


Mezzanine board for OctNode Air(T176)

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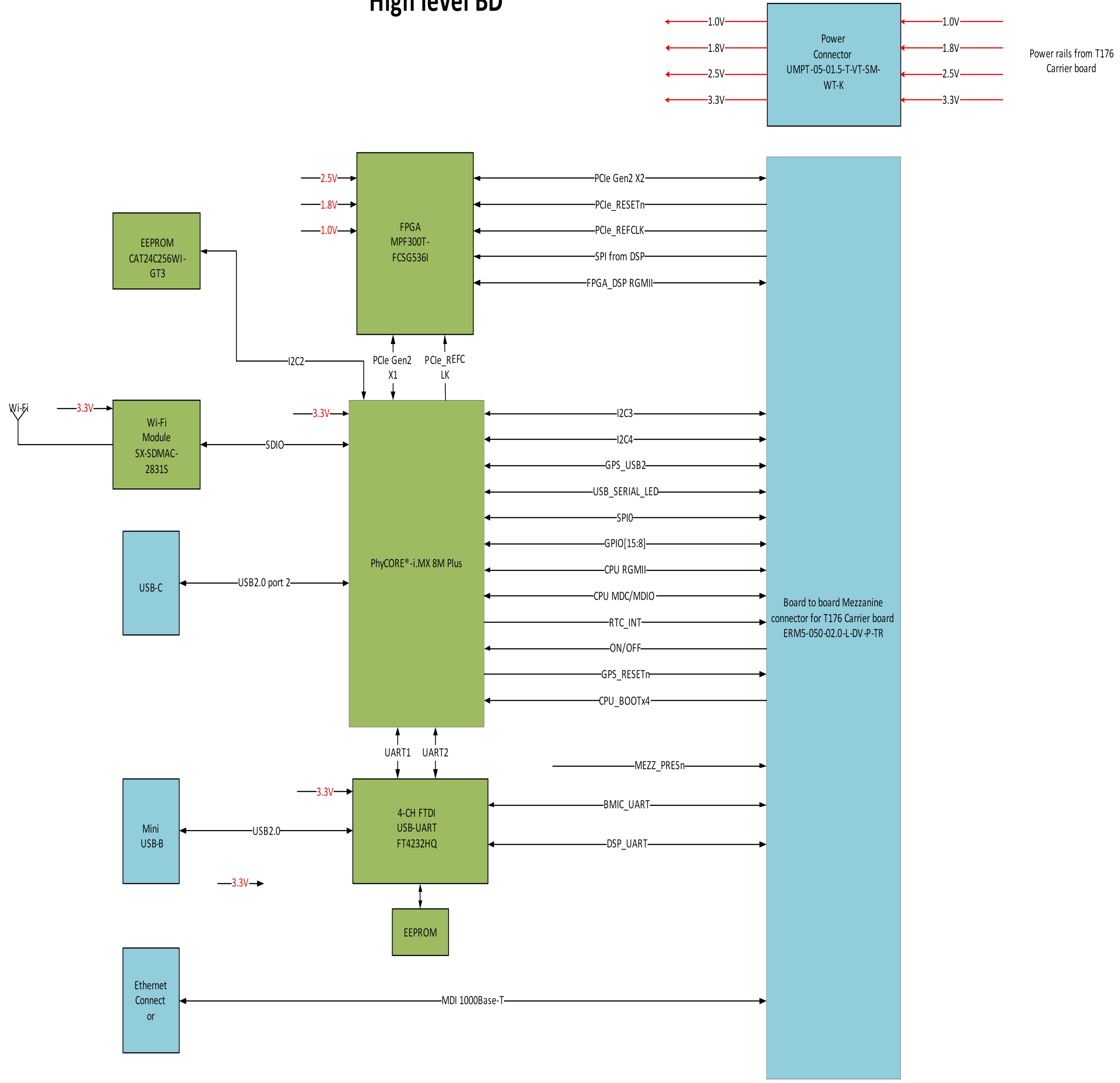
T177 Rev 1

Mezannine Board for OctNode Air(T176)

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SIZE C	DWG NO 1000-177	NAME T177	SHEET 01- Cover Page	REV 01
DRAWN BY Chethan		SHEET 1	of 16	DATE 12/06/2024:15:26

BLOCK DIAGRAM

T177 Mezzanine Board For OctNode-Air High level BD

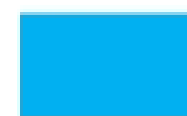
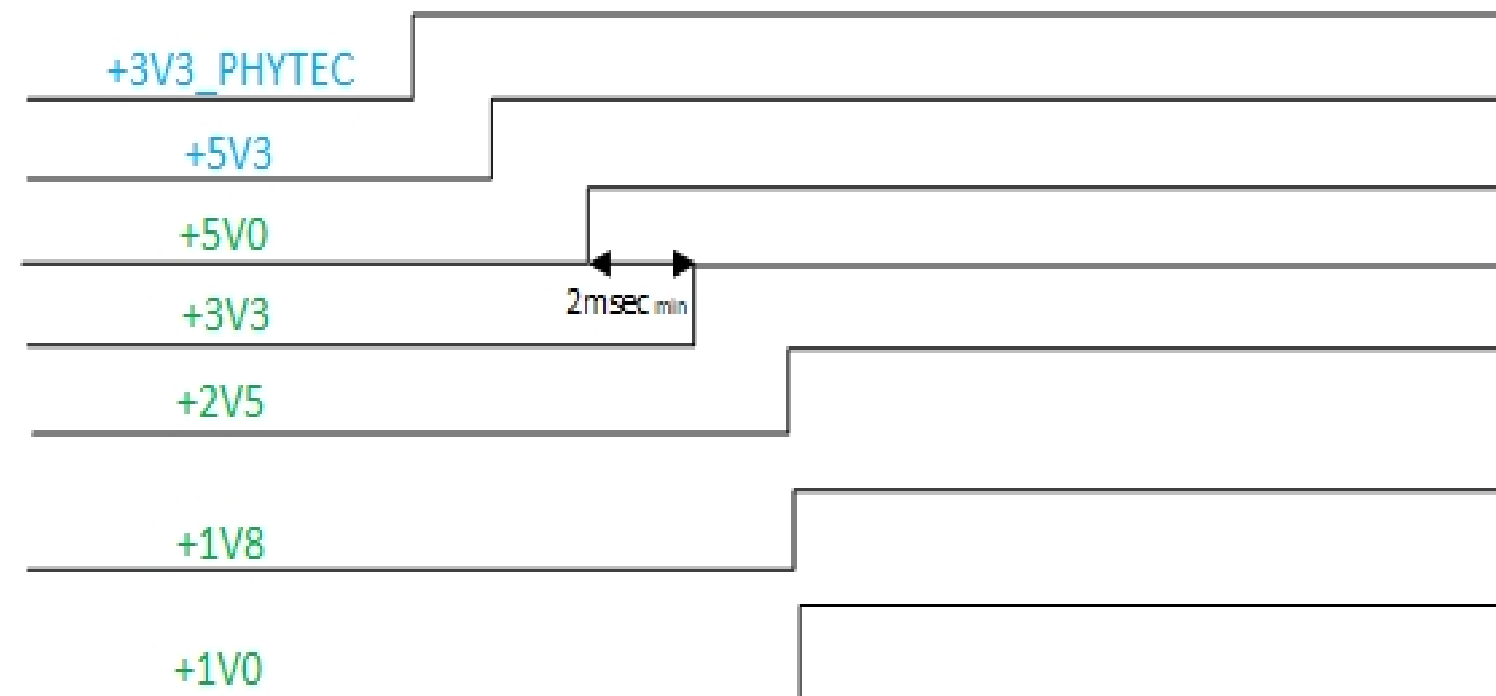


Block diagram to be updated

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		<h3>T177</h3>	
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SIZE: C DWG NO: 1000-177 DRAWN BY: Chethan	NAME: T177 SHEET: 2 of 16	PROJECT: 02- Block Diagram DATE: 12/06/2024:15:29	REV: 01

T177 MEZANNINE PCB Power Sequencing

No Power to Active: POWER SEQUENCING



NO CONTROL

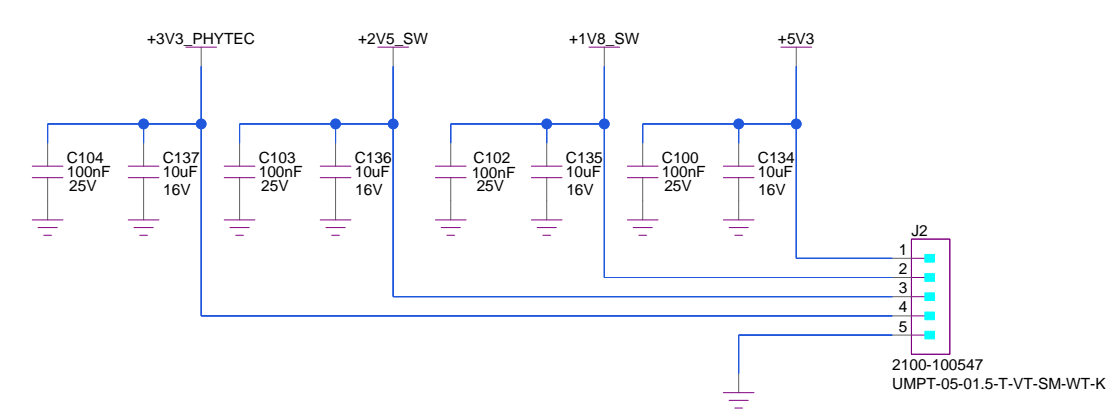
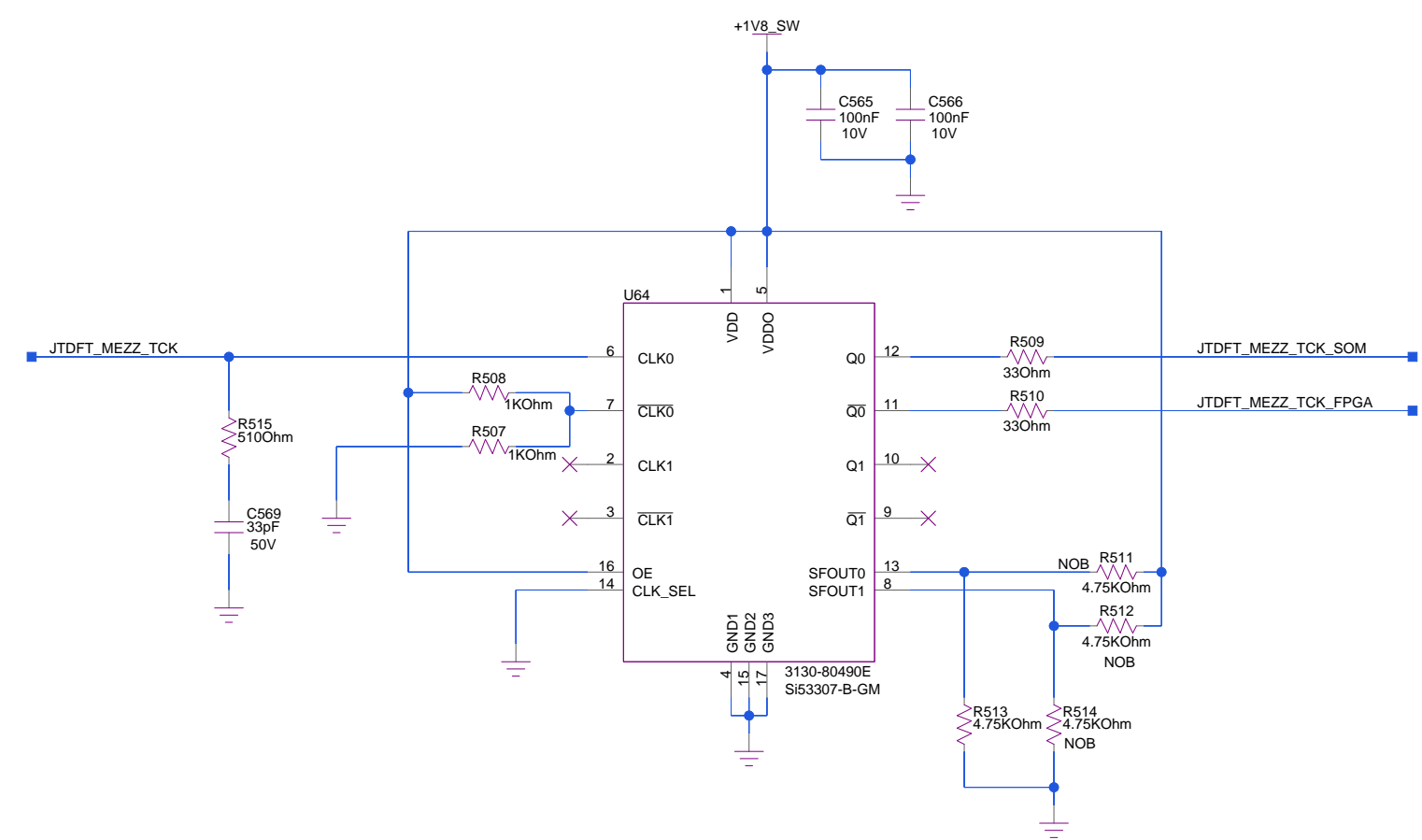
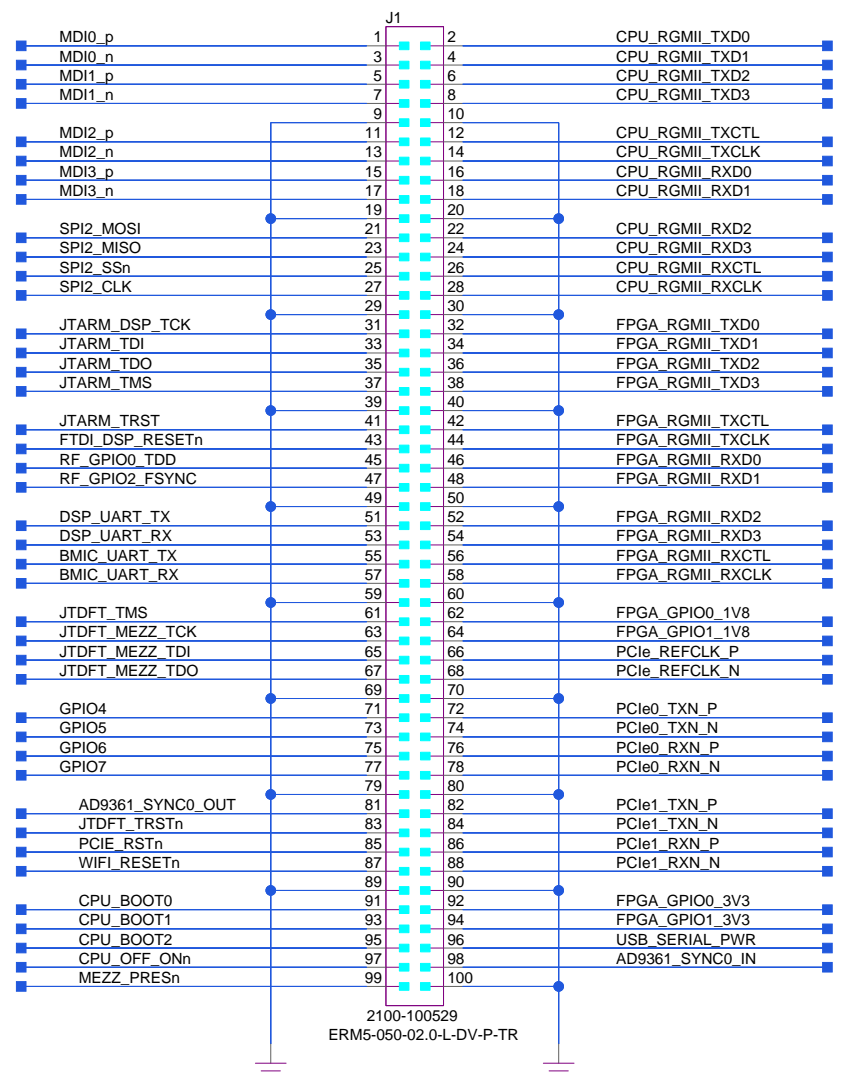
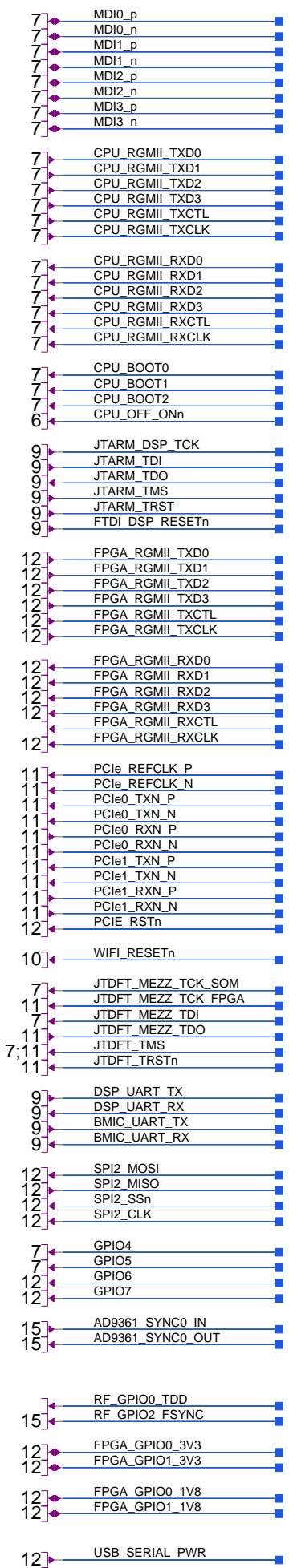


