



A



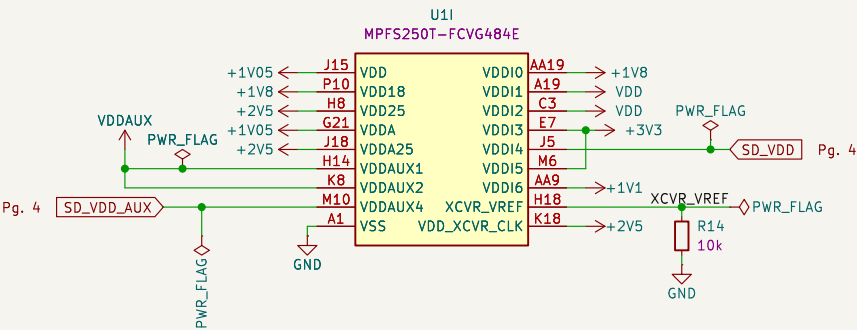
C



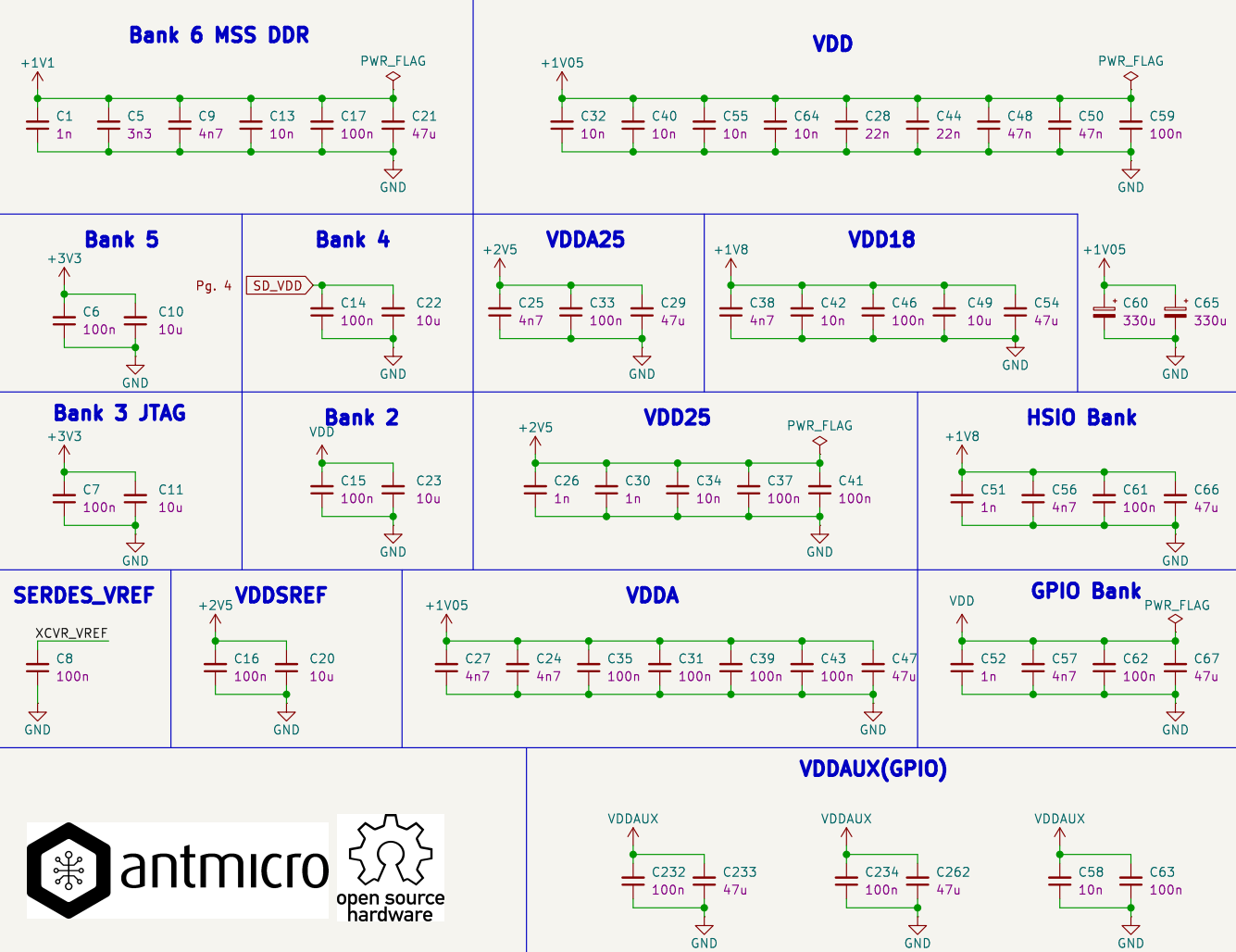
E



PolarFire power supply



Decoupling capacitors

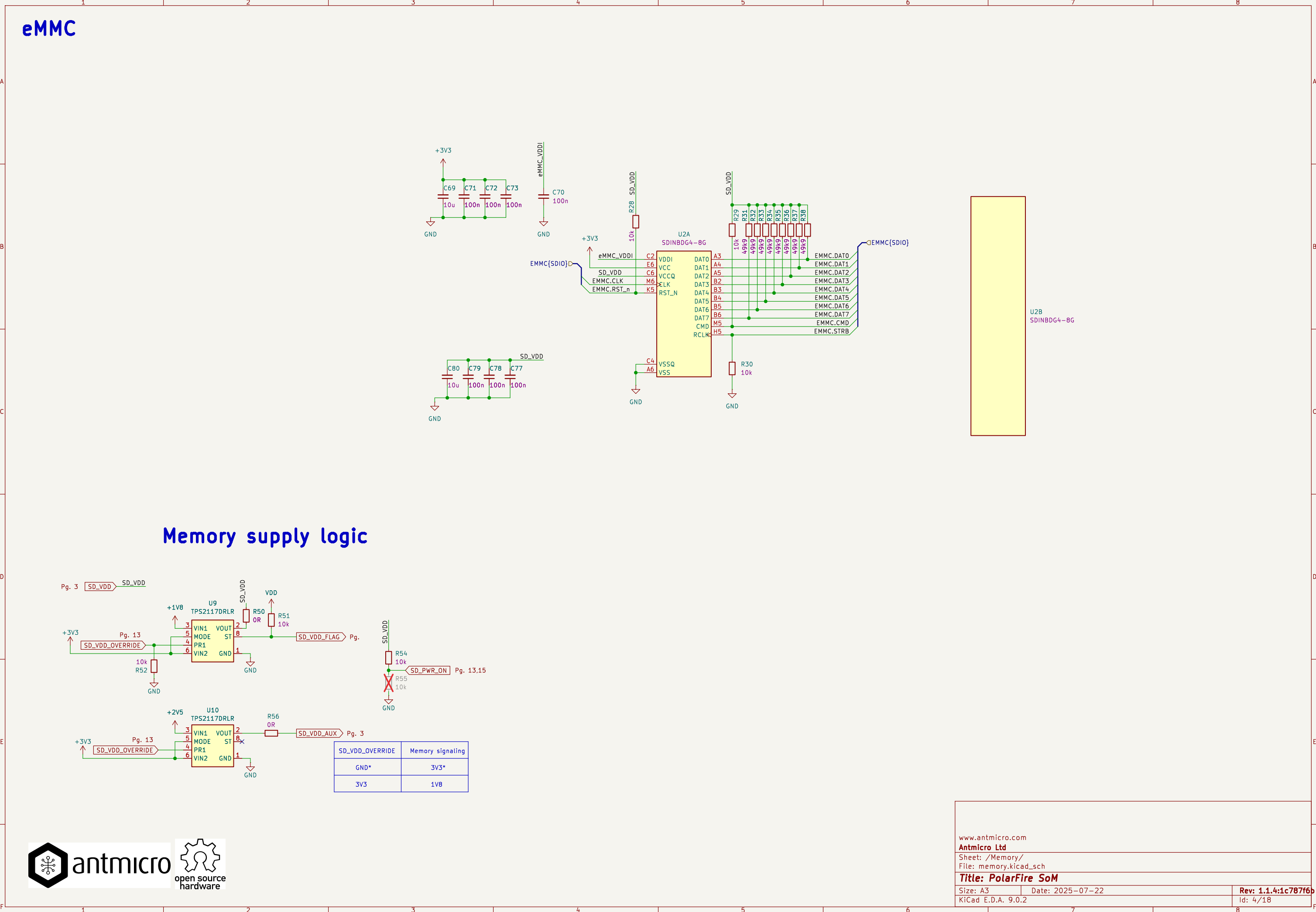


eMMC

Memory supply logic

SD_VDD_OVERRIDE	Memory signaling
GND*	3V3*
3V3	1V8

www.antmicro.com
Antmicro Ltd
 Sheet: /Memory/
 File: memory.kicad_sch
Title: PolarFire SoM
 Size: A3 Date: 2025-07-22 Rev: 1.1.4:1c787f6b
 KiCad E.D.A. 9.0.2 Id: 4/18

