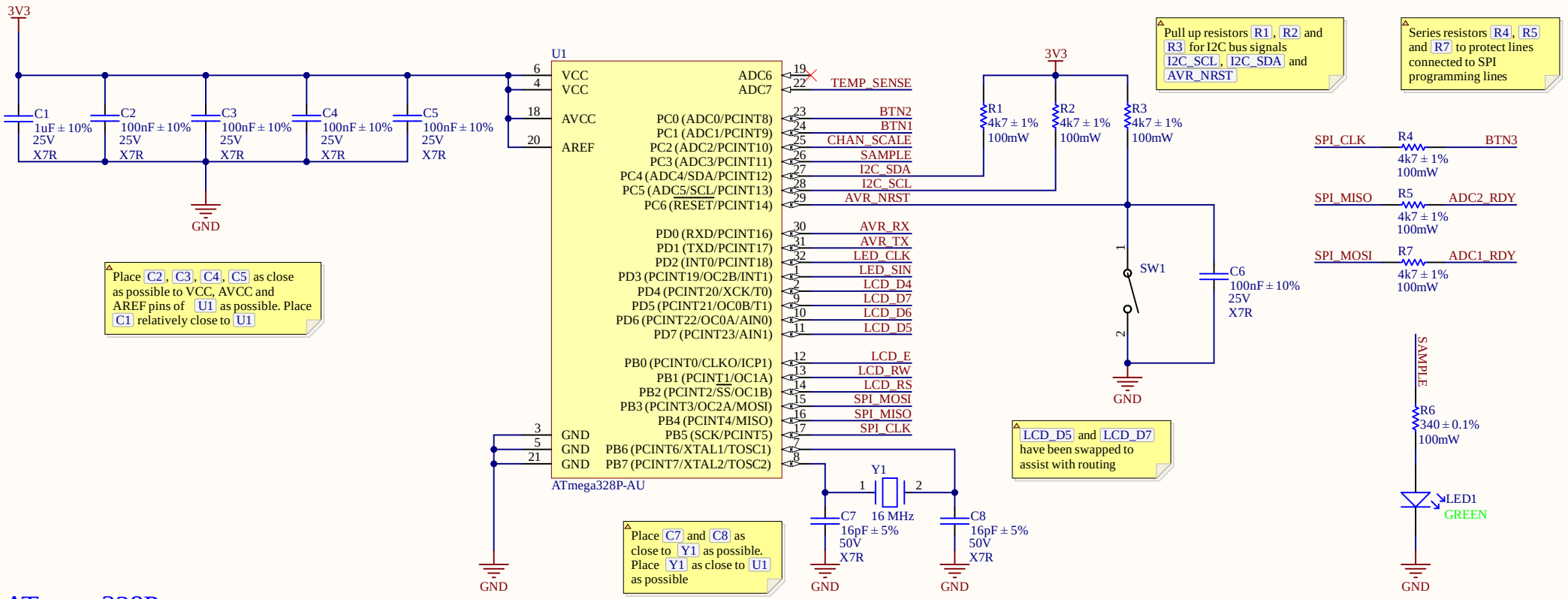
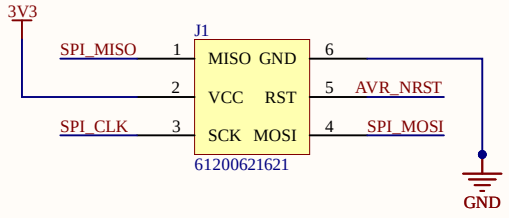


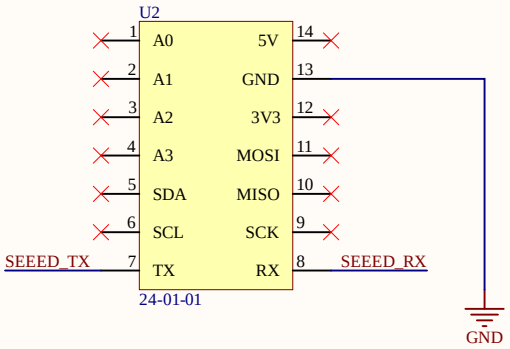
ATmega328P

ISP

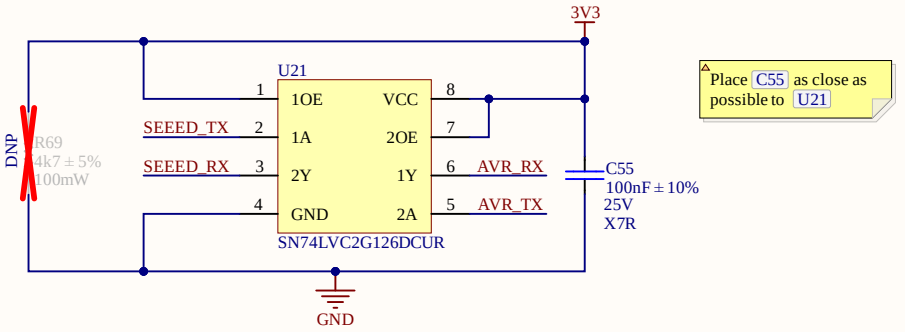


Title	ATmega328p		
Size: A4	Number: 1	Revision: 1	
Date: 5/22/2025		Sheet 1of 11	
File: C:\Users\..\ATmega328p.SchDoc		Drawn By: Rhett Humphreys	

