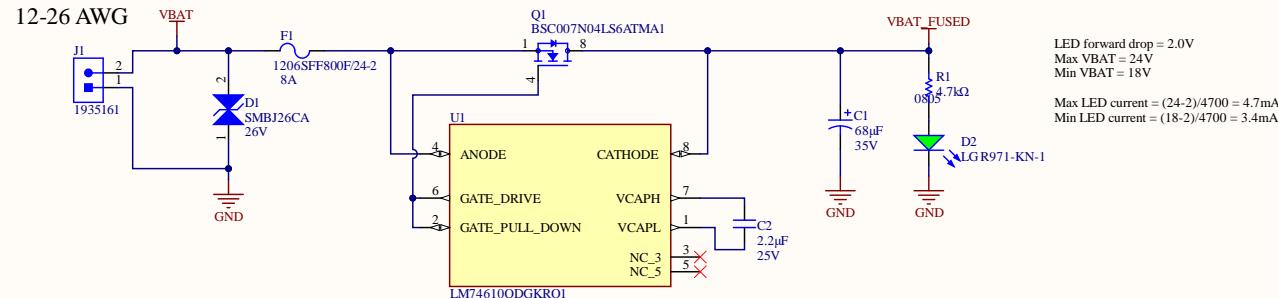
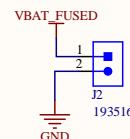
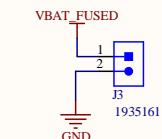
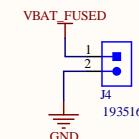


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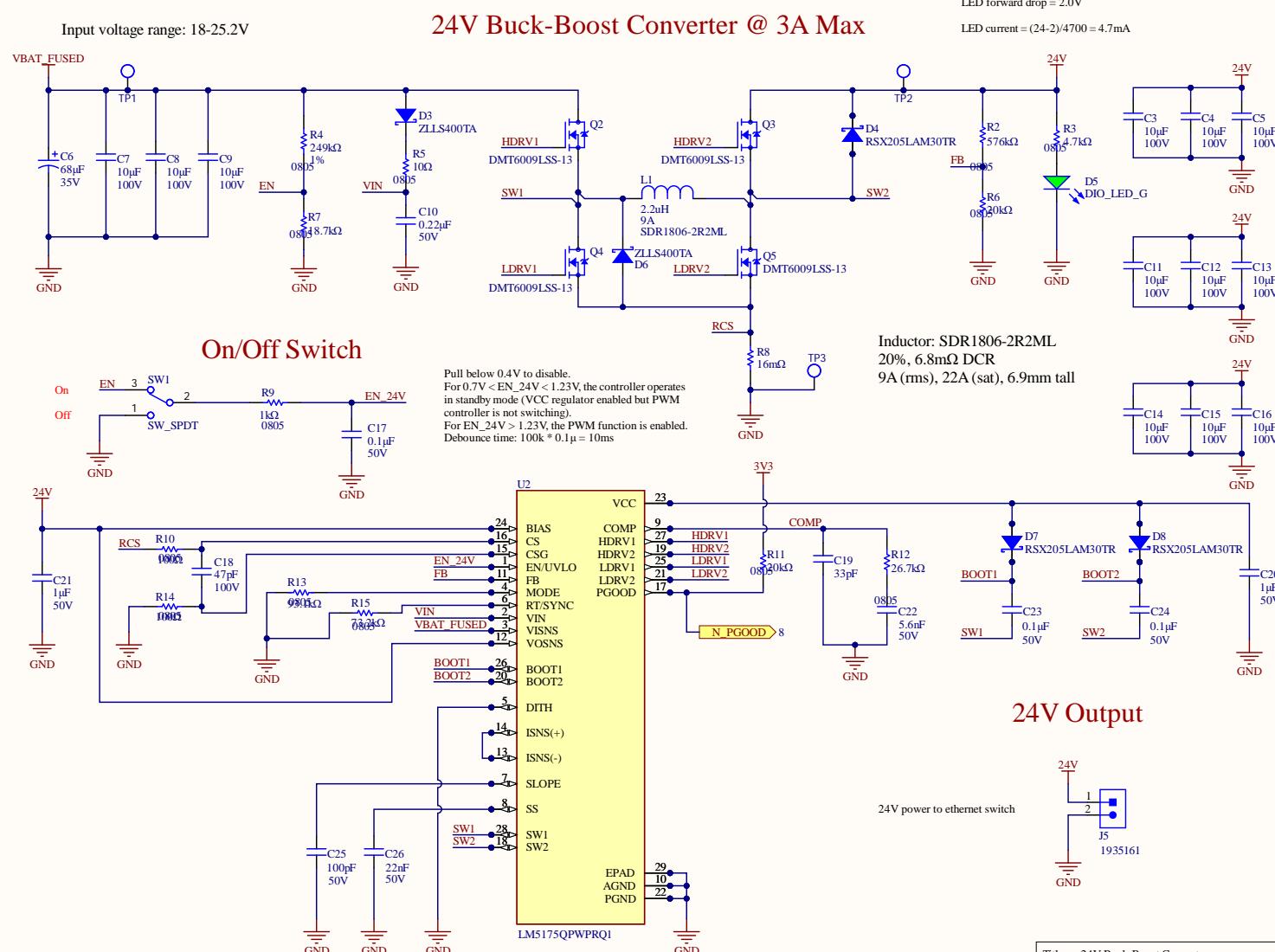
**Battery Input (6s1p)**

