

A

B

C

D

E

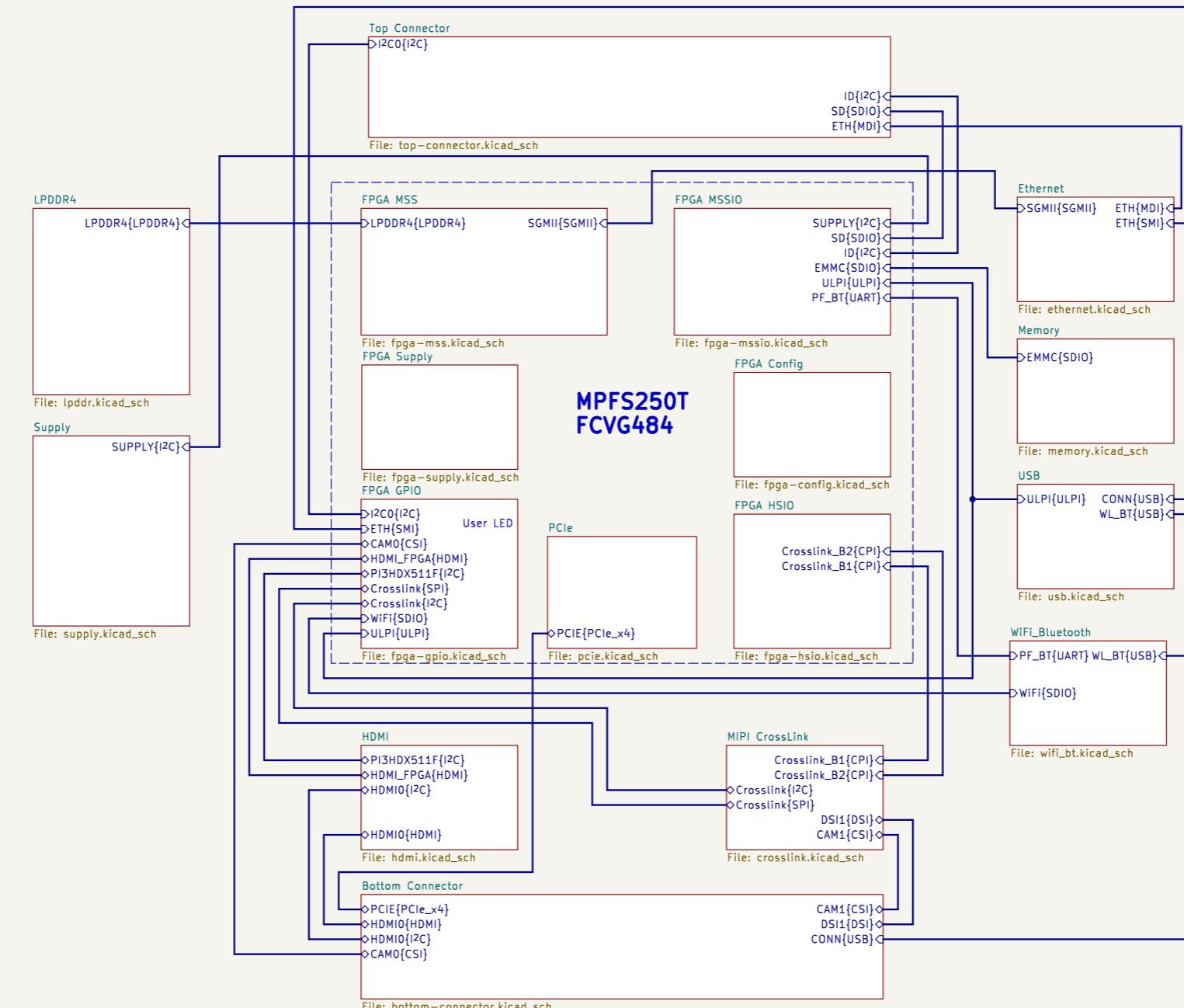
A

B

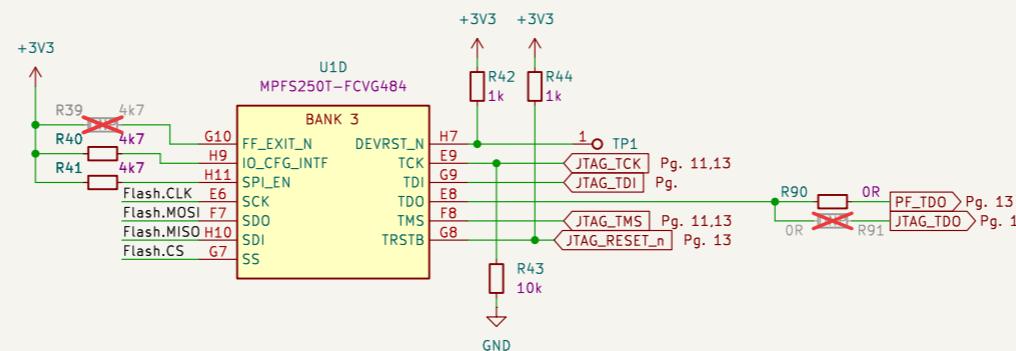
C

D

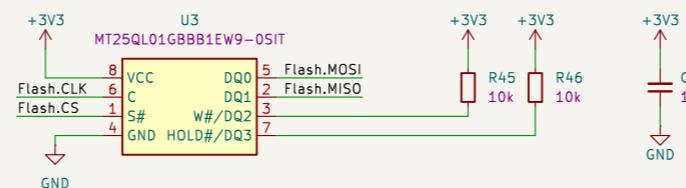
E



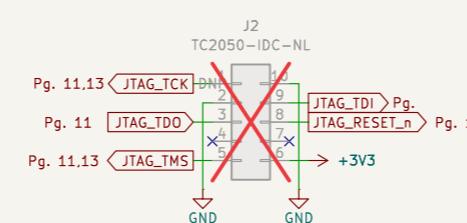
PolarFire Bank 3 JTAG/DEDIO



SPI FLASH



JTAG



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Sheet: /FPGA Config/

File: fpga-config.kicad_sch

Title: PolarFire SoM

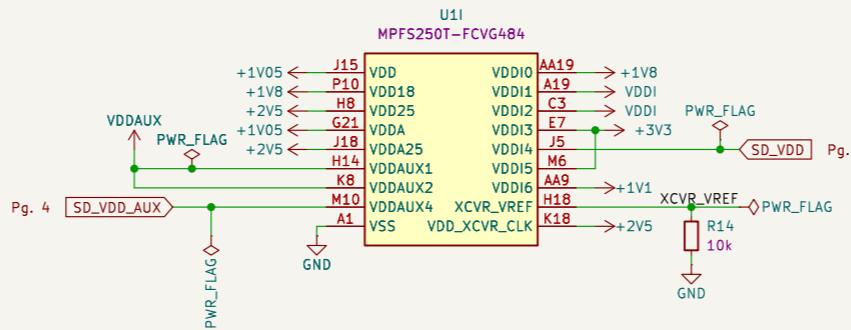
Size: A3 | Date: 2024-06-10

KiCad E.D.A. kicad-cli 7.0.11

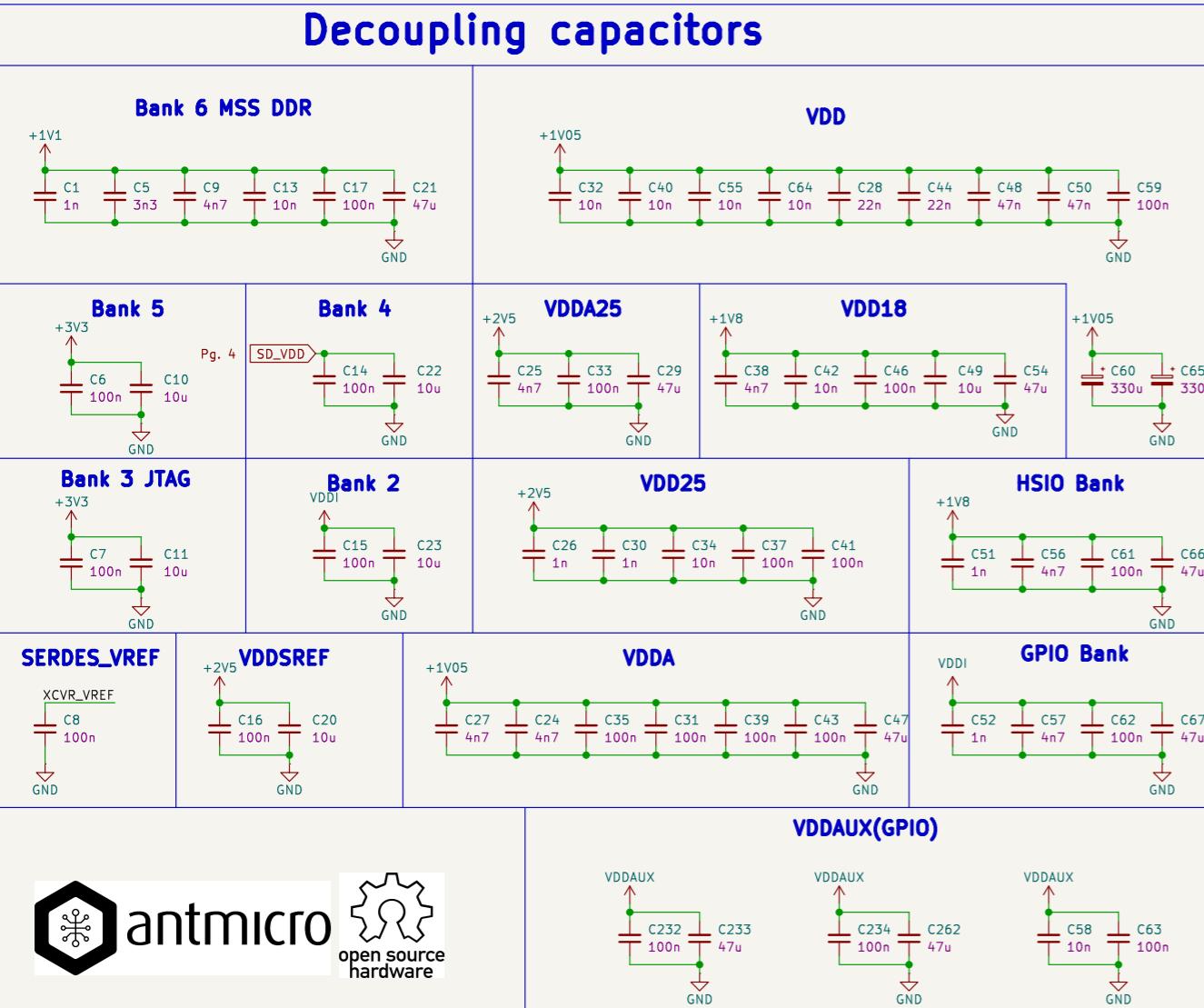
Rev: 1.1.0:b6903

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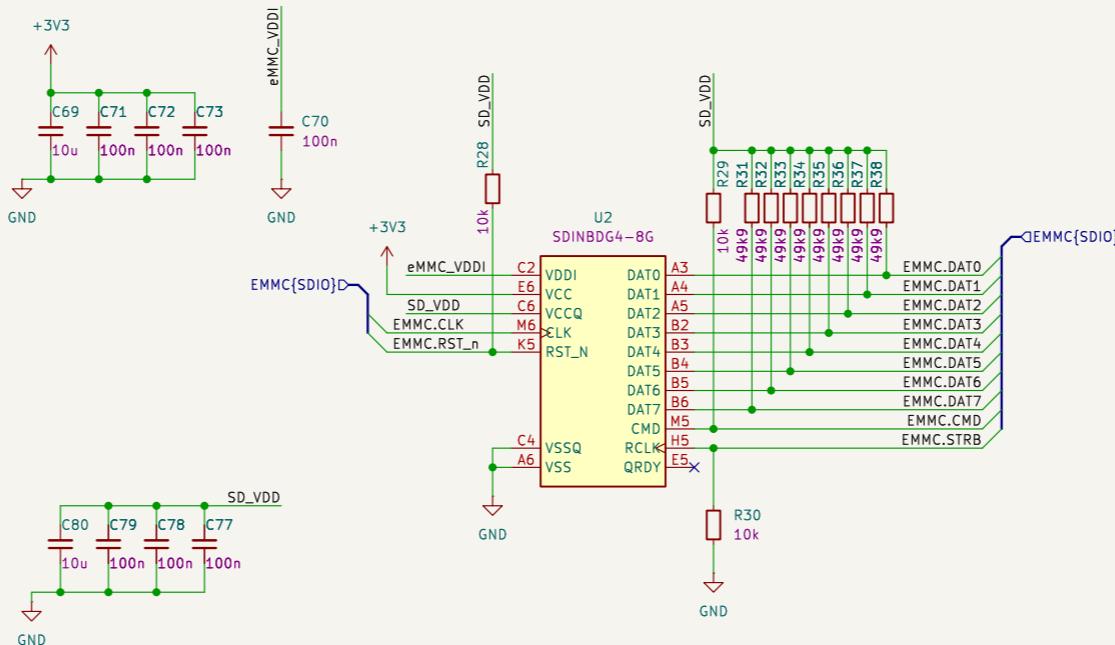
PolarFire power supply