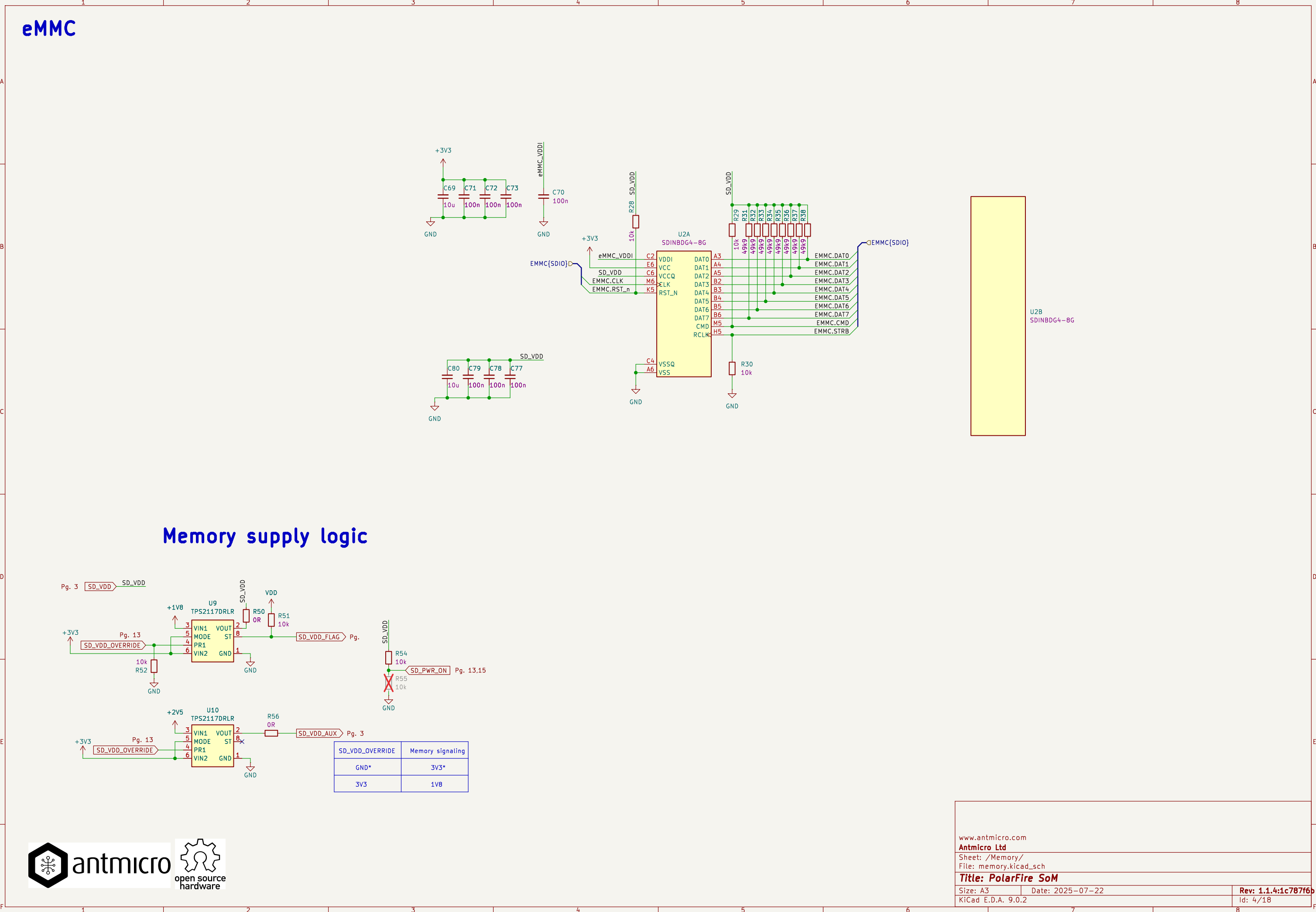


eMMC

Memory supply logic

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GND*	3V3*
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www.antmicro.com
Antmicro Ltd
 Sheet: /Memory/
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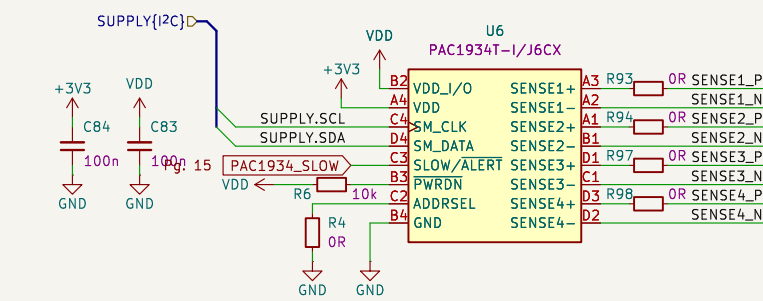
eMMC

Memory supply logic

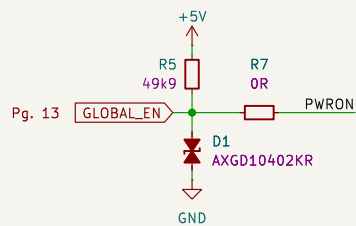
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www.antmicro.com
Antmicro Ltd
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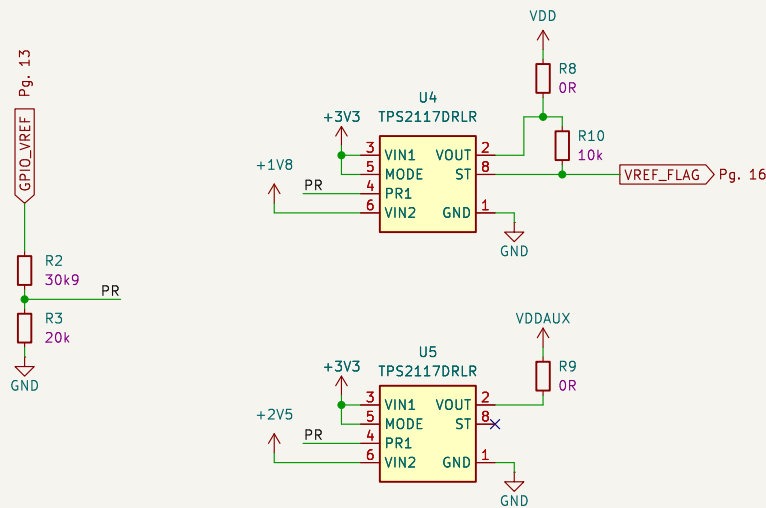
Power Monitor



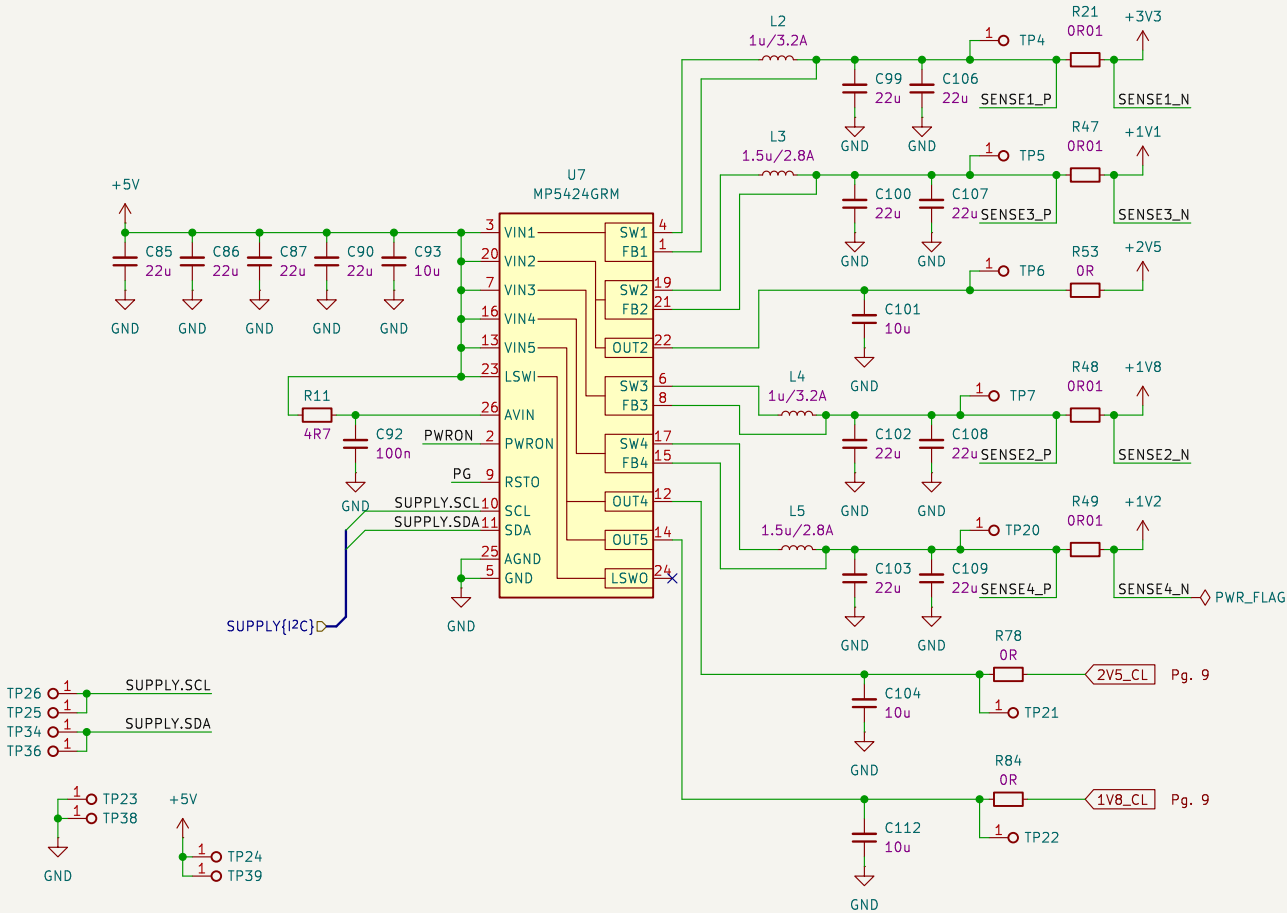
GLOBAL_EN



GPIO Power Mux

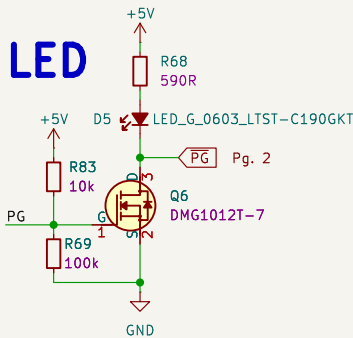


PMIC

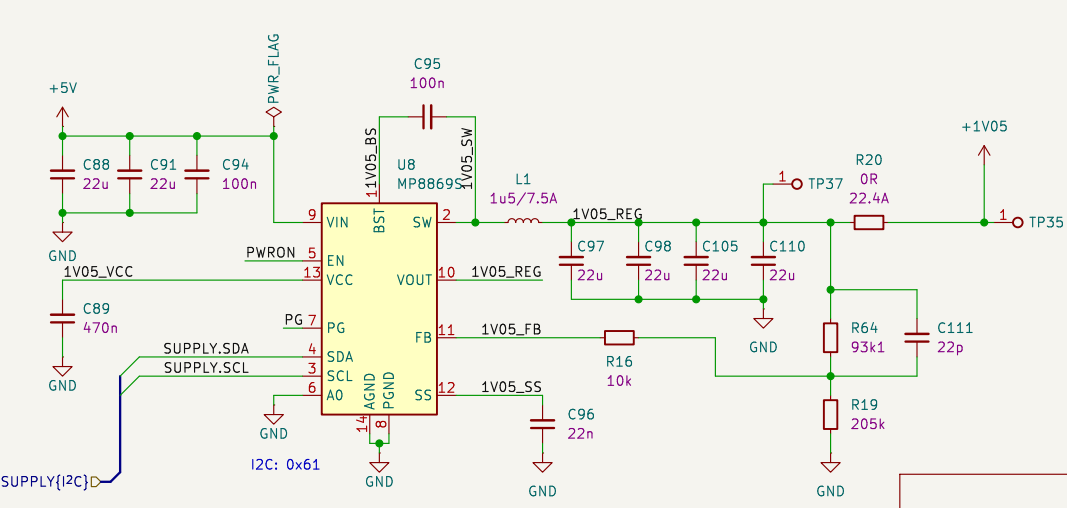


Soft start delay time slot												
	1	2	3	4	5	6	7	8	9	10	11	12
3V3			X									
1V1		X				X						
2V5				X								
1V8							X					
1V2								X				
2V5_CL					X				X			
VDDI_CL						X						
1V8_CL							X					

