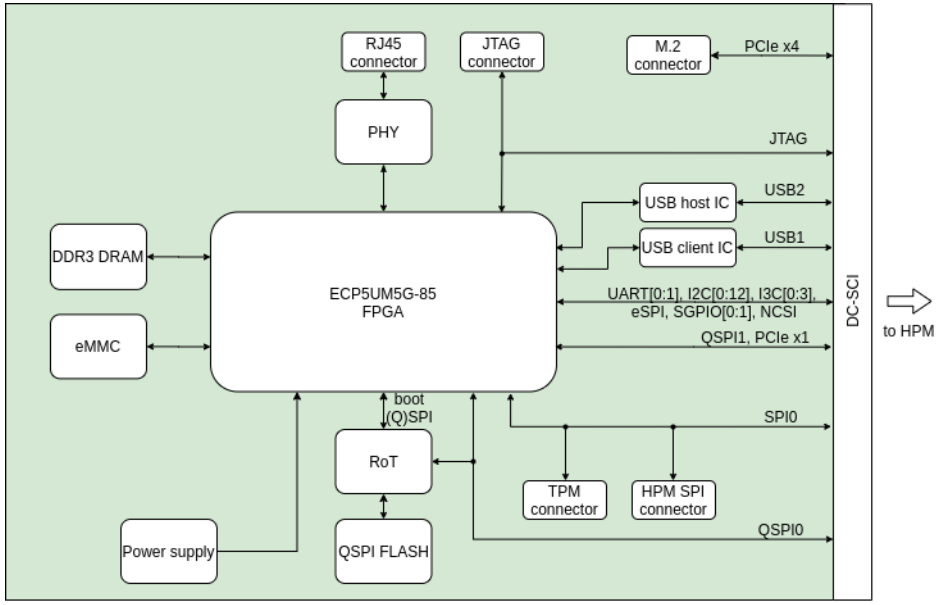
ECP5– Datacenter Secure Control Module (DC–SCM)