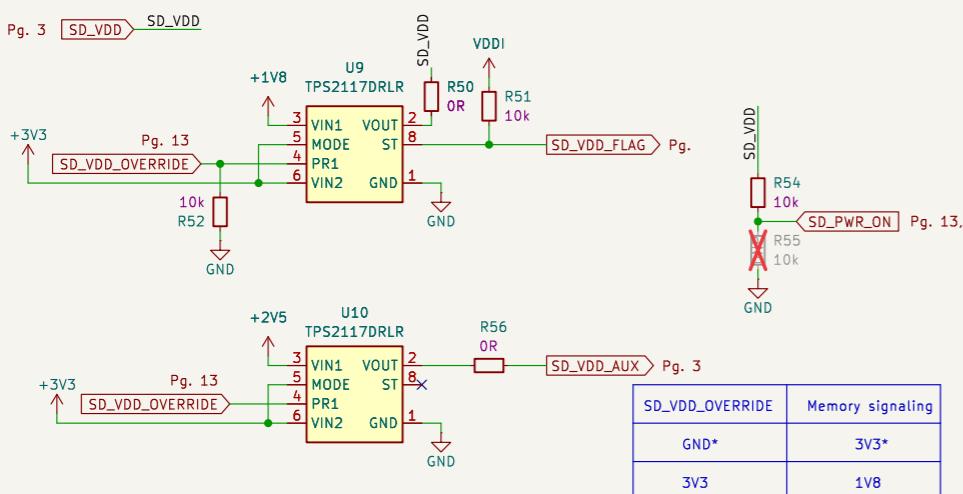
Decoupling capacitors



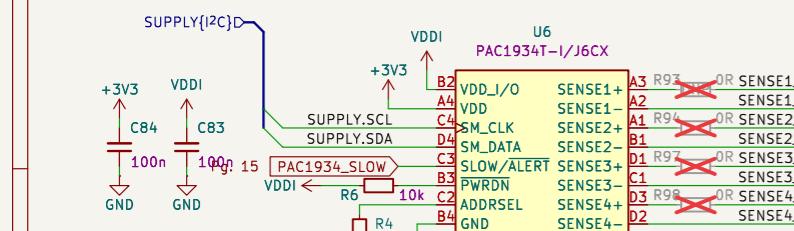
eMMC



Memory supply logic



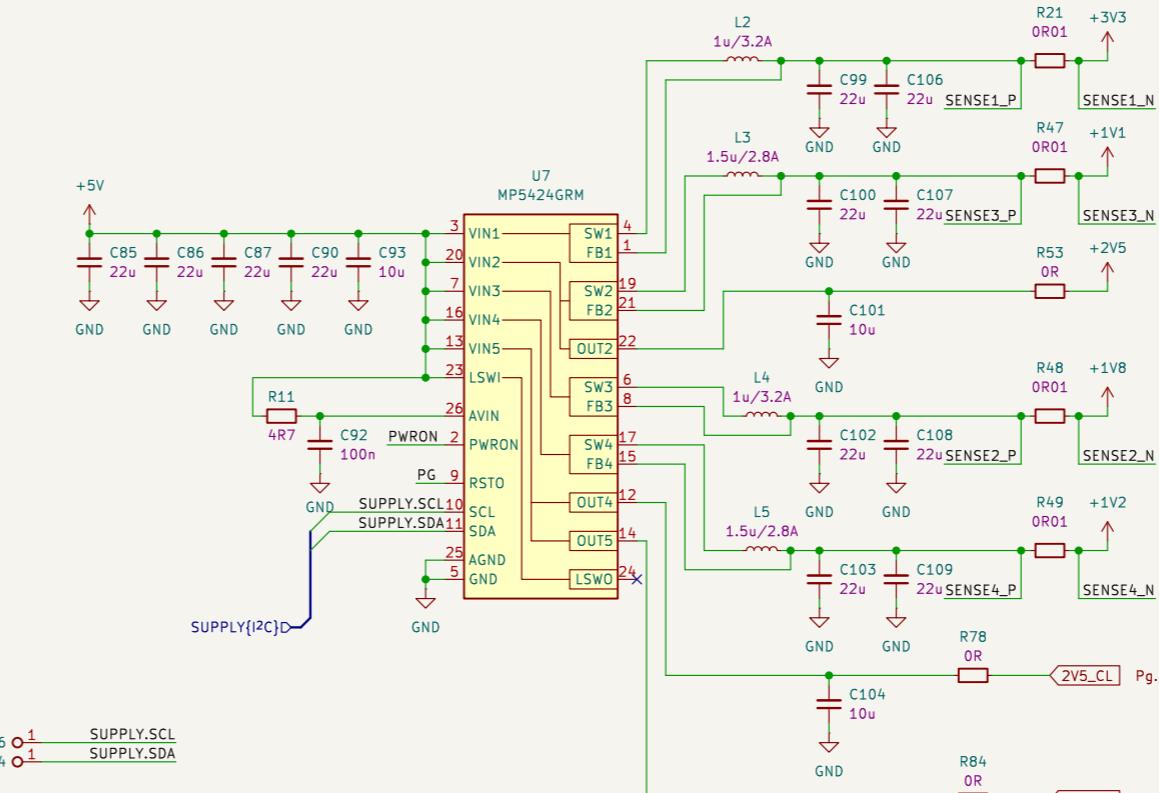
Power Monitor



GLOBAL_EN

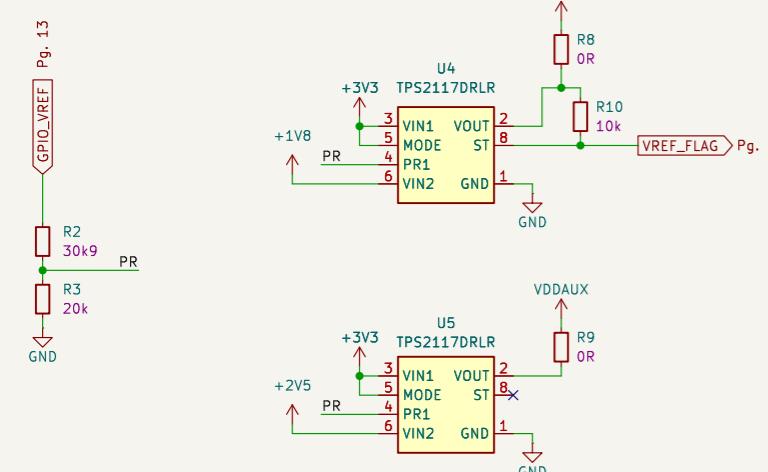


PMIC

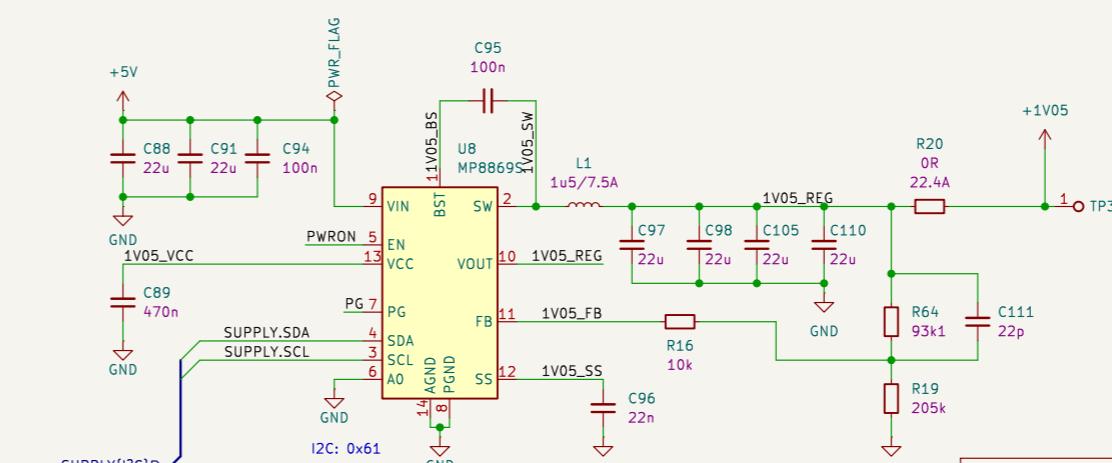


Soft start delay time slot												
	1	2	3	4	5	6	7	8	9	10	11	12
3V3		X										
1V1							X					
2V5		X										
1V8				X								
1V2									X			
2V5_CL										X		
VDD1_CL					X							
1V8_CL								X				