CONTROLLED BY PHYTEC

Power Sequencing diagram to be updated

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SIZE C	DWG NO 1000-177	NAME T177	SHEET 03- Power Sequencing
DRAWN BY Chethan	SHEET 3	of 16	DATE 12/06/2024:15:30
		REV 01	

MEZZANINE AND POWER CONNECTORS TO MAIN BOARD



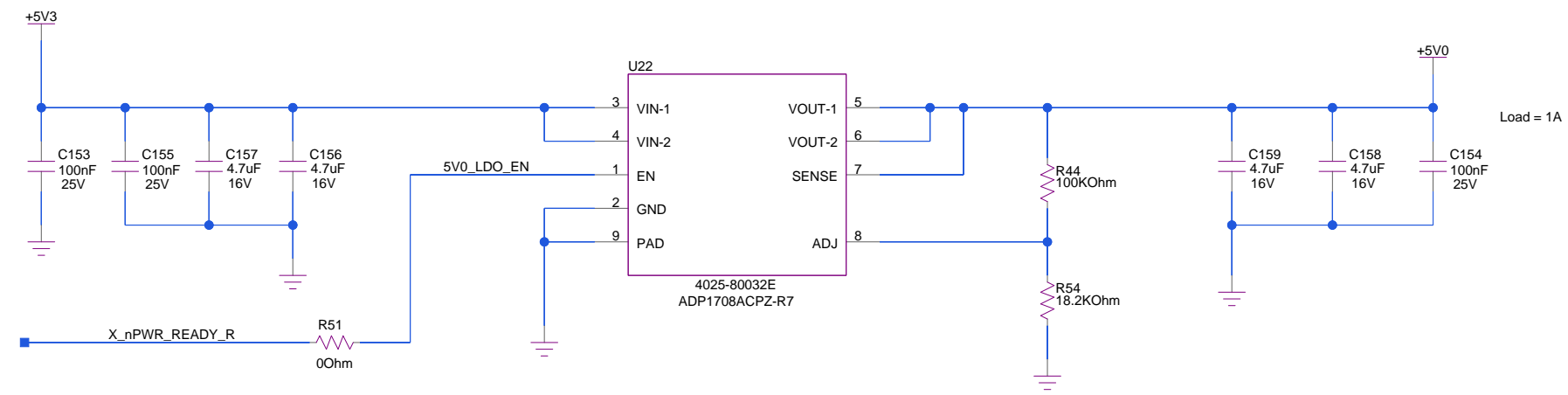
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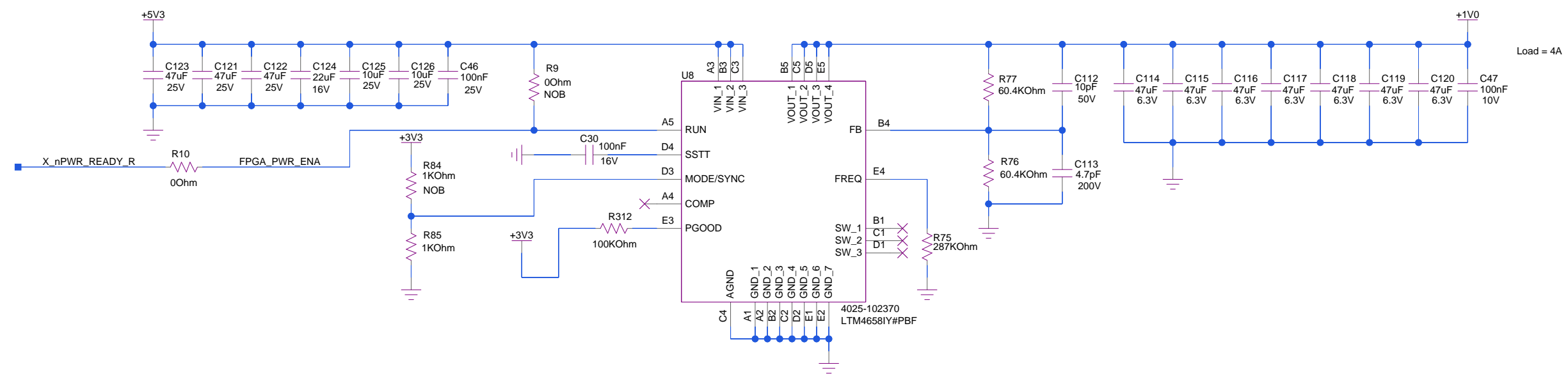
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SIZE	DWG NO	NAME	SHEET	PROJECT	REV
C	1000-177	T177	04-	Mezzanine and Power In	01
DRAWN BY		SHEET		DATE	
Chethan		4 of 16		12/06/2024:15:27	

