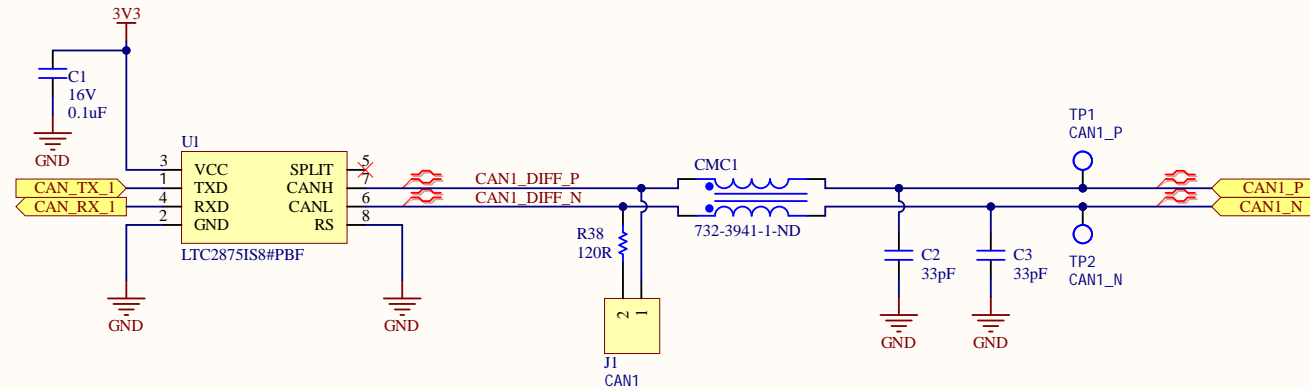
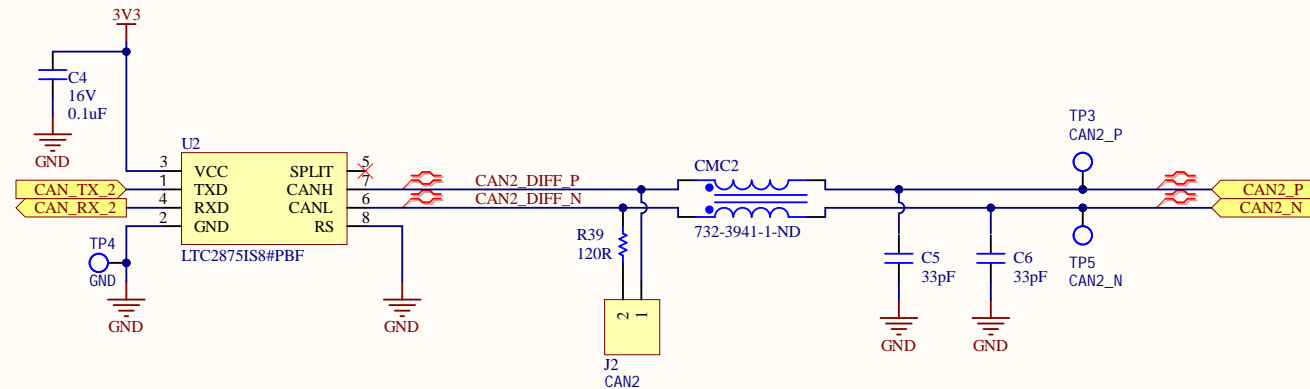



CAN 1



CAN 2

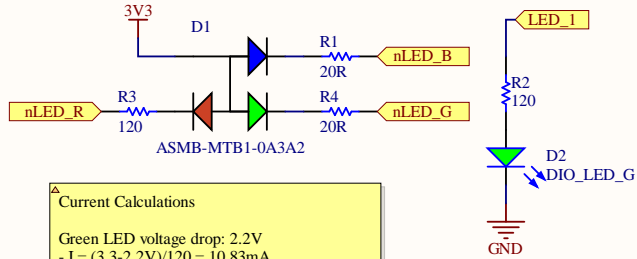


Title CAN		<div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div></div>	
Size: Letter	Drawn By: Ayesha Ebrahi m			
Date: 2020-05-05	Sheet* of *			
File: C:\Users\ayesh\Documents\Git\Hub\MarsRover2020-PCB\Proj ects\BMS\Rev1\CAN. SchDoc				

