

A

A

To add:

Added:

POR reset chip and button  
SW1 & U4  
USB C stacked connector. To make room for SDcard.  
USB C stacked connector too tall. SD card on reverse.  
3D bodies to PCB lib

Notes:

ALL resistor packages are set to 0402 in the PcbDoc ONLY.  
All resistors are 1% unless otherwise stated.

Diff Pair Class	Impedance
USB3	90R
USB2	90R
Ethernet	100R
mPCIe	100R
PCIe104	85R
GTR	90R
Default	100R

Ethernet diff-pair length matched better than 1mm.  
GTH RX length matched. No GTR3.  
GTH TX length matched except GTH3 which is DP output.

B

B

C

C

D

D

Company: Sundance	Project: EMC3
Title: Cover Page	Revision: 1.0
Date: 16/5/23	Sheet: 1 of 25
Filename: 01 - Title Page.SchDoc	Drawn: *

A

A

B

B

C

C

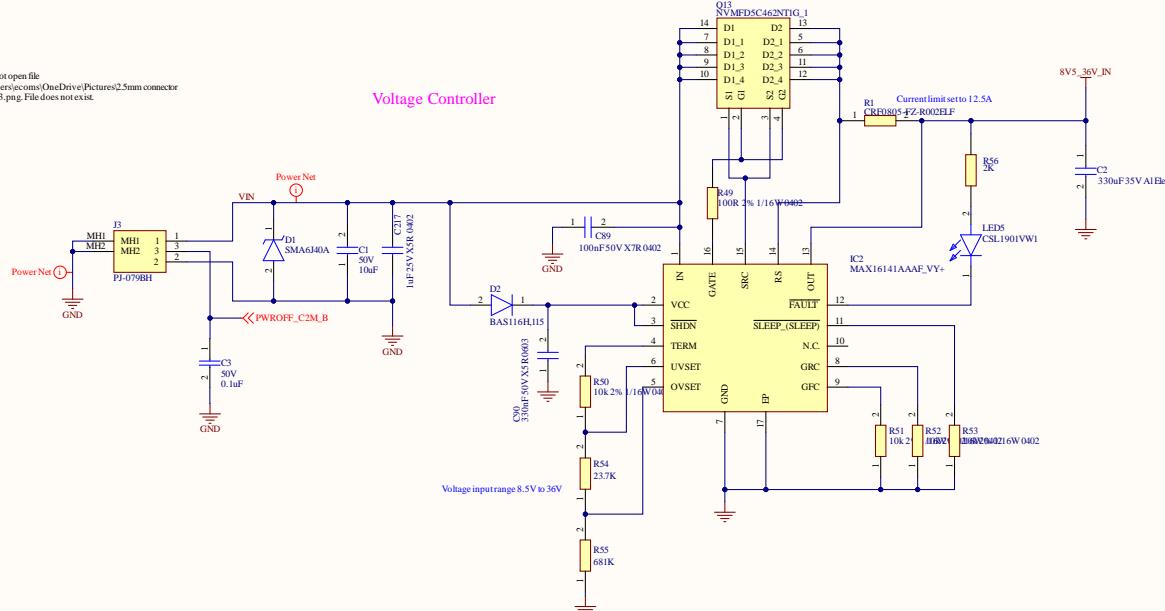
D

D

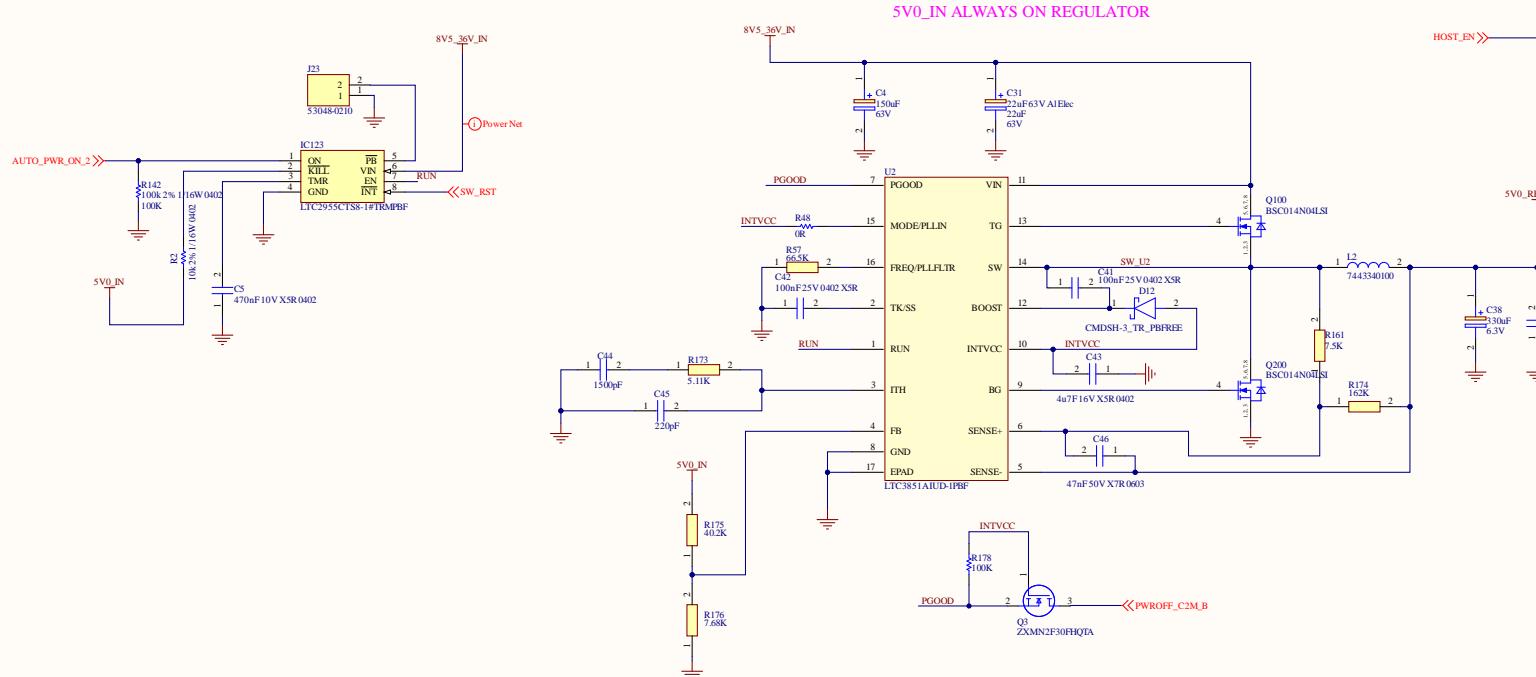
Company: Sundance	Project: EMC3
Title: Block Diagram	Revision: 1.0
Date: 16/5/23	Sheet: 2 of 25
Filename: 02 - Block Diagram.SchDoc	Drawn: *

Cannot open file  
C:\Users\coms\OneDrive\Pictures\2.5mm connector  
EMC3.png. File does not exist.

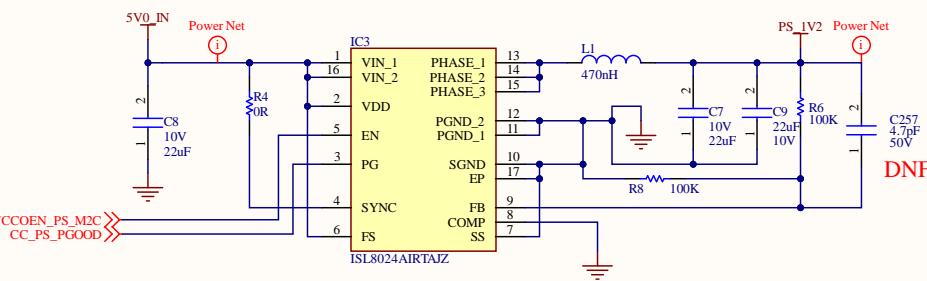
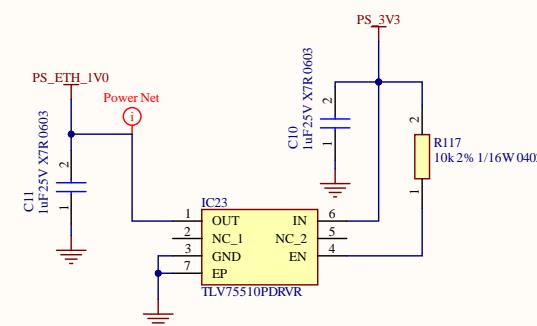
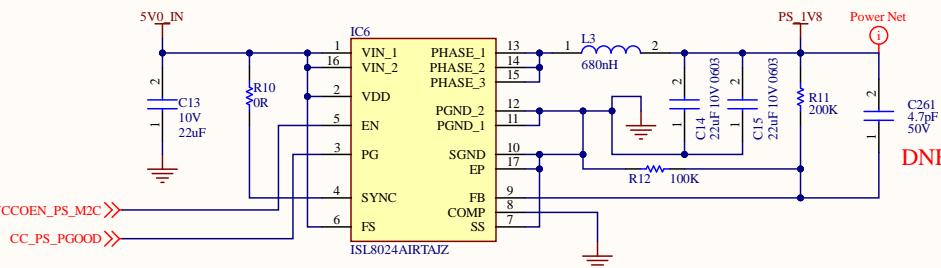
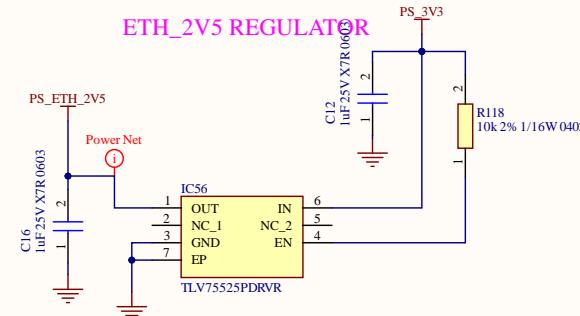
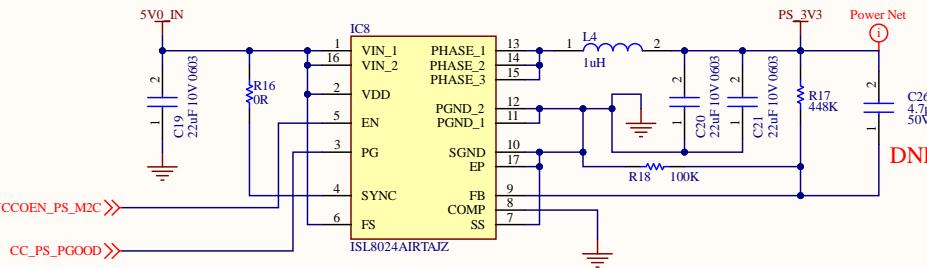
### Voltage Controller



