

Fixed IinMax  
 $I_n = 50\text{mV} / R_{in}$   
 $R_{in} = 3\text{m}$   $I_{n\text{Max}} = 16.7\text{A}$

Fixed Vin Ranges  
 $5\text{V} < V_{in} < 60\text{V}$   
 Set UVLO to 5V so it turns on at 5V  
 Set OVLO at 50V so it turns off at 50V

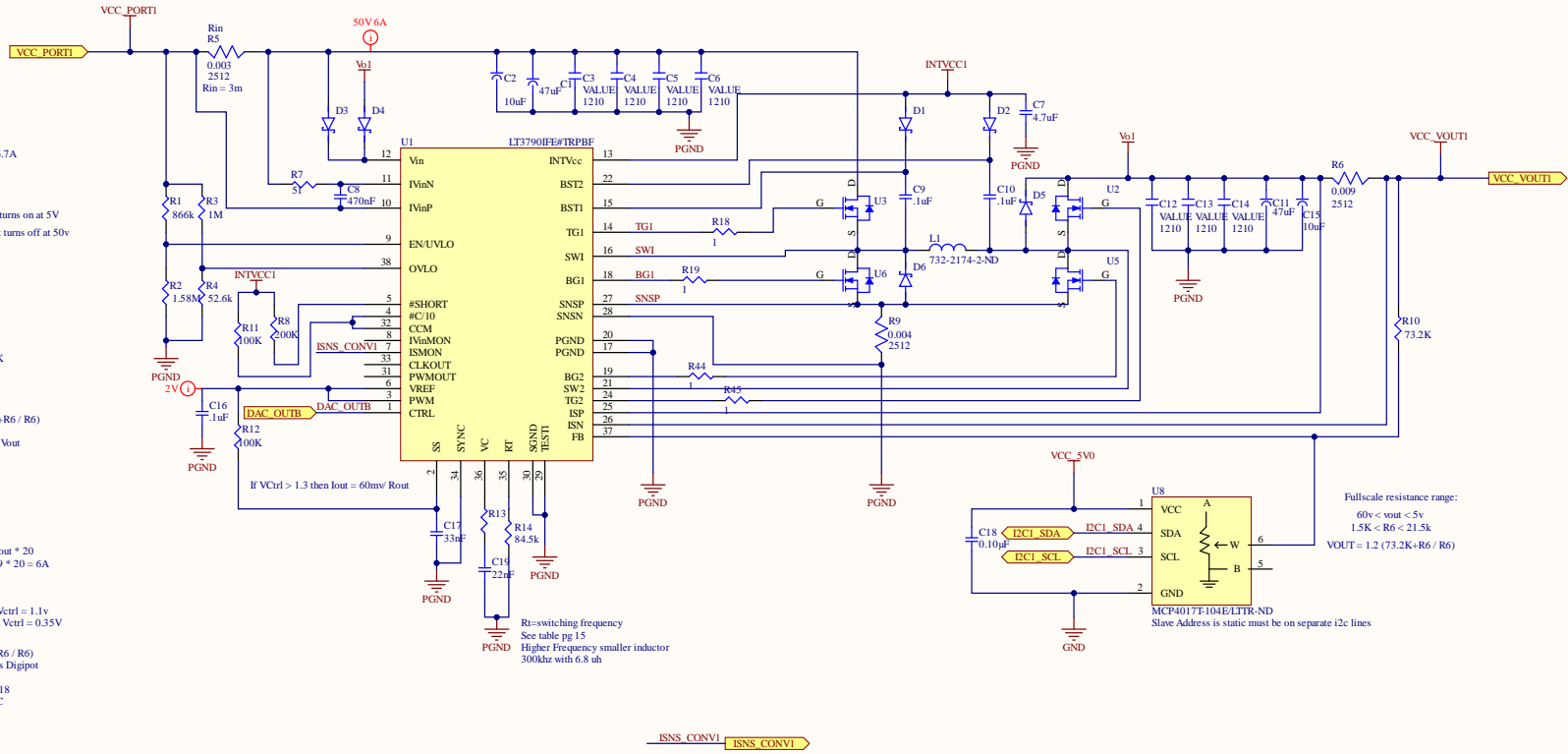
Values they use  
 $V_{in\text{OVLO}} = 55\text{V}$   
 $R_3 = 1\text{M}$   $R_4 = 57.6\text{k}$   
 $V_{in\text{UVLO}} = 5.5\text{V}$   
 $R_1 = 866\text{k}$   $R_2 = 895\text{k}$

