

R1

DNP

OR

SP1

9774060151

R2

DNP

OR

SP2

9774060151

R3

DNP

OR

SP3

9774060151

R4

DNP

OR

SP4

9774060151

GND

 antmicro

 open source hardware

Antmicro Ltd.  
www.antmicro.com

Sheet: /  
File: sa800u-baseboard-hw.sch

**Title: SA800U (Snapdragon 845) Baseboard**

Size: A3


Date: 2022-03-28

Rev: 1.0.0

KiCad E.D.A. eeschema 5.1.9+dfsg1-1

Id: 1/12

# Ethernet controller

 antmicro  
open source hardware

Antmicro Ltd.  
www.antmicro.com

Sheet: /Ethernet Controller/  
File: ethernet-controller.sch

**Title: SA800U (Snapdragon 845) Baseboard**

Size: A3	Date: 2022-03-28	Rev: 1.0.0
KiCad E.D.A. eeschema 5.1.9+dfsg1-1		Id: 2/12

**HDMI converter**

The schematic illustrates the internal connections of an HDMI converter module. Key components include:

- LT9611:** The main HDMI-to-USB bridge IC.
- Voltage Regulation:** Three 1V8 regulators (U1, U2, U3) powered from VREG\_S4A\_1V8.
- Signal Conditioning:** DS1LN series level shifters (U4, U5, U6, U7) and NFP0QHB242H52D comparators (U8, U9).
- Output Buffers:** PUSB3F96X\_PASS buffers (U10, U11, U12, U13) driving the HDMI signals.
- Control Logic:** FT232RL (U14) for UART communication, and BSS138APW (Q1, Q2, Q3) for signal switching.

The diagram shows the connection of various pins to the microcontroller's GPIOs, including I2C, SPI, and UART interfaces. It also details the power supply decoupling and signal routing for the HDMI interface.

antmicro  
open source hardware

Antmicro Ltd.  
www.antmicro.com  
  
 Sheet: /HDMI converter/  
File: hdmi-converter.sch  
**Title: SA800U (Snapdragon 845) Baseboard**  
 Size: A3    Date: 2022-03-28    Rev: 1.0.0  
 KiCad E.D.A. eeschema 5.1.9+dfsg1-1    Id: 3/12



Antmicro Ltd.  
www.antmicro.com

Sheet: /HDMI converter/  
File: hdmi-converter.sch

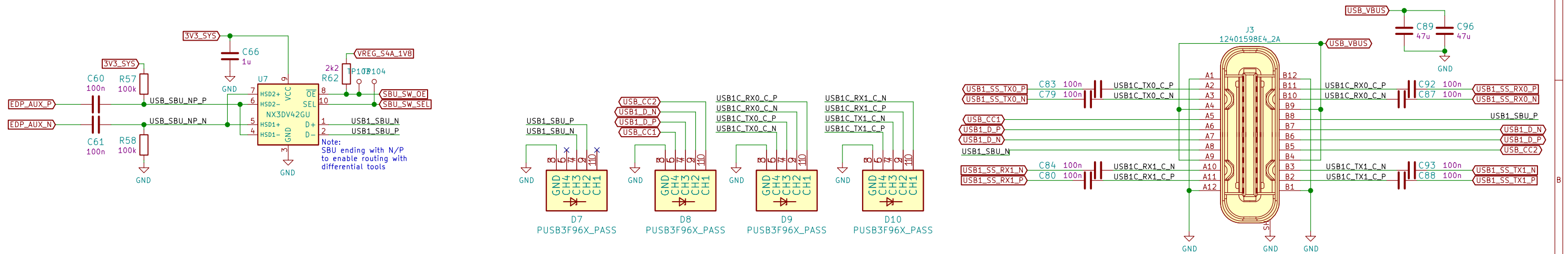
**Title: SA800U (Snapdragon 845) Baseboard**

