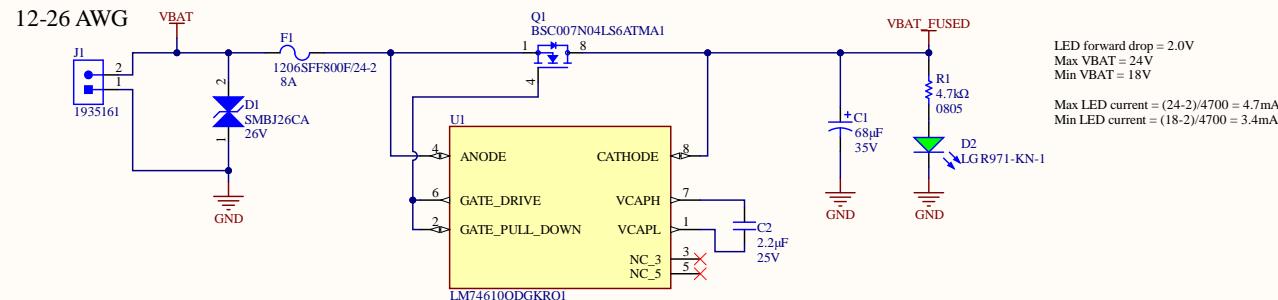


A

A

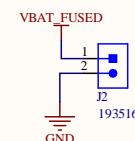
Battery Input (6s1p)