LOW VOLTAGE DC-DC



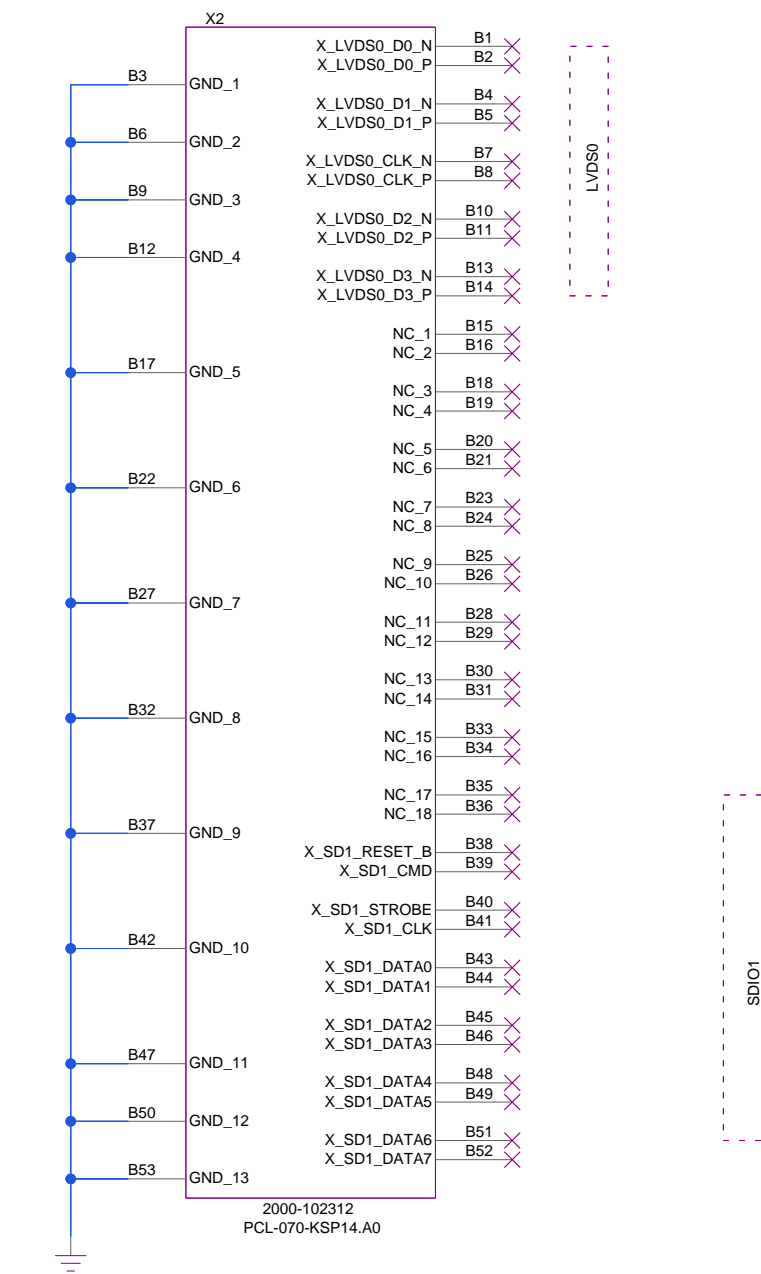
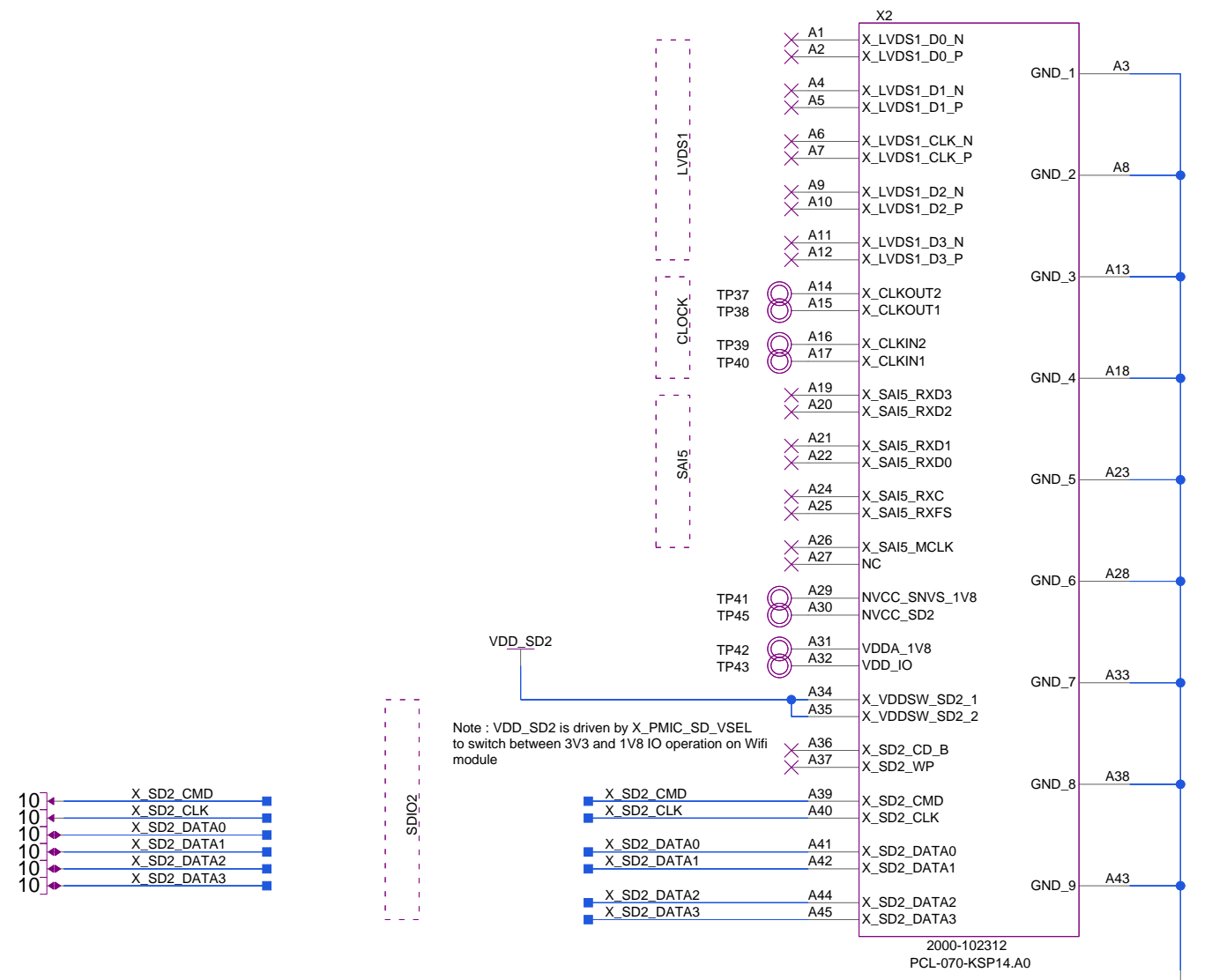
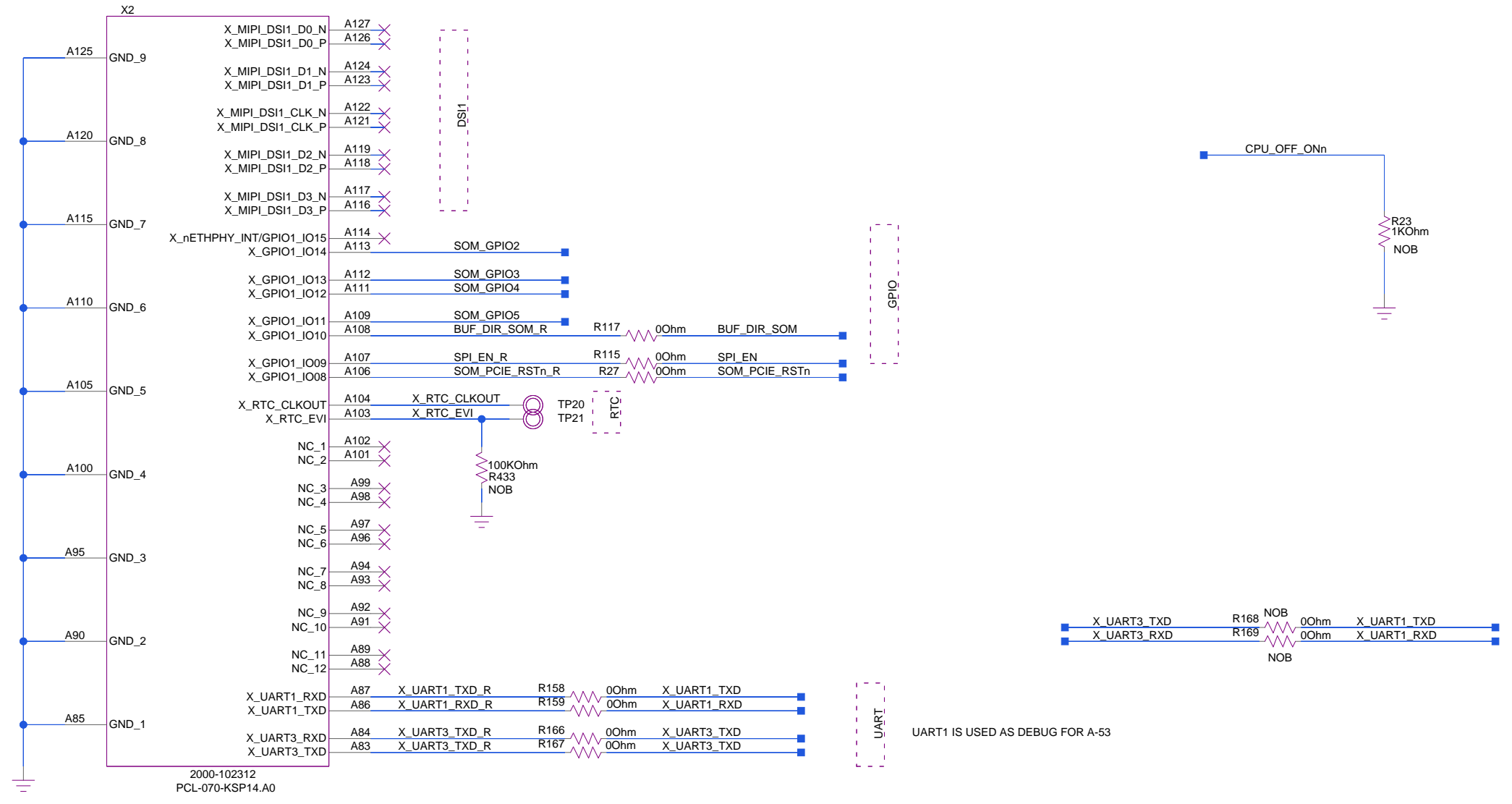
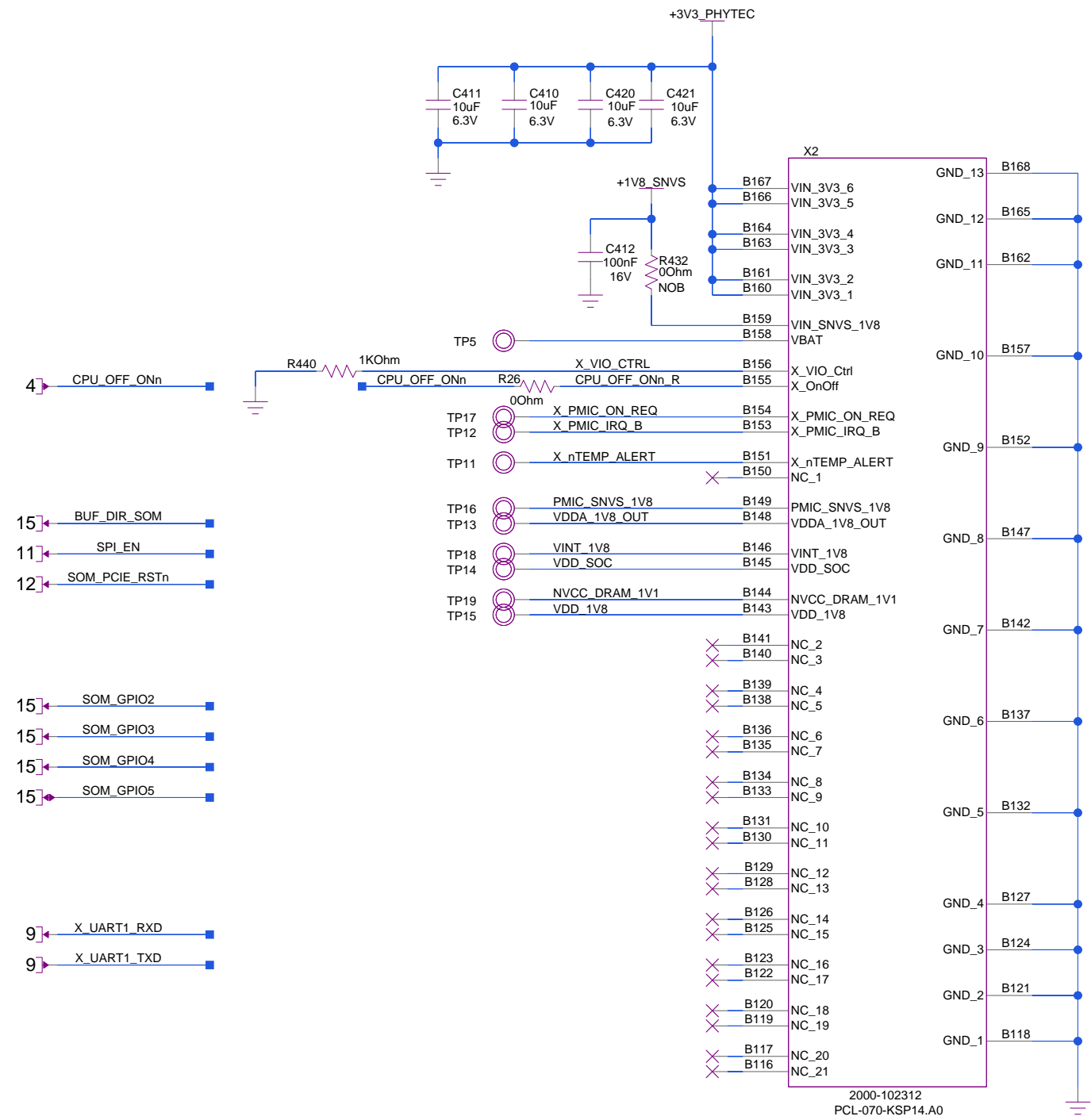
8 X_nPWR_READY_R



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C	1000-177	T177	05-Low Voltage DC-DC
DRAWN BY		SHEET	REV
Chethan		5 of 16	01
			DATE
			12/06/2024:15:28

PHYTEC--NORTH AND SOUTH

PHYTEC symbol needs to be changed





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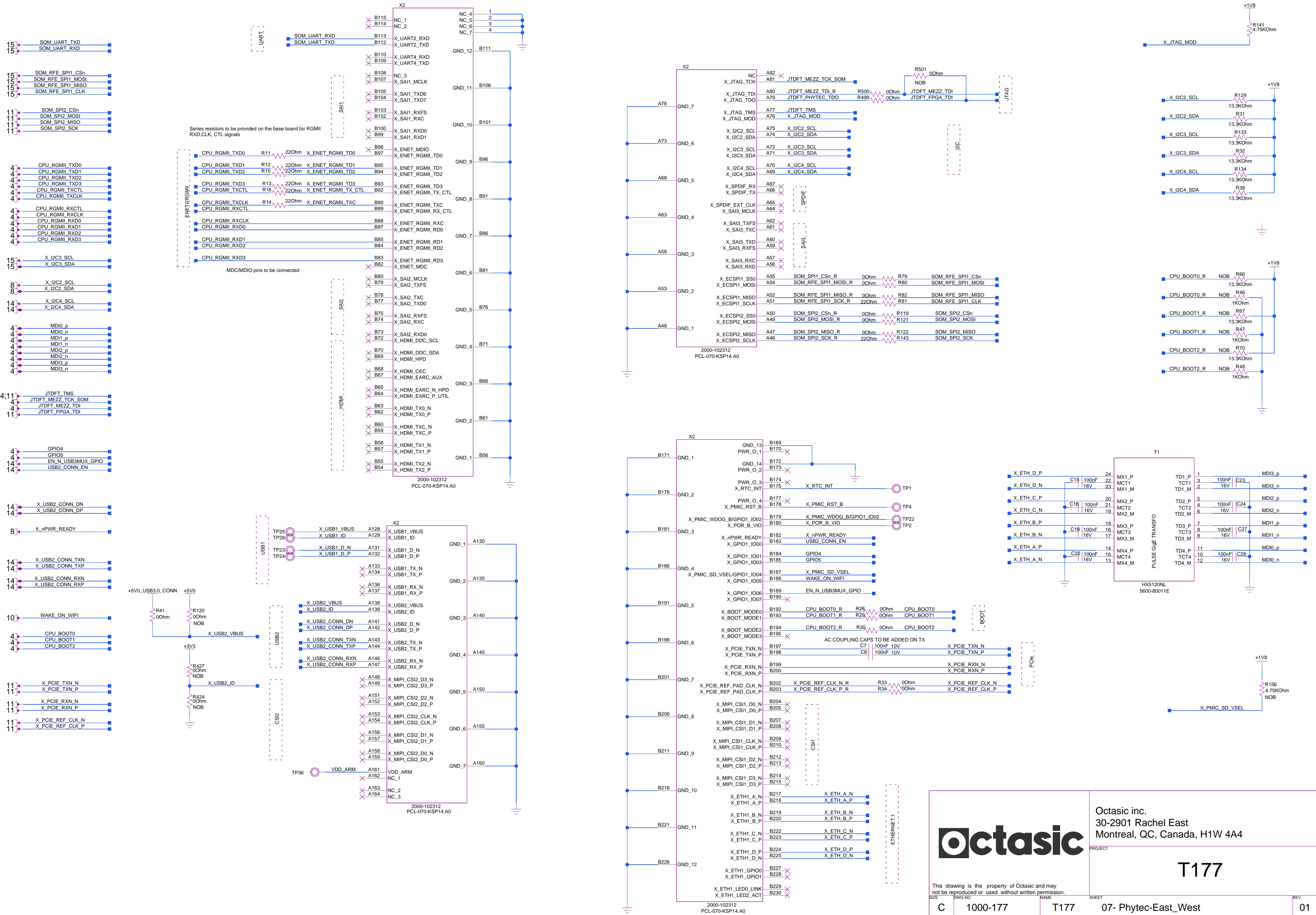
PROJECT

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C	1000-177	T177	06- Phytec-North_South	01
DRAWN BY	Chethan	SHEET	6 of 16	DATE
				12/06/2024:15:32

PHYTEC--EAST AND WEST

PHYTEC symbol needs to be changed to a 8GB PART Old part is 2000-102032 and the new part is 2000-102312