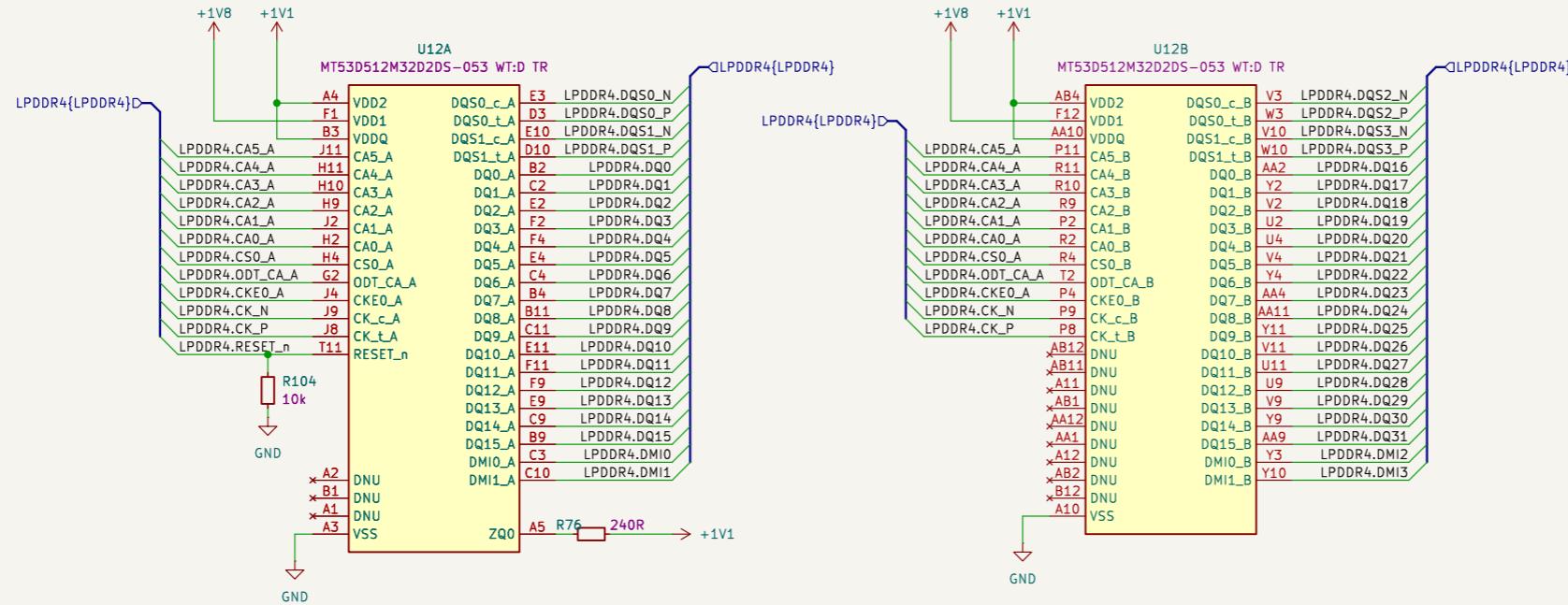
GPIO Power Mux



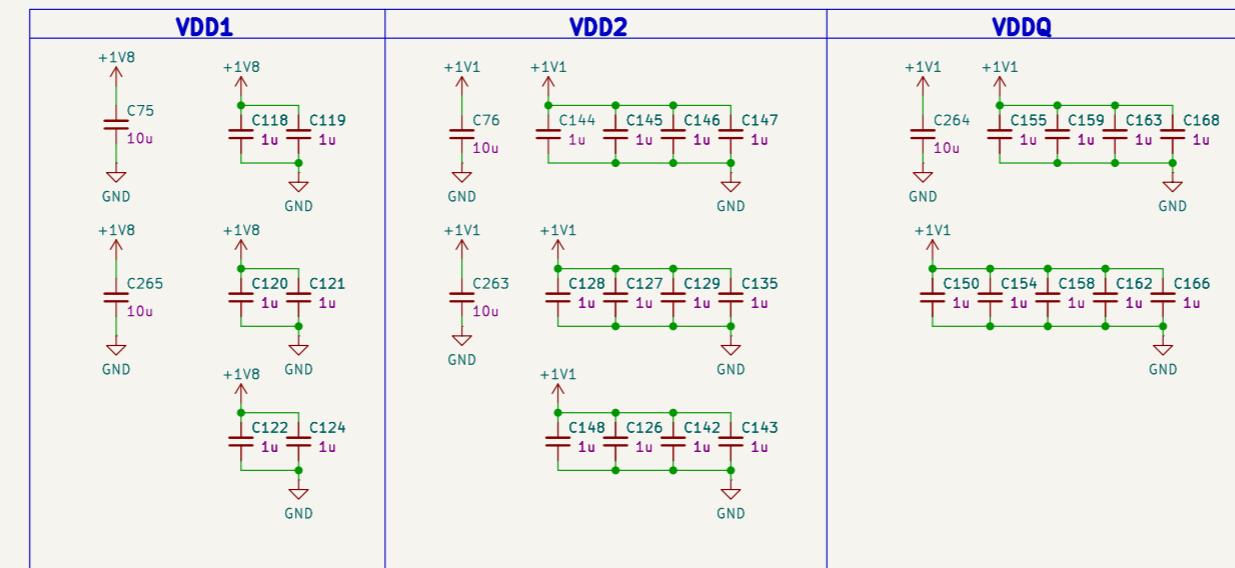
Core supply



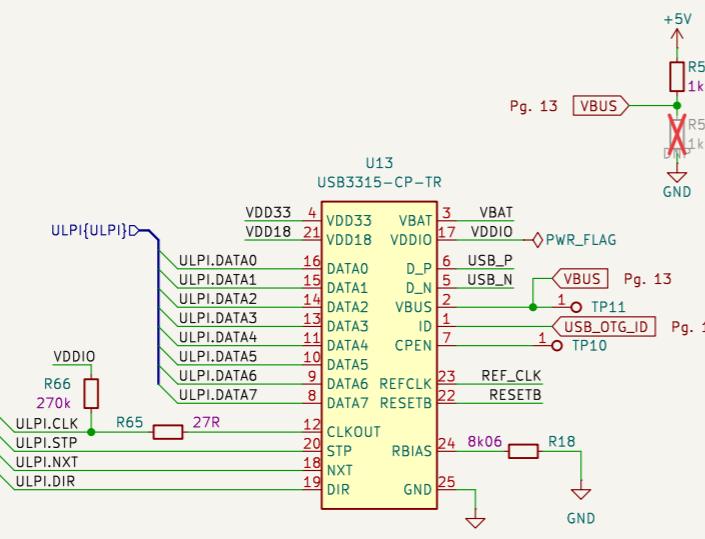
LPDDR4



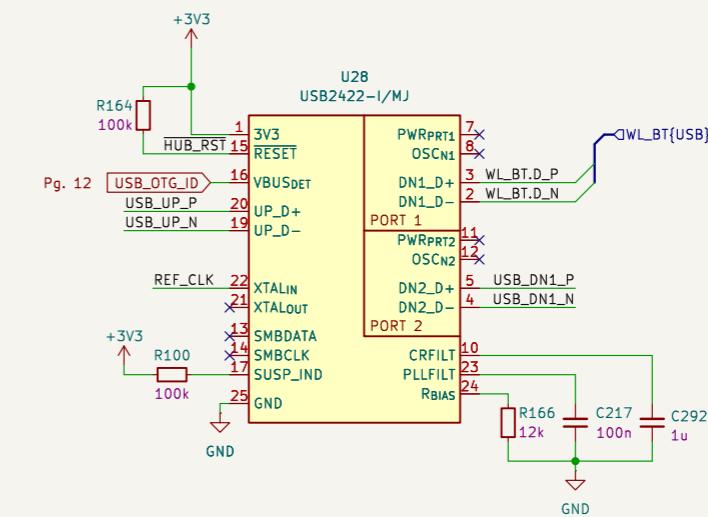
Decoupling capacitors



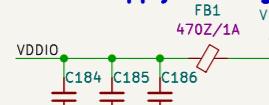
USB PHY



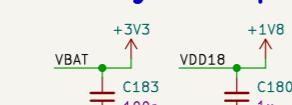
USB HUB



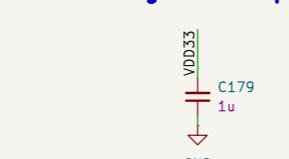
ULPI supply filtering



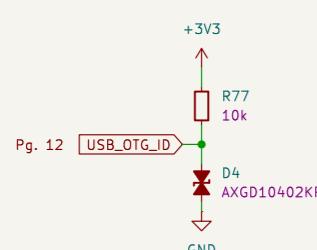
ULPI regulators inputs