Size: A3	Date: 2022-03-28
KiCad E.D.A. eeschema 5.1.9+dfsg1-1	

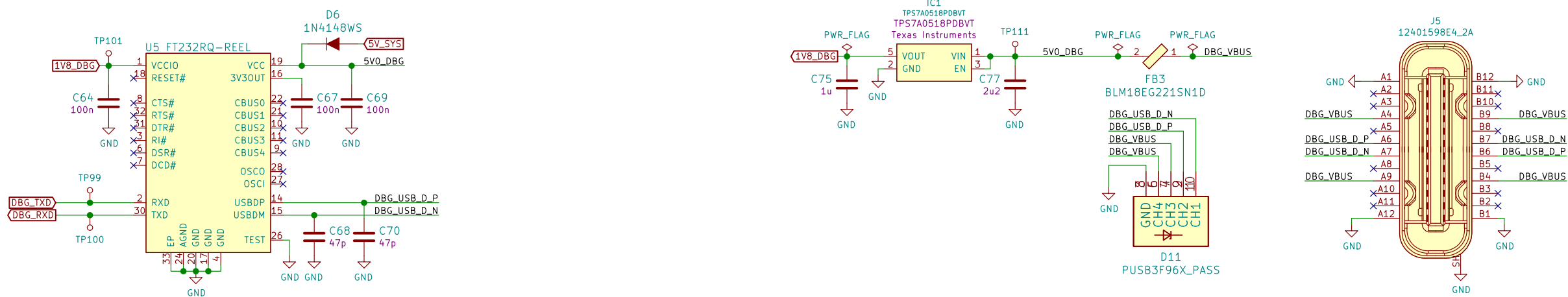
Rev: 1.0.0

# USB-C interfaces

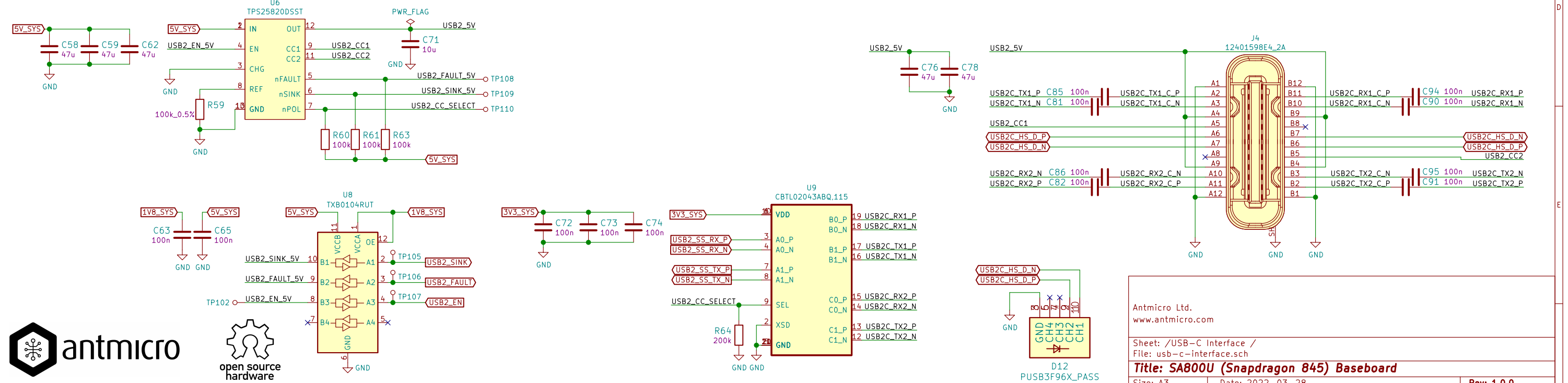
## USB-C OTG/DP



## Debug



## USB-C Host



Antmicro Ltd.  
www.antmicro.com

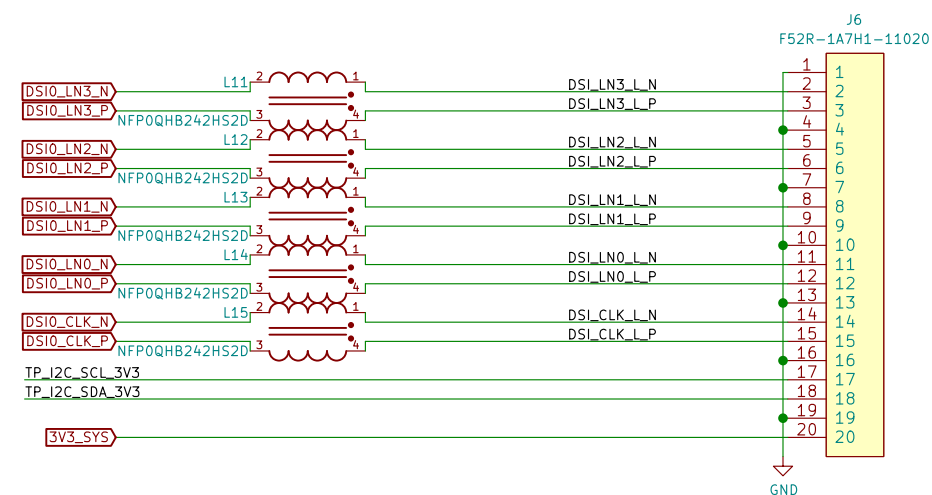
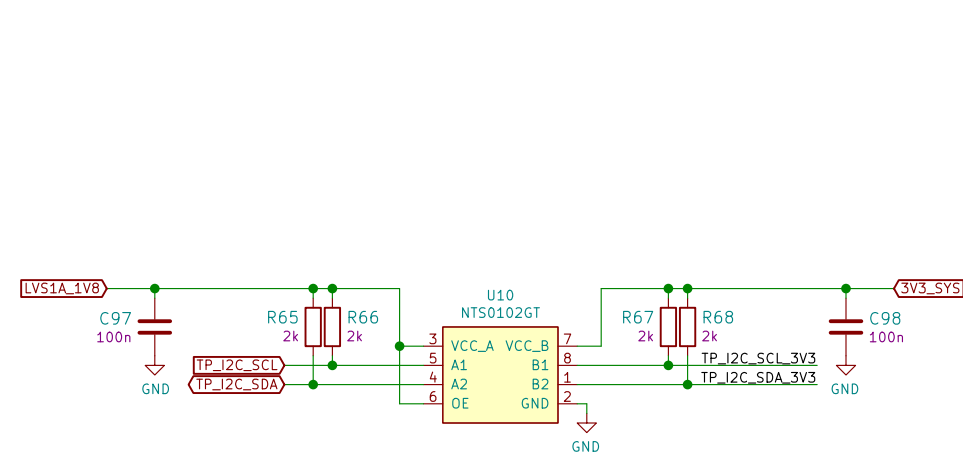
Sheet: /USB-C Interface /  
File: usb-c-interface.sch