Power Ranges  
 $V_{OUT} = 1.2 (R_5 + R_6 / R_6)$   
 Max POUT = 120W  
 $I_{out} = 120\text{W} / V_{out}$   
 $5\text{V} < V_{out} < 60\text{V}$   
 $24\text{A} > I_{out} > 2\text{A}$

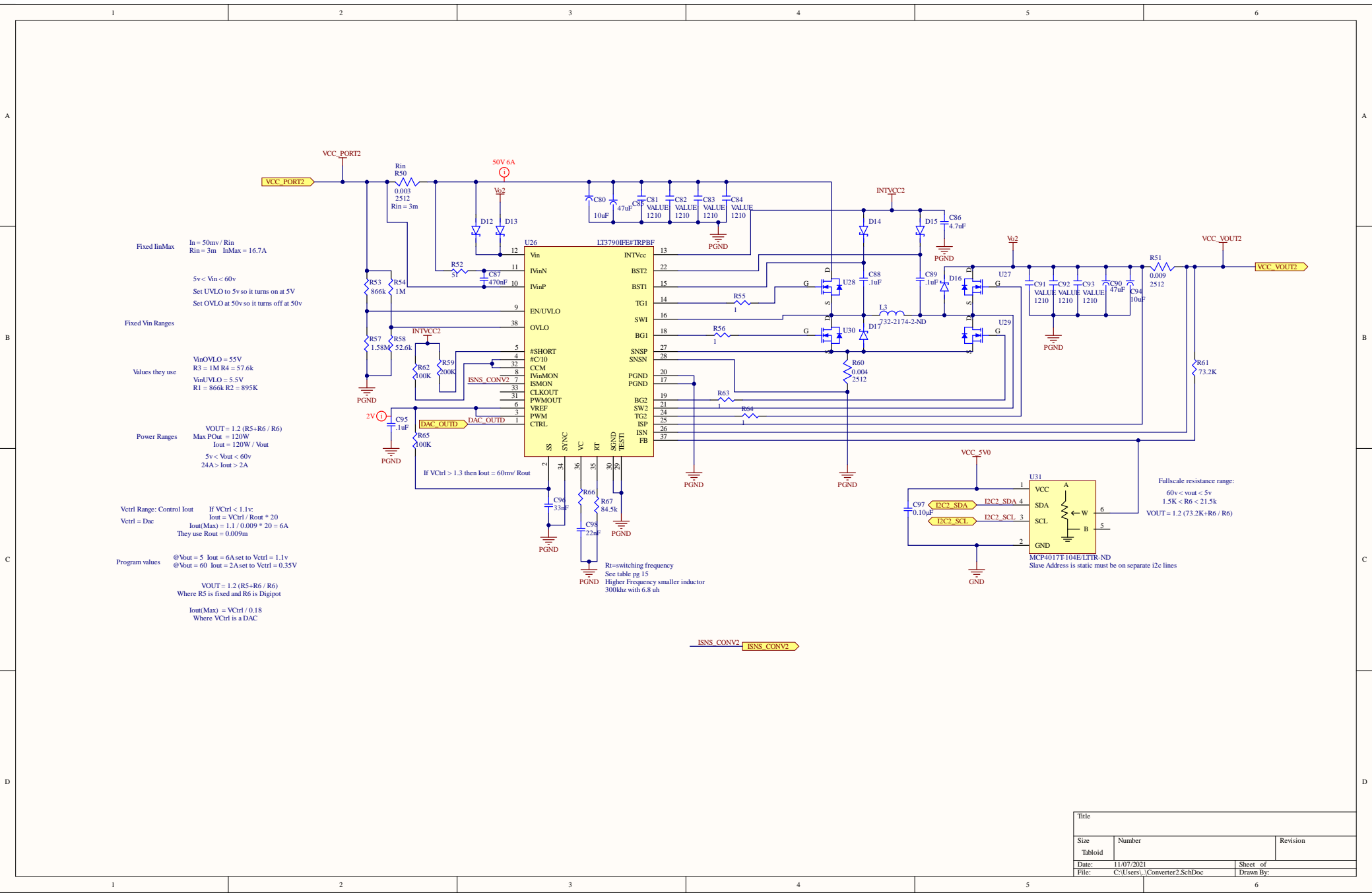
Vctrl Range: Control Iout If VCtrl < 1.1V  
 $I_{out} = V_{Ctrl} / R_{out} * 20$   
 Vctrl = Dac  $I_{out(\text{Max})} = 1.1 / 0.009 * 20 = 6\text{A}$   
 They use  $R_{out} = 0.009\text{m}$

