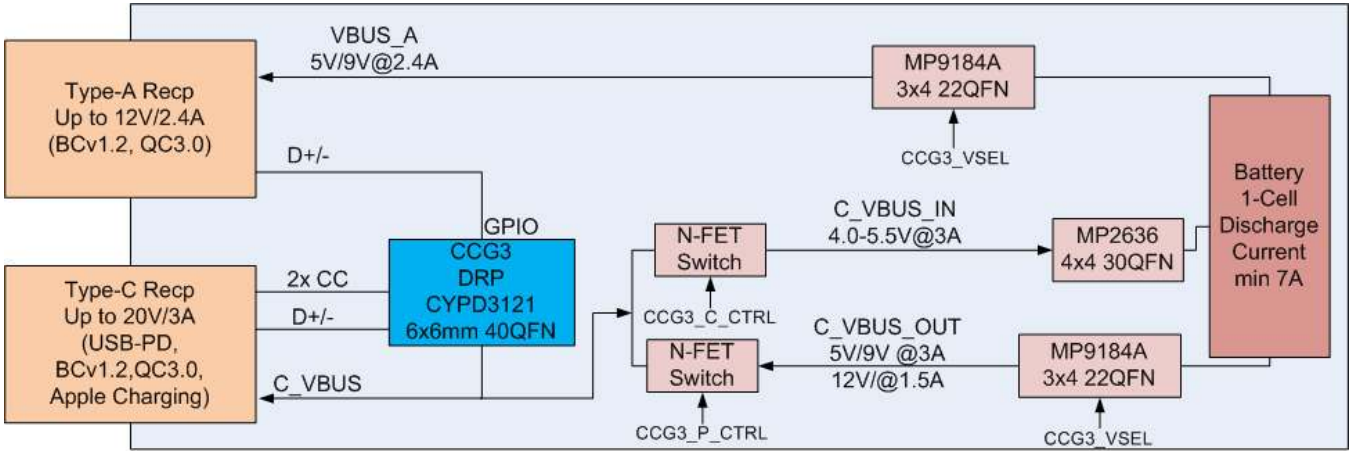


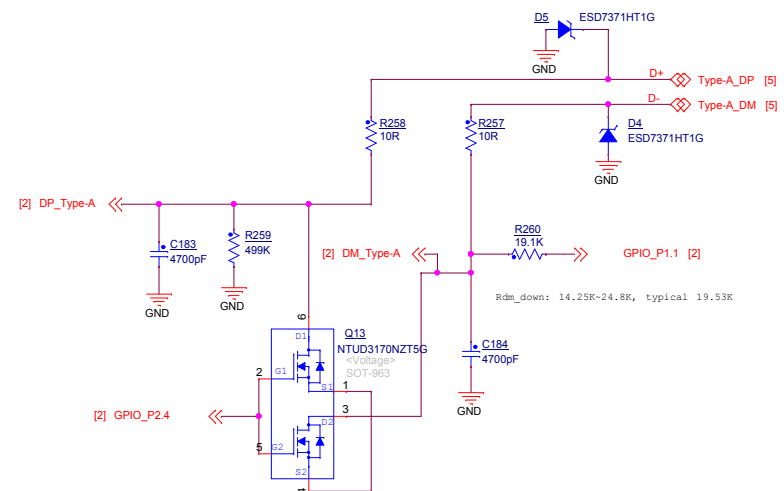
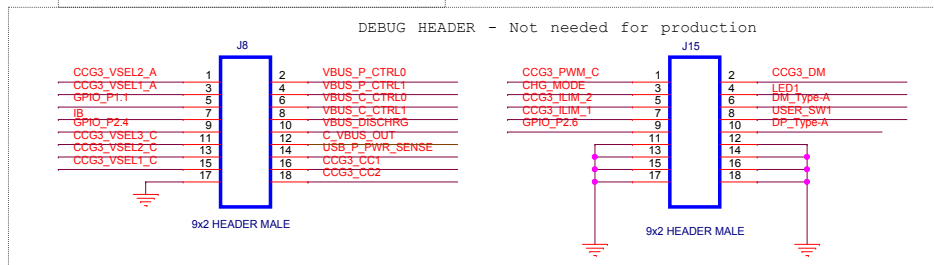
