

# 5V - 3.3V Buck Converter

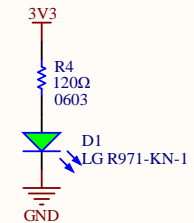
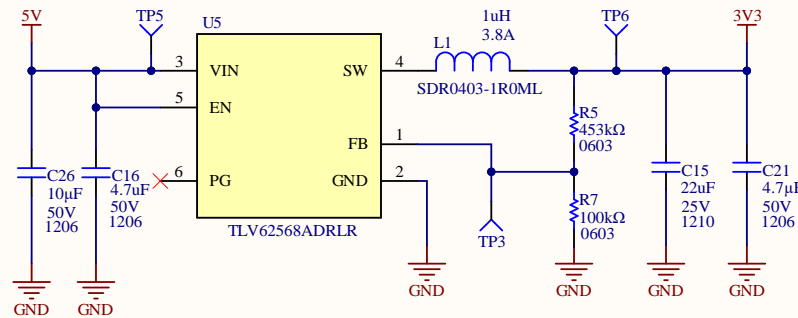
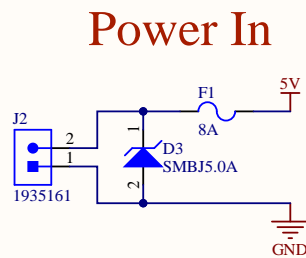
Designed for 3.3V - 5V input

Route for 1A in

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

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

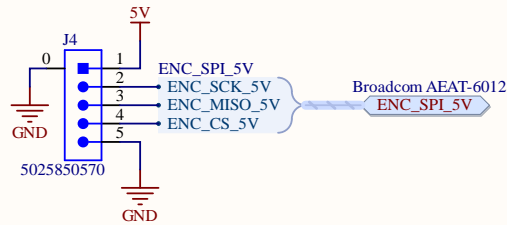
Route for 3A out



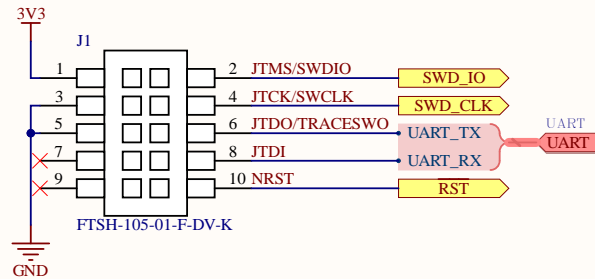
**Current Calculations**

Green LED voltage drop: 2.2V  
-  $I = (3.3 - 2.2V) / 120 = 9.17mA$

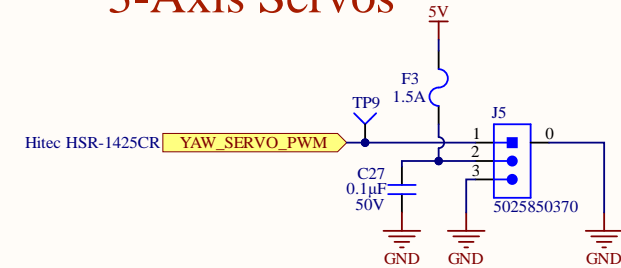
## Encoder



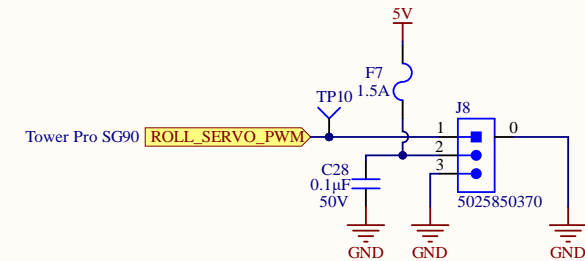
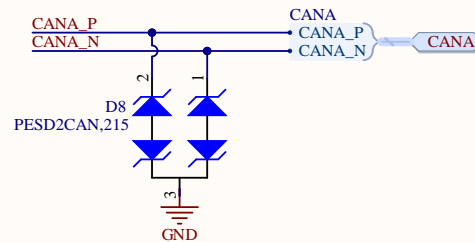
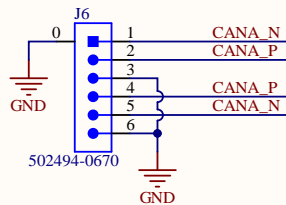
## Debug/Programming



