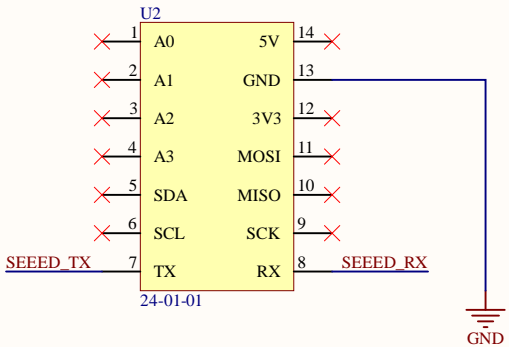
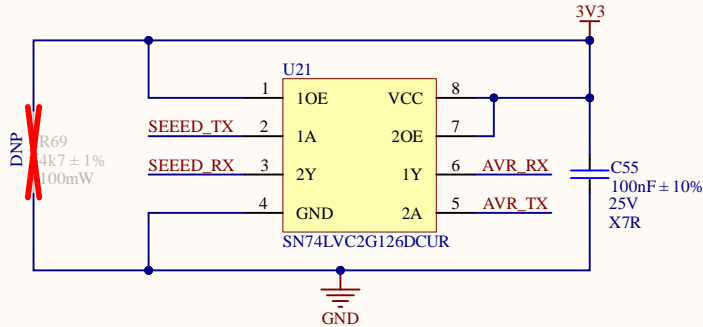


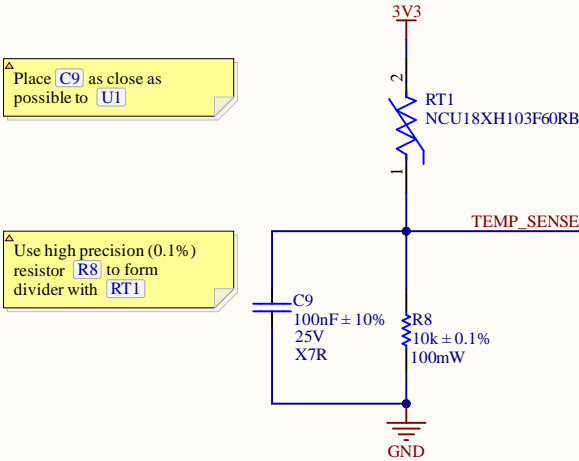
SEEDUINO



BUFFER

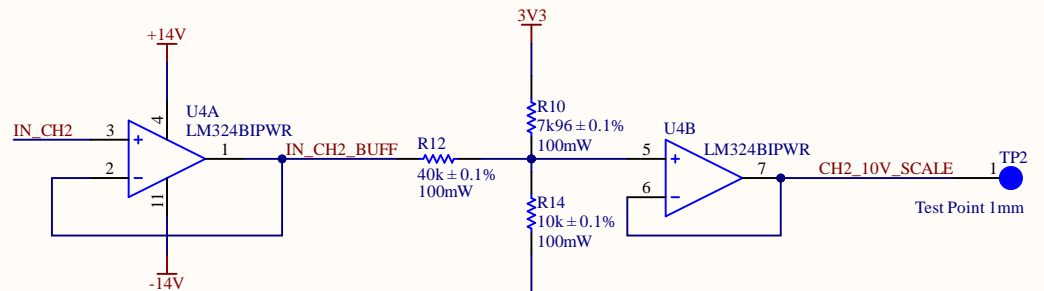
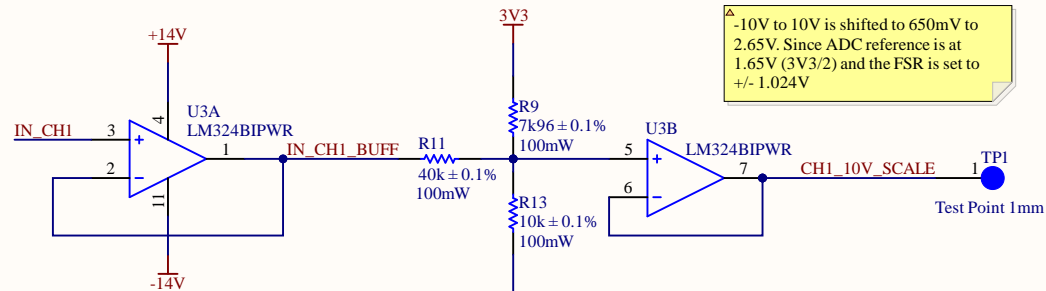


AMBIENT TEMP

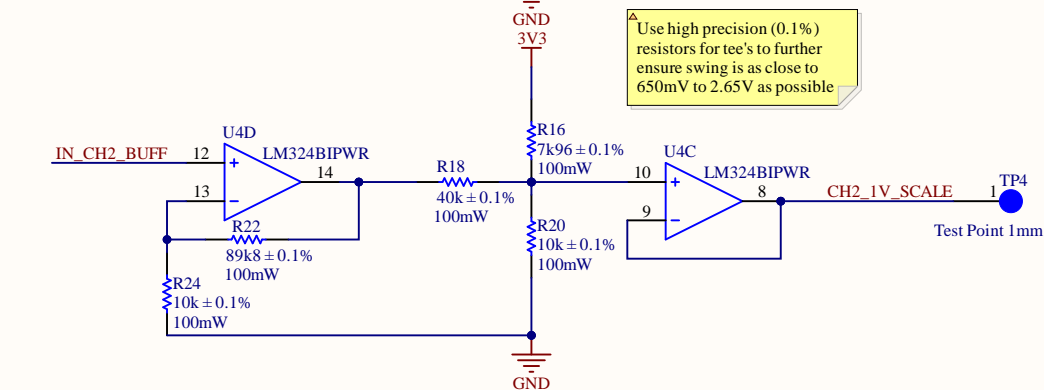
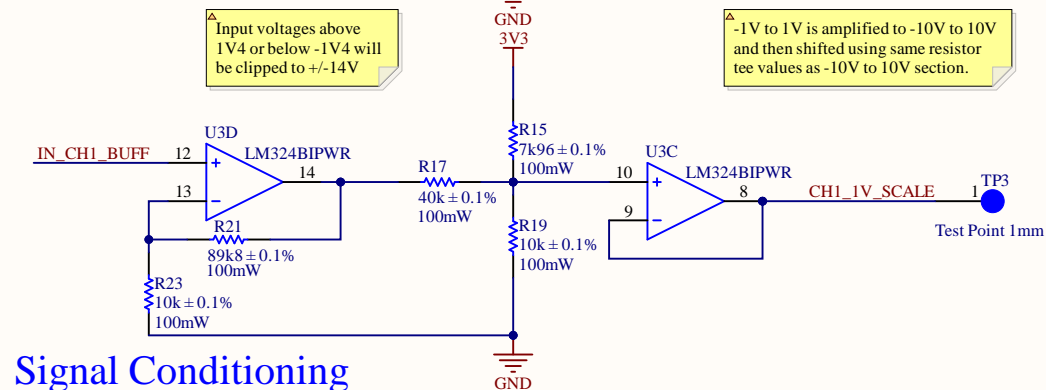