### 5V0\_IN ALWAYS ON REGULATOR

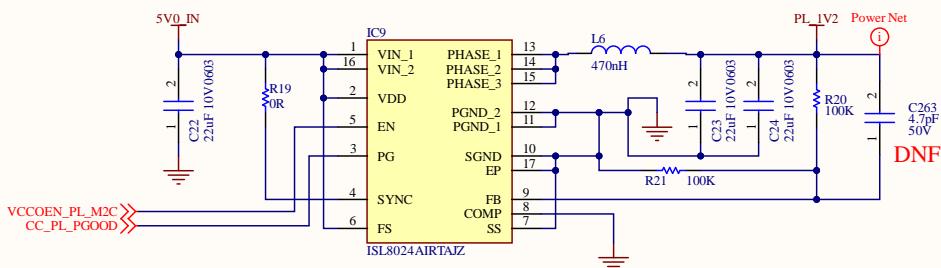
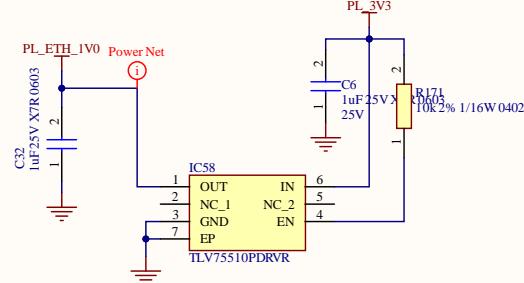
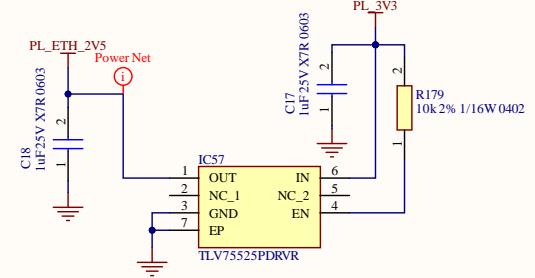
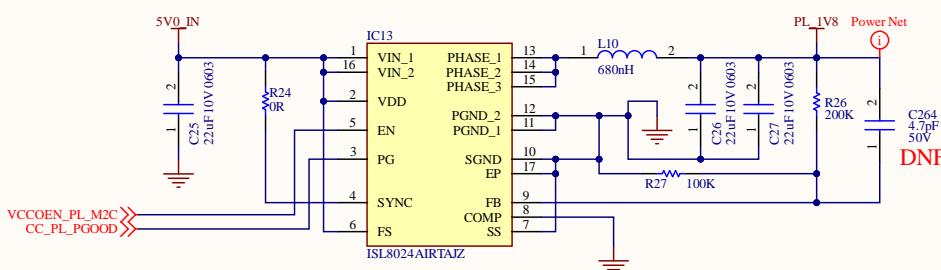
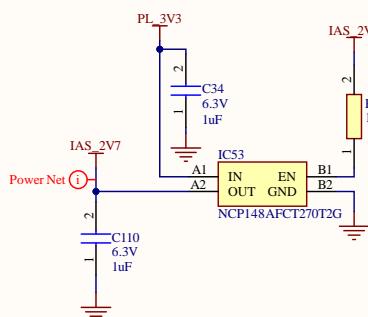
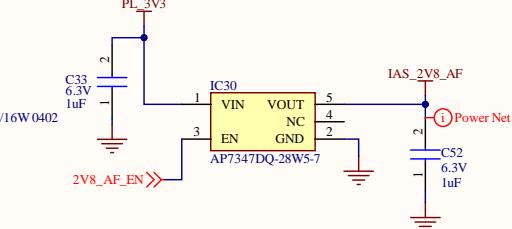
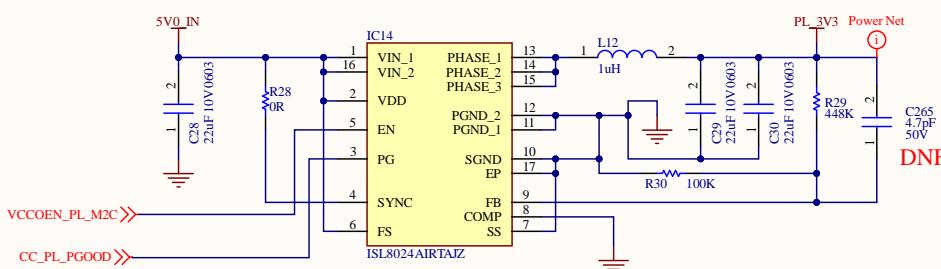


Company: Sundance	Project: EMC3
Title: Always On Power	Revision: 1.0
Date: 16/5/23	Sheet: 3 of 25
Filename: 03 - Always On Pwr.SchDoc	Drawn: *

**PS\_1V2 REGULATOR****ETH\_1V0 REGULATOR****PS\_1V8 REGULATOR****ETH\_2V5 REGULATOR****PS\_3V3 REGULATOR**

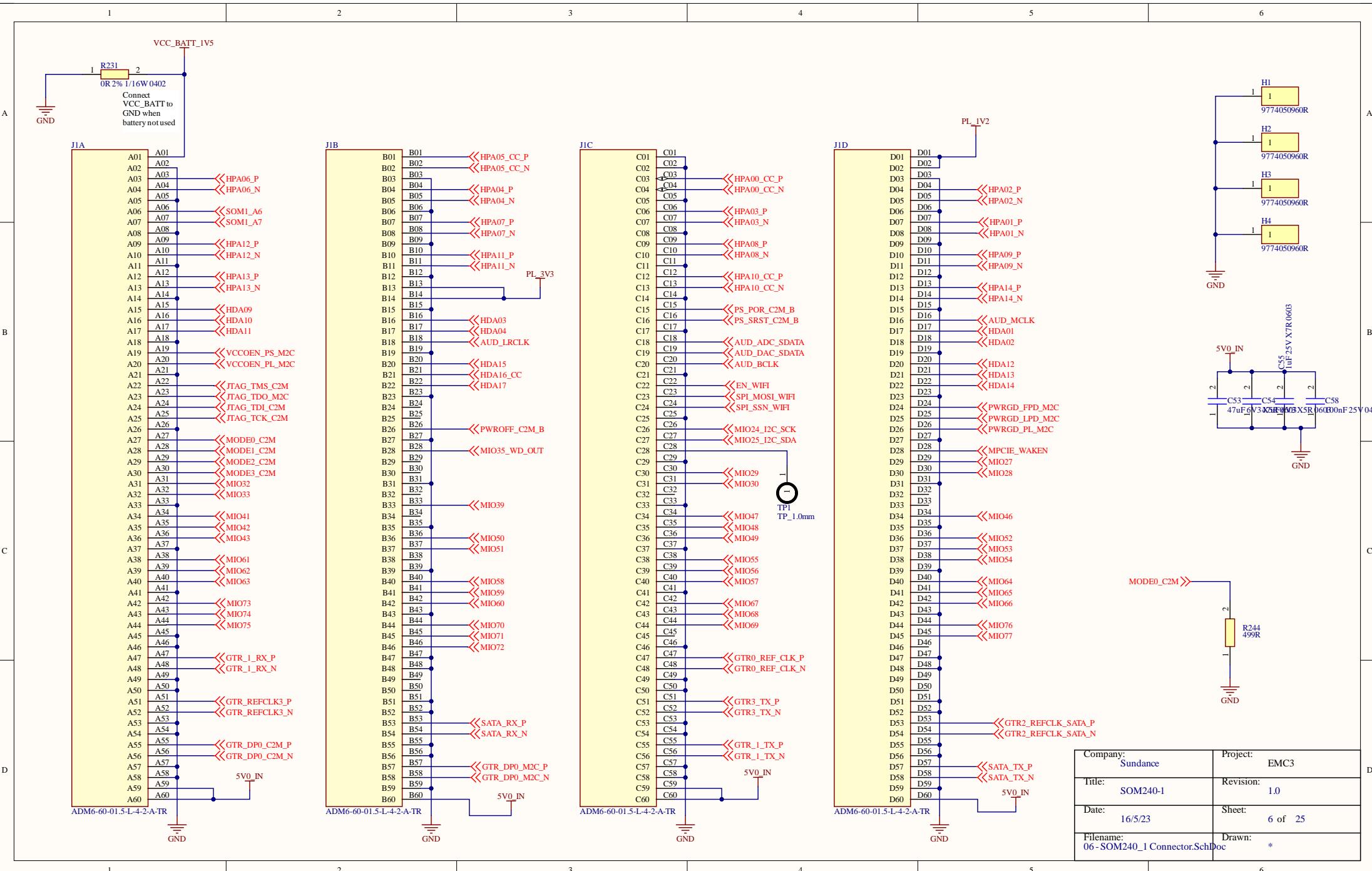
Company: Sundance	Project: EMC3
Title: PS Power	Revision: 1.0
Date: 16/5/23	Sheet: 4 of 25
Filename: 04 - PS Power.SchDoc	Drawn: *

1 2 3 4 5 6

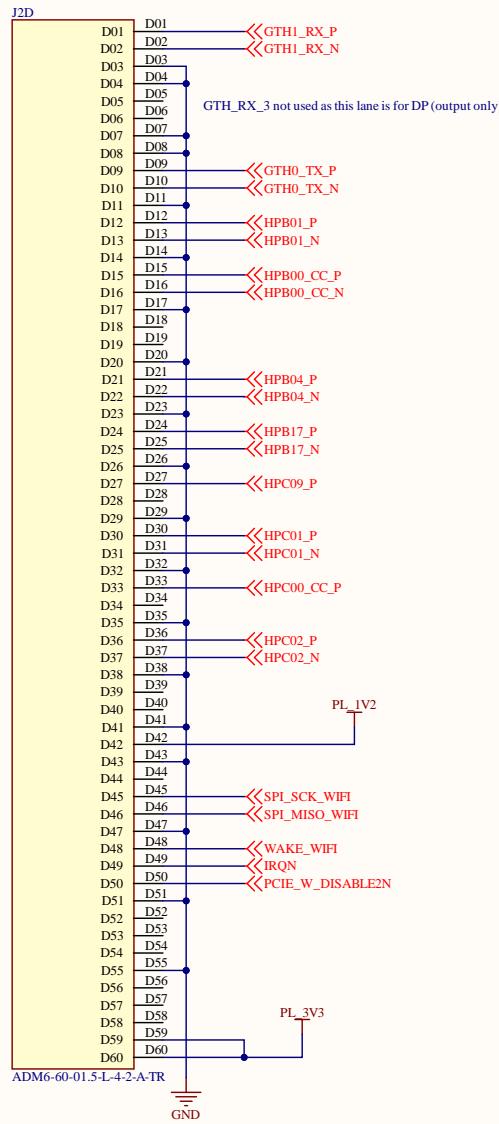
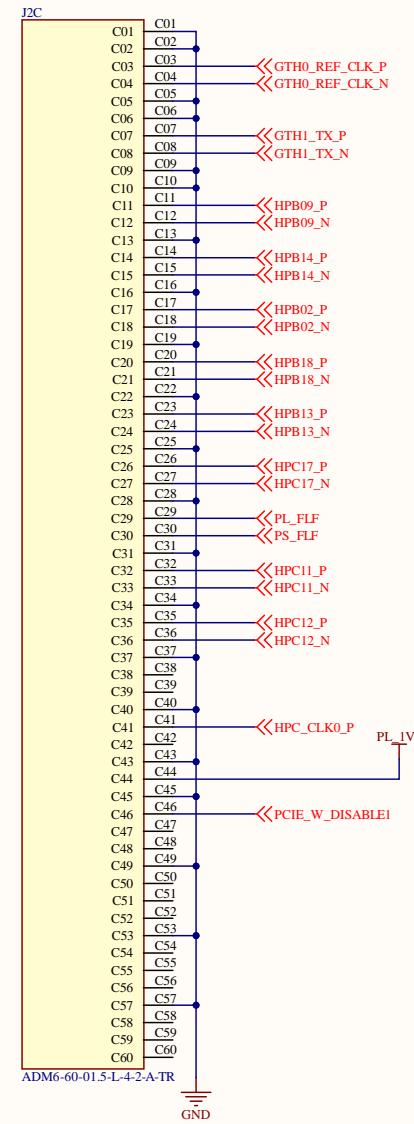
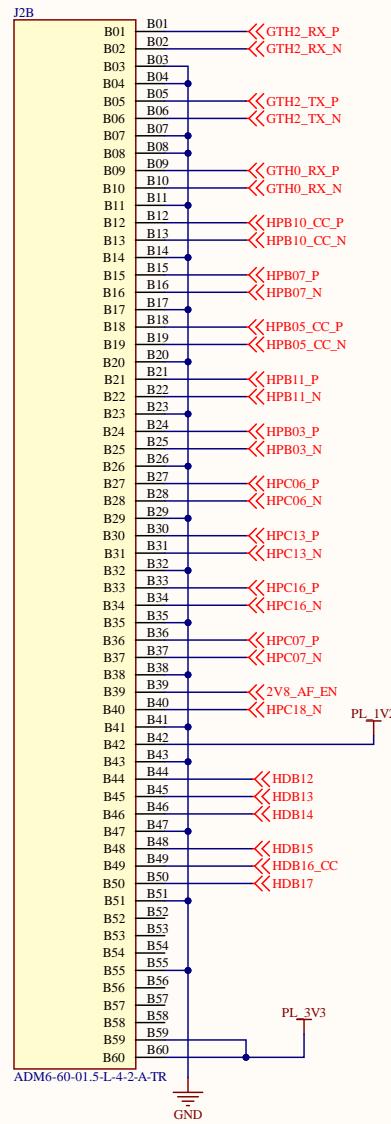
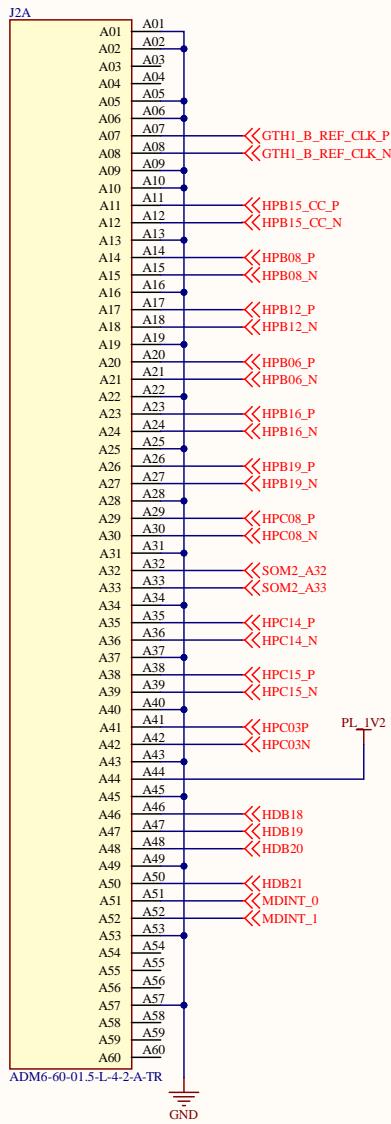
**PL\_1V2 REGULATOR****ETH\_1V0 REGULATOR****ETH\_2V5 REGULATOR****PL\_1V8 REGULATOR****IAS\_2V7 REGULATOR****IAS\_2V8 Auto Focus REGULATOR****PL\_3V3 REGULATOR**