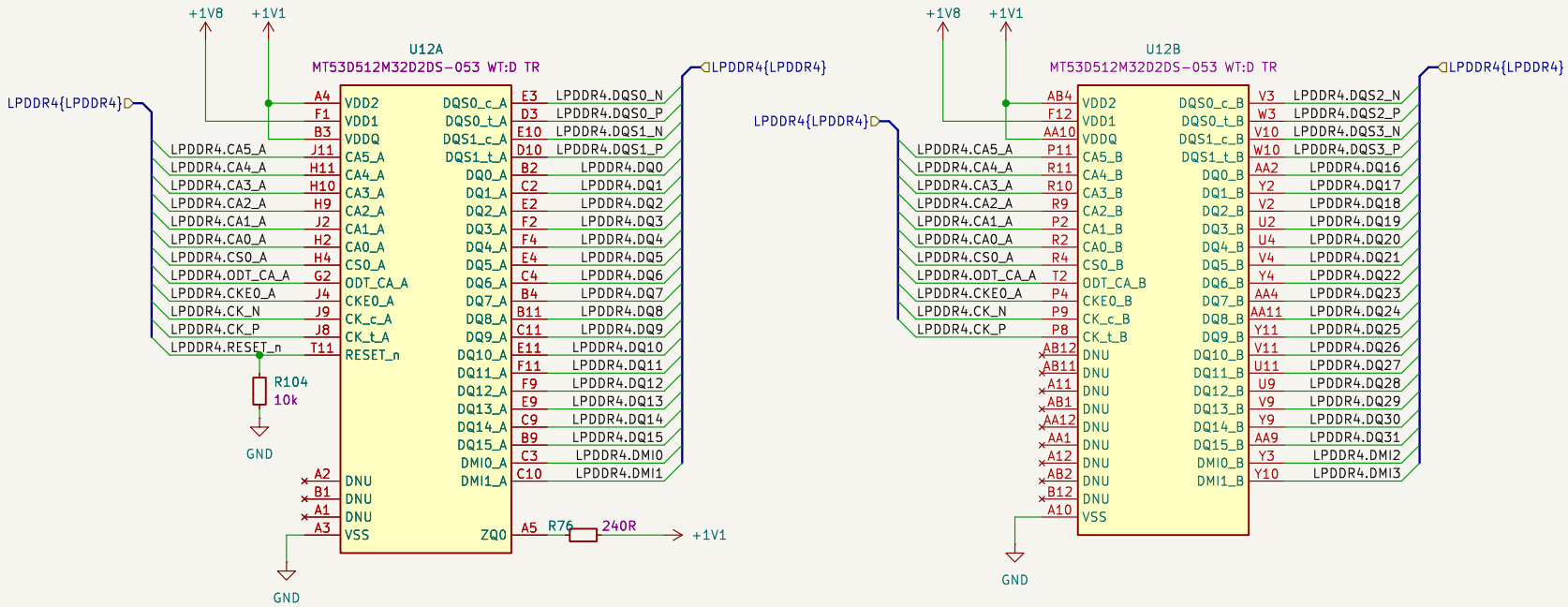
PG LED



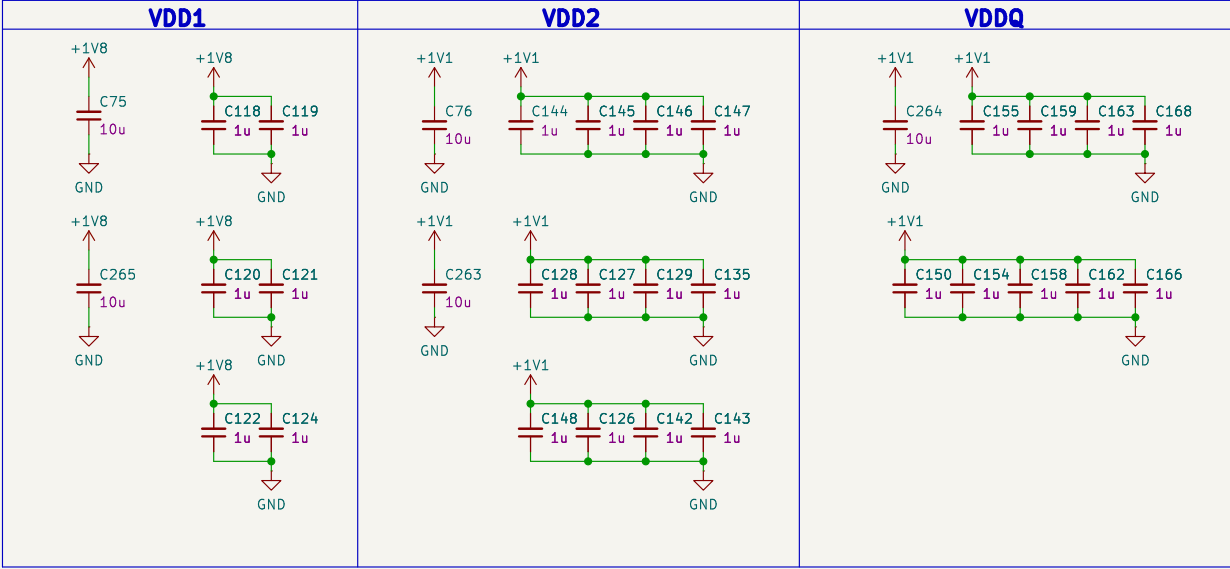
Core supply



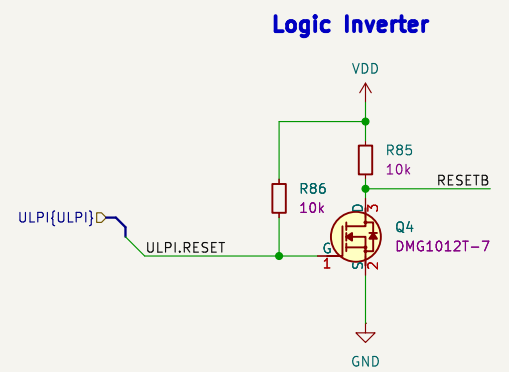
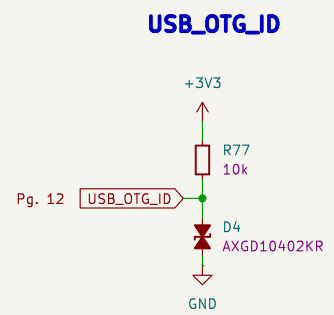
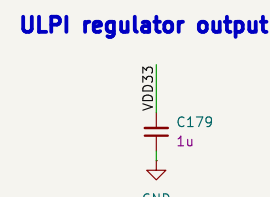
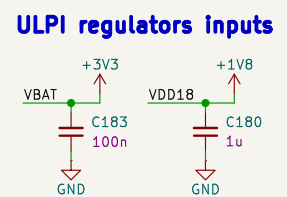
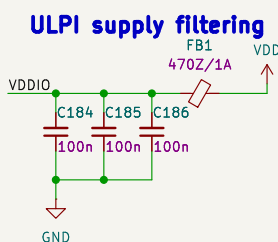
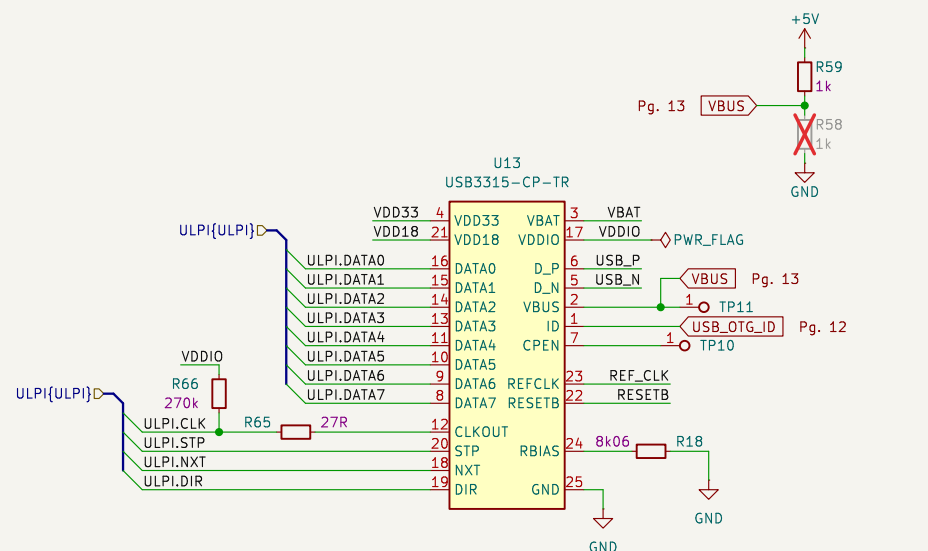
LPDDR4



