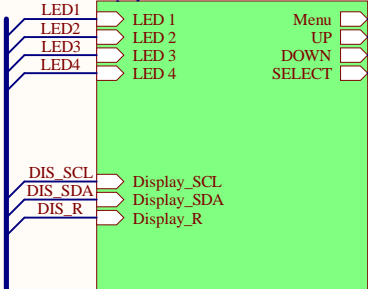


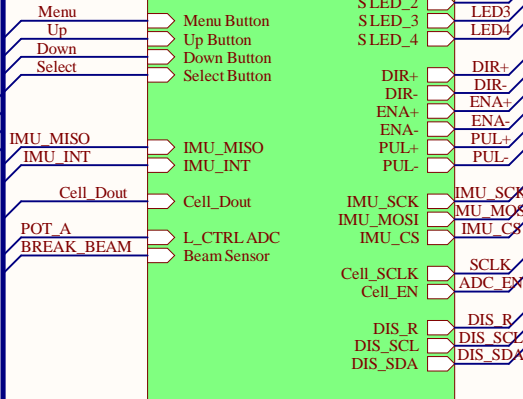
U\_Speed Controller  
Speed Controller.SchDoc



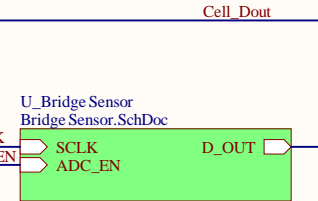
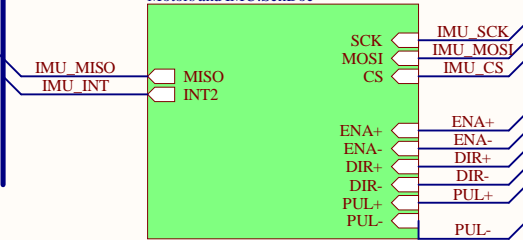
U\_display and buttons  
display and buttons.SchDoc



