

A

A

B

B

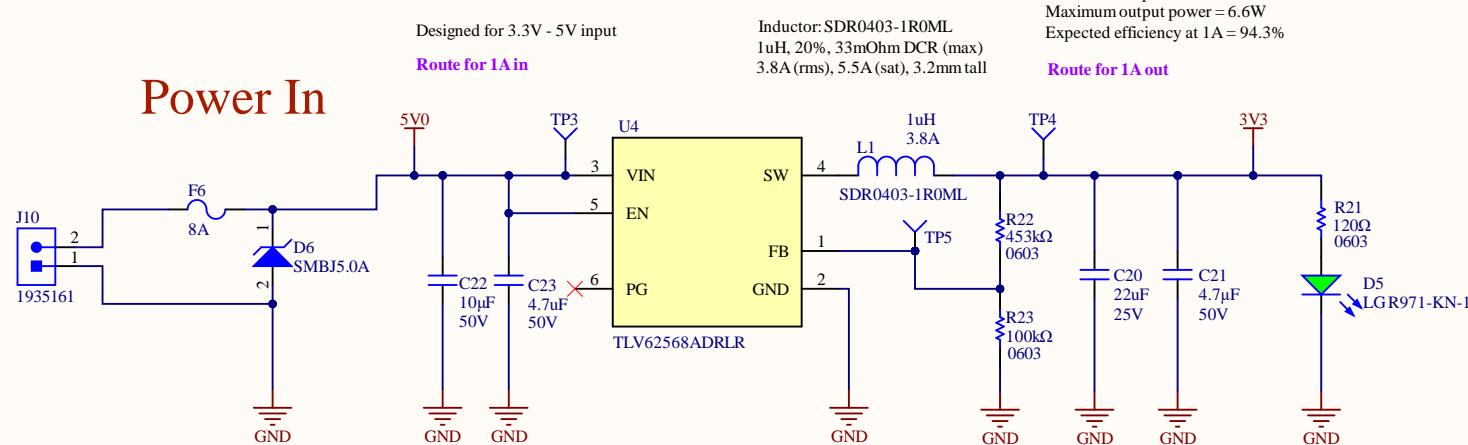
C

C

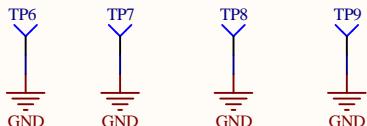
D

D

5V - 3.3V Buck Converter



GND Test Points



Mounting Holes



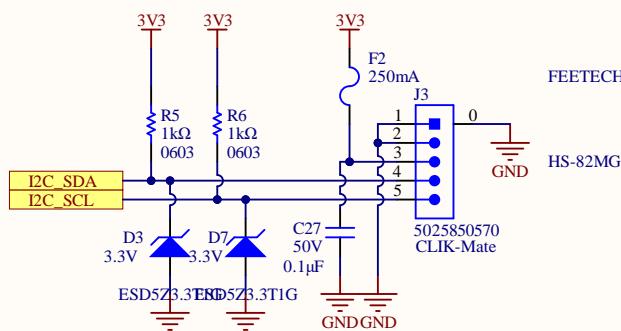
Current Calculations

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

Title: Science - Power	UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: Wolfgang Windholz
Date: 11/1/2020	Sheet 1 of 5
File: C:\Users\Wolfgang.Windholz\OneDrive\Documents\UW\Science\Power\ScienceRev2\SH1 - P0	