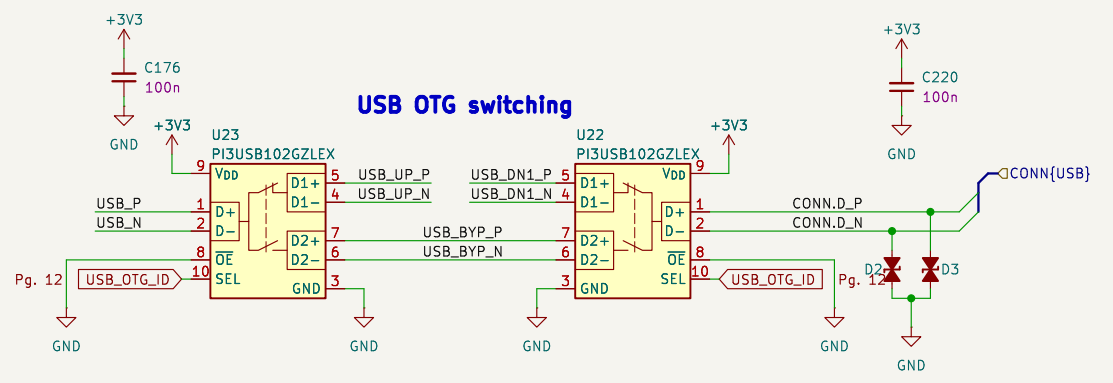
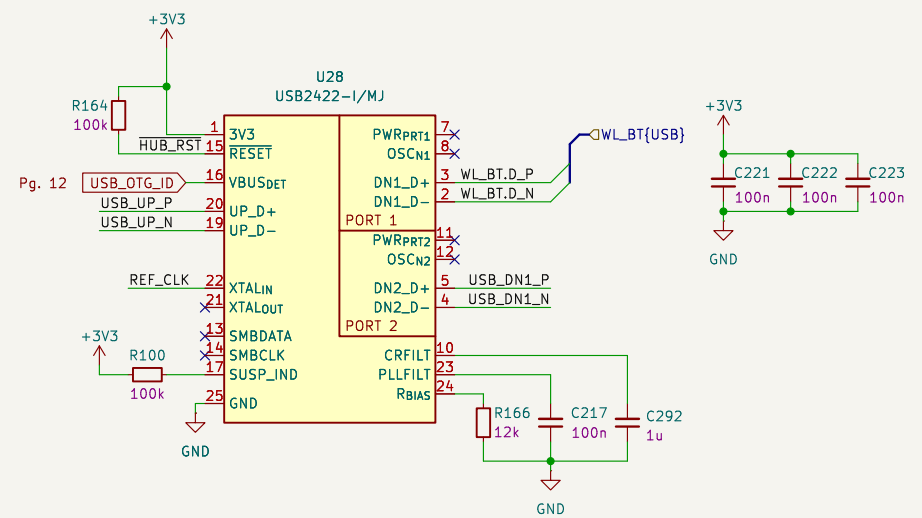
Decoupling capacitors