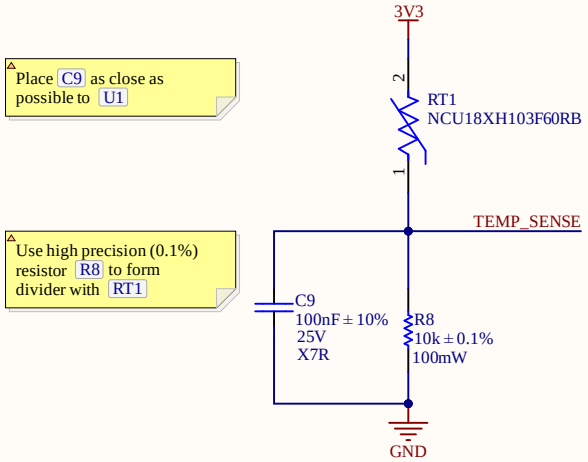
SEEEDUINO



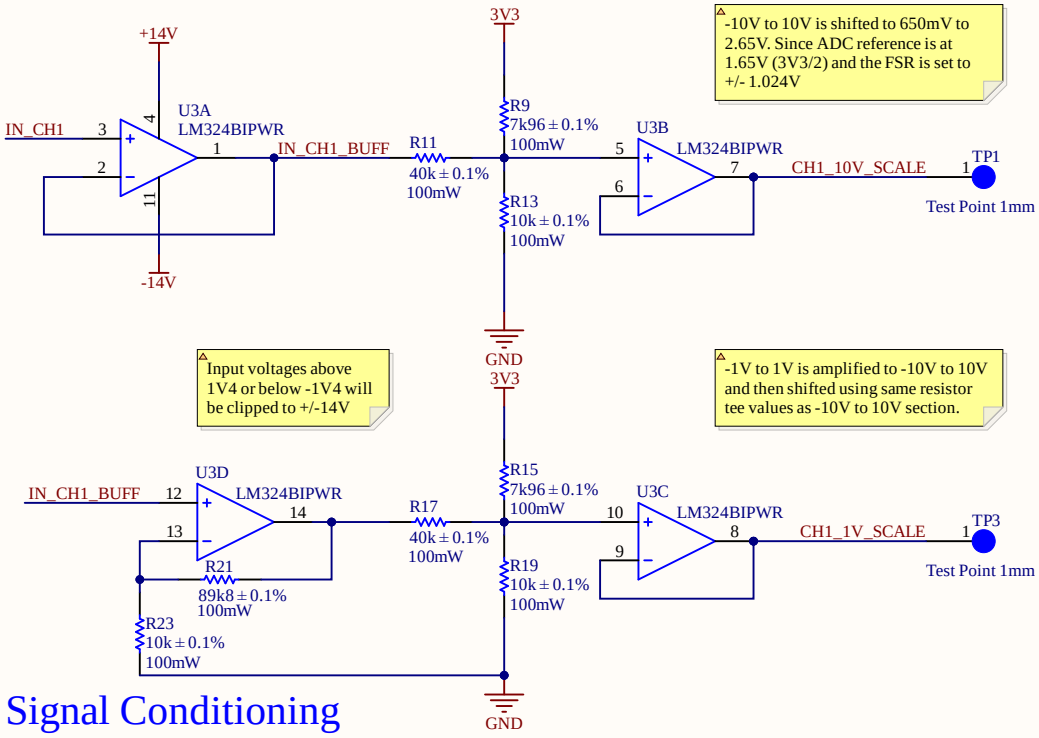
BUFFER

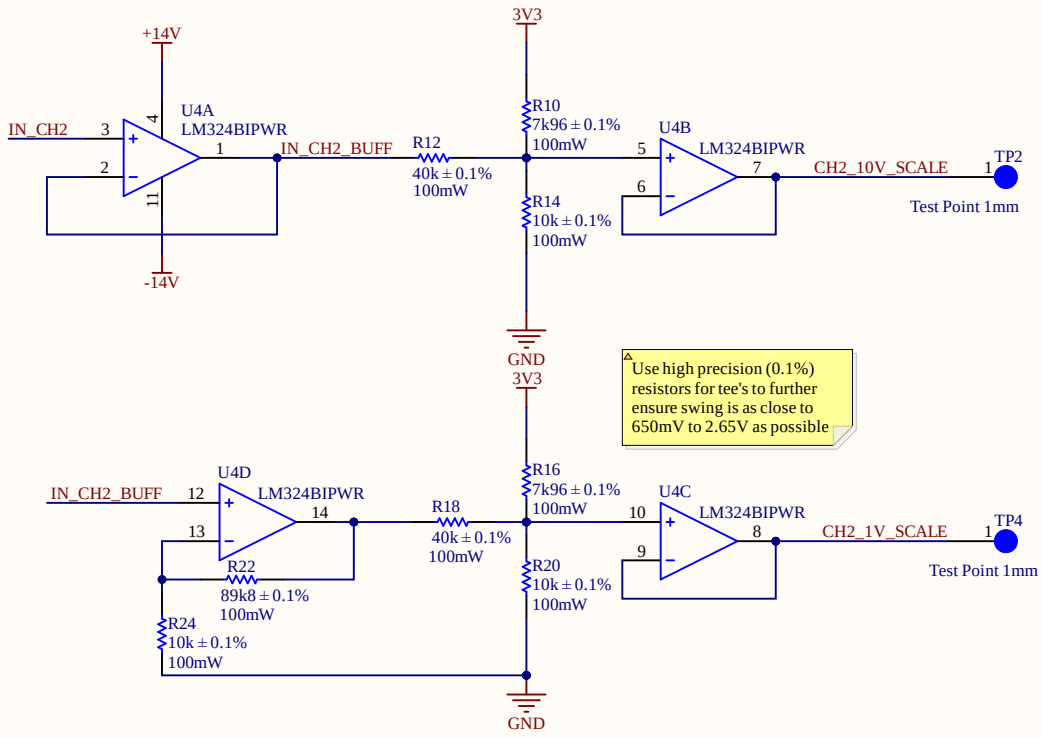


AMBIENT TEMP



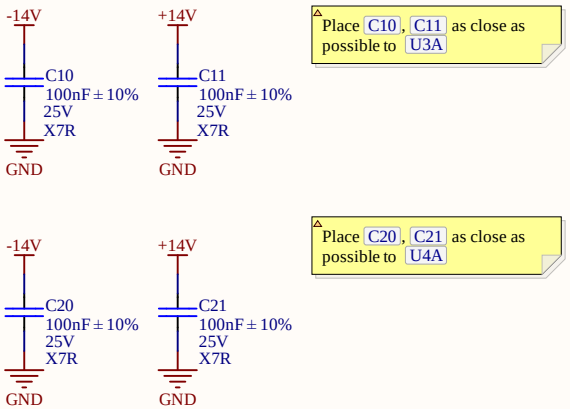
Title	Seeeduino and Temp		
Size A4	Number 2		Revision 1
Date: 5/22/2025		Sheet 2of 11	
File: C:\Users\..\Seeeduino and Temp.SchDoc		Drawn By: Rhett Humphreys	