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07- Phytec-East_West

SIZE: C

DRAWN BY: Chethan

DWG NO: 1000-177

SHEET: 7 of 16

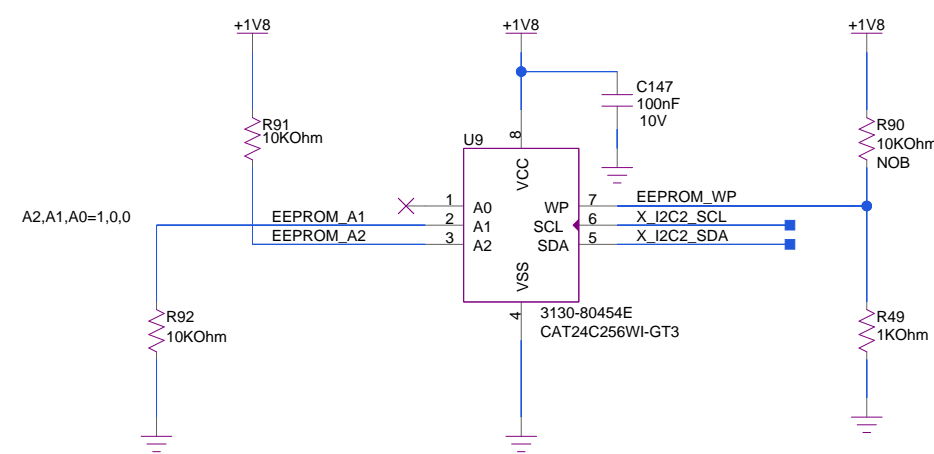
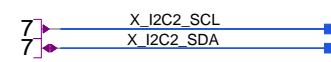
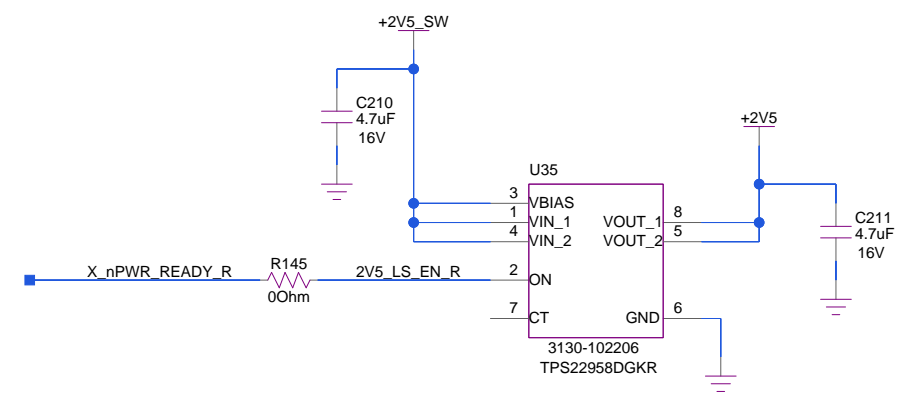
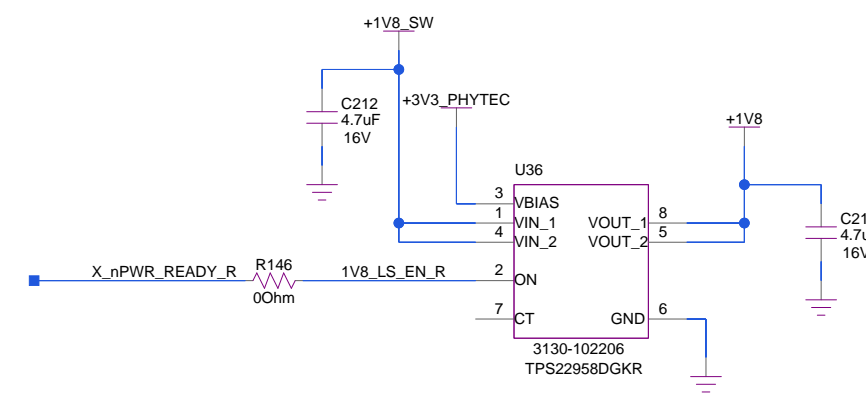
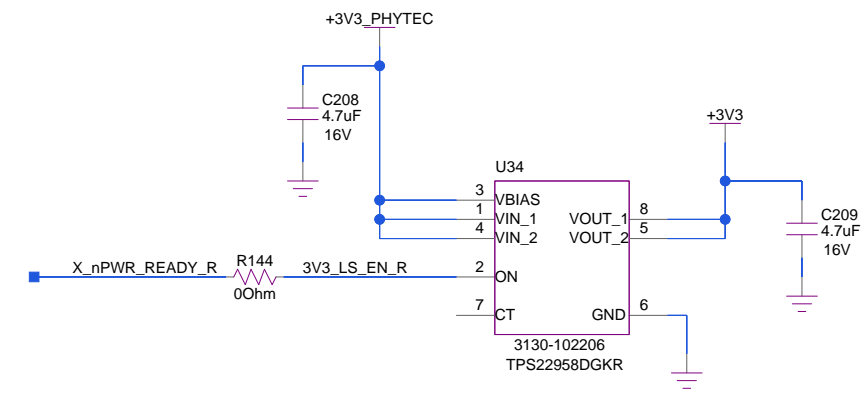
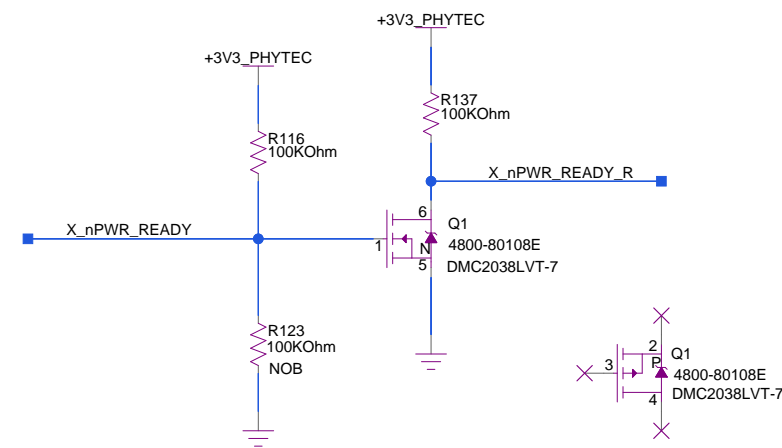
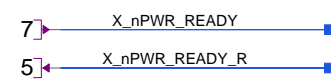
NAME: T177

DATE: 12/06/2024:15:27

REV: 01

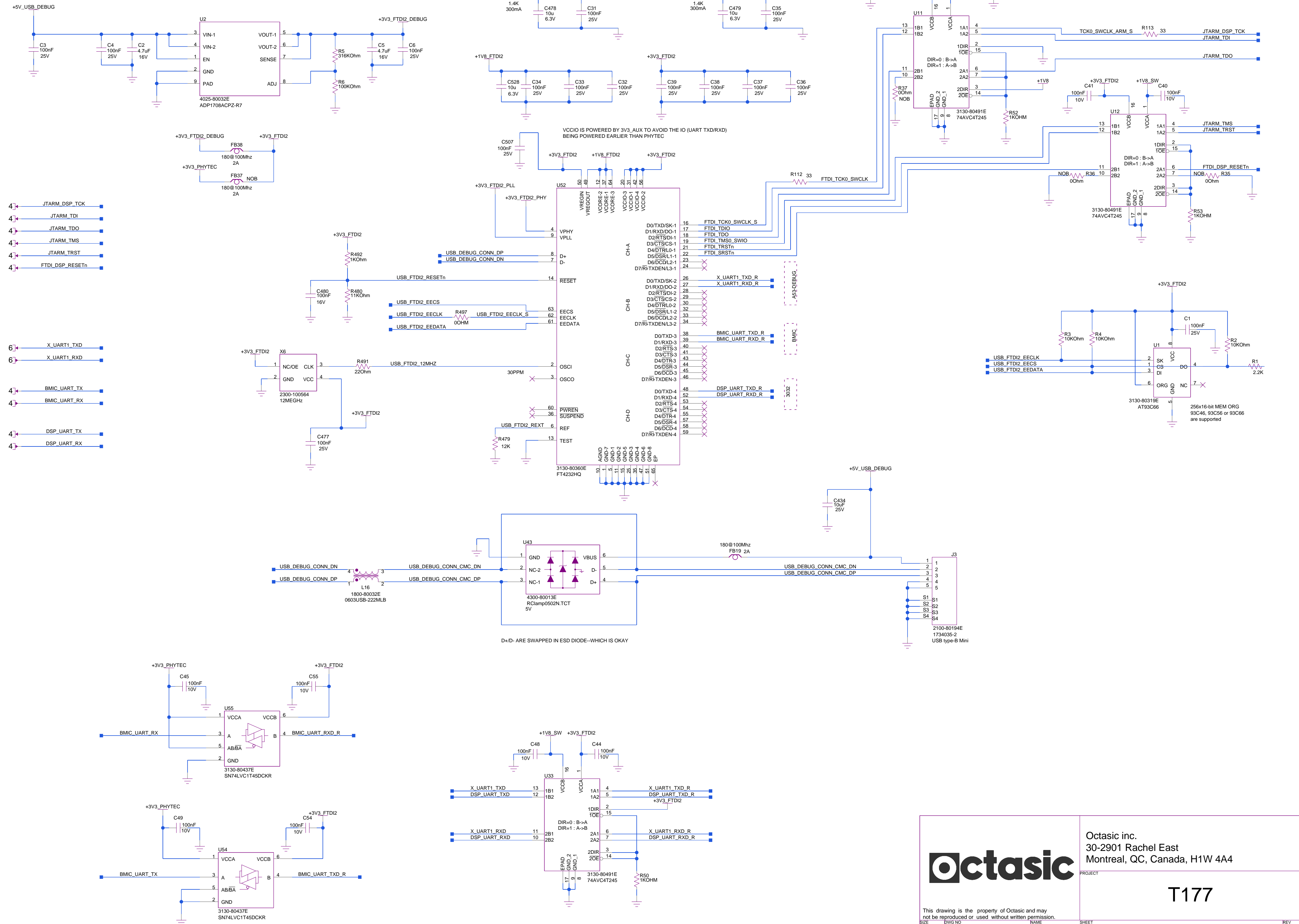
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LOAD SWITCH



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SIZE: C	DWG NO: 1000-177	NAME: T177	SHEET: 08- Load Switch	REV: 01
DRAWN BY: Chethan	SHEET: 8	of: 16	DATE: 12/06/2024:15:27	

4-CH FTDI





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PROJECT

T177

REV

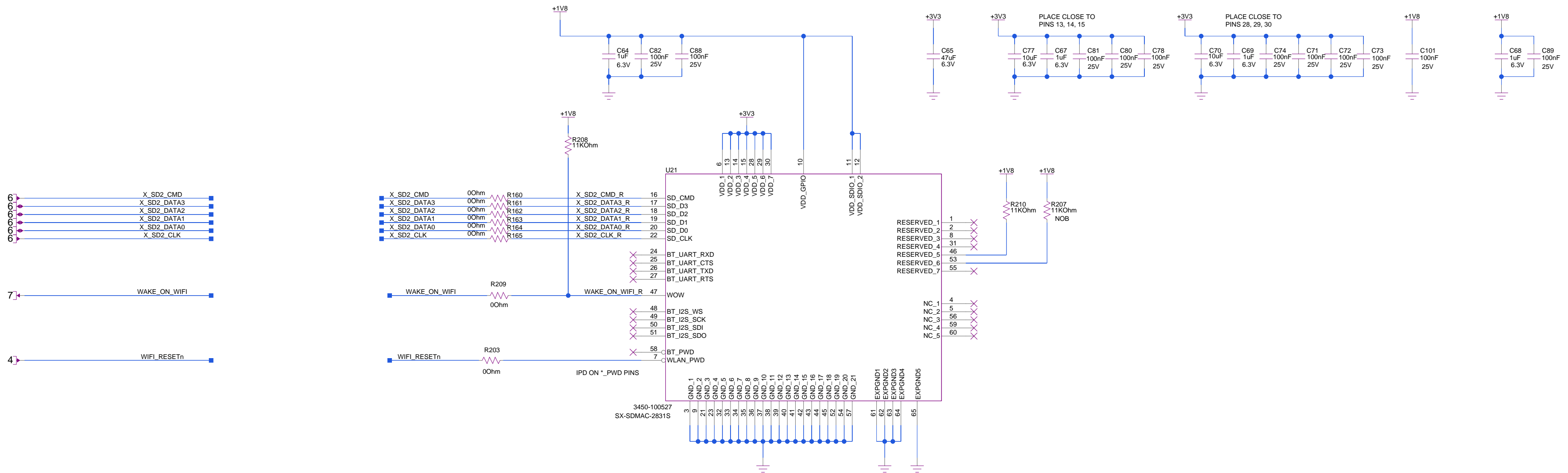
C	1000-177	T177	09- 4-CH FTDI
DRAWN BY Chethan		SHEET of 9 16	
DATE 12/06/2024:16:43			01


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WIFI

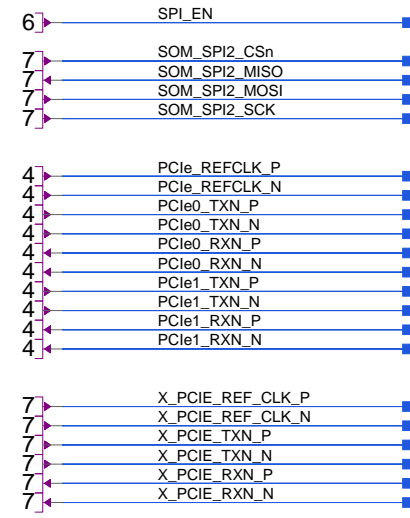
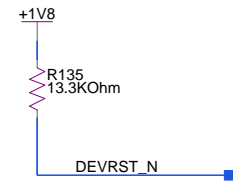
For discussion : If VDDIO can be changed from 3V3 to 1V8 we would face an issue with the GPIO control voltage level (VIO from FPGA is 1V8)

SDIO2 FROM PHYTEC

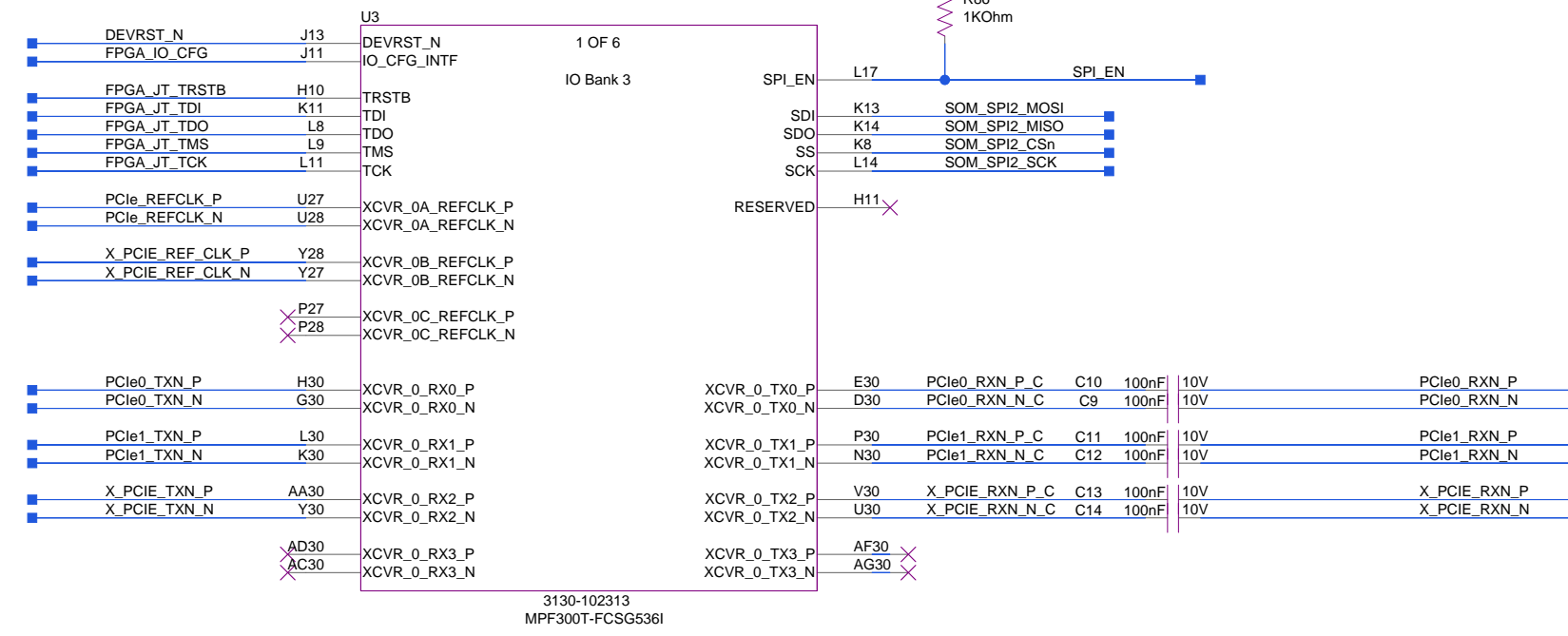


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		<h3>T177</h3>	
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SIZE C	DWG NO 1000-177	NAME T177	SHEET 10- WIFI
DRAWN BY Chethan	SHEET 10	of 16	DATE 12/06/2024:15:35
			REV 01