USB PHY



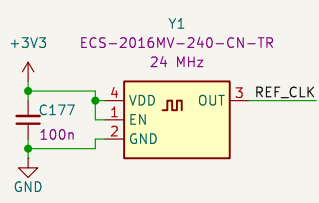
USB HUB



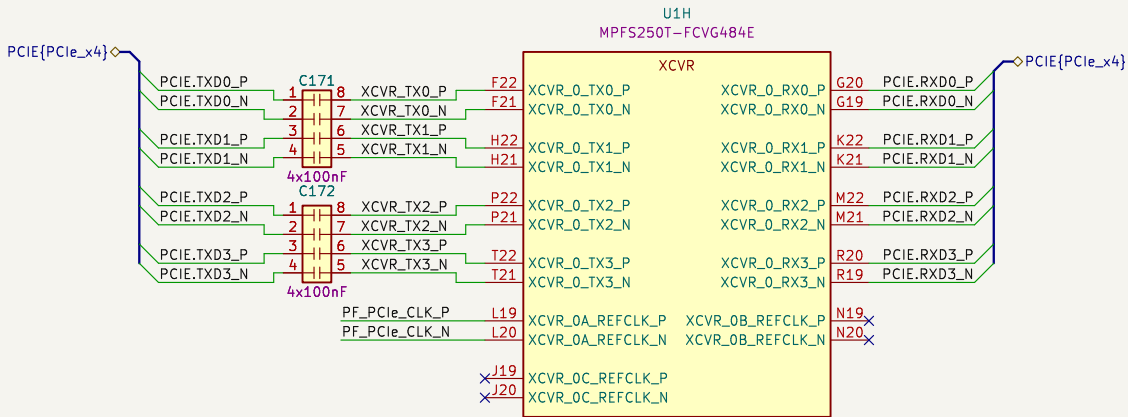
Truth table for PI3USB102G

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

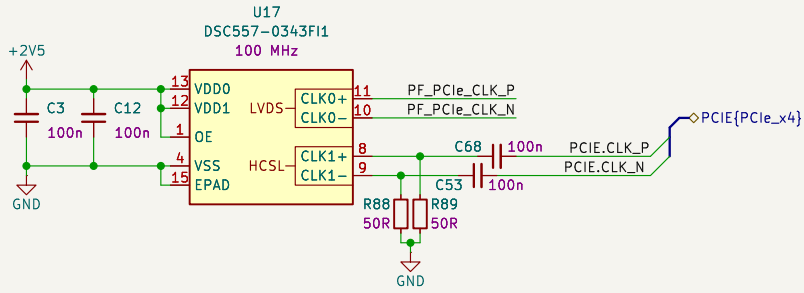
REF CLK



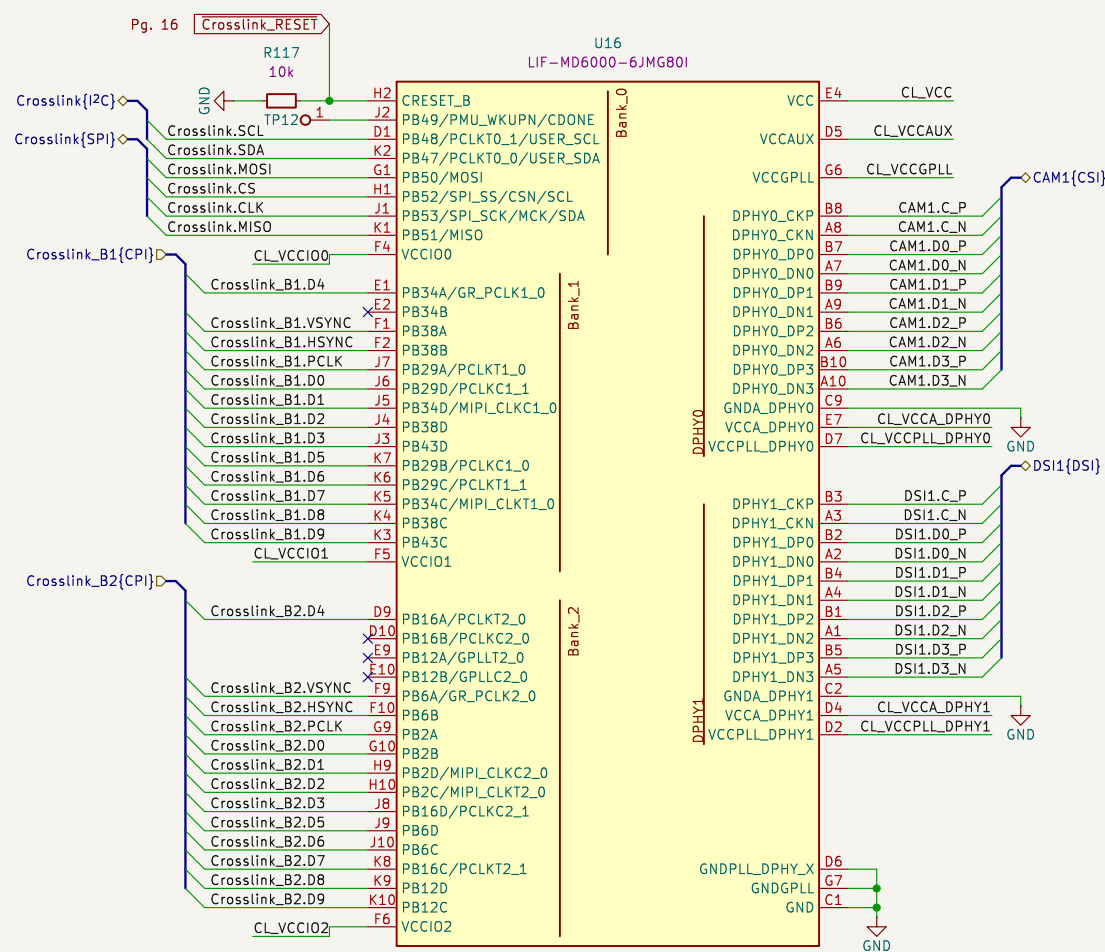
PolarFire XCVR



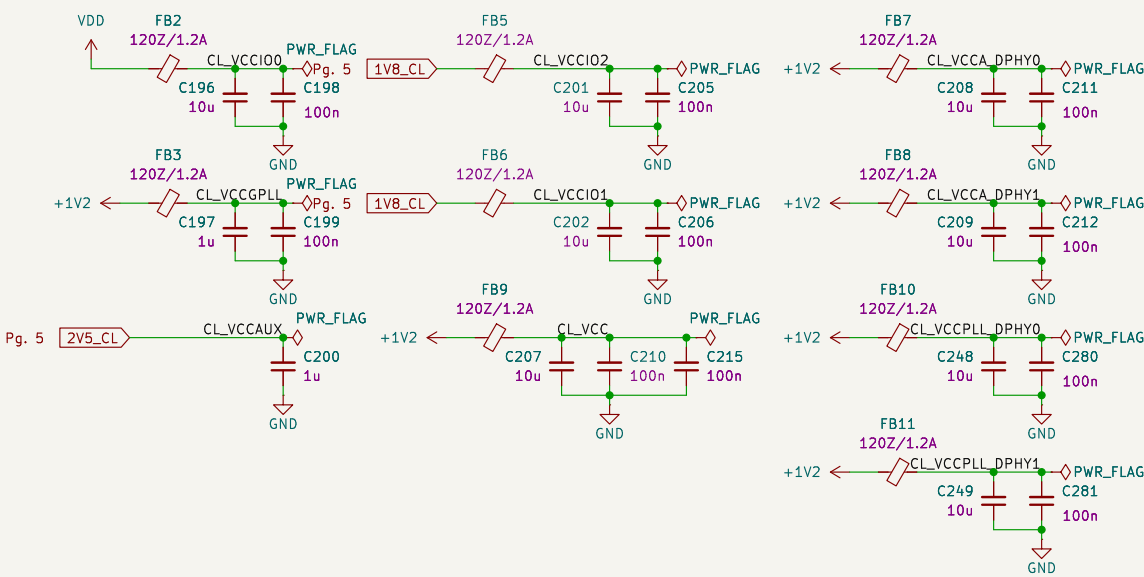
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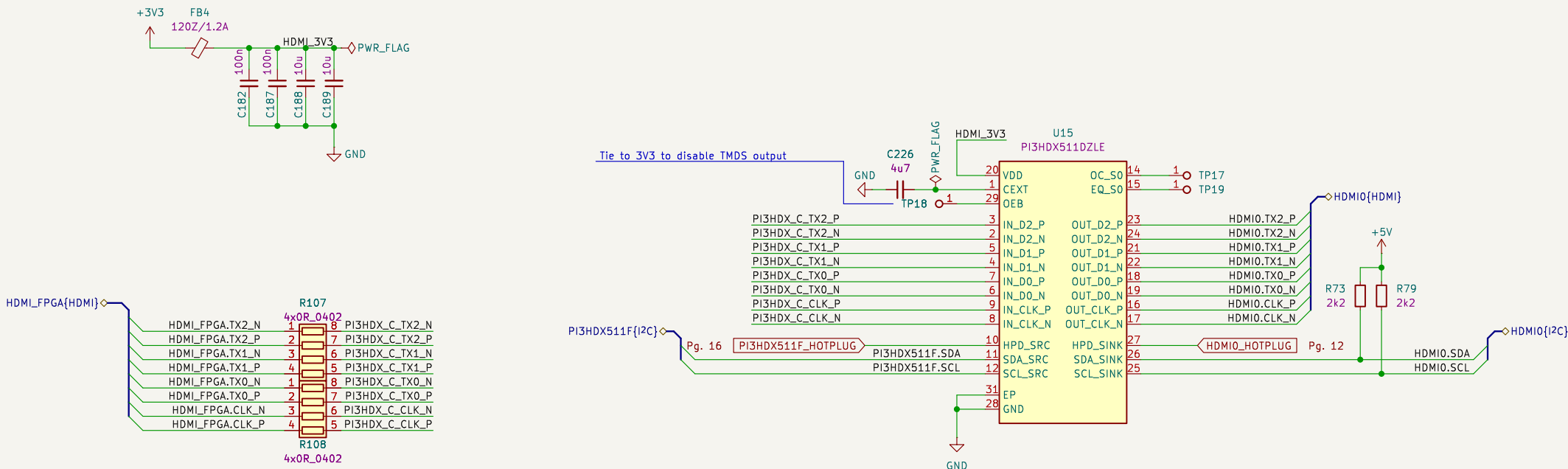
CrossLink



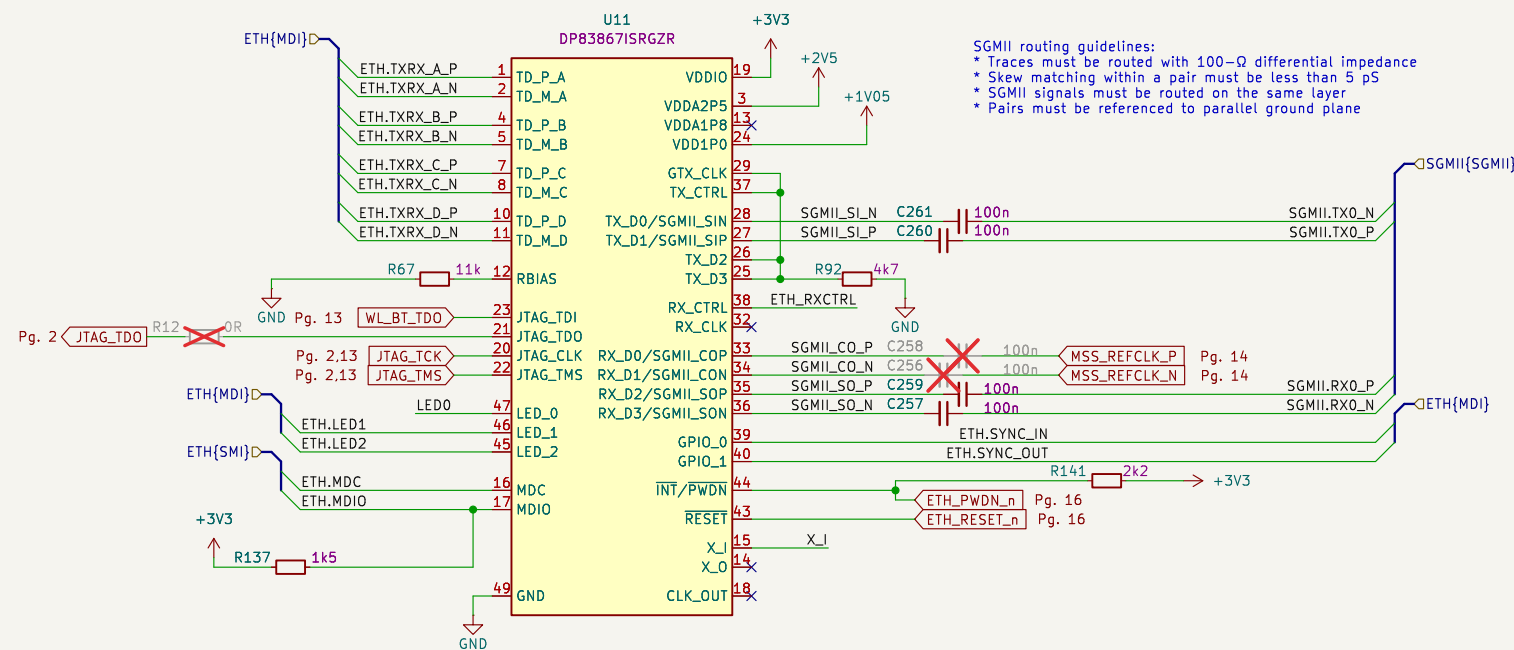
Power filtering



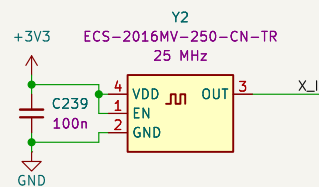
HDMI Driver



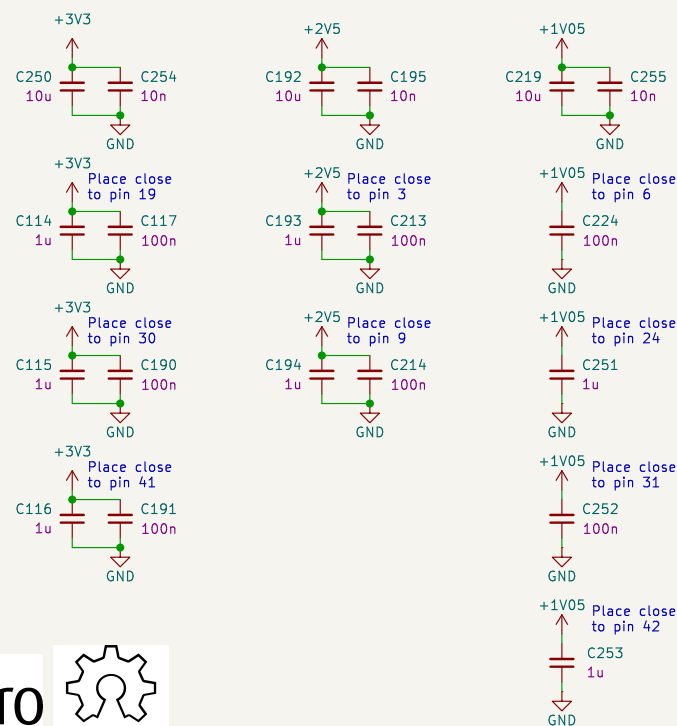
Gigabit Ethernet PHY transceiver with SGMII