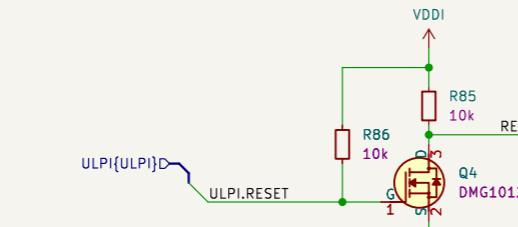
ULPI regulator output



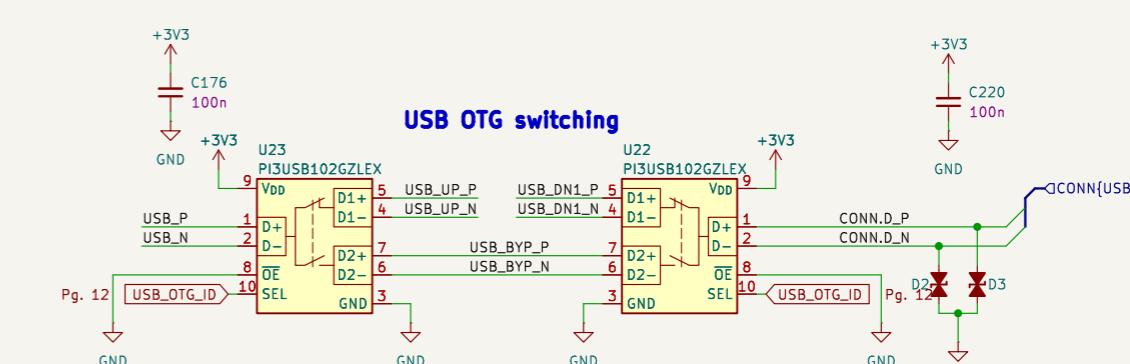
USB_OTG_ID



Logic Inverter



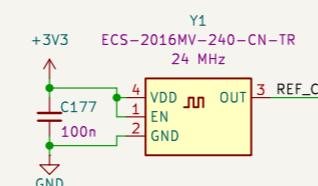
USB OTG switching



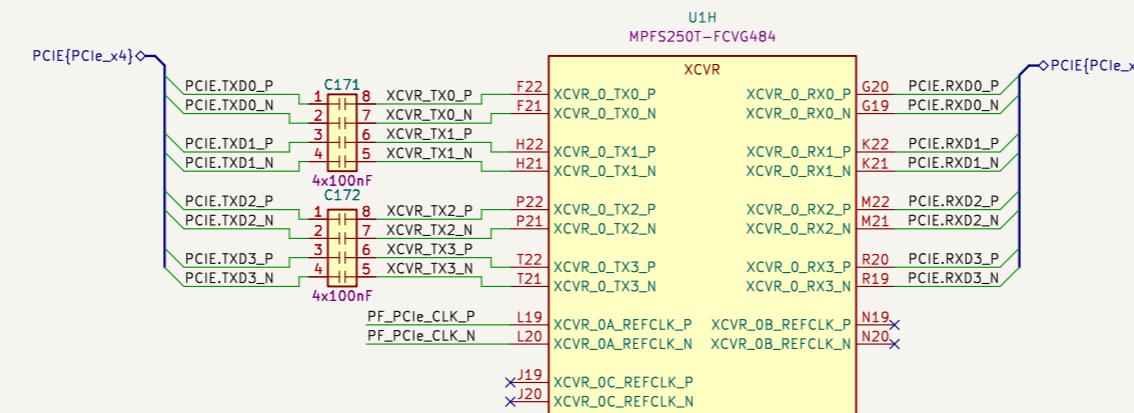
Truth table for PI3USB102G

SEL | D+ | D-
L | D1+ | D1-
H | D2+ | D2-

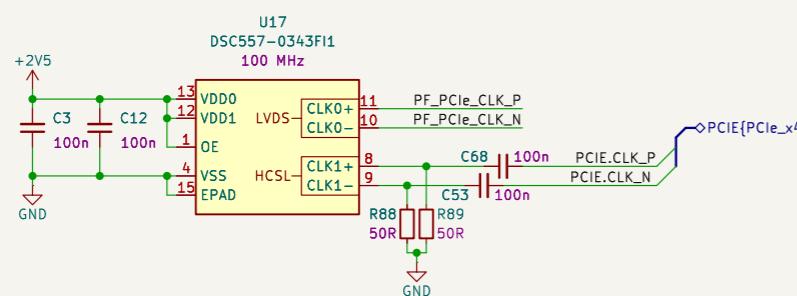
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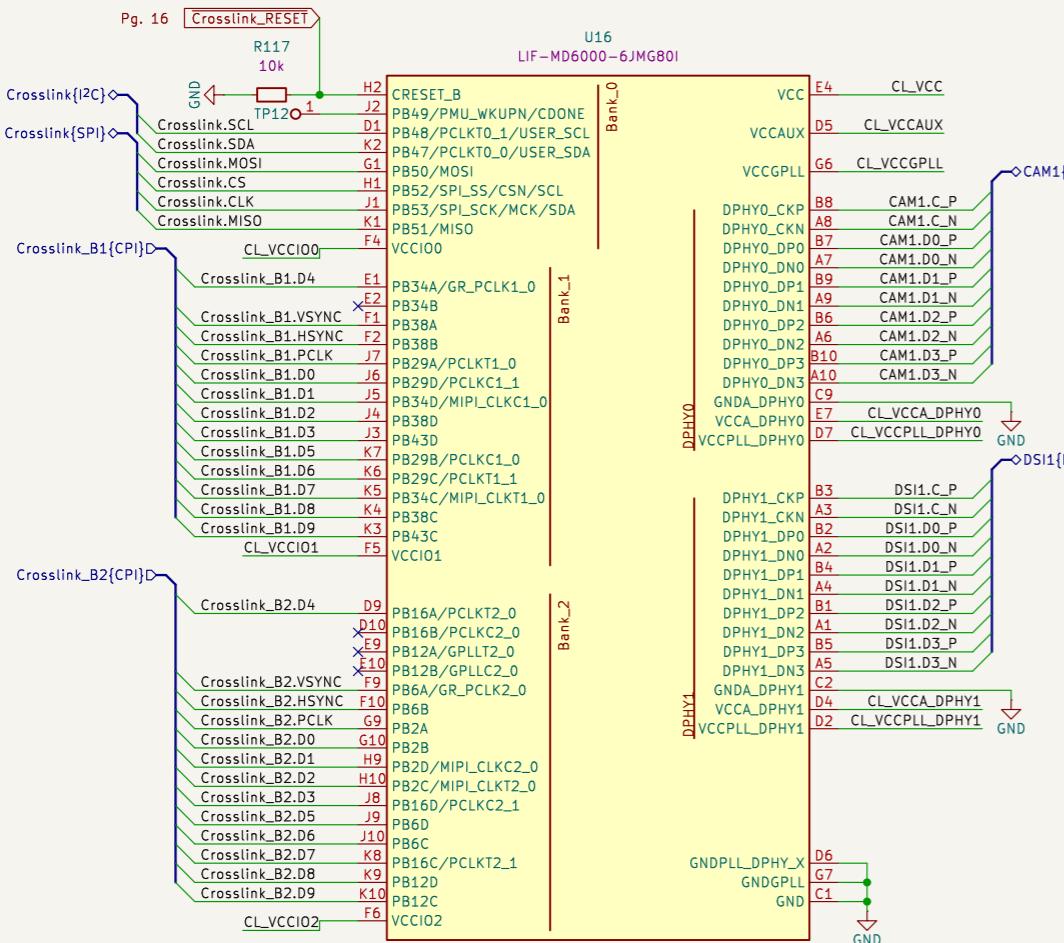
PolarFire XCVR