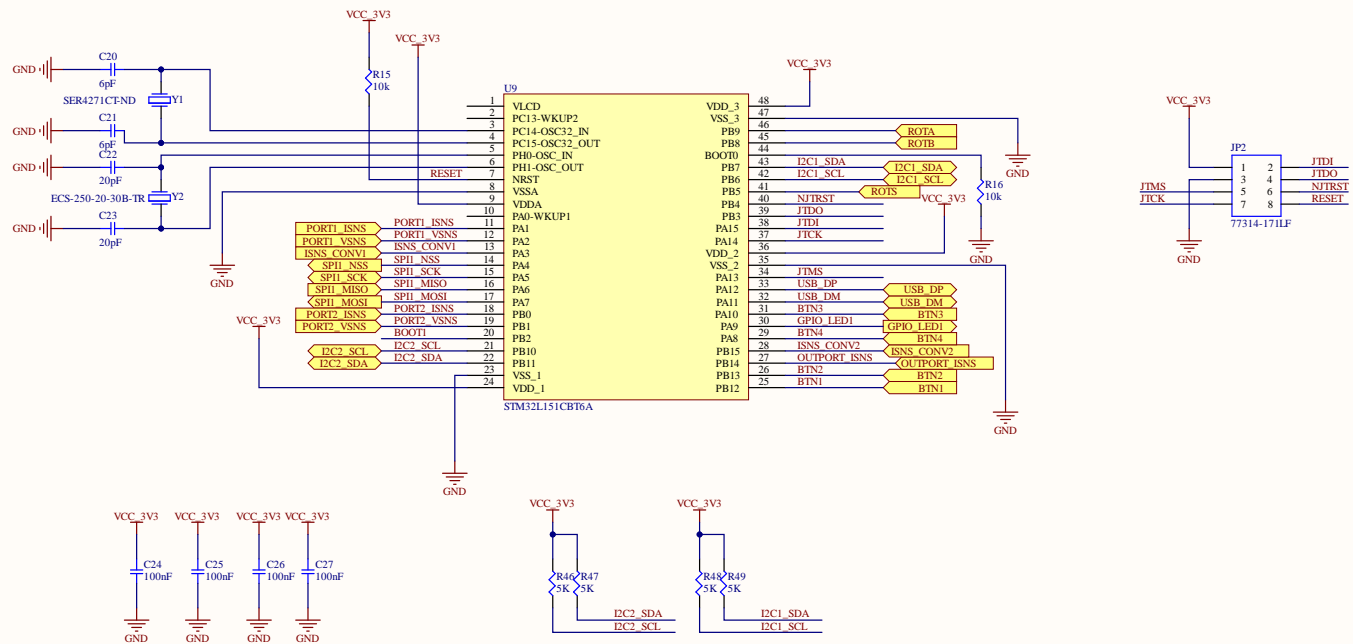
Program values  
 @Vout = 5  $I_{out} = 6\text{A}$  set to Vctrl = 1.1V  
 @Vout = 60  $I_{out} = 2\text{A}$  set to Vctrl = 0.35V

$V_{OUT} = 1.2 (R_5 + R_6 / R_6)$   
 Where  $R_5$  is fixed and  $R_6$  is Digipot  
 $I_{out(\text{Max})} = V_{Ctrl} / 0.18$   
 Where VCtrl is a DAC



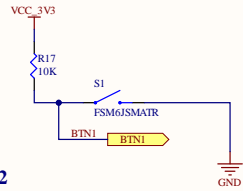
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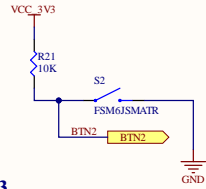


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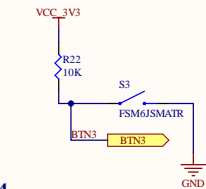
### Button 1