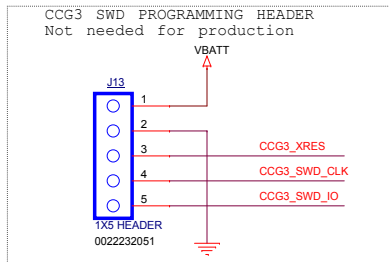
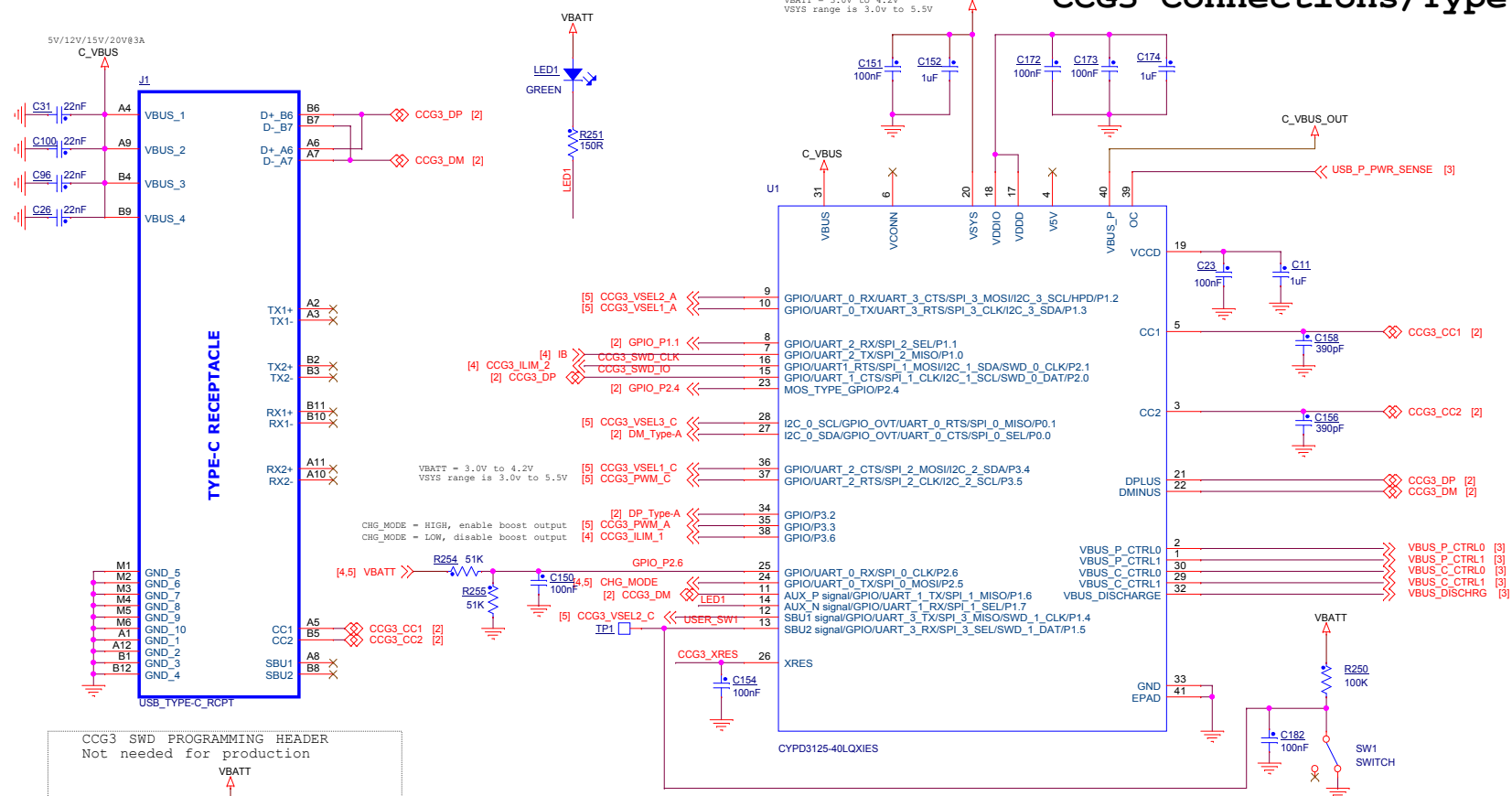
MPS/Cypress CCG3 USB Type-C Power Bank Reference Schematic

