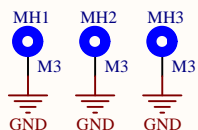
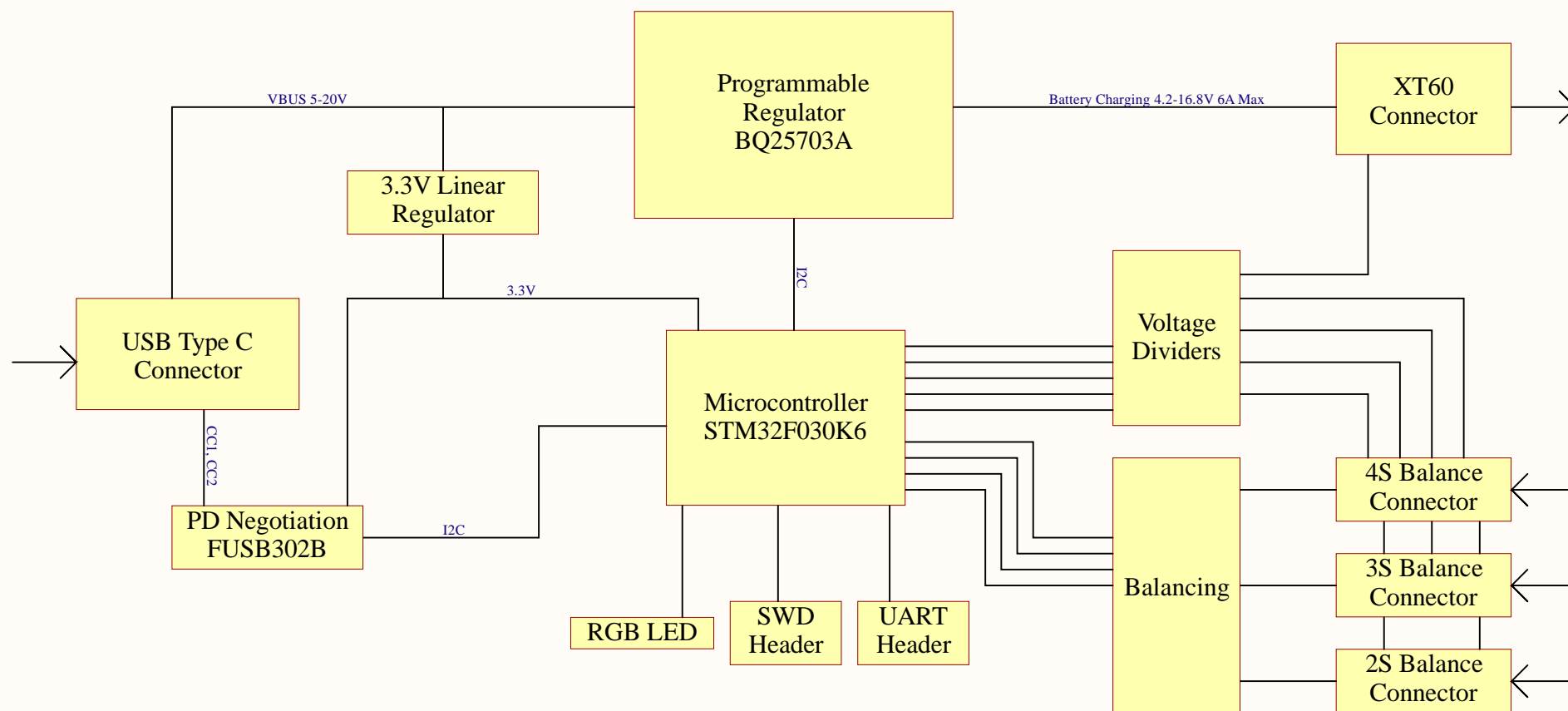