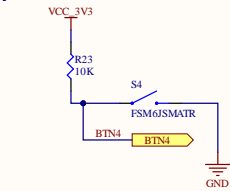
### Button 2



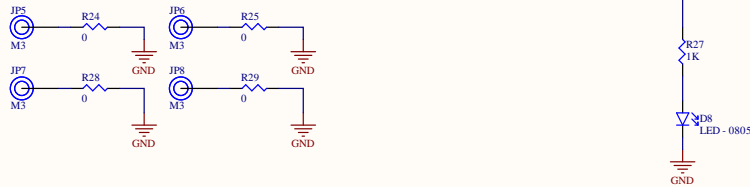
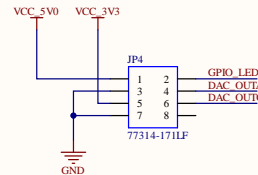
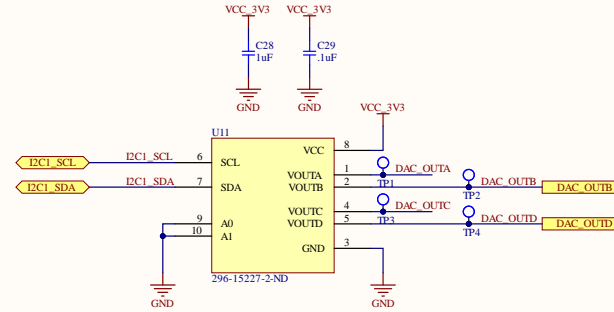
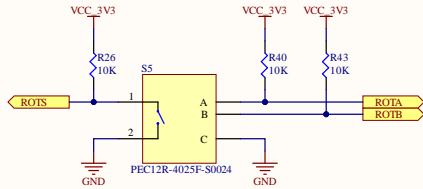
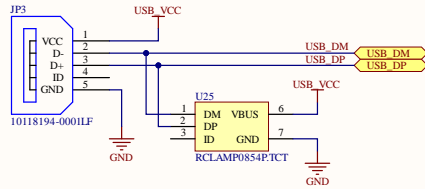
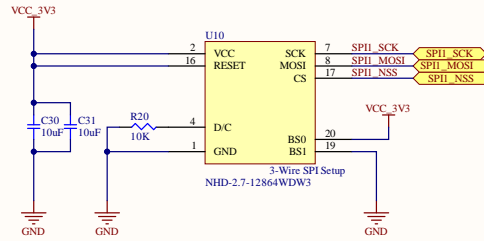
### Button 3