REF CLK



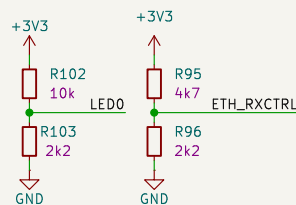
Decoupling

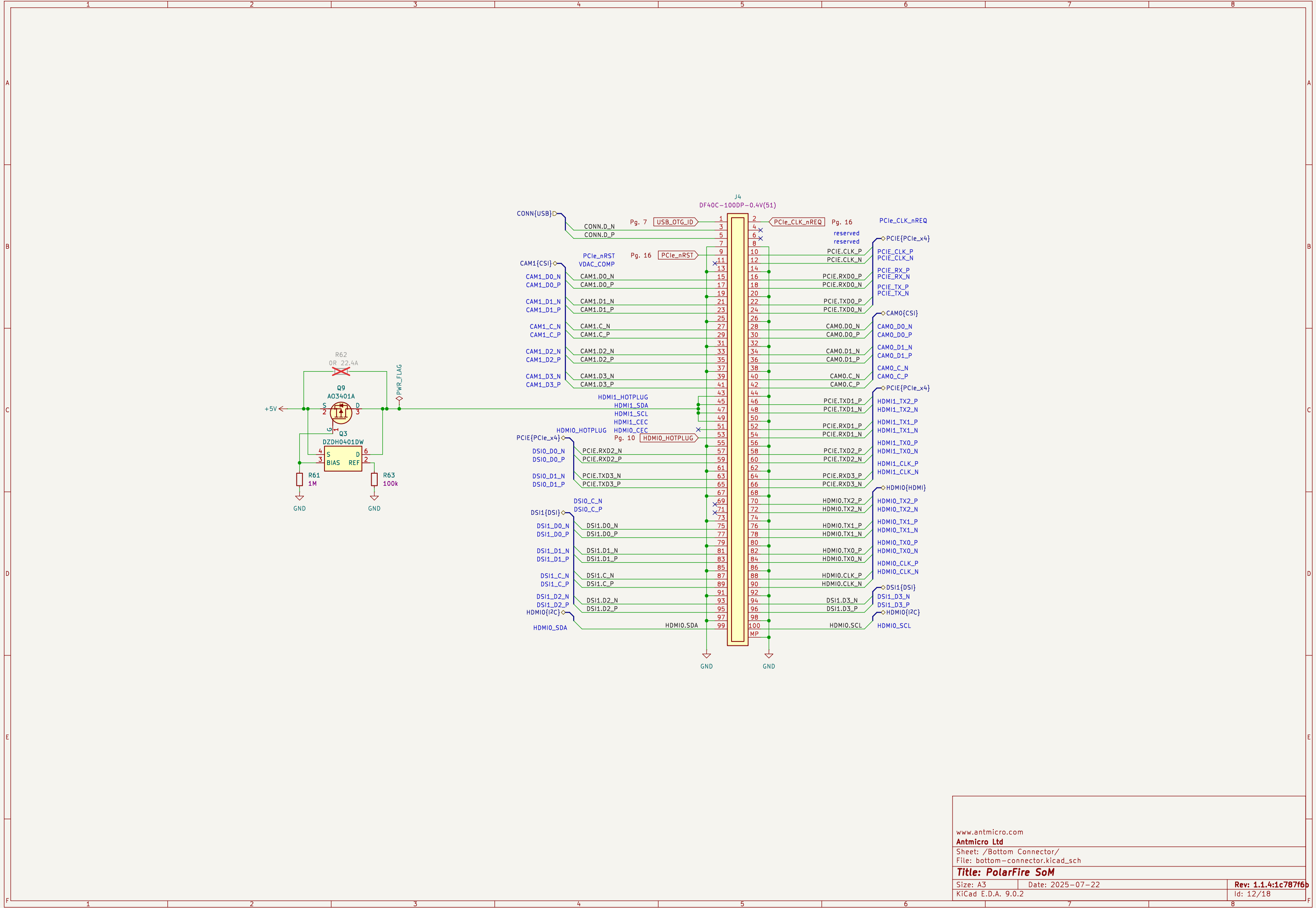


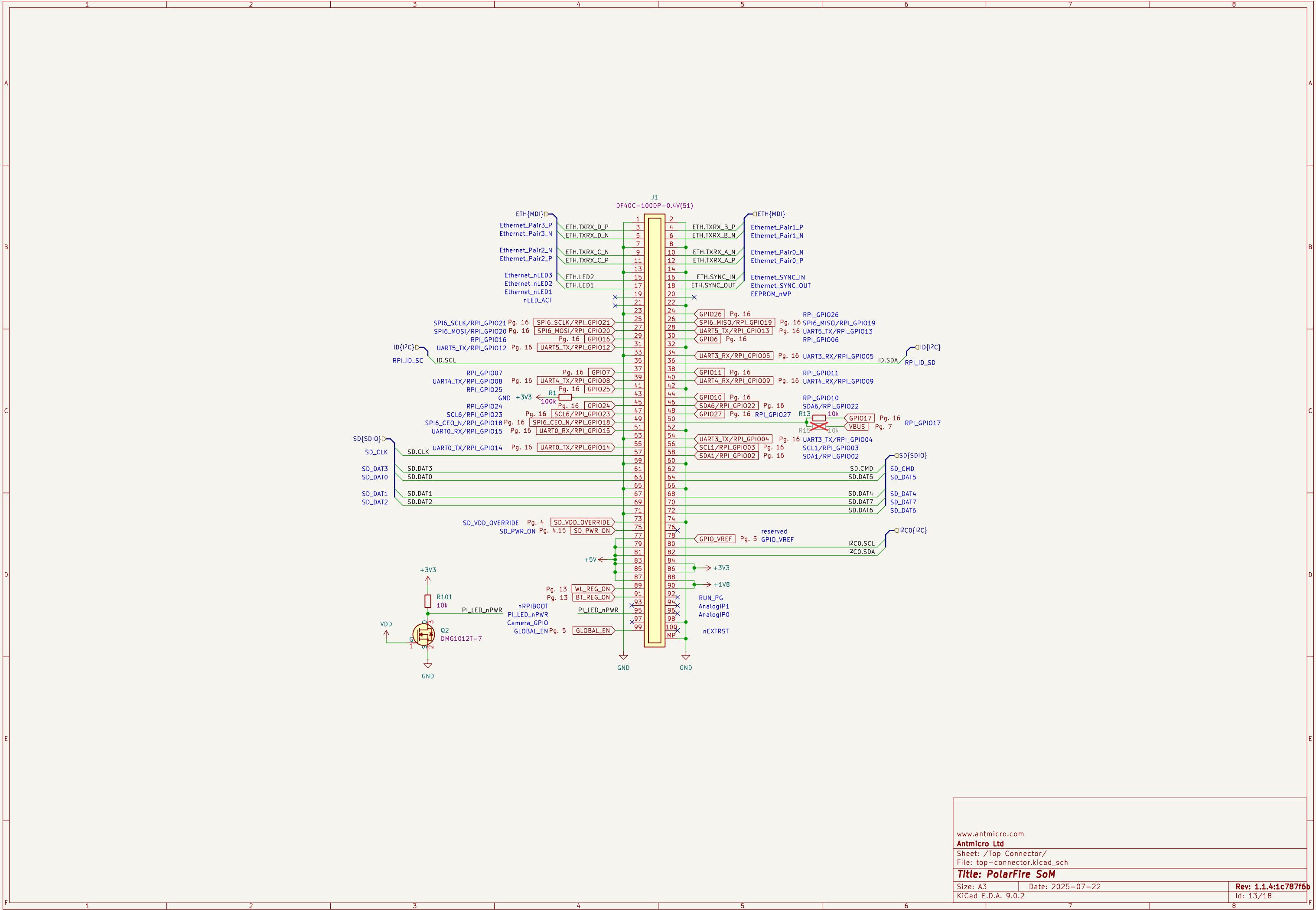
Strap resistors

Strap functions

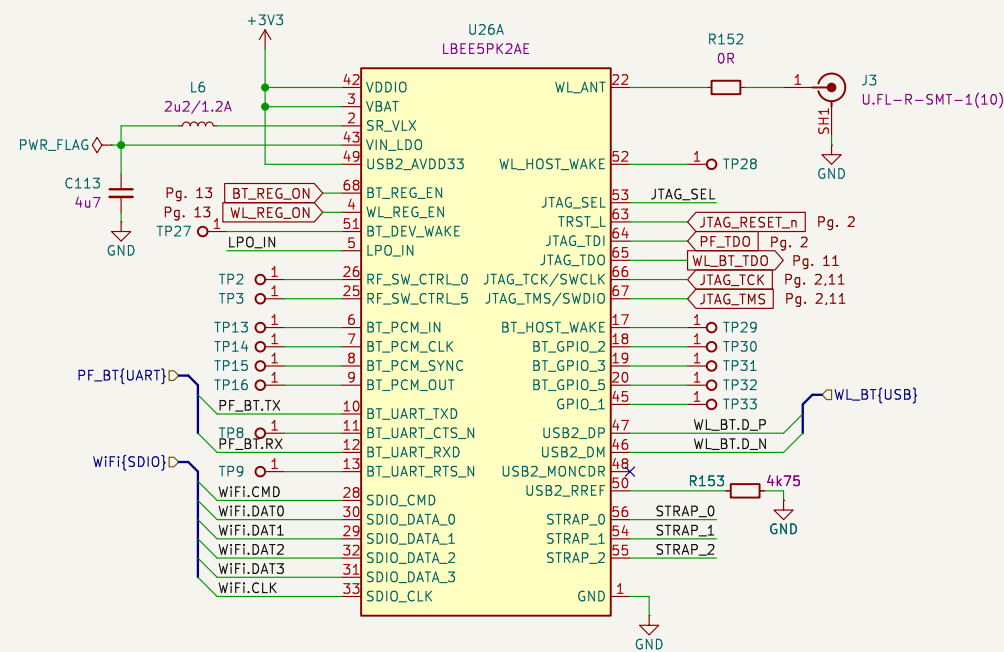
Pin name	Function	Value
RX_D0	PHY_ADD[1:0]	00
RX_D2	PHY_ADD[3:2]	00
RX_CTRL	- / Autoneg Disable	0-0
GPIO_0	RGMII Clock Skew RX[0]	0-0
GPIO_1	RGMII Clock Skew RX[2:1]	00
LED_2	RGMII Clock Skew TX[1:0]	00
LED_1	ANEG_SEL / RGMII Clock Skew TX[2]	00
LED_0	Mirror Enable / SGMII Enable	01



