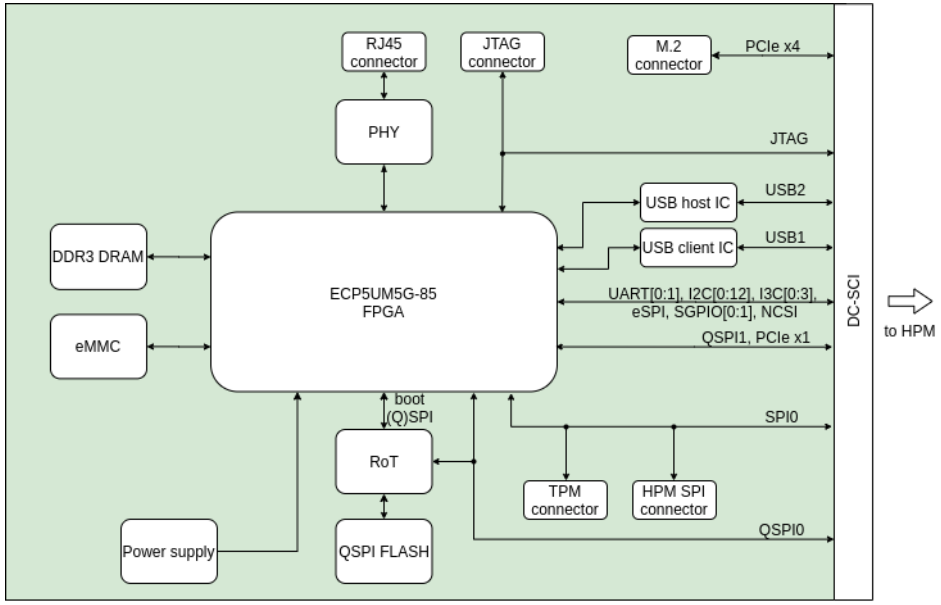
ECP5– Datacenter Secure Control Module (DC–SCM)



