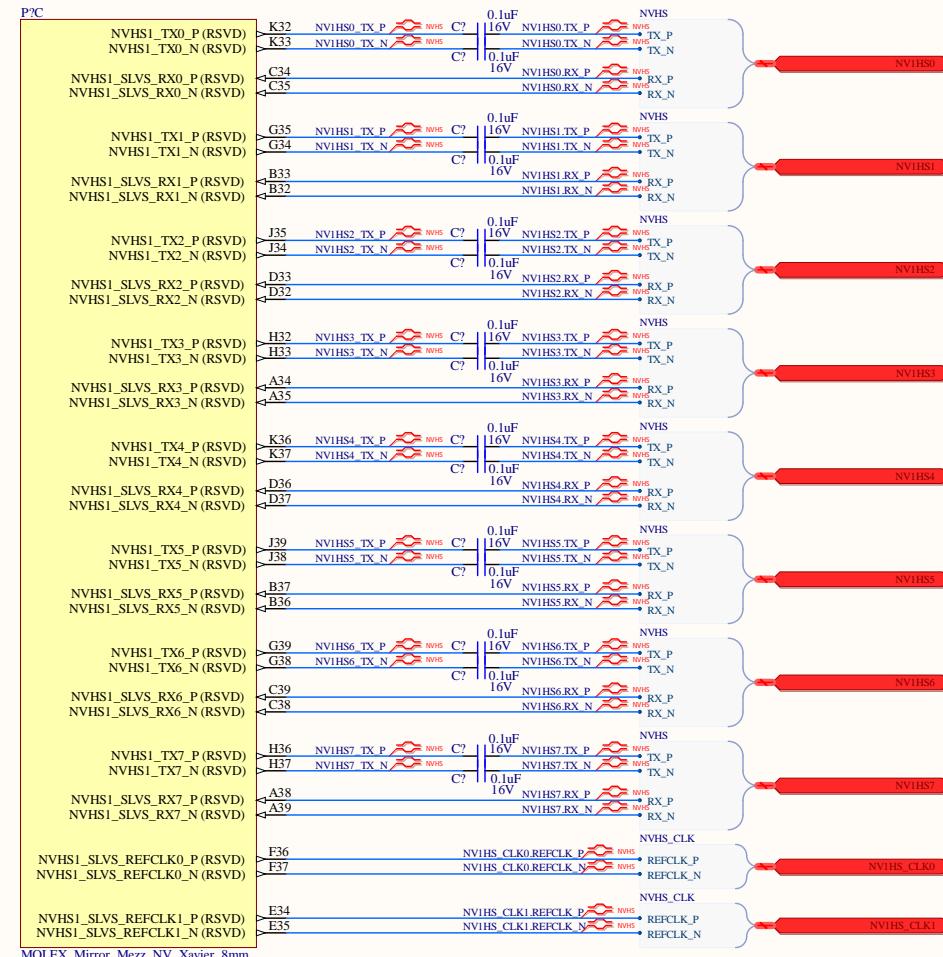
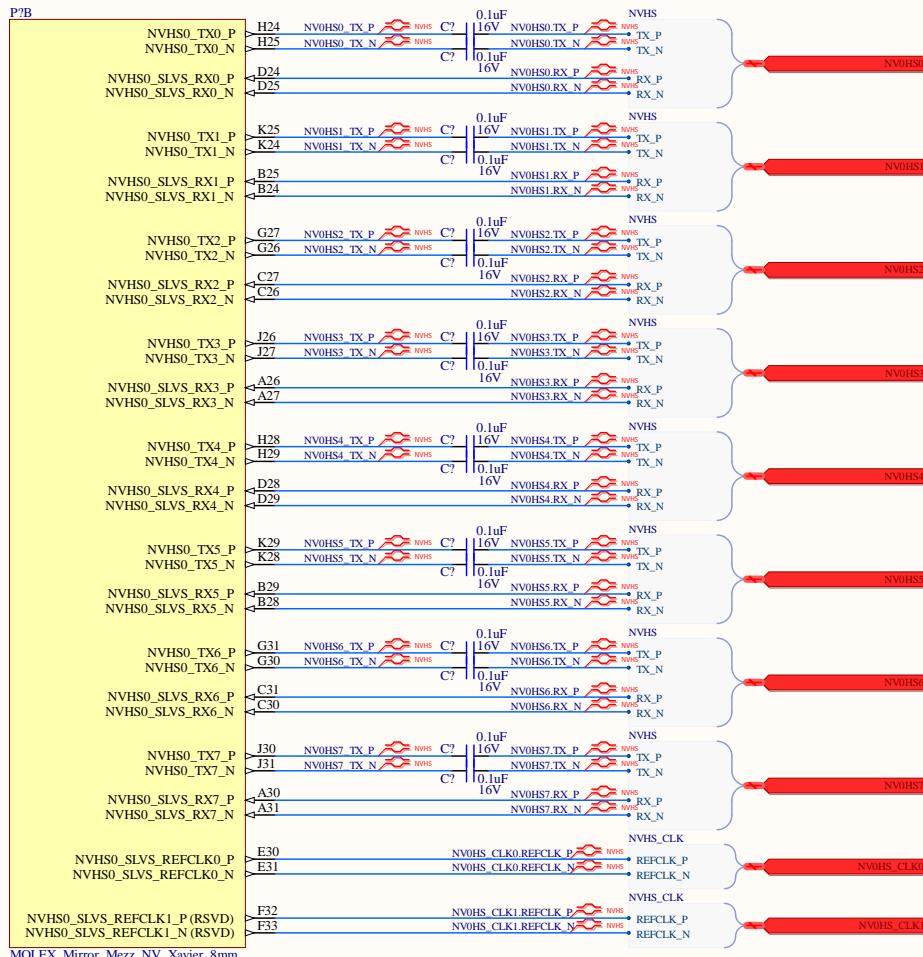
Title:	1.2V Power
Project:	Jetson AGX Xavier Carrier Board.PrjPcb
Rev:	1
Reviewer:	*
Engineer:	Cindy Li
Date:	2021-07-10
Sheet:	5 of 25