Title: SA800U (Snapdragon 845) Baseboard

Size: A3 Date: 2022-03-28  
KiCad E.D.A. eeschema 5.1.9+dfsg1-1

Rev: 1.0.0  
Id: 4/12

DSI LDC connector



## SoM

A

B

C

D

E

F

A

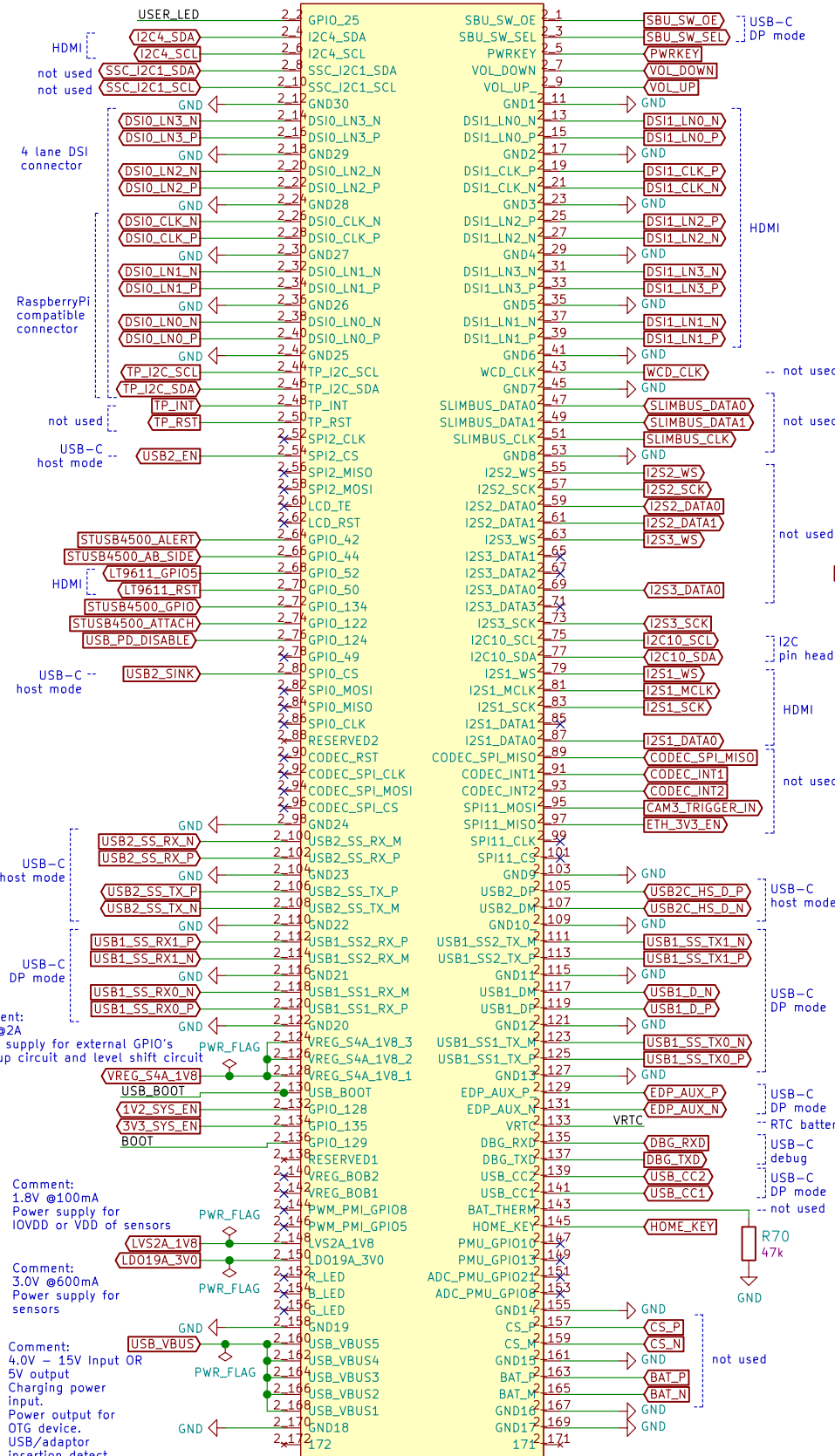
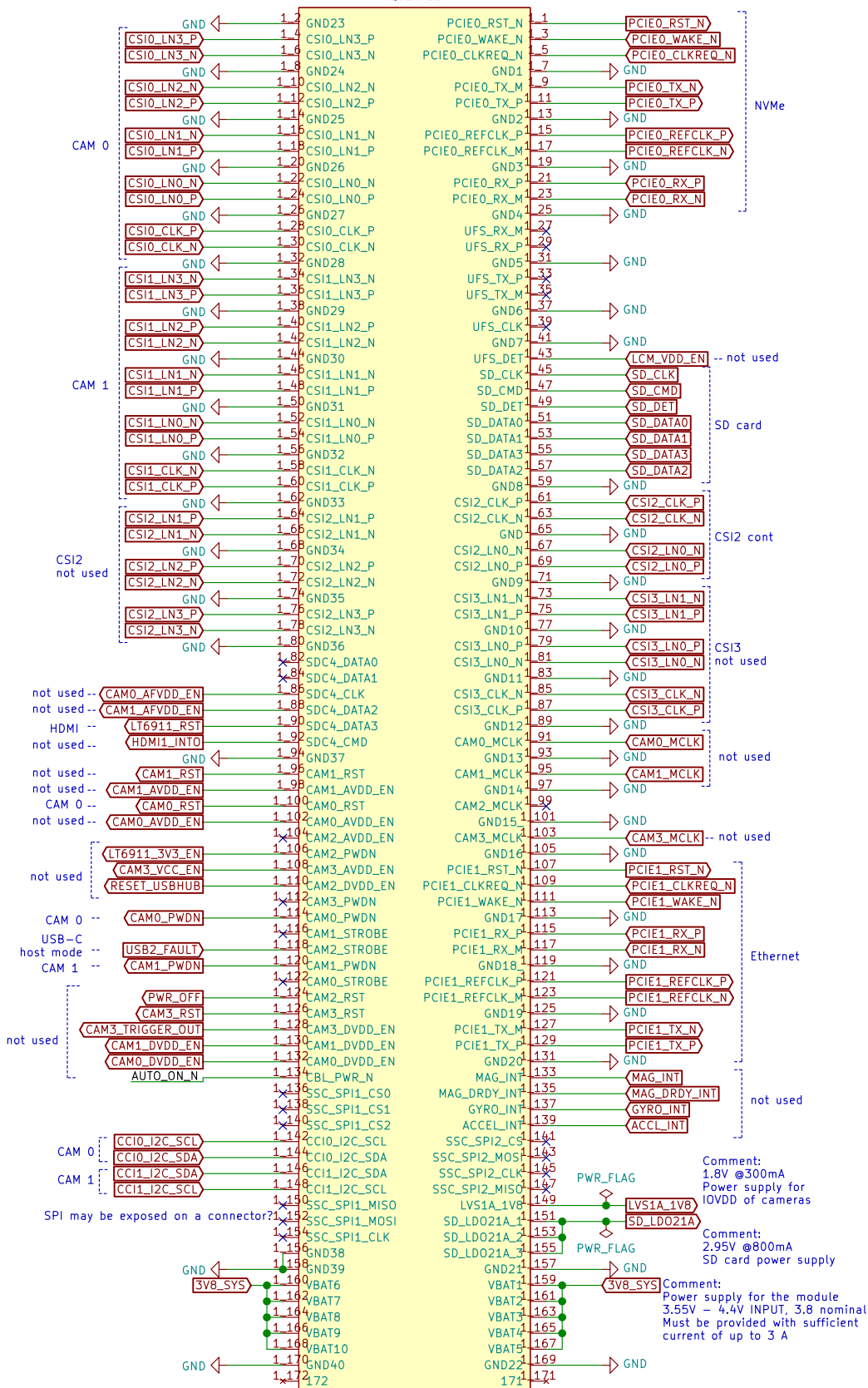
B