U\_MCU layout  
MCU layout.SchDoc



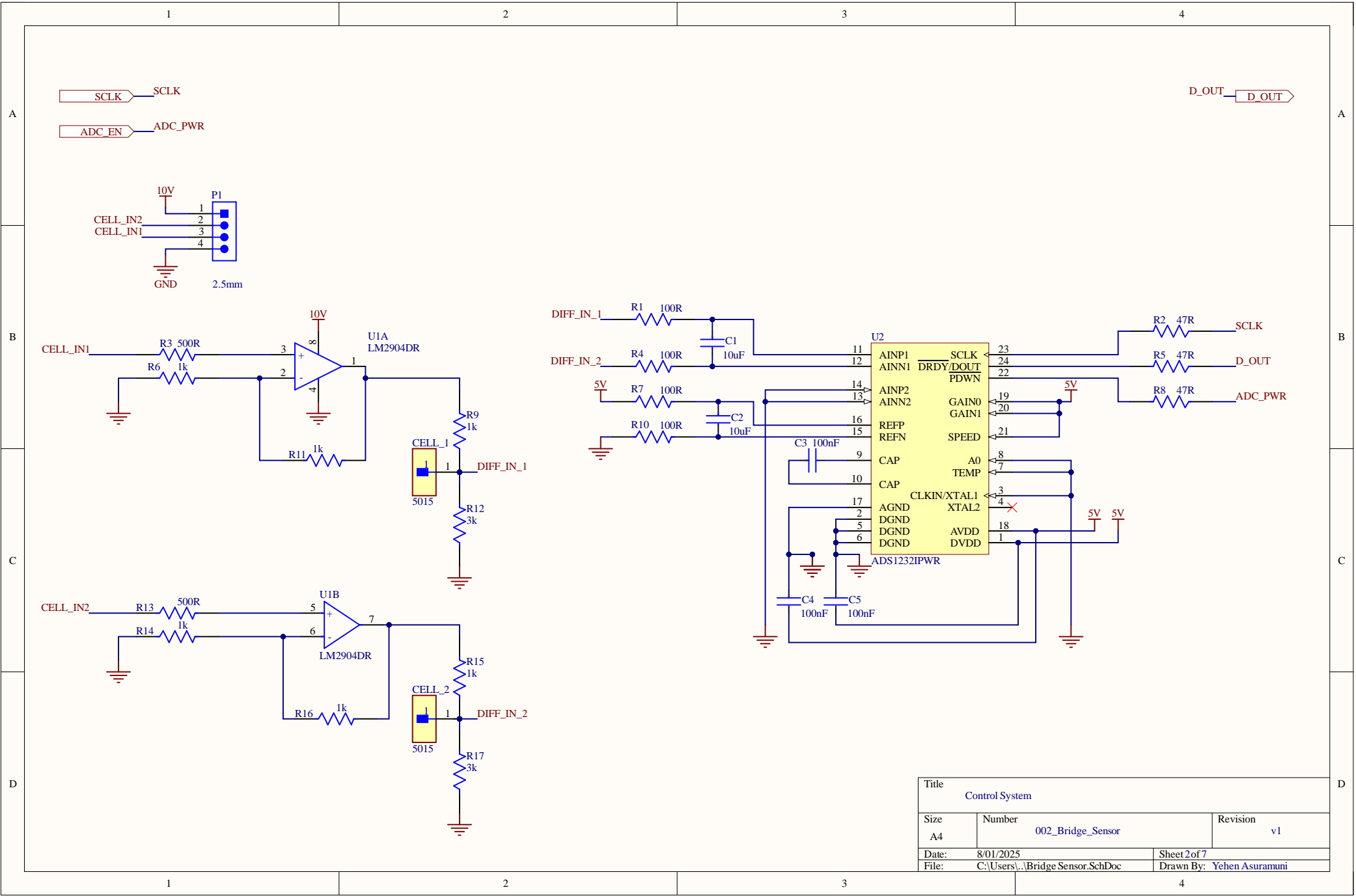
U\_Motors and IMU  
Motors and IMU.SchDoc



U\_PSU\_2  
PSU\_2.SchDoc

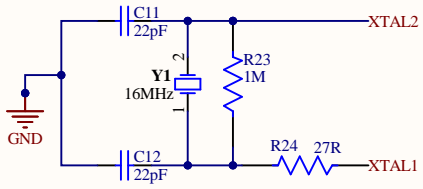
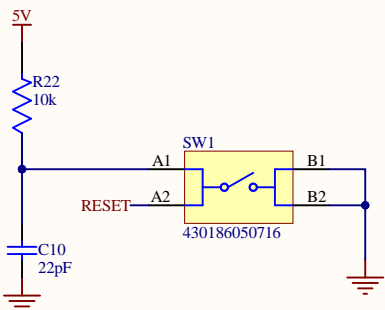
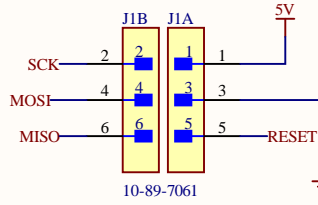
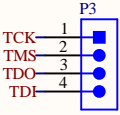
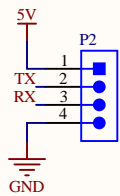


Title Control System		
Size A4	Number 001_Main	Revision v1
Date: 8/01/2025	Sheet 1 of 7	
File: C:\Users\...\Main.SchDoc	Drawn By: Rakindu Paranayapa	



Menu Button → MENU  
Up Button → UP  
Down Button → DOWN  
Select Button → SELECT

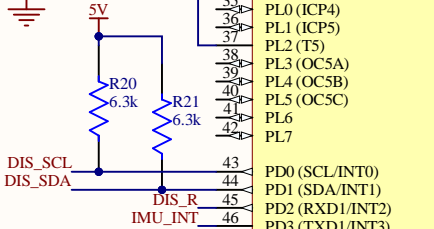
IMU\_MISO → MISO  
IMU\_INT → IMU\_INT  
Cell\_Dout → DOUT\_CELL  
L\_CTRL\_ADC → CTRL\_ADC  
Beam Sensor → BEAM\_ADC