STEMMA Moisture Sensor

A



Servos

B

Pololu 4693 Motor

64 CPR Encoder (Helical Pinion) on Motor

LIFT_ENC_CHANNEL_B_5V

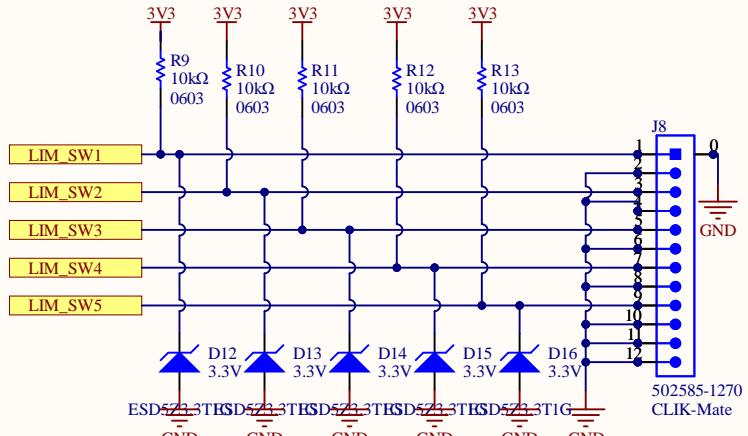
LIFT_ENC_CHANNEL_A_5V

DIR_LIFT

PWM_LIFT

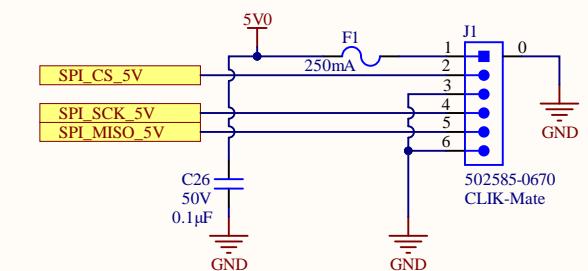
Limit Switches

C

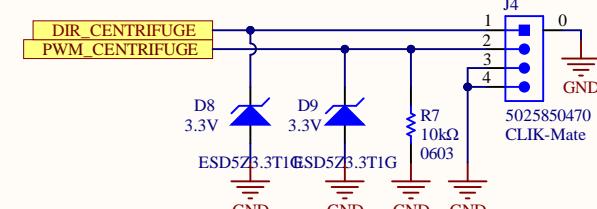


Broadcom AEAT6012 Encoder

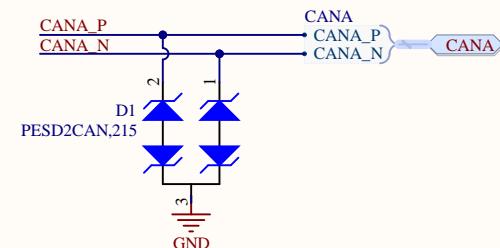
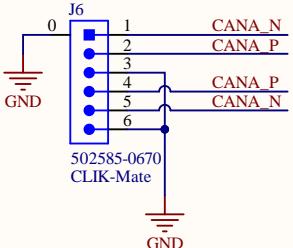
D



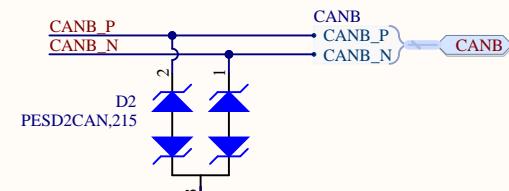
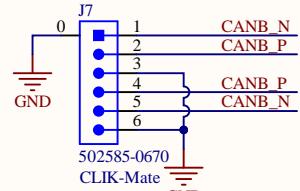
Pololu 4685 Motor