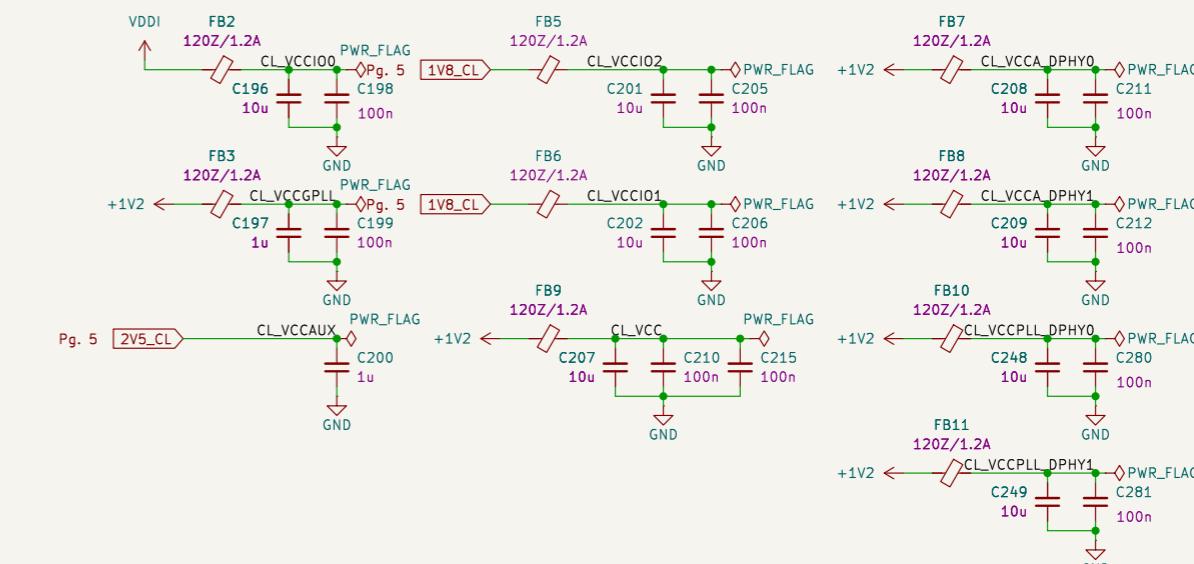
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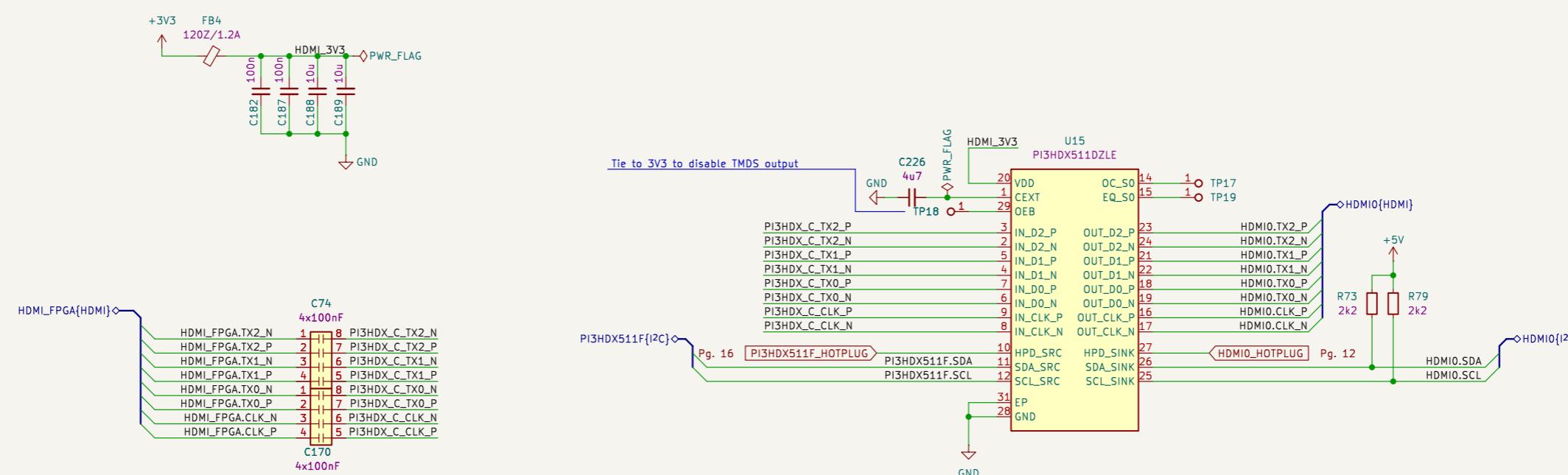
CrossLink



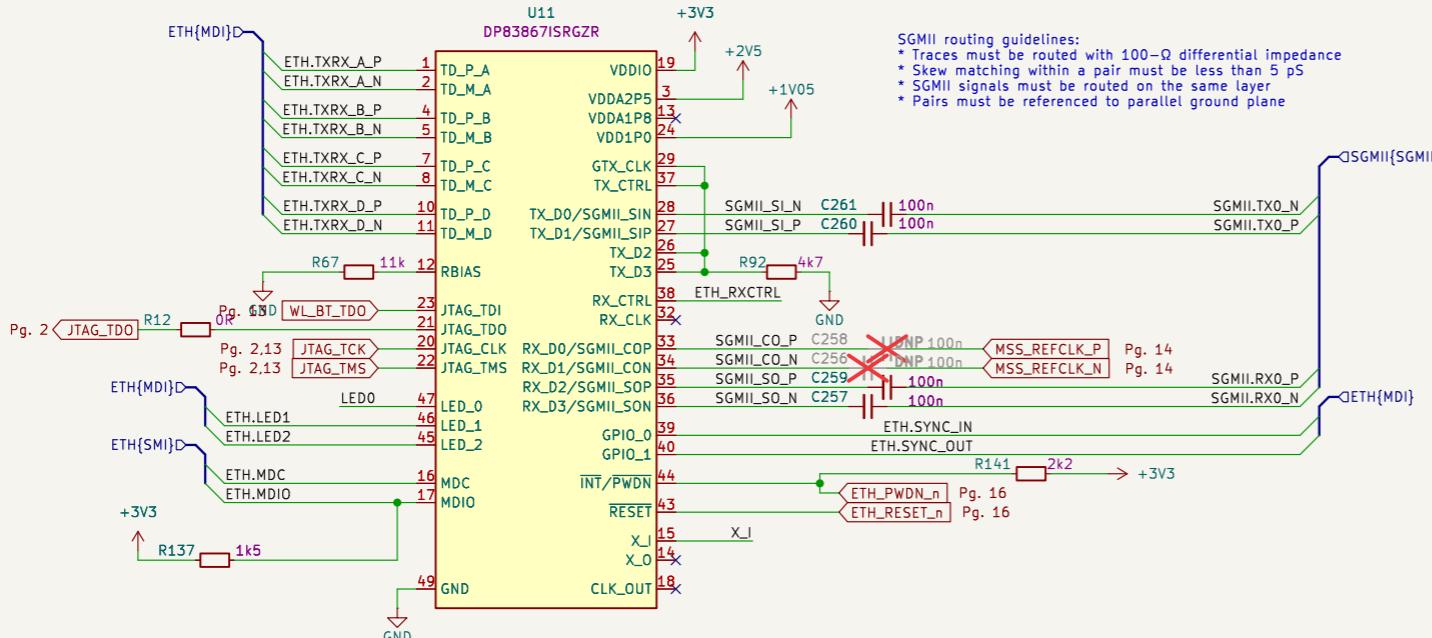
Power filtering



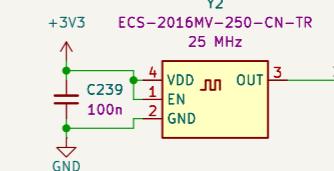
HDMI Driver



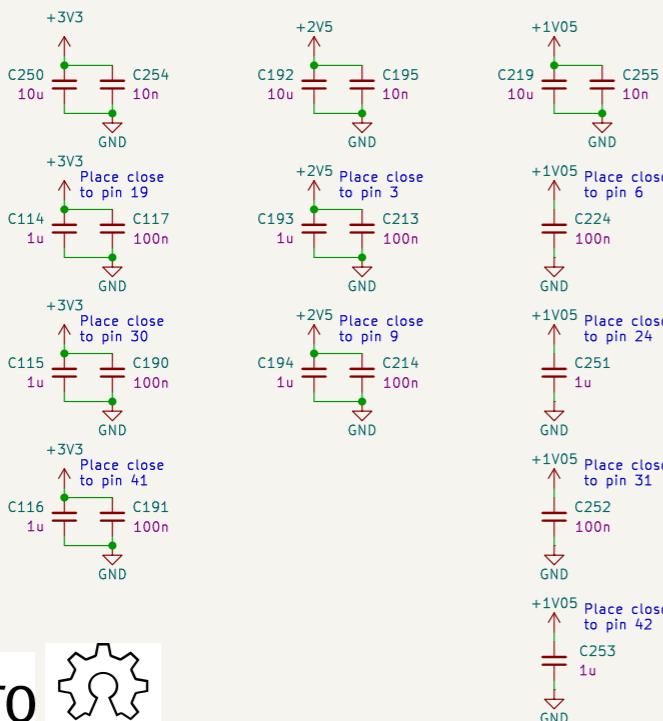
Gigabit Ethernet PHY transceiver with SGMII