Input voltage range: 18-25.2V

**V<sub>Bat</sub> (24V) Outputs**V<sub>Bat</sub> (24V) power to LED Matrix boardV<sub>Bat</sub> (24V) power to Arm, Science, Gimbal, or Localization boards (to be decided in Rev3)

Title: Power	
Project: Power Distribution Board.PjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 1 of 10



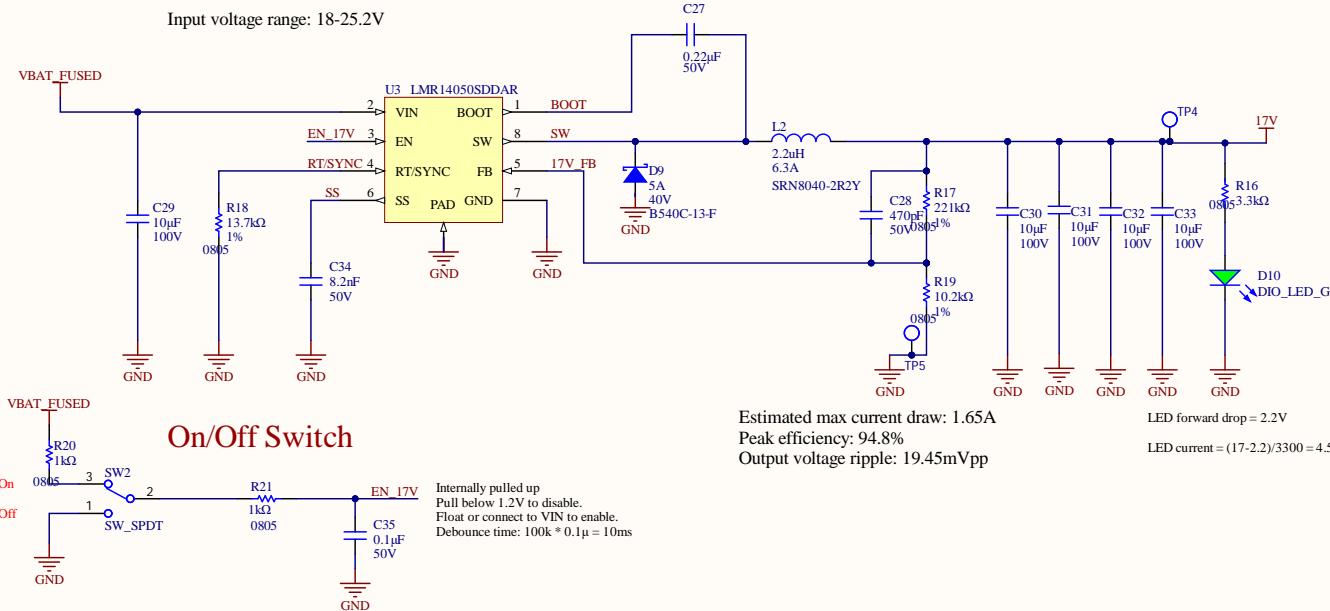


Title: 24V Buck-Boost Converter	
Project: Power Distribution Board.PnjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05

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A

## 17V Regulator @ 4A Max



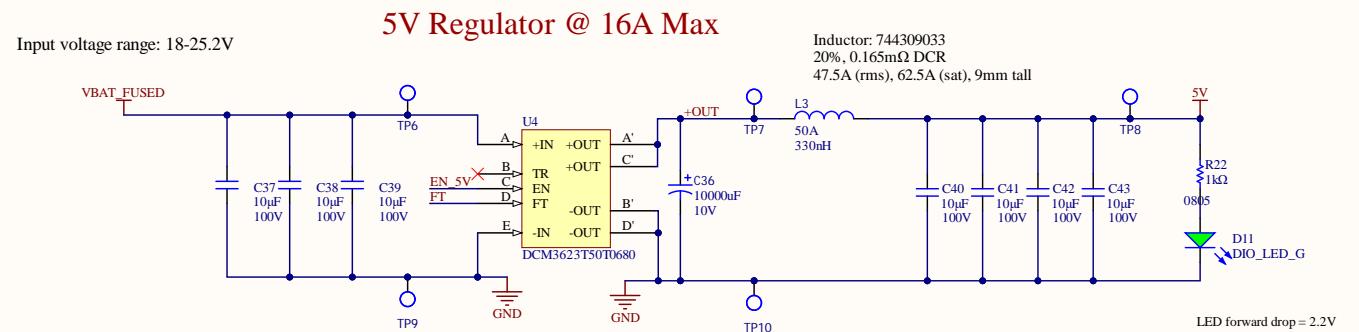