### Button 4



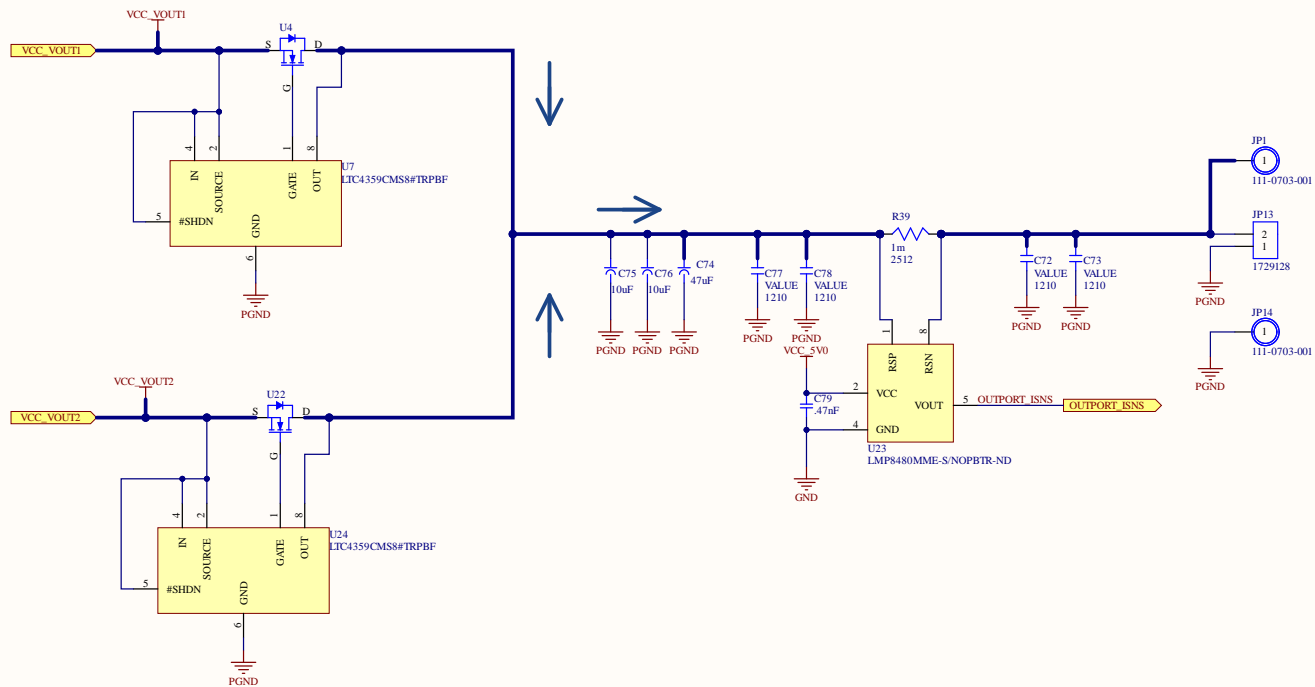
### 128X64 OLED Display



TODO:

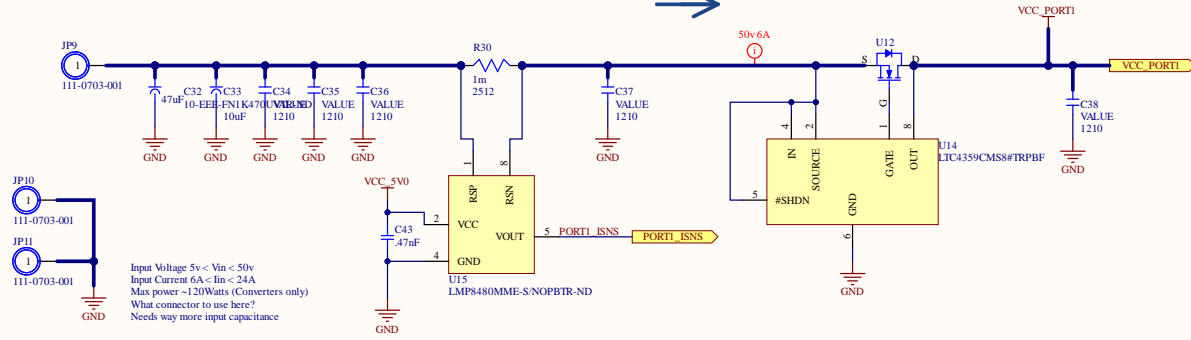
- Digipot
- DAC
- Spare Headers
- GPIO LED
- USB

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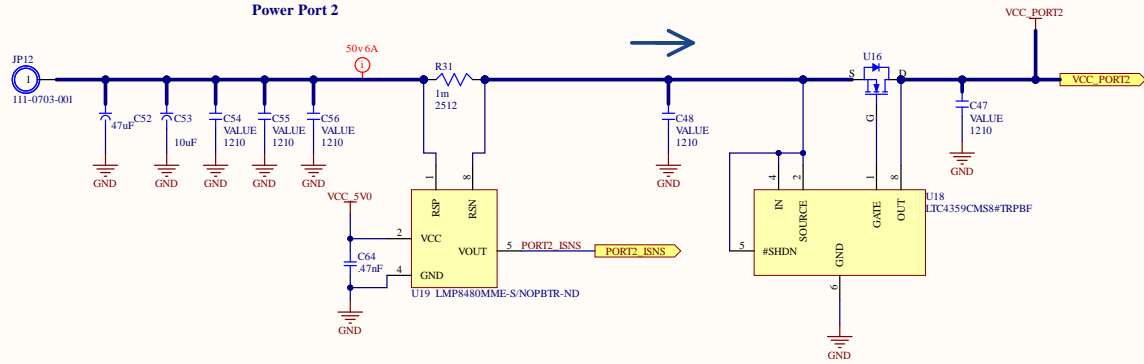


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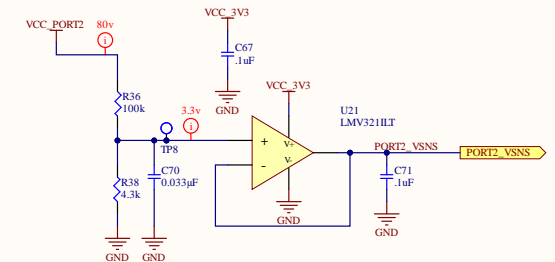