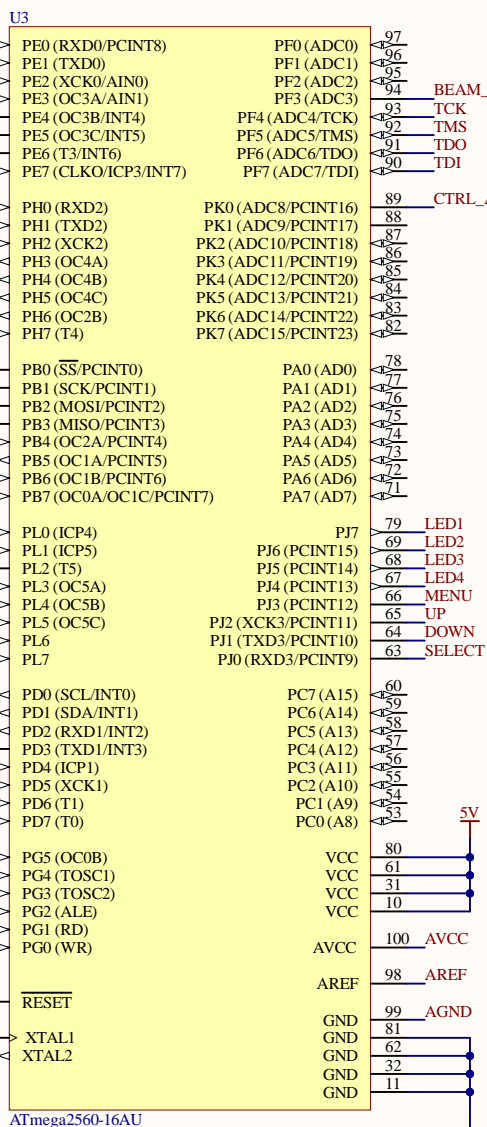
RX → 2  
TX → 3  
DOUT\_CELL → 6  
SCL\_CELL → 7  
CELL\_EN → 8

ENA- → 15  
ENA+ → 16  
DIR- → 17  
DIR+ → 18

SS\_IMU → 19  
SCK → 20  
MOSI → 21  
MISO → 22  
PUL+ → 24

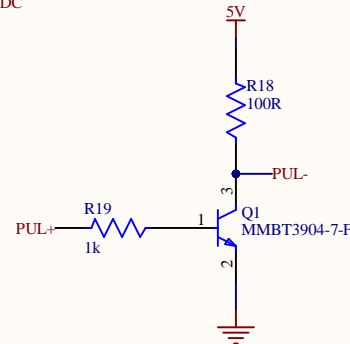


DIS\_SCL → 43  
DIS\_SDA → 44  
IMU\_INT → 46  
RESET → 30  
XTAL1 → 34  
XTAL2 → 33



BEAM\_ADC → 93  
TCK → 92  
TMS → 91  
TDO → 90  
TDI → 89

CTRL\_ADC → 88

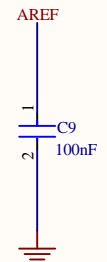
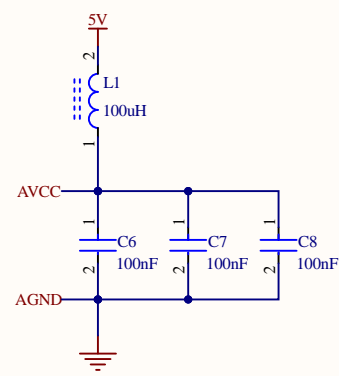