Title: 17V Buck Converter	
Project: Power Distribution Board.PnjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	

Date: 2020-12-05 Sheet: 3 of 10



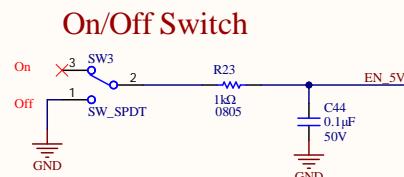
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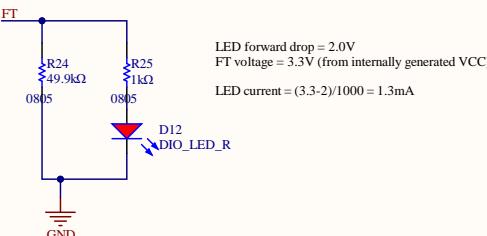
B



C

C

### Fault Indicator



D

D

Title: 5V Vicor DCDC	
Project: Power Distribution Board.PrjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 4 of 10



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B

B

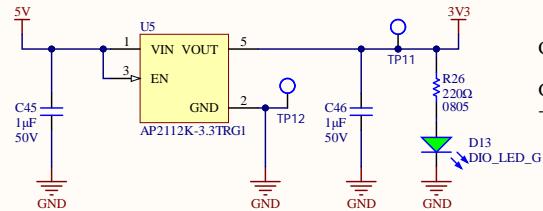
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D