REF CLK

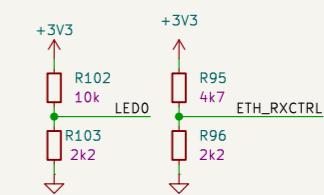


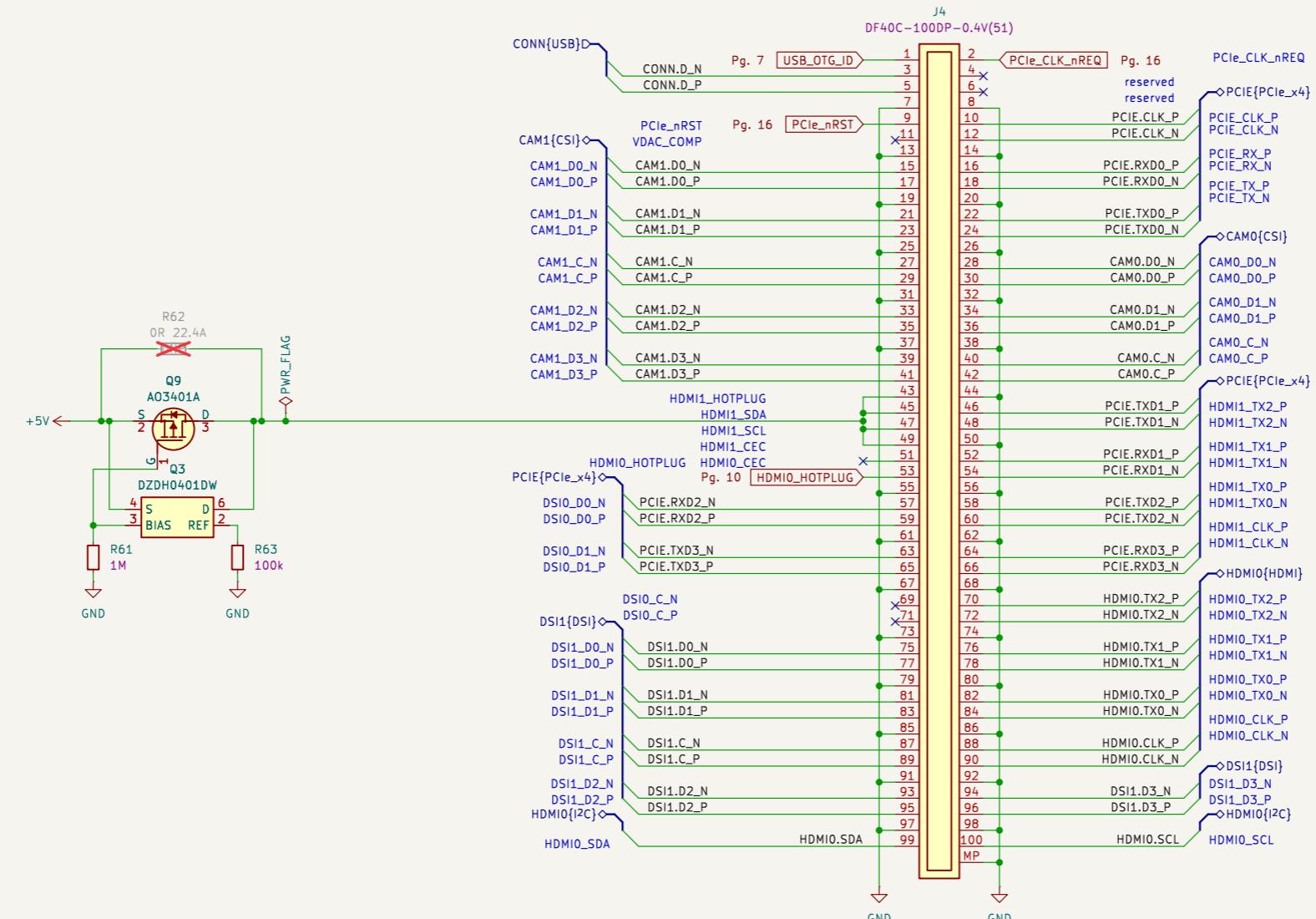
Decoupling



Strap resistors

Strap functions		
Pin name	Function	Value
RX_D0	PHY_ADD[1:0]	00
RX_D0	PHY_ADD[3:2]	00
RX_CTRL	- / Autoneg Disable	-0
GPIO_0	RGMII Clock Skew RX[0]	0-
GPIO_1	RGMII Clock Skew RX[2:1]	00
LED_2	RGMII Clock Skew TX[1:0]	00
LED_1	ANEG_SEL / RGMII Clock Skew TX[2]	00
LED_0	Mirror Enable / SGMII Enable	01





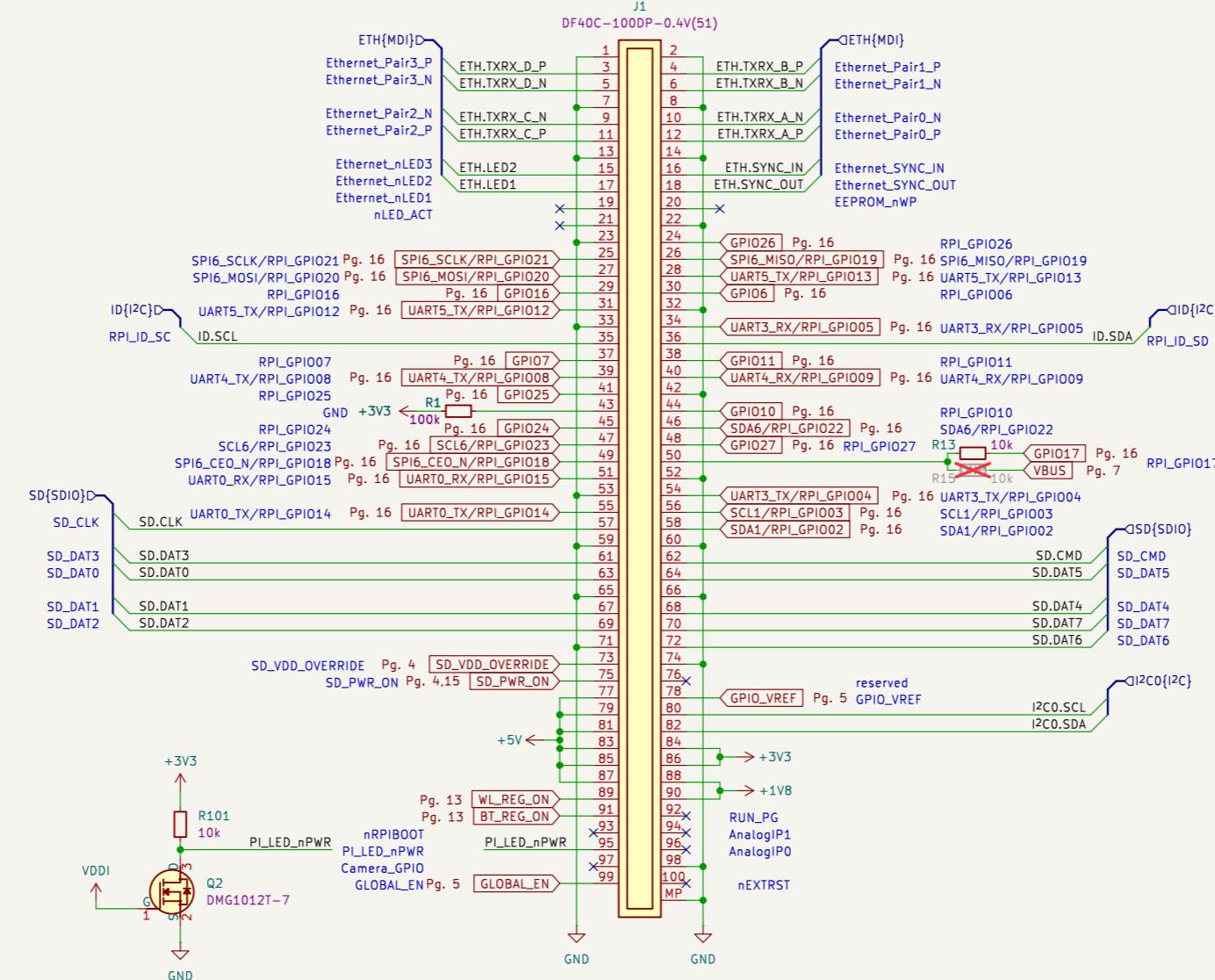
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Sheet: /Bottom Connector/
File: bottom-connector.kicad_sch