| | | |
|--------------------|--|---------------------------|
| Title | | |
| Seeeduino and Temp | | |
| Size | Number | Revision |
| A4 | 2 | 1 |
| Date: | 5/23/2025 | Sheet 2 of 11 |
| File: | C:\Users\...\Seeeduino and Temp.SchDoc | Drawn By: Rhett Humphreys |

A

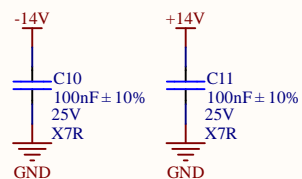


B

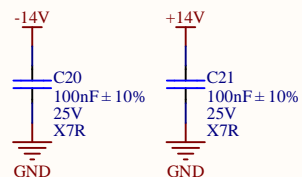


Signal Conditioning

OP-AMP Decoupling

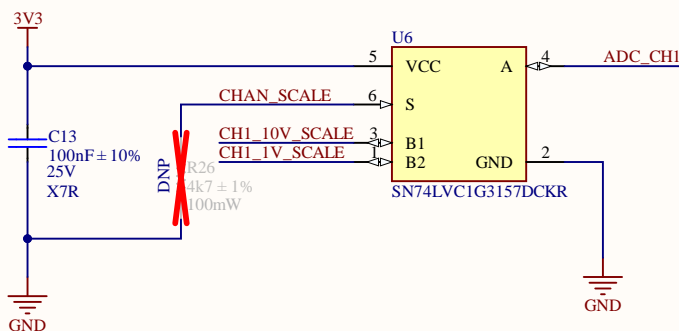


Place C10, C11 as close as possible to U3A

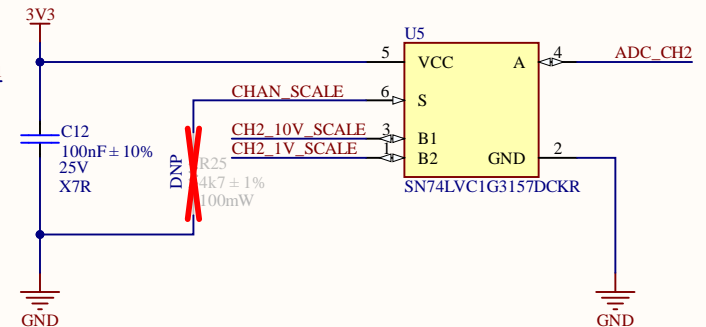


Place C20, C21 as close as possible to U4A

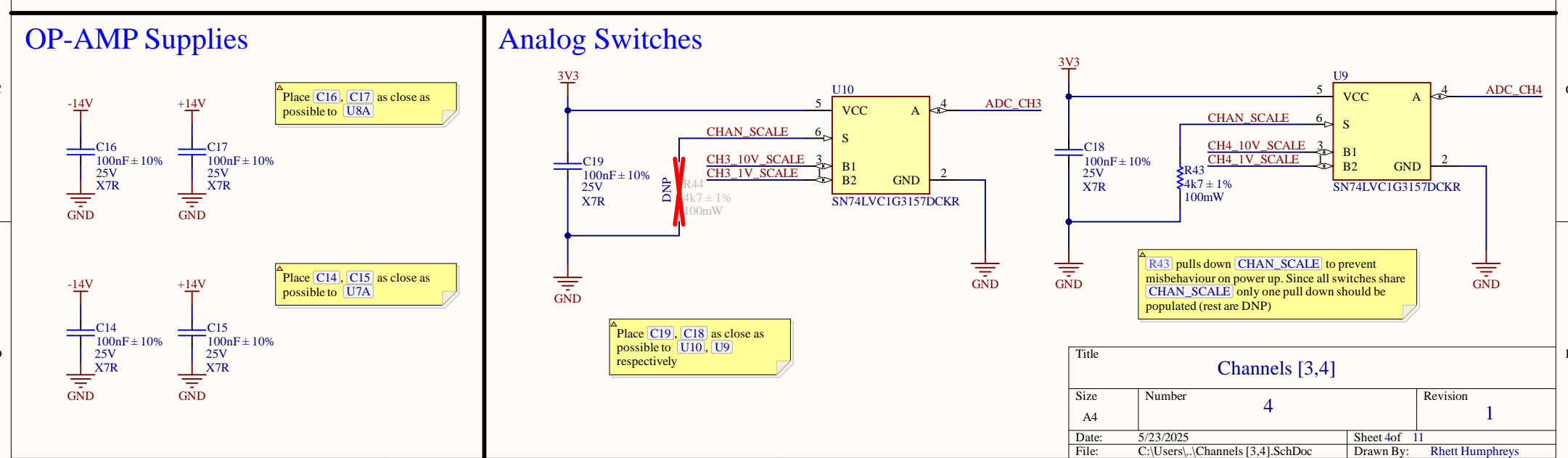
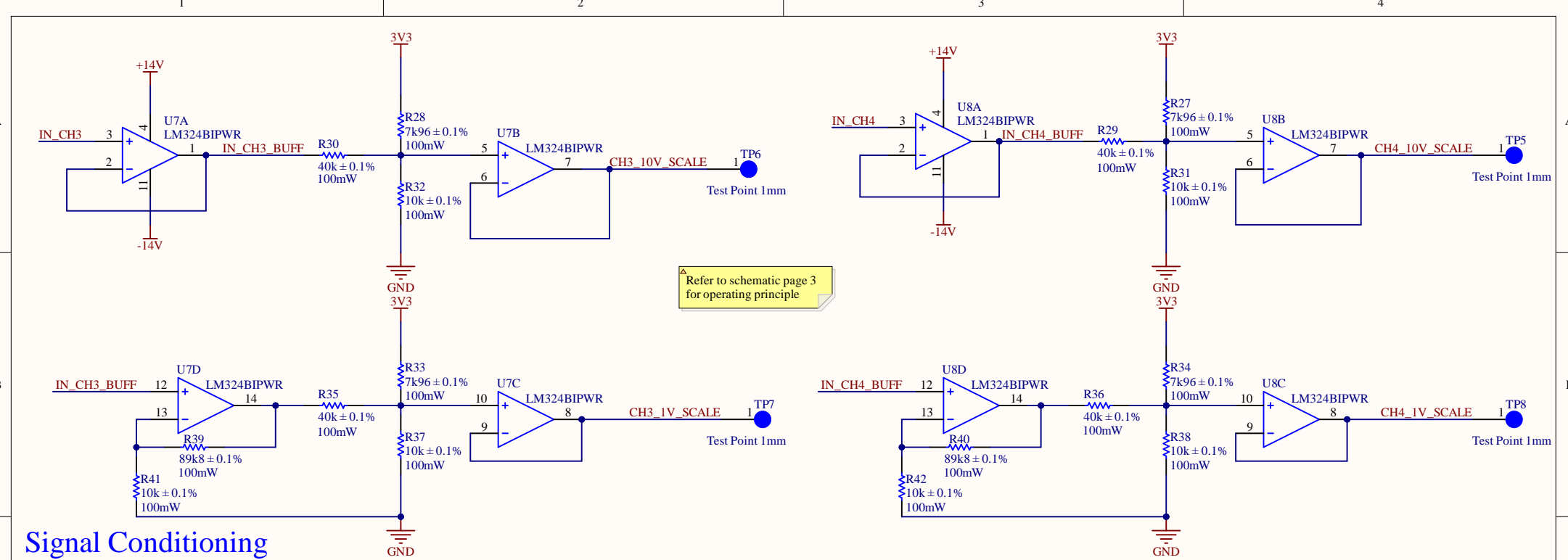
Analog Switches