Table Of Contents	
Sheet	Description
1	Table of Contents
2	CCG3 Connections/Type-C Recp
3	C_VBUS Provider/Consumer
4	MP2636 PWR IN to Battery
5	MP9184A PWR OUT

Revision History		
Revision	Date	Revision Summary
3	09-08-2016	Initial Release



CCG3 Connections/Type-C Recp

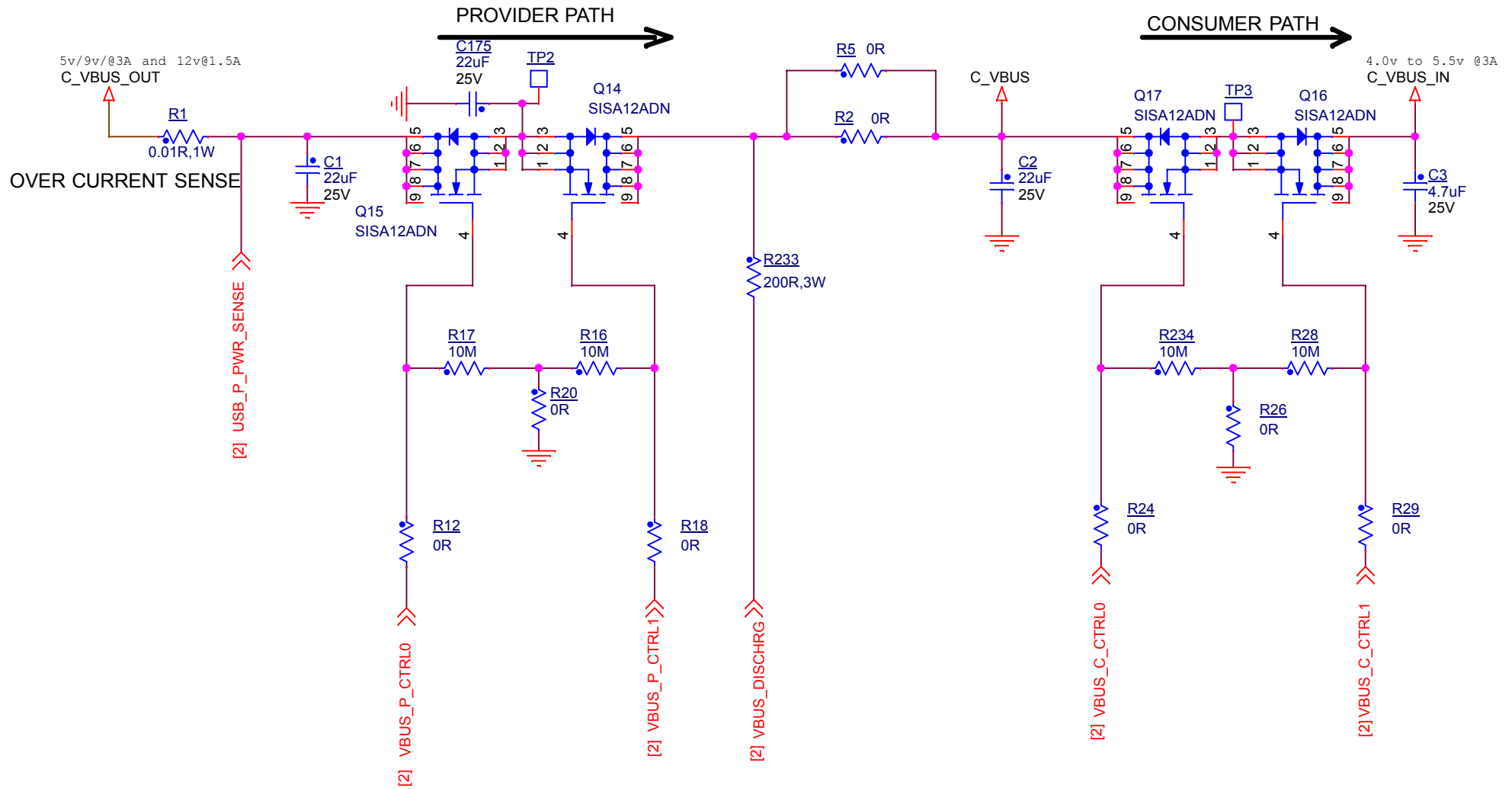


Title				