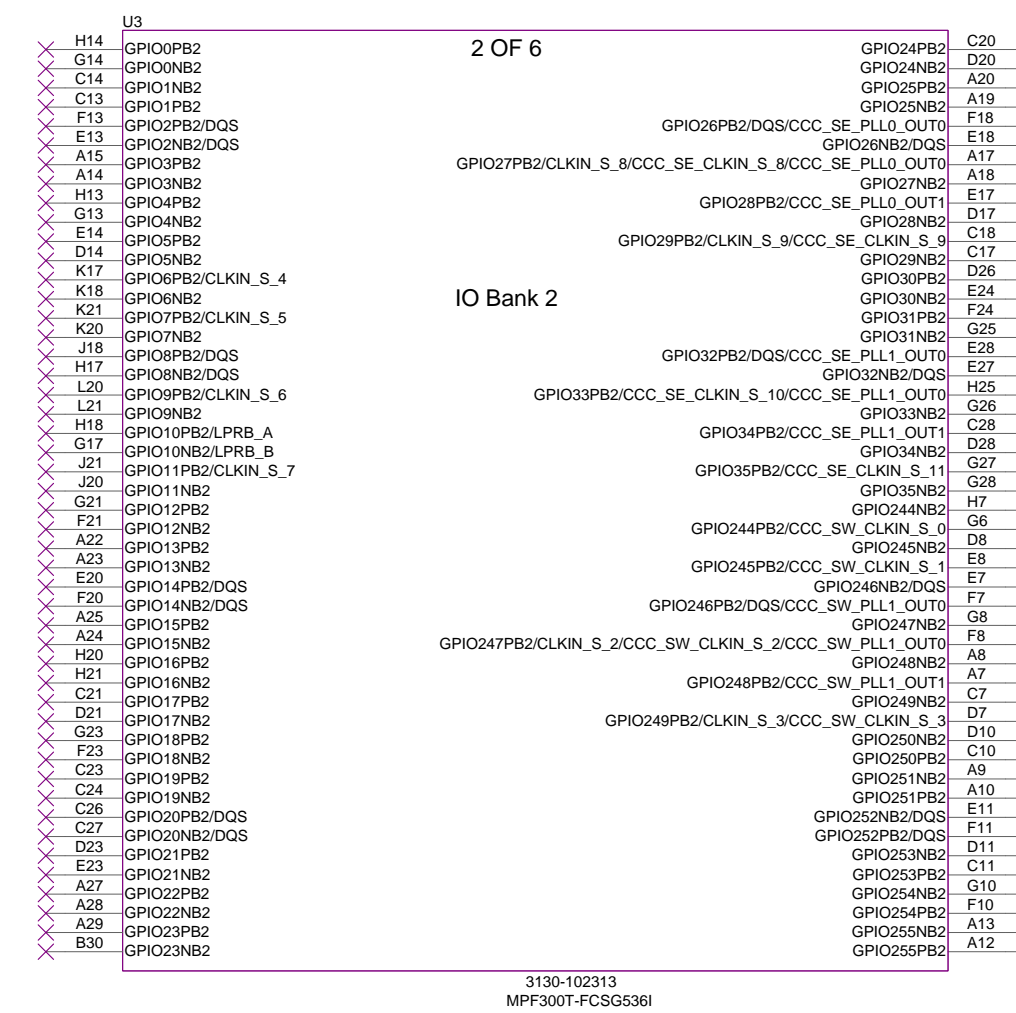
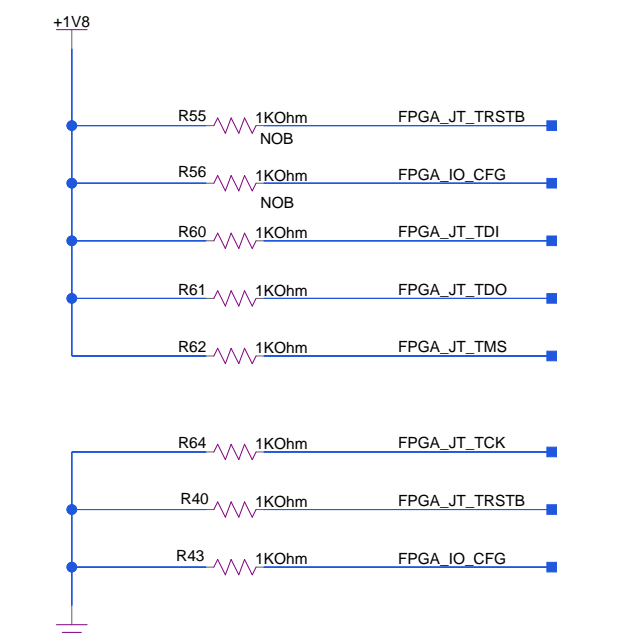
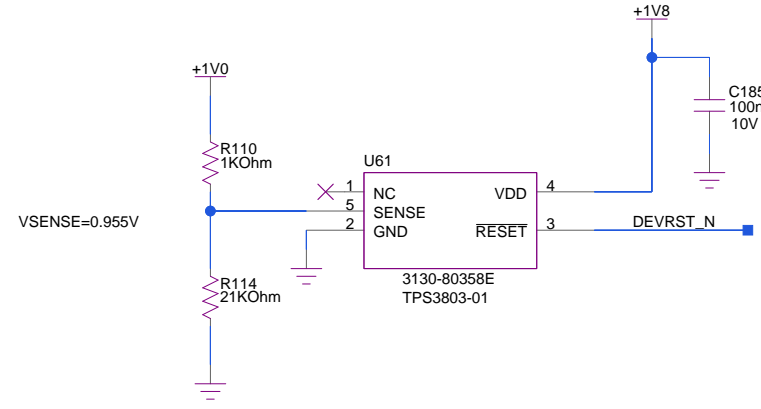
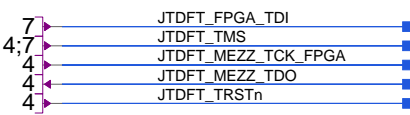
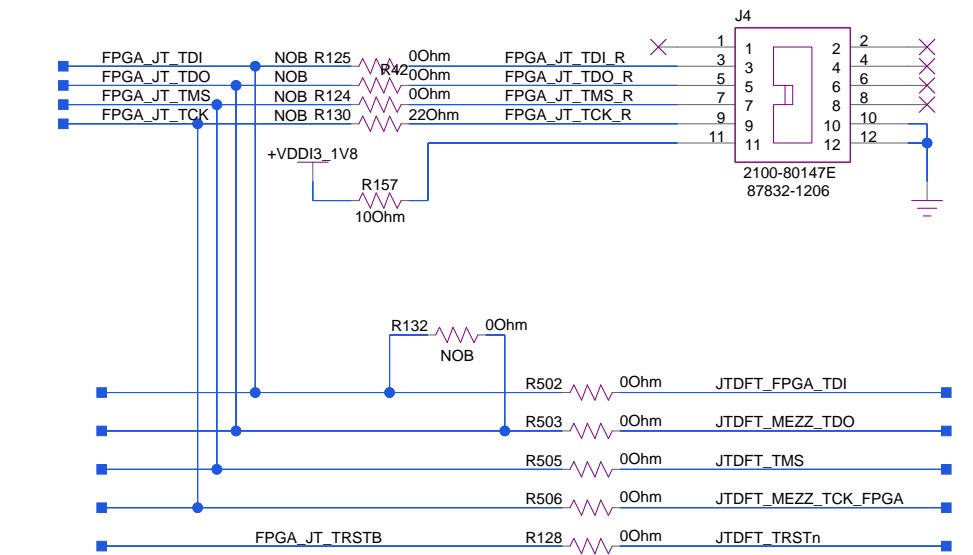
FPGA I/O 1



REF_CLK Terminations to be added



Core UART of the FPGA to be added for programming?





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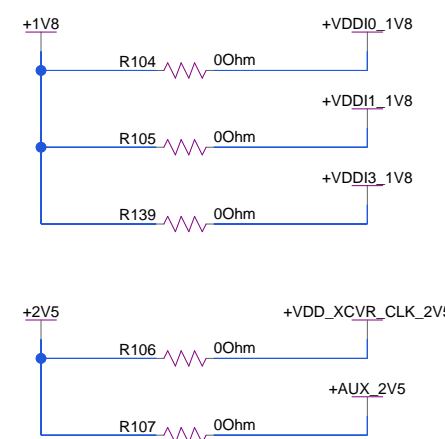
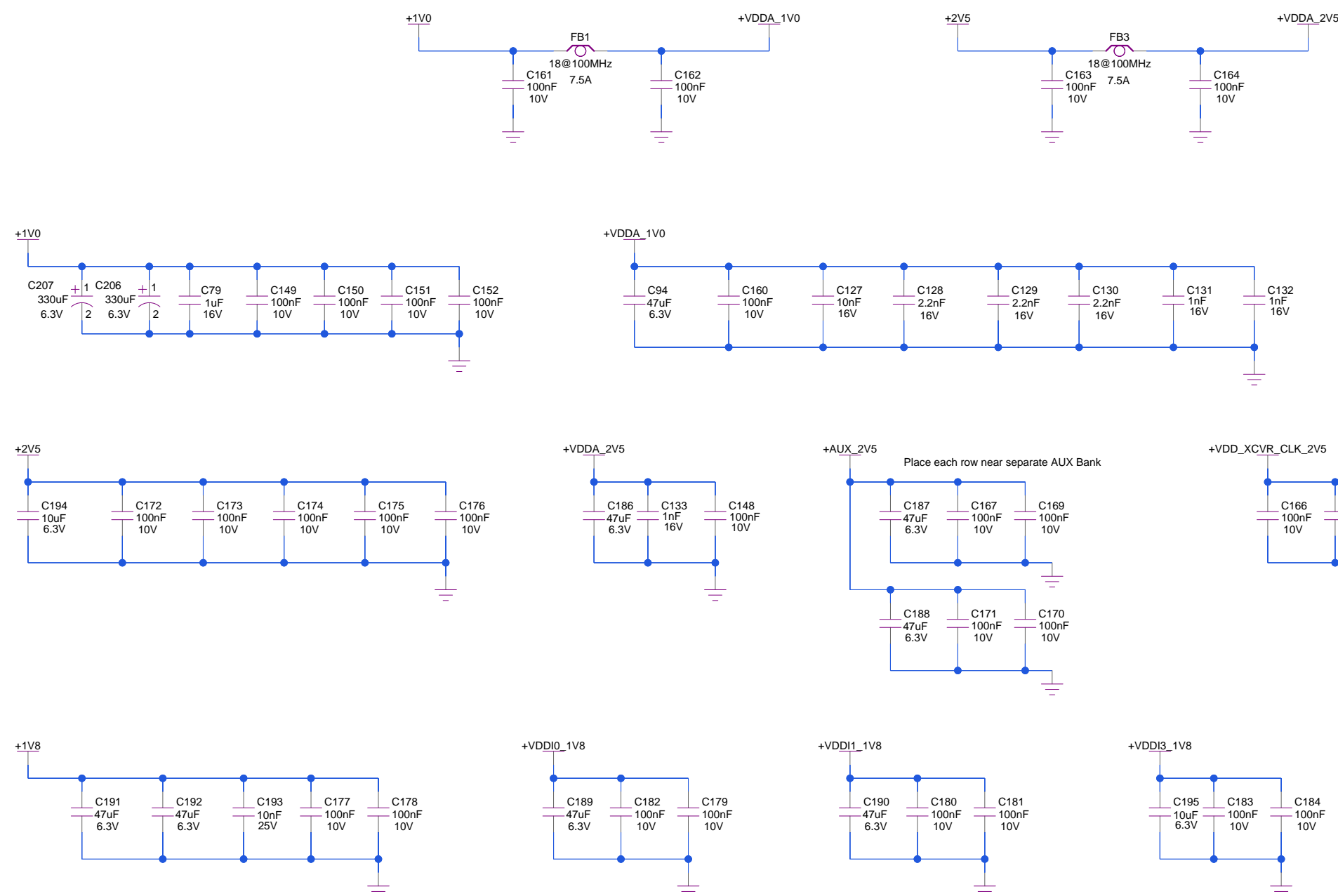
PROJECT

T177

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C	1000-177	T177	11- FPGA-1
DRAWN BY Chethan		SHEET 11 of 16	
		DATE 12/06/2024:15:27	

FPGA POWER AND DECOUPLING



Supply Pins Name	Description
XCVR_VREF	Voltage reference for the transceiver
VDD_XCVR_CLK	Power to input buffers for the transceiver reference clock
VDDA25	Power to the transceiver PLL
VDDA	Power to the transceiver TX and RX lanes
VSS	Core digital ground
VDD	Device core digital supply
VDDI3(JTAG Bank)	Power to JTAG bank pins

Name	Description
VDDIx(GPIO Banks)	Power to GPIO bank pins
VDDIx(HSIO Banks)	Power to HSIO bank pins
VDD25	Power to corner PLLs and PNV/M
VDDI8	Power to programming and HSIO auxiliary supply
VDDAUXx	Power to GPIO auxiliary supply