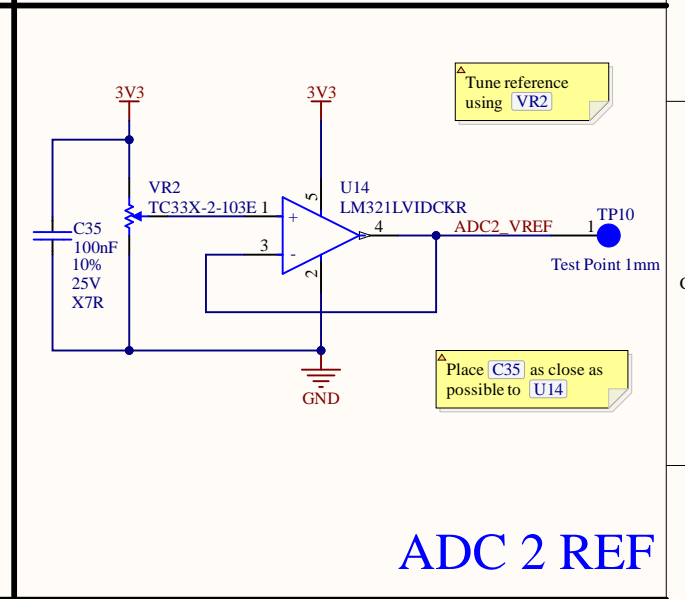
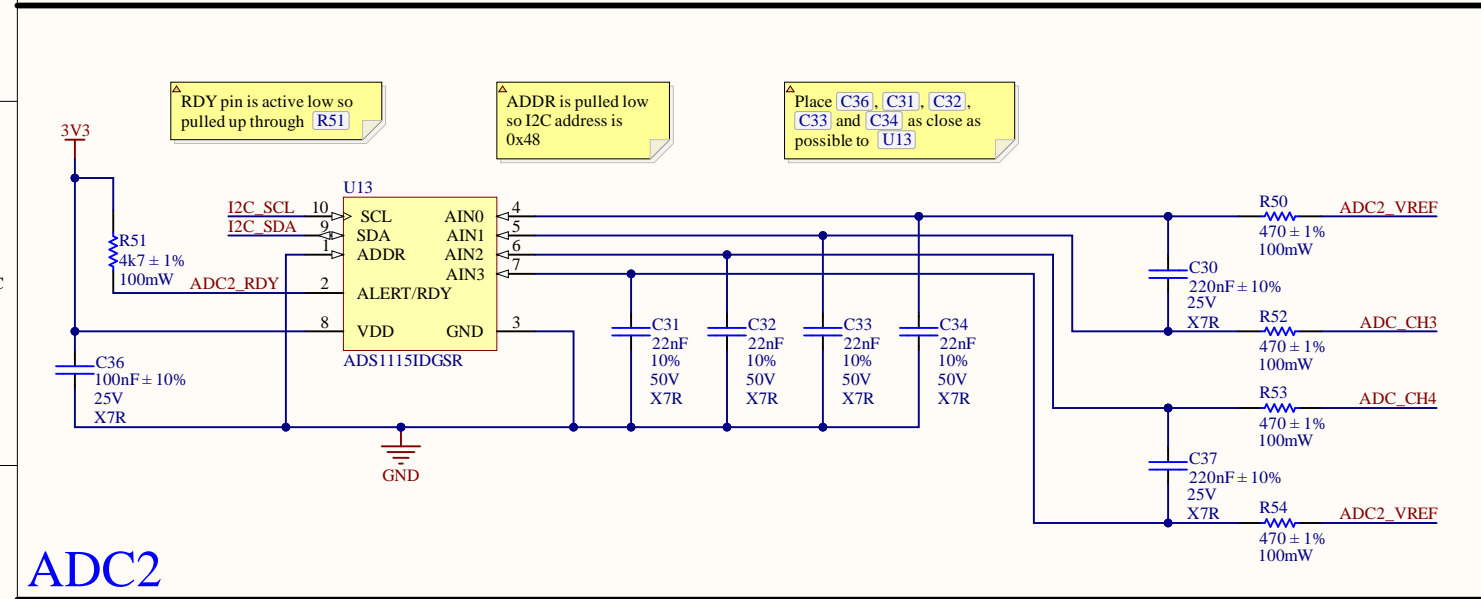
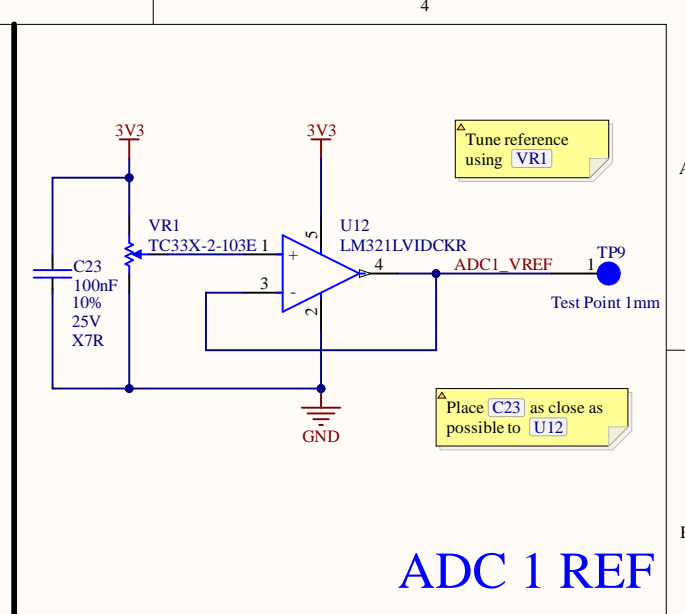
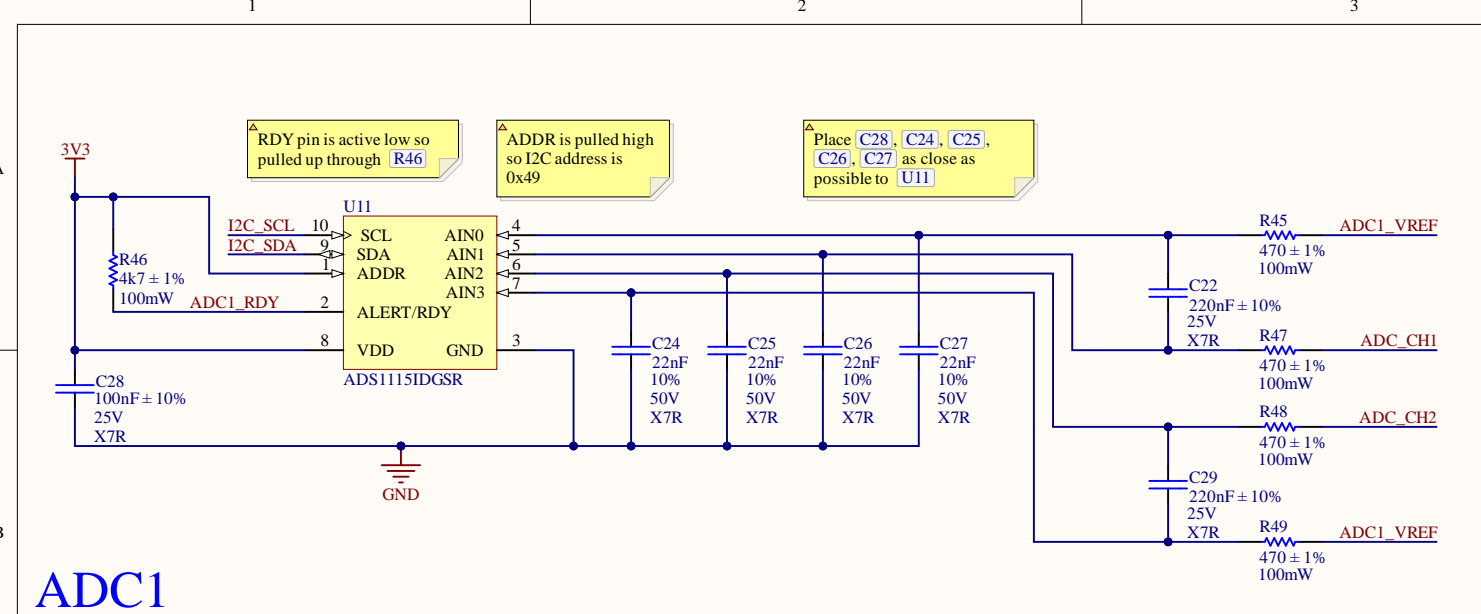