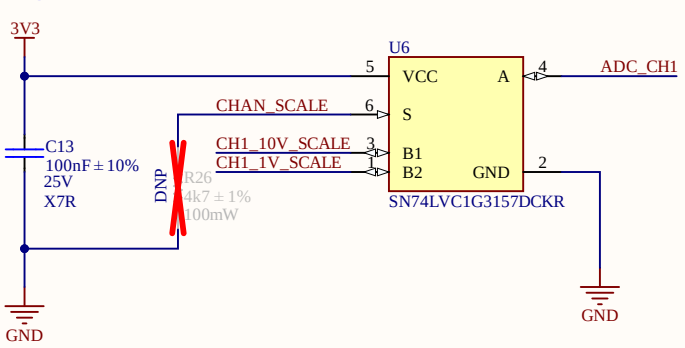


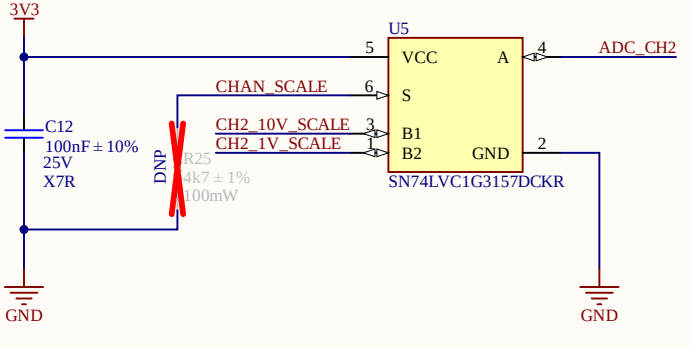
Signal Conditioning

OP-AMP Decoupling

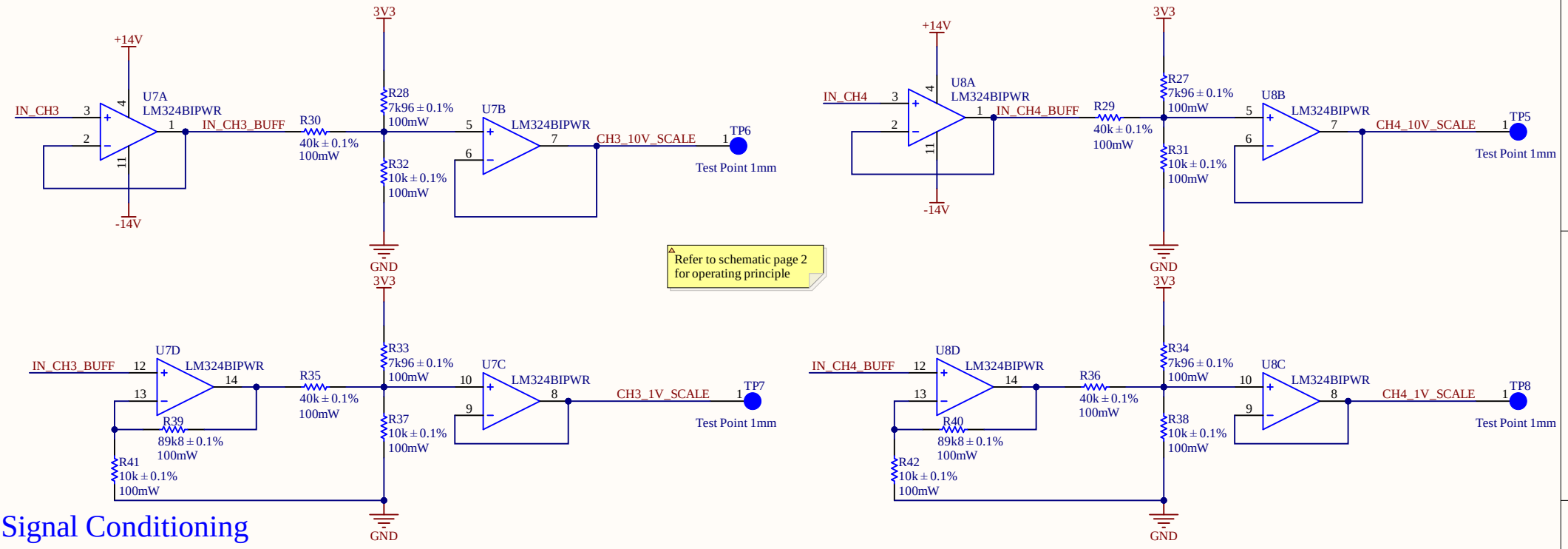


Analog Switches



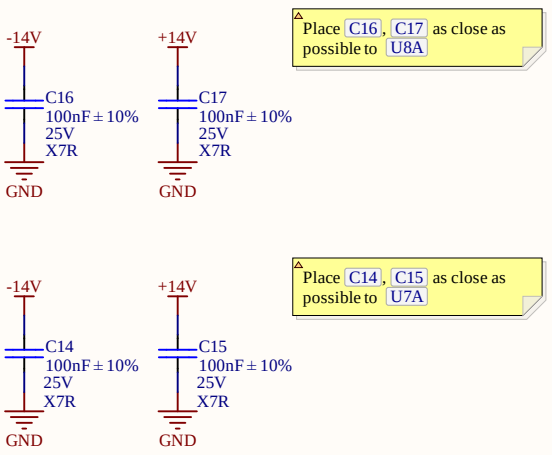


Title	Channels [1,2]	
Size: A4	Number: 3	Revision: 1
Date: 5/22/2025		Sheet 3 of 11
File: C:\Users\..\Channels [1,2].SchDoc		Drawn By: Rhett Humphreys