MPS/Cypress CCG3 USB Type-C Power Bank Reference Schematic				
Size	Document Number			Rev
Custom	305-PD-16-0016			3
Date:	Monday, August 22, 2016		Sheet	2 of 5

VBUS Provider/Consumer

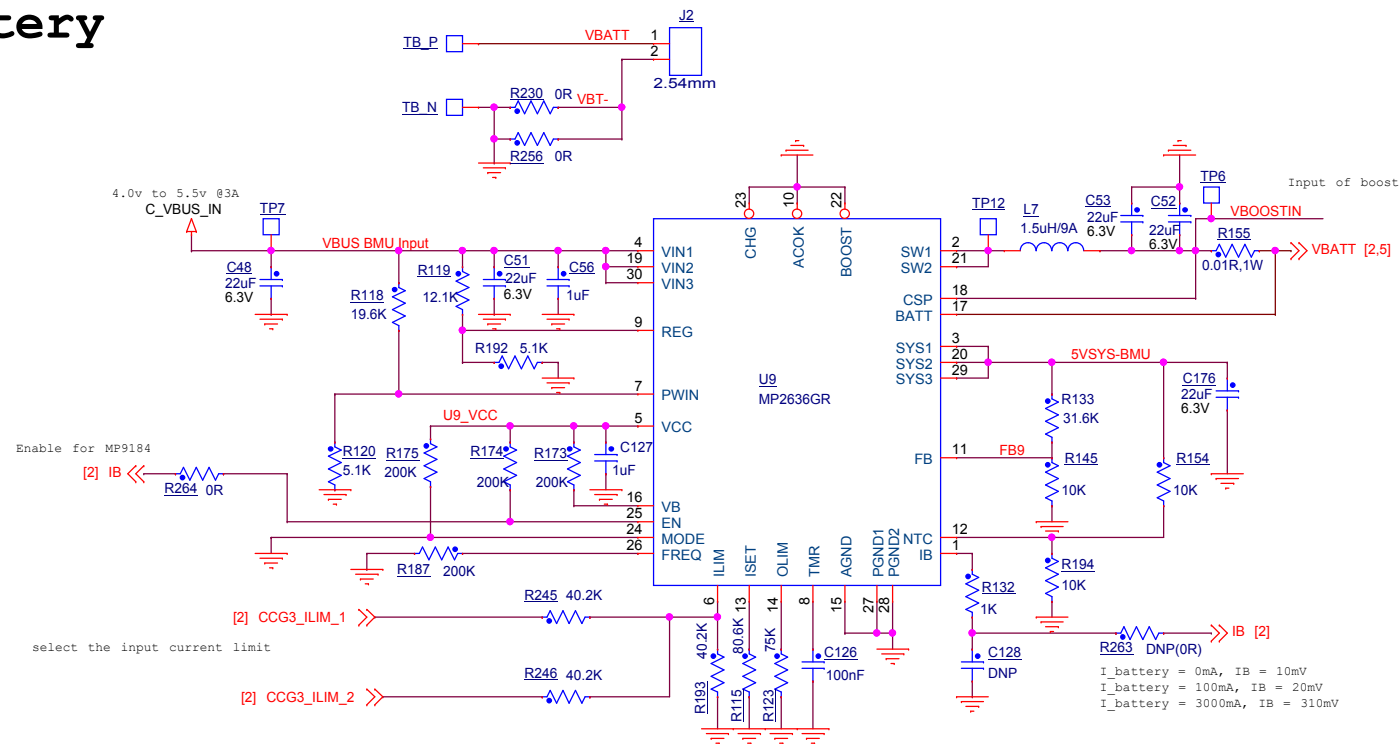
Ensure that NFET have very low Rds(on).
Desired is less than 10mohms which
will help improve efficiency