Company: Sundance	Project: EMC3
Title: PL Power	Revision: 1.0
Date: 16/5/23	Sheet: 5 of 25
Filename: 05 - PL Power.SchDoc	Drawn: *

1 2 3 4 5 6



1 2 3 4 5 6

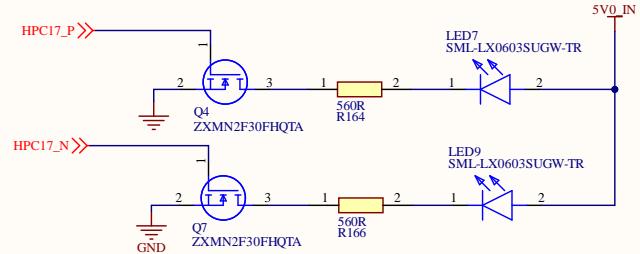


Company: Sundance	Project: EMC3
Title: SOM240-2	Revision: 1.0
Date: 16/5/23	Sheet: 7 of 25
Filename: 07 - SOM240_2 Connector.SchDoc	Drawn: *

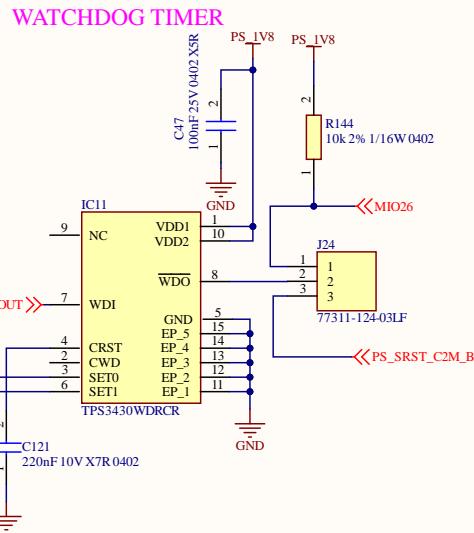
1 2 3 4 5 6

1 2 3 4 5 6

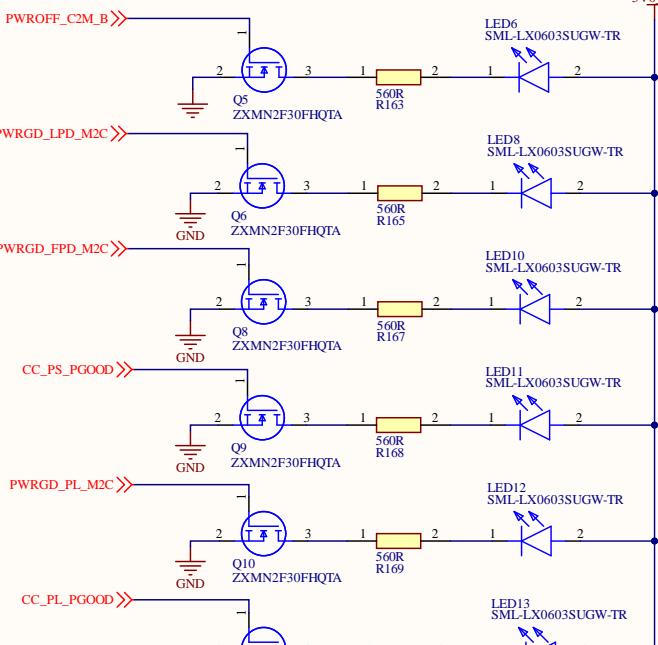
### DEBUG LEDS



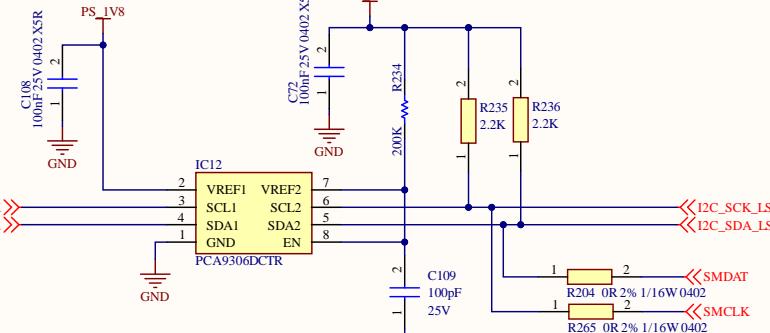
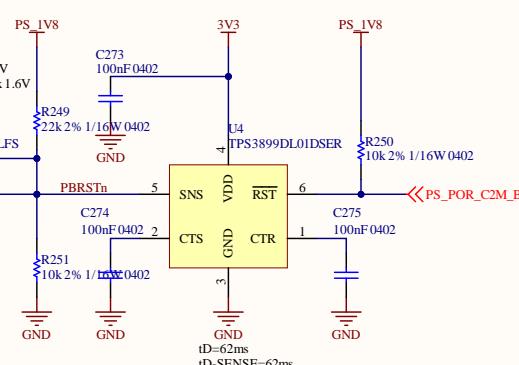
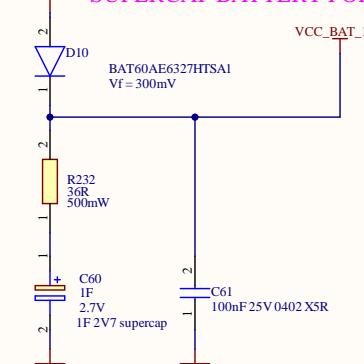
### WATCHDOG TIMER



### POWER STATUS LEDs



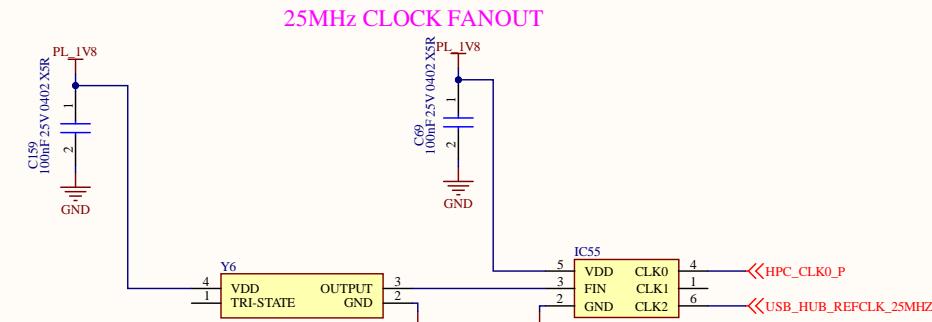
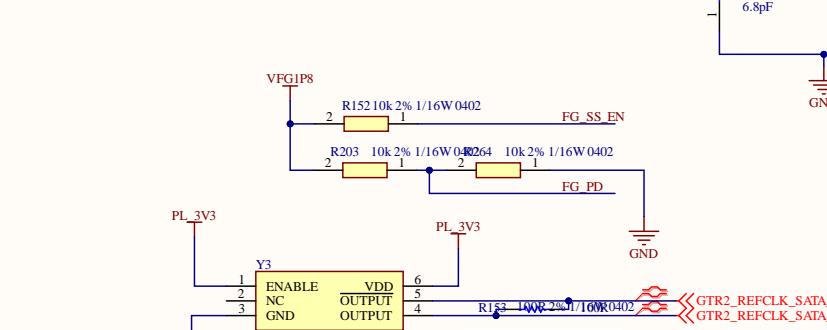
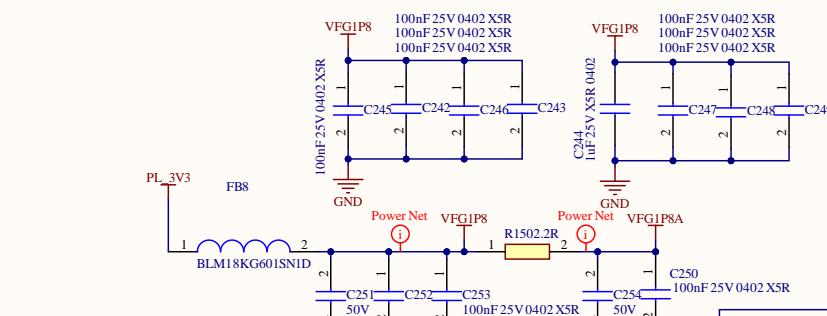
### SUPERCAP BATTERY FOR RTC