Place C13, C12 as close as possible to U6, U5



| Title | | |
|----------------|------------------------------------|---------------------------|
| Channels [1,2] | | |
| Size | Number | Revision |
| A4 | 3 | 1 |
| Date: | 5/23/2025 | Sheet 3 of 11 |
| File: | C:\Users\...\Channels [1,2].SchDoc | Drawn By: Rhett Humphreys |

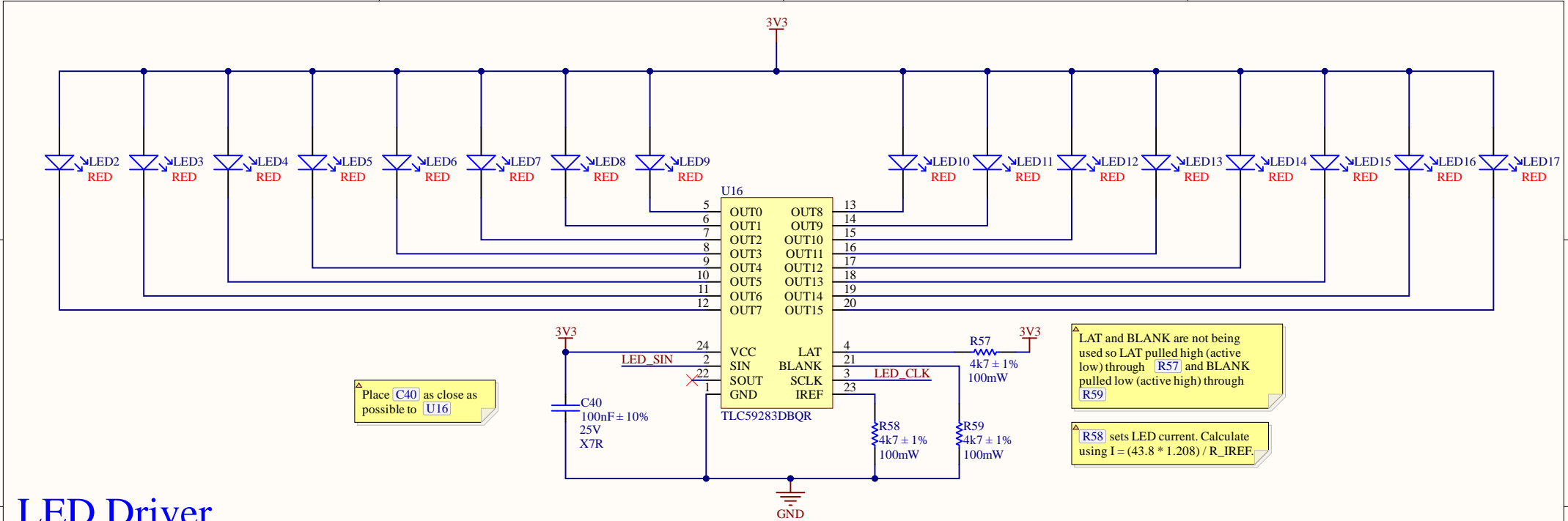




D

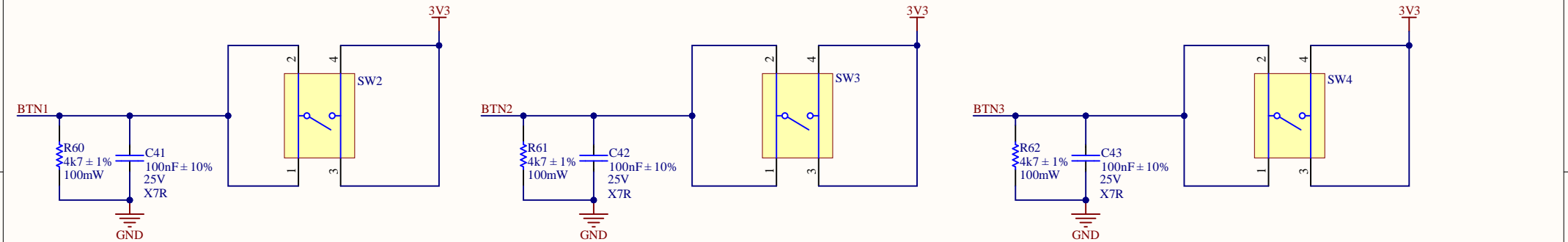
| | | | | |
|-------|-------------------------|-----------|-----------------|----|
| Title | | | ADC | |
| Size | Number | Revision | | |
| A4 | 5 | 1 | | |
| Date: | 5/23/2025 | Sheet | 5of | 11 |
| File: | C:\Users\...\ADC.SchDoc | Drawn By: | Rhett Humphreys | |

1 2 3 4



LED Driver

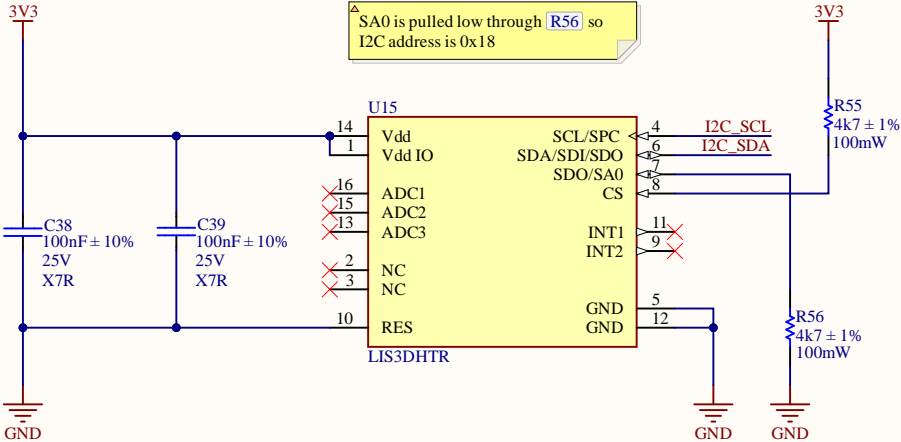
Buttons



Place C41, C42 and C43 as close as possible to GPIO pins used for buttons of U1

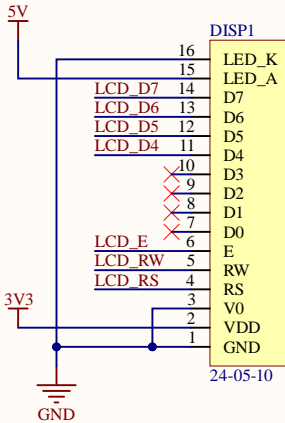
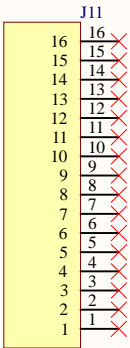
| Title | | |
|--------------------|--|---------------------------|
| Alarms and Buttons | | |
| Size | Number | Revision |
| A4 | 6 | 1 |
| Date: | 5/23/2025 | Sheet 6 of 11 |
| File: | C:\Users\...\Alarms and Buttons.SchDoc | Drawn By: Rhett Humphreys |

Place C38 and C39 as close as possible to Vdd and Vdd IO pins of U15 respectively.



| | | | | |
|-------|-----------------------------------|------------|-----------------|--|
| Title | | | Accelerometer | |
| Size | Number | Revision | | |
| A4 | 7 | 1 | | |
| Date: | 5/23/2025 | Sheet 7 of | 11 | |
| File: | C:\Users\...\Accelerometer.SchDoc | Drawn By: | Rhett Humphreys | |

J11 is male to male header soldered to DISP1 PCB.