C

D

E

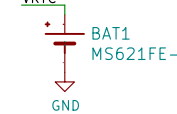
F

U11A  
SA800U-WF  
SA800U-WF  
QUECTELU11B  
SA800U-WF  
SA800U-WF  
QUECTELM1  
SA800U-WF-mechanical\_model

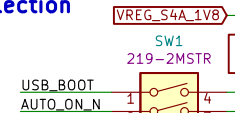
## I2C10 pullups



## RTC battery



## Auto ON and recovery mode selection



Antmicro Ltd.  
www.antmicro.com

Sheet: /SoM/  
File: som.sch

**Title: SA800U (Snapdragon 845) Baseboard**

Size: A3 Date: 2022-03-28  
KiCad E.D.A. eeschema 5.1.9+dfsg1-1

Rev: 1.0.0

Id: 6/12

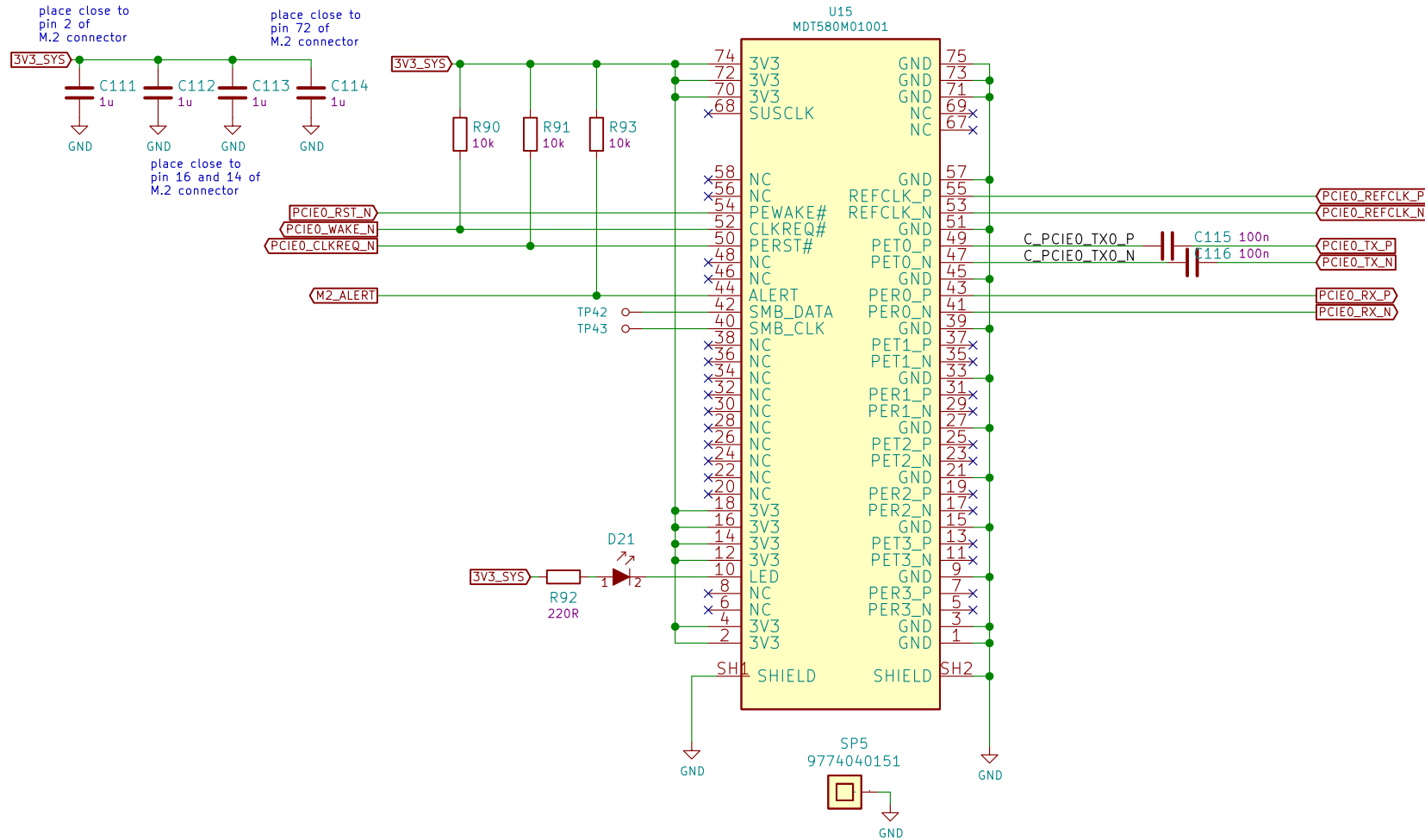


## A



Rev: 1.0.0  
Id: 7/12

## M.2 key M



Antmicro Ltd.  
www.antmicro.com

Sheet: /M2/  
File: m2.sch

**Title: SA800U (Snapdragon 845) Baseboard**

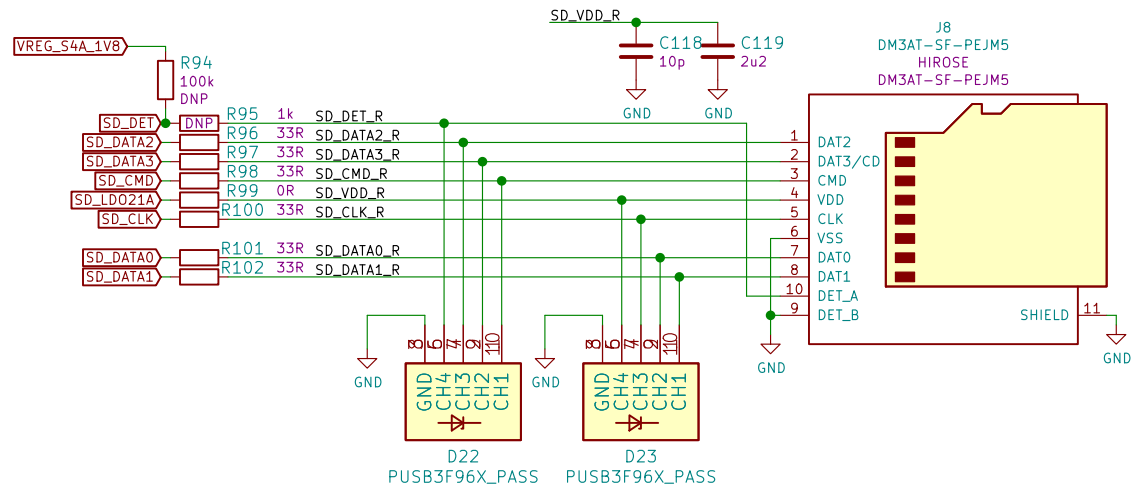
Size: A4 Date: 2022-03-28  
KiCad E.D.A. eeschema 5.1.9+dfsg1-1