Input voltage range: 18-25.2V

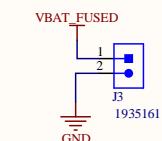


B

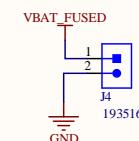
B

VBat (24V) Outputs

VBat (24V) power to LED Matrix board

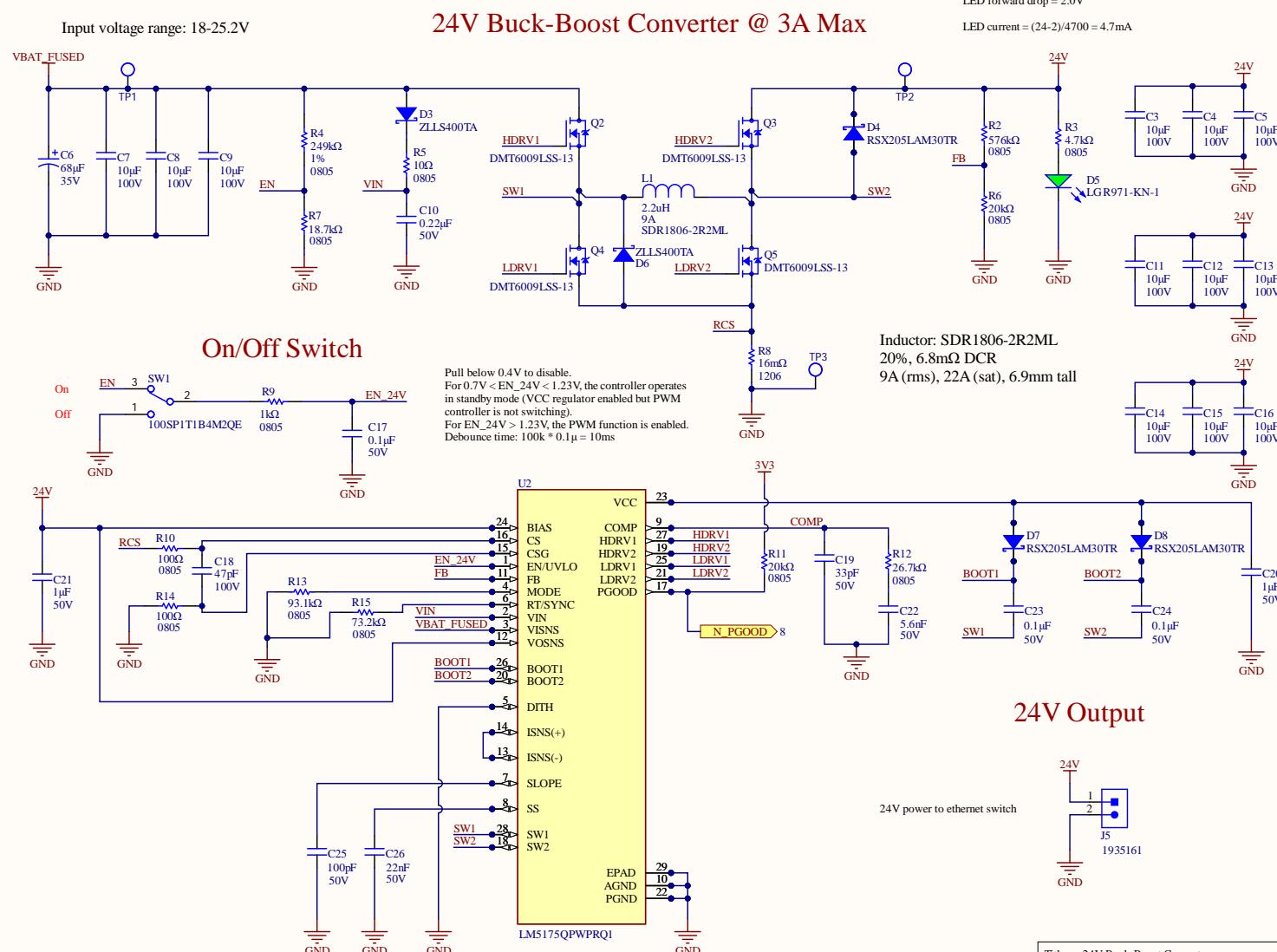


VBat (24V) power to Arm, Science, Gimbal, or Localization boards (to be decided in Rev3)