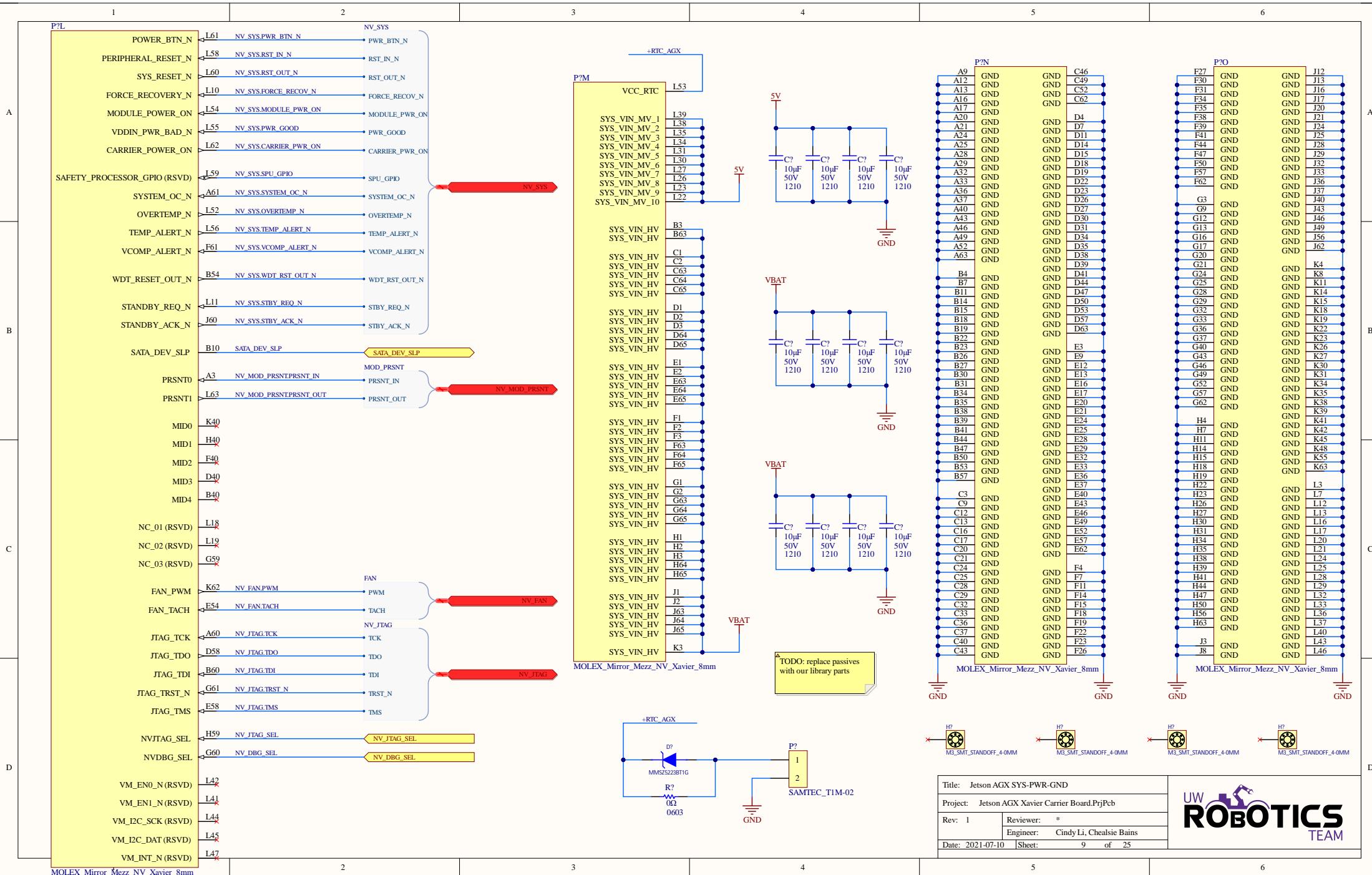
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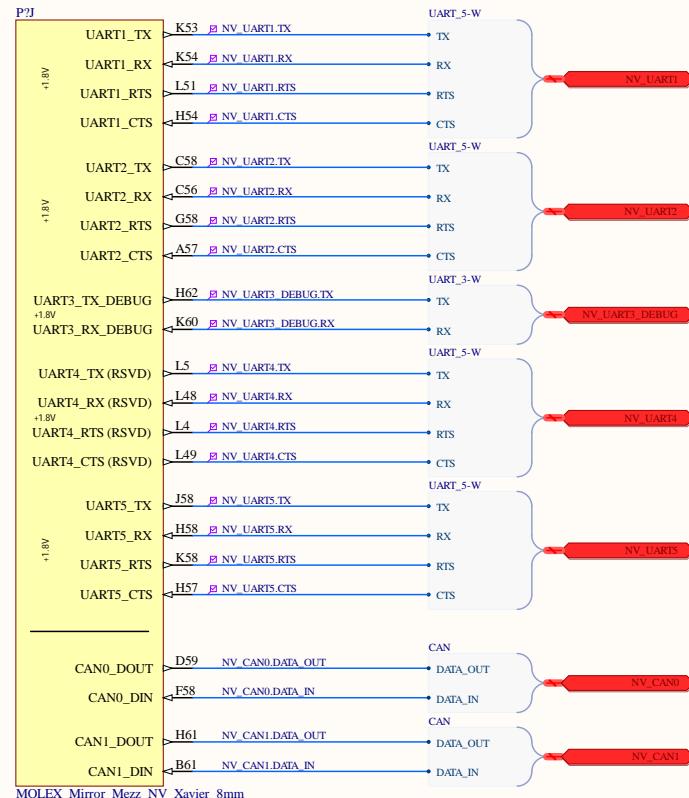
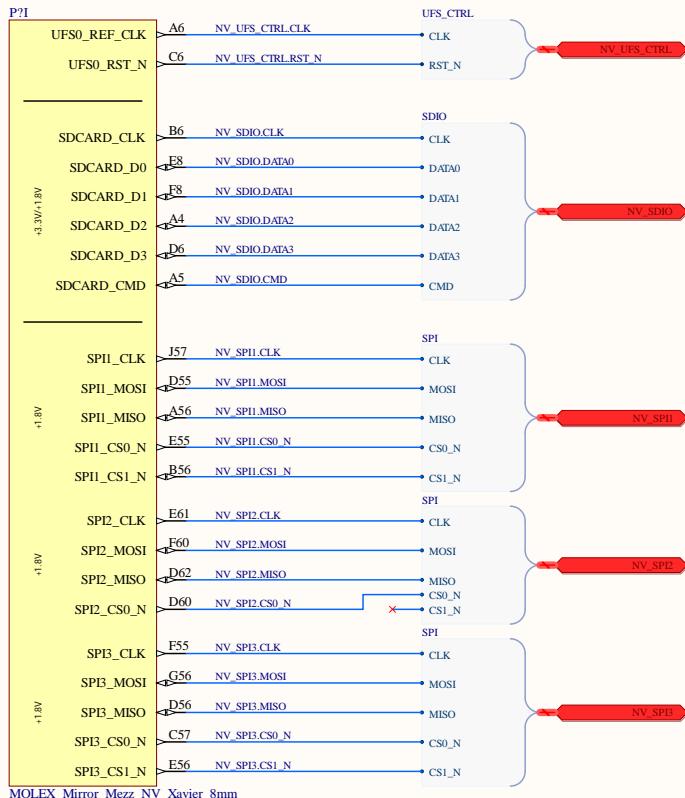
D

Title: Jetson AGX NVHS	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li, Chealsie Bains	
Date: 2021-07-10	Sheet: 8 of 25





1 2 3 4 5 6

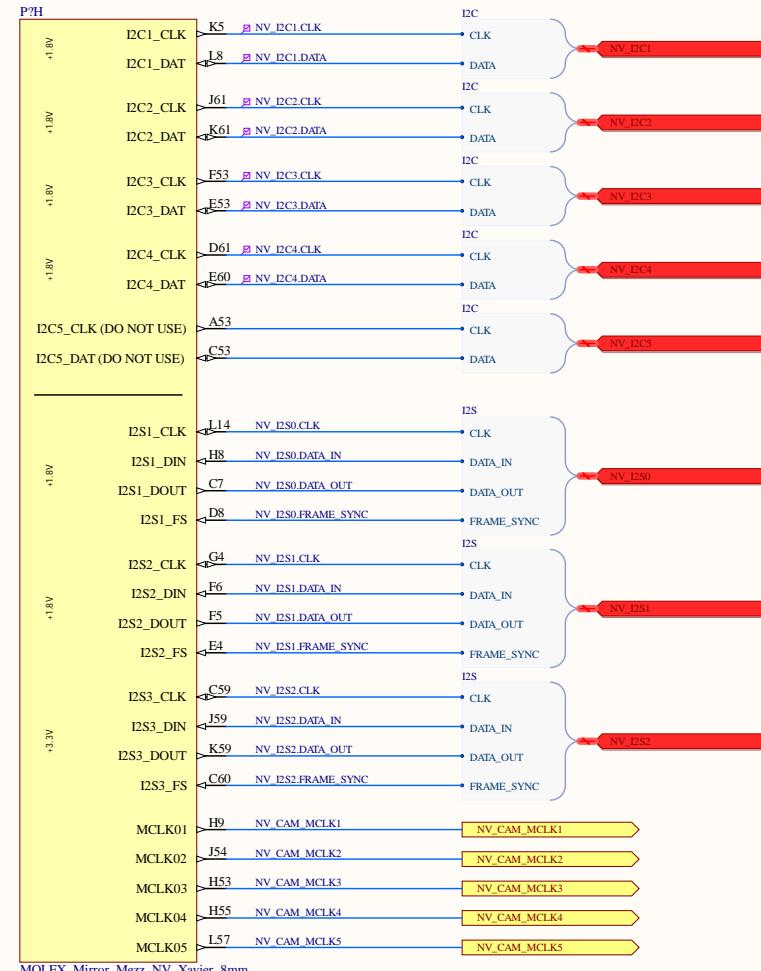
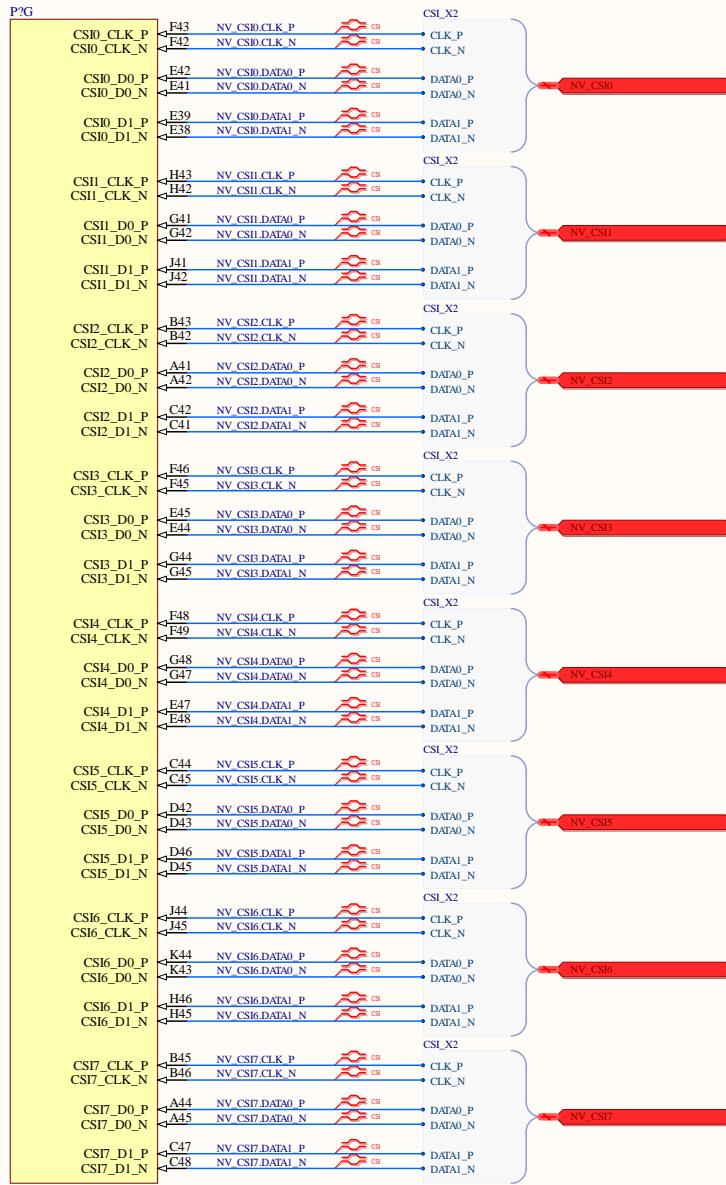