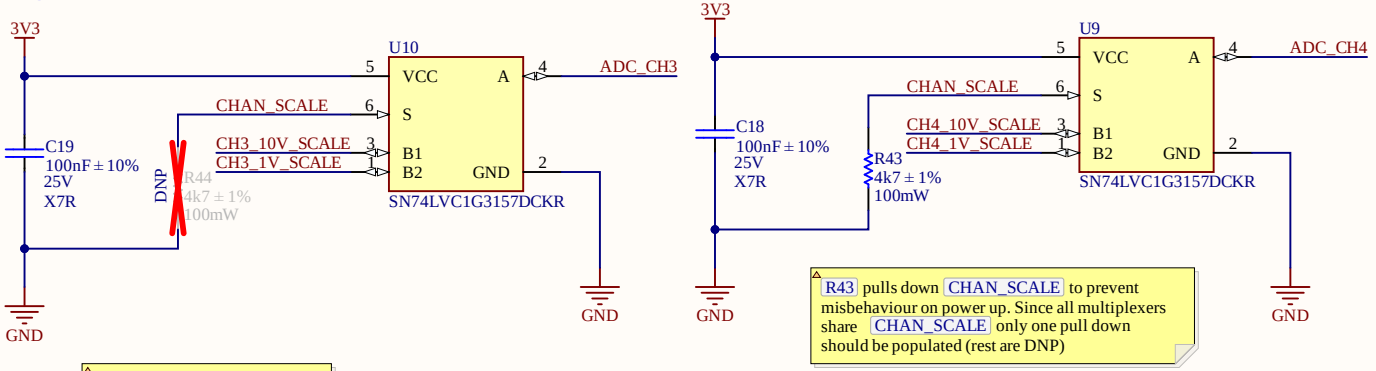


Signal Conditioning

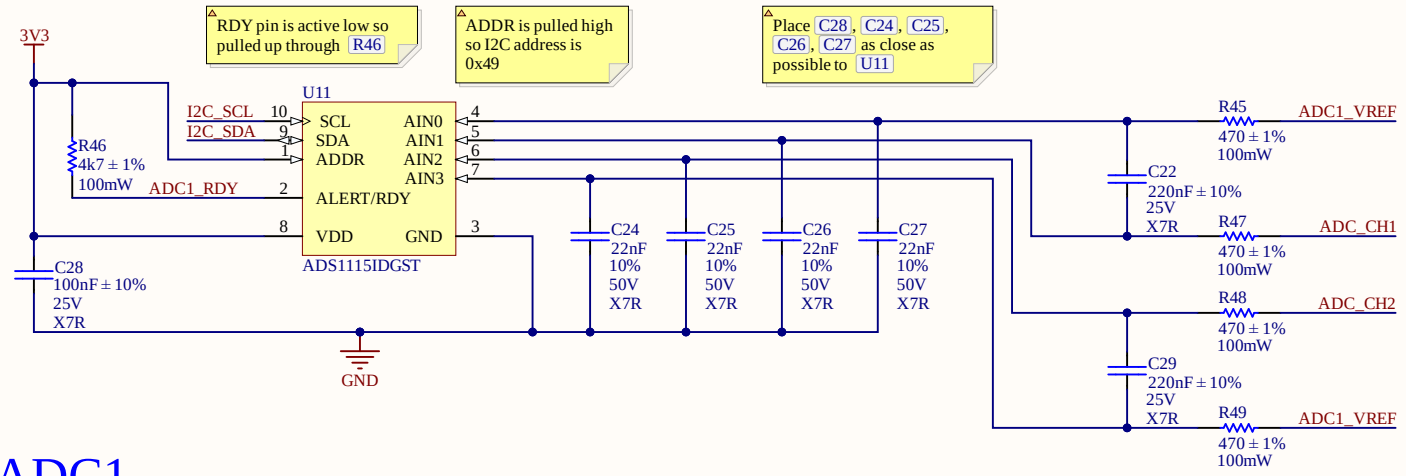
OP-AMP Supplies



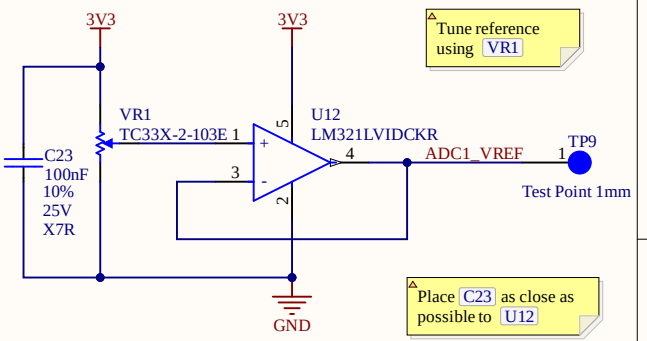
Analog Switches



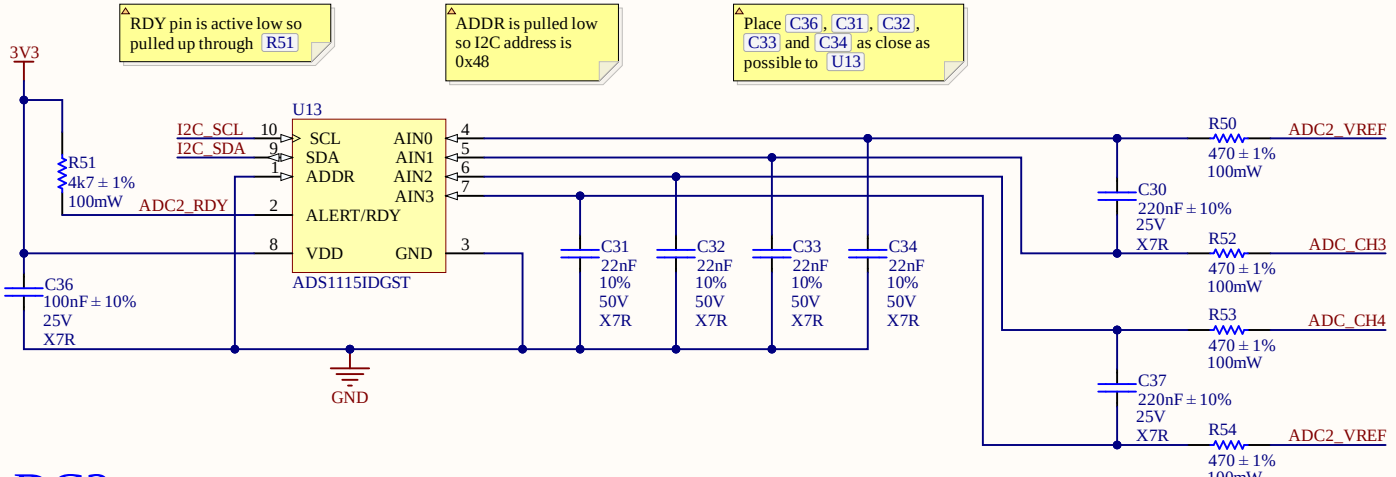
Title	Channels [3,4]	
Size: A4	Number: 4	Revision: 1
Date: 5/22/2025		Sheet 4 of 11
File: C:\Users\..\Channels [3,4].SchDoc		Drawn By: Rhett Humphreys