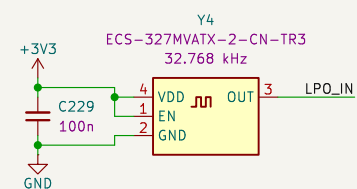




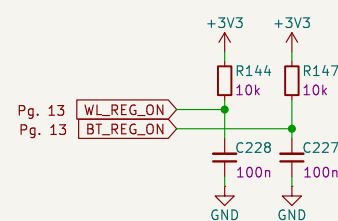
WiFi and Bluetooth Module



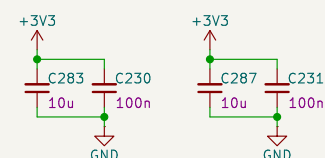
Sleep clock



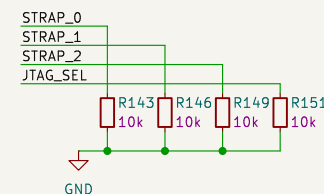
WL and BT Enable



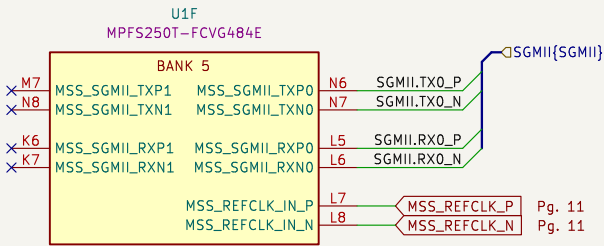
Decoupling



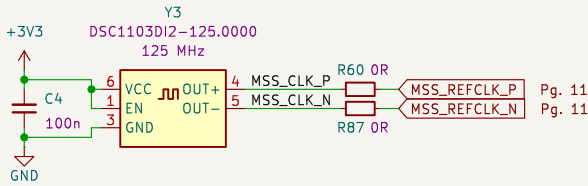
Config



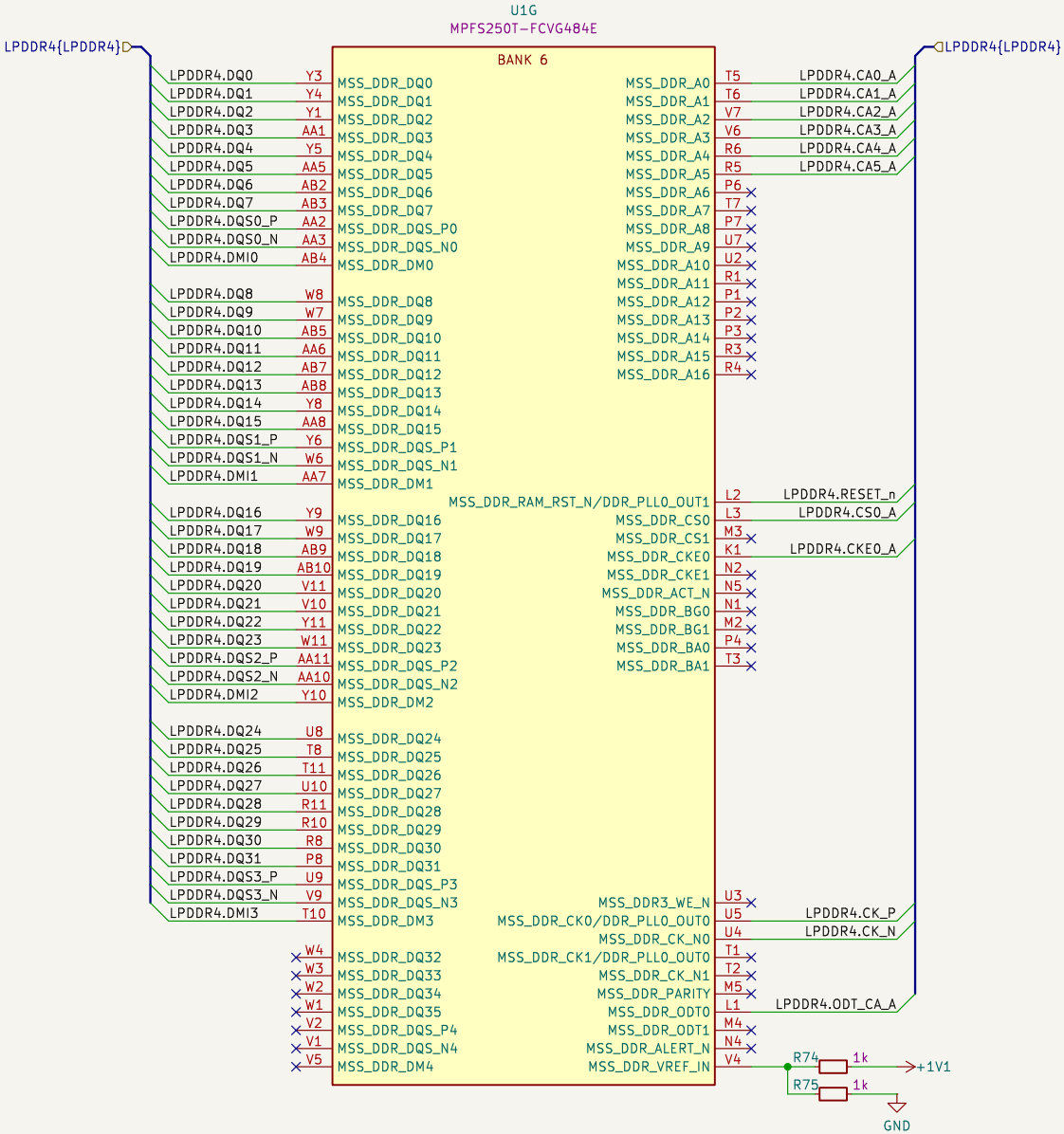
PolarFire Bank 5
MSS_SGMII



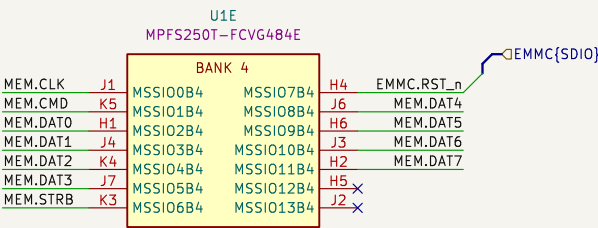
MSS CLK



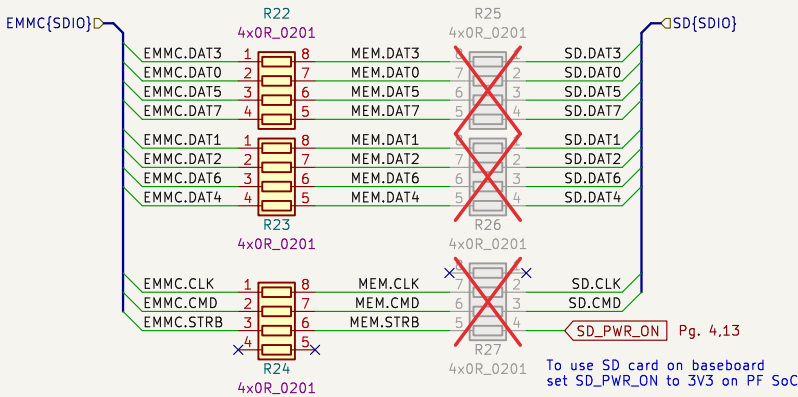
PolarFire Bank 6
MSS_DDR



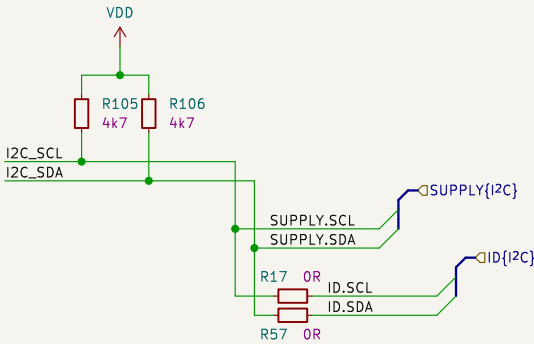
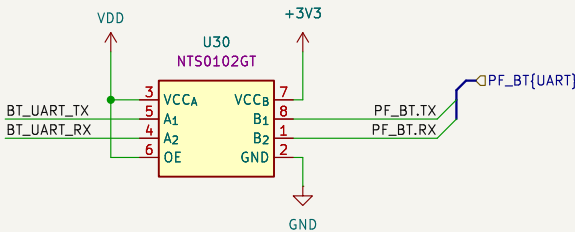
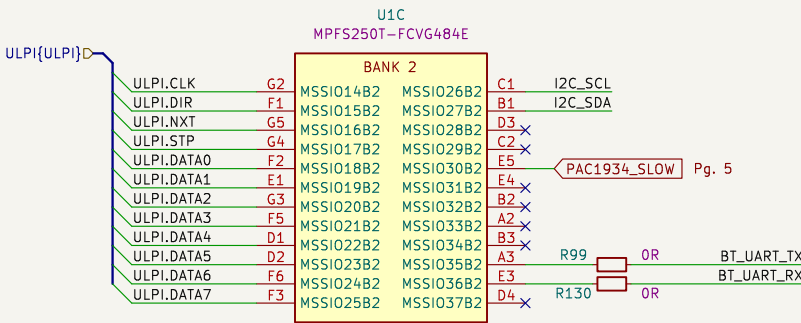
PolarFire Bank 4
MSSIO