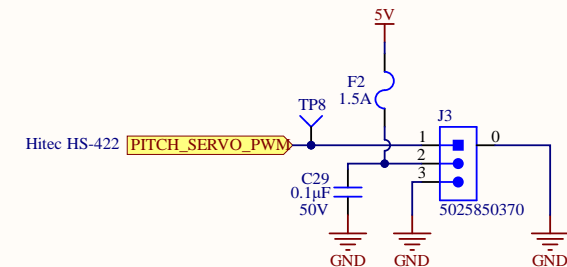
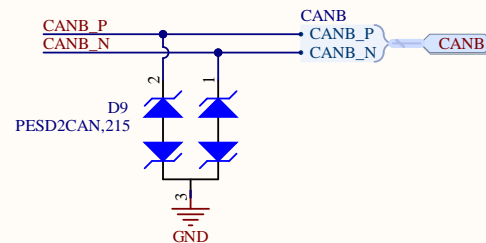
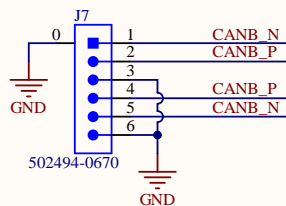
## 3-Axis Servos



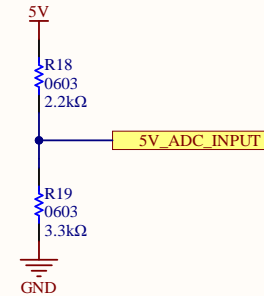
## CAN BUS A



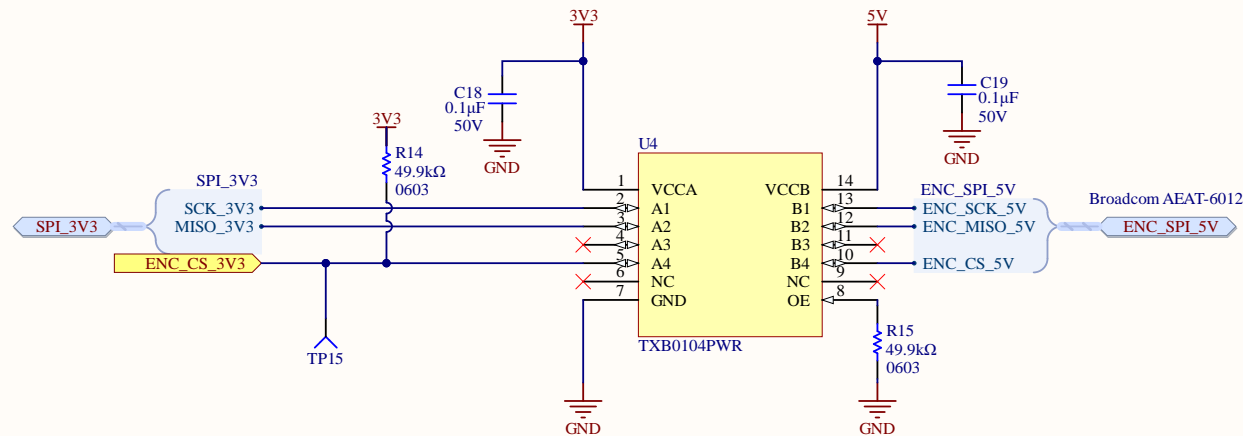