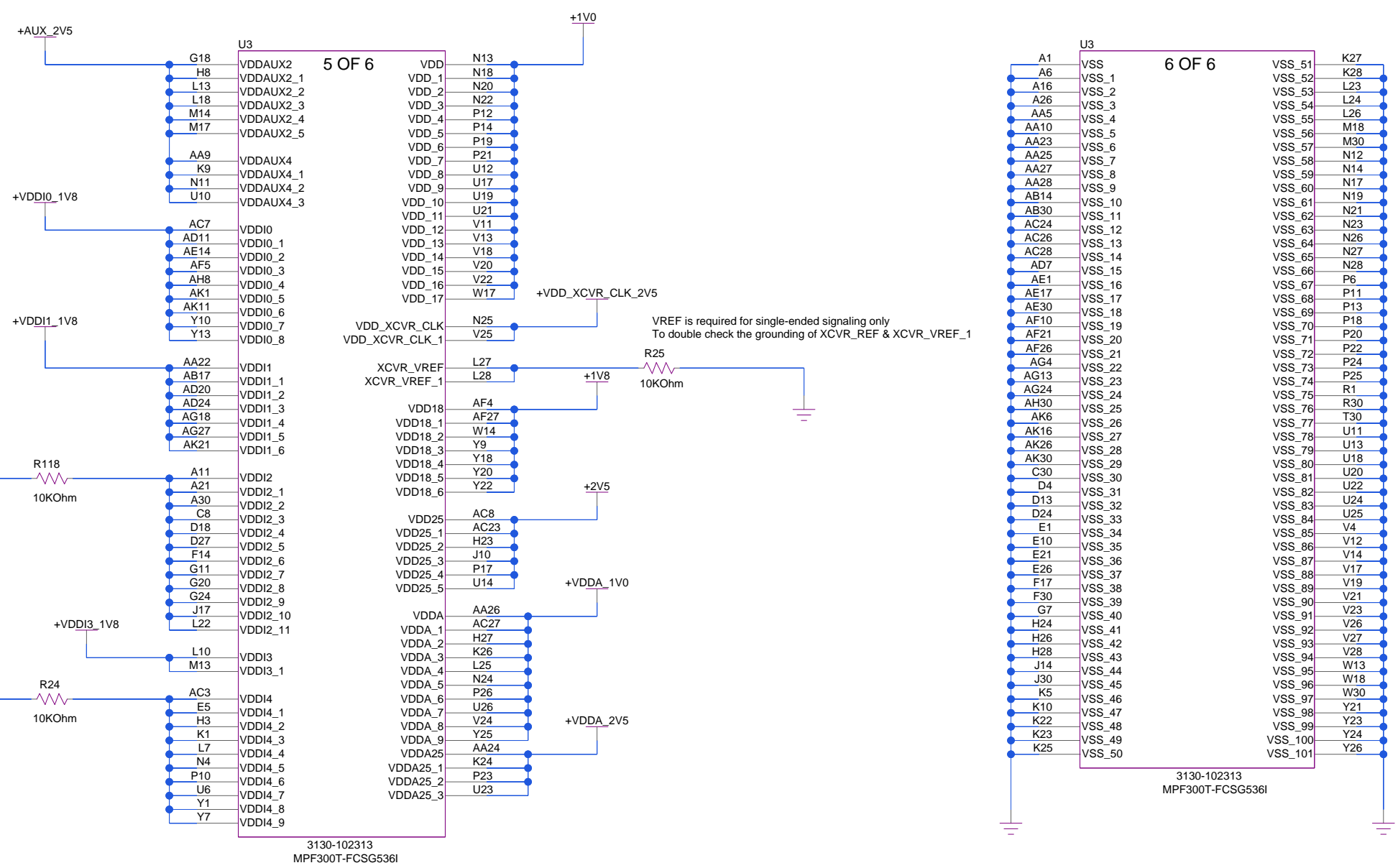


Table 15 • Power Sequencing¹

Use Cases for GPIO	VDDAUX	VDDI	Power-up Sequencing Requirement for Mitigating Glitches ²	Power-down Sequencing Requirements for Mitigating Glitches ²
1.2V	2.5V	No Glitch occurs	No Glitch occurs	No Glitch occurs
1.5V	2.5V	Power up VDDAUX before VDDI of that bank	Power up VDDAUX before VDDI of that bank	Power down VDDI before VDDAUX of that bank
1.8V	2.5V	Power up VDDAUX before VDDI of that bank	Power up VDDAUX before VDDI of that bank	Power down VDDI before VDDAUX of that bank
2.5V	2.5V	Power VDDAUX and VDDI from the same Regulator	Power VDDAUX and VDDI from the same Regulator	No Glitch occurs
3.3V	3.3V	Power VDDAUX and VDDI from the same Regulator	Power VDDAUX and VDDI from the same Regulator	No Glitch occurs



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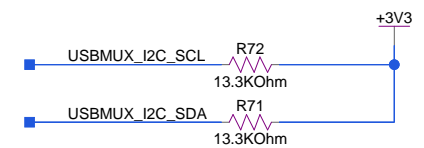
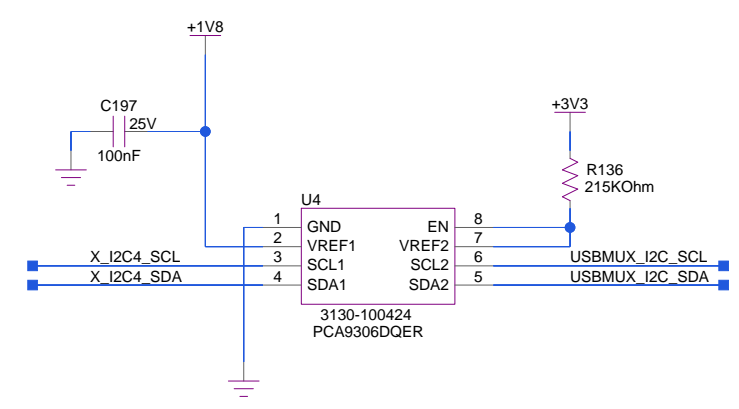
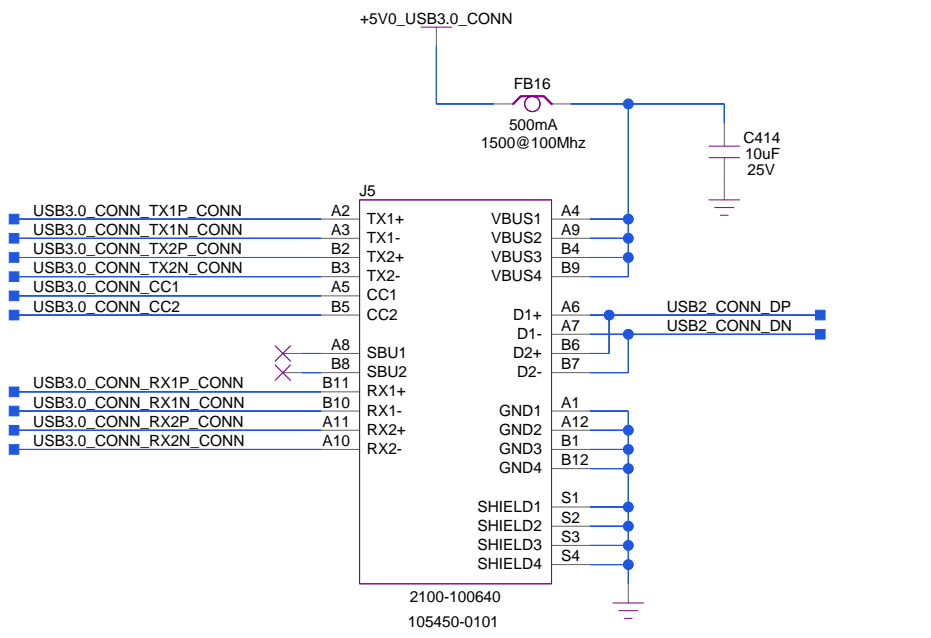
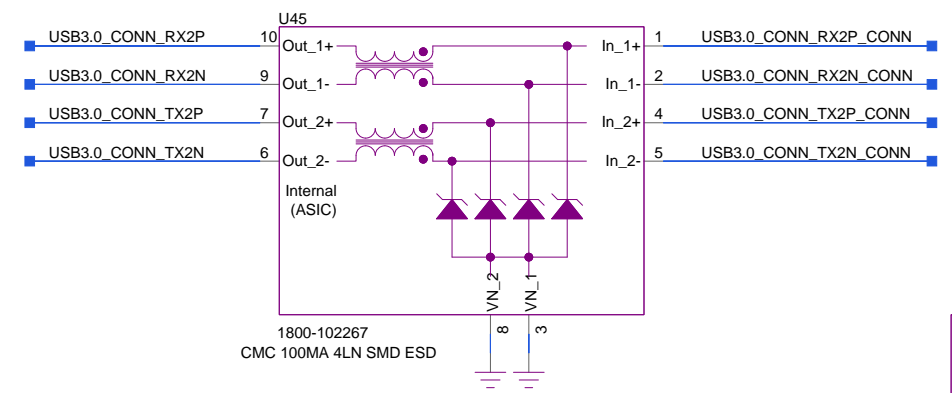
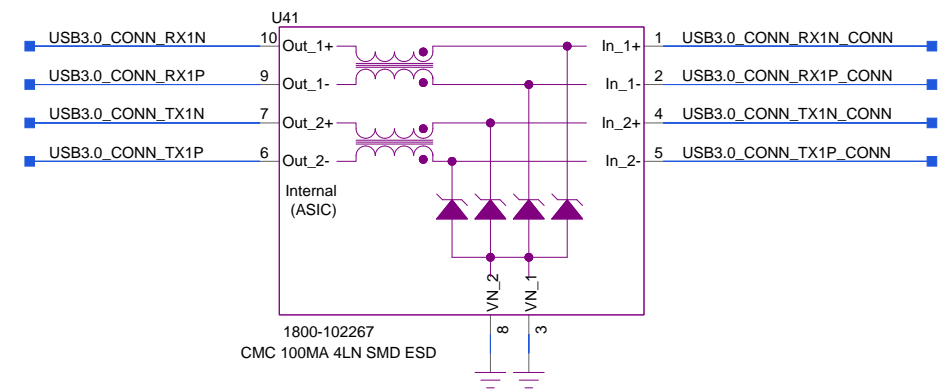
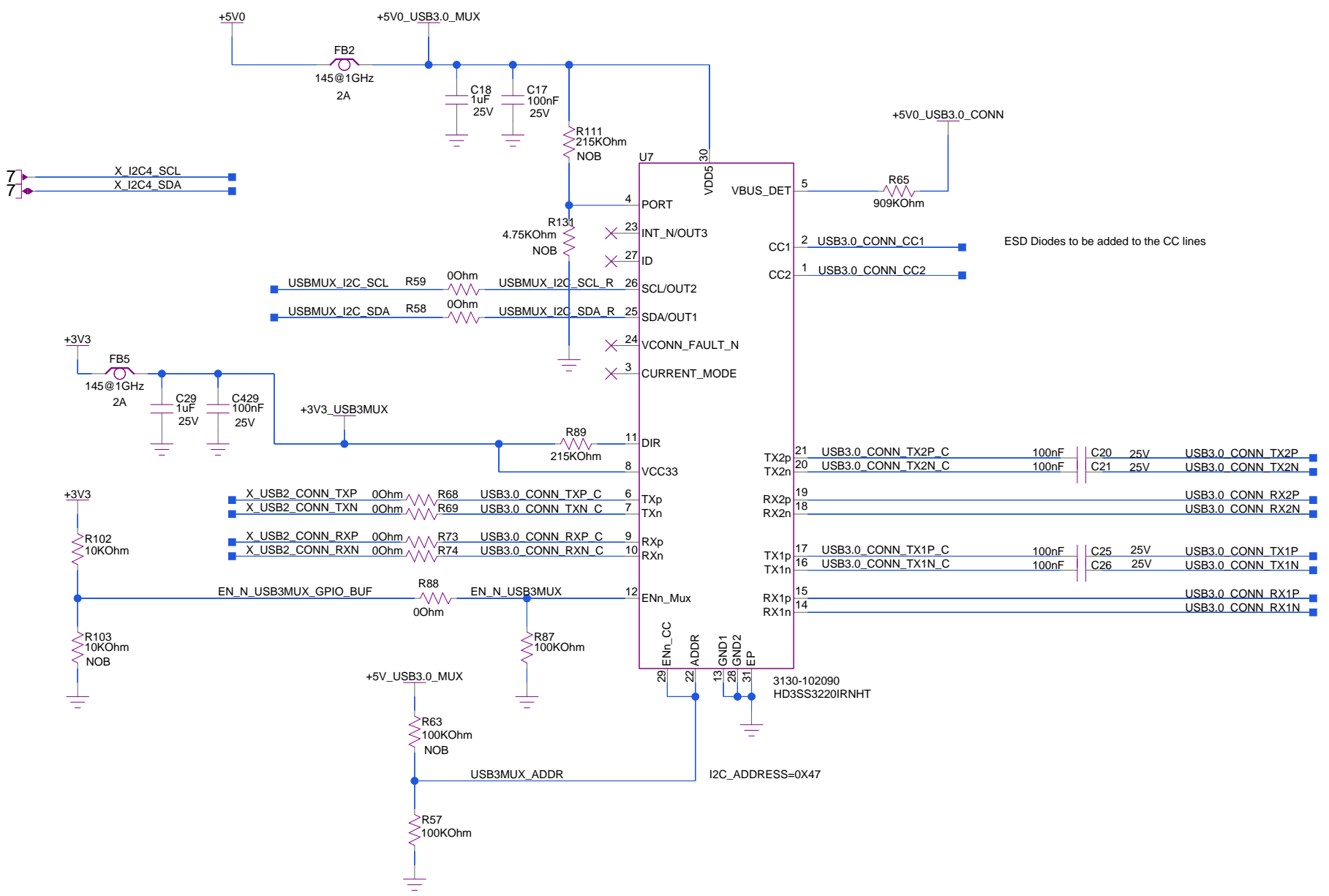
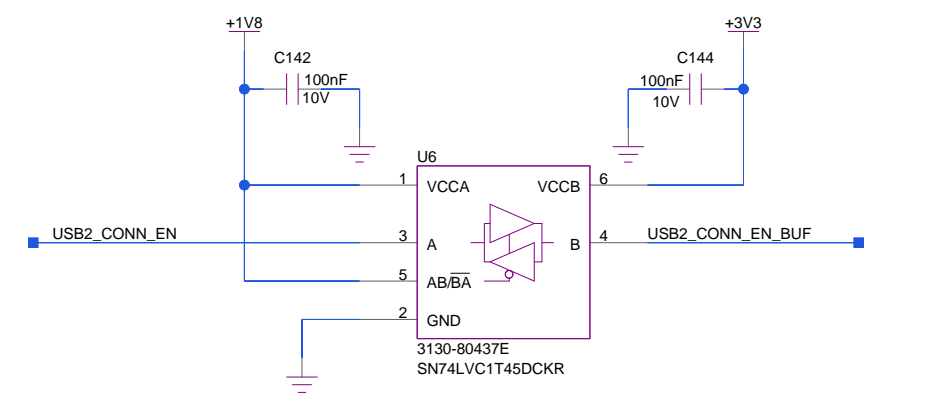
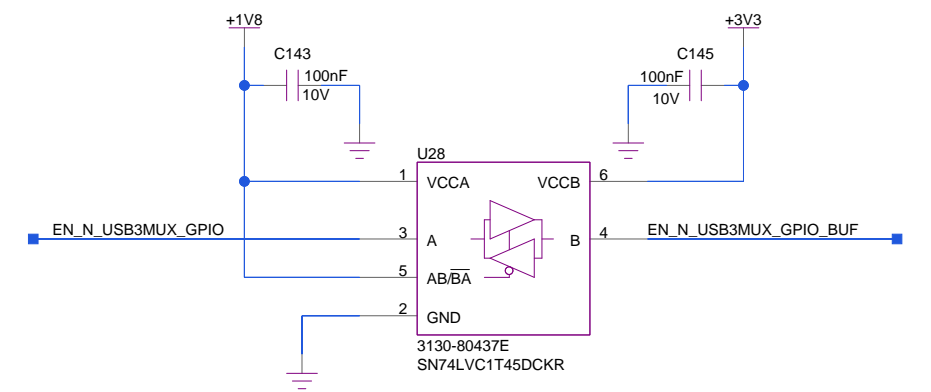
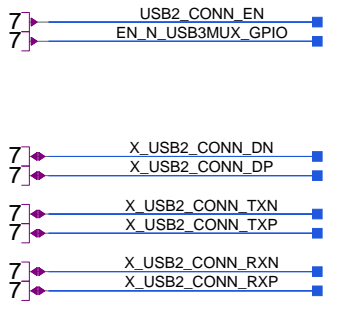
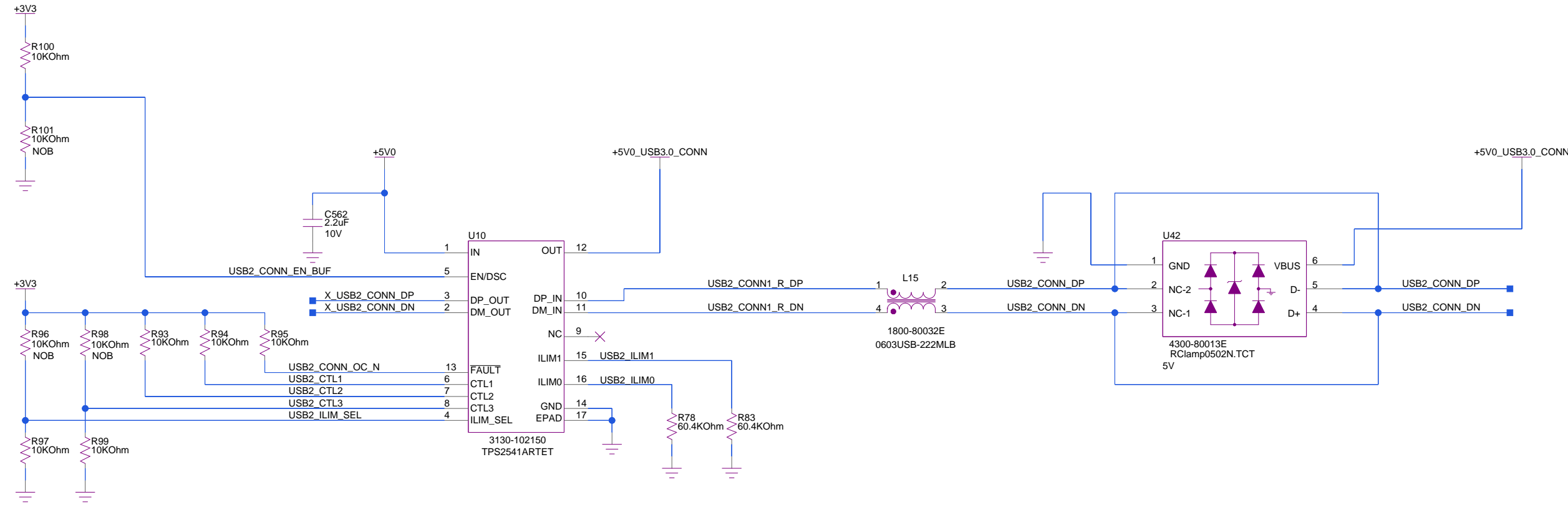
PROJECT