USB Type C with Power Delivery LiPo Battery Charger



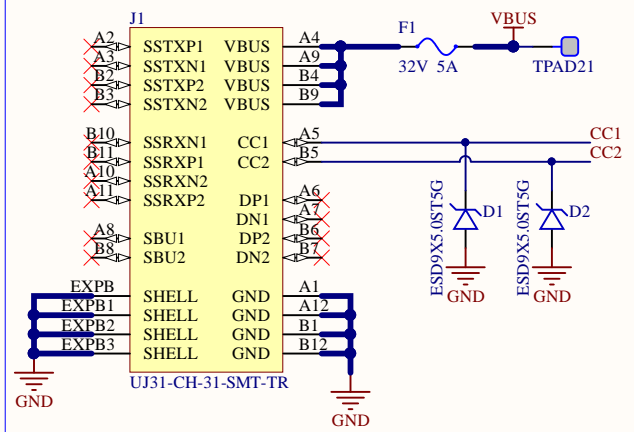
ARK Electronics LLC

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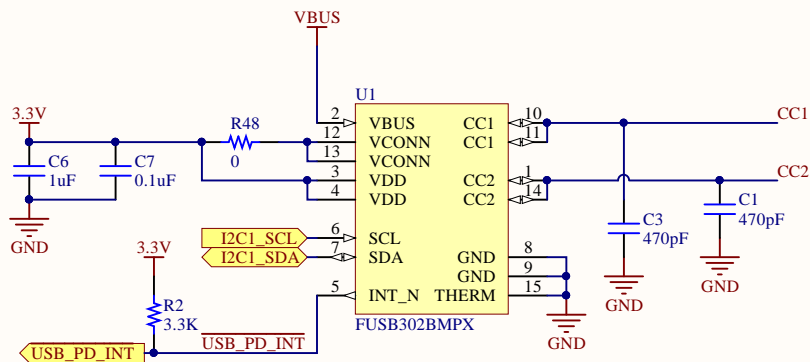
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Project Title: USB Type C PD 3.0 Lipo Charger		Checked By: *	
Date: 12/1/2018	Time: 8:41:05 PM	Revision: 1.0	Variant: [No Variations]
Size: LETTER		Sheet 1 of 4	