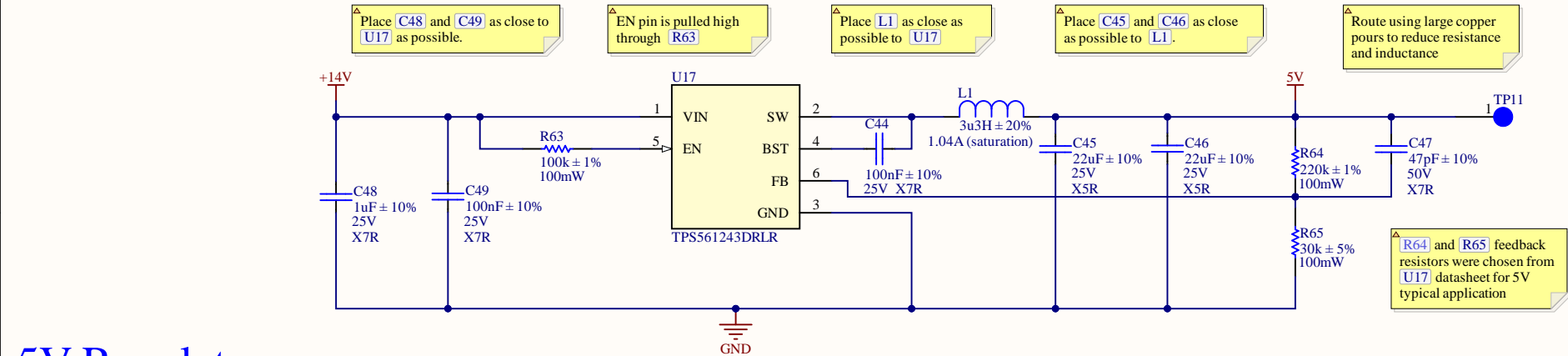


DISP1 has on-board decoupling so no extra capacitors needed

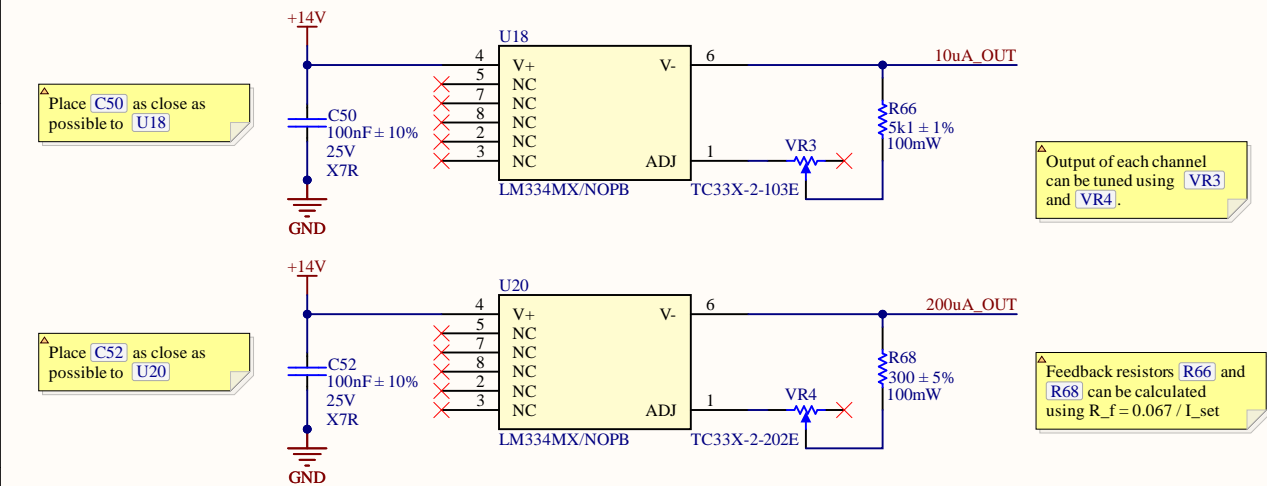
DISP1 being used in 4-bit mode so D0 to D3

DISP1 board has current limiting resistor for backlight

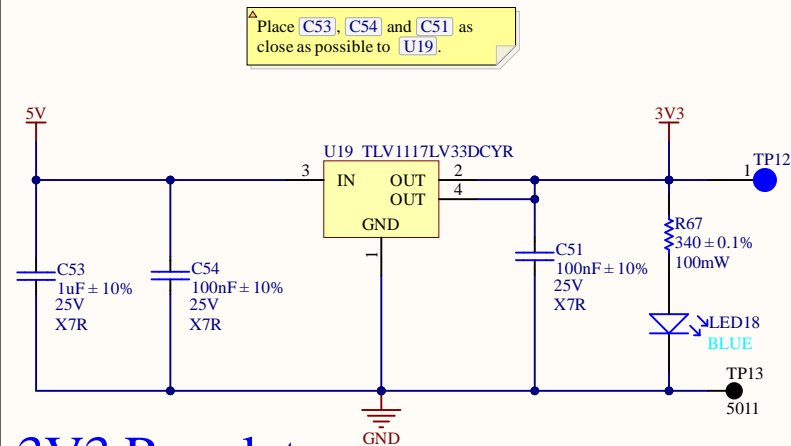
| | | |
|-------|-------------------------|---------------------------|
| Title | | |
| LCD | | |
| Size | Number | Revision |
| A4 | 8 | 1 |
| Date: | 5/23/2025 | Sheet 8 of 11 |
| File: | C:\Users\...\LCD.SchDoc | Drawn By: Rhett Humphreys |



5V Regulator



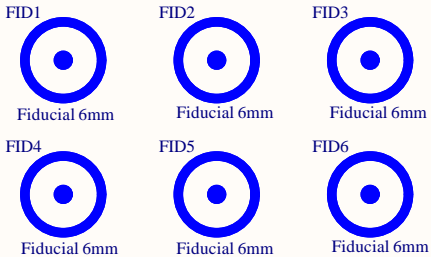
Current Sources



3V3 Regulator

| | | |
|-------|---------------------------|---------------------------|
| Title | | |
| Power | | |
| Size | Number | Revision |
| A4 | 9 | 1 |
| Date: | 5/23/2025 | Sheet 9 of 11 |
| File: | C:\Users\...\Power.SchDoc | Drawn By: Rhett Humphreys |

