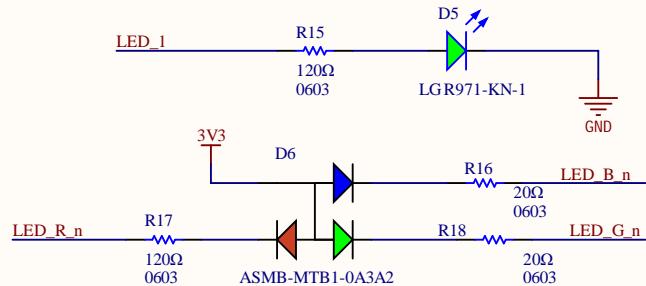


Debug/Programming



Current Calculations

Green LED voltage drop: 2.2V

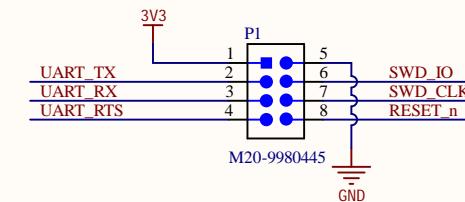
$$- I = (3.3 - 2.2)/120 = 10.83\text{mA}$$

RGB LED voltage drops:

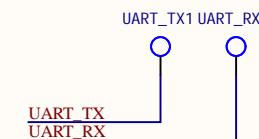
$$- \text{Red: } 2.1\text{V: } I = (3.3 - 2.1)/120 = 10\text{mA}$$

$$- \text{Blue: } 3.1\text{V: } I = (3.3 - 3.1)/20 = 10\text{mA}$$

$$- \text{Green: } 3.1\text{V: } I = (3.3 - 3.1)/20 = 10\text{mA}$$

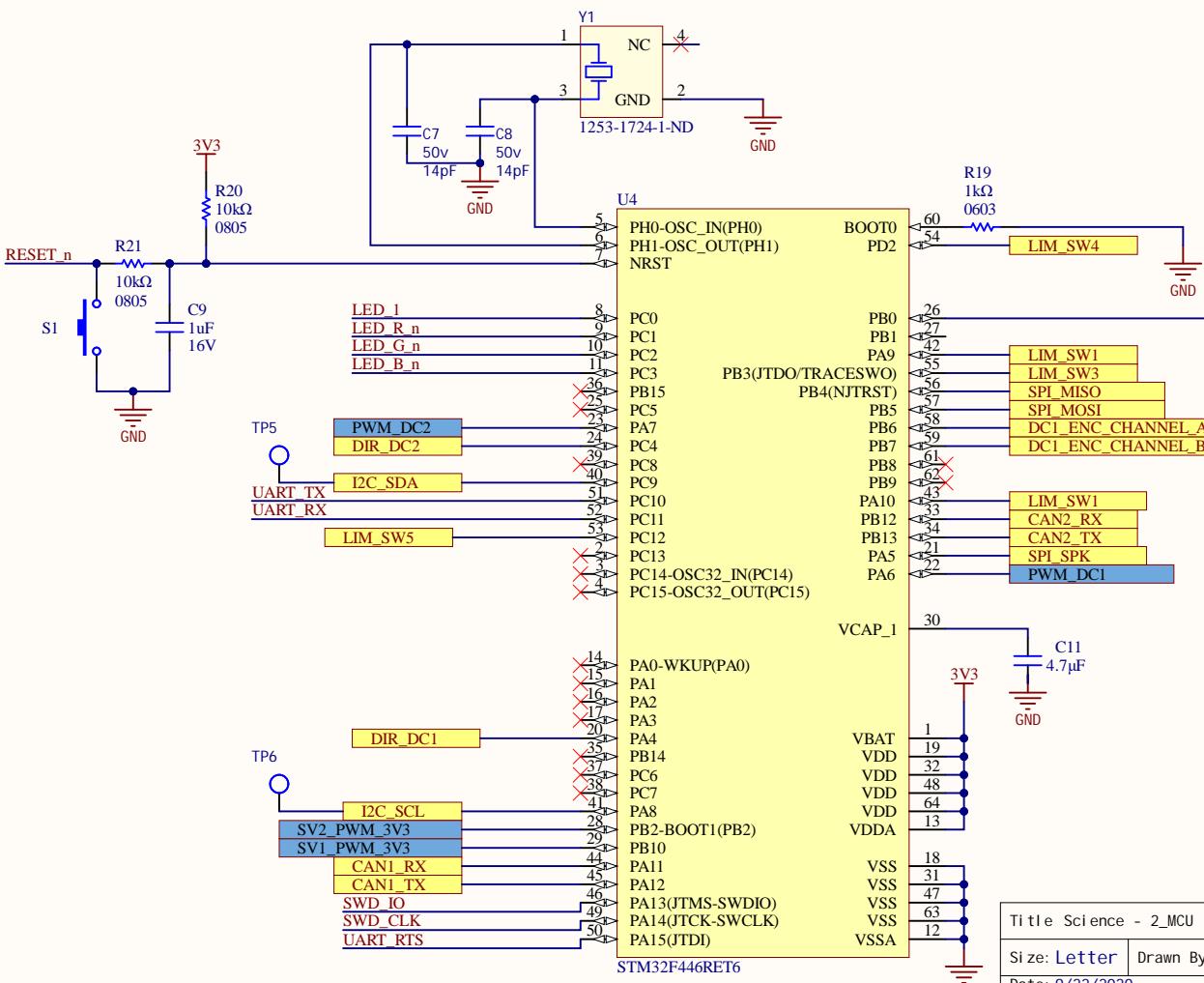
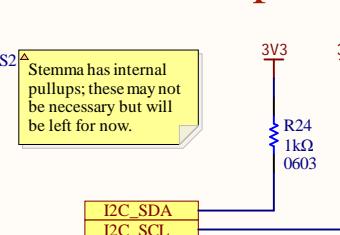