Title: Jetson AGX SDIO-SPI-UART-CAN-GPIO	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li, Chealsie Bains	
Date: 2021-07-10	Sheet: 10 of 25



1 2 3 4 5 6

1 2 3 4 5 6



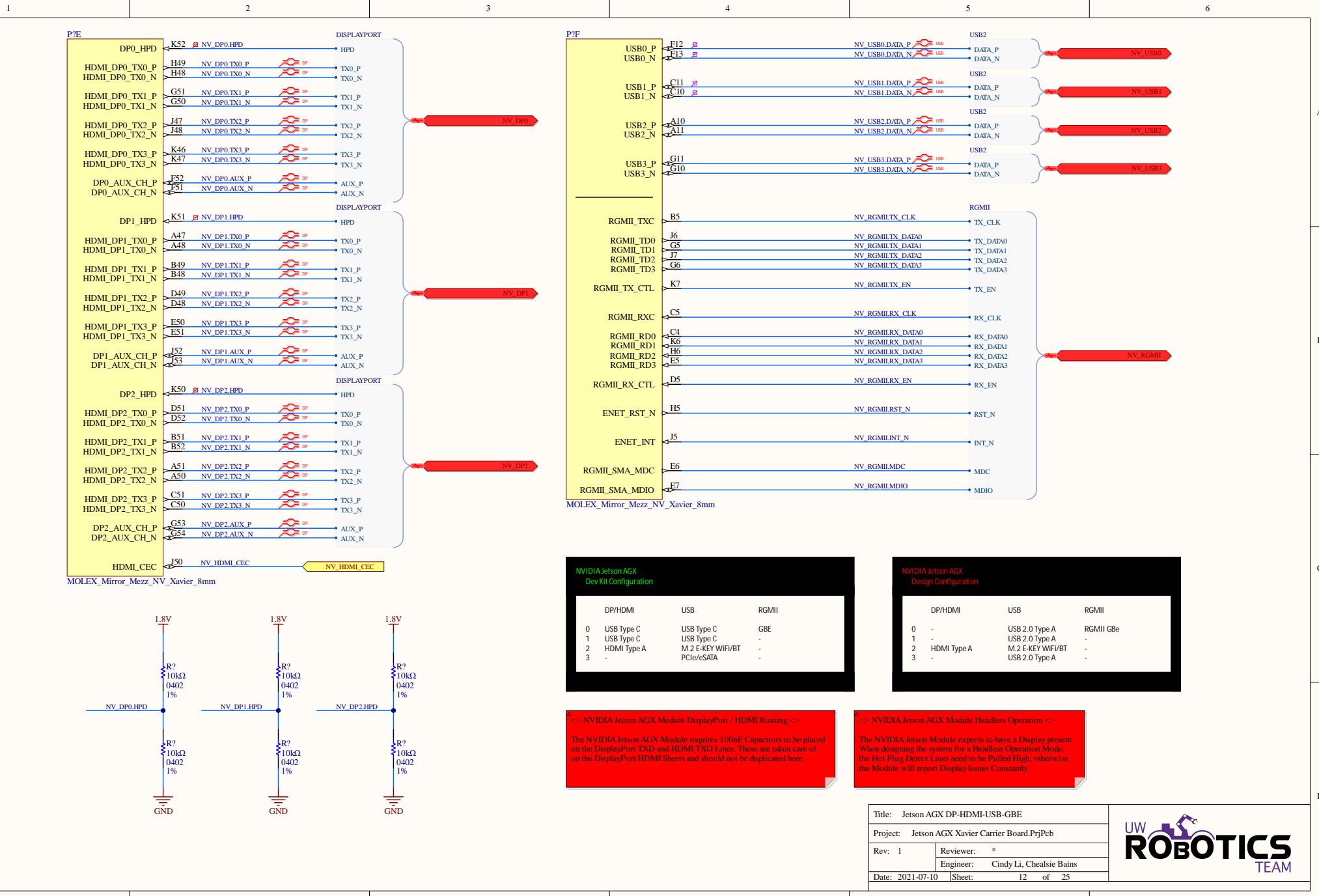
NVIDIA Jetson AGX Dev Kit Configuration		
CSI	I2C	I2S
0 CAM Expansion	-	-
1 CAM Expansion	ID EEPROM / Debug	-
2 CAM Expansion	PCIe x16 / M.2 E-Key	40 Pin Expansion
3 CAM Expansion	PCIe x16 / M.2 E-Key WiFi/BT	CAM Expansion
4 CAM Expansion	M.2 M-Key NVMe	-
5 CAM Expansion	-	40 Pin Expansion
6 CAM Expansion	-	-
7 CAM Expansion	-	-

NVIDIA Jetson AGX Design Configuration		
CSI	I2C	I2S
0 -	-	-
1 -	-	-
2 -	M.2 E-Key + GPIO	GPIO
3 -	-	M.2 E-Key WiFi/BT
4 -	M.2 M-Key NVMe	-
5 -	GPIO	M.2 E-Key WiFi/BT
6 -	-	GPIO
7 -	-	-

Title: Jetson AGX CSI-I2C-I2S
Project: Jetson AGX Xavier Carrier Board.PnjPcb
Rev: 1 Reviewer: *
Engineer: Cindy Li, Chealsie Bains
Date: 2021-07-10 Sheet: 11 of 25



1 2 3 4 5 6



A

A

B

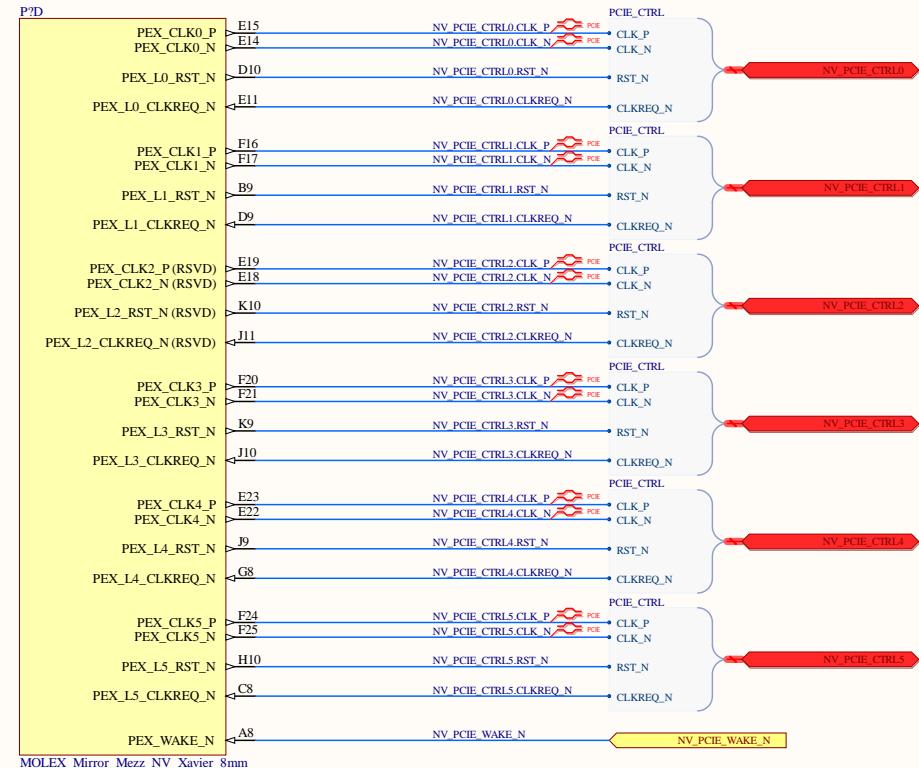
B

C

C

D

D



Title: Jetson AGX PCIe	
Project: Jetson AGX Xavier Carrier Board.PnjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li, Chealsie Bains	Date: 2021-07-10 Sheet: 13 of 25