### 3.3V LDO @ 600mA Max



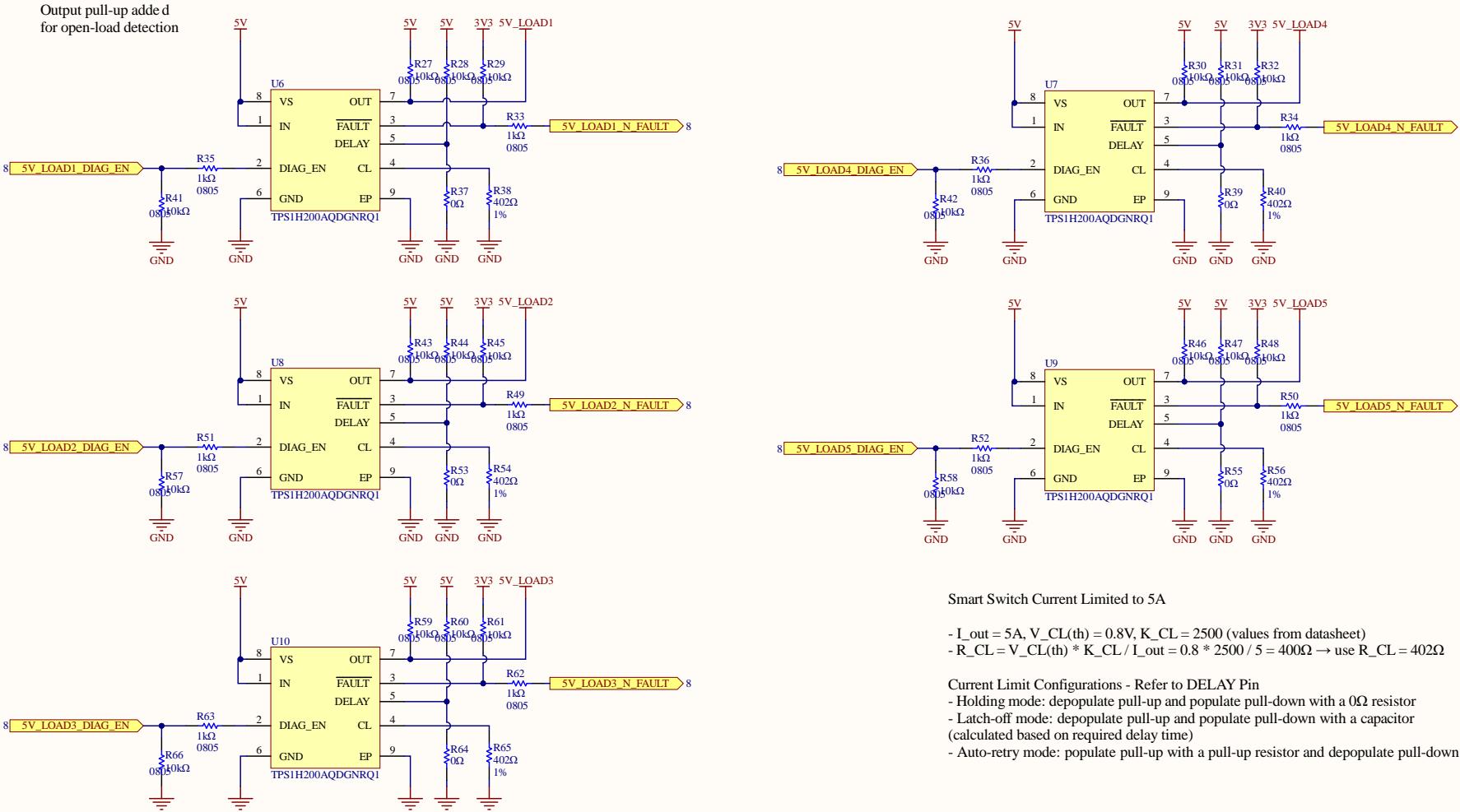
#### Current Calculations

Green LED voltage drop: 2.2V  
 $- I = (3.3 - 2.2V) / 220 = 5mA$

Title: 3.3V Linear Regulator	
Project: Power Distribution Board.PrjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 5 of 10