Testpoints

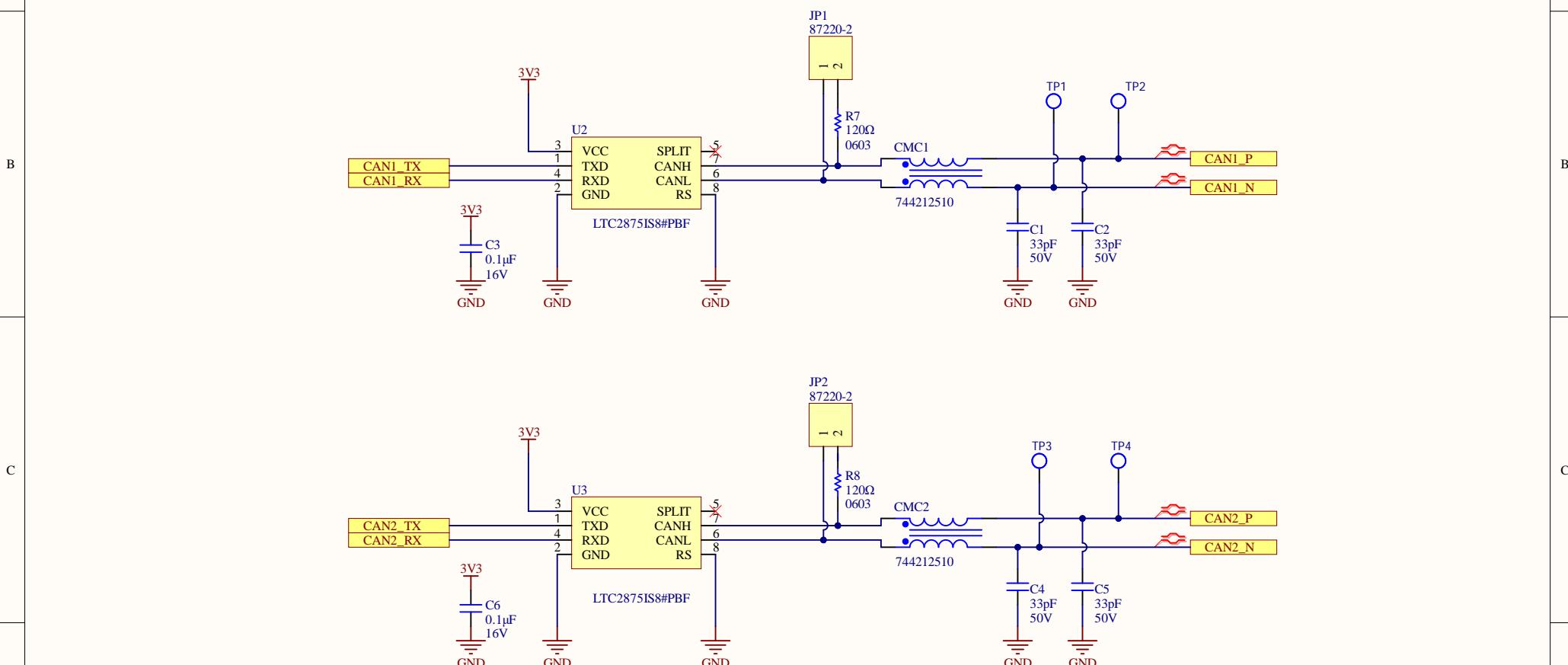


Test Button

I²C Pullups



CAN Transceivers



5V - 3.3V Buck Converter

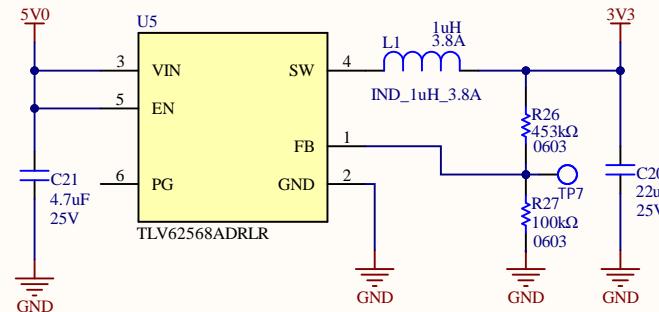
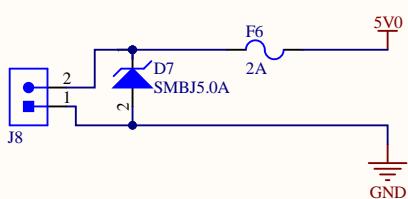
Designed for 3.3V - 5V input

Route for 1A in

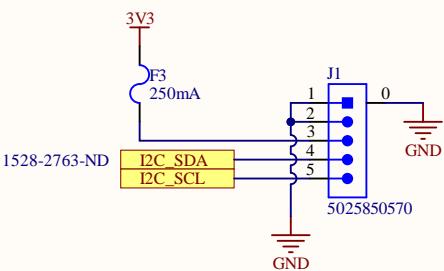
Inductor: SDR0403-1R0ML
1uH, 20%, 33mOhm DCR (max)
3.8A (rms), 5.5A (sat), 3.2mm tall

Route for 3A out

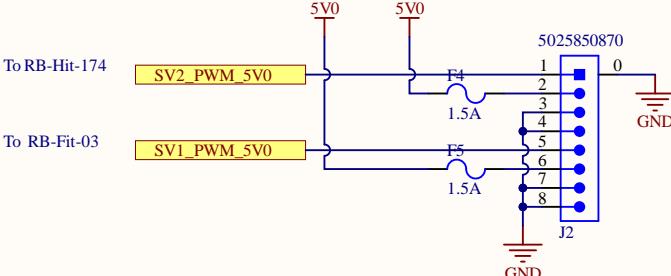
Maximum output current = 2A
Maximum output power = 6.6W
Expected efficiency at 1A = 94.3%