Title: Jetson AGX UPHY

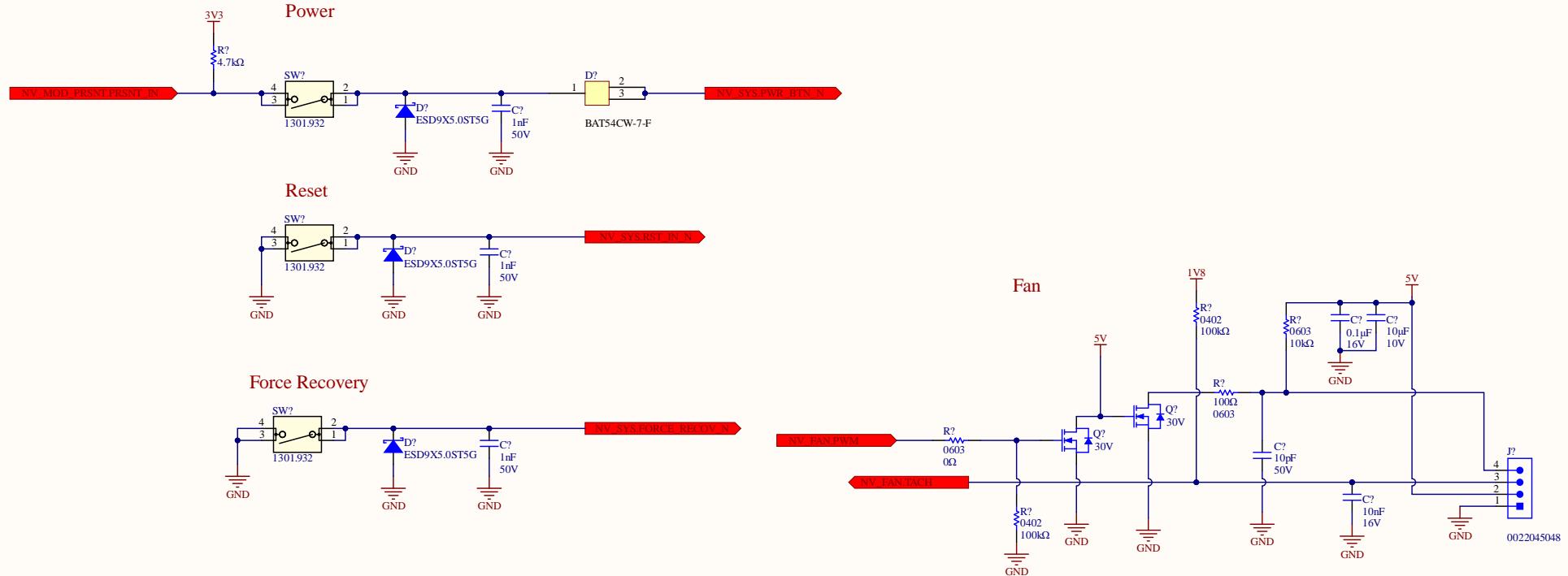
Project: Jetson AGX Xavier Carrier Board.PnjPcb

Rev: 1 Reviewer: *

Engineer: Cindy Li, Chealsie Bains

Date: 2021-07-10 Sheet: 14 of 25





Title: System	
Project: Jetson AGX Xavier Carrier Board.PrjPcb	
Rev: 1	Reviewer: *
	Engineer: Chealsie Bains
Date: 2021-07-10	Sheet: 15 of 25



A

A

B

B

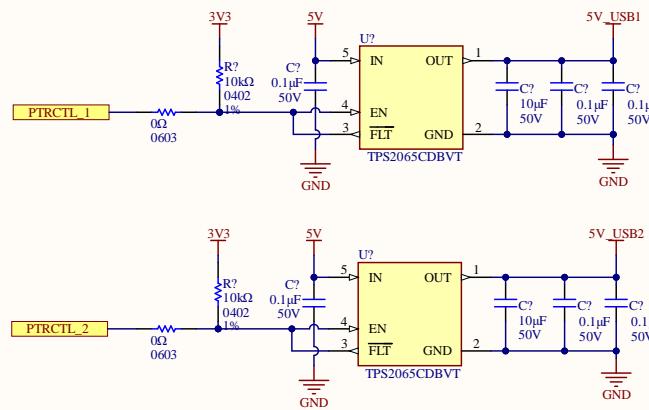
C

C

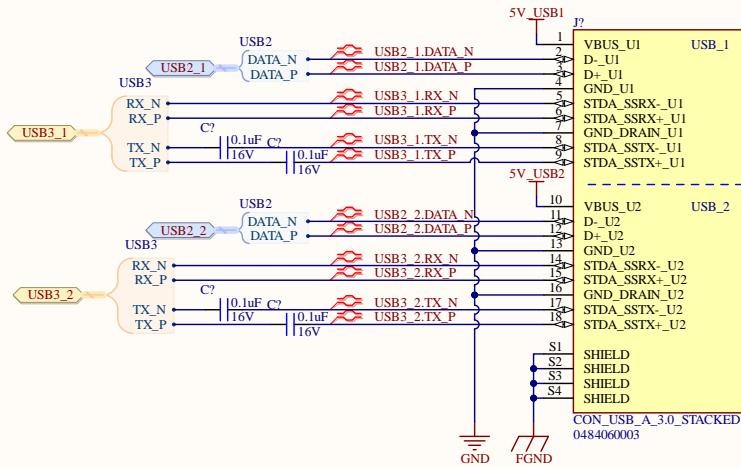
D

D

Power Switches



USB Ports



Title: USB Port

Project: Jetson AGX Xavier Carrier Board.PnjPcb

Rev: 1

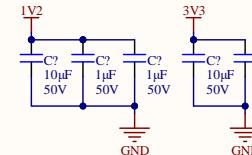
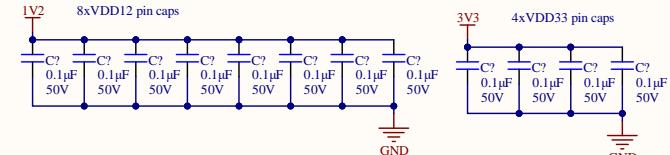
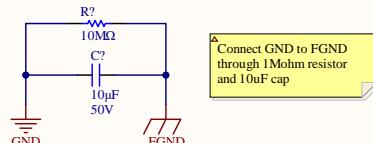
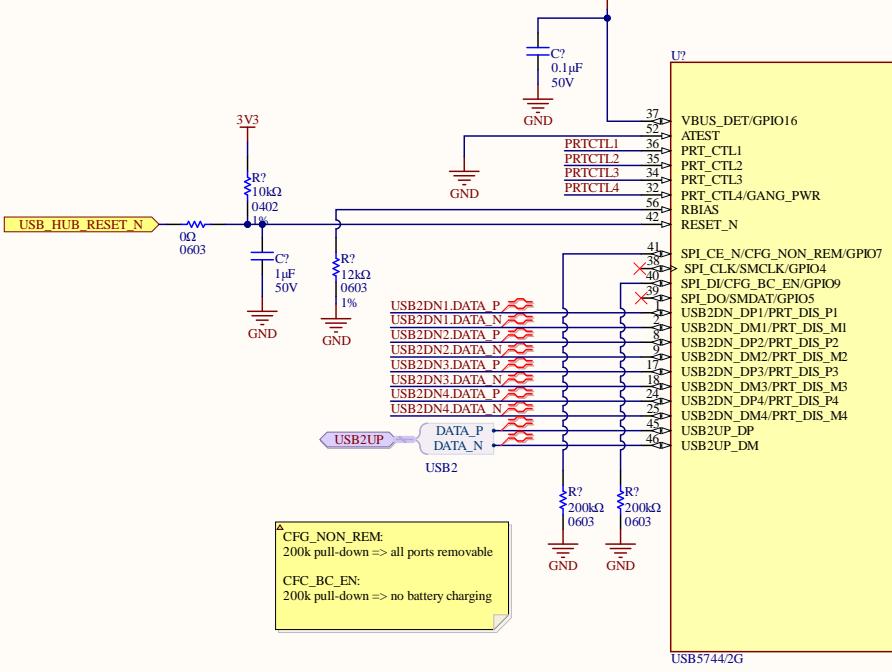
Reviewer: *