Ethernet

File: ethernet.sch

PCIe–connector

File: pcie–conn.sch

RoT

File: rot.sch

Edge connector

File: edge–connector.sch

Interfaces

File: interfaces.sch

DDR3

File: ddr3.sch

Power supply

File: power–supply.sch

FPGA power supply

File: fpga–power–supply.sch

FPGA banks

File: fpga–banks.sch

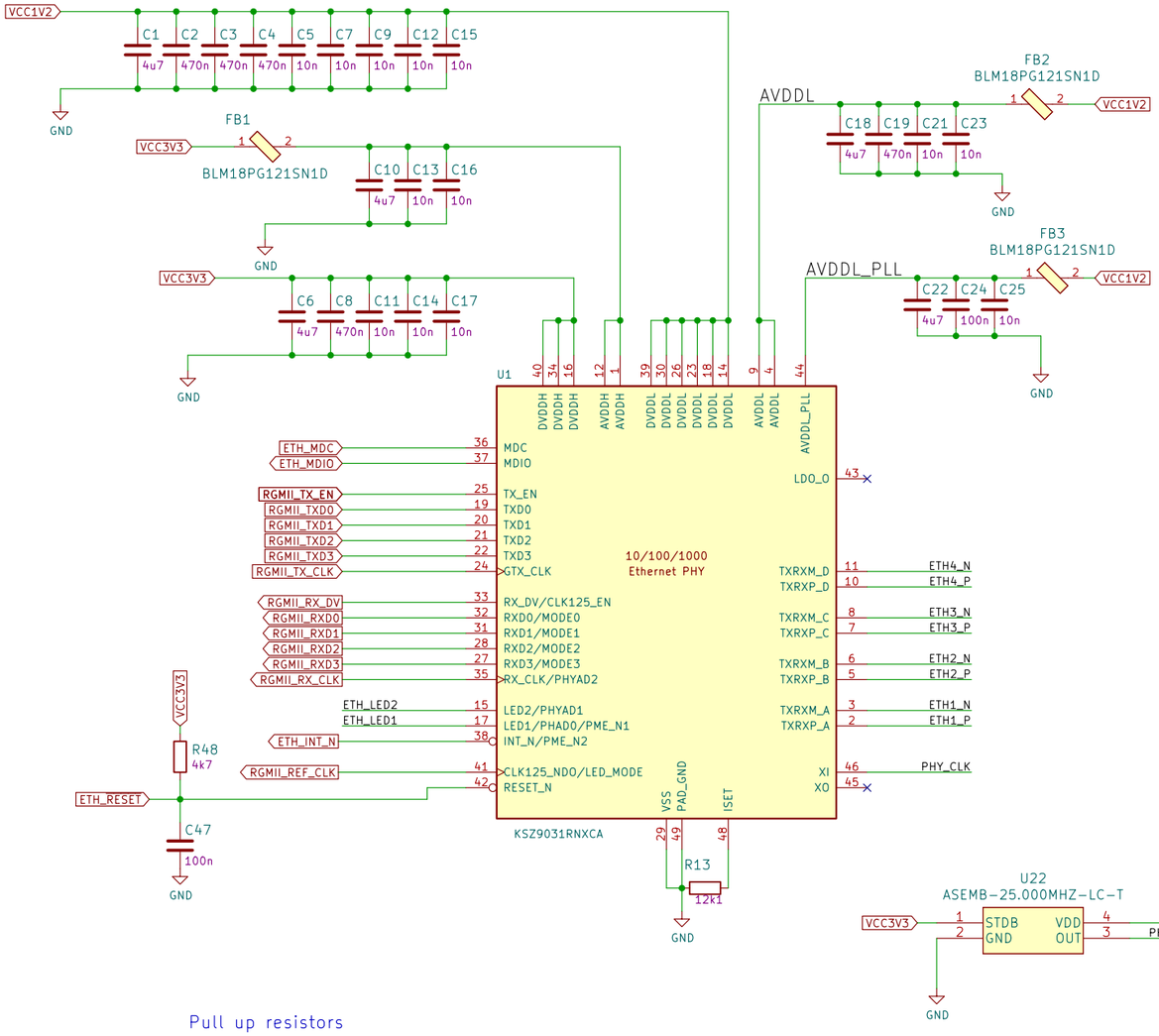
Logo N2 oshw_logo

Logo N1 antmicro_logo

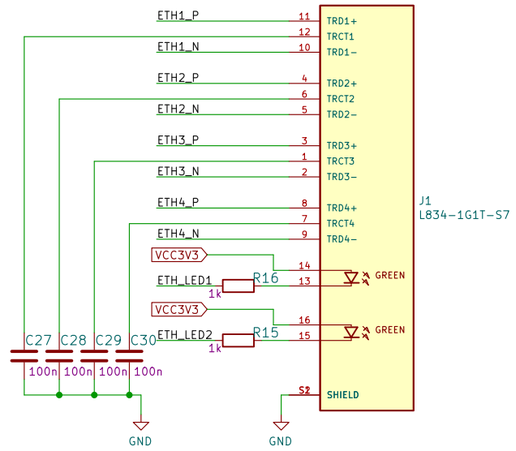
Sheet: /
File: ecp5–dc–scm.sch

Title: ECP5 – Datacenter Secure Control Module (DC–SCM)

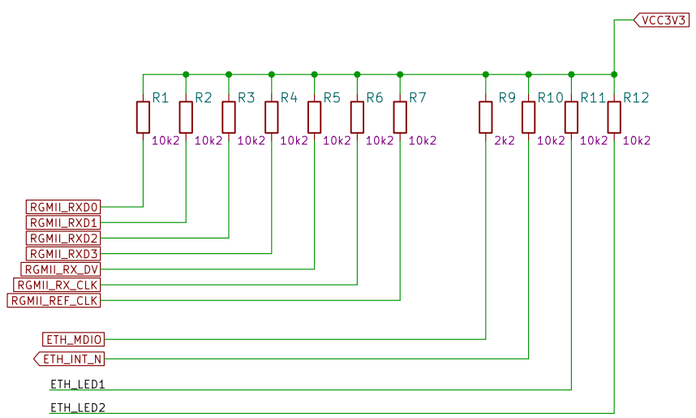
Size: A4	Date:	**Rev: 1.1.0**
KiCad E.D.A. kicad 6.0.5+dfsg–1~bpo11+1		Id: 1/10