Memory selection
eMMC SD card

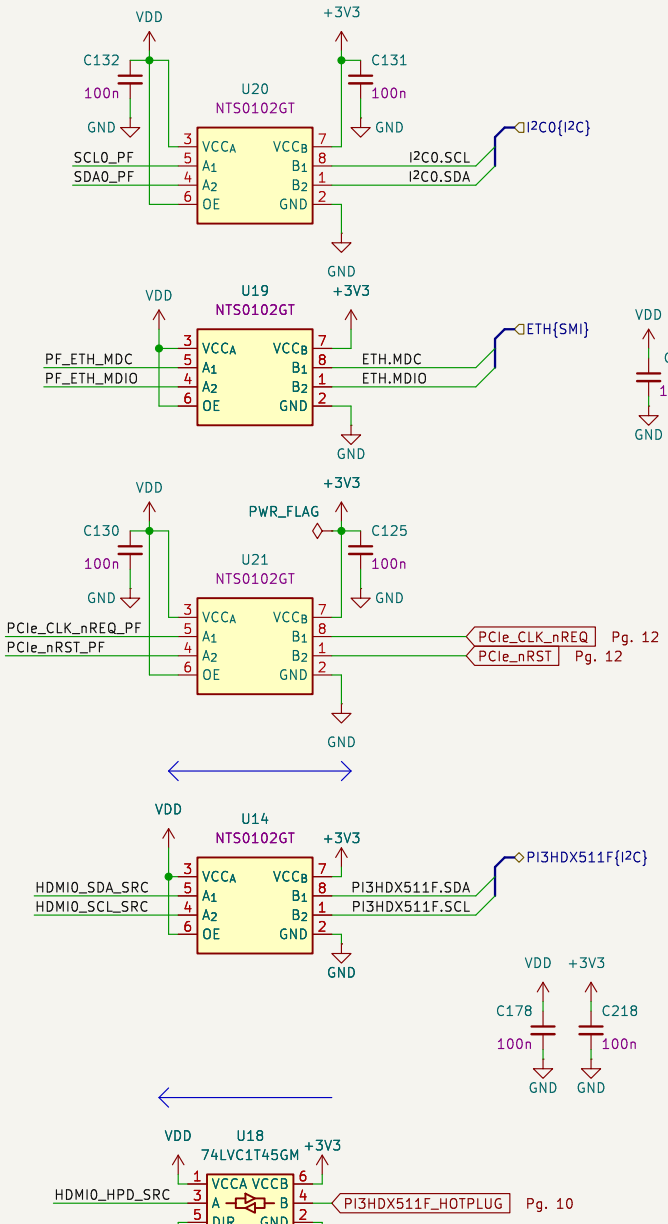
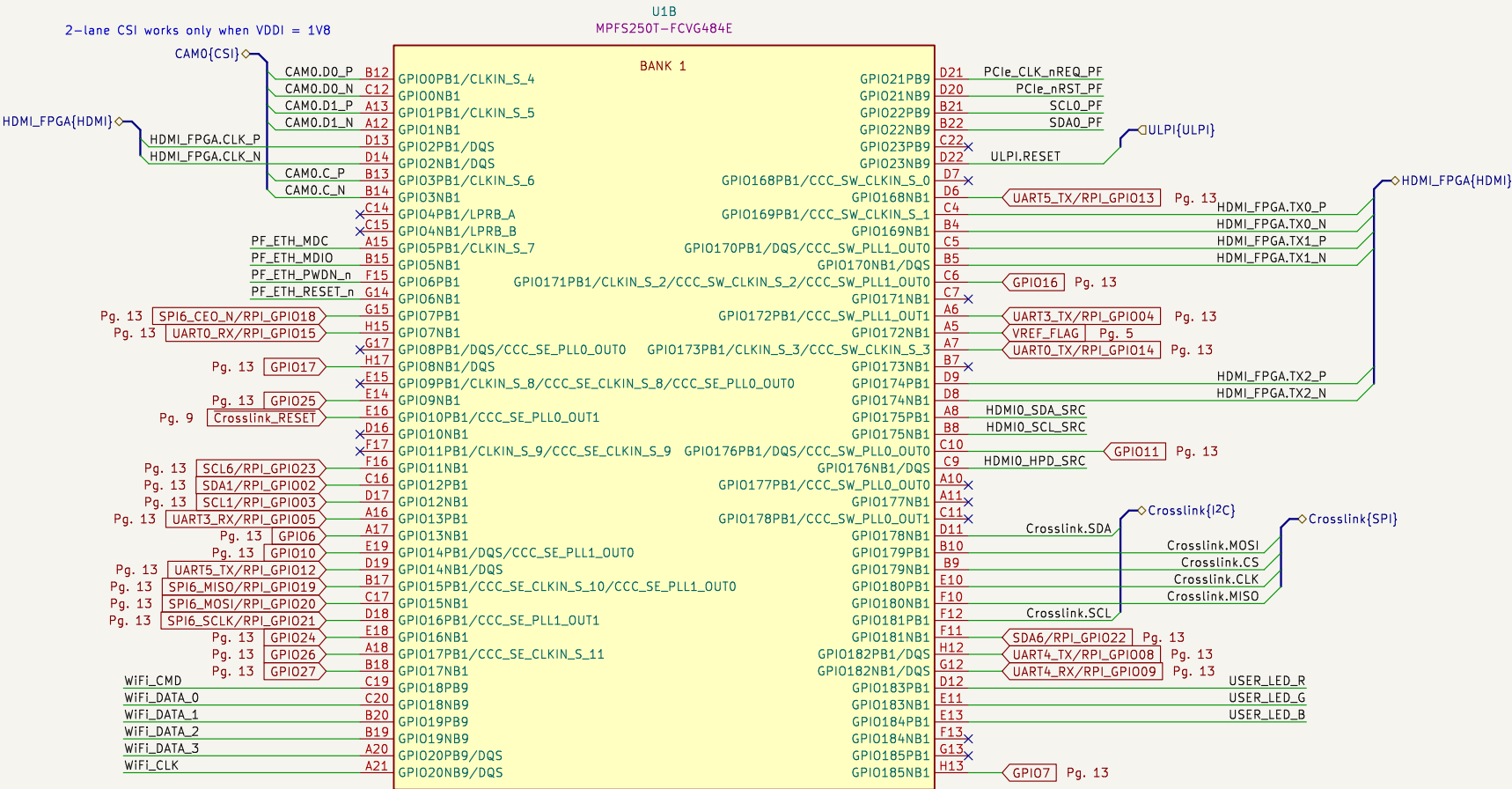


PolarFire Bank 2
MSSIO

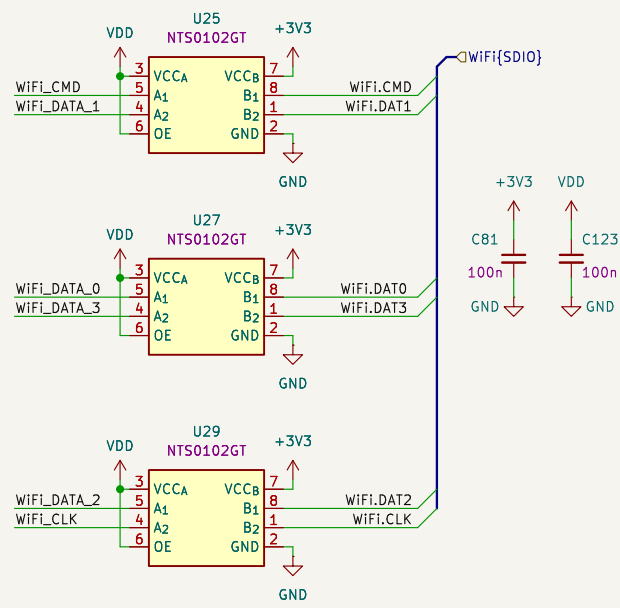
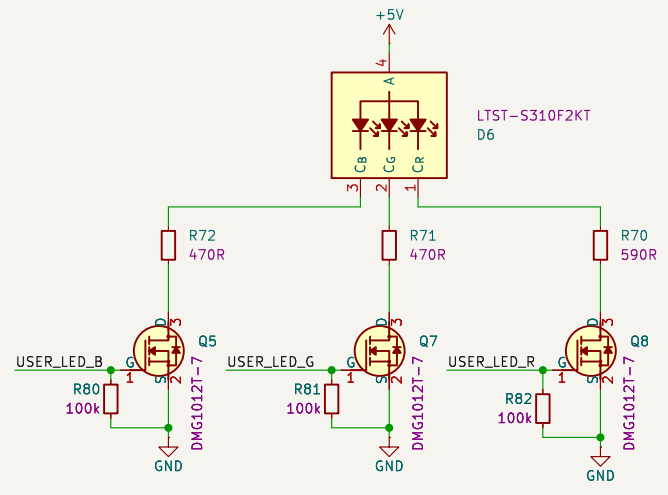


PolarFire Bank 1
GPIO

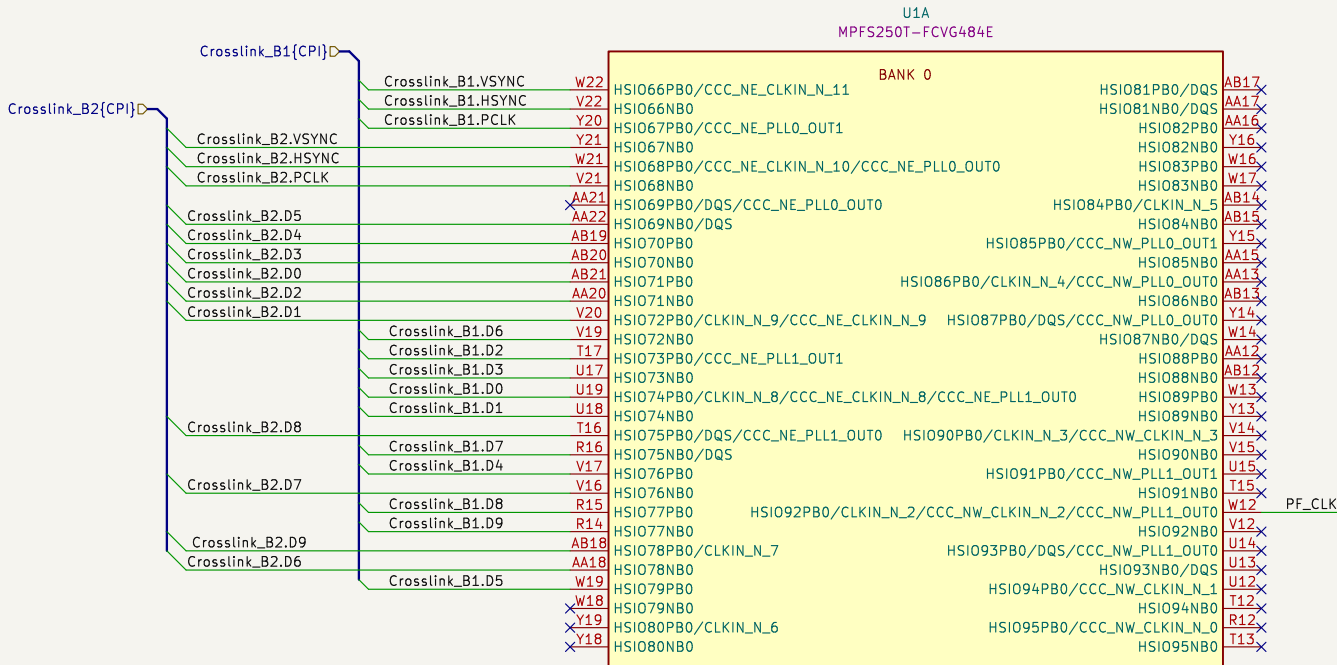
Logic shifters



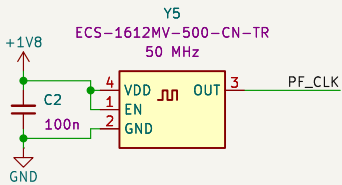
USER LED



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: 2025-07-22

Rev: 1.1.4:1c787f6b

KiCad E.D.A. 9.0.2

Id: 17/18