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

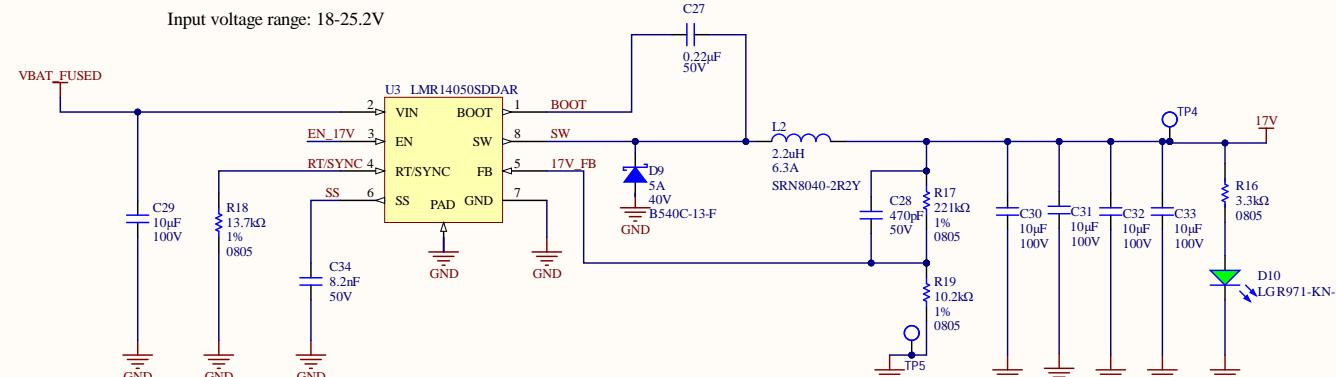
Engineer: Cindy Li

Date: 2020-12-05 Sheet: 2 of 10

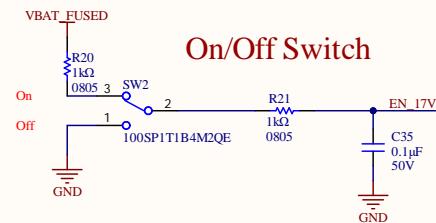
A

A

17V Regulator @ 4A Max



On/Off Switch

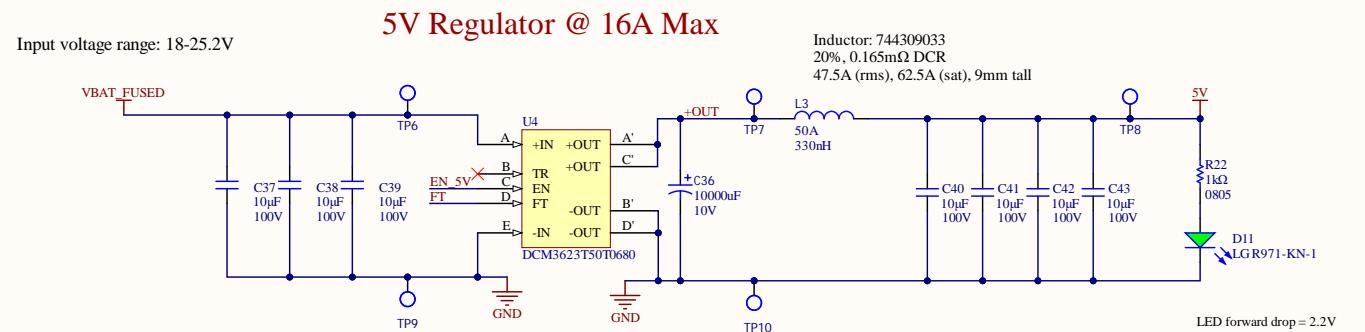


Title: 17V Buck Converter	
Project: Power Distribution Board.PjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 3 of 10