Engineer: Cindy Li

Date: 2021-07-10

Sheet: 16 of 25

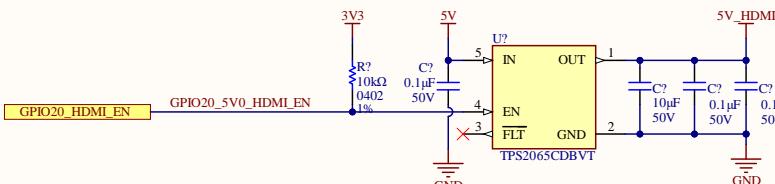


Bulk Capacitors**Decoupling Capacitors****USB Controller**

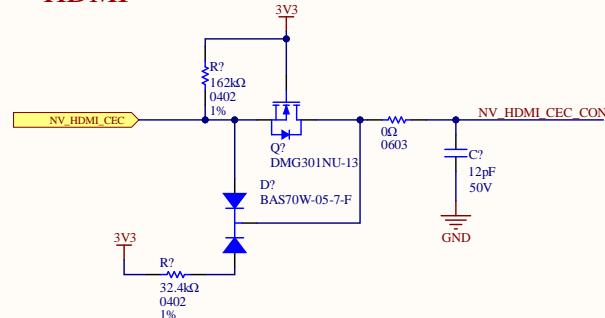
Title: USB	
Project:	Jetson AGX Xavier Carrier Board.PnjPcb
Rev: 1	Reviewer: *
Engineer:	Cindy Li

Date: 2021-07-10 Sheet: 17 of 25





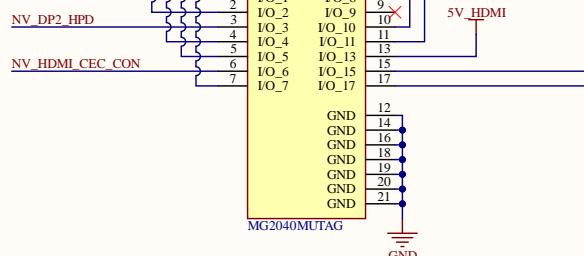
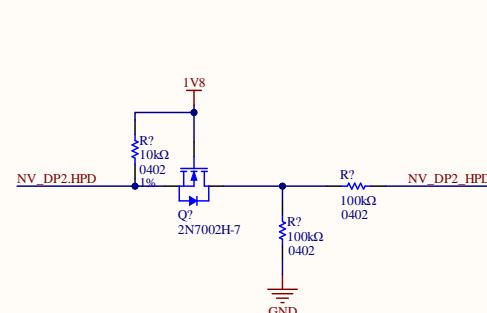
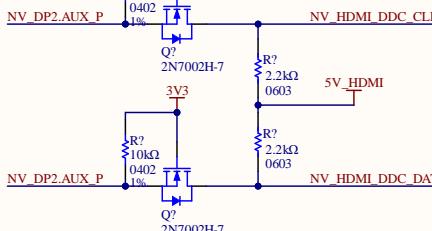
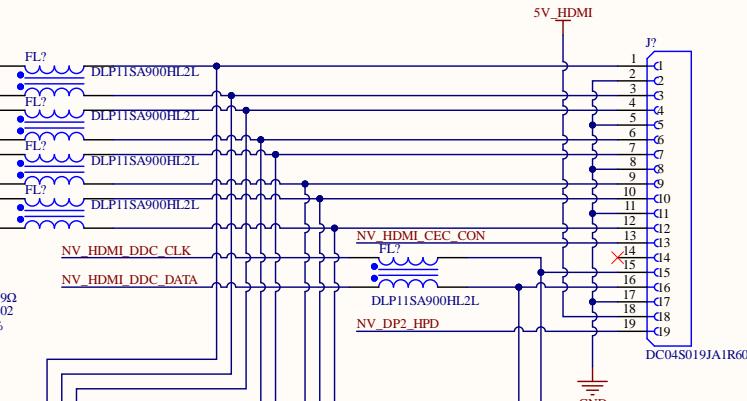
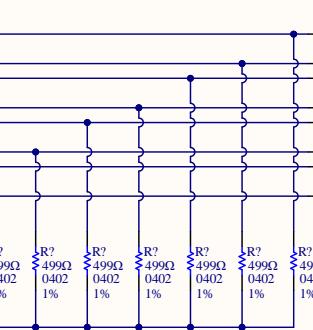
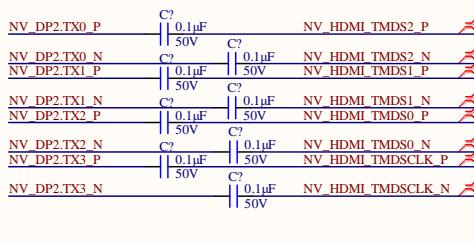
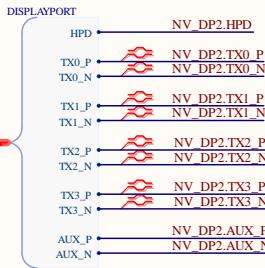
HDMI



-- DisplayPort Dual-Mode Pin Mapping --

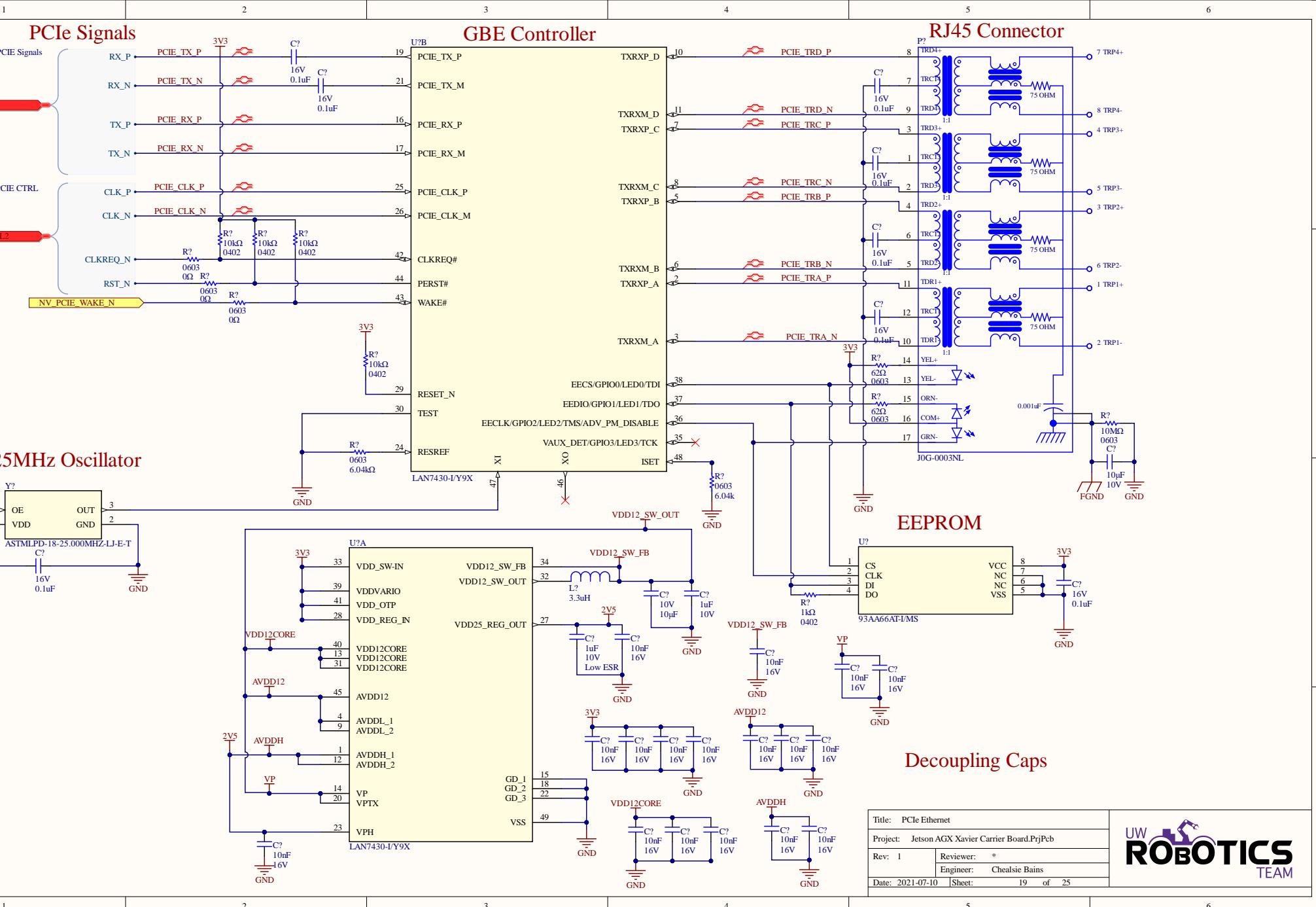
- | DisplayPort Pins | HDMI Pins |
|-------------------|------------------------|
| - TX0 | - TMDS2 |
| - TX1 | - TMDS1 |
| - TX2 | - TMDS0 |
| - TX3 | - TMDS clock |
| - AUX+ | - DDC clock |
| - AUX- | - DDC data |
| - DP_PWR | - DP_PWR |
| - Hot-plug detect | - DP_PWR |
| - Config 1 | - Cable adapter detect |