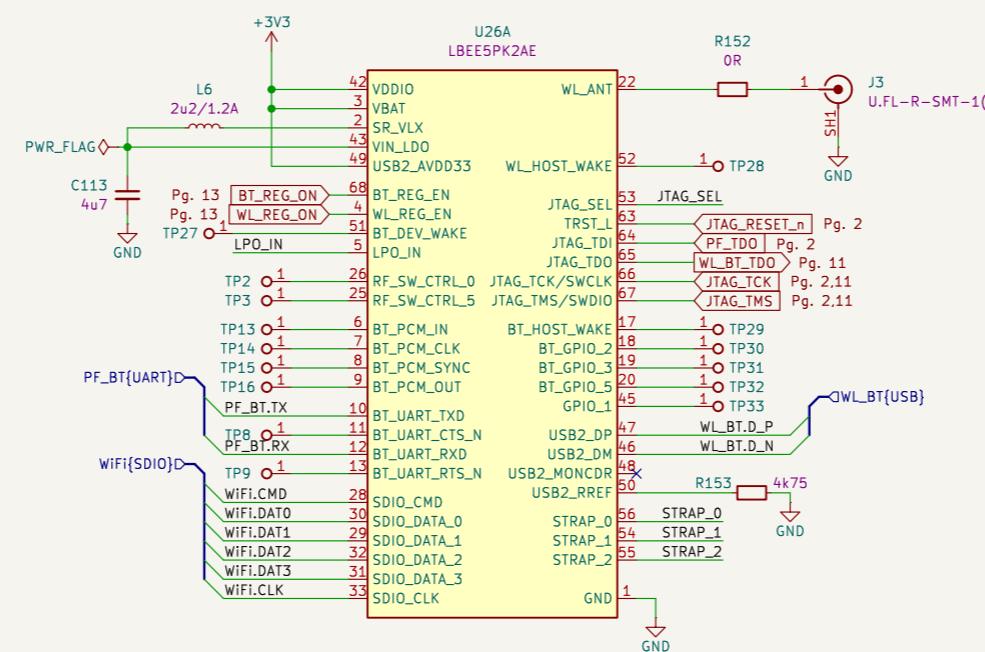
Title: PolarFire SoM

Size: A3 | Date: 2024-06-10
KiCad E.D.A. kicad-cl 7.0.11

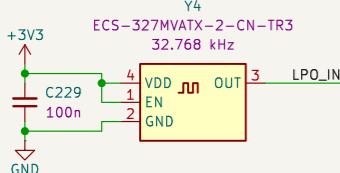
Rev: 1.1.0:b6903 | Id: 12/18



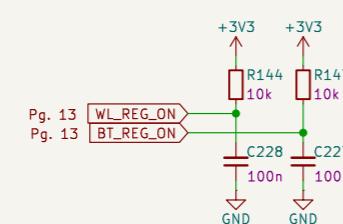
WiFi and Bluetooth Module



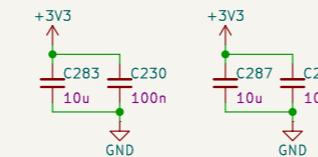
Sleep clock



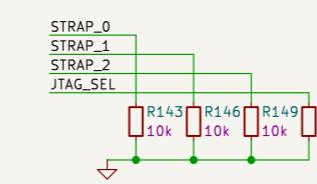
WL and BT Enable



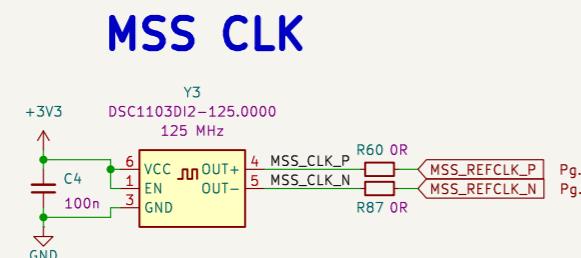
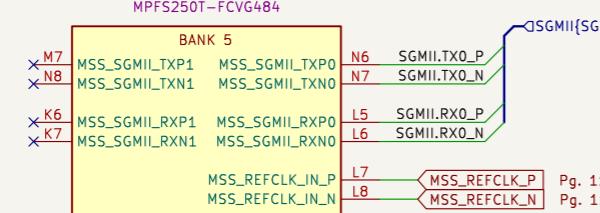
Decoupling



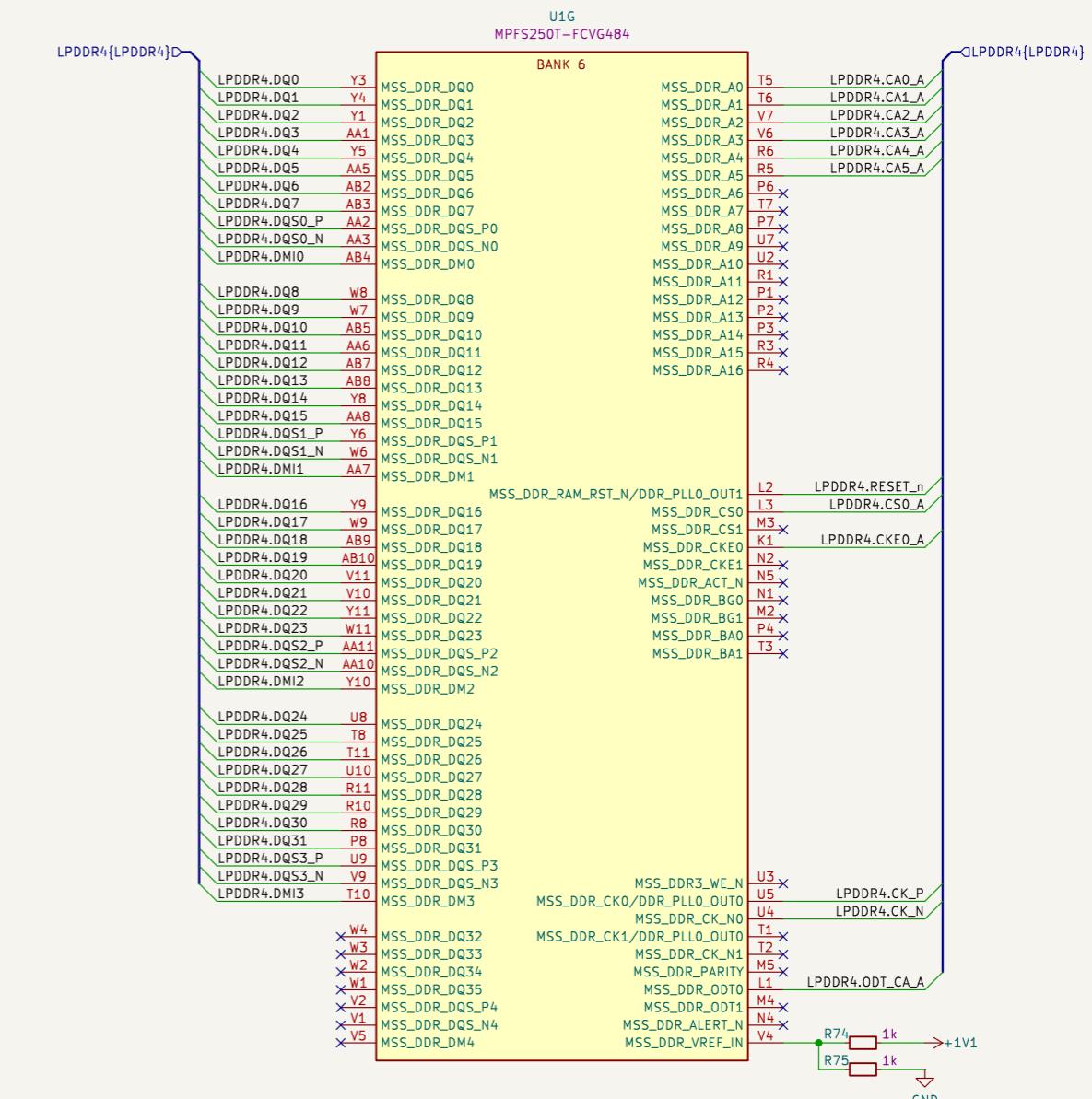
Config



PolarFire Bank 5 MSS_SGMII



PolarFire Bank 6 MSS_DDR



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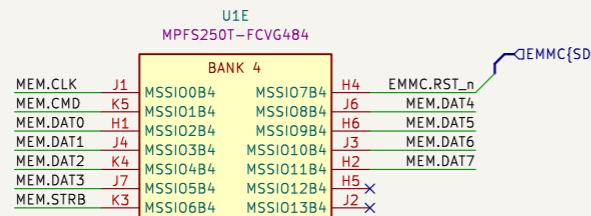
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Title: PolarFire SoM

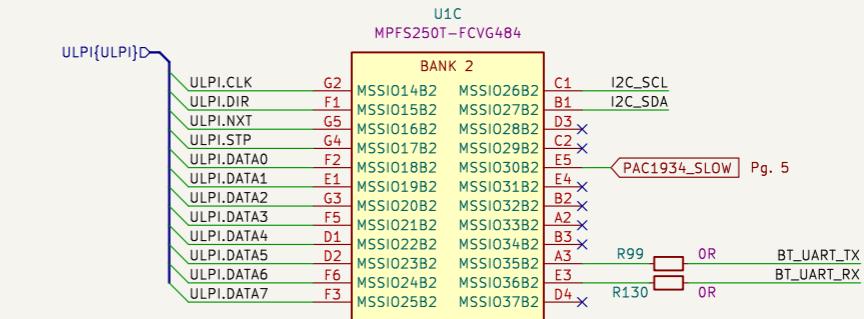
Size: A3 Date: 2024-06-10
KiCad E.D.A. kicad-cl 7.0.11