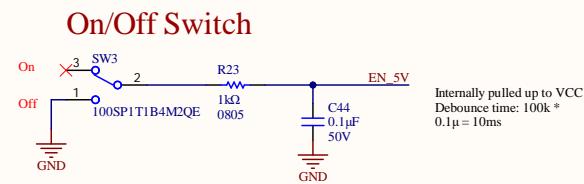
A

A



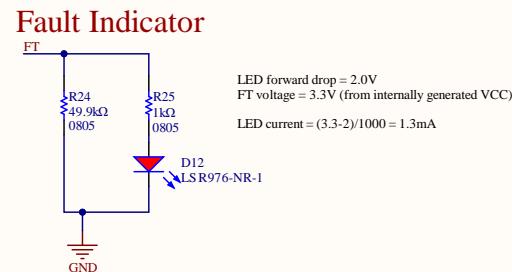
B

B



C

C



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



A

A

B

B

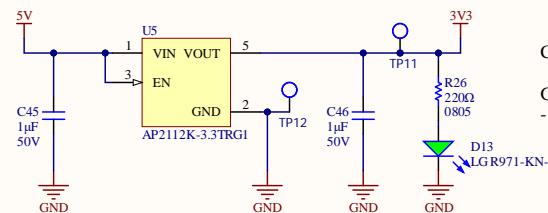
C

C

D

D

3.3V LDO @ 600mA Max



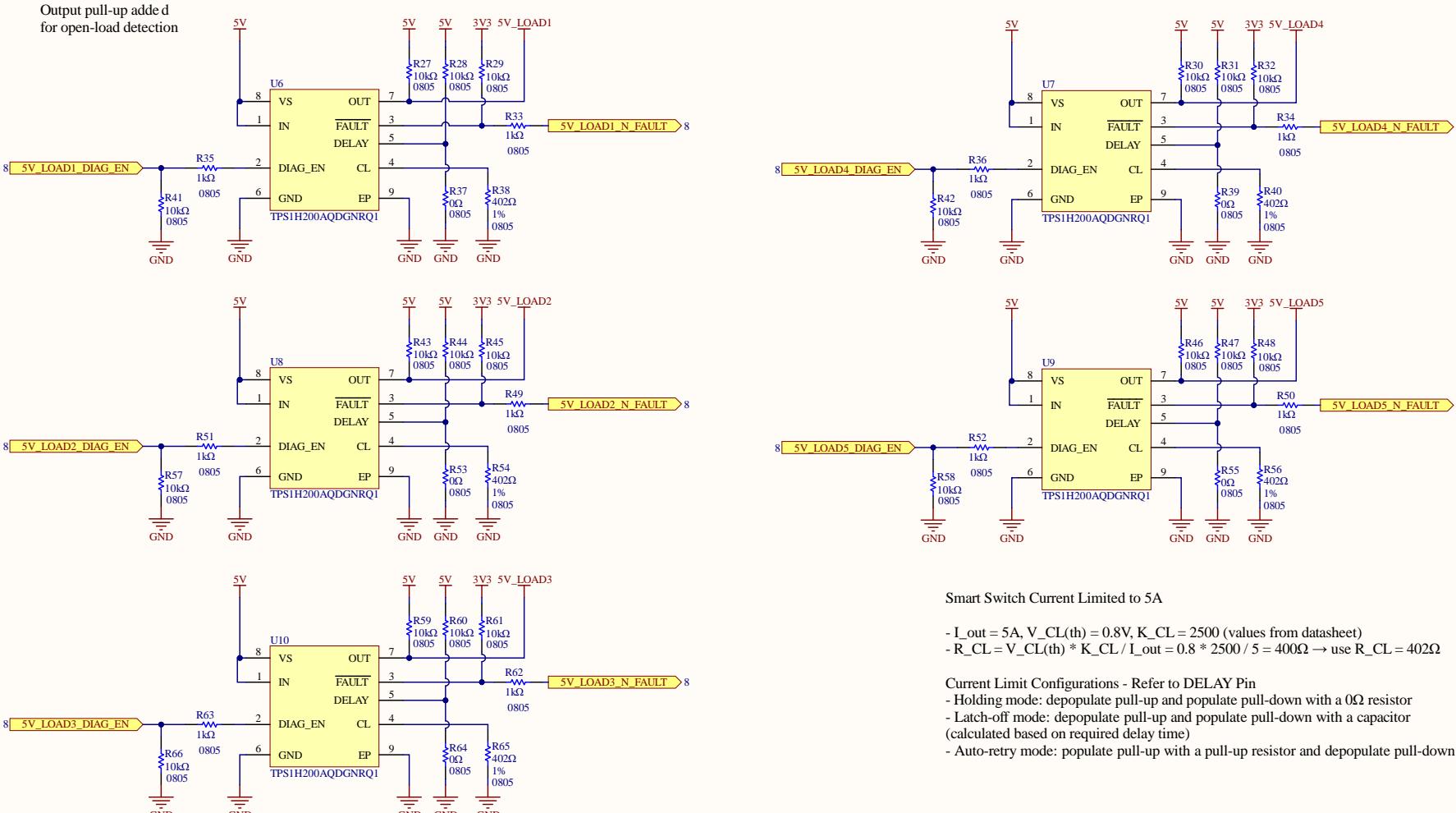
Current Calculations

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

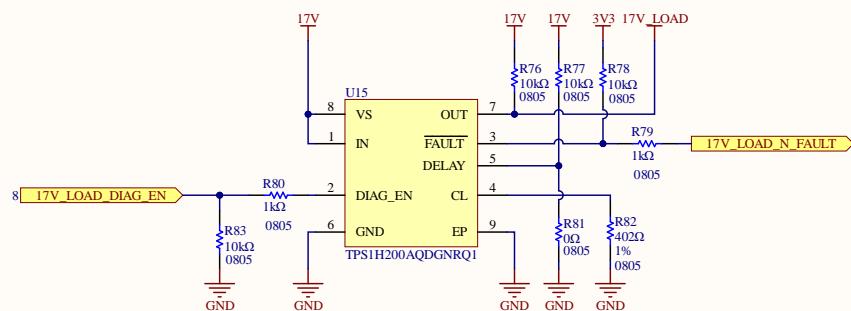
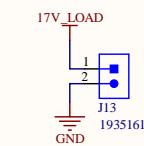


Title: Load Monitoring 1	
Project: Power Distribution Board.PnjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 6 of 10

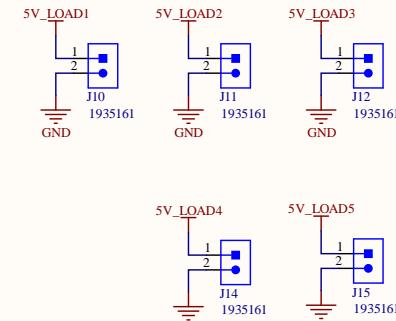


A

A

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

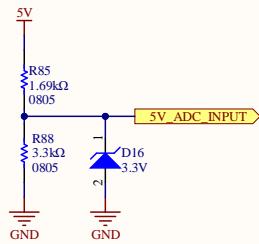
17V power to Nvidia a Jetson board

5V Outputs

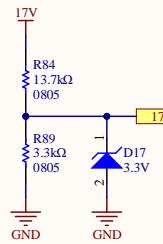
5V power to Arm, Science, Gimbal, and Localization boards (plus one spare)