Rev: 1.0.0  
Id: 8/12

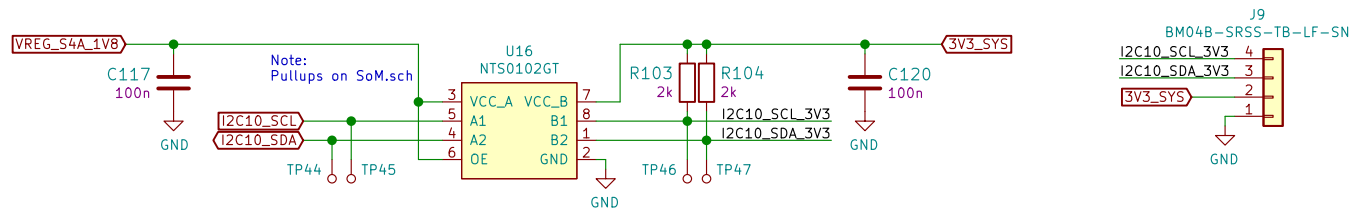


## Other interfaces

### uSD



### I2C



Antmicro Ltd.  
www.antmicro.com

Sheet: /Other Interfaces/  
File: other-interfaces.sch

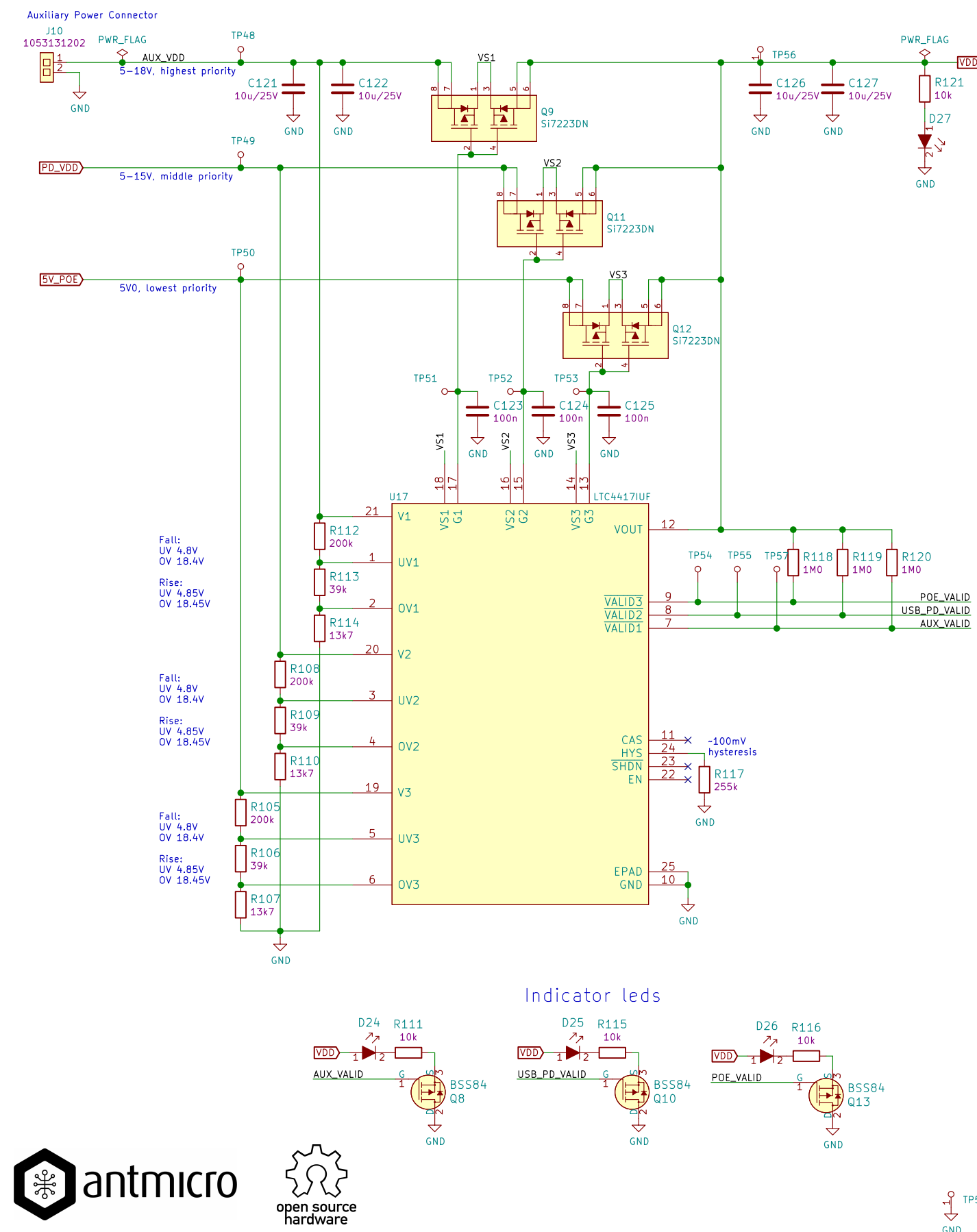
**Title: SA800U (Snapdragon 845) Baseboard**