Sheet: Ethernet
File: ethernet.sch

Sheet: PCIe–connector
File: pcie–conn.sch

Sheet: RoT
File: rot.sch

Sheet: Edge connector
File: edge–connector.sch

Sheet: Interfaces
File: interfaces.sch

Sheet: DDR3
File: ddr3.sch

Sheet: Power supply
File: power–supply.sch

Sheet: FPGA power supply
File: fpga–power–supply.sch

Sheet: FPGA banks
File: fpga–banks.sch

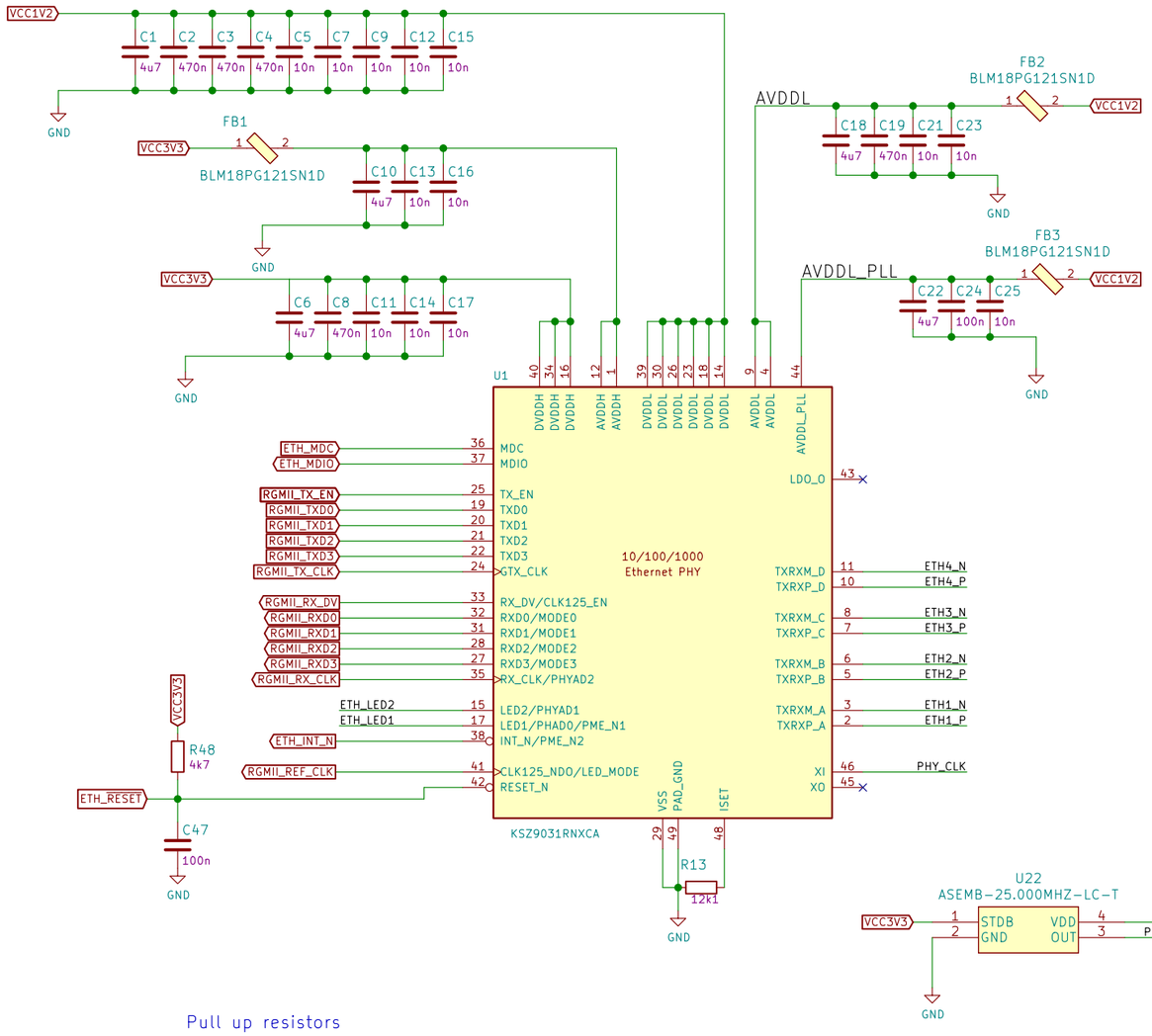
Logo N2 oshw_logo

Logo N1 antmicro_logo

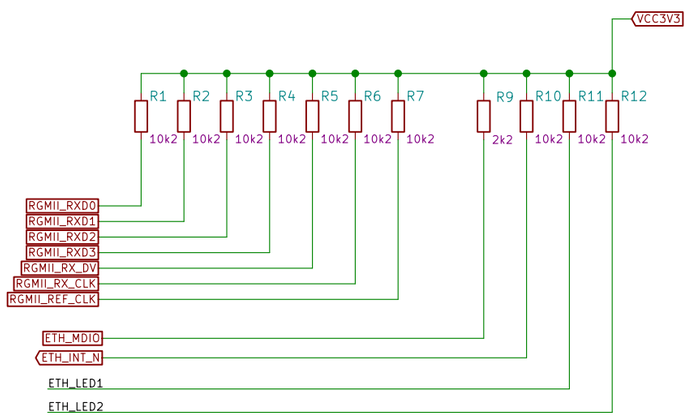
Sheet: /
File: ecp5–dc–scm.sch

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

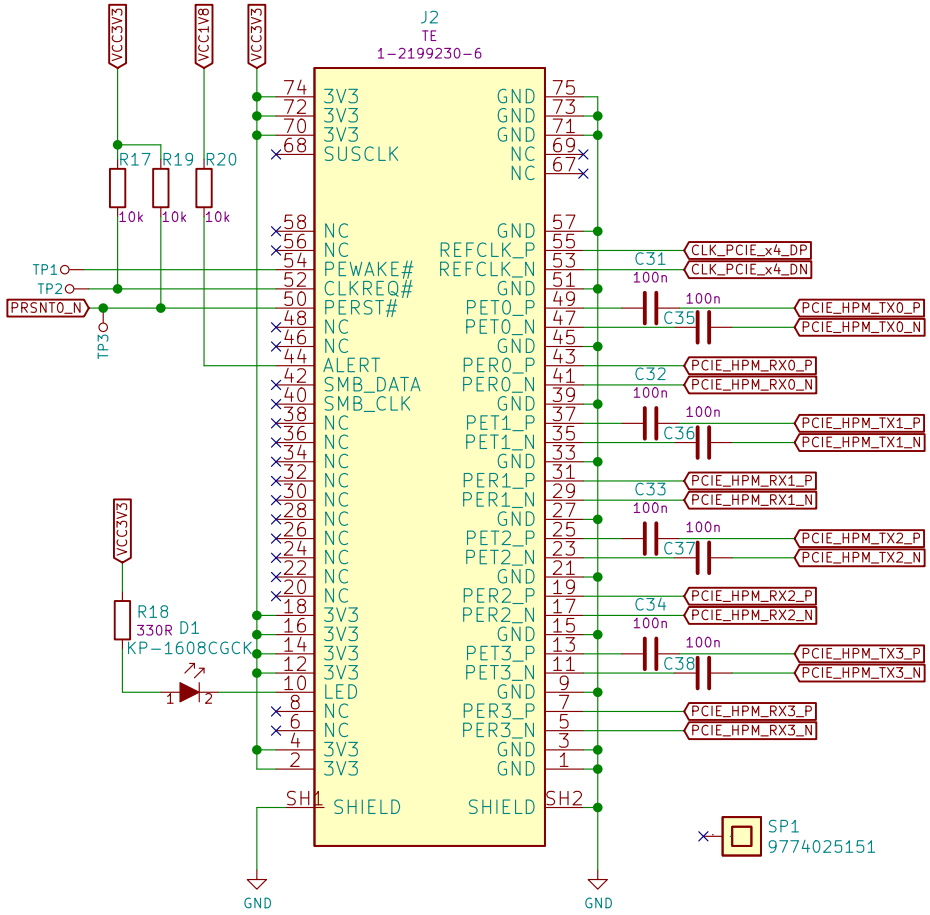
Size: A4	Date:	**Rev: 1.0.3**
KiCad E.D.A. kicad 5.1.5+dfsg1–2bpo10+1		Id: 1/10



Pull up resistors



Sheet: /Ethernet/		
File: ethernet.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.0.3**
KiCad E.D.A. kicad 5.1.5+dfsg1-2bpo10+1		Id: 2/10