RJ45 connector

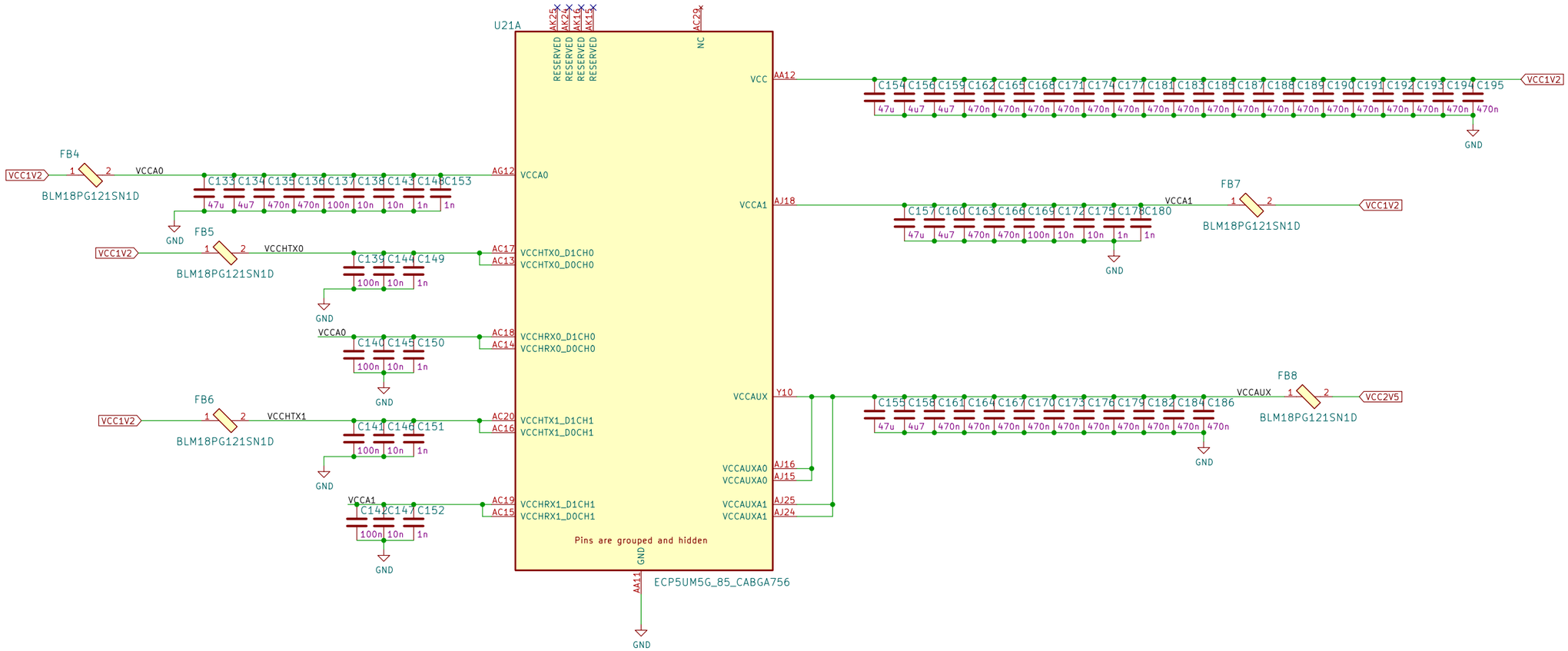


Pull up resistors

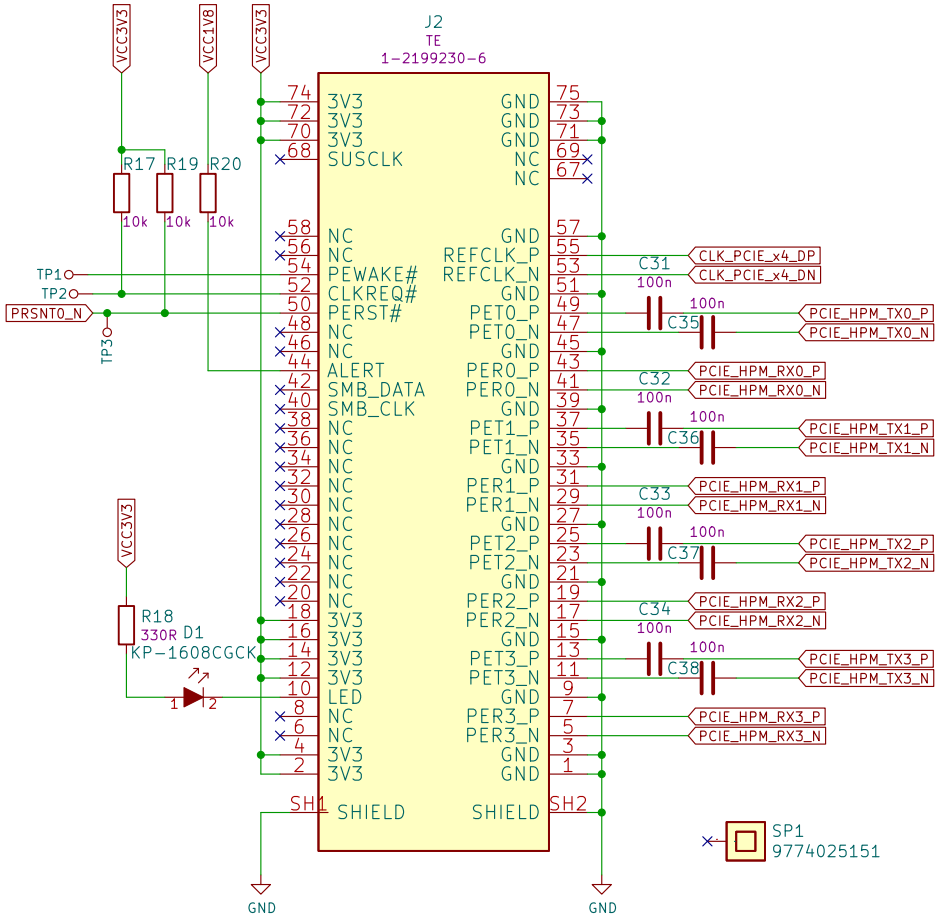


Sheet: /Ethernet/		
File: ethernet.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.1.0**
KiCad E.D.A. kicad 6.0.5+dfsg-1-bpo11+1		Id: 2/10

Power supply



Sheet: /FPGA power supply/		
File: fpga-power-supply.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.1.0**
KiCad E.D.A. kicad 6.0.5+dfsg-1-bpo11+1		Id: 3/10



Sheet: /PCIe-connector/
File: pcie-conn.sch

Title: ECP5 – Datacenter Secure Control Module (DC-SCM)

Size: A4	Date:	**Rev: 1.1.0**
KiCad E.D.A. kicad 6.0.5+dfsg-1~bpo11+1		Id: 4/10

FPGA connections to be established while preparing layout

DDR3

RGMII_REFCLK is movable:
not used in Ref

ethernet.sch

USB1 between HPM and BMC
USB2 between BMC and HPM expansion

DDR3_CS and DDR3_RESET
not used in Ref

Misc orphans: move freely

1V8

TBD: should additional GPIO
pin be considered as
BootStrap pin
(OCP mentions 50k pulldown)

ROT_SPI

JTAG

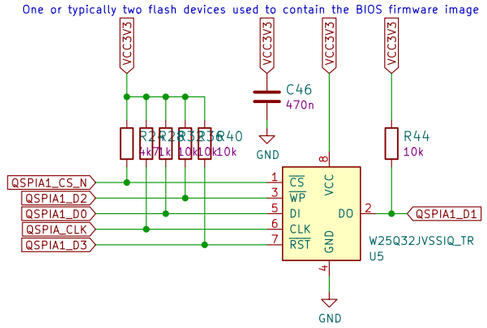
PCIe x1

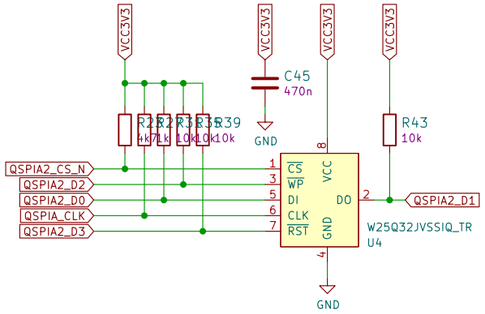
U14
AMJMEFB-100.0000T

Sheet:	/FPGA banks/
File:	fpga-banks.sch
Title:	**ECP5 – Datacenter Secure Control Module (DC-SCM)**
Size: A3	Date:
Rev: 1.1.0	
KiCad E.D.A.	kicad 6.0.5+dfsg-1-bpo11+1
Id: 5/10	