SCK → IMU\_SCK  
MOSI → IMU\_MOSI  
SS\_IMU → IMU\_CS  
SCL\_CELL → Cell\_SCLK  
CELL\_EN → Cell\_EN

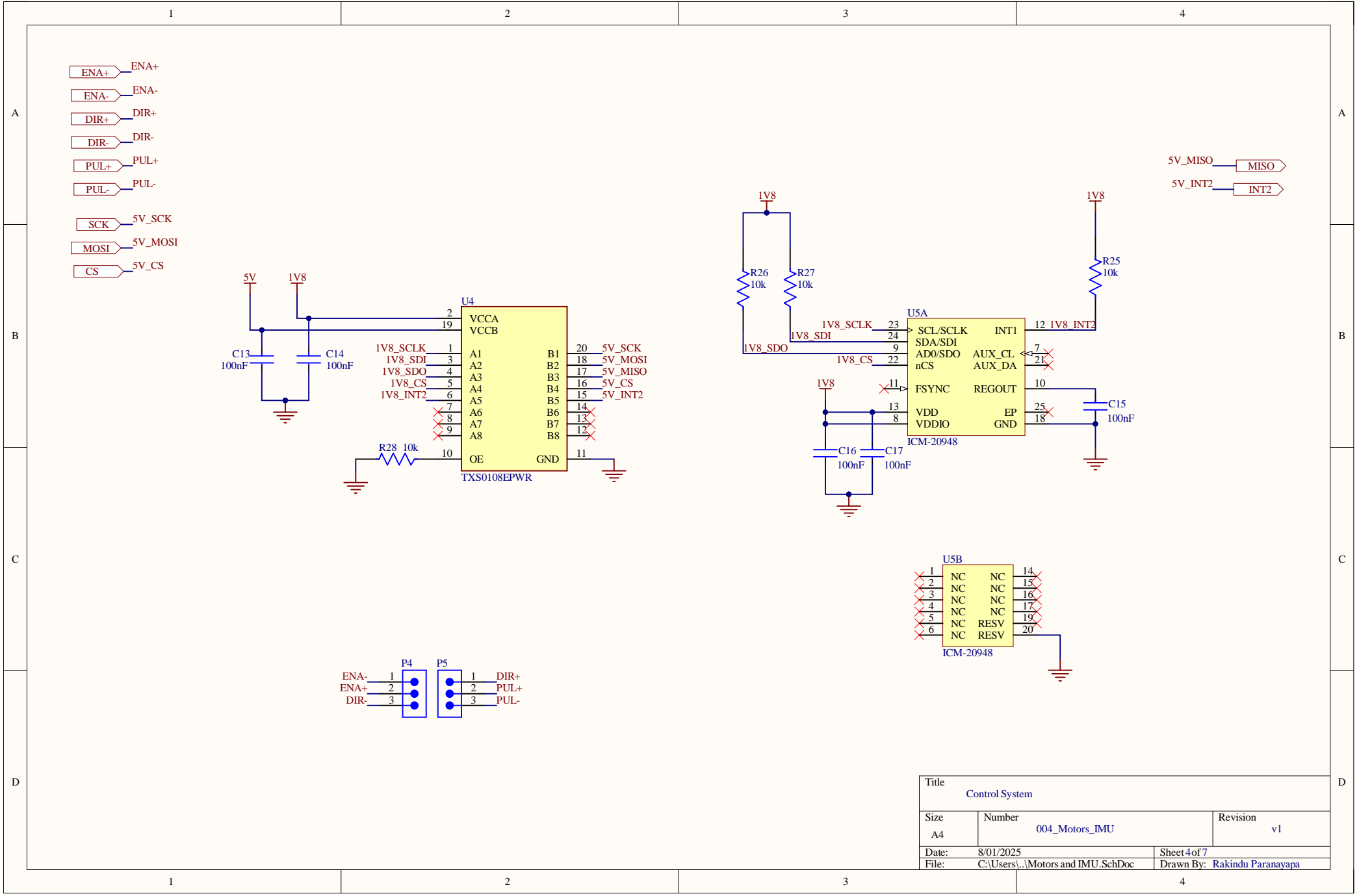
DIR+ → DIR+  
DIR- → DIR-  
ENA+ → ENA+  
ENA- → ENA-  
PUL+ → PUL+  
PUL- → PUL-