CAN BUS A



CAN BUS B



A

A

B

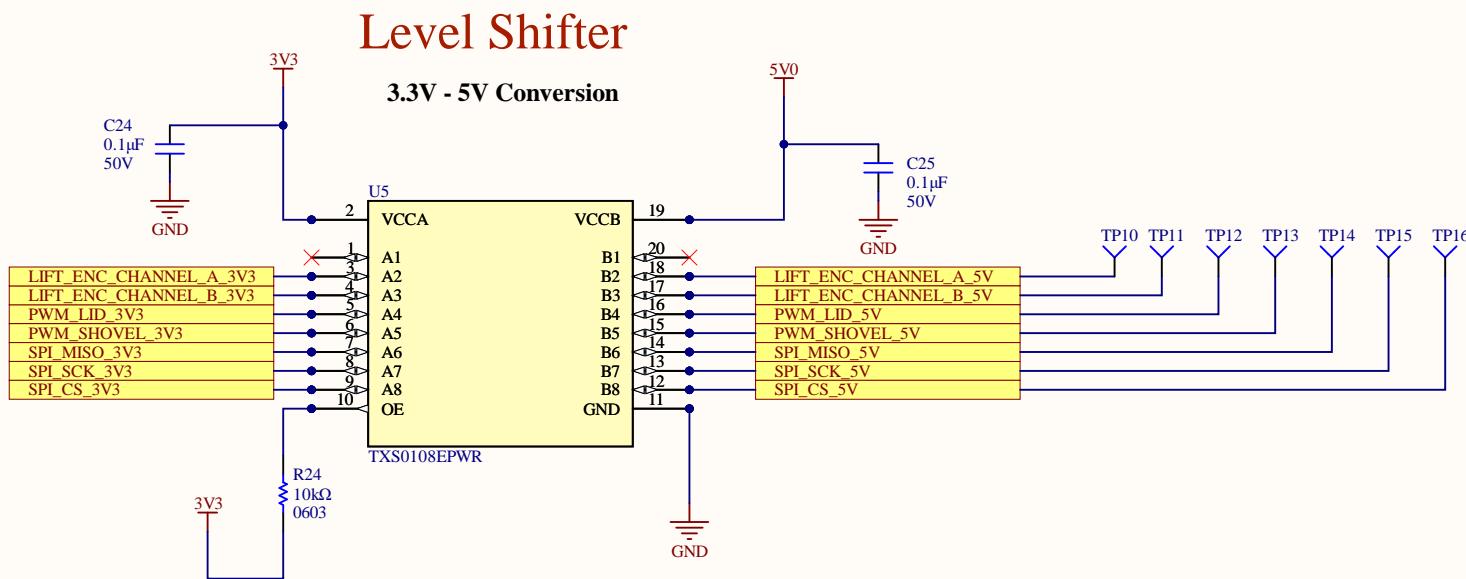
B

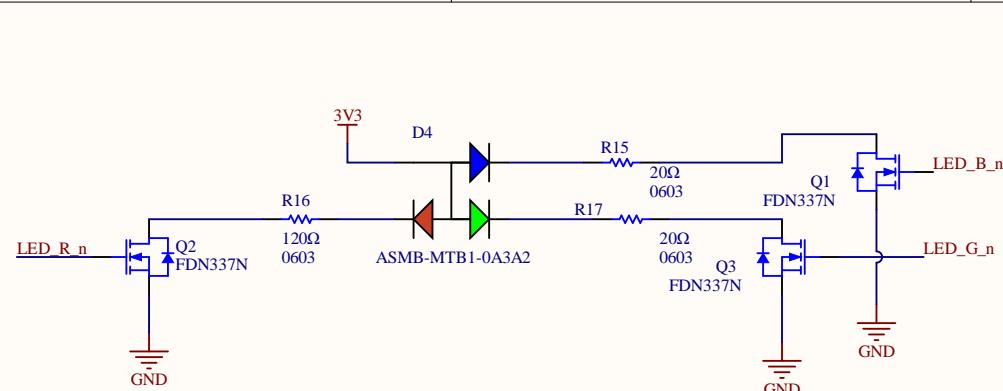
C

C

D

D



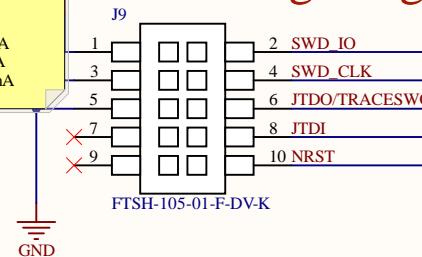


Current Calculations