A

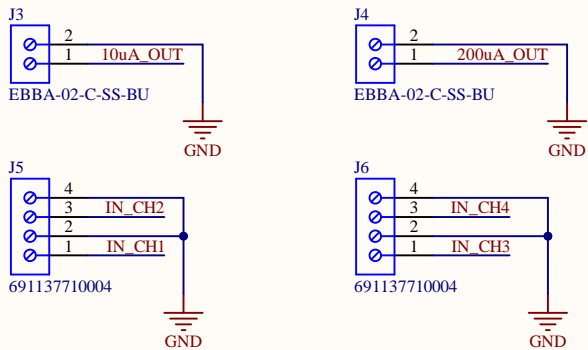


Fiducials



Mounting Holes

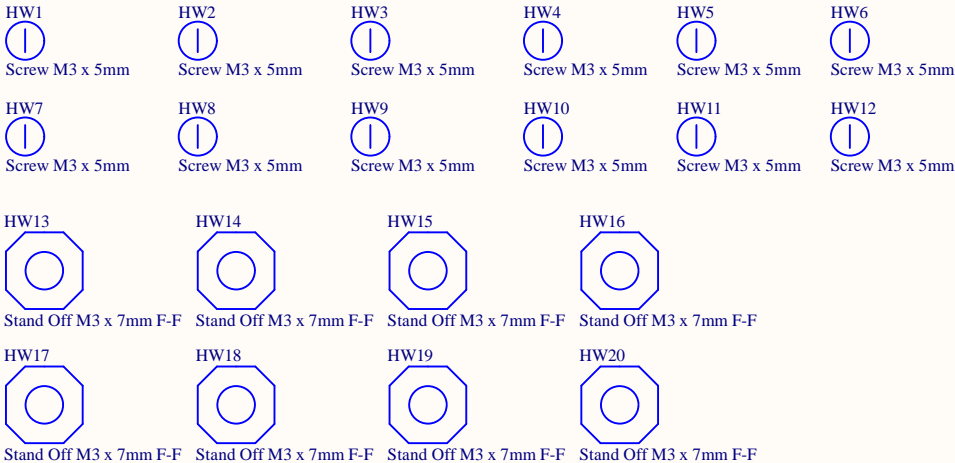
B



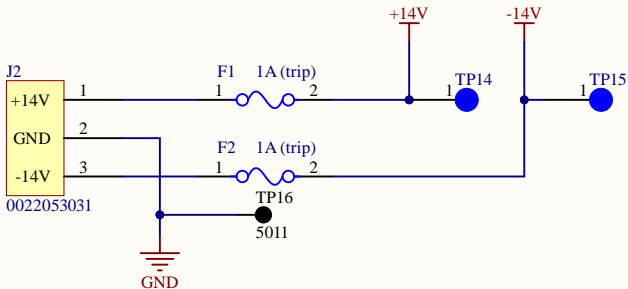
Screw Terminals

Place J3 and J4 relatively close to J5 and J6.

Mounting Hardware



D



Power Connector

| Title | | |
|------------|------------------------------|---------------------------|
| Hardware | | |
| Size A4 | Number 10 | Revision 1 |
| Date: | 5/23/2025 | Sheet 1 of 11 |
| File: | C:\Users\...\Hardware.SchDoc | Drawn By: Rhett Humphreys |