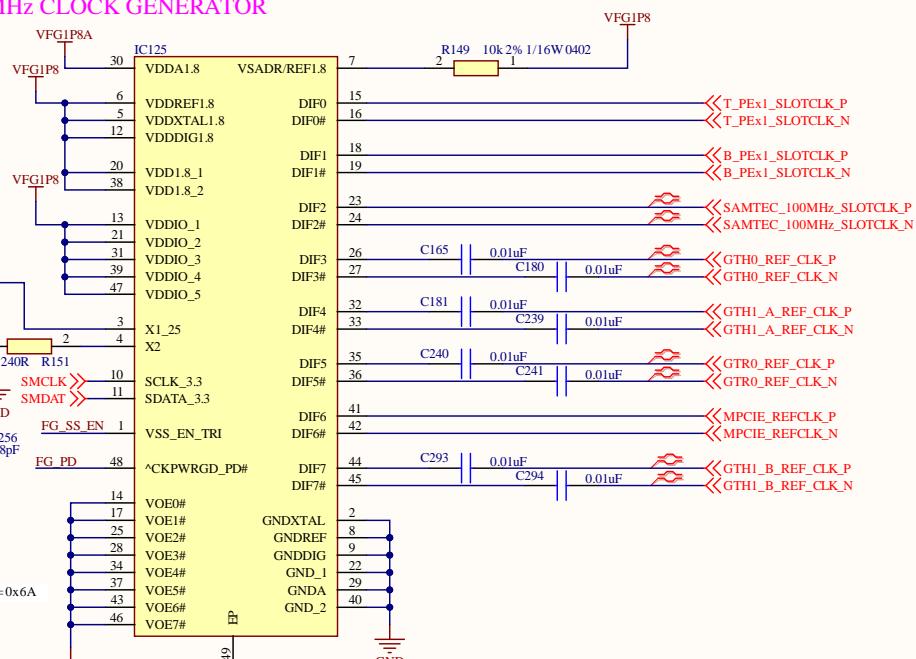
### EEPROM

Company: Sundance	Project: EMC3
Title: E2, RTC, I2C	Revision: 1.0
Date: 16/5/23	Sheet: 8 of 25
Filename: 08 - EEPROM, RTC, WD, I2C, Drawn:	LEDs.SchDoc*

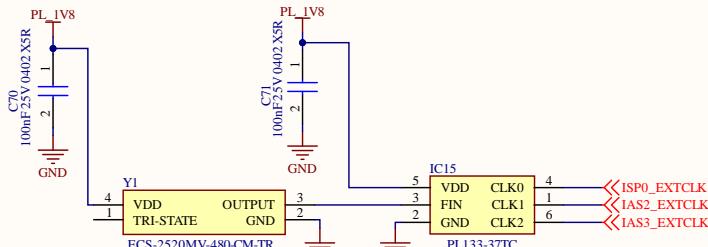
1 2 3 4 5 6



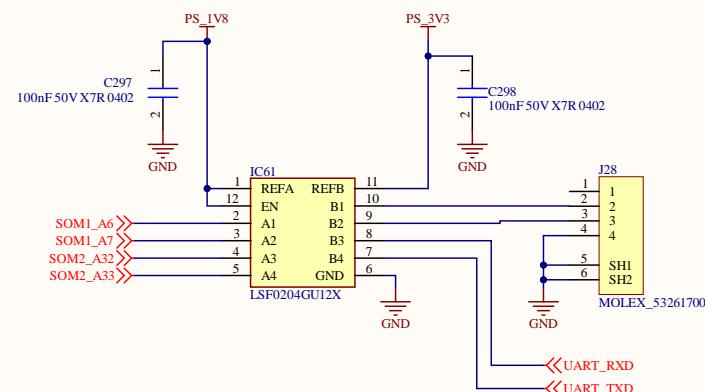
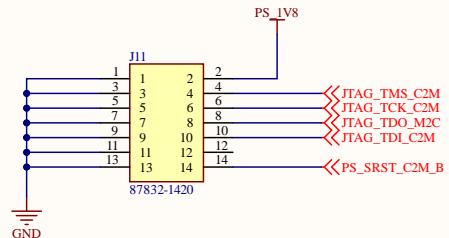
### 100MHz CLOCK GENERATOR



### 48MHz CLOCK FANOUT

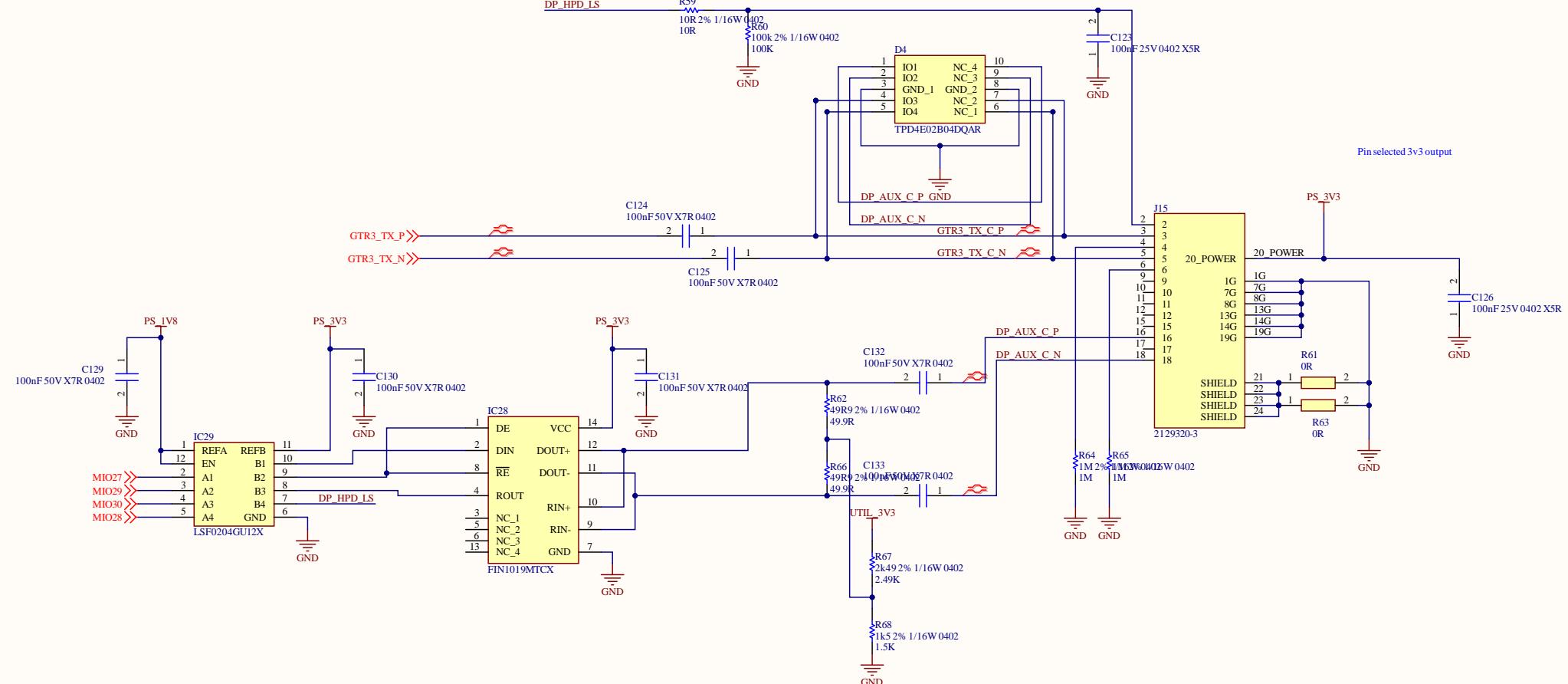


Company: Sundance	Project: EMC3
Title: Clock gen.	Revision: 1.0
Date: 16/5/23	Sheet: 9 of 25
Filename: 09 - Clock gen.SchDoc	Drawn: *

**JTAG**

Company: Sundance	Project: EMC3
Title: JTAG	Revision: 1.0
Date: 16/5/23	Sheet: 10 of 25
Filename: 10 - JTAG UART.SchDoc	Drawn: *

## Display Port

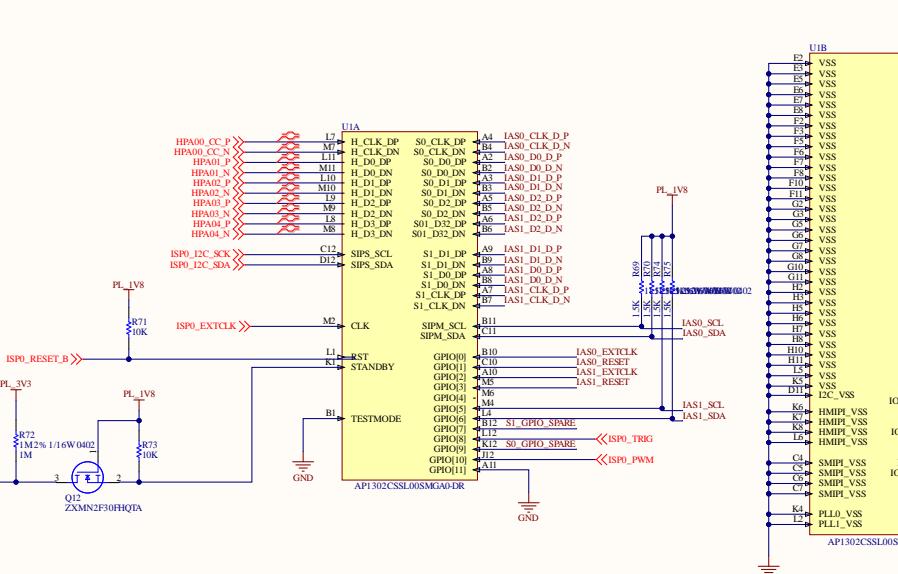


Pin selected 3v3 output

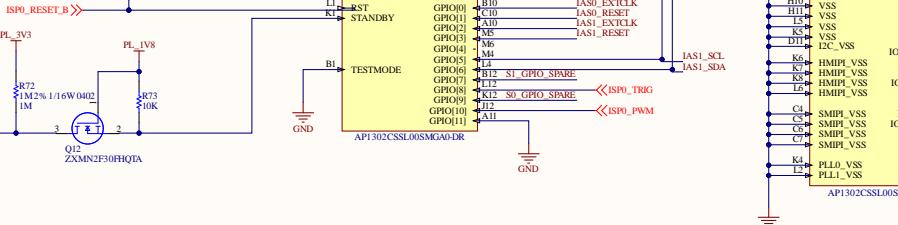
Company: Sundance	Project: EMC3
Title: DisplayPort	Revision: 1.0
Date: 16/5/23	Sheet: 11of 25
Filename: 11 - Display Port.SchDoc	Drawn: *