Connectors, USB PD, and Balancing

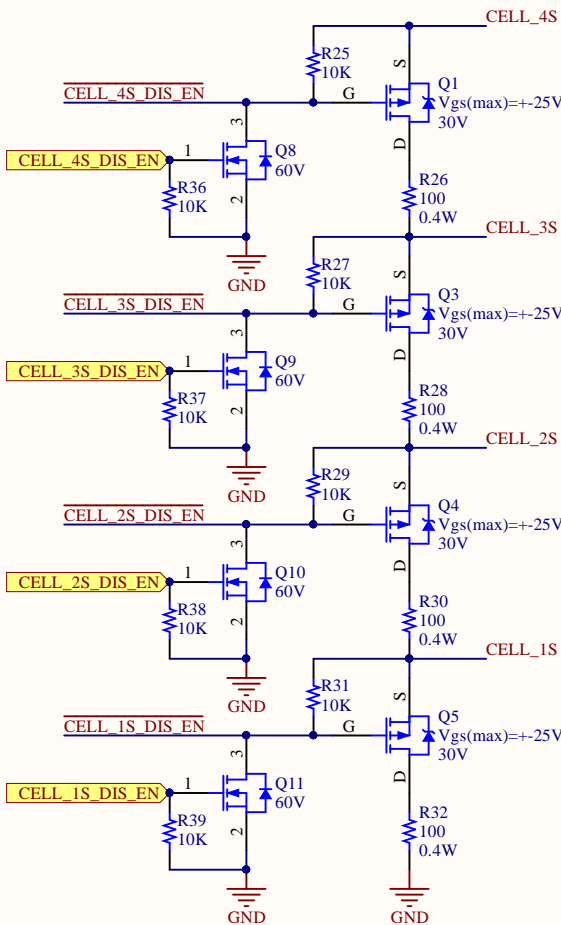
USB C Connector



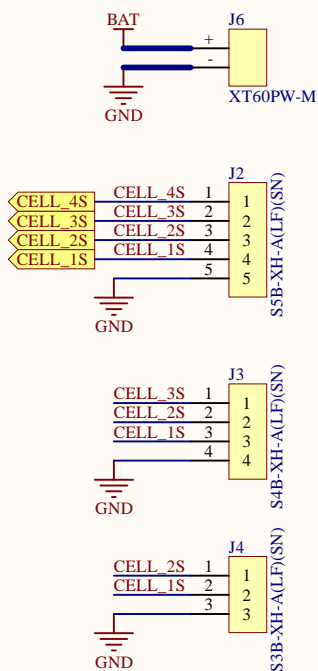
USB PD Negotiation



Balancing



Battery Connectors



Alternates for Q1, Q3, Q4, and Q5
RSC002P03T316
NTR1P02T1G
DMP510DL-7
PMV250EPEAR
Si2347DS

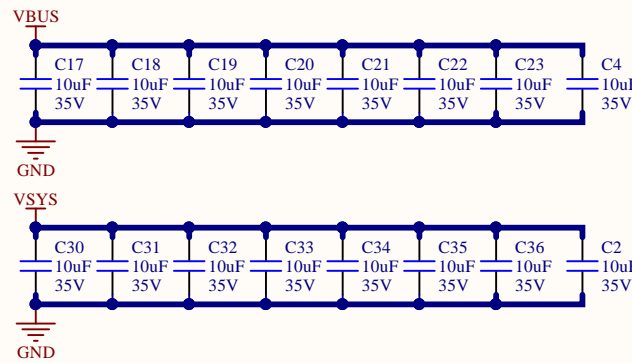
USB Power Delivery profiles			
Profile	+5 V	+12 V	+20 V
1	2.0 A, 10 W	N/A	N/A
2		1.5 A, 18 W	N/A
3		3.0 A, 36 W	N/A
4			3.0 A, 60 W
5		5.0 A, 60 W	5.0 A, 100 W