Ensure that NFET have very low Rds(on).
Desired is less than 10mohms which
will help improve efficiency

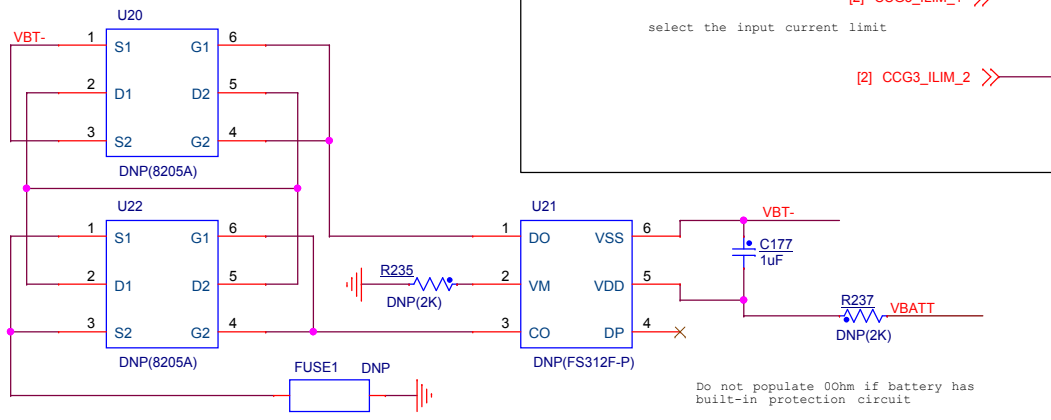


Title		
MPS/Cypress CCG3 USB Type-C Power Bank Reference Schematic		
Size	Document Number	Rev
A	305-PD-16-0016	3
Date:	Monday, August 22, 2016	Sheet 3 of 5

MP2636 PWR IN to Battery



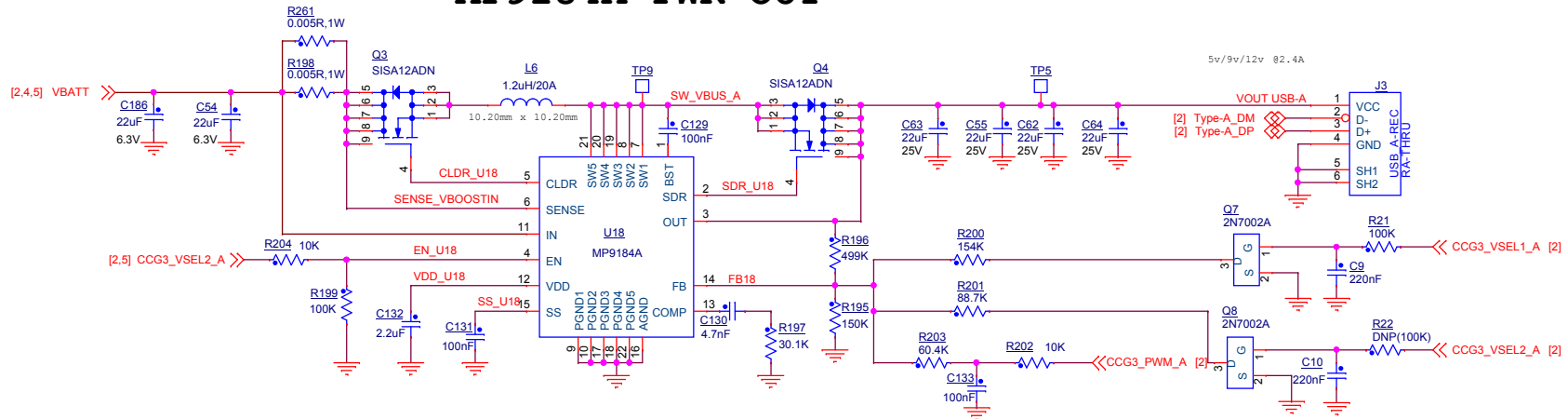
Battery protection circuit (if the battery pack has built-in protection circuit, this part is not needed)



```
1. ILIM2 = Floating, ILIM1 = Floating, I_charge_limit = 1A
2. ILIM2 = Floating, ILIM1 = GND, I_charge_limit = 2A
3. ILIM2 = GND, ILIM1 = GND, I_charge_limit = 3A
```