## Camera MIPI connectors

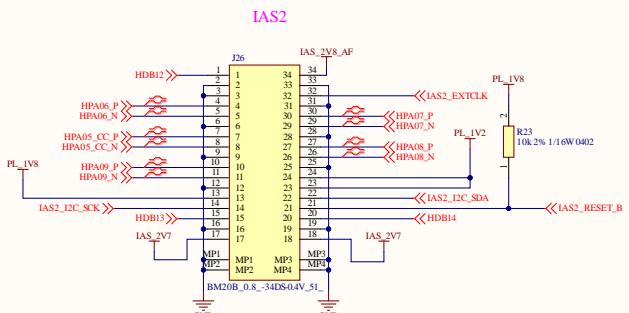
A



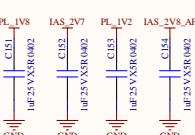
B



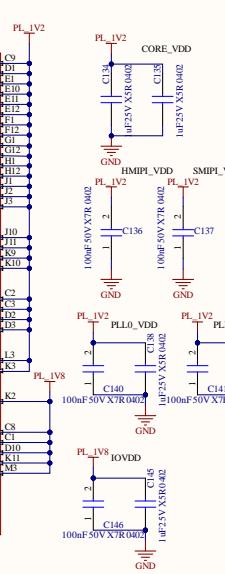
C



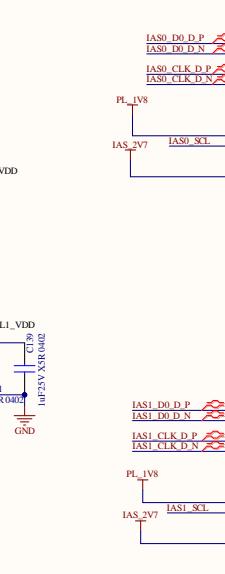
D



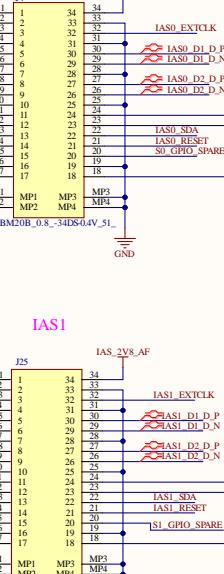
E



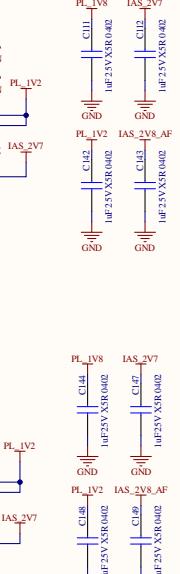
F



G



H



I



J



K

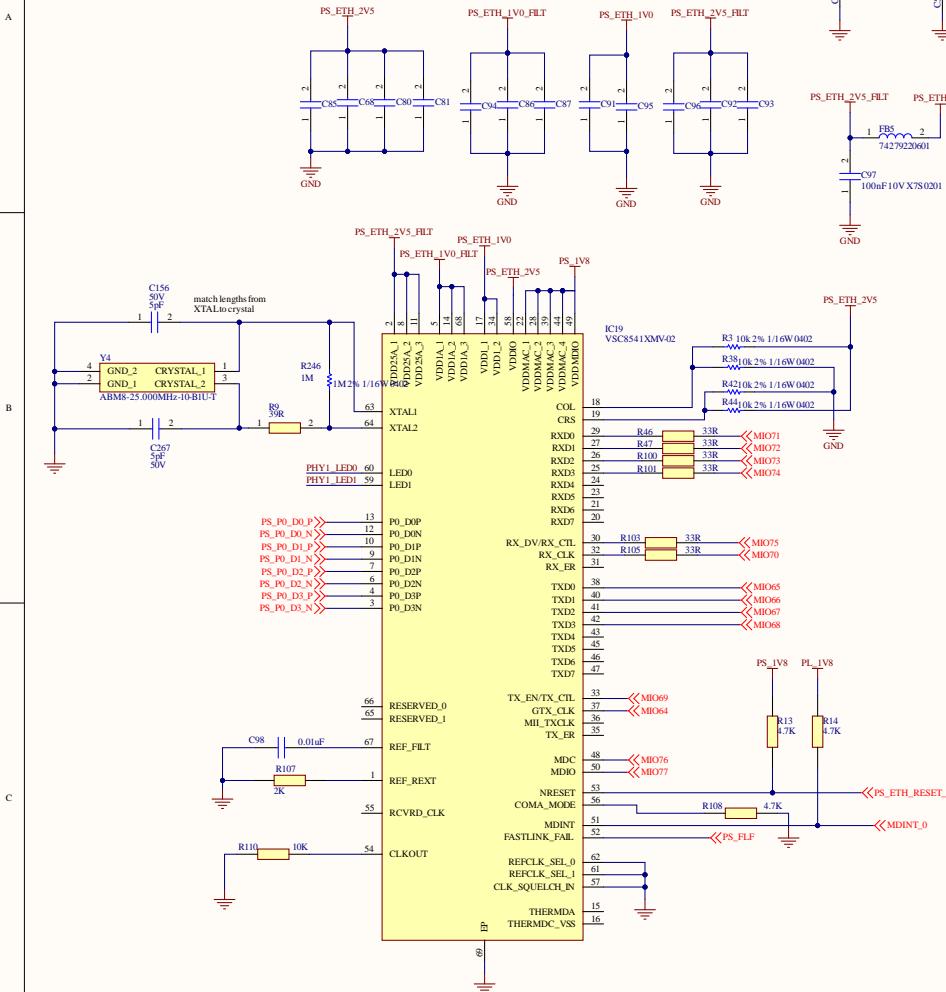


L

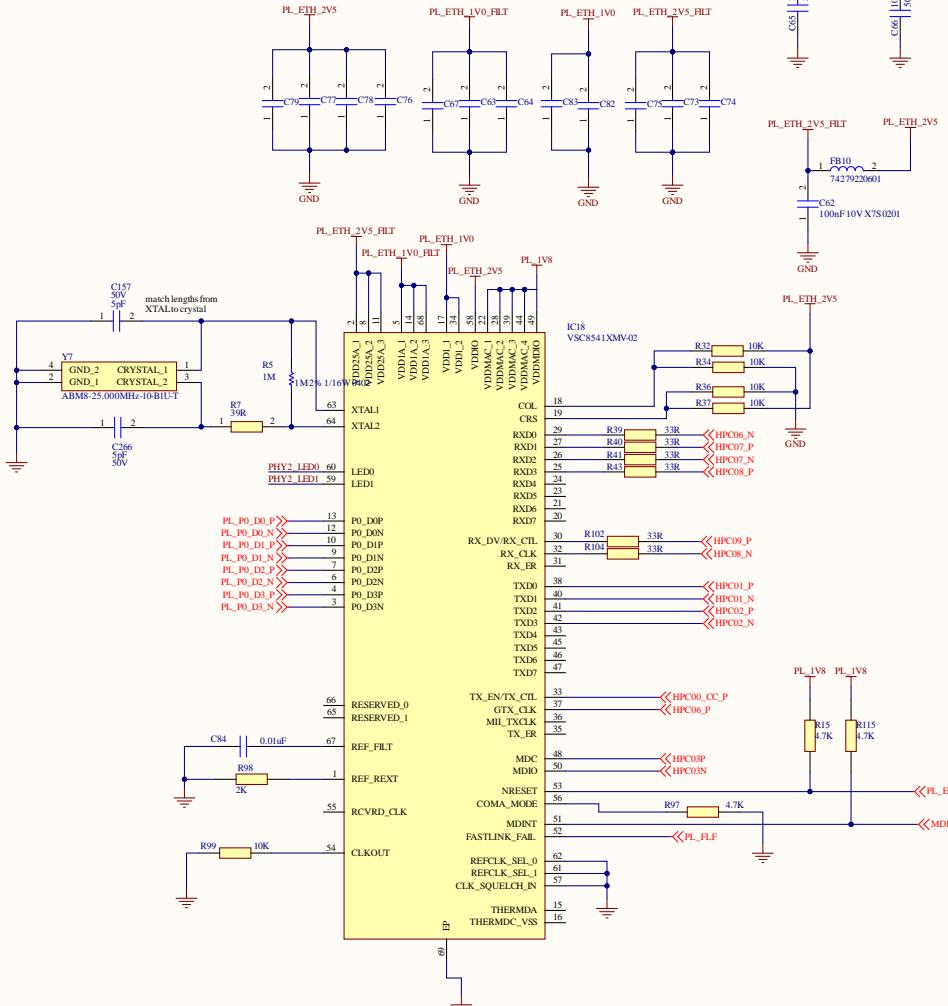


Company: Sundance	Project: EMC3
Title: MIPI	Revision: 1.0
Date: 16/5/23	Sheet: 12 of 25
Filename: 12 - IAS MIPI Camera.SchDoc	Drawn: *

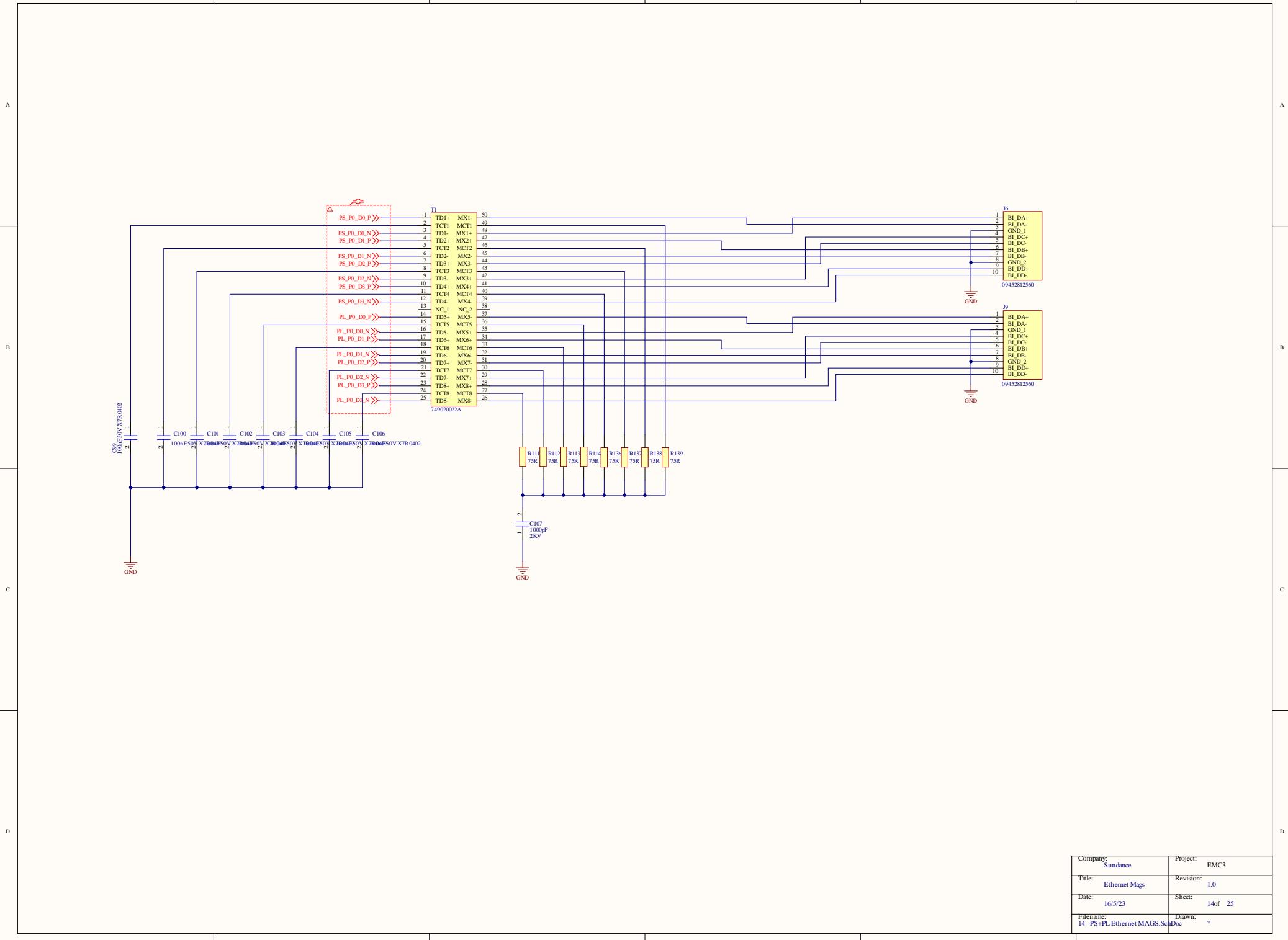
## Ethernet PHY for PS



## Ethernet PHY for PL



Company: Sundance	Project: EMC3
Title: PS & PL Ethernet	Revision: 1.0
Date: 16/5/23	Sheet: 13 of 25
Filename: 13 - PS+PL Ethernet PHY.SchDoc	Drawn: *



Company: Sundance	Project: EMC3
Title: Ethernet Mags	Revision: 1.0
Date: 16/5/23	Sheet: 14 of 25
Filename: 14 - PS+PL Ethernet MAGS.SchDoc	Drawn: *