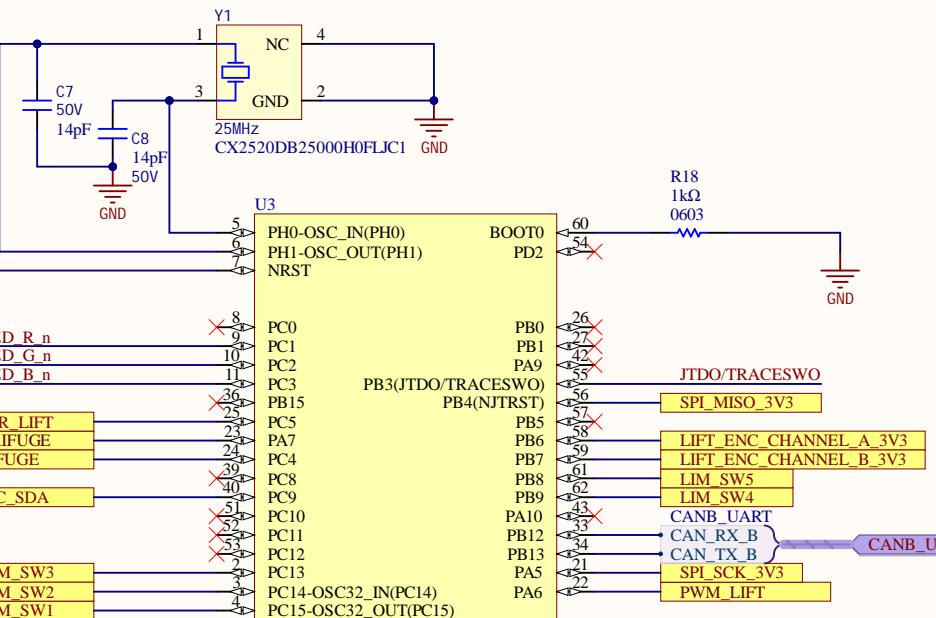
Green LED voltage drop: 2.2V
 $- I = (3.3-2.2V)/120 = 9.167mA$

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: $I = (3.3-3.1V)/20 = 10mA$