BIOS flash

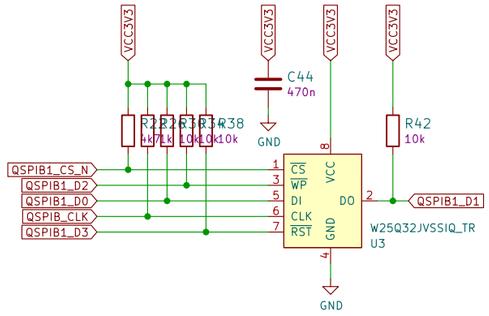
One or typically two flash devices used to contain the BIOS firmware image

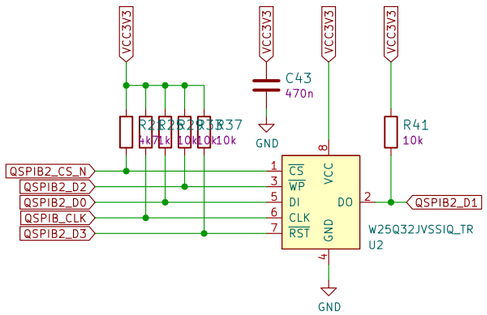




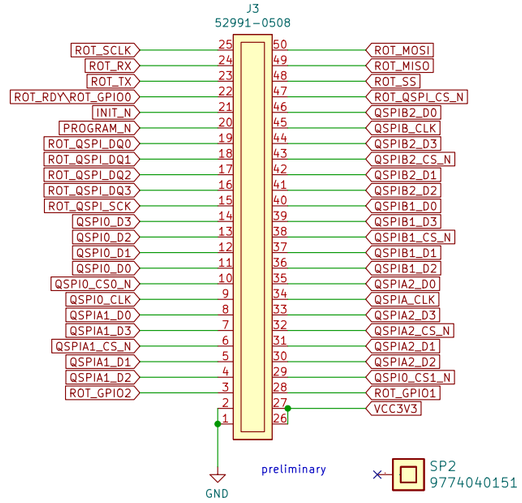
BMC flash

One or typically two flash devices used to contain the BMC firmware image

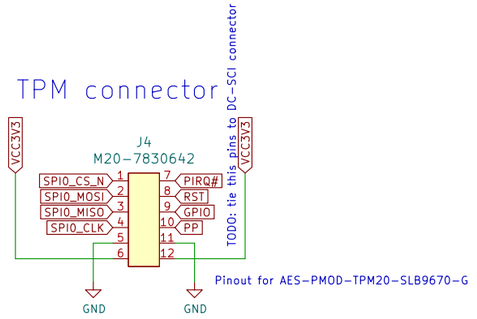




RoT connector

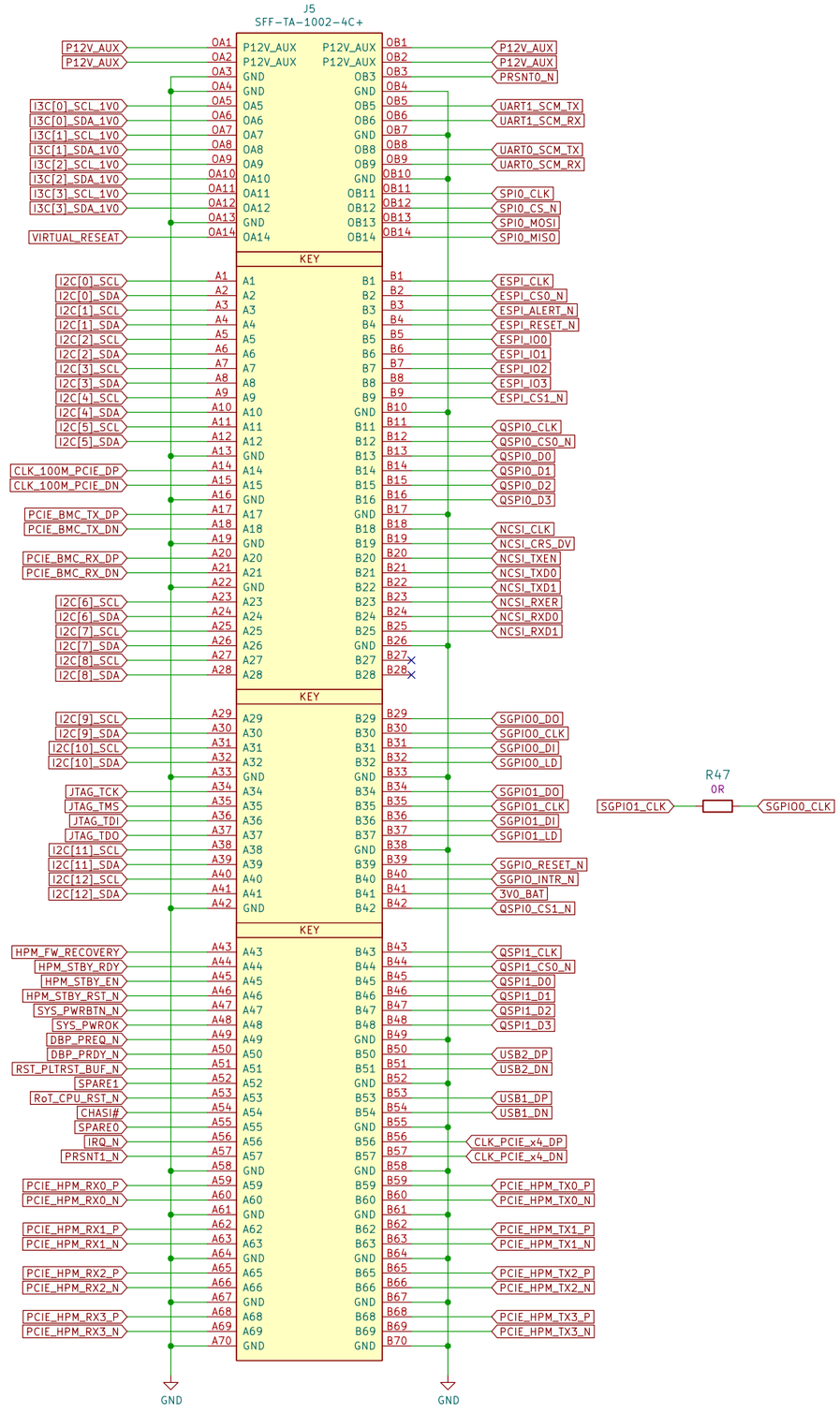


TPM connector



Sheet: /RoT/		
File: rot.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.1.0**
KiCad E.D.A. kicad 6.0.5+dfsg-1-bpo11+1		Id: 6/10