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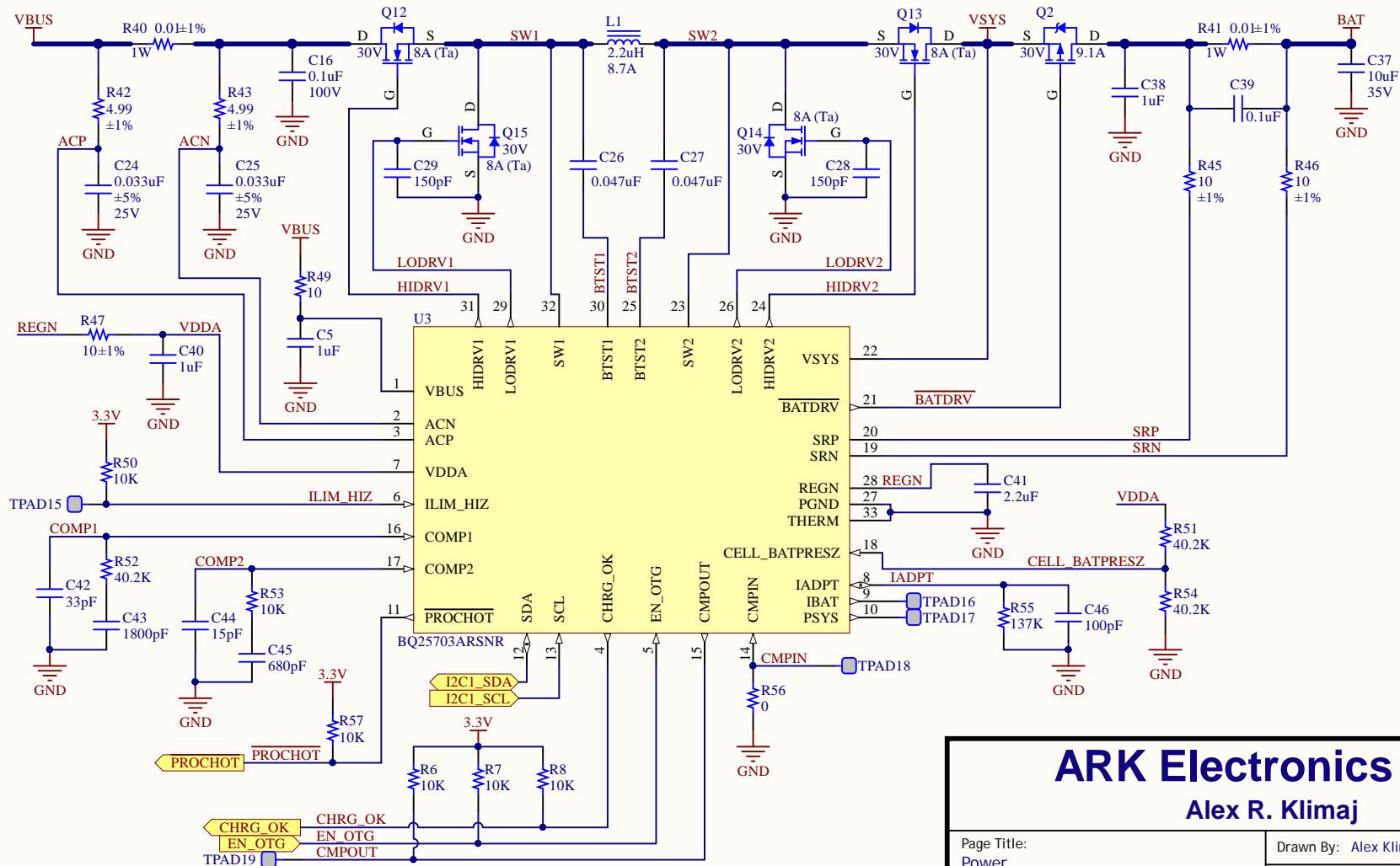
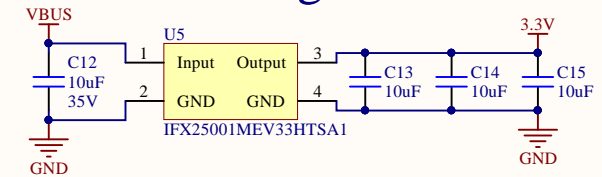
Page Title: Connectors	Drawn By: Alex Klimaj
Project Title: USB Type C PD 3.0 Lipo Charger	Checked By: *
Date: 12/1/2018	Time: 8:41:05 PM
Size: LETTER	Sheet 2 of 4

Power



3.3V Power Requirements
Oscillator - 10mA
FUSB302BMPX - 25uA
STM32F030K6T6TR - 120mA
RGB LED - 15mA
Total = 145mA
Total x 30% = 190mA

3.3V Regulator



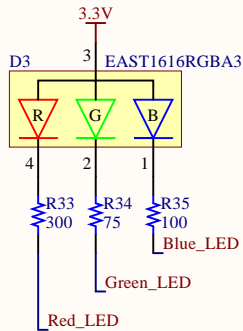
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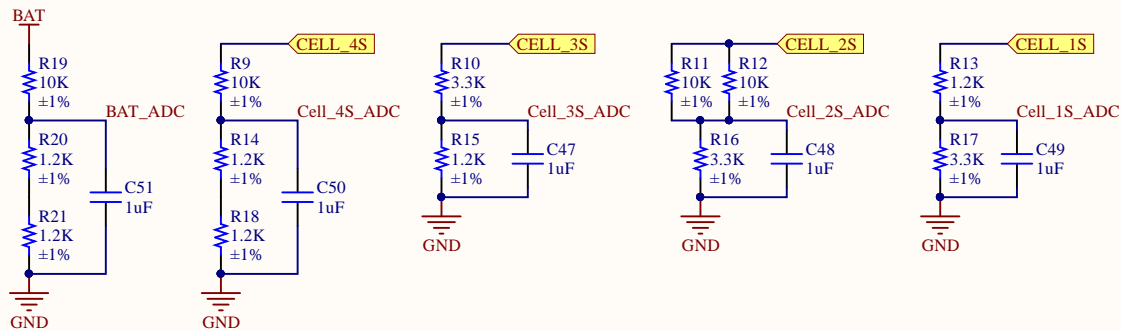
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Project Title: USB Type C PD 3.0 Lipo Charger	Checked By: *		
Date: 12/1/2018	Time: 8:41:05 PM	Revision: 1.0	Variant: [No Variations]
Size: LETTER		Sheet 3	of 4