# 5V Smart High-Side Switches

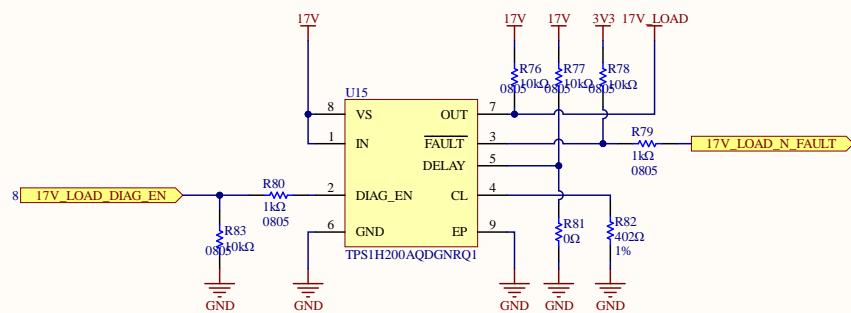
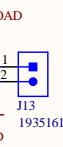


Title: Load Monitoring 1	
Project: Power Distribution Board.PjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 6 of 10

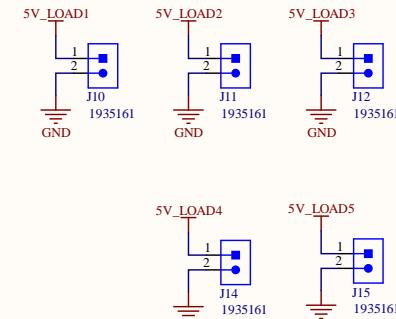


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**17V Load Smart Switch****17V Output**

17V power to Nvidia a Jetson board

**5V Outputs**

5V power to Arm, Science, Gimbal, and Localization boards (plus one spare)

B

B

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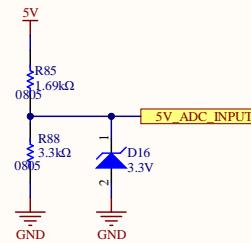
4

5

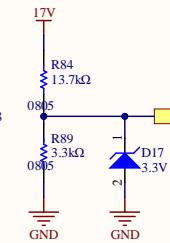
6

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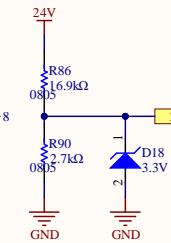
D