T177

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SIZE	DWG NO	NAME	SHEET	REV
C	1000-177	T177	13- FPGA-Power	01
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1X USB3.0 OUT VIA TYPE-C



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14- 1x USB3 out Via Type-C

SIZE DWG NO C 1000-177

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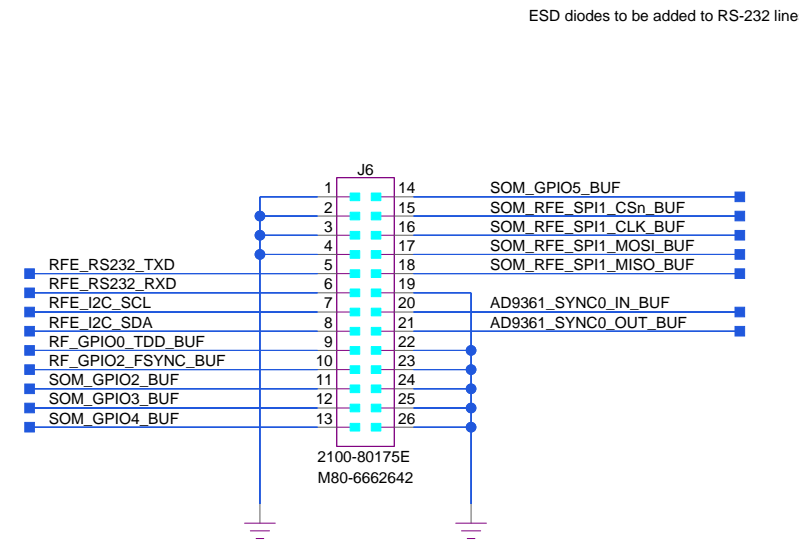
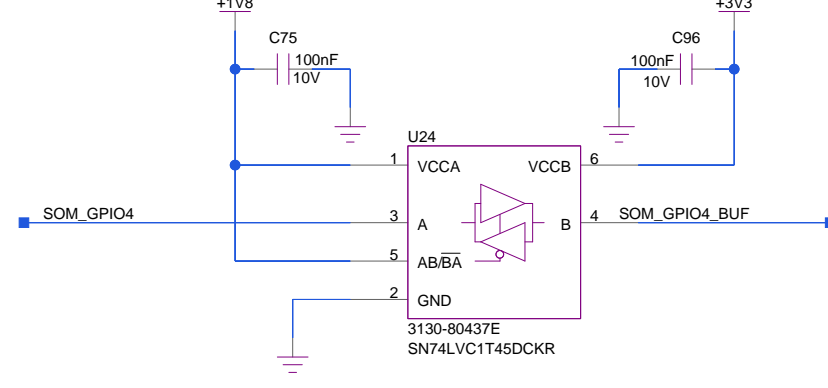
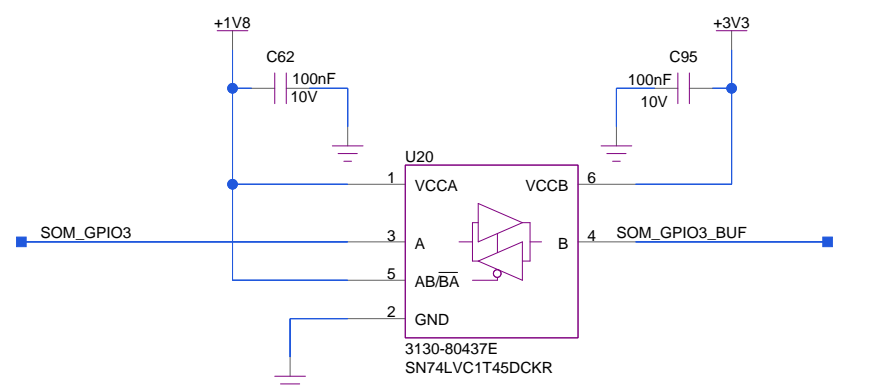
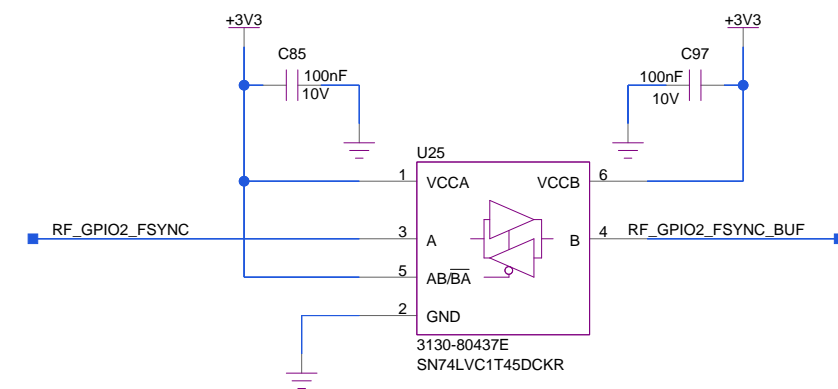
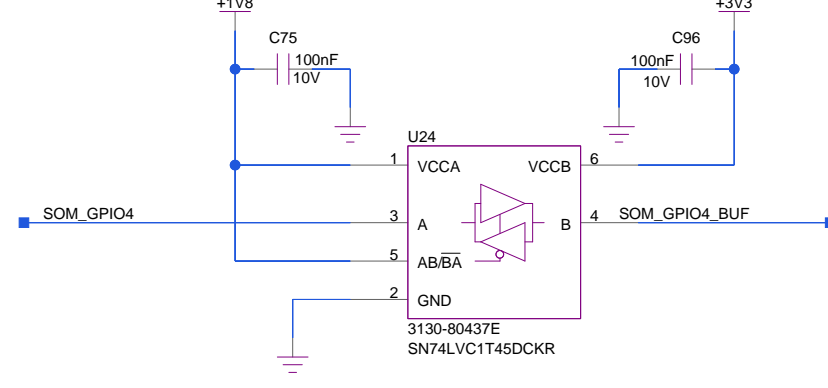
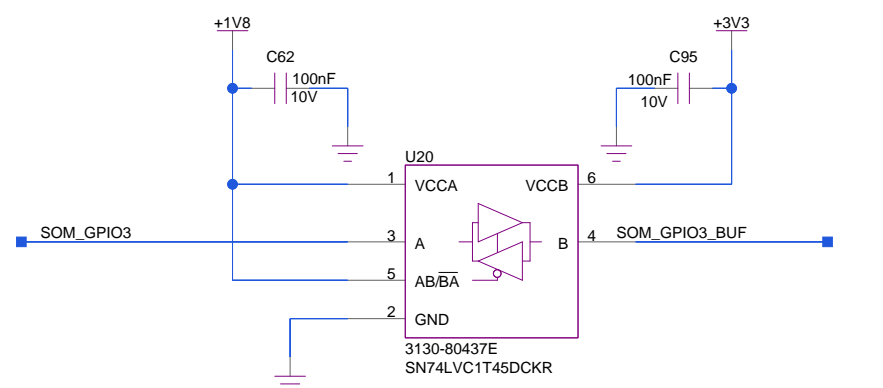
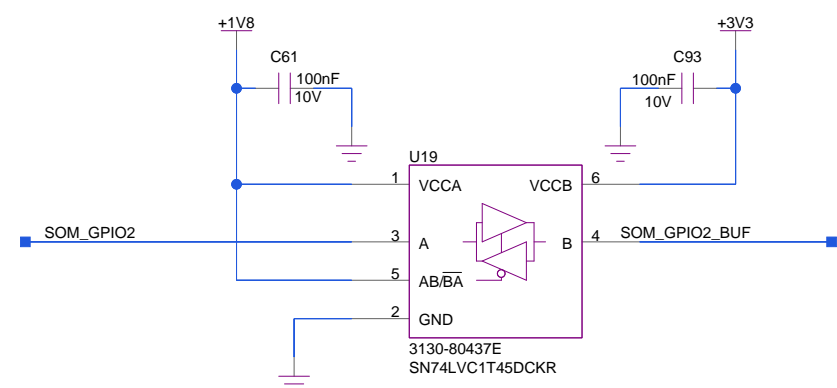
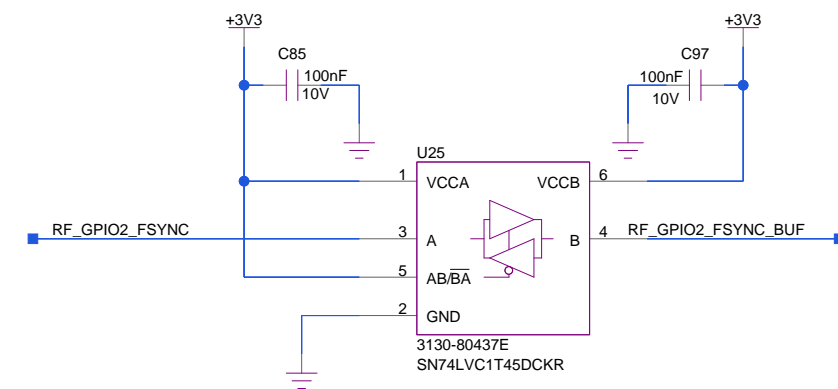
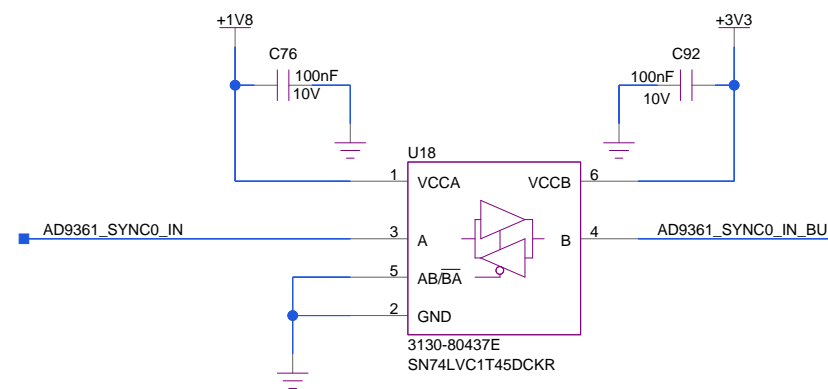
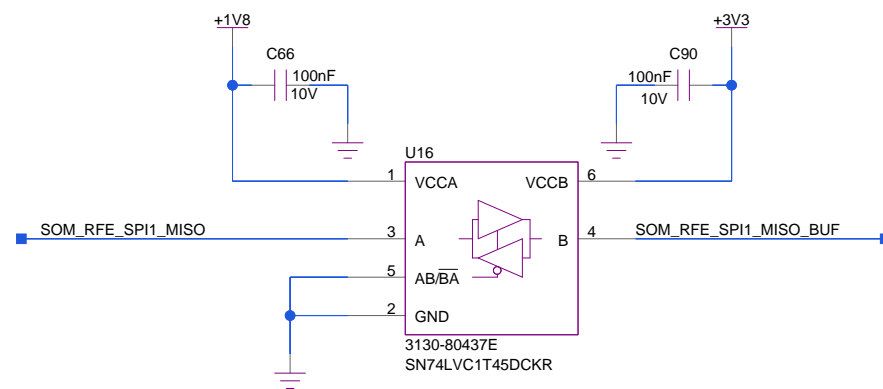
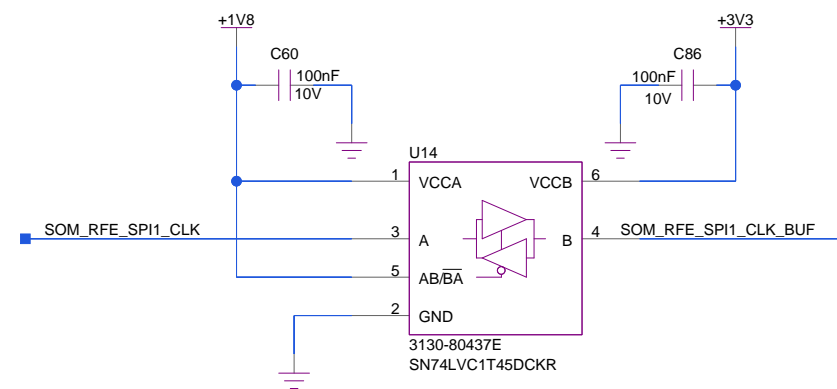
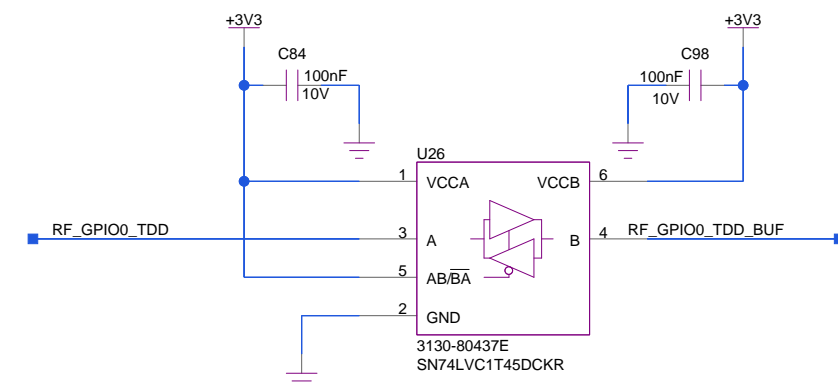