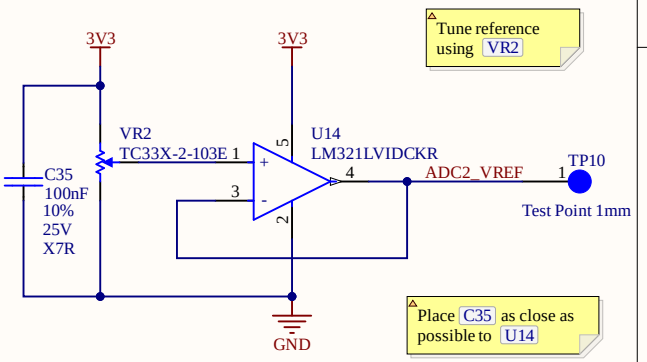
ADC1



ADC 1 REF

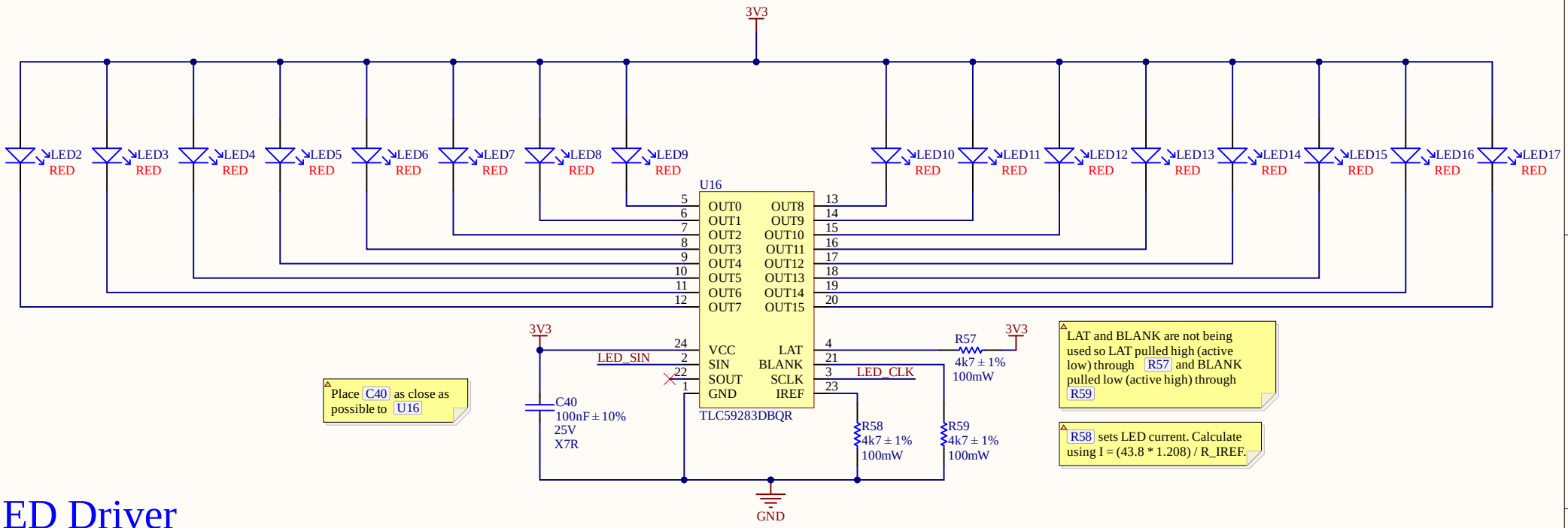


ADC2



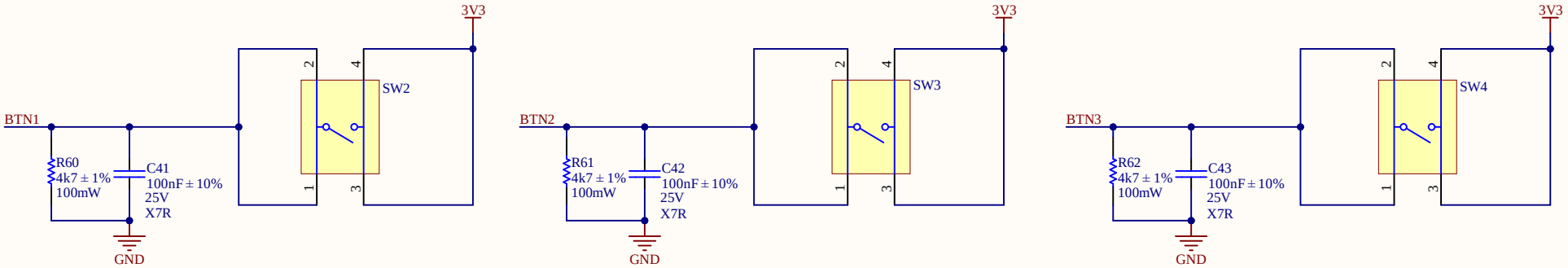
ADC 2 REF

Title: ADC		
Size: A4	Number: 5	Revision: 1
Date: 5/22/2025	Sheet 5 of 11	
File: C:\Users\..\ADC.SchDoc	Drawn By: Rhett Humphreys	