B

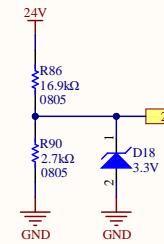
B

Power Rail Voltage Monitoring

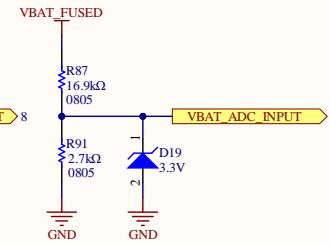
Divides 5V to 3.3V



Divides 17V to 3.3V



Divides 24V to 3.3V



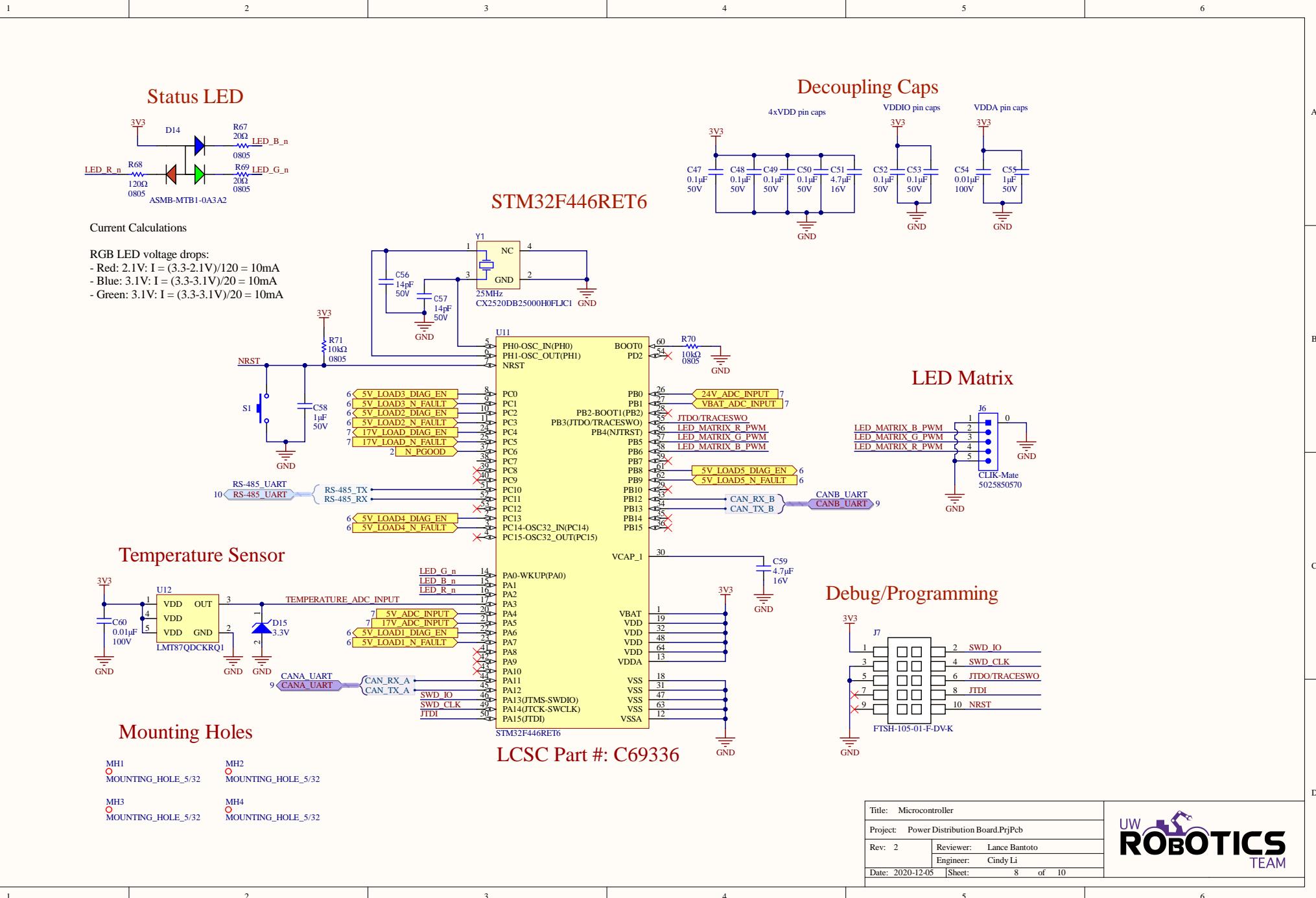
Divides VBAT to 3.3V

D

D

Title: Load Monitoring 2	
Project: Power Distribution Board.PnjPcb	
Rev: 2	Reviewer: Lance Bantoto
Engineer: Cindy Li	Date: 2020-12-05 Sheet: 7 of 10