[https://en.wikipedia.org/wiki/DisplayPort#Display
Port_dual-mode_\(DP++\)](https://en.wikipedia.org/wiki/DisplayPort#Display_Port_dual-mode_(DP++))

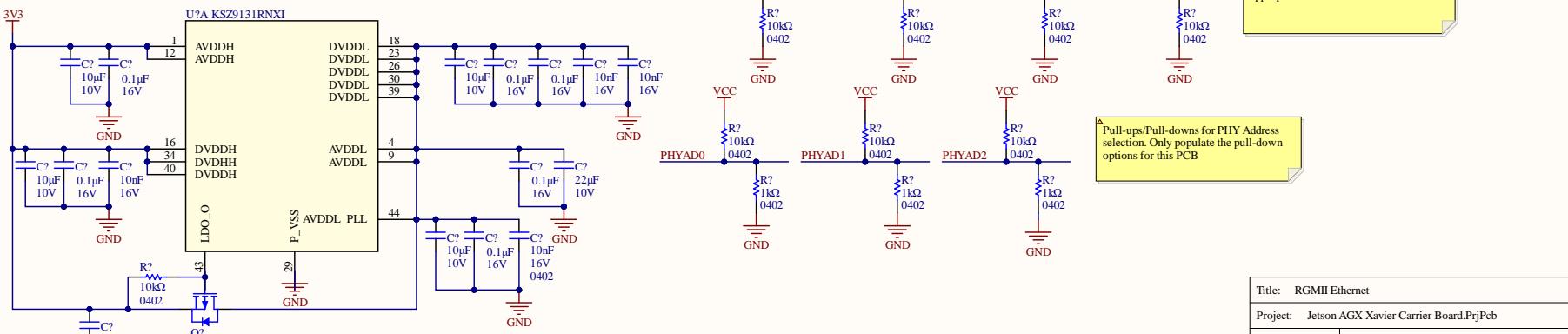
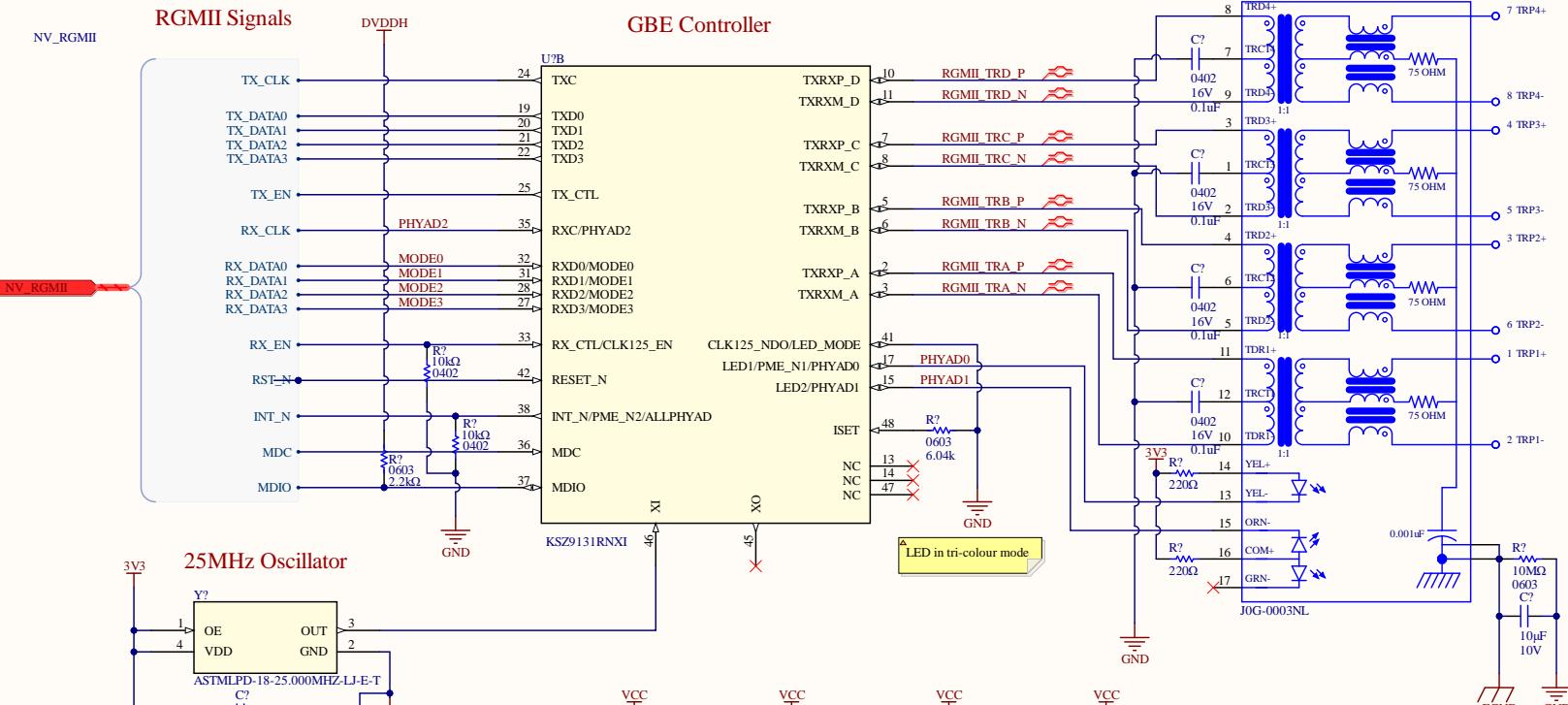


Title:	HDMI
Project:	Jetson AGX Xavier Carrier Board.PrjPc
Rev:	1
Date:	2021-07-10
Reviewer:	*
Engineer:	Cindy Li
Sheet:	18 of





Title: PCIe Ethernet	
Project:	Jetson AGX Xavier Carrier Board.PjPcb
Rev: 1	Reviewer: *
Engineer:	Chealsie Bains