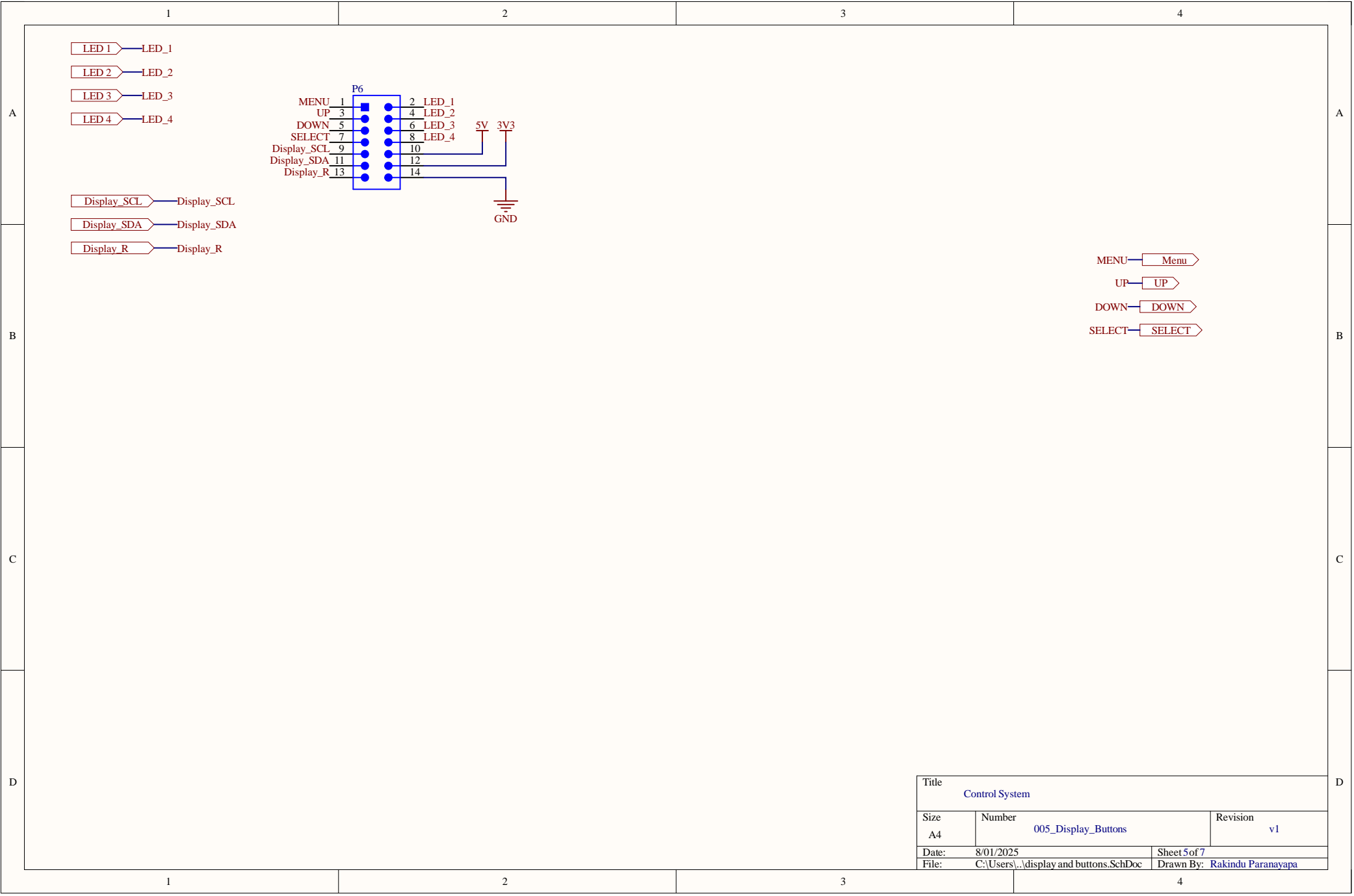
LED1 → SLED\_1  
LED2 → SLED\_2  
LED3 → SLED\_3  
LED4 → SLED\_4