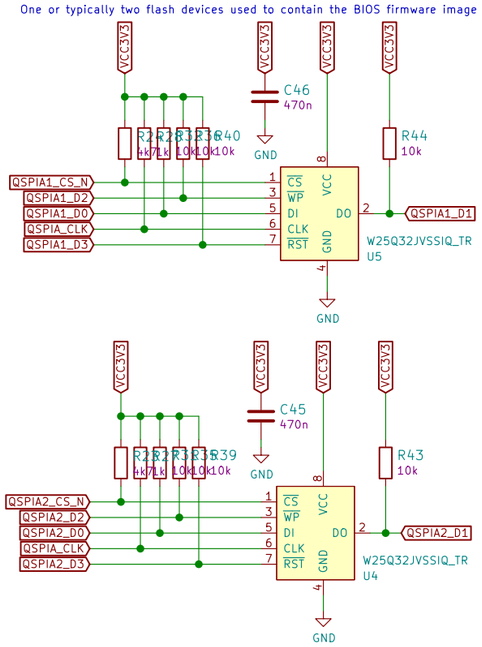
Sheet: /PCIe-connector/
File: pcie-conn.sch

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

Size: A4	Date:	Rev: 1.0.3
KiCad E.D.A. kicad 5.1.5+dfsg1-2bpo10+1		Id: 3/10

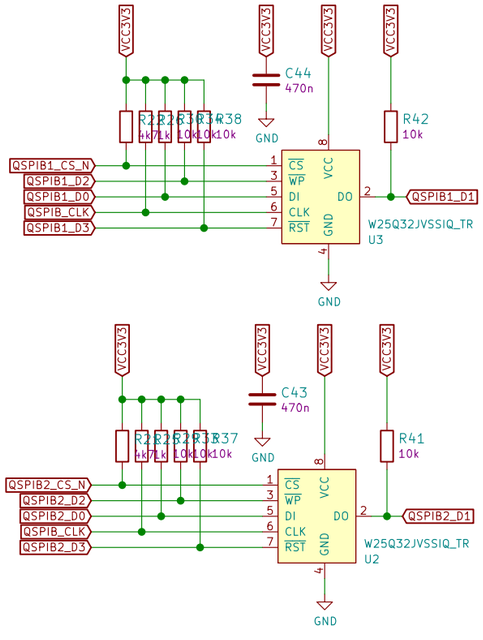
BIOS flash

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

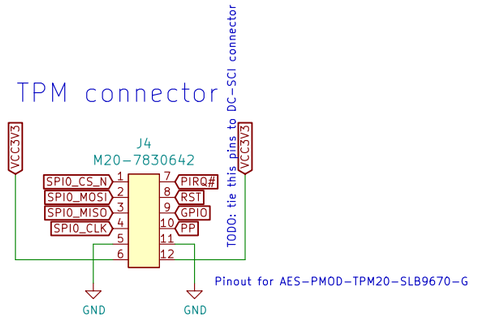


BMC flash

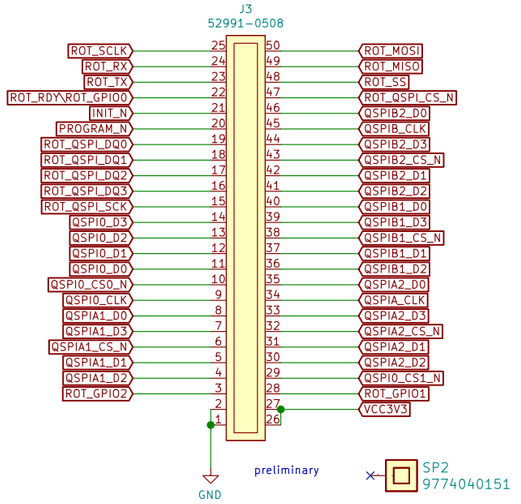
One or typically two flash devices used to contain the BMC firmware image



TPM connector



RoT connector

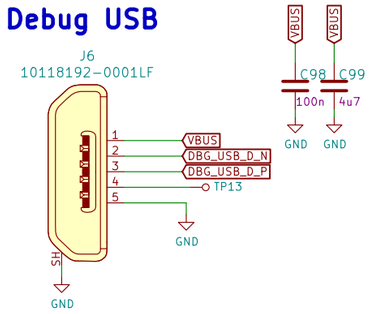


Sheet: /RoT/	
File: rot.sch	
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)	
Size: A3	Date: **Rev: 1.0.3**
KiCad E.D.A. kicad 5.1.5+dfsg1-2bpo10+1	Id: 4/10

Edge connector

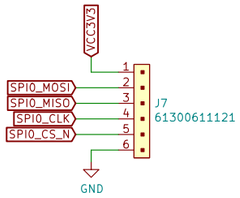
Sheet:	/Edge connector/
File:	edge-connector.sch
Title:	**ECP5 – Datacenter Secure Control Module (DC-SCM)**
Size: A3	Date:
Rev: 1.0.3	
KiCad E.D.A.	kicad 5.1.5+dfsg1-2bpo10+1
Id: 5/10	