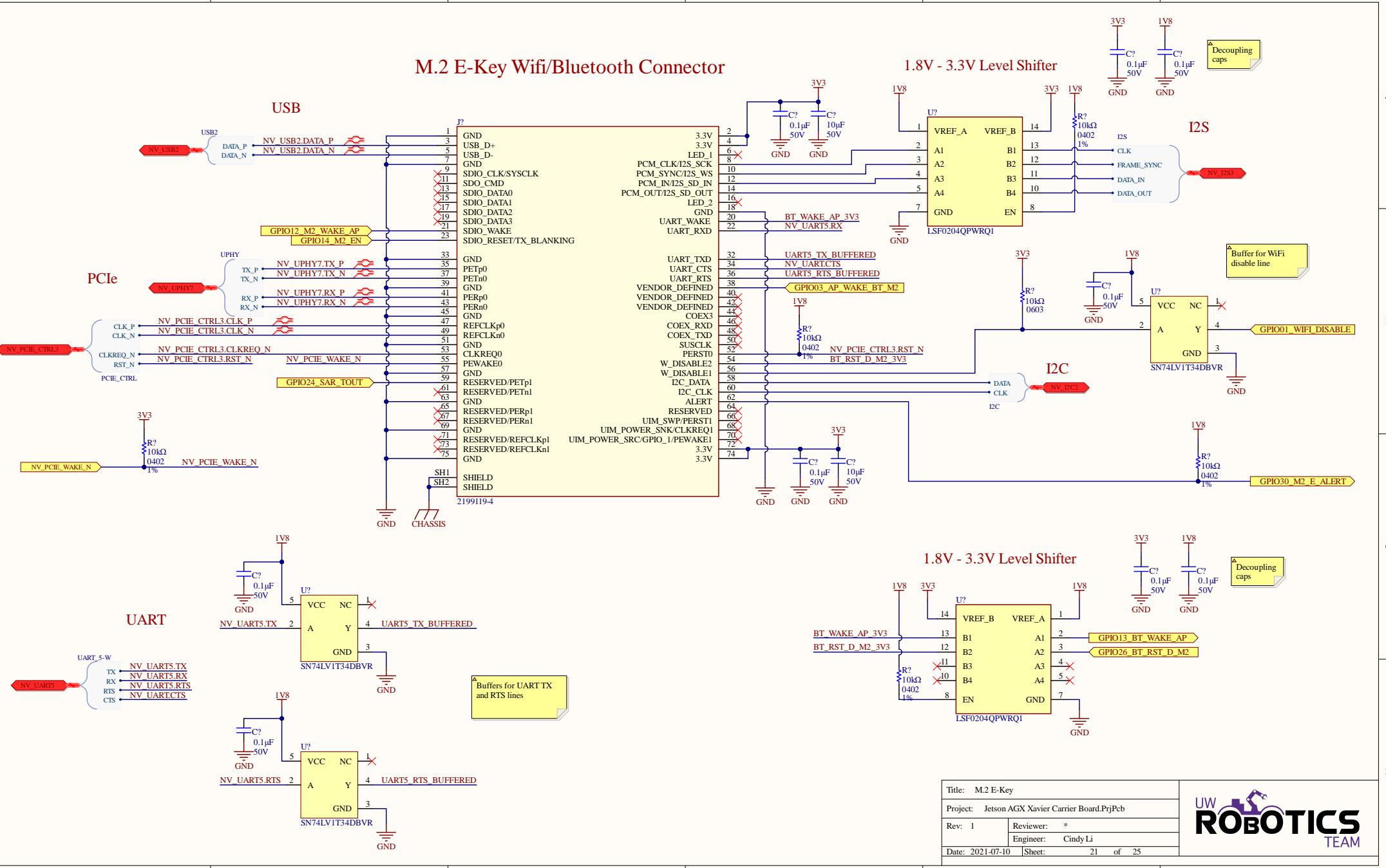
RJ45 Ethernet Connector

Title: RGMII Ethernet	
Project: Jetson AGX Xavier Carrier Board.PrjPcb	
Rev: 1	Reviewer: *
Engineer: Chealsie Bains	Date: 2021-07-10 Sheet: 20 of 25



1 2 3 4 5 6

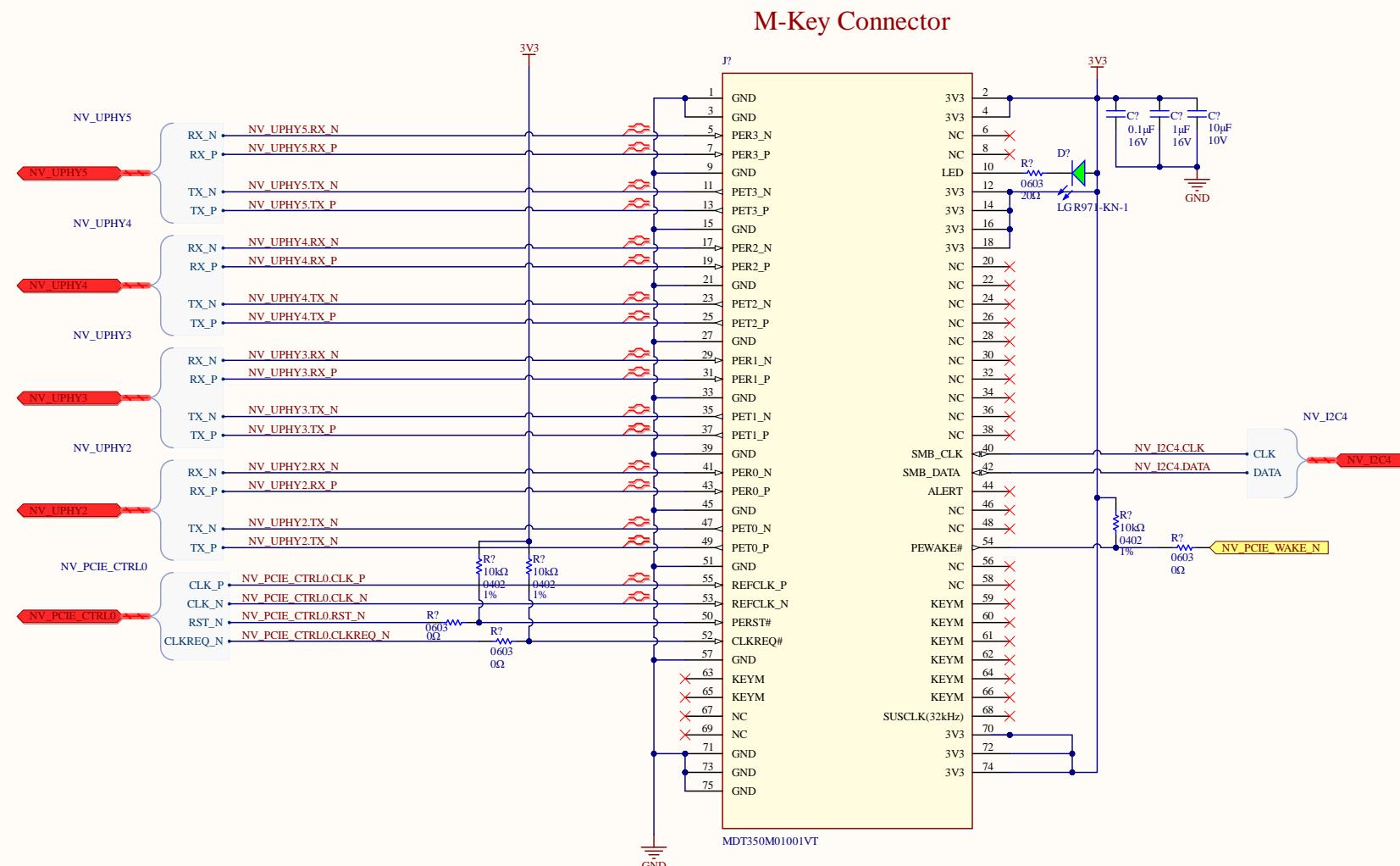
M.2 E-Key Wifi/Bluetooth Connector



1 2 3 4 5 6

Title: M.2 E-Key	
Project: Jetson AGX Xavier Carrier Board.PjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	Date: 2021-07-10





Title: M.2 M-Key	
Project: Jetson AGX Xavier Carrier Board.PrjPcb	
Rev: 1	Reviewer: *
Engineer: Chealsie Bains	Date: 2021-07-10 Sheet: 22 of 25

A

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B

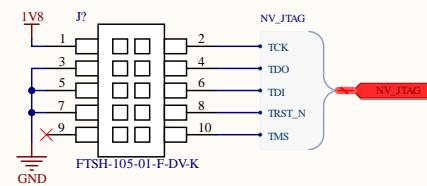
C

C

D

D

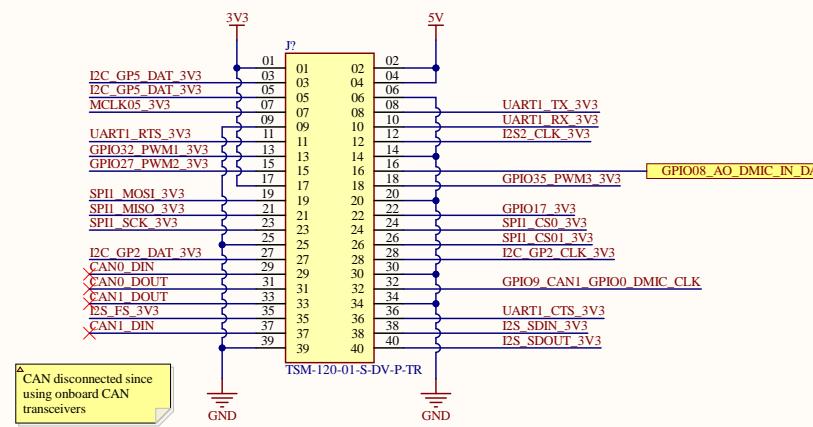
JTAG



Title: JTAG	
Project: Jetson AGX Xavier Carrier Board.PrjPcb	
Rev: 1	Reviewer: *
	Engineer: Cindy Li
Date: 2021-07-10	Sheet: 23 of 25