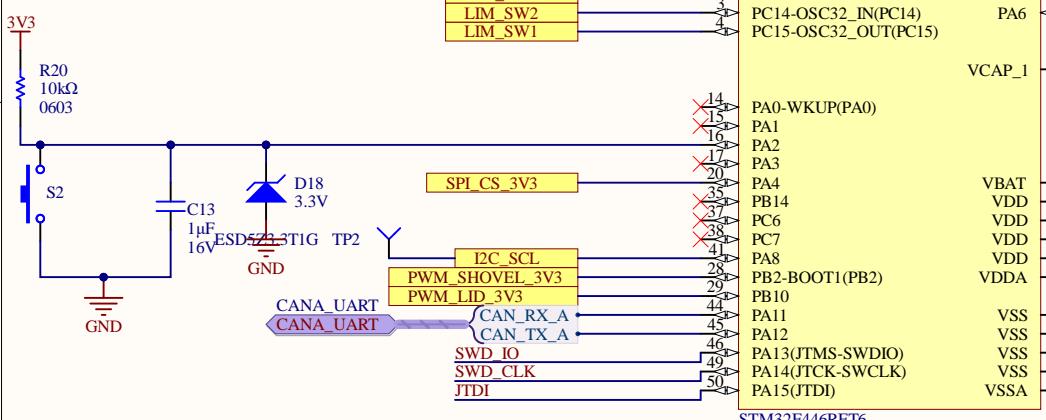
Debug/Programming



STM32



Test Button

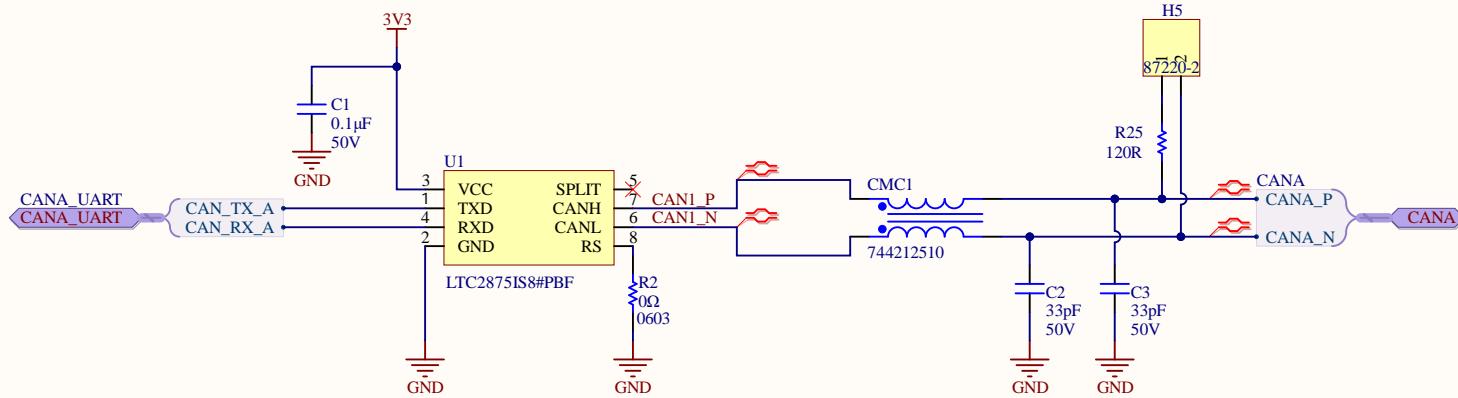


Title: Science - Microcontroller	Size: Letter	Drawn By: Wolfgang Wiedholz	UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Date: 11/1/2020		Sheet 4 of 5	
File: C:\Users\Wolfgang.Wiedholz\Documents\MarsRover2021-hardware\Projects\Science\Rev2\SH4 - M			

A

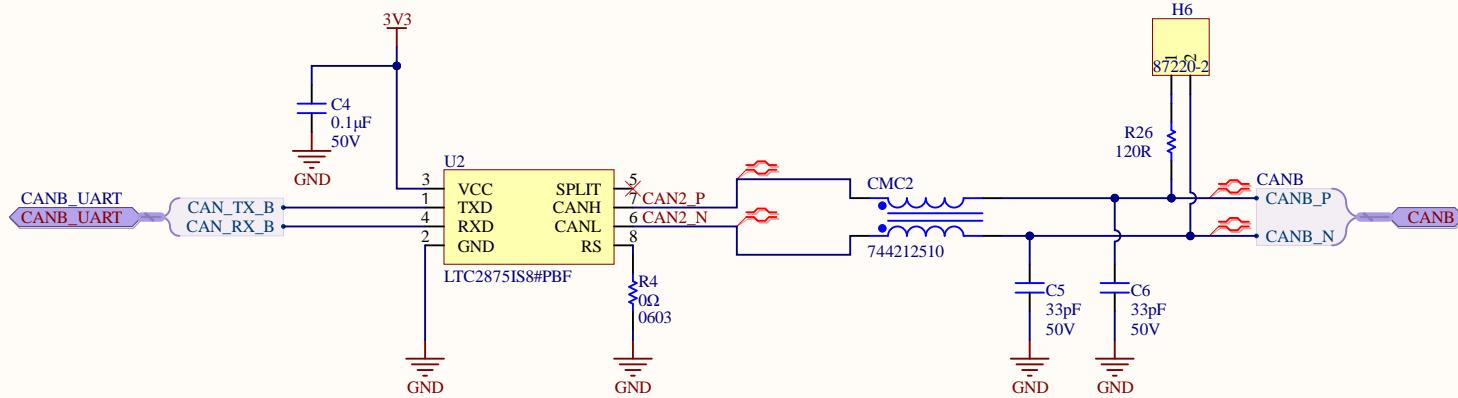
A

CAN Transceivers



B

B



C

C