Wires

W1 should be used for +14V connection, W2 for GND and W3 for -14V

- W1

22-03-03
24AWG, multistrand, 1000mm RED
- W2

22-03-06
24AWG, multistrand, 1000mm GREEN
- W3

22-03-01
24AWG, multistrand, 1000mm BLACK

Connector Housing

J8

0022013037
Molex female housing 2.54mm 3 pos

Crimps

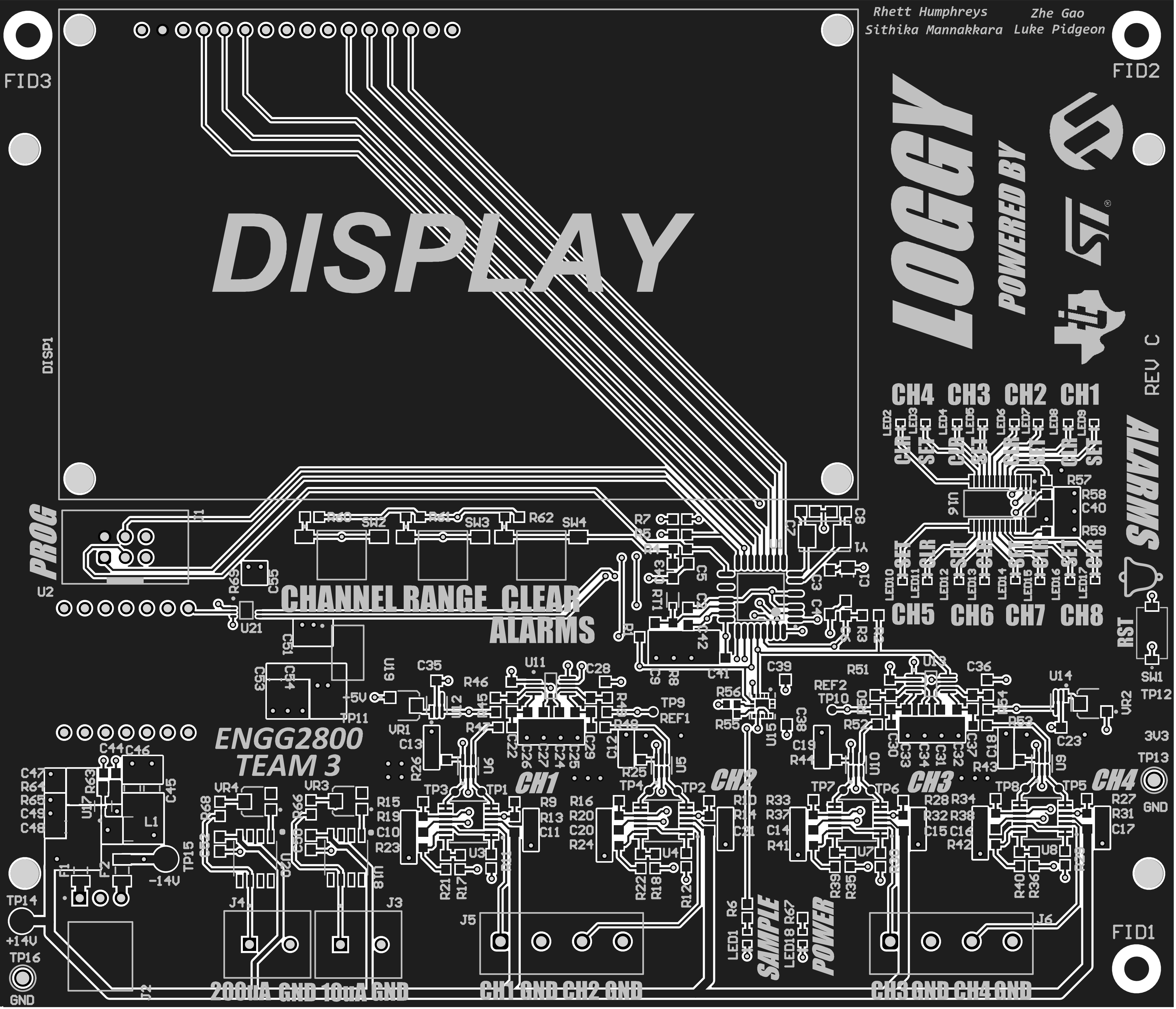
- J7

0008550102
Molex crimp gold 22-30 AWG
- J9

0008550102
Molex crimp gold 22-30 AWG
- J10

0008550102
Molex crimp gold 22-30 AWG

| | | | | |
|-------|----------------------------|--|---------------------------|--|
| Title | | | Cables | |