Size: A4 Date: 2022-03-28  
KiCad E.D.A. eeschema 5.1.9+dfsg1-1

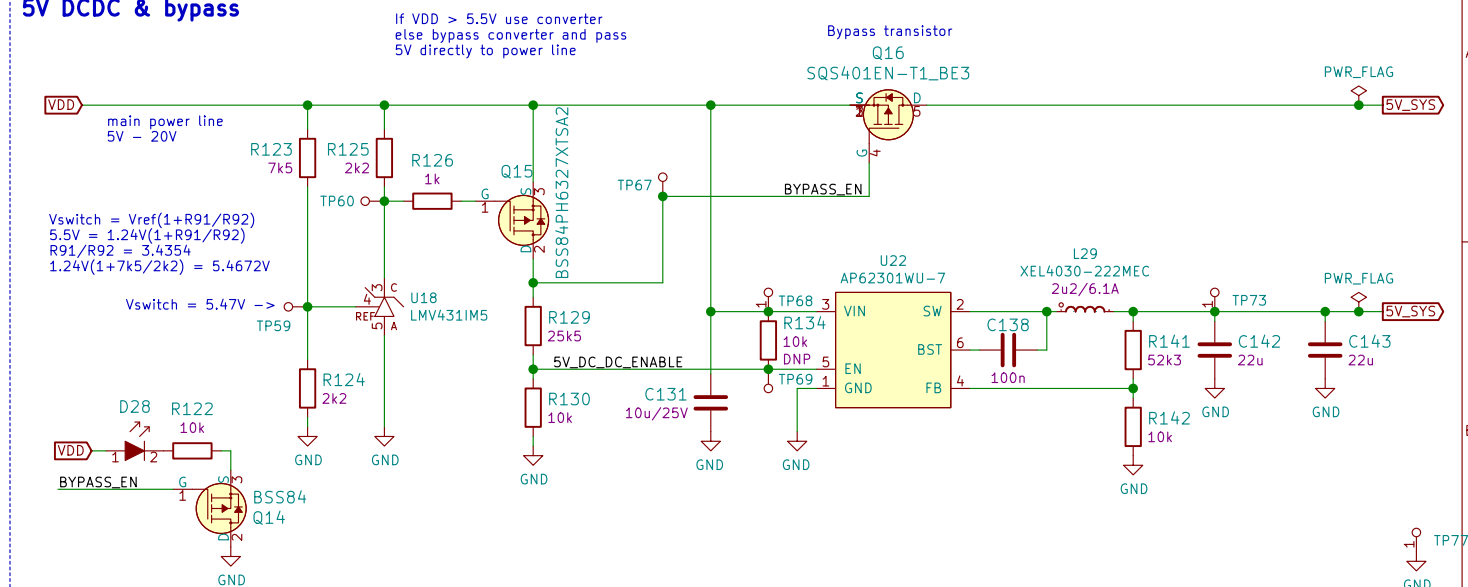
Rev: 1.0.0  
Id: 9/12

## Power section

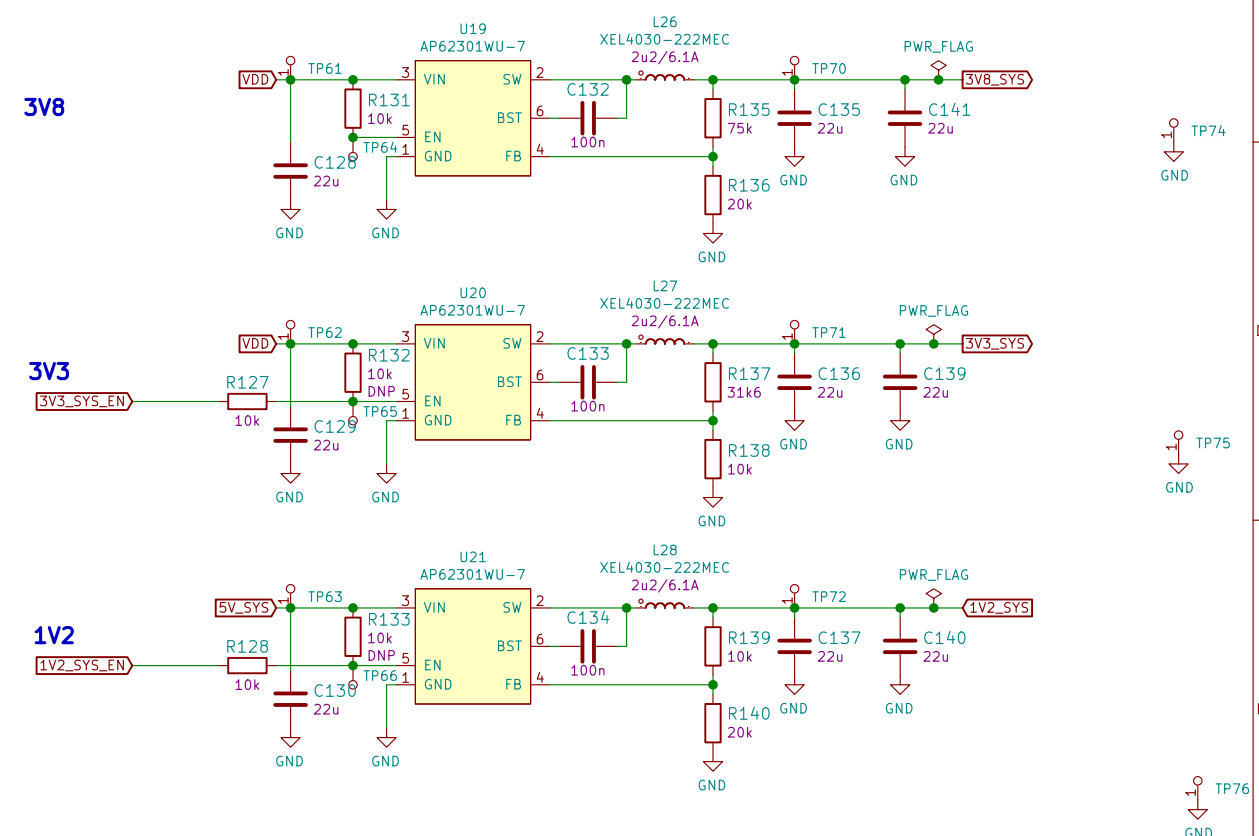
### Source selector



## 5V DCDC & bypass



### System DCDCs



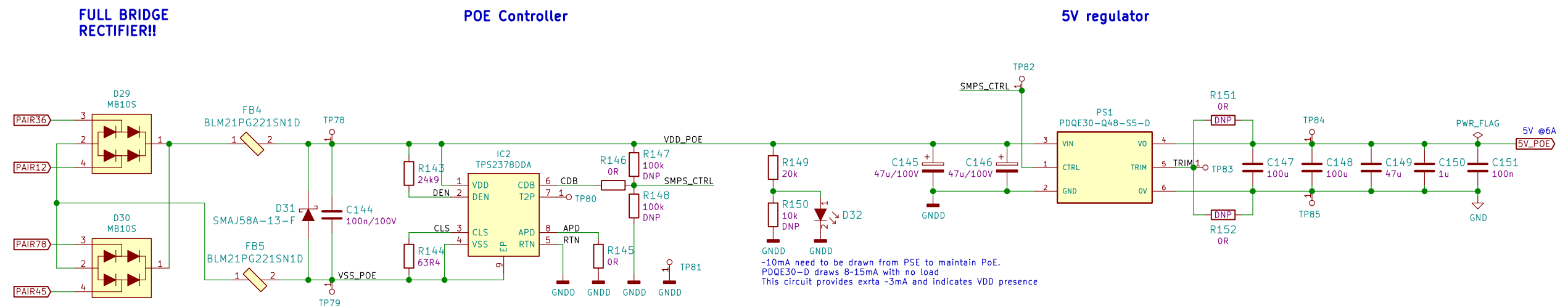
Antmicro Ltd.  
www.antmicro.com

Sheet: /PSU/  
File: psu.sch

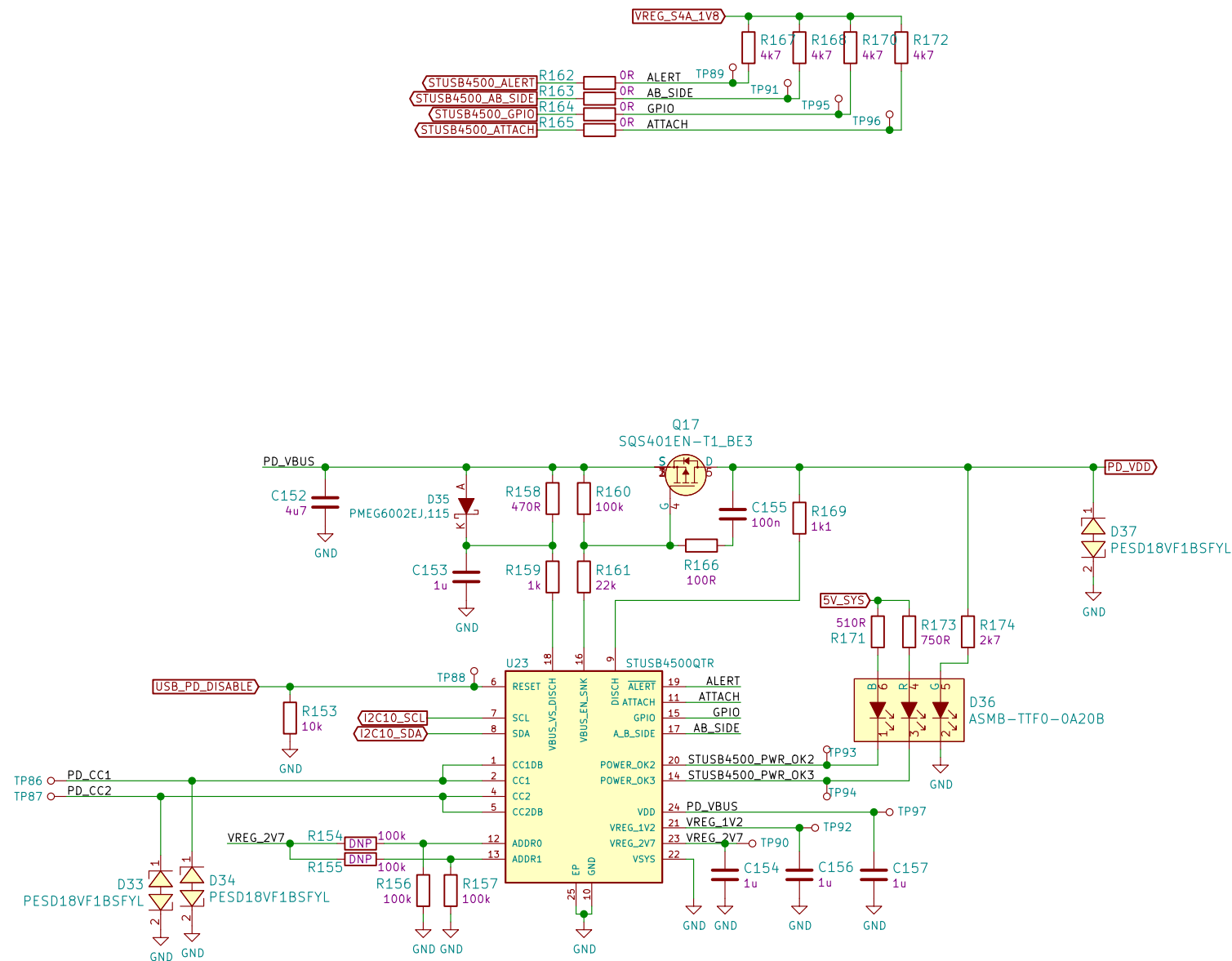