Rev: 1.1.0:b6903
Id: 14/18

PolarFire Bank 4 MSSIO

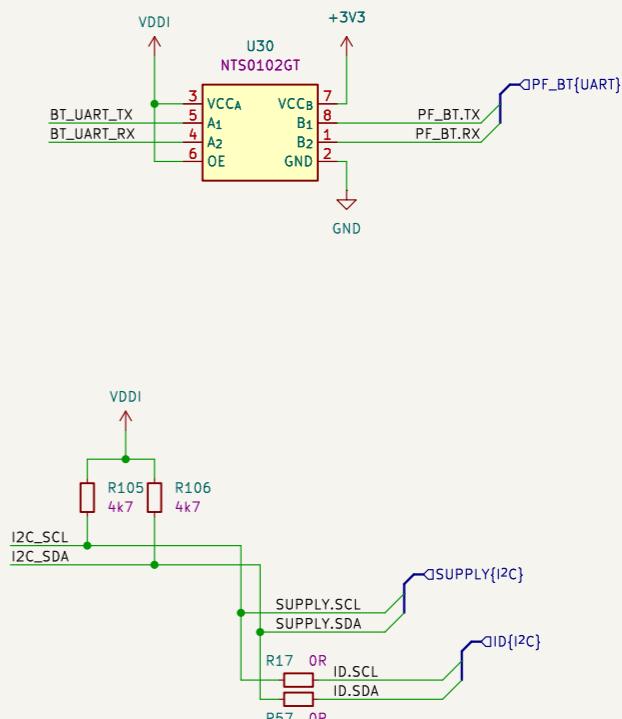
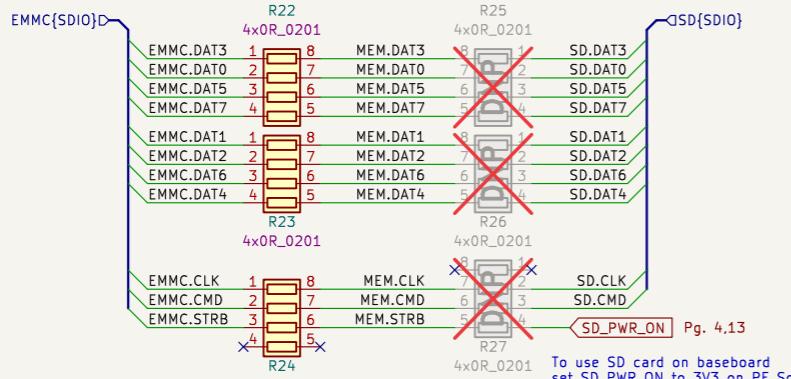


PolarFire Bank 2 MSSIO



Memory selection

eMMC SD card



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Sheet: /FPGA MSSIO/

File: fpga-mssio.kicad_sch

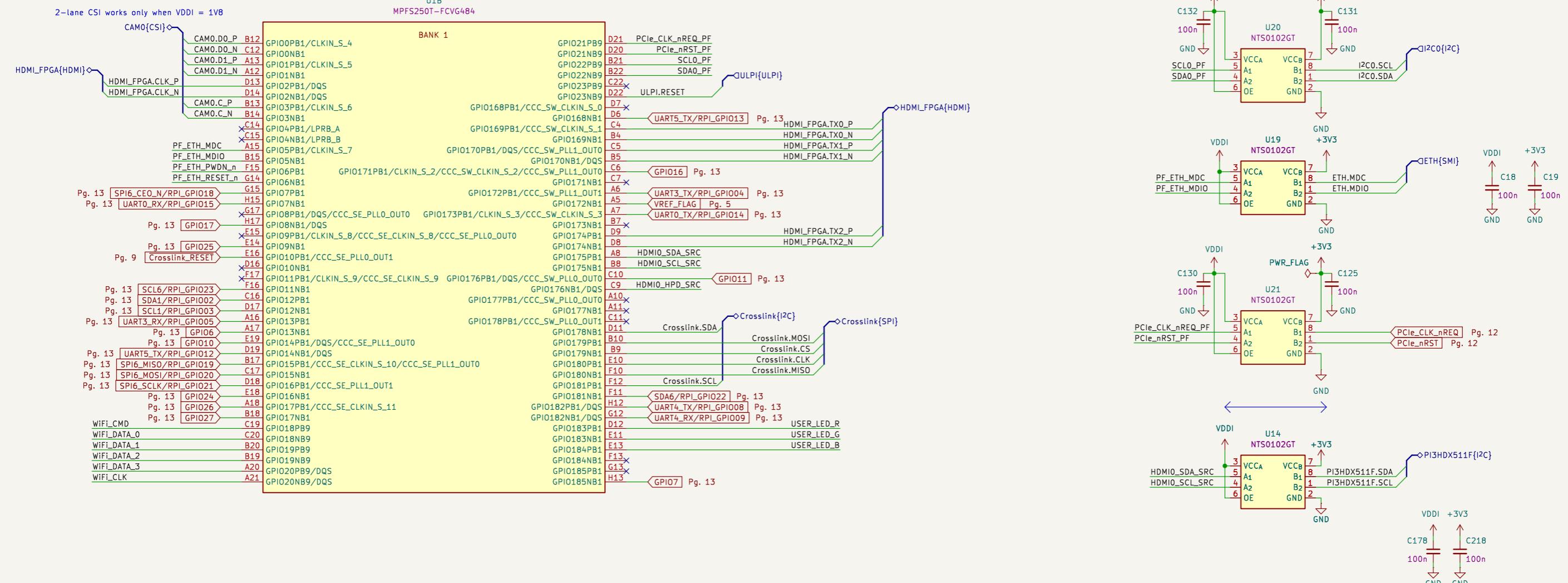
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Size: A3 Date: 2024-06-10
KiCad E.D.A. kicad-cli 7.0.11

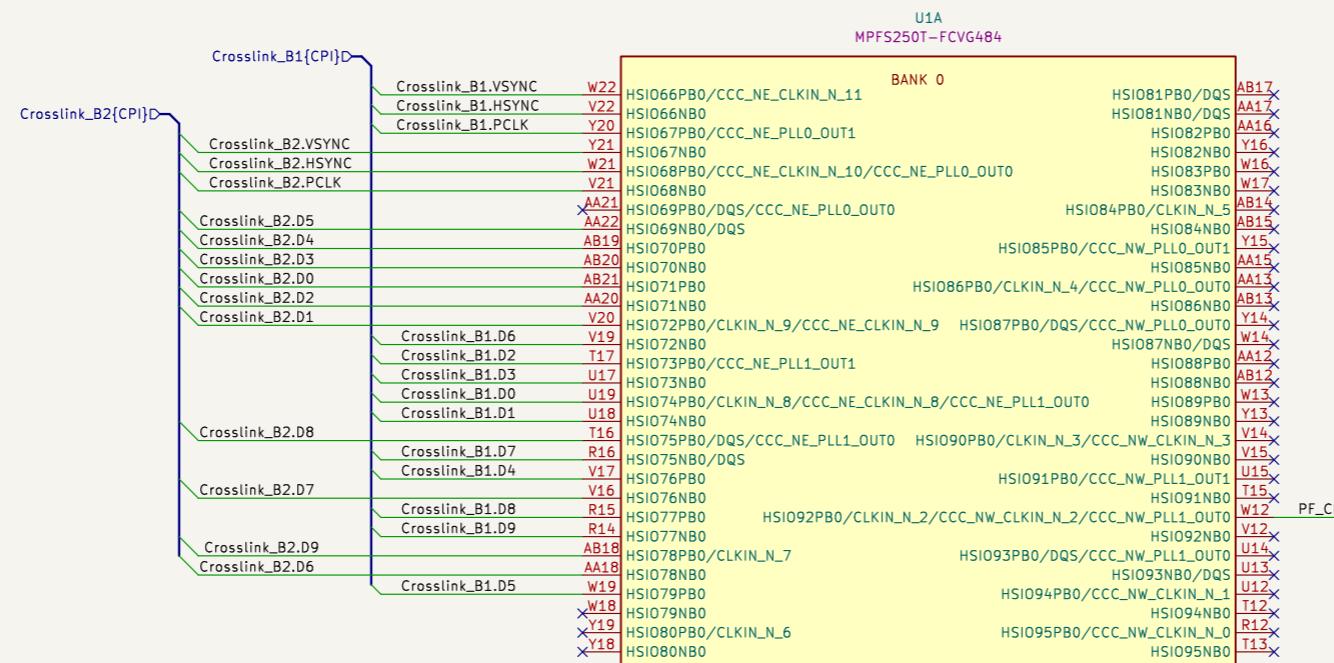
Rev: 1.1.0:b6903
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PolarFire Bank 1 GPIO

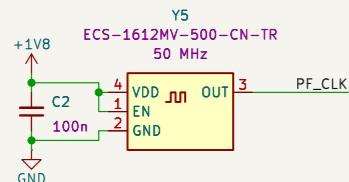
Logic shifters



PolarFire Bank 0 HSIO



PolarFire main clock



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Sheet: /FPGA HSIO/
File: fpga-hsio.kicad_sch

Title: PolarFire SoM

Size: A3 Date: 2024-06-10
KiCad E.D.A. kicad-cli 7.0.11

Rev: 1.1.0:b6903
Id: 17/18