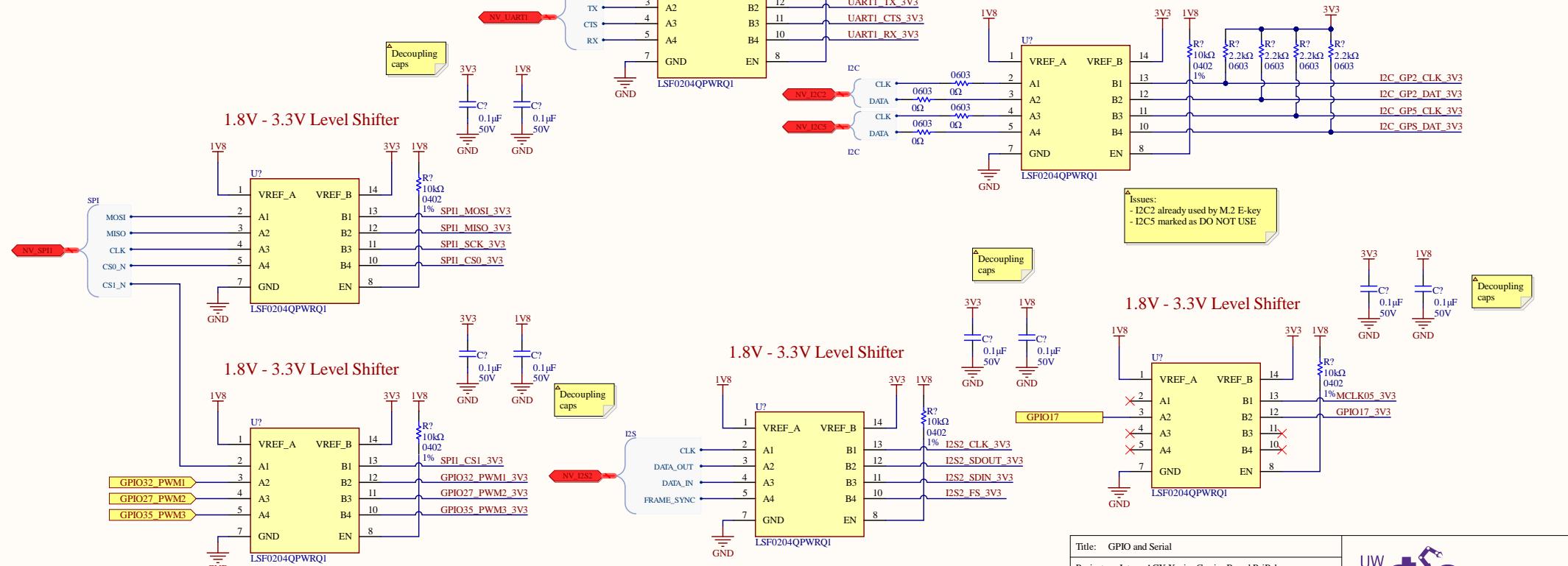


1 2 3 4 5 6



GPIO Expansion

▲ Level shifter IC out of stock, may need to replace

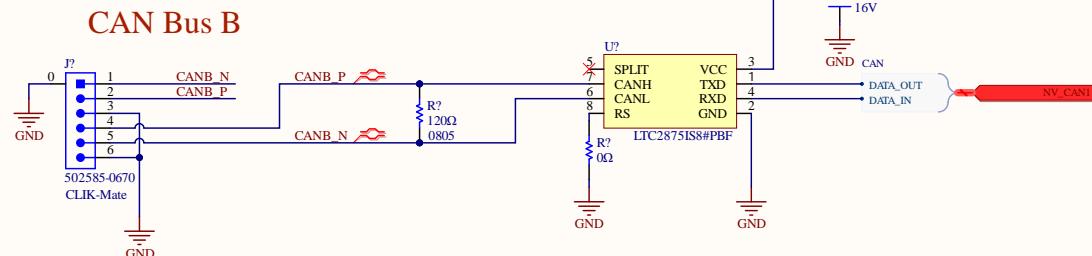
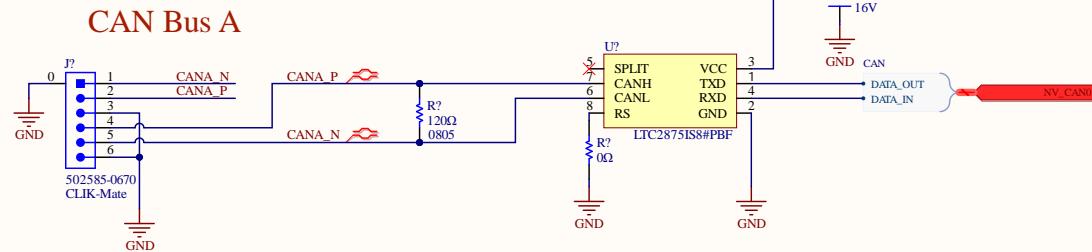


Title: GPIO and Serial	
Project:	Jetson AGX Xavier Carrier Board.PjPcb
Rev: 1	Reviewer: *
Engineer:	Cindy Li

Date: 2021-07-10 Sheet: 24 of 25

1 2 3 4 5 6

CAN Transceivers

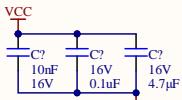


Title: CAN	
Project: Jetson AGX Xavier Carrier Board.PjPcb	
Rev: 1	Reviewer: *
Engineer: Cindy Li	
Date: 2021-07-10	Sheet: 25 of 25



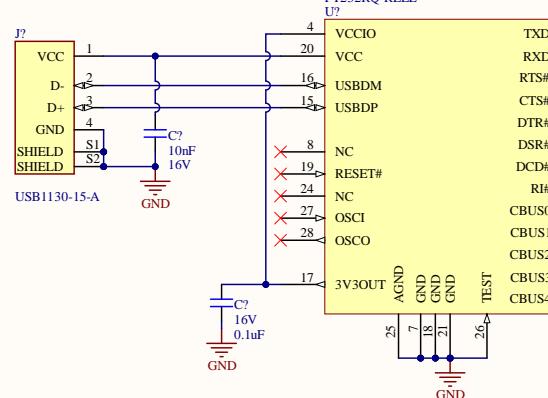
A

A



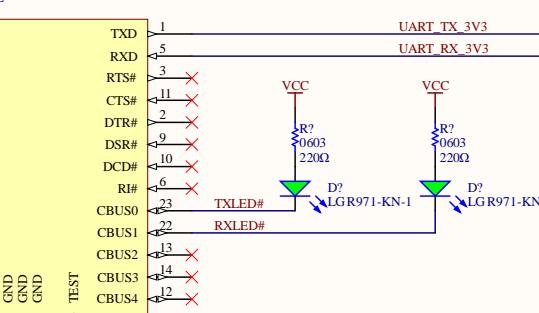
UART to USB

USB-A 2.0 Connector



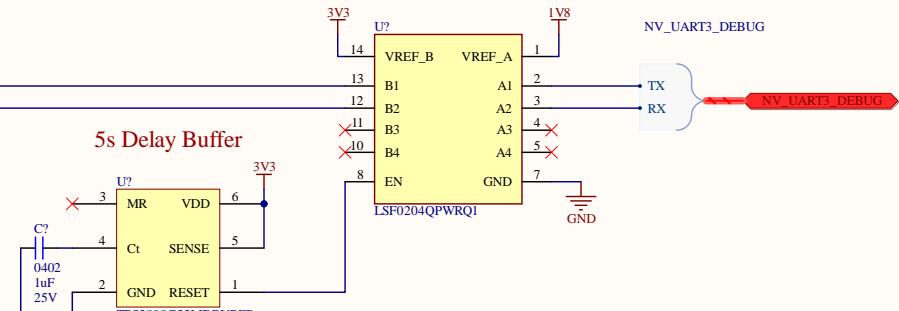
The power descriptors in the internal EEPROM of the FT232R should be programmed to match the current drawn by the device.

FT232RQ-REEL U?



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

1.8V - 3.3V Level Shifter



For a 5s delay:
 $C_t = (5 - 0.5E-3) * 175n = 875nF$
Can use 1000nF ie 1uF for a 5.7 s delay which is close enough