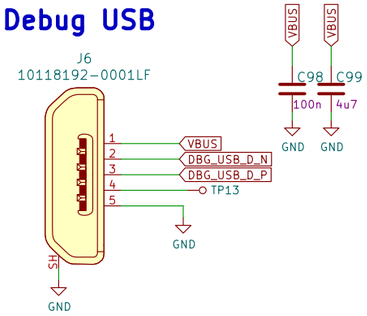
Edge connector



Sheet: /Edge connector/	
File: edge-connector.sch	
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)	
Size: A3	Date:
KiCad E.D.A. kicad 6.0.5+dfsg-1-bpo11+1	Id: 7/10

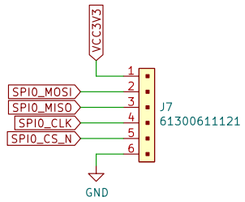
Rev: 1.1.0

Debug USB

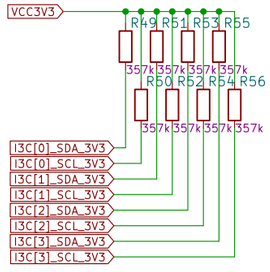


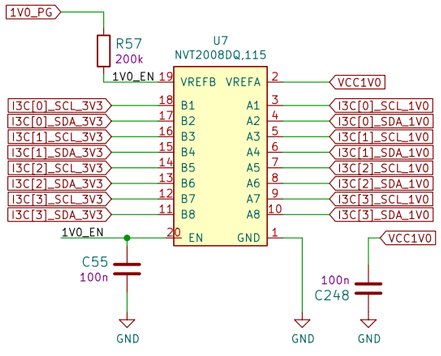
HPM SPI

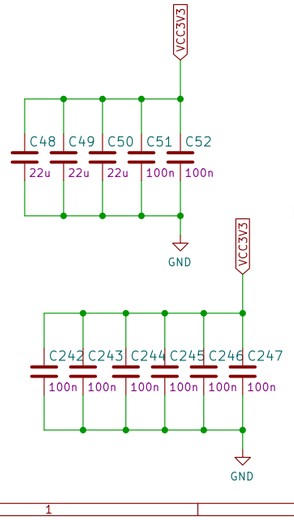
reserved for future use (as of DC-SCI OPC specification)

