

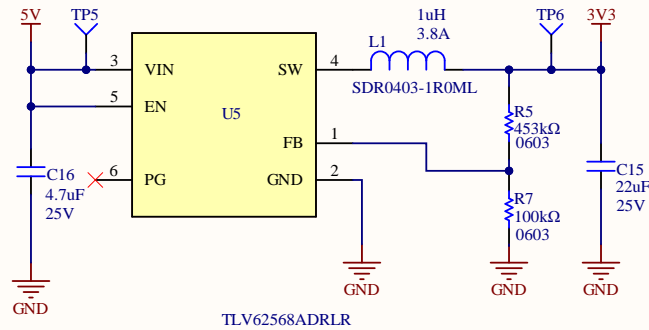
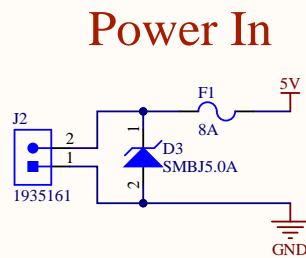
5V - 3.3V Buck Converter

Designed for 3.3V - 5V input

Route for 1A in

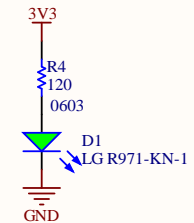
Inductor: SDR0403-1R0ML
1uH, 20%, 33mOhm DCR (max)
3.8A (rms), 5.5A (sat), 3.2mm tall

Route for 3A out

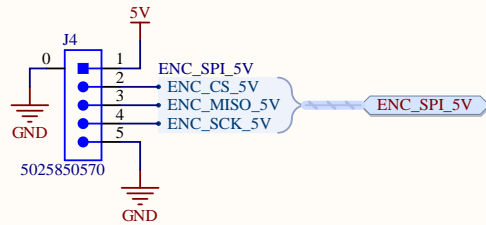


Maximum output current = 2A
Maximum output power = 6.6W
Expected efficiency at 1A = 94.3%

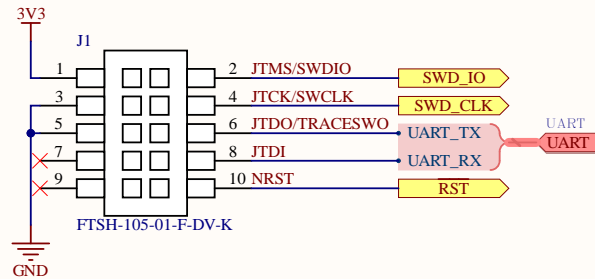
Current Calculations
Green LED voltage drop: 2.2V
- I = (3.3-2.2V)/120 = 10.83mA