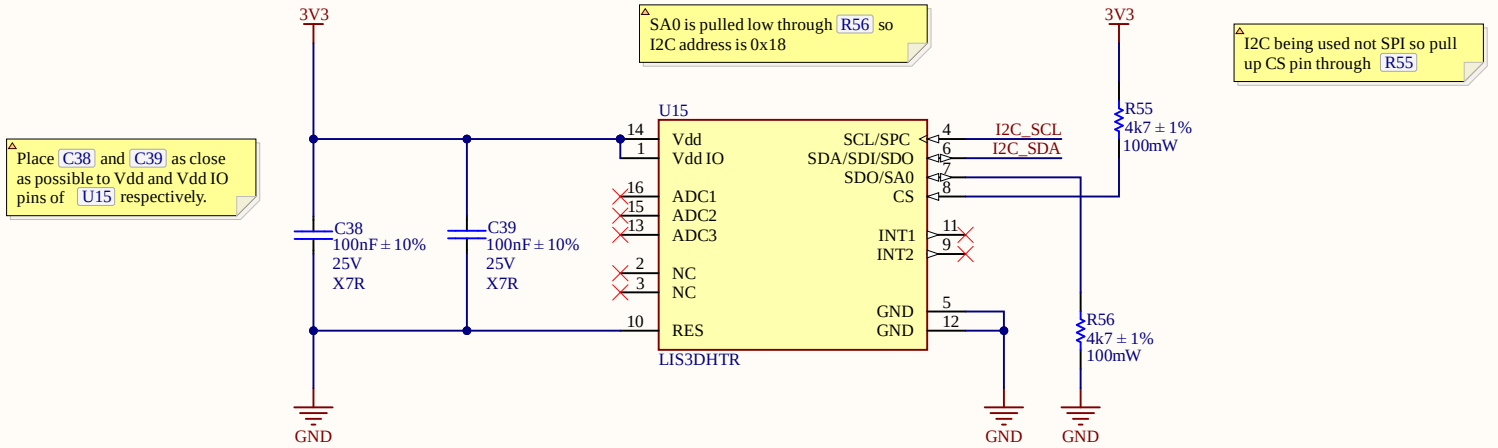


LED Driver

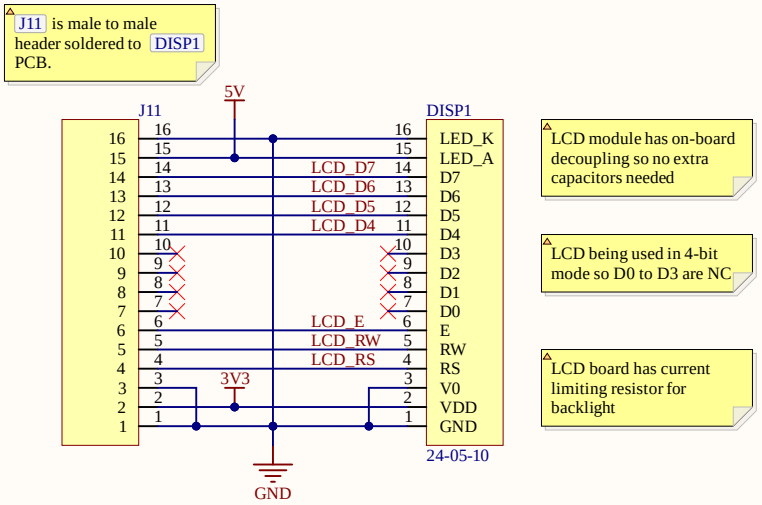
Buttons



Title	Alarms and Buttons	
Size: A4	Number: 6	Revision: 1
Date: 5/22/2025	Sheet 6 of 11	
File: C:\Users\..\Alarms and Buttons.SchDoc	Drawn By: Rhett Humphreys	

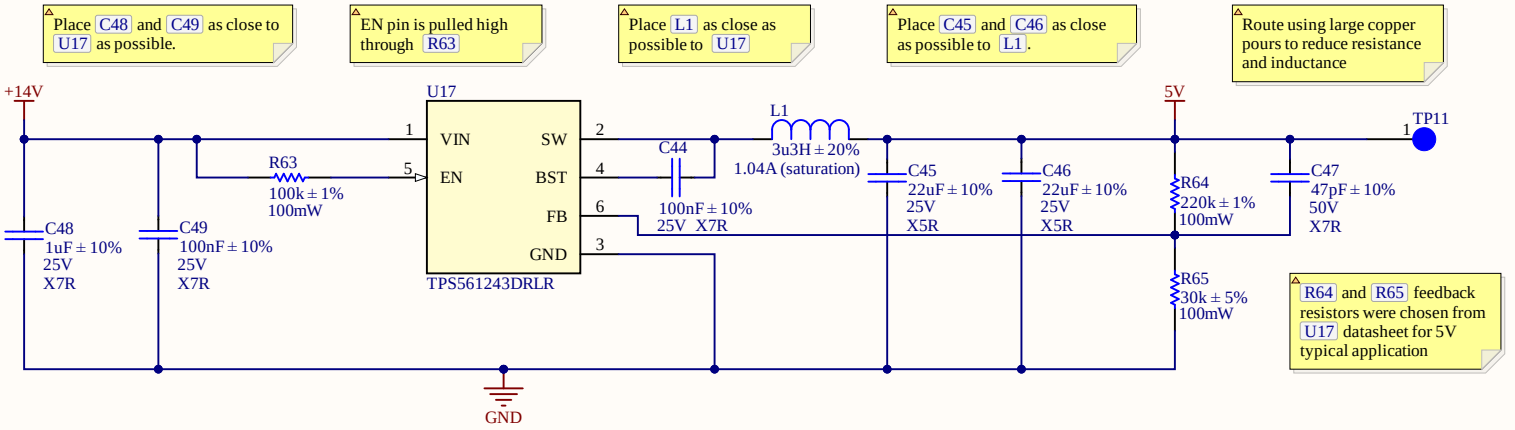


Title	Accelerometer	
Size: A4	Number: 7	Revision: 1
Date: 5/22/2025		Sheet 7 of 11
File: C:\Users\..\Accelerometer.SchDoc		Drawn By: Rhett Humphreys

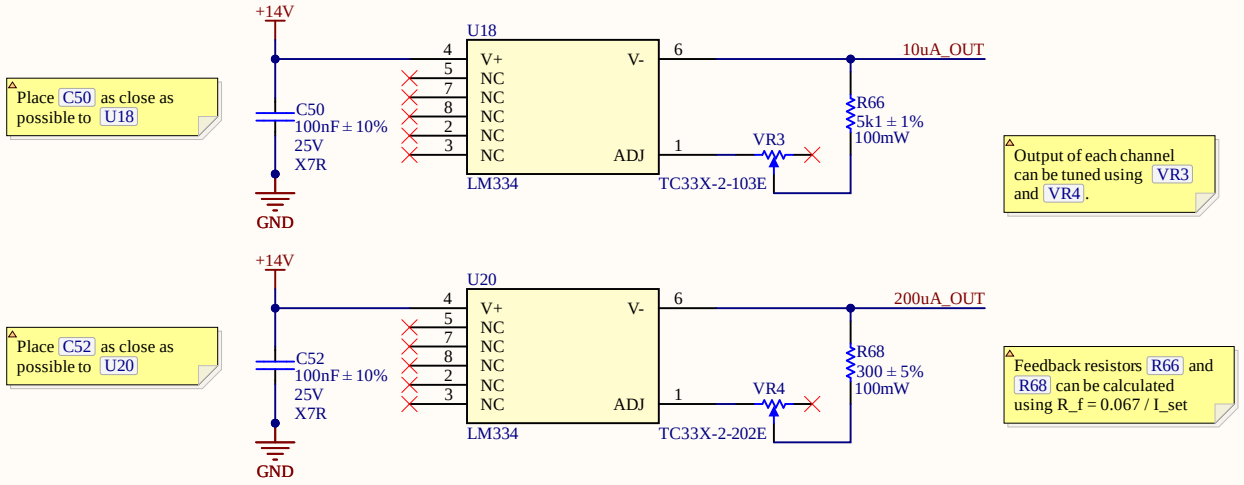


Title	LCD	
Size: A4	Number: 8	Revision: 1
Date: 5/22/2025		Sheet 8 of 11
File: C:\Users\..\LCD.SchDoc		Drawn By: Rhett Humphreys