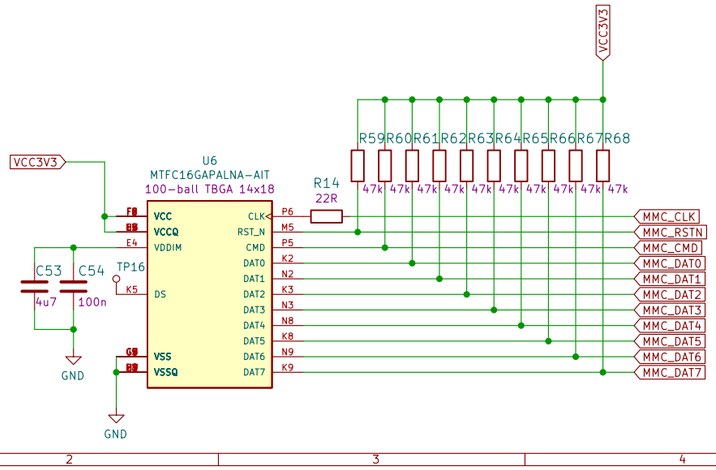


I3C voltage level translation

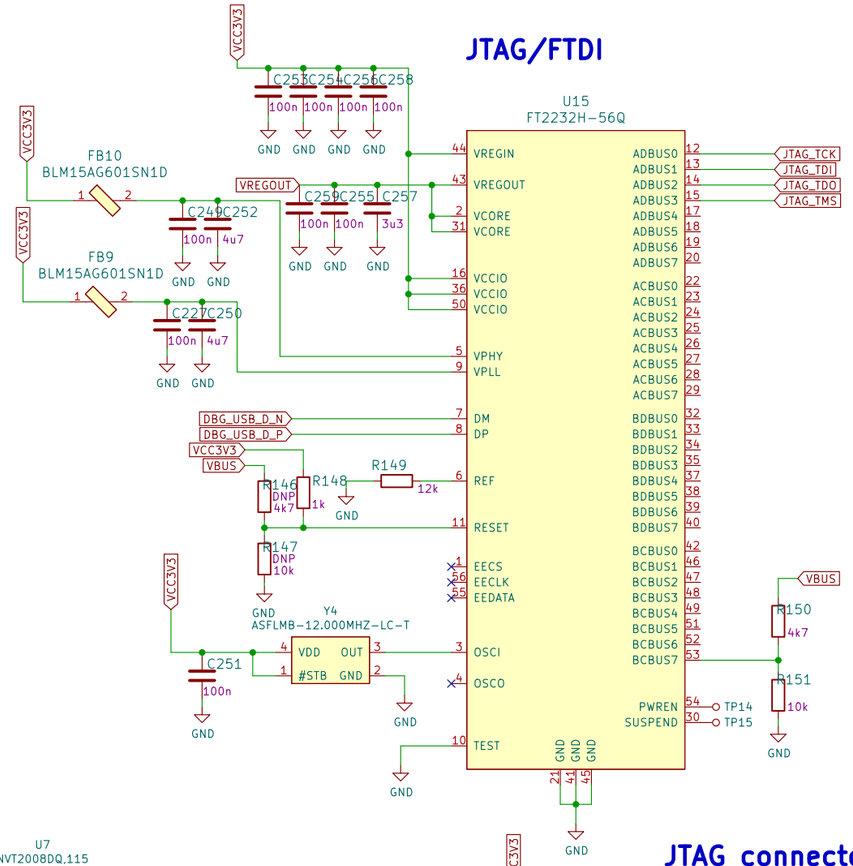




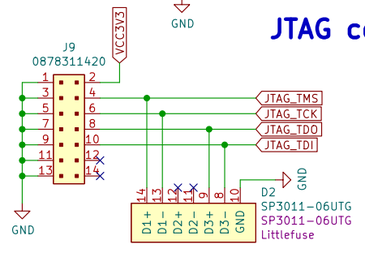




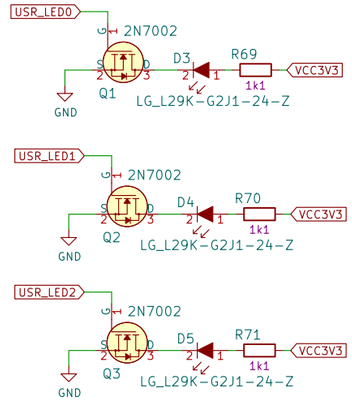
JTAG/FTDI



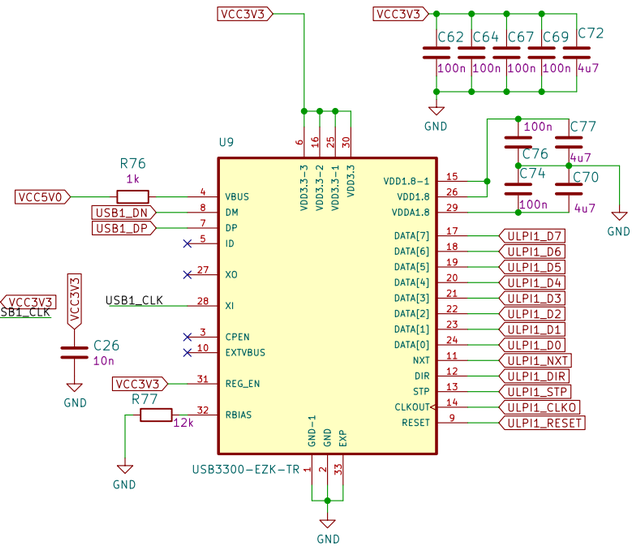
JTAG connector



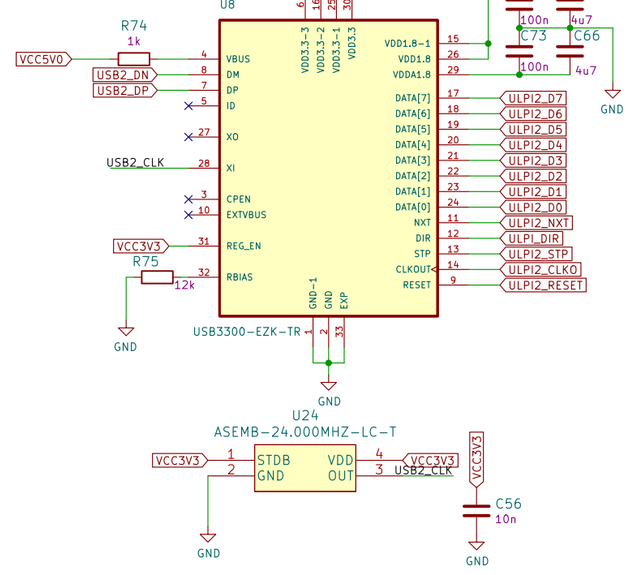
USER LEDs



USB HOST

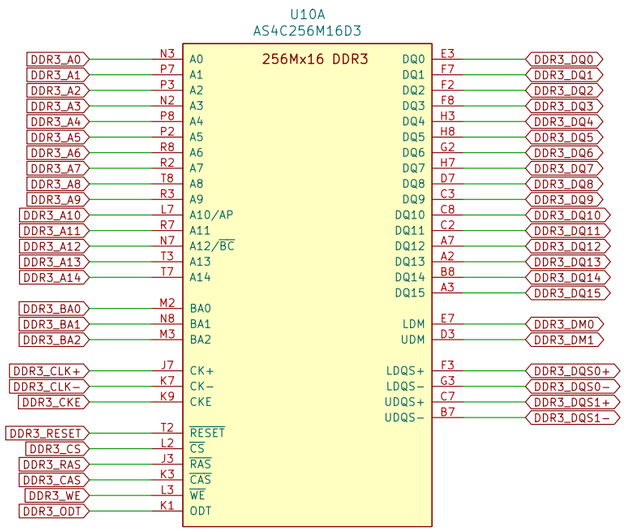


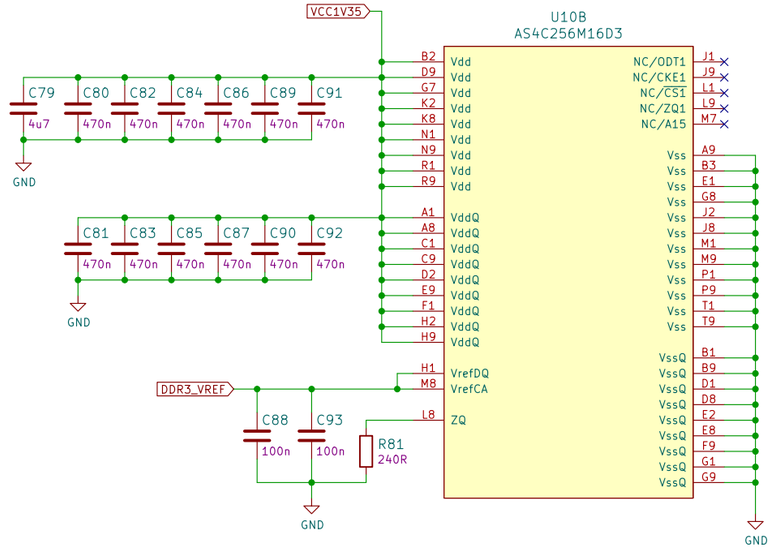
USB Client



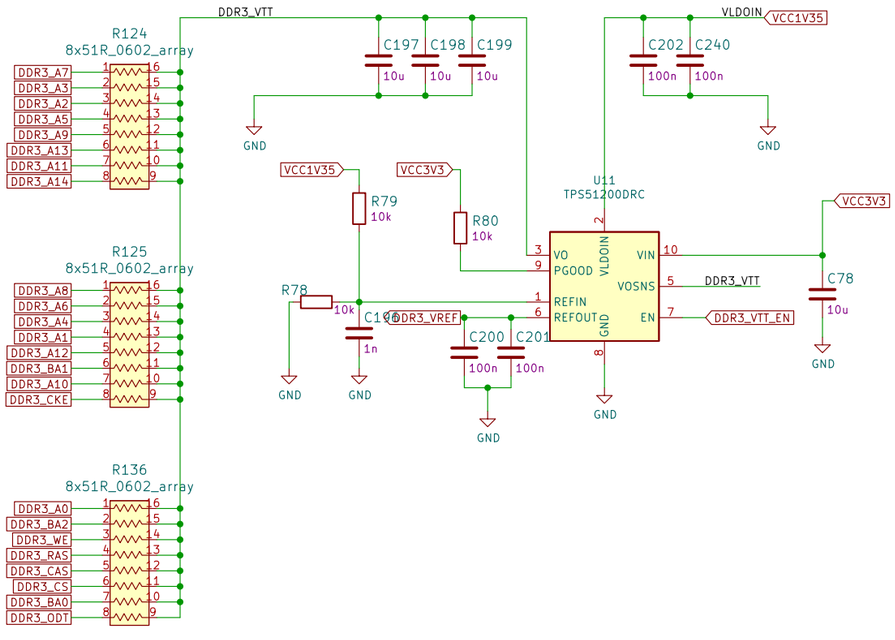
Sheet: /Interfaces/	
File: interfaces.sch	