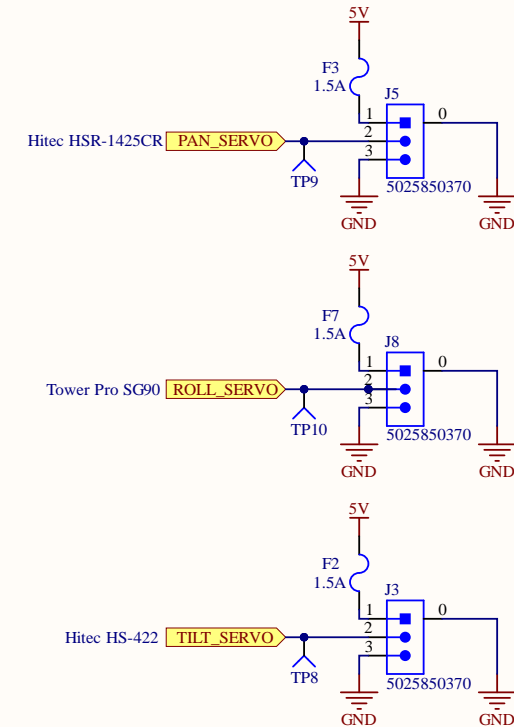
Encoder



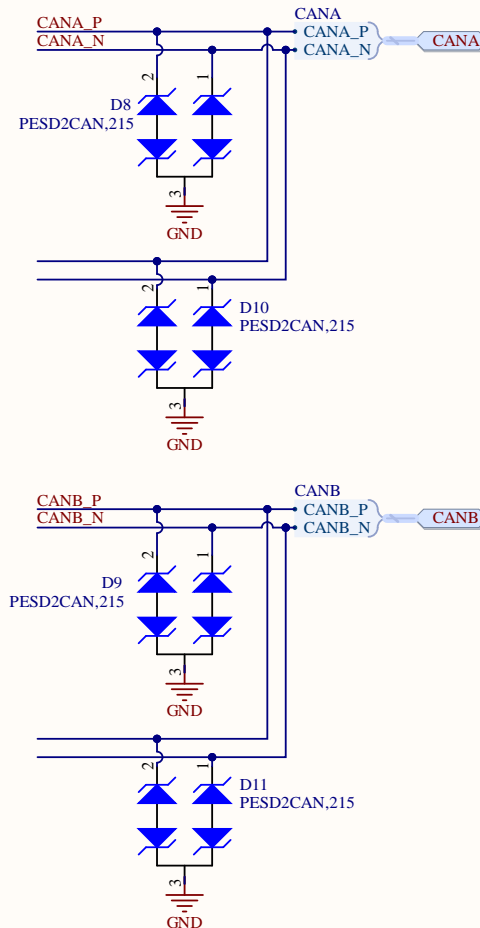
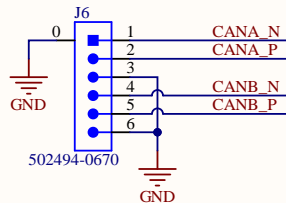
Debug/Programming