	1	2	3	4
A				
B				
C				
D				
	1	2	3	4

Add XTAL Connector and
 Battery Balancing Connector,
 CAN Connections, Chip
 Programmer connector, DEBUG
 connector

Test LEDs



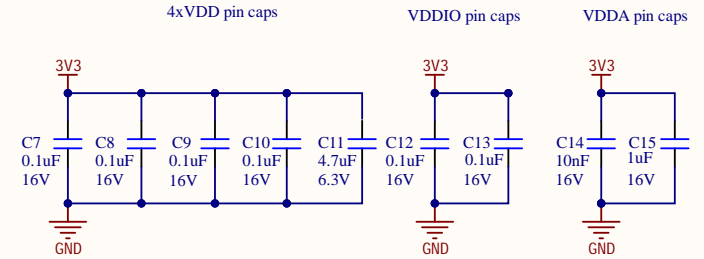
Current Calculations

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

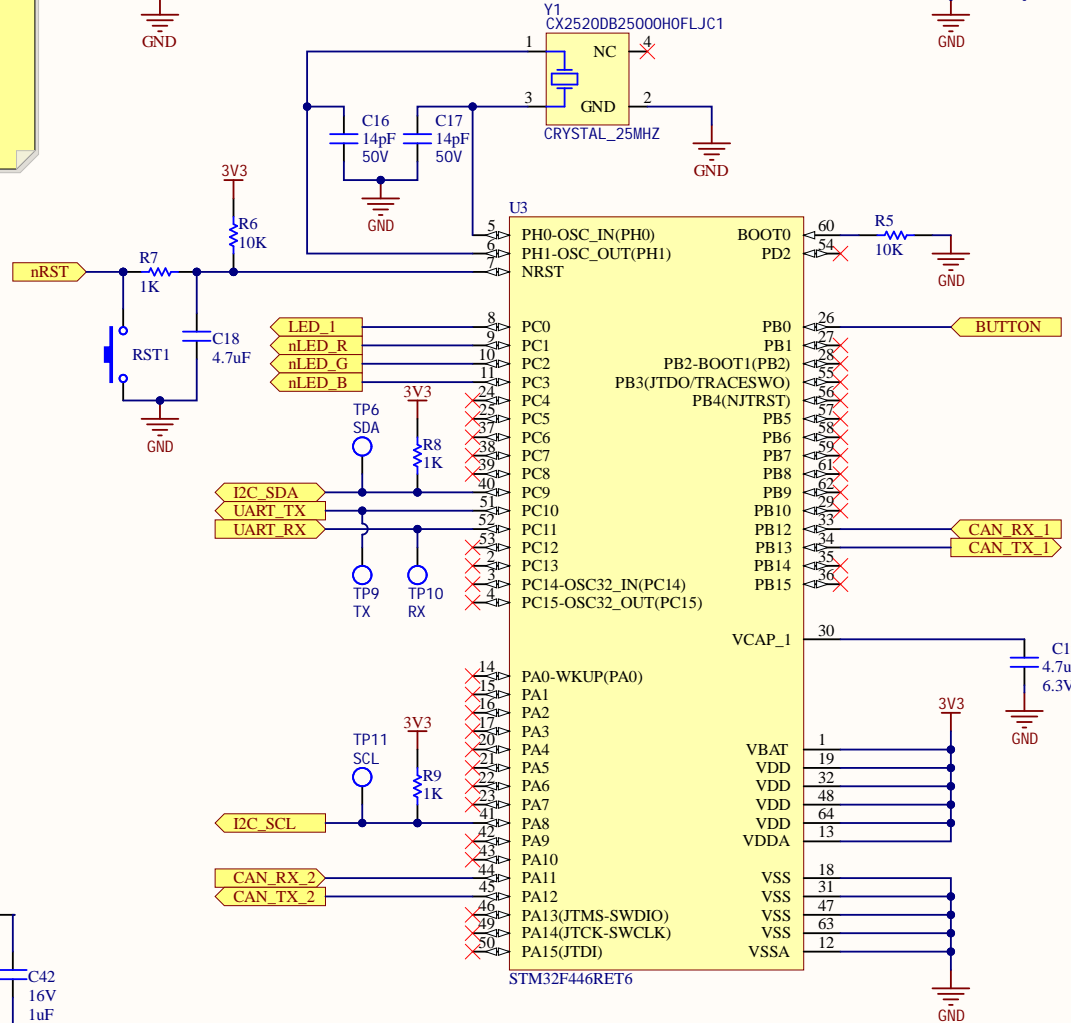
RGB LED voltage drops:

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

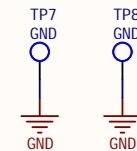
Decoupling Caps



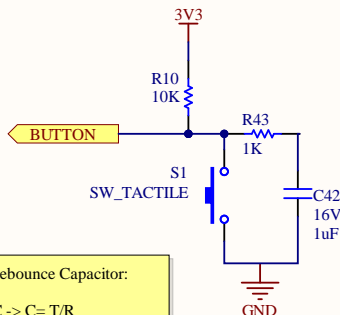
STM32F446RET6



GND Test Points



Test Button



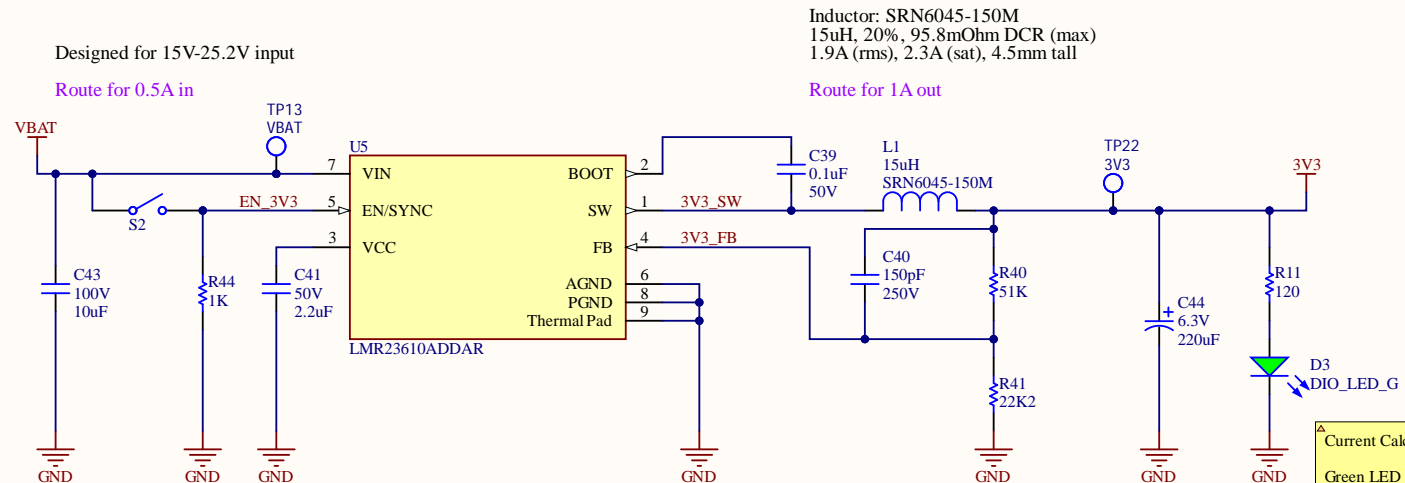
For Debounce Capacitor:

$T = RC \rightarrow C = T/R$
 $C = 0.001ms / 1000Ohms = 1uF$

Title	MCU	*
Size:	Letter	*
Drawn By:	Ayesha Ebrahim	*
Date:	2020-05-05	Sheet* of *
File:	C:\Users\ayesh\Documents\GitHub\MarsRover2020-PCB\Projects\BMS\Rev1\MCU_SchDoc	



Battery Voltage to 3V3 Buck @ 1A Max



Current Calculations

Green LED voltage drop: 2.2V

$I = (3.3 - 2.2V) / 120 = 10.83mA$

Max expected power on output = 1.65W
Max current = 0.5A
Expected Efficiency at 1A > 87.7%