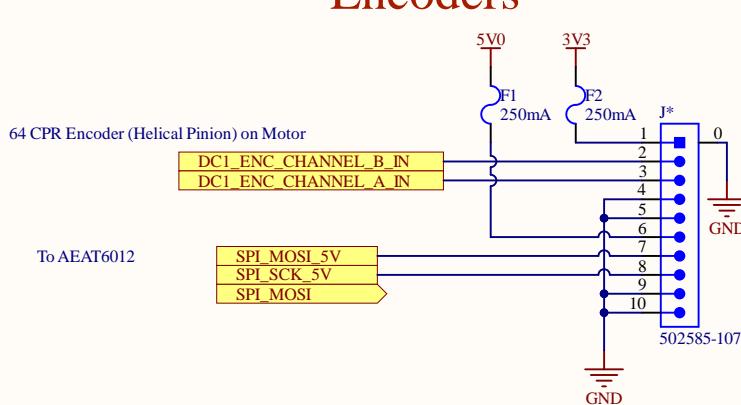
I²C Sensors



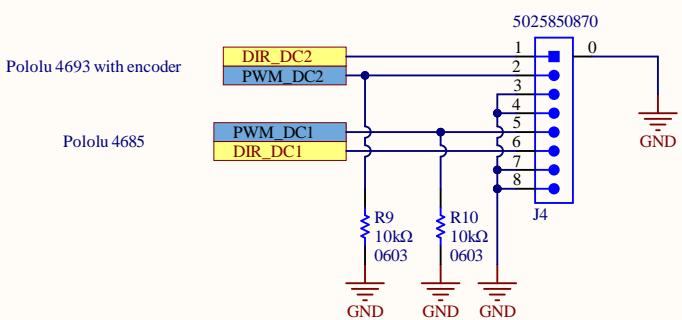
Servos



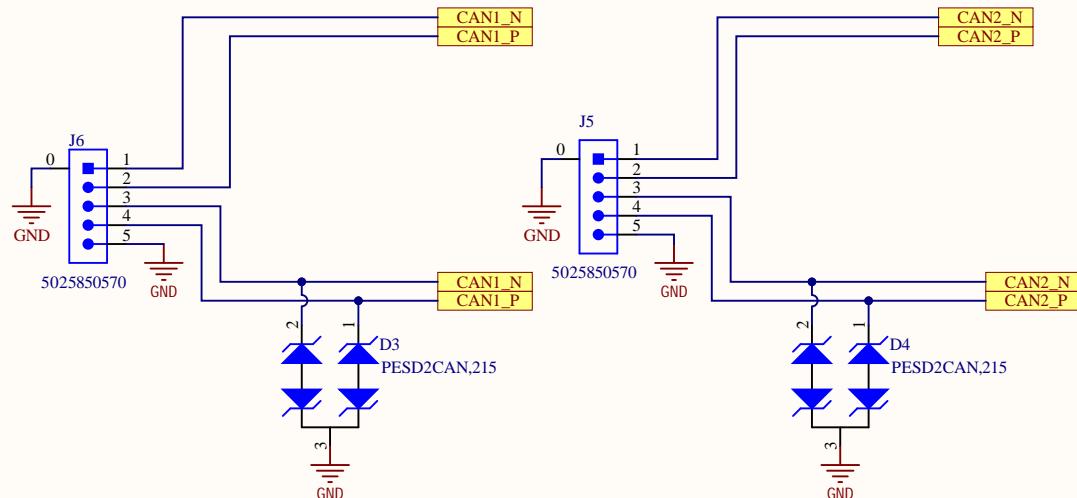
Encoders



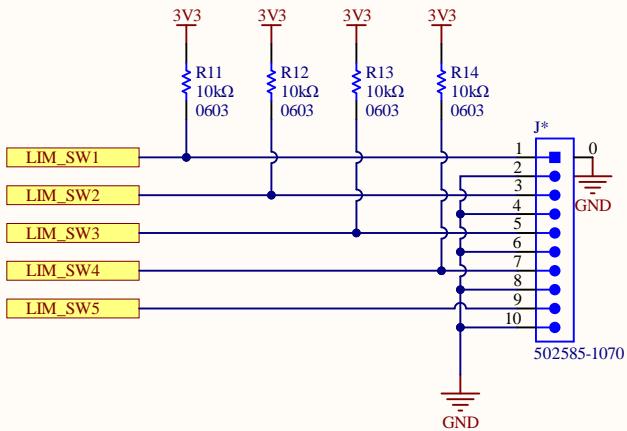
DC Motors



CAN