## CAN BUS B



## 5V ADC Monitoring Voltage Divider



## SPI Encoder Level Shifter



A

B

C

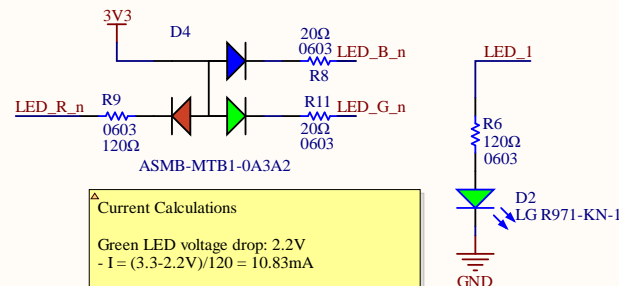
D

A

B

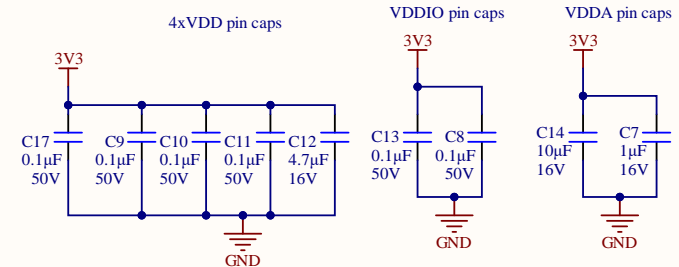
C

D

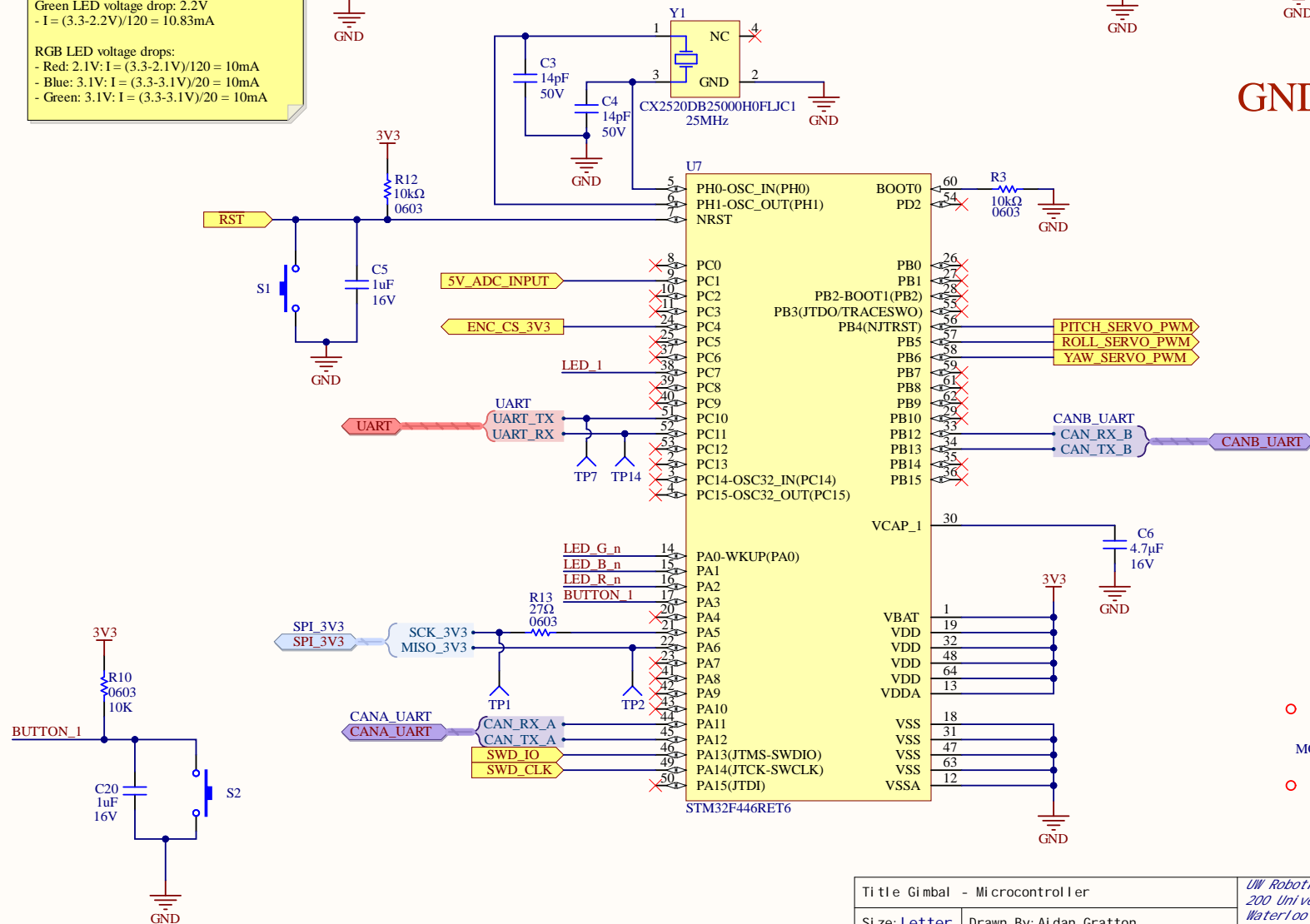


## STM32F446RET6

## Decoupling Caps



## GND Test Point



# CAN Transceivers