Microcontroller

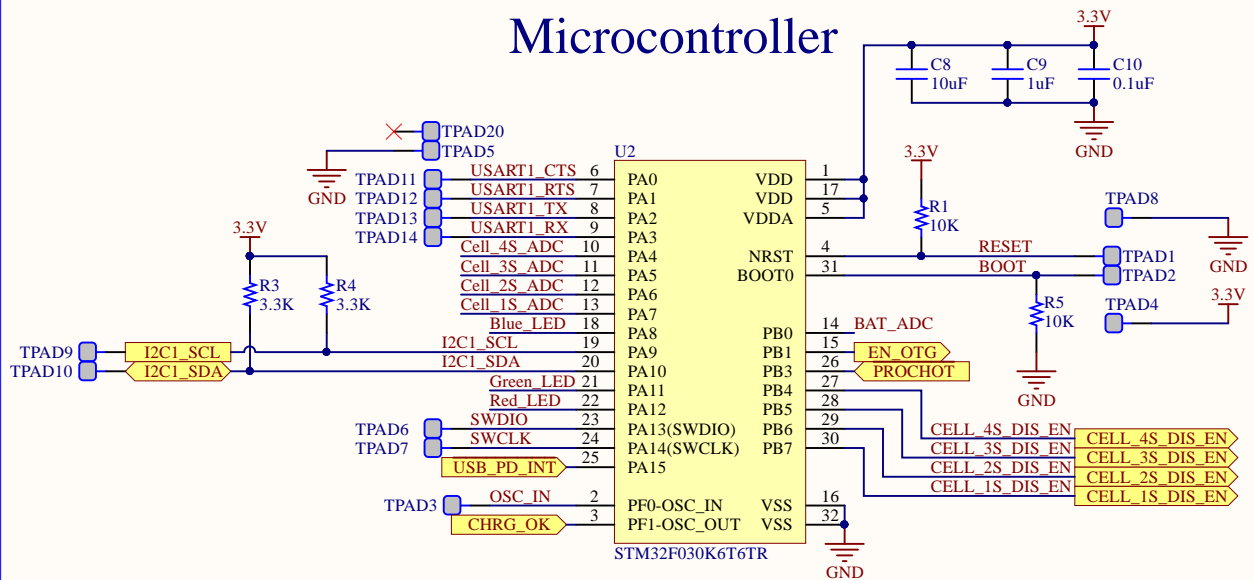
RGB LED



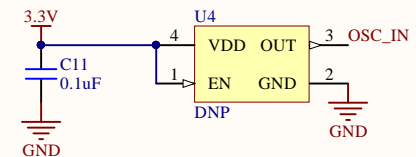
ADC Input Scaling



Microcontroller



External Oscillator



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Page Title:
Microcontroller

Drawn By: Alex Klimaj

Project Title:
USB Type C PD 3.0 Lipo Charger

Checked By: *

Revision: 1.0

Variant: [No Variations]

Date: 12/1/2018

Time: 8:41:06 PM

Size: LETTER

Sheet 4 of 4