**Power Rail Voltage Monitoring**

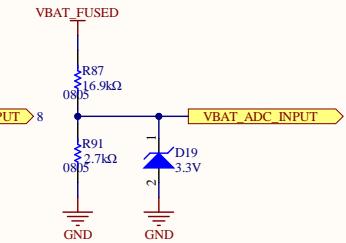
Divides 5V to 3.3V



Divides 17V to 3.3V



Divides 24V to 3.3V



Divides VBAT\_FUSED to 3.3V

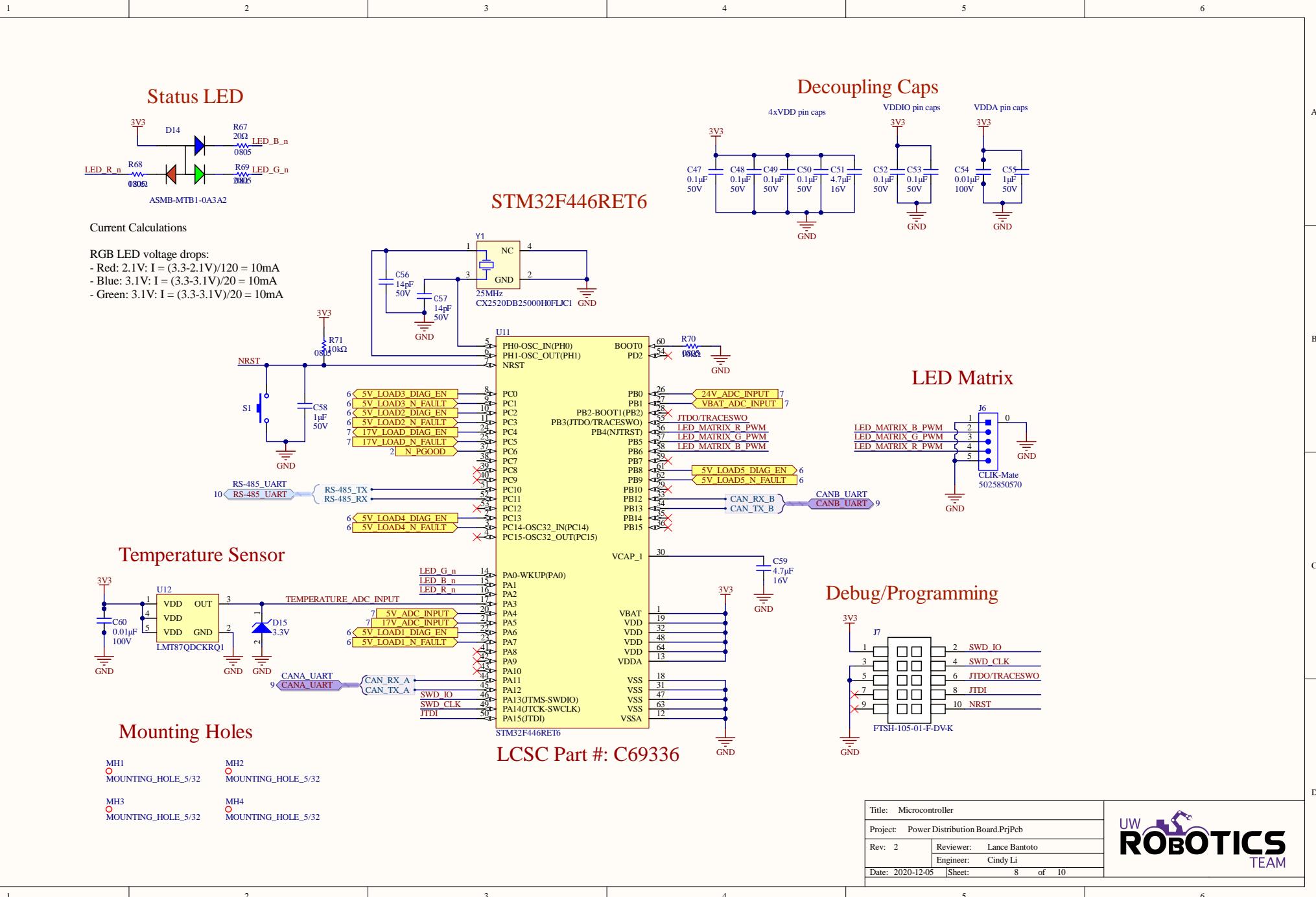
Title: Load Monitoring 2

Project: Power Distribution Board.PpjPcb

Rev: 2 Reviewer: Lance Bantoto

Engineer: Cindy Li

Date: 2020-12-05 Sheet: 7 of 10



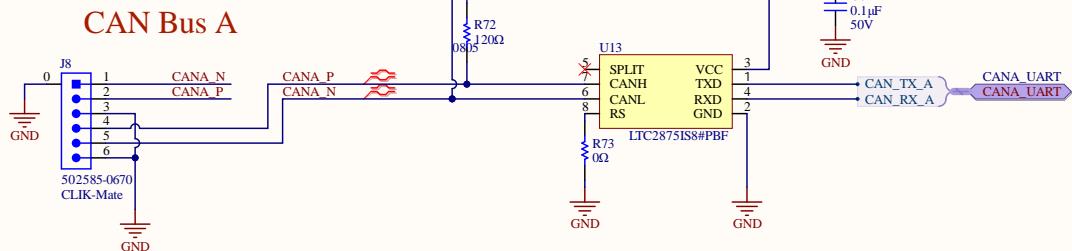
A

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# CAN Transceivers