DIS\_SCL → DIS\_SCL  
DIS\_SDA → DIS\_SDA  
DIS\_R → DIS\_R

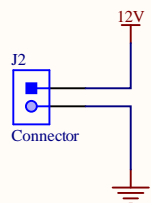


Title		
Control System		
Size	Number	Revision
A4	003_MCU	v1
Date:	8/01/2025	Sheet 3 of 7
File:	C:\Users\...\MCU layout.SchDoc	Drawn By: Rakindu Paranayapa

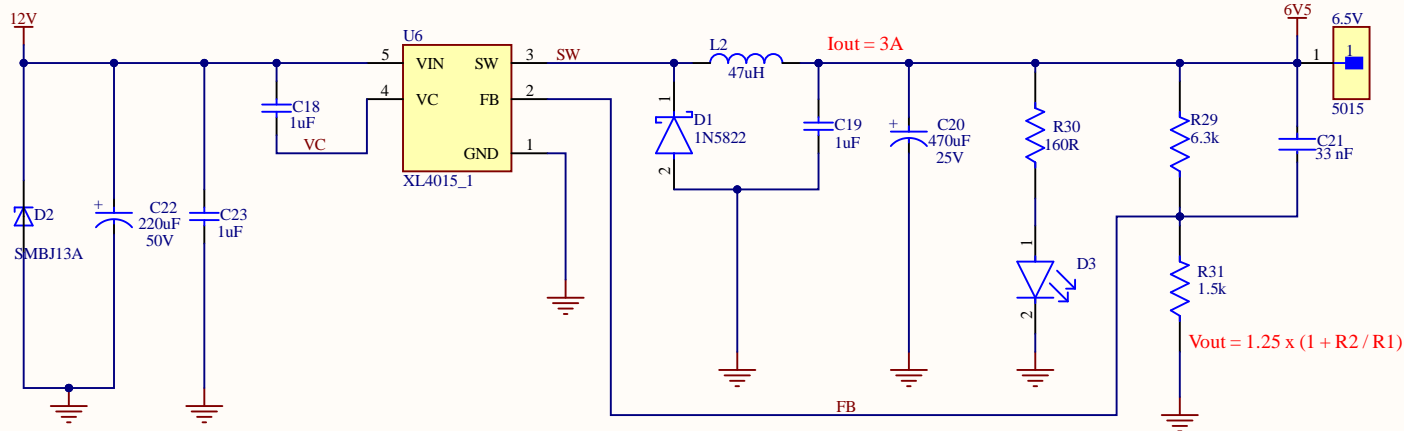




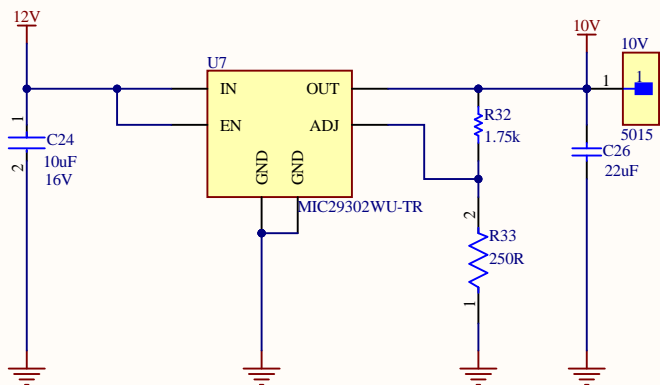
# DC (12V) input



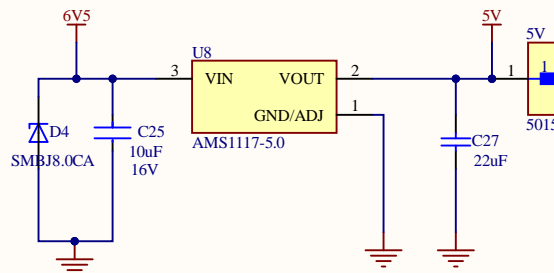
# 12V to 6V5 buck conveter



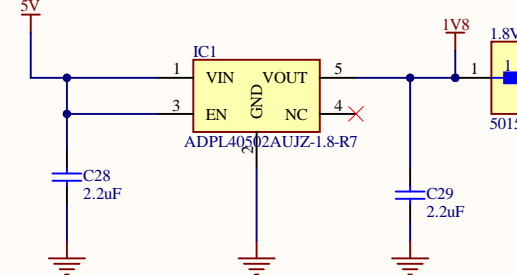
# 12V to 10V LDO



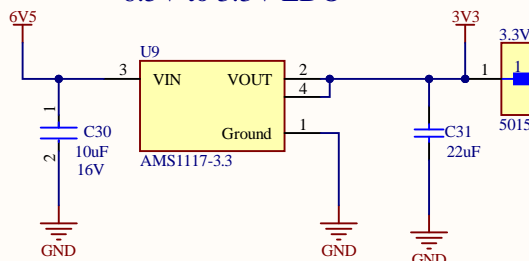