Debug USB

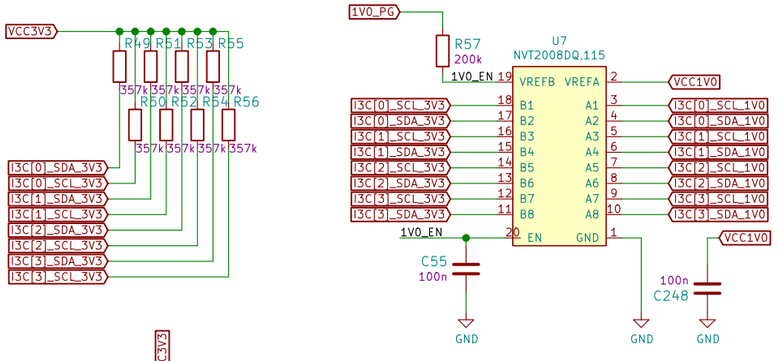


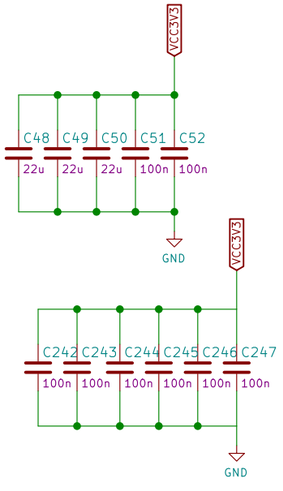
HPM SPI

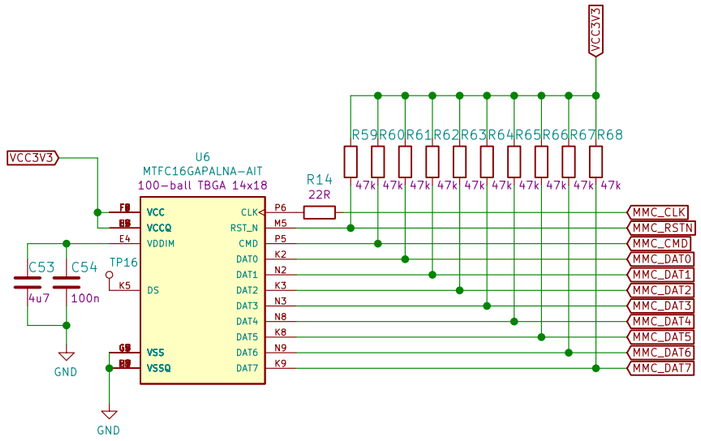
reserved for future use (as of DC-SCI OPC specification)