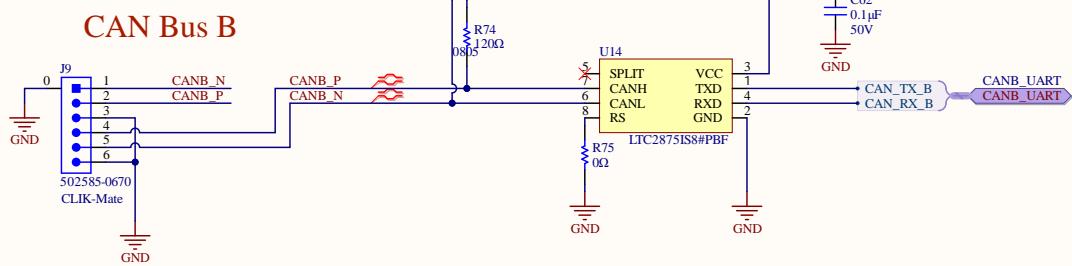
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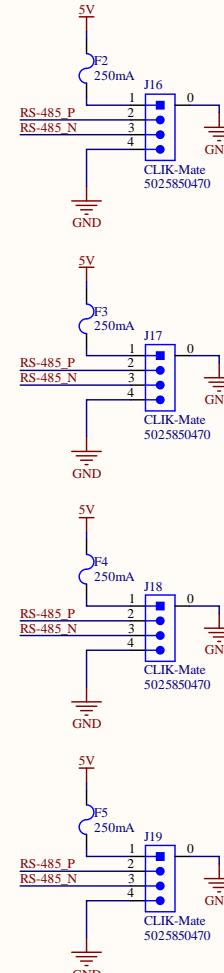
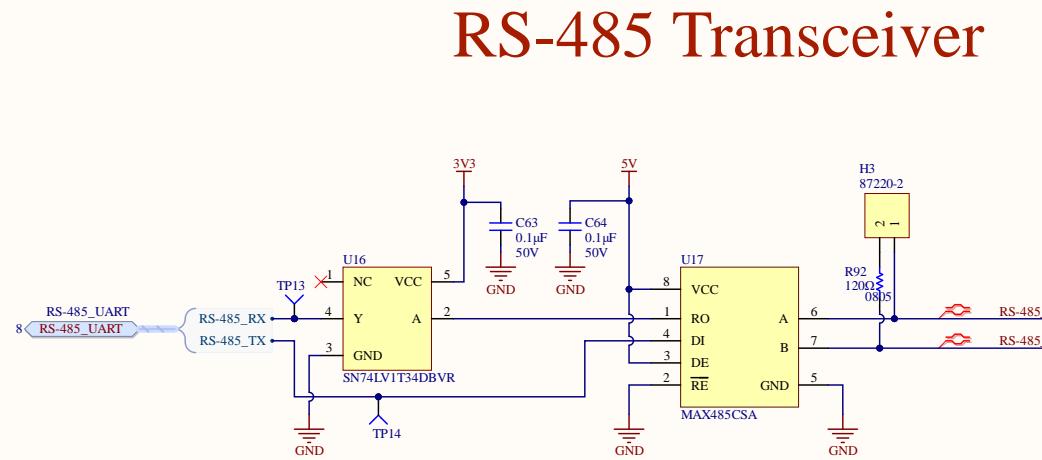
D

D

Title: CAN	
Project: Power Distribution Board.PjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 9 of 10



# URM04 Ultrasonic Sensors



Title: RS-485	
Project: Power Distribution Board.PnjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	
Date: 2020-12-05	Sheet: 10 of 10