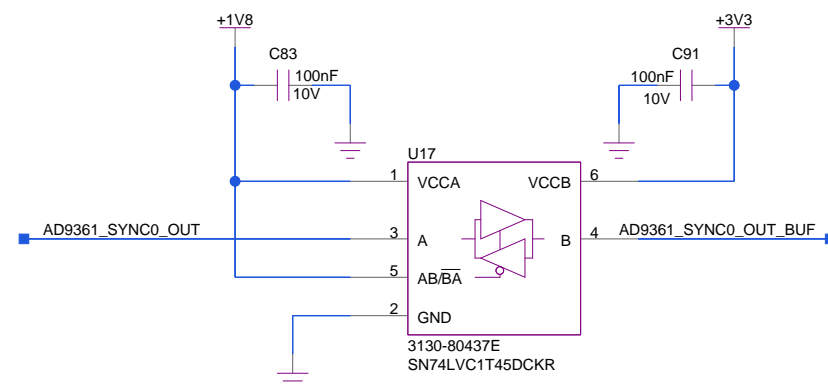
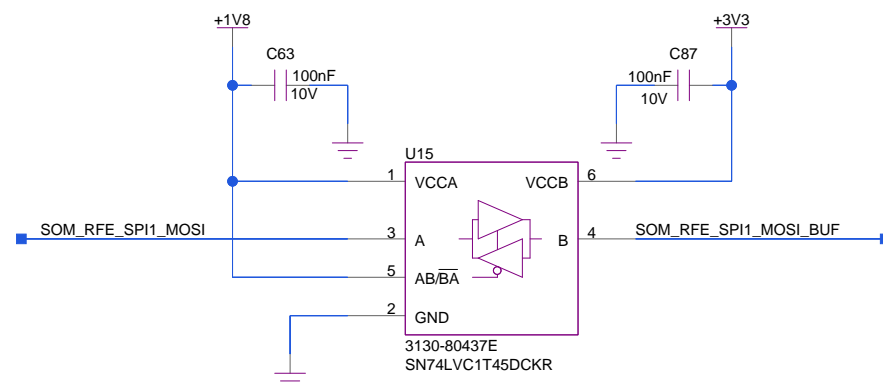
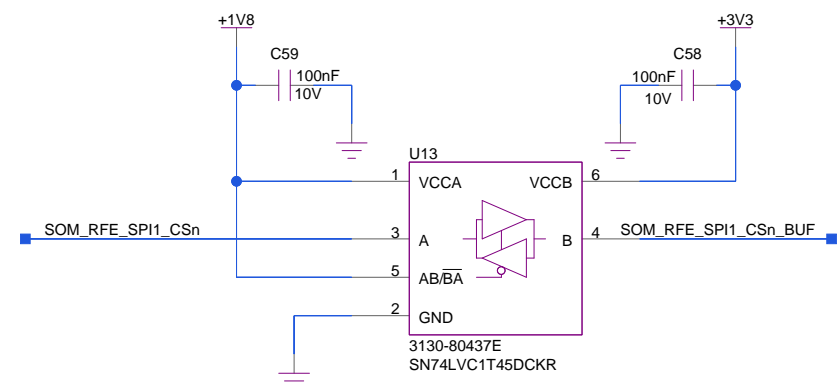
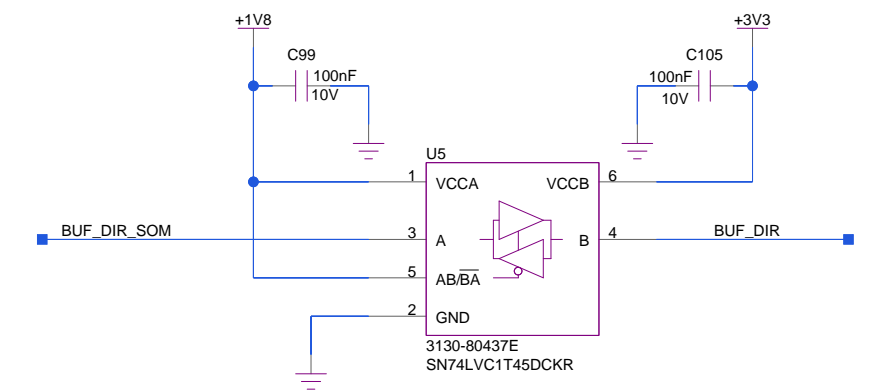
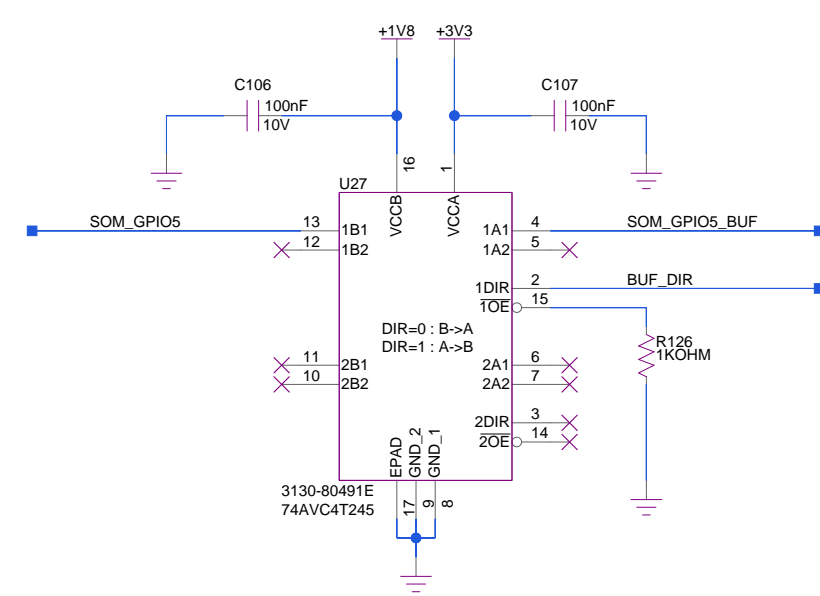
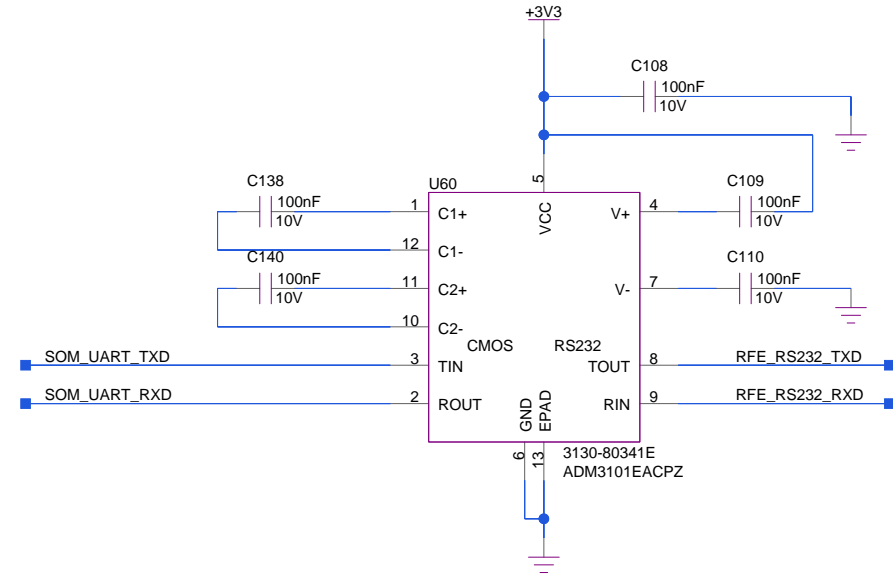
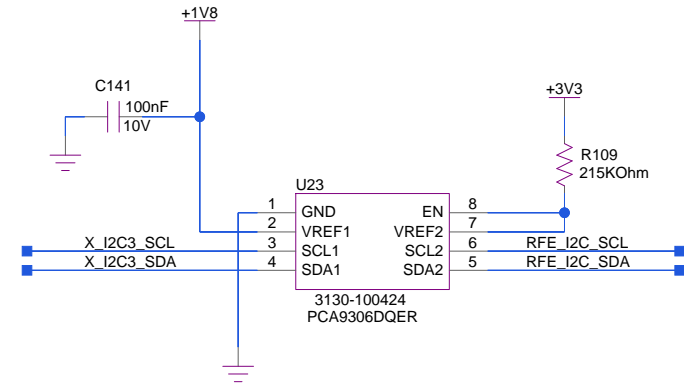
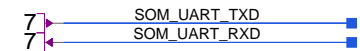
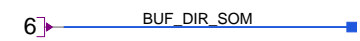
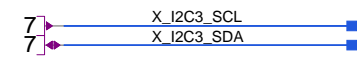
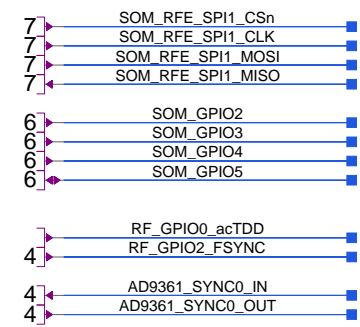
SHEET 14 of 16

DATE 12/06/2024:15:37

REV 01

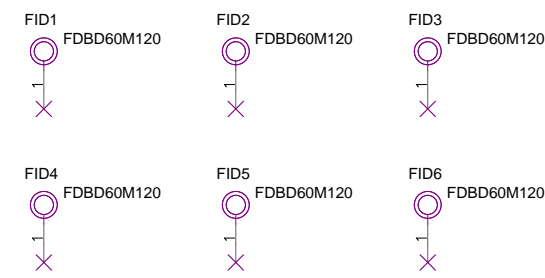
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RFE CONNECTOR

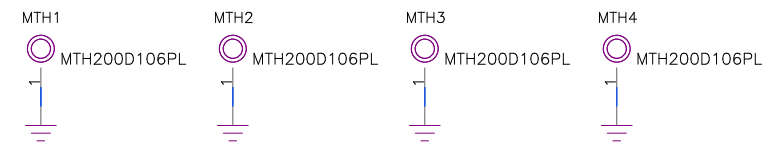


MECHANICAL

FIDUCIALS (3 per side)



PCB MOUNTING HOLES



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SIZE C	DWG NO 1000-177	NAME T177	SHEET 16- Mechanical
DRAWN BY Chethan	SHEET 16	of 16	DATE 12/06/2024:15:26
		REV 01	