Limit Switches

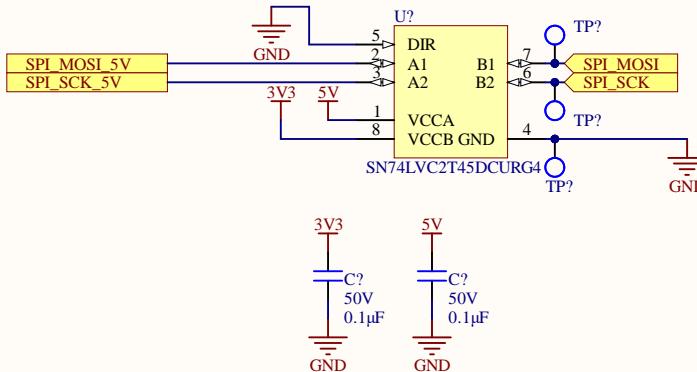
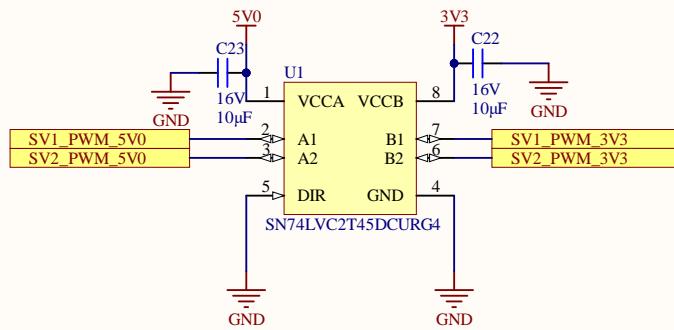


A

A

Encoder Voltage Dividers 5V - 3V Conversion

Servo Level Shifters



Decoupling values may need to be changed

Mounting Holes