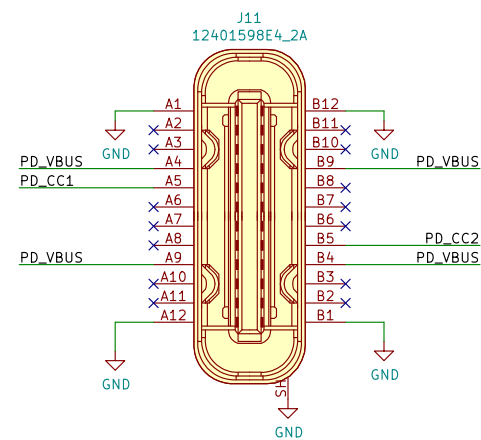
Title: SA800U (Snapdragon 845) Baseboard

Size: A3	Date: 2022-03-28
KiCad E.D.A. eeschema 5.1.9+dfsq1-	

Rev: 1.0.0
Id: 10/12



USB-C PD controller



Antmicro Ltd.  
www.antmicro.com

Sheet: /USB-PD/  
File: usb-pd.sch

**Title: SA800U (Snapdragon 845) Baseboard**

Size: A3 Date: 2022-03-28  
KiCad E.D.A. eeschema 5.1.9+dfsg1-1

Rev: 1.0.0  
Id: 12/12