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)	
Size: A3	Date:
KiCad E.D.A. kicad 6.0.5+dfsg-1-bpo11+1	Id: 8/10

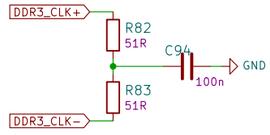
Rev: 1.1.0





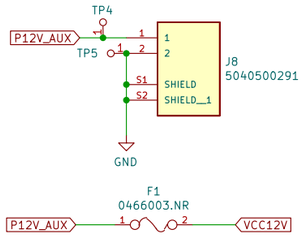
Source:Trellis board



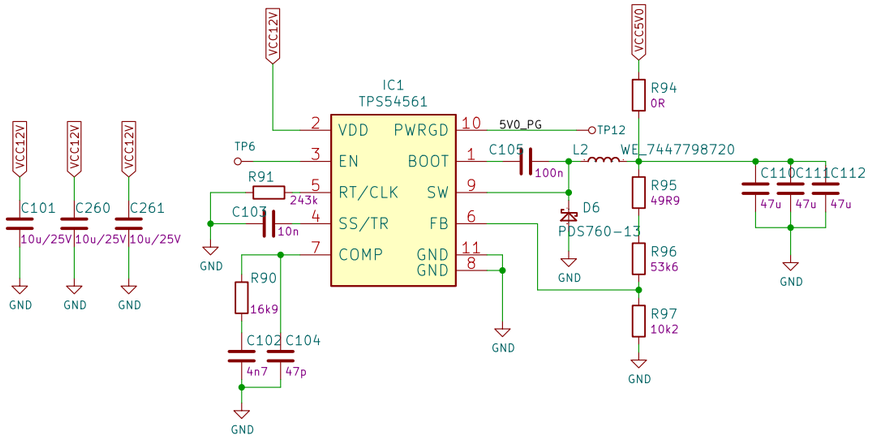


Sheet: /DDR3/		
File: ddr3.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.1.0**
KiCad E.D.A. kicad 6.0.5+dfsg-1-bpo11+1		Id: 9/10

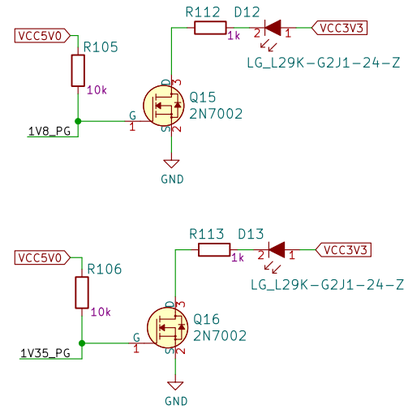
AUX supply connector



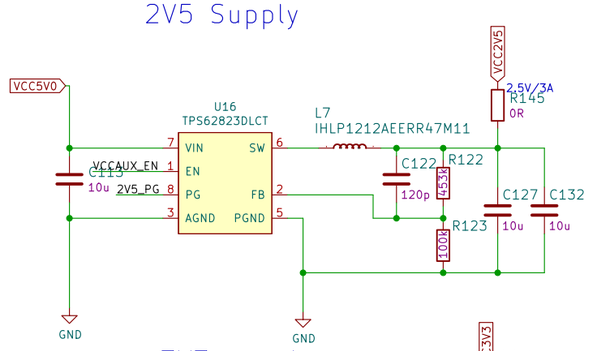
MainSupply (5V 5A)