# 6.5V to 5V LDO



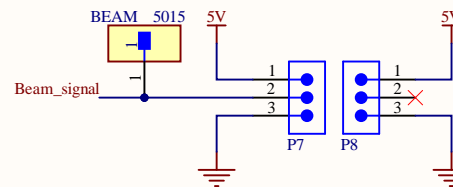
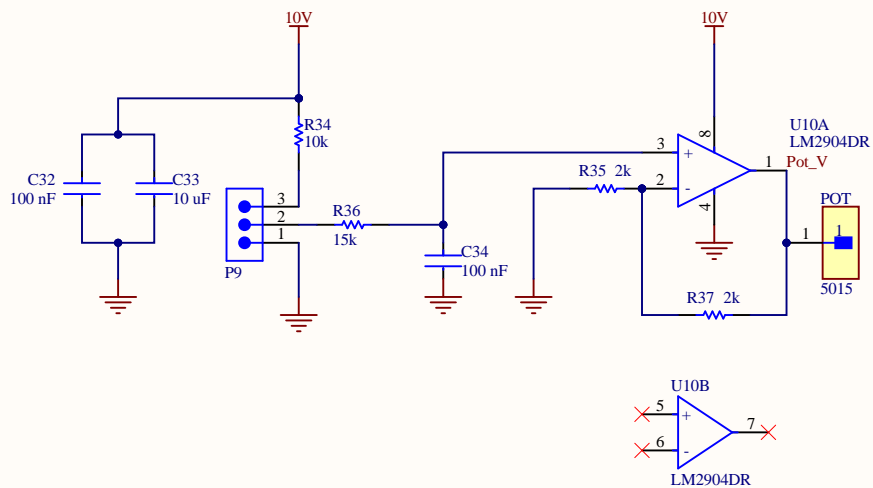
# 5V to 1.8V LDO



# 6.5V to 3.3V LDO



Title			Control System
Size	Number	Revision	
A4	006_Power_supply	v1	
Date:	8/01/2025	Sheet6 of 7	
File:	C:\Users\...\PSU_2.SchDoc	Drawn By: Sineth Jayawardena	



Pot\_V → Control Analog Out

Beam\_signal → Break beam

Title Control System		
Size A4	Number 007_Speed_Controller	Revision v1
Date: 8/01/2025	Sheet 7 of 7	
File: C:\Users\...\Speed Controller.SchDoc	Drawn By: Rakindu Paranayapa	