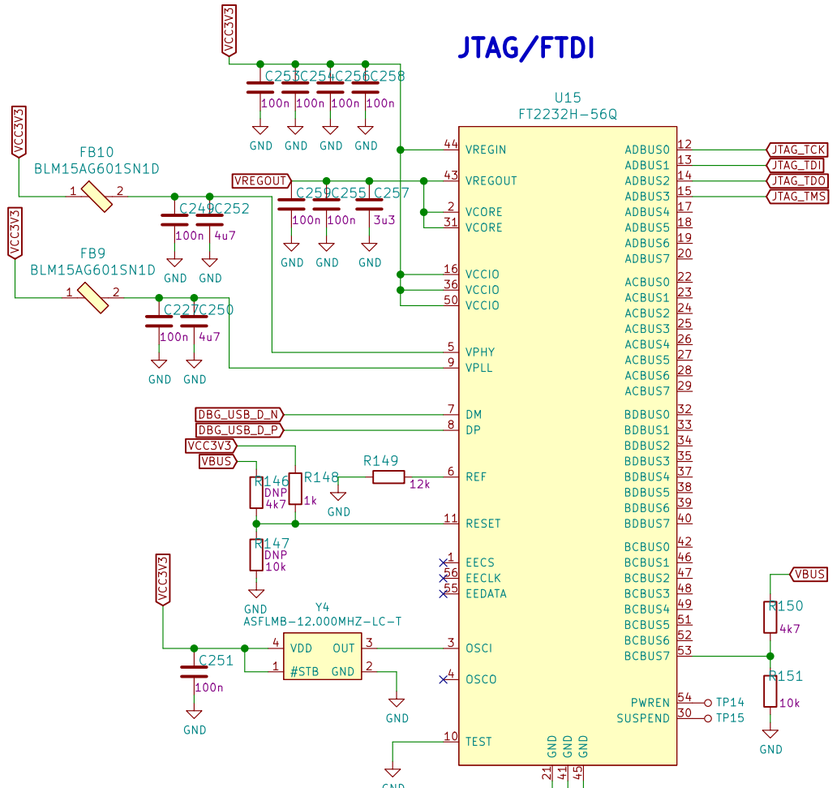
I3C voltage level translation



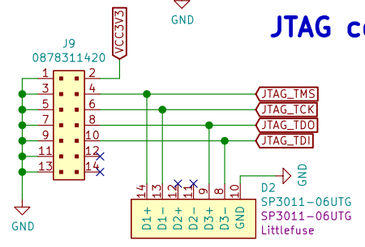




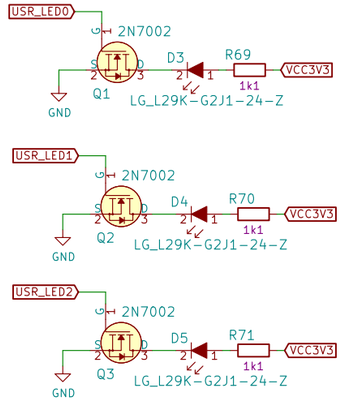
JTAG/FTDI



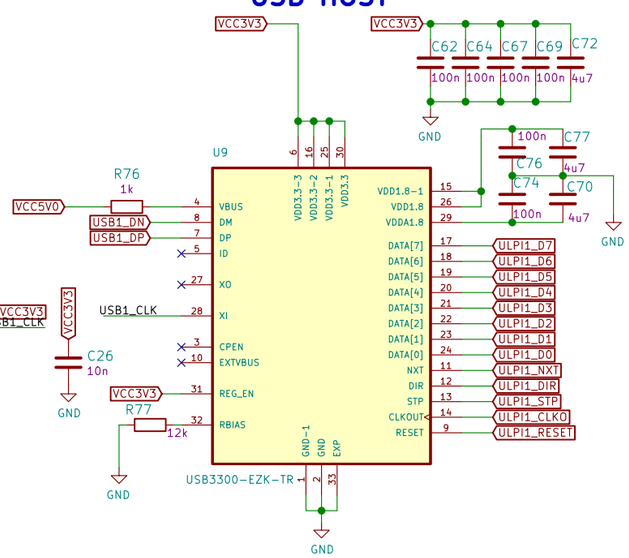
JTAG connector



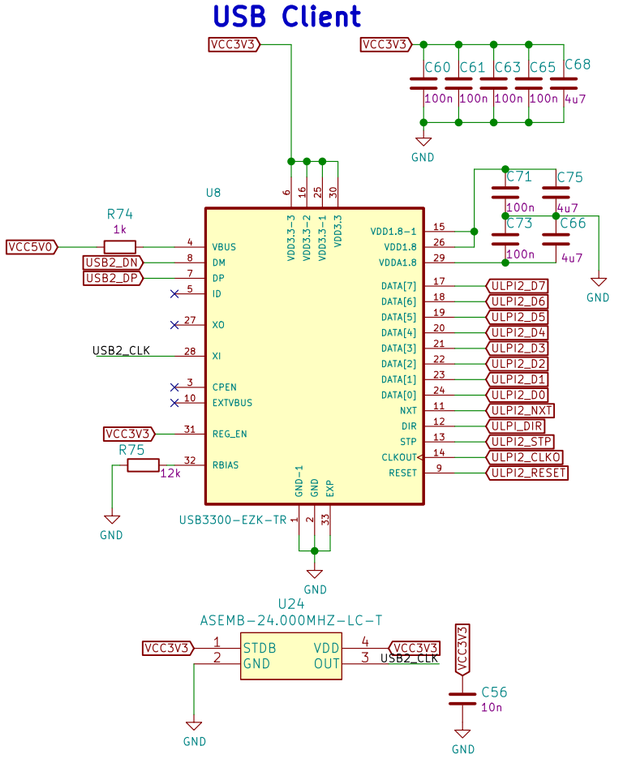
USER LEDs



USB HOST



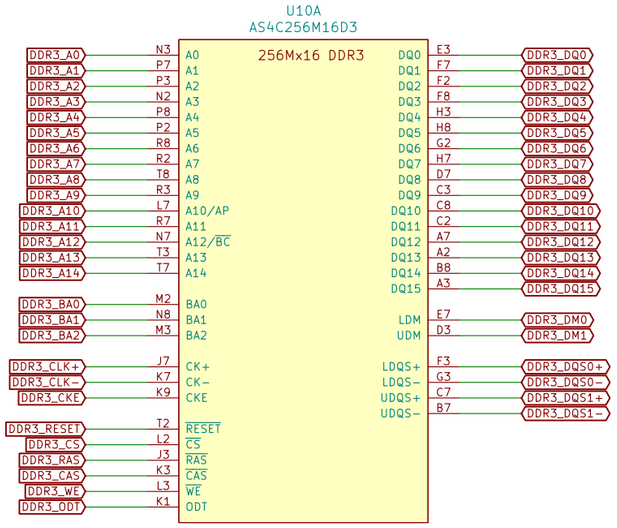
USB Client

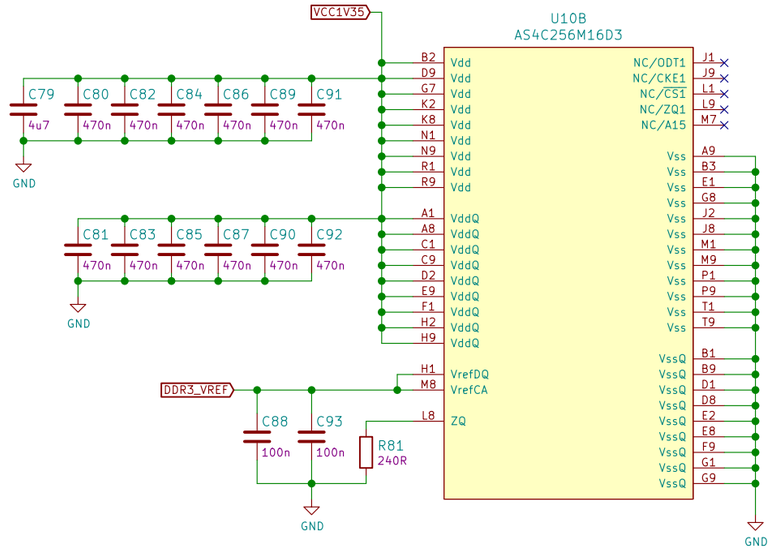


Sheet: /Interfaces/
File: interfaces.sch

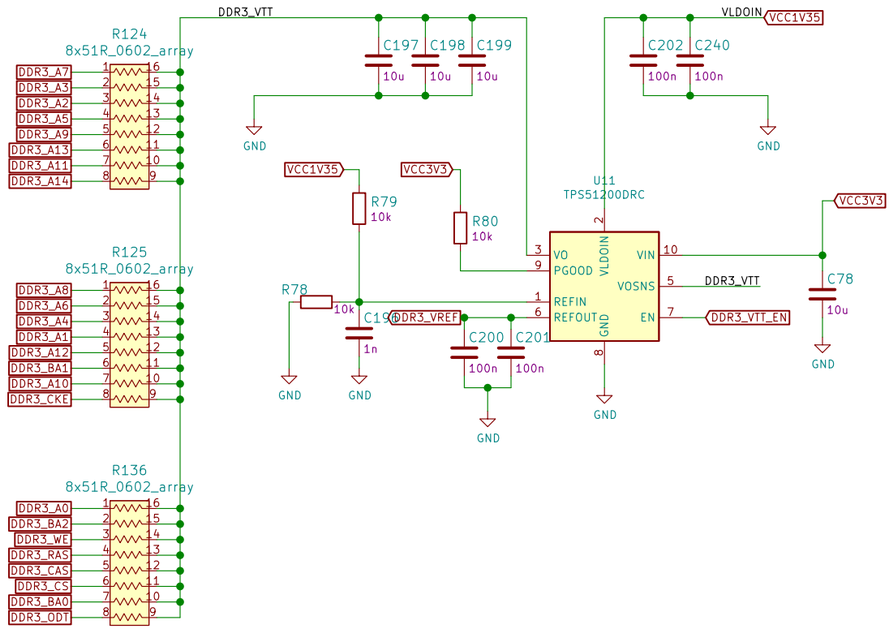
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)