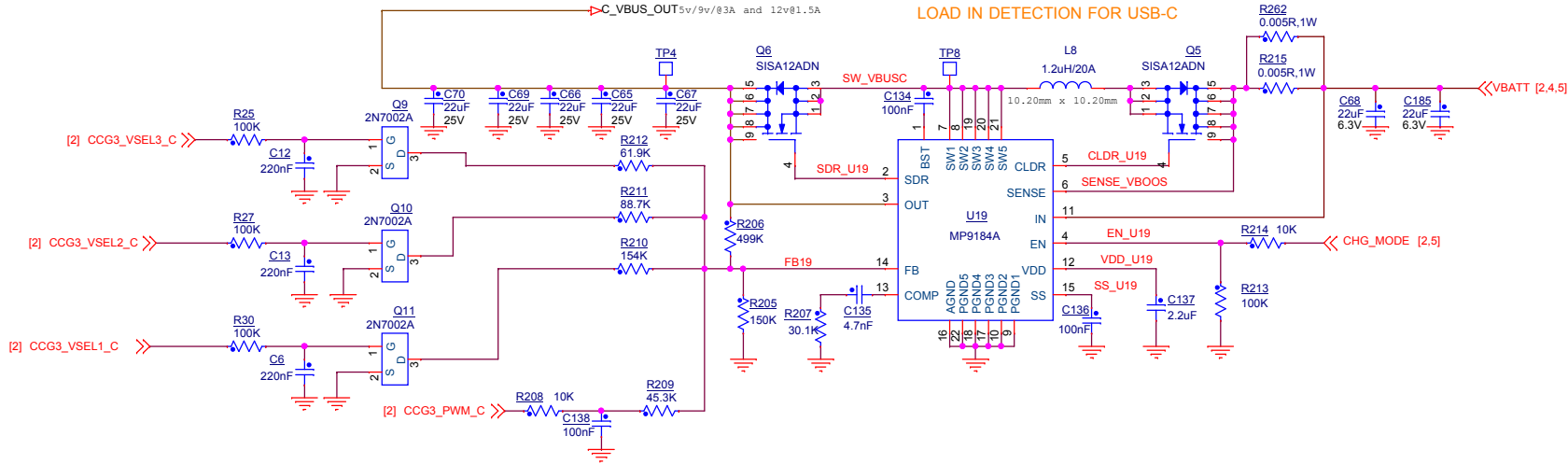
Title									
MPS/Cypress CCG3 USB Type-C Power Bank Reference Schematic									
Size		Document Number							Rev
CustomPage07: 4.5~20V Buck Converter									3
Date:		Thursday, September 08, 2016			Sheet		4		of 5

MP9184A PWR OUT



1.VSEL2 = Low, VSEL1 = Low, VOUT = 5.3V
2.VSEL2 = Low, VSEL1 = High, VOUT= 9.3V
3.VSEL2 = High, VSEL1 = Low, VOUT = 12.2V
PWM floated for Vout = 5V, 9V and 12V.
PWM used for generating incrementing/
decrementing Vout in steps of 200 mV

LOAD IN DETECTION FOR USB-C



1.VSEL3 = Low, VSEL2 = Low, VSEL1 = Low, VOUT = 5.3V
2.VSEL3 = Low, VSEL2 = Low, VSEL1 = High, VOUT= 9.3V
3.VSEL3 = Low, VSEL2 = High, VSEL1 = Low, VOUT = 12.2V
4.VSEL3 = High, VSEL2 = Low, VSEL1 = Low, VOUT = 15.2V
PWM floated for Vout = 5V, 9V and 12V.
PWM used for generating incrementing/
decrementing Vout in steps of 200 mV

Title		
MPS/Cypress CCG3 USB Type-C Power Bank Reference Schematic		
Size B	Document Page09 : USB-A Boost Converter	Rev 3
Date:	Monday, August 22, 2016	Sheet 5 of 5