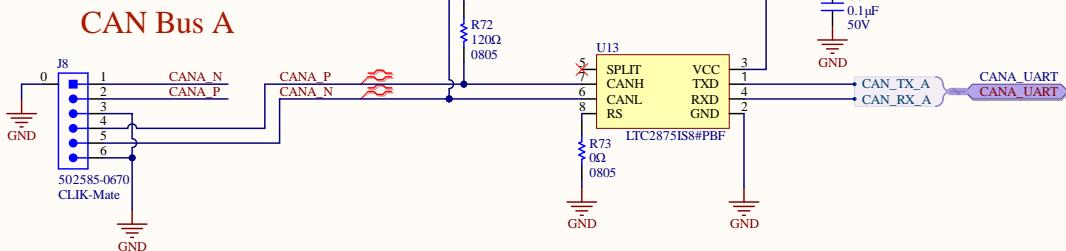
A

A

CAN Transceivers

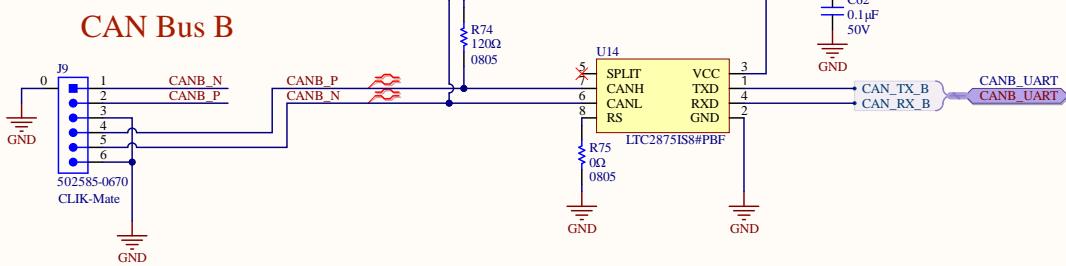
B

B



C

C



D

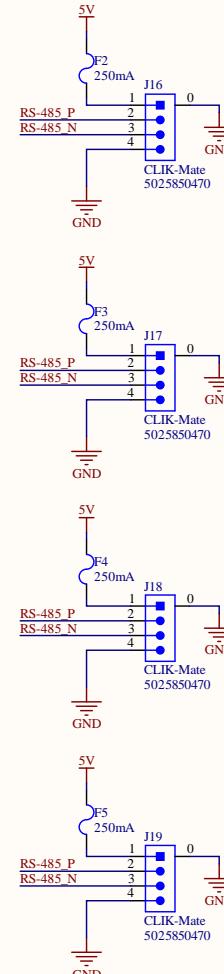
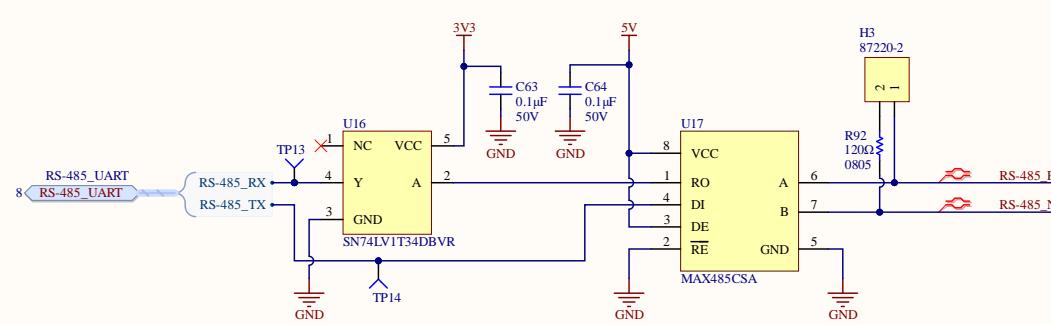
D

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

RS-485 Transceiver



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