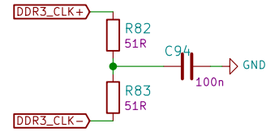
Size: A3	Date:	Rev: 1.0.3
KiCad E.D.A. kicad 5.1.5+dfsg1-2bpo10+1		Id: 6/10





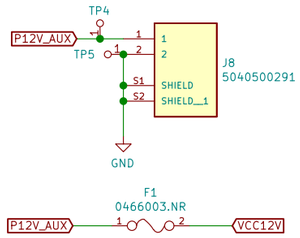
Source:Trellis board



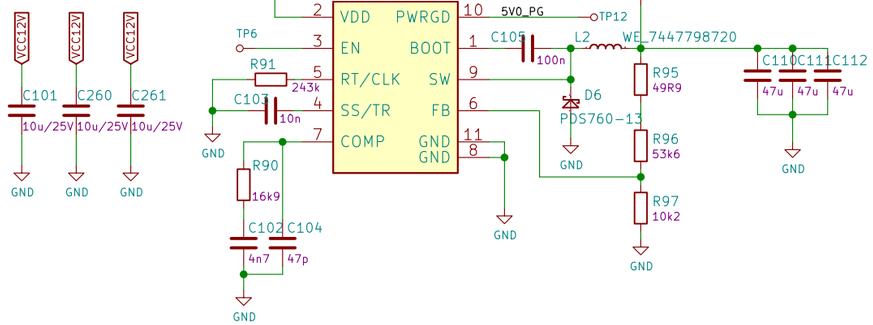


Sheet: /DDR3/		
File: ddr3.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.0.3**
KiCad E.D.A. kicad 5.1.5+dfsg1-2bpo10+1		Id: 7/10

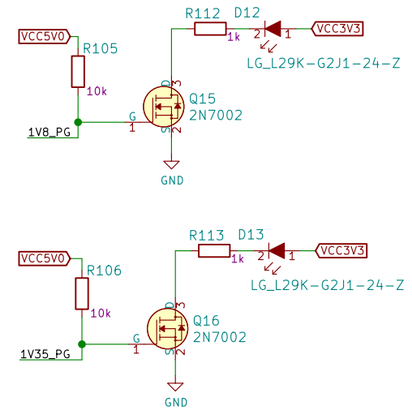
AUX supply connector



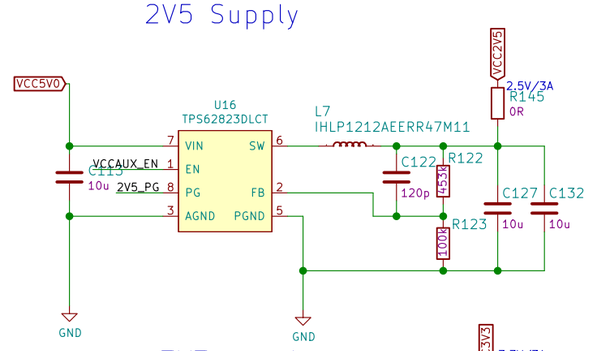
MainSupply (5V 5A)