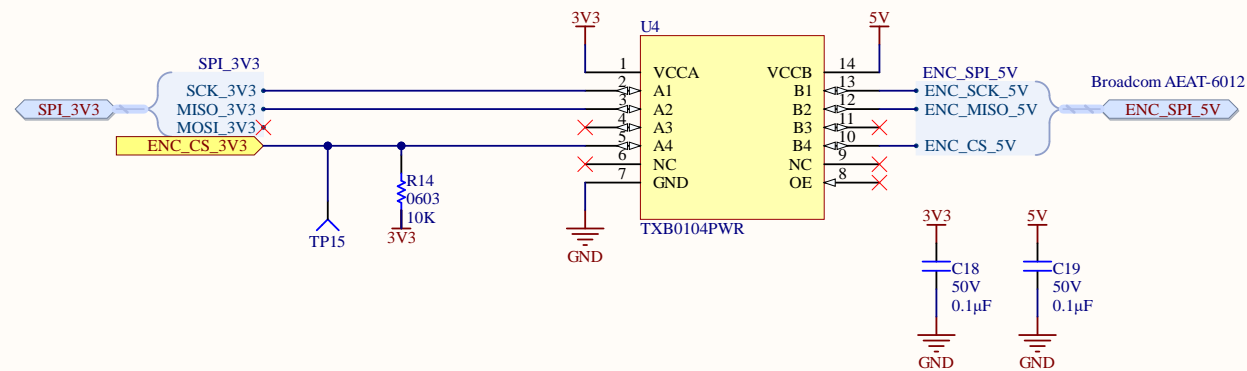
3-Axis Servos



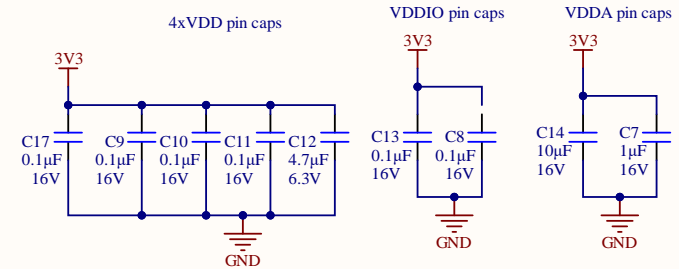
CAN



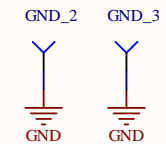
SPI Encoder Level Shifter



Decoupling Caps



GND Test Points

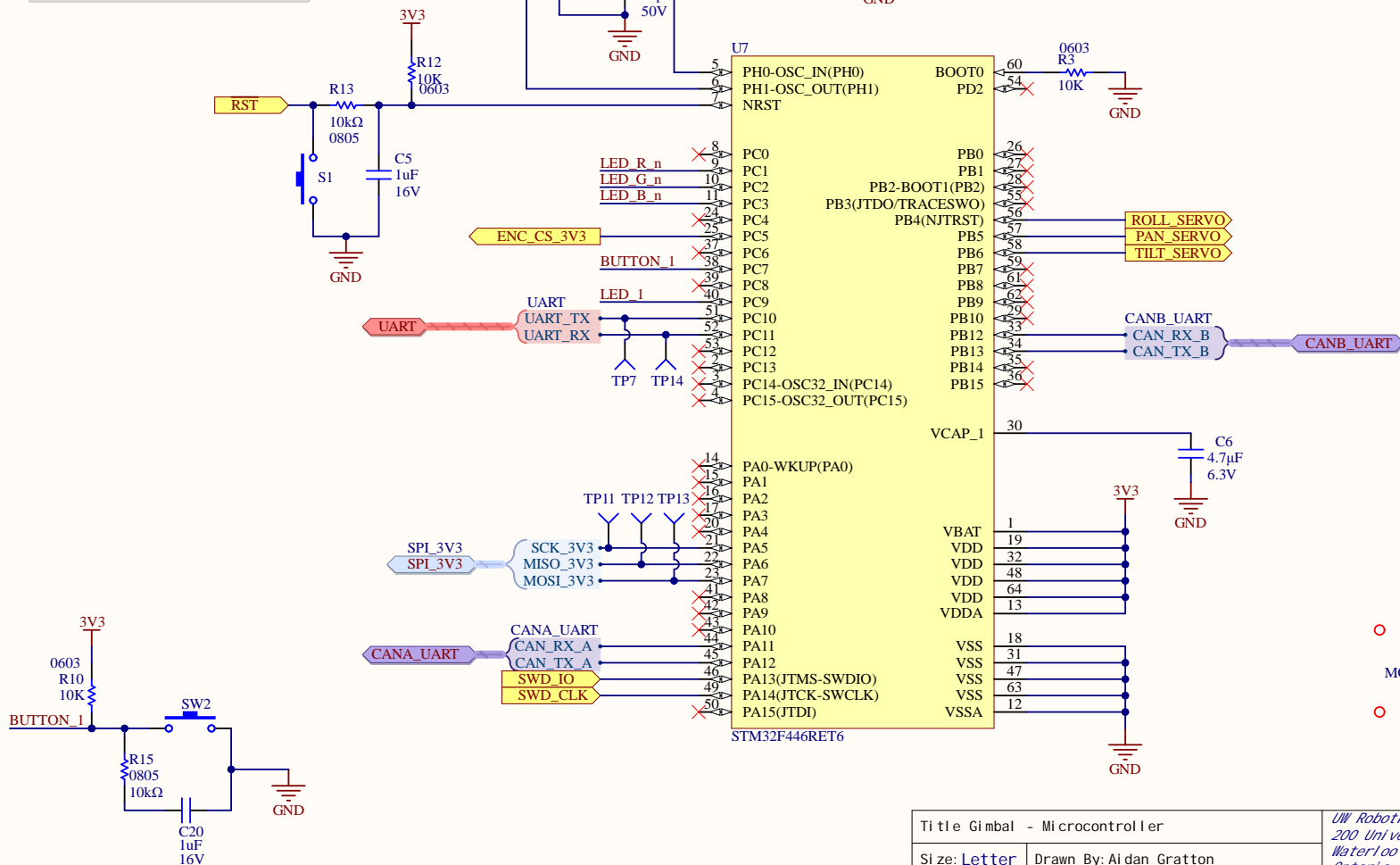


STM32F446RET6

Current Calculations

Green LED voltage drop: 2.2V
 $I = (3.3 - 2.2V) / 120 = 10.83mA$

RGB LED voltage drops:
 - Red: $2.1V: I = (3.3 - 2.1V) / 120 = 10mA$
 - Blue: $3.1V: I = (3.3 - 3.1V) / 20 = 10mA$
 - Green: $3.1V: I = (3.3 - 3.1V) / 20 = 10mA$



CAN Transceivers