1 2 3 4 5 6

A

B

C

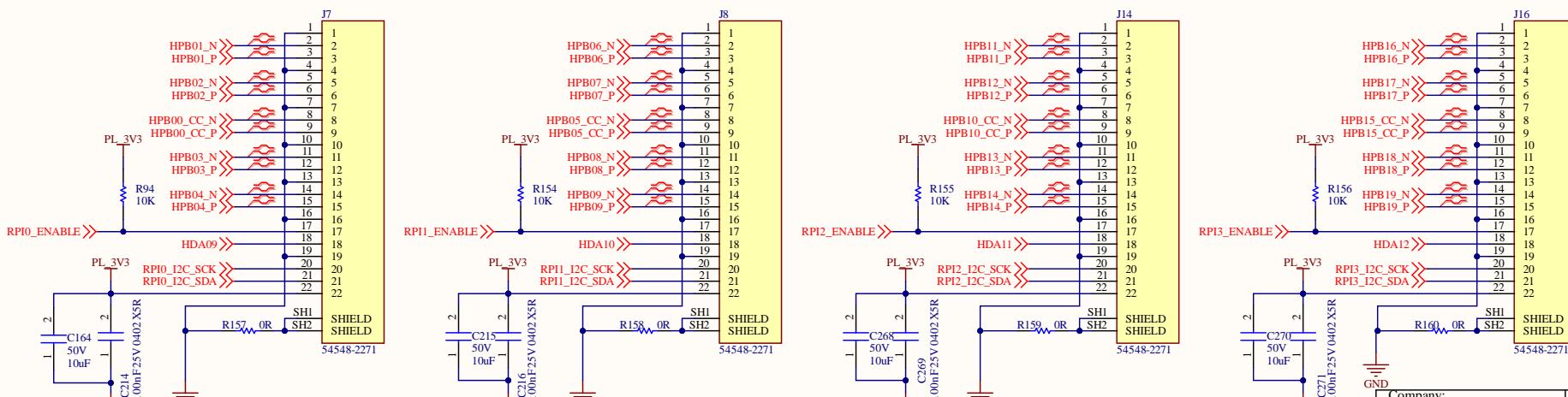
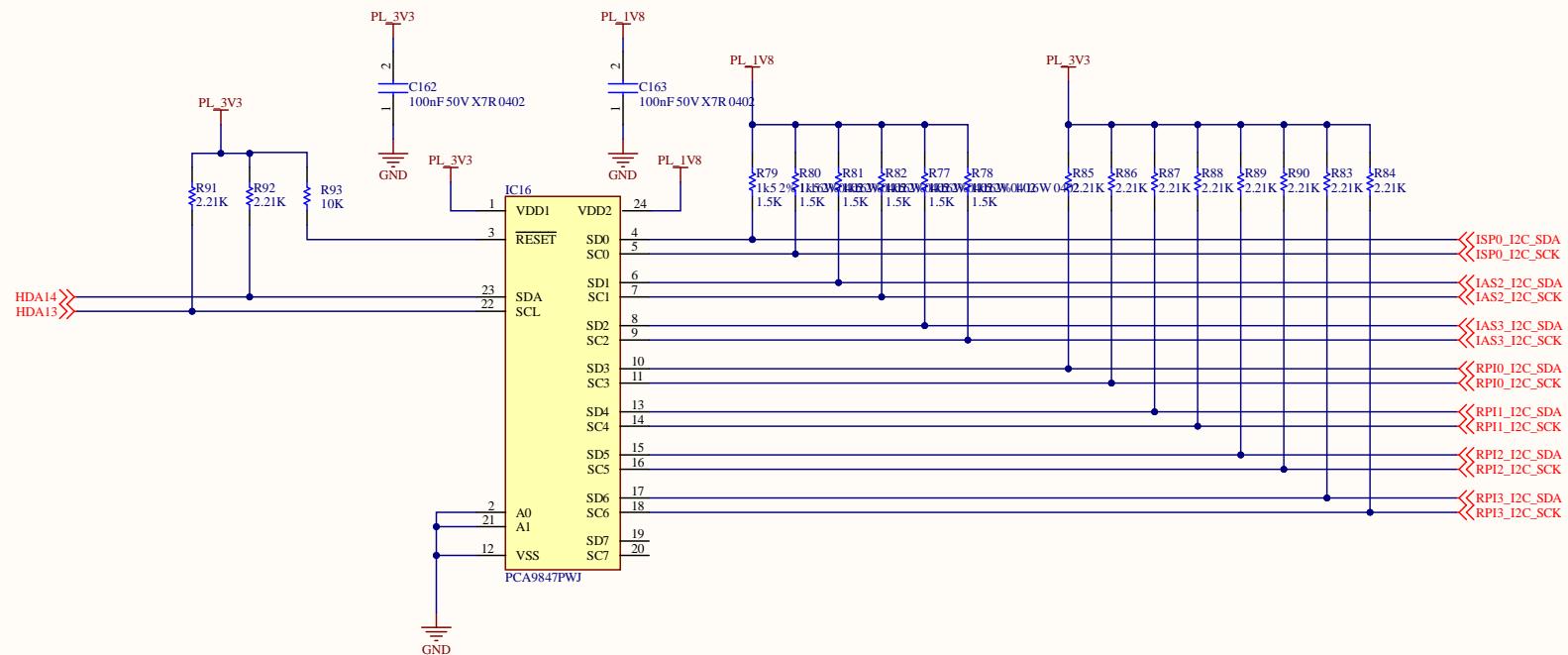
D

A

B

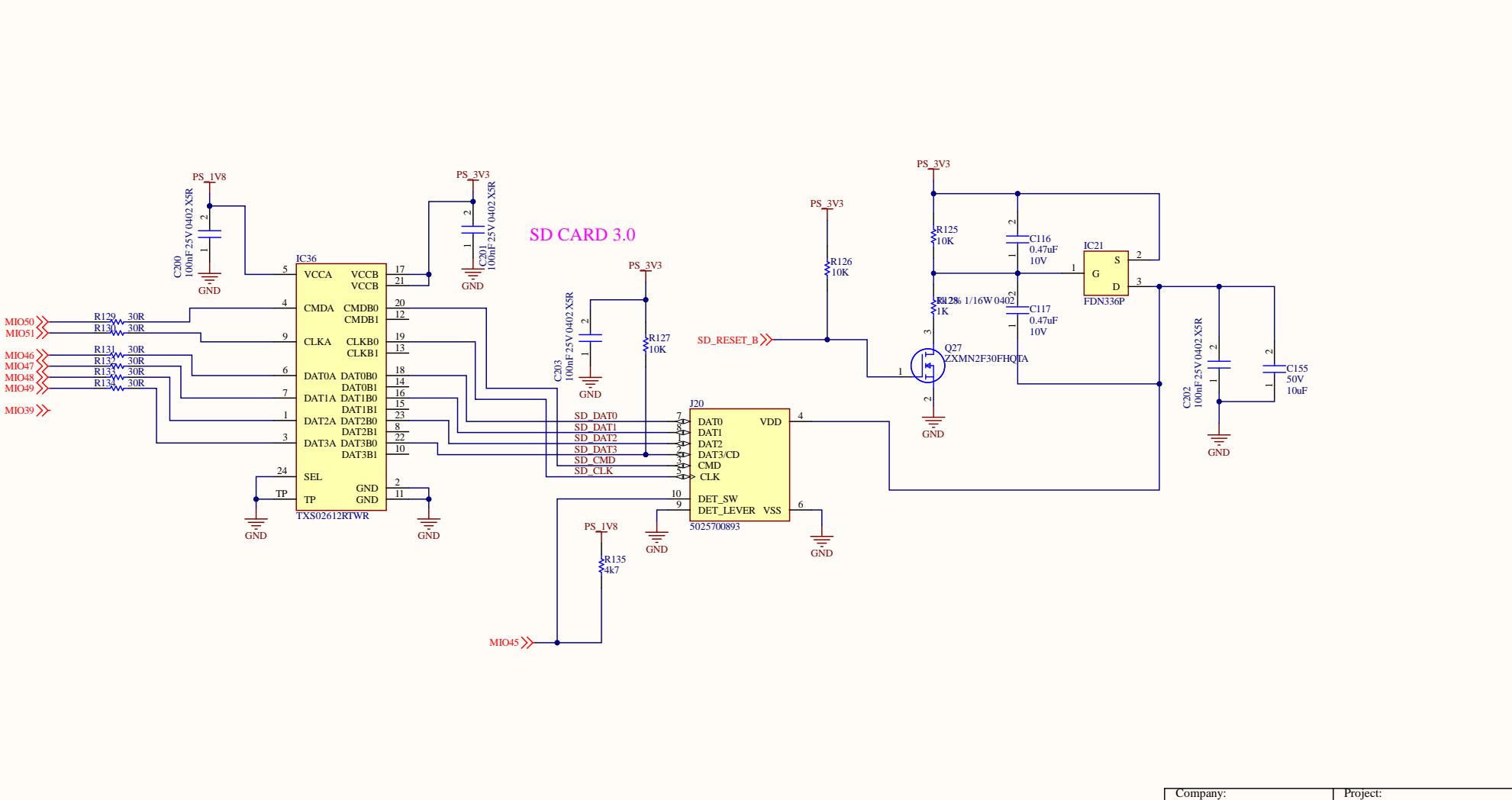
C

D

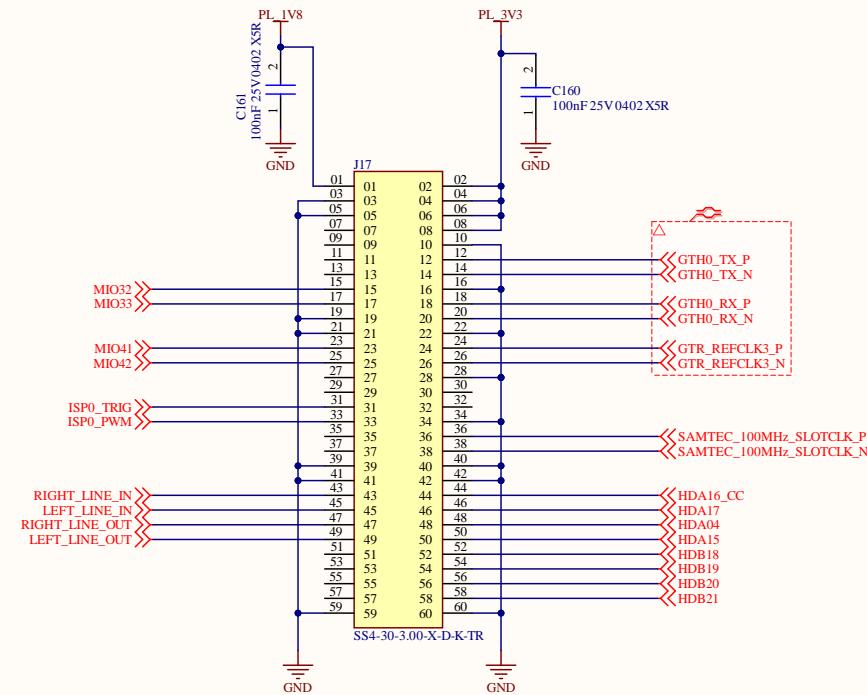


Company: Sundance	Project: EMC3
Title: RPi Camera	Revision: 1.0
Date: 16/5/23	Sheet: 15of 25
Filename: 15 - RPi Camera Connectors, I2C.SchDoc	Drawn: *

1 2 3 4 5 6



Company: Sundance	Project: EMC3
Title: SDcard	Revision: 1.0
Date: 16/5/23	Sheet: 16of 25
Filename: 16 - SD Card, PMOD.SchDoc	Drawn: *



Company: Sundance	Project: EMC3
Title: Samtec Con.	Revision: 1.0
Date: 16/5/23	Sheet: 17 of 25
Filename: 17 - Samtec Razor Beam connector.SchDoc *	Drawn:

A

A

B

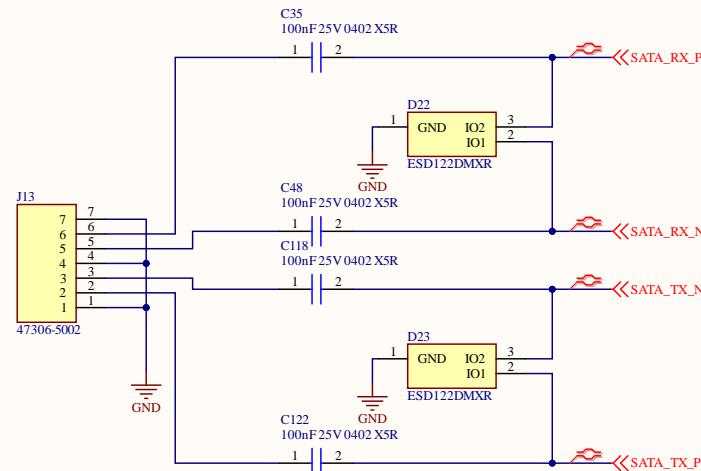
B

C

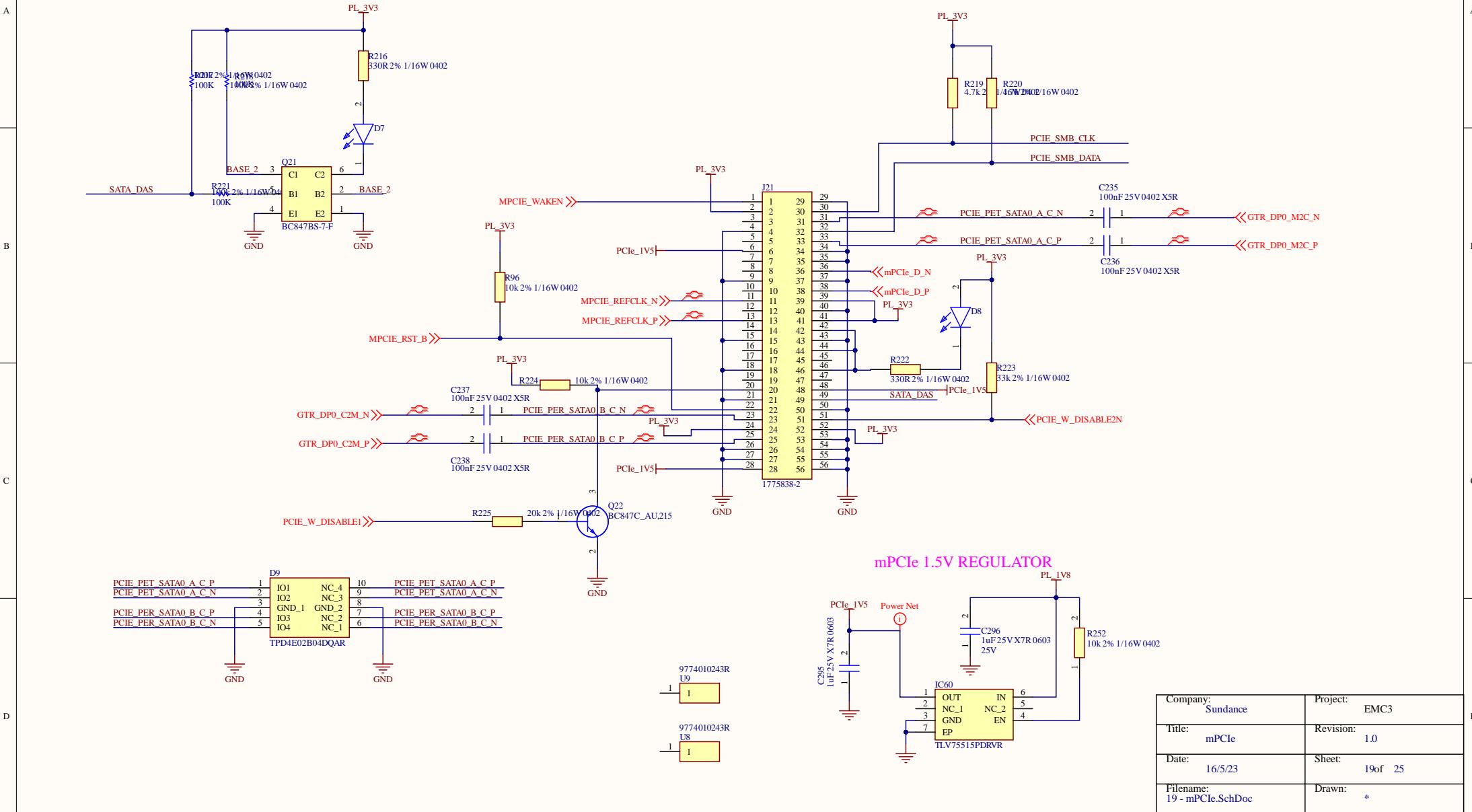
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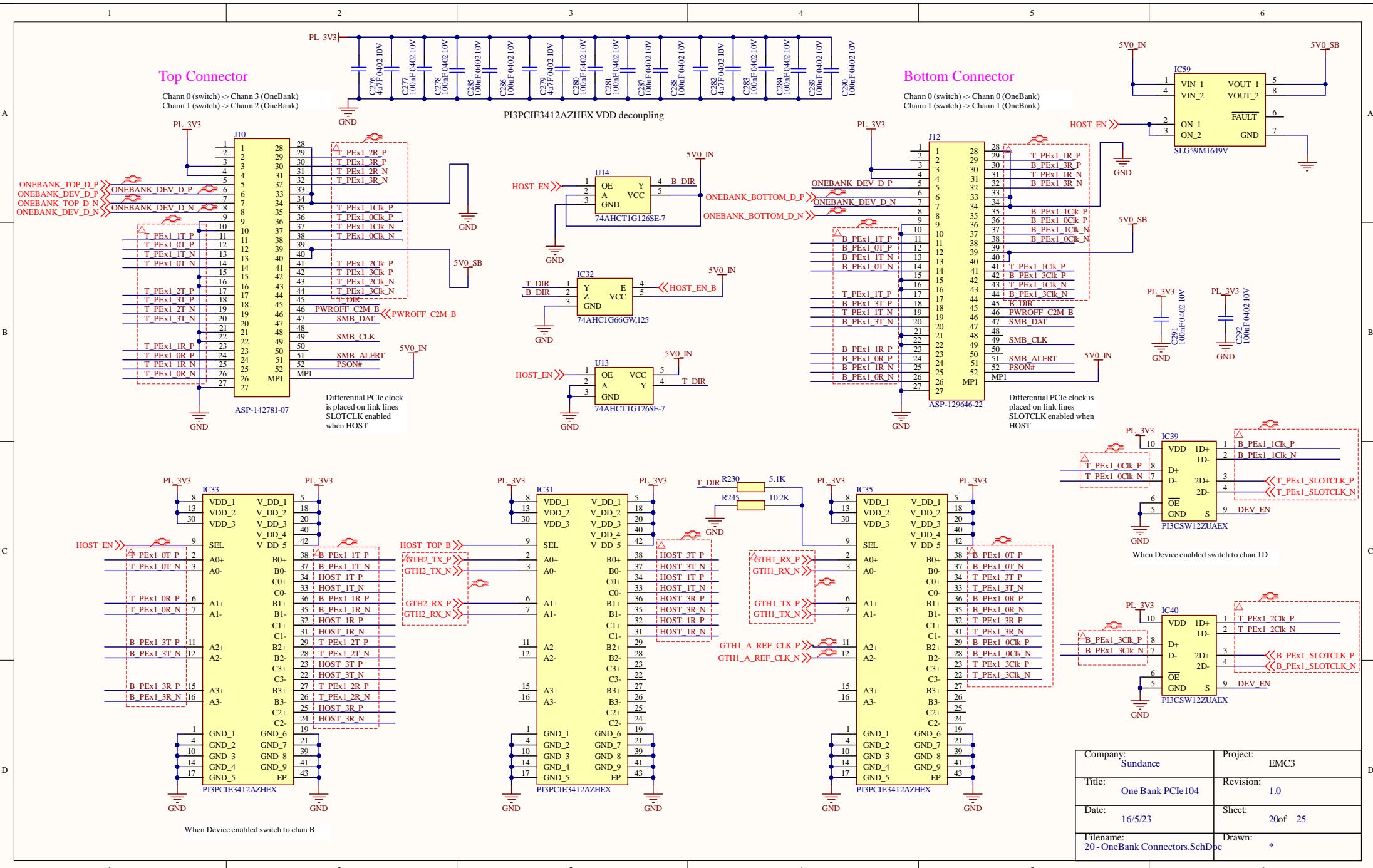
D

D



Company: Sundance	Project: EMC3
Title: SATA	Revision: 1.0
Date: 16/5/23	Sheet: 18of 25
Filename: 18 - SATA Connector.SchDoc	Drawn: *