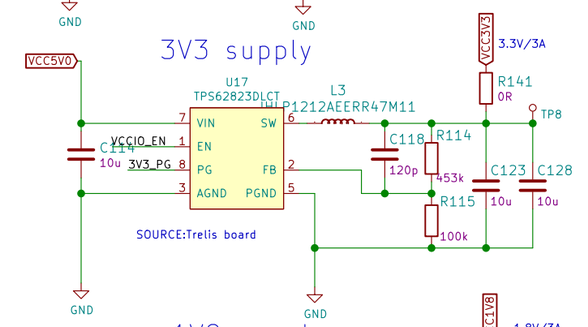
PWR_LED Indicators



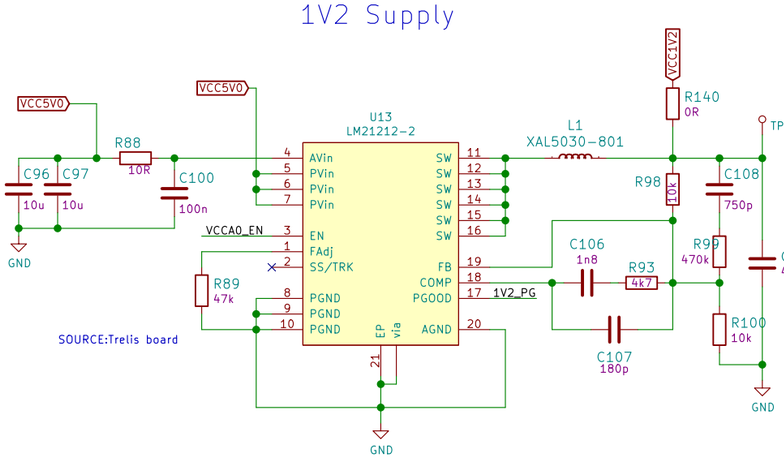
2V5 Supply



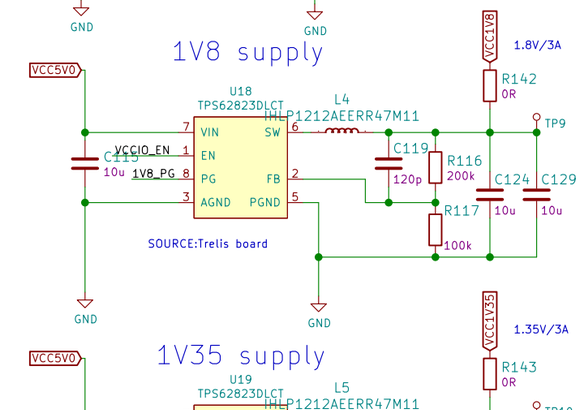
3V3 supply



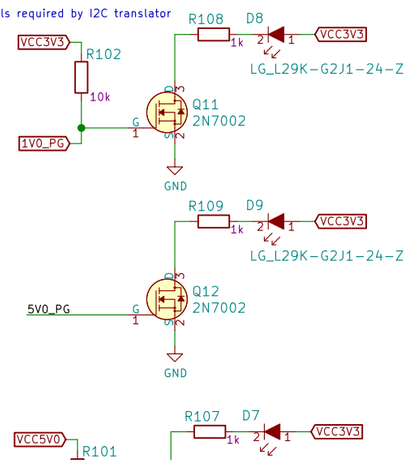
1V2 Supply



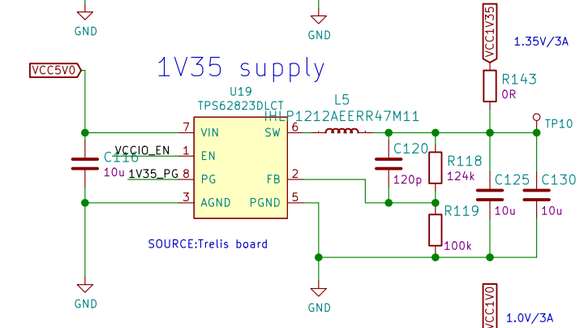
1V8 supply



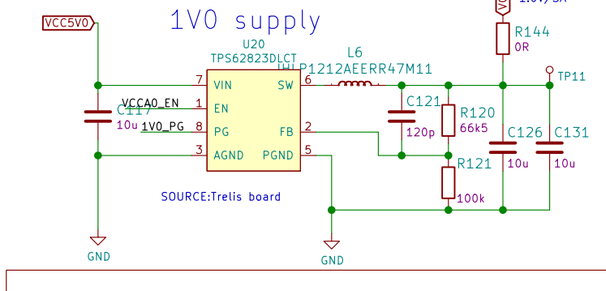
3V3 levels required by I2C translator



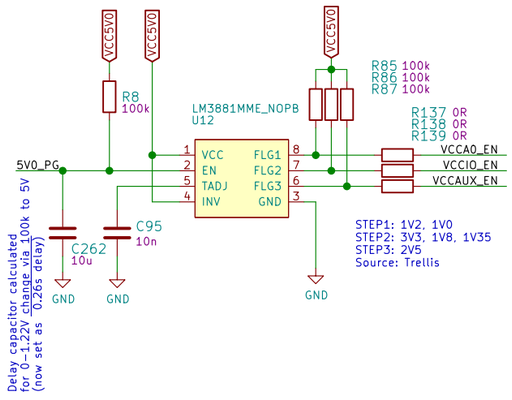
1V35 supply



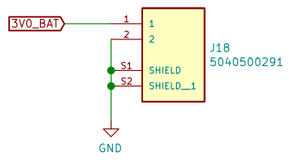
1V0 supply



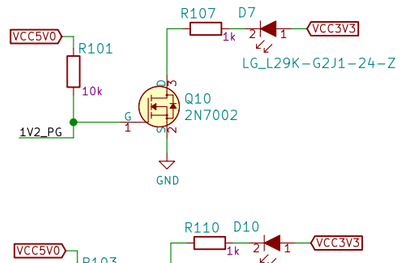
Power sequencer



Battery connector

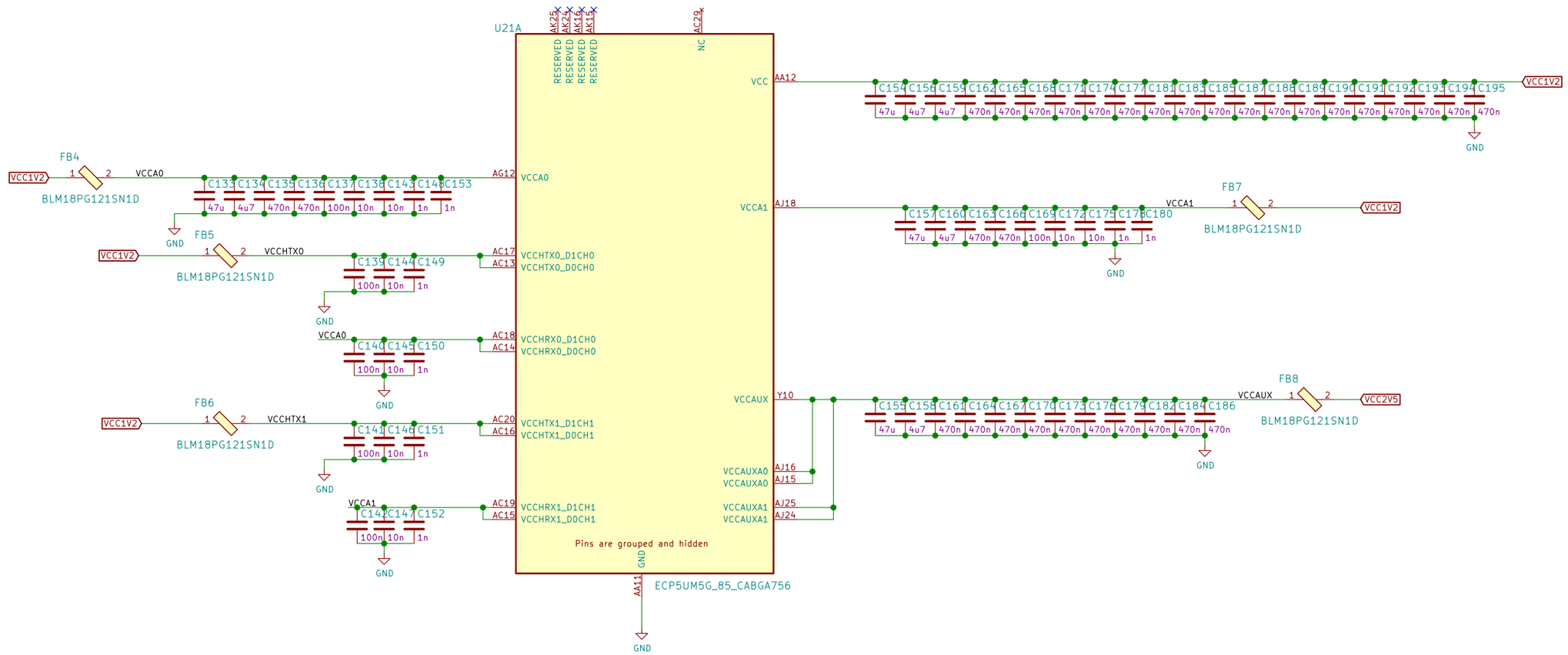


1V35 Supply



Sheet: /Power supply/		
File: power-supply.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.0.3**
KiCad E.D.A. kicad 5.1.5+dfsg1-2bpo10+1		Id: 8/10

Power supply



Sheet: /FPGA power supply/		
File: fpga-power-supply.sch		
Title: ECP5 – Datacenter Secure Control Module (DC-SCM)		
Size: A3	Date:	**Rev: 1.0.3**
KiCad E.D.A. kicad 5.1.5+dfsg1-2bpo10+1		Id: 9/10

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

ECP5UM5G_85_CABGA756

ROT_SPI

JTAG

PCIe x1

DDR3_CS and DDR3_RESET
not used in Ref

Misc orphans: move freely

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

Sheet:	/FPGA banks/
File:	fpga-banks.sch
Title:	**ECP5 – Datacenter Secure Control Module (DC-SCM)**
Size:	A3
Date:	
Rev:	**1.0.3**
KiCad E.D.A.	kicad 5.1.5+dfsg1-2bpo10+1
Id:	10/10