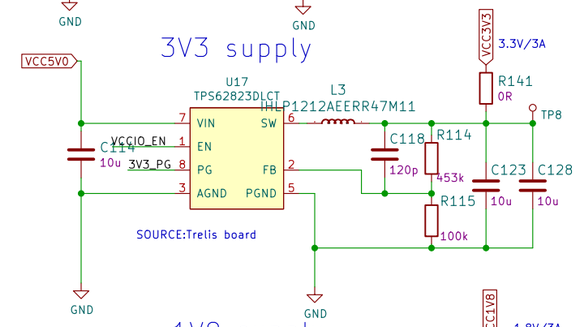
PWR_LED Indicators



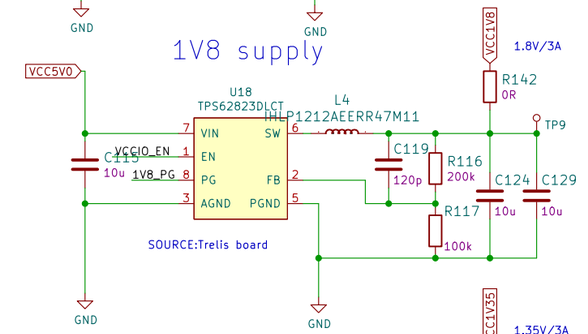
2V5 Supply



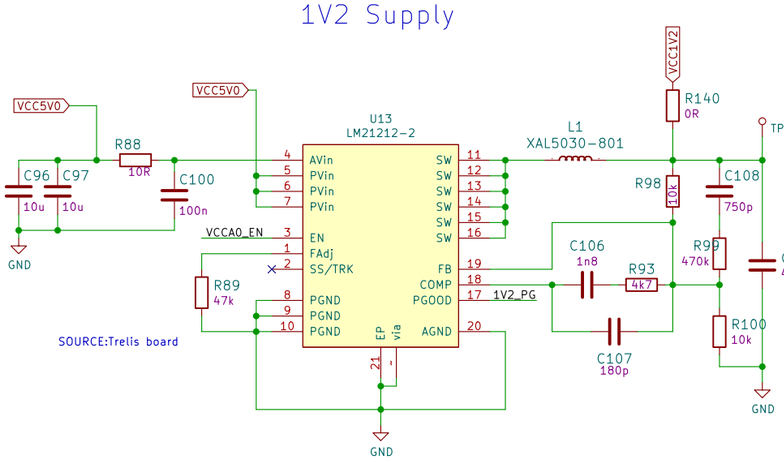
3V3 supply



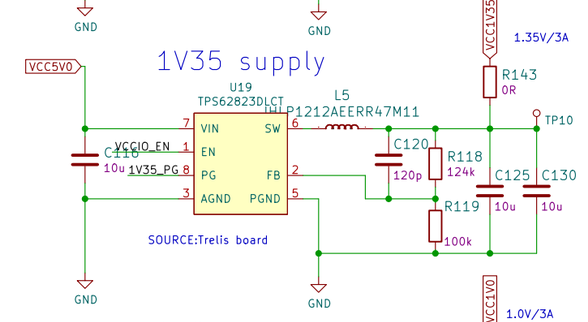
1V8 supply



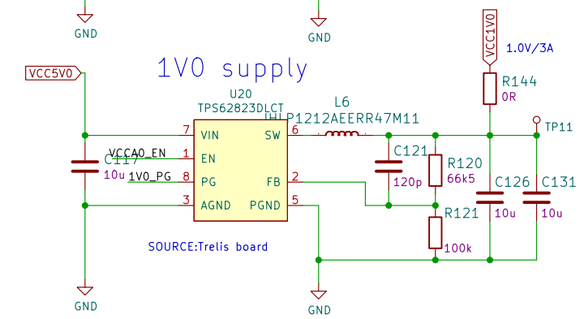
1V2 Supply



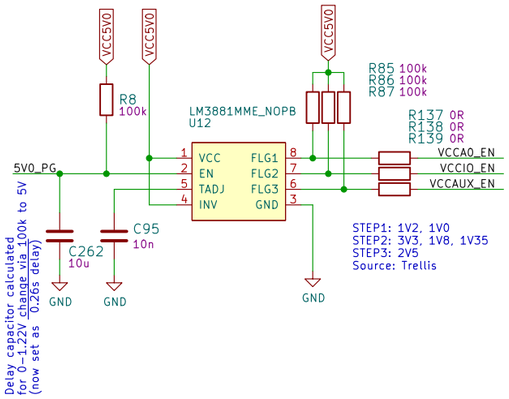
1V35 supply



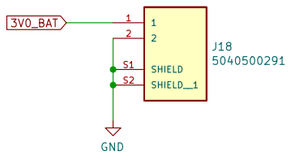
1V0 supply



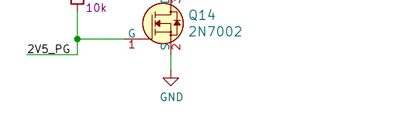
Power sequencer



Battery connector



3V3 levels required by I2C translator



Sheet: /Power supply/		
File: power-supply.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.1.0**
KiCad E.D.A. kicad 6.0.5+dfsg-1-bpo11+1		Id: 10/10