A

A

B

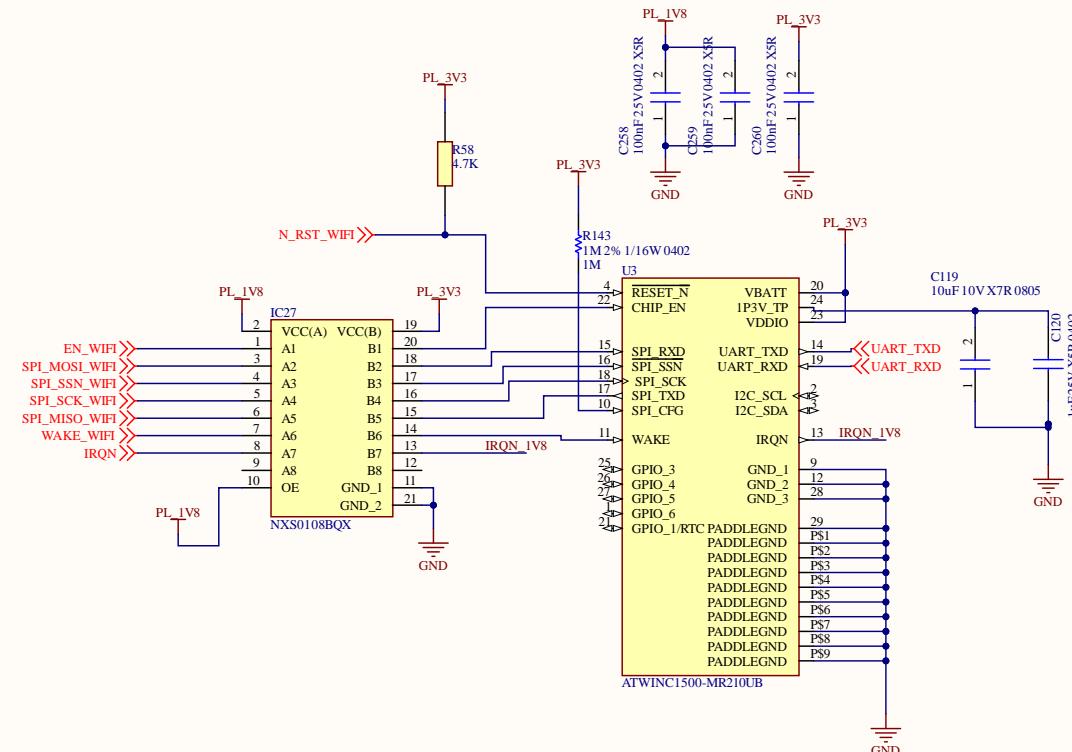
B

C

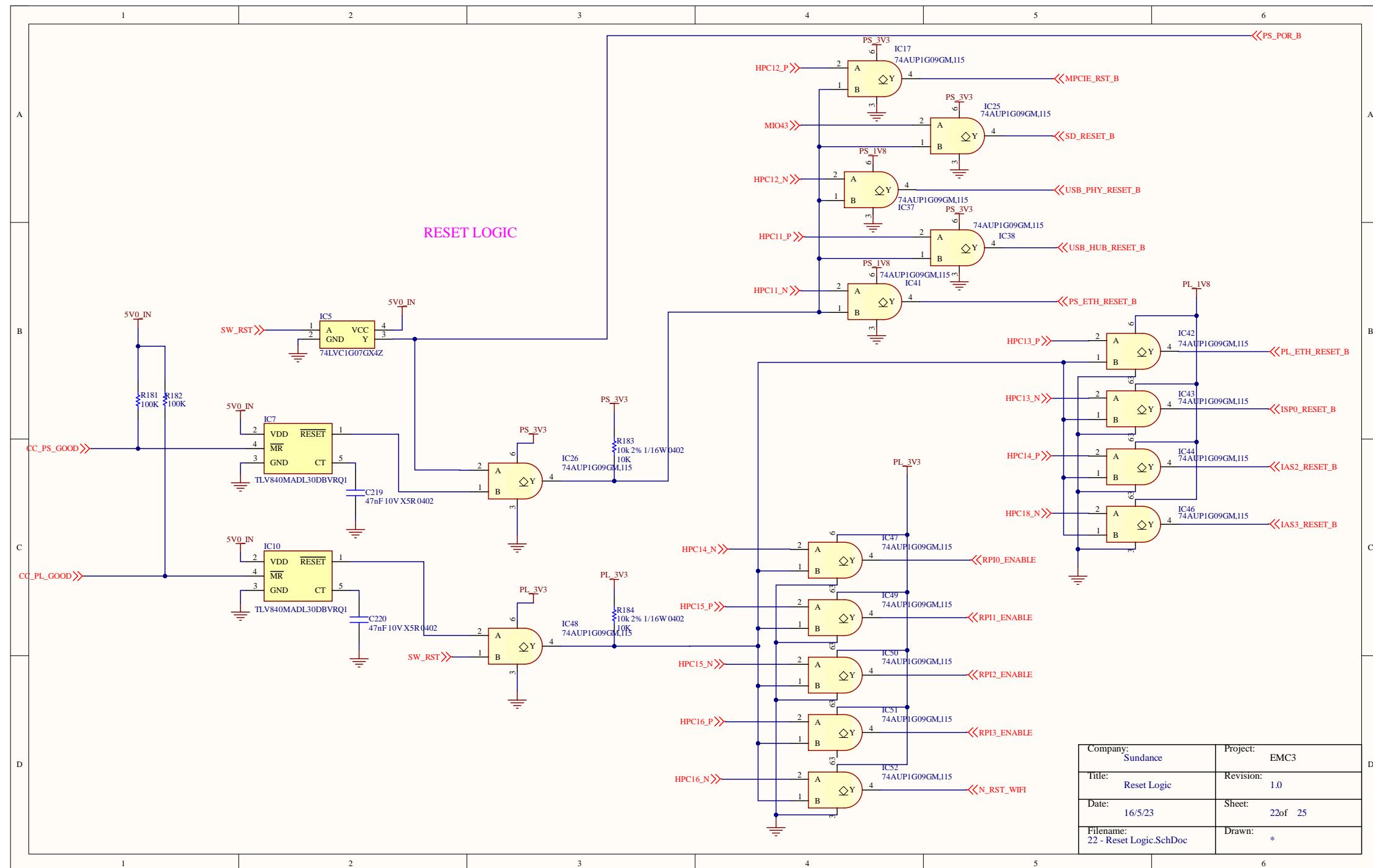
C

D

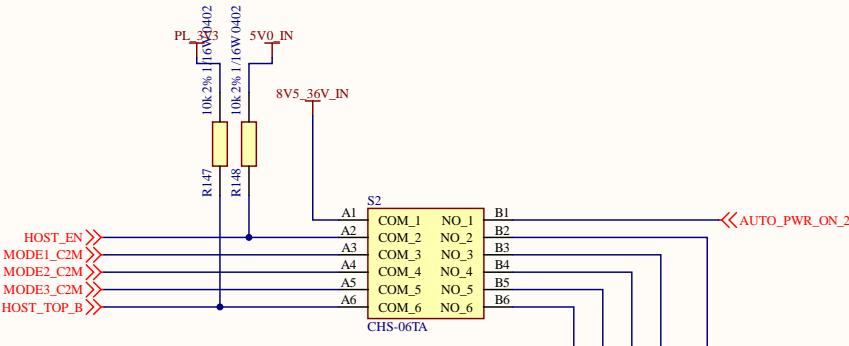
D



Company: Sundance	Project: EMC3
Title: WiFi	Revision: 1.0
Date: 16/5/23	Sheet: 21of 25
Filename: 21 - WiFi.SchDoc	Drawn: *



## SWITCH SETTINGS

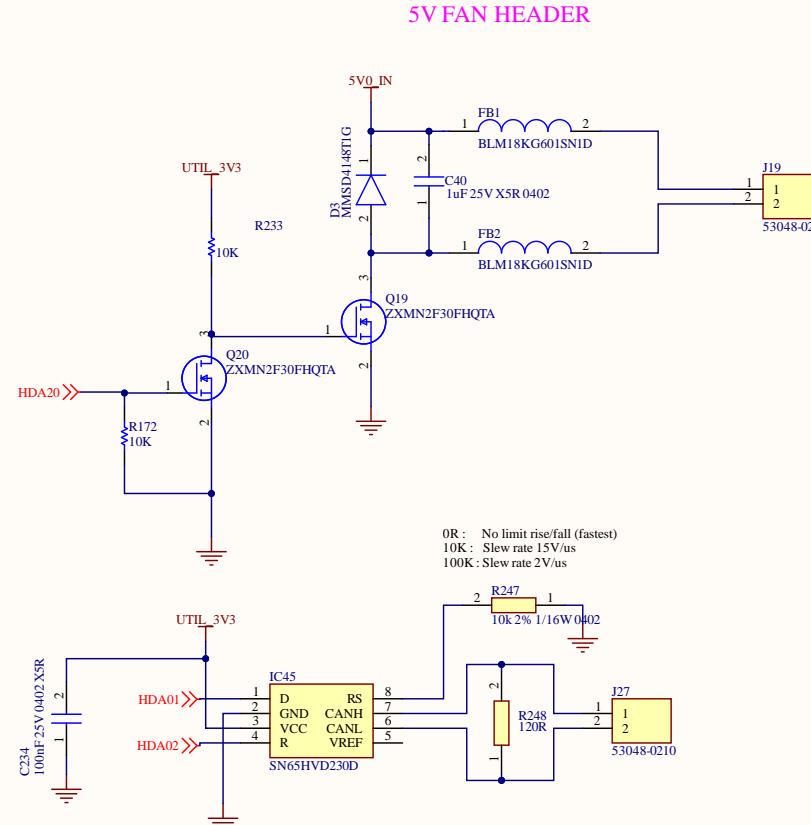
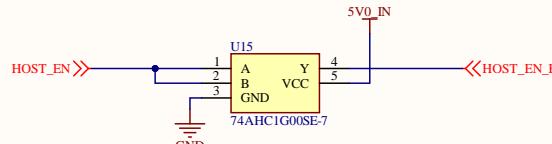
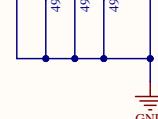


## MODE Configuration

0000 : JTAG  
0010: QPSI(32bit)  
0110: eMMC  
1110 : SD Card

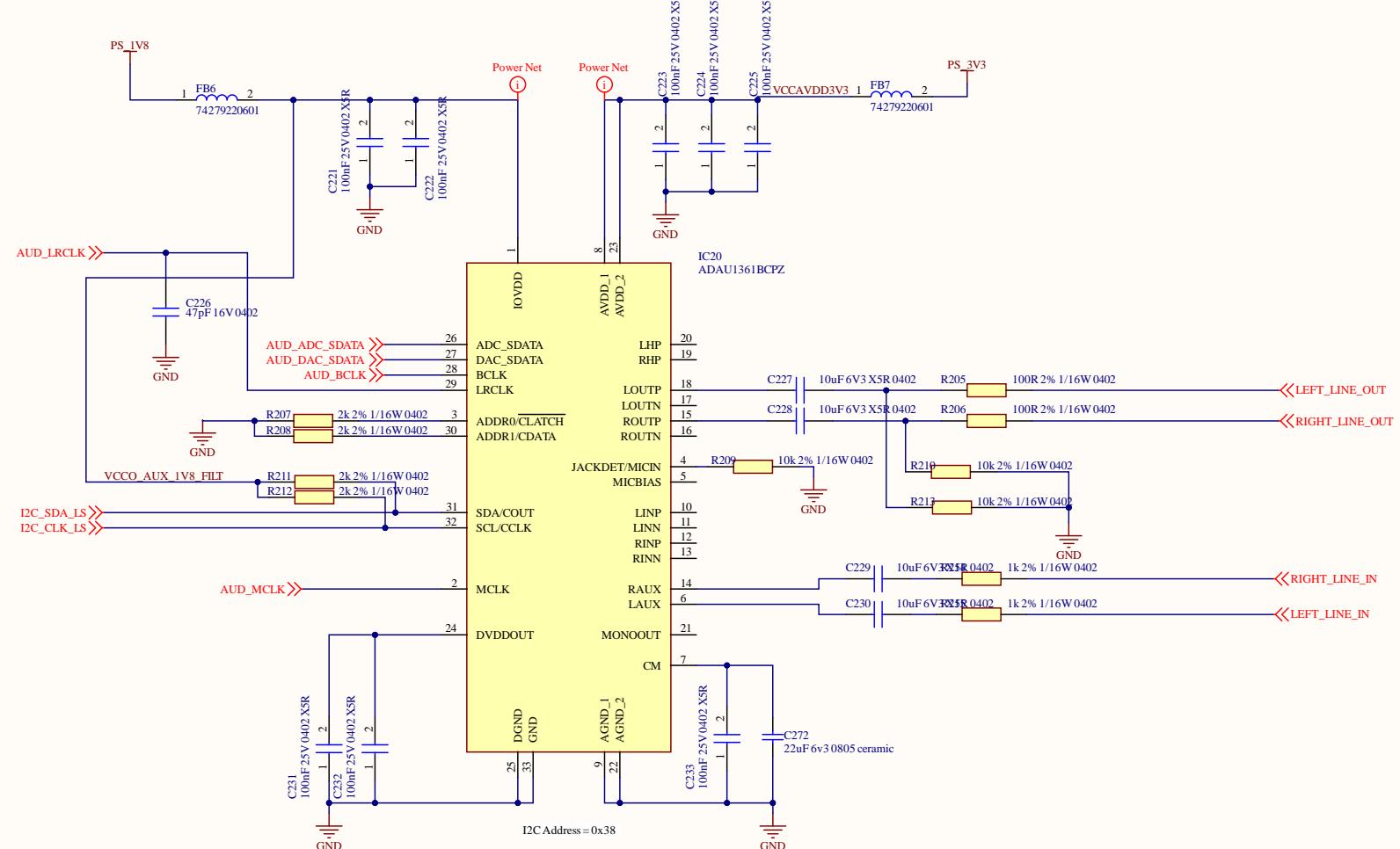
## Switch Settings

- 1: Auto Power Enable
- 2: Host Enable
- 3: Mode 1 pin setting
- 4: Mode 2 pin setting
- 5: Mode 3 pin setting
- 6:



OR : No limit rise/fall (fastest)  
10K : Slew rate 15V/us  
100K : Slew rate 2V/us

Company: Sundance	Project: EMC3
Title: Fan, Can, DIP Sw.	Revision: 1.0
Date: 16/5/23	Sheet: 23of 25
Filename: 23 - Fan, CAN & Switches.SchDoc	Drawn: *



Company: Sundance	Project: EMC3
Title: Audio CODEC	Revision: 1.0
Date: 16/5/23	Sheet: 24of 25
Filename: 24 - Audio CODEC.SchDoc	Drawn: *