| Size | Number | | Revision | |
| A4 | 11 | | 1 | |
| Date: | 5/23/2025 | | Sheet11 of 11 | |
| File: | C:\Users\...\Cables.SchDoc | | Drawn By: Rhett Humphreys | |



Rhett Humphreys Zhe Gao
Sithika Mannakkara Luke Pidgeon

FID2

DISPLAY

LOGGY

POWERED BY



REV C

ALARMS

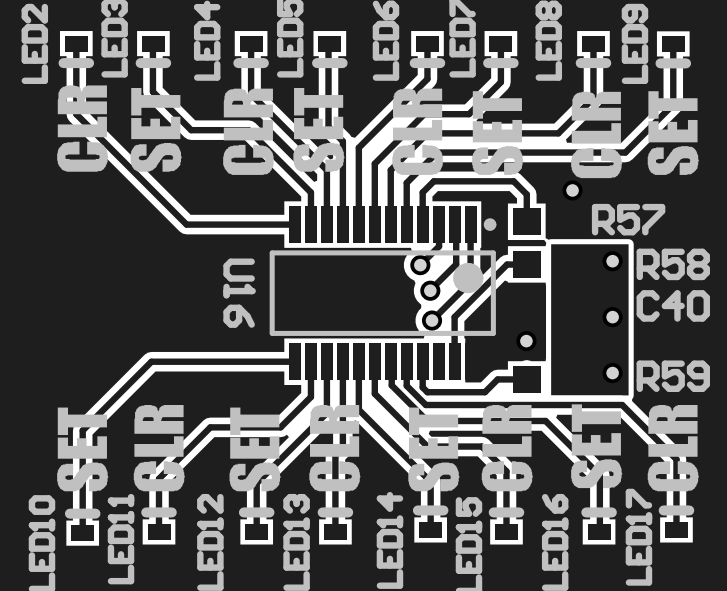


RST

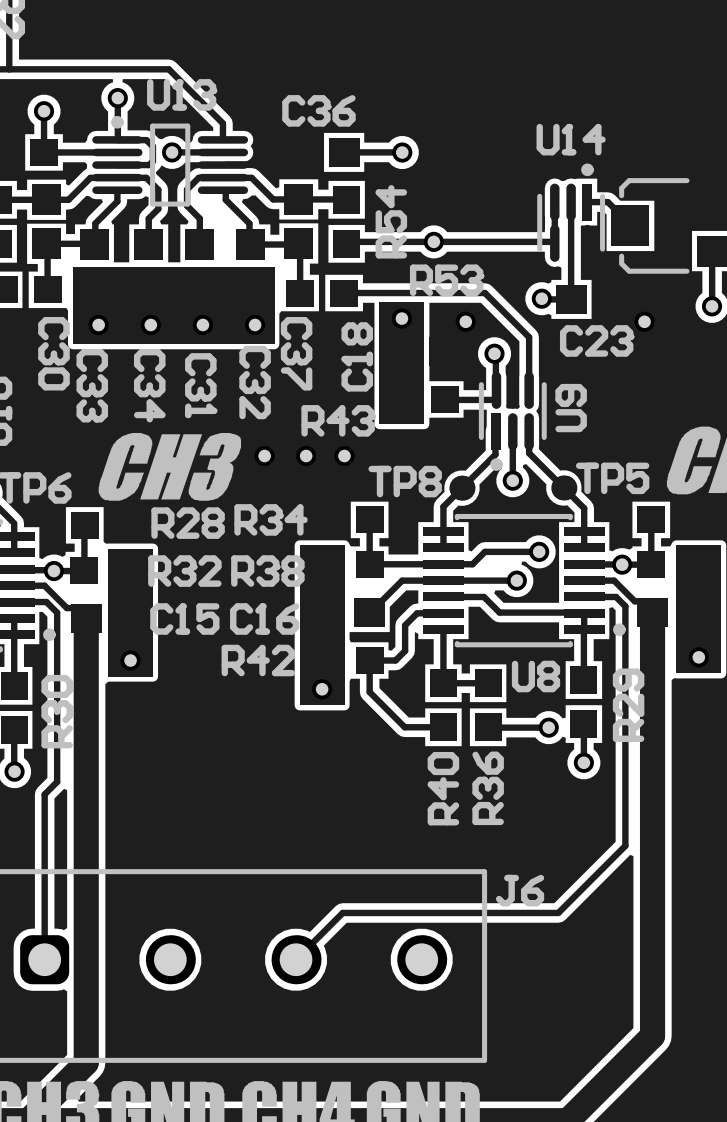
3V3
TP13
GND

FID1

CH4 CH3 CH2 CH1



CH5 CH6 CH7 CH8



CHANNEL RANGE CLEAR
ALARMS

ENG2800
TEAM 3

CH1

CH2

CH3

CH4

200uA GND 10uA GND

CH1 GND CH2 GND

CH3 GND CH4 GND

FID3

DISP1

PROG

U2

+14V
TP16

GND