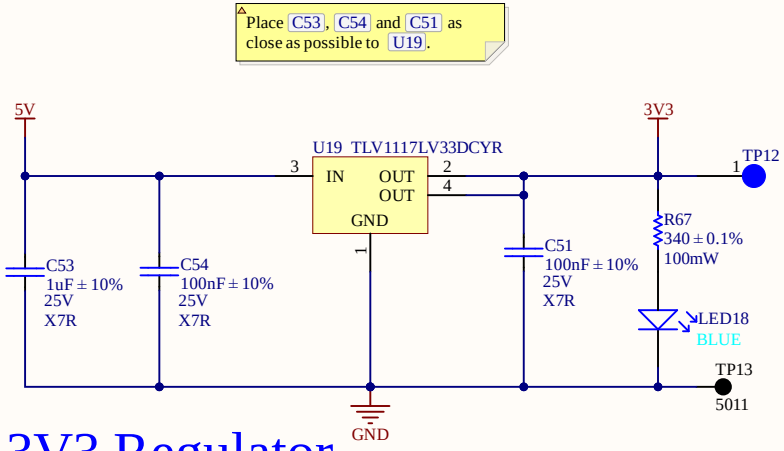
5V Regulator



Current Sources



3V3 Regulator



Title: Power		
Size: A4	Number: 9	Revision: 1
Date: 5/22/2025		Sheet 9 of 11
File: C:\Users\..\Power.SchDoc		Drawn By: Rhett Humphreys

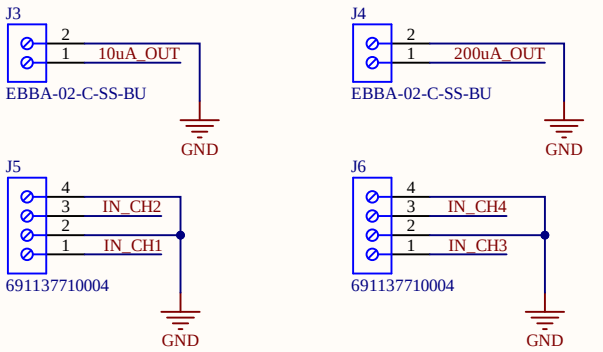
Fiducials

FID1 Fiducial 6mm
FID2 Fiducial 6mm
FID3 Fiducial 6mm
FID4 Fiducial 6mm
FID5 Fiducial 6mm
FID6 Fiducial 6mm

Mounting Holes

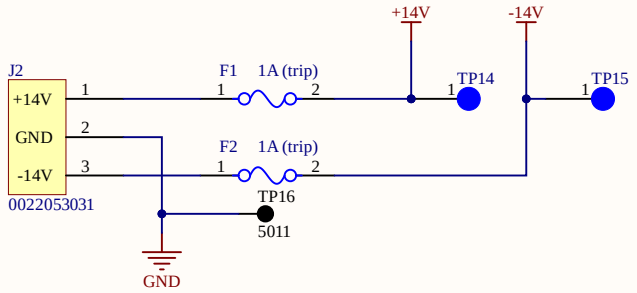
H1 Mouting Hole 3mm
H2 Mouting Hole 3mm
H3 Mouting Hole 3mm
H4 Mouting Hole 3mm

Screw Terminals



Place J3 and J4 relatively close to J5 and J6.

Power Connector



Mounting Hardware

HW1 Screw M3 x 5mm
HW2 Screw M3 x 5mm
HW3 Screw M3 x 5mm
HW4 Screw M3 x 5mm
HW5 Screw M3 x 5mm
HW6 Screw M3 x 5mm
HW7 Screw M3 x 5mm
HW8 Screw M3 x 5mm
HW9 Screw M3 x 5mm
HW10 Screw M3 x 5mm
HW11 Screw M3 x 5mm
HW12 Screw M3 x 5mm

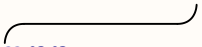
HW13 Stand Off M3 x 7mm F-F
HW14 Stand Off M3 x 7mm F-F
HW15 Stand Off M3 x 7mm F-F
HW16 Stand Off M3 x 7mm F-F
HW17 Stand Off M3 x 7mm F-F
HW18 Stand Off M3 x 7mm F-F
HW19 Stand Off M3 x 7mm F-F
HW20 Stand Off M3 x 7mm F-F

Title	Hardware		
Size: A4	Number: 10	Revision: 1	
Date: 5/22/2025		Sheet 10 of 11	
File: C:\Users\..\Hardware.SchDoc		Drawn By: Rhett Humphreys	

Wires

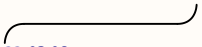
W1 should be used for +14V connection, W2 for GND and W3 for -14V

W1



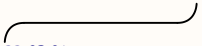
22-03-03
24AWG, multistrand, 1000mm RED

W2



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

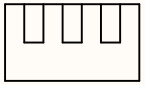
W3



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

Connector Housing

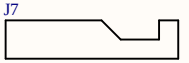
J8



0022013037
Molex female housing 2.54mm 3 pos

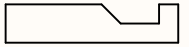
Crimps

J7



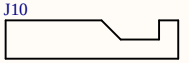
0008550102
Molex crimp gold 22-30 AWG

J9



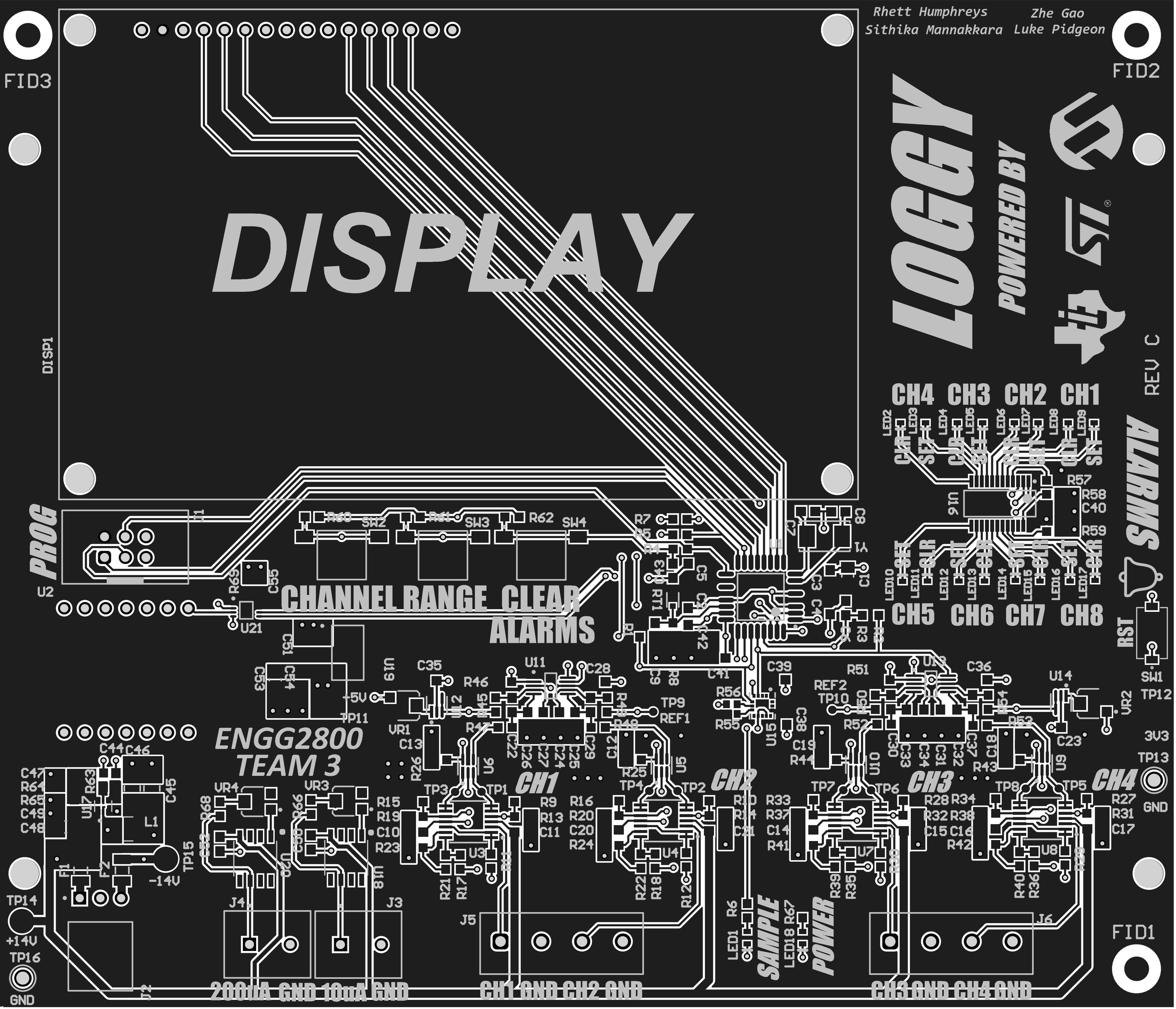
0008550102
Molex crimp gold 22-30 AWG

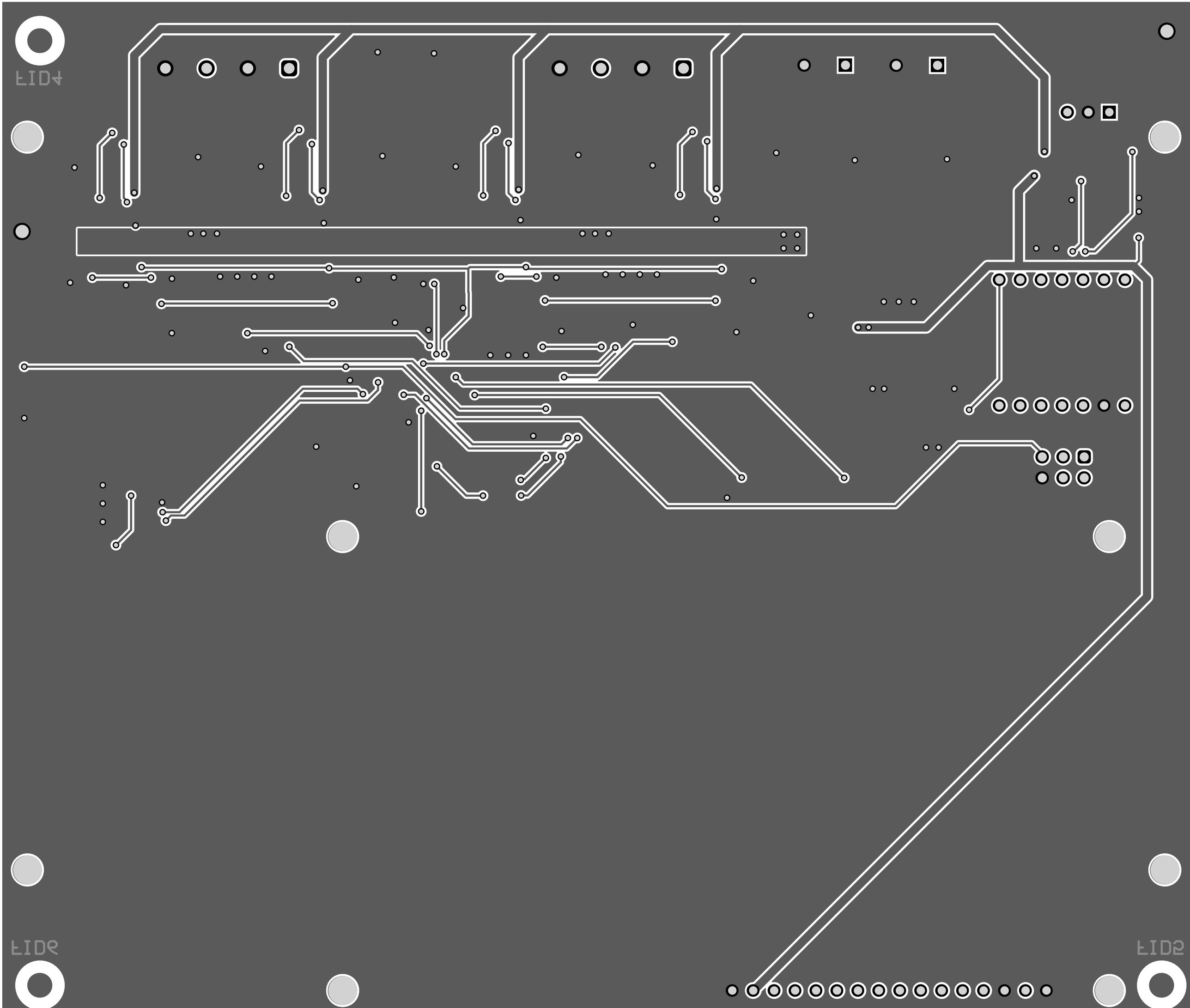
J10



0008550102
Molex crimp gold 22-30 AWG

Title	Cables		
Size A4	Number 11	Revision 1	
Date: 5/22/2025		Sheet 11 of 11	
File: C:\Users\..\Cables.SchDoc		Drawn By: Rhett Humphreys	


Rhett Humphreys
Zhe Gao
Sithika Mannakkara
Luke Pidgeon
FID3
FID2
DISPLAY
LOGGY
POWERED BY
REV C
DISP1
CH4 CH3 CH2 CH1
CH5 CH6 CH7 CH8
PROG
CHANNEL RANGE CLEAR
ALARMS
SWS
RST
SW1
ENGG2800
TEAM 3
CH1
CH2
CH3
CH4
-5V
-14V
+14V
3V3
GND
REF1
REF2
SAMPLE
POWER
200uA GND
10uA GND
CH1 GND
CH2 GND
CH3 GND
CH4 GND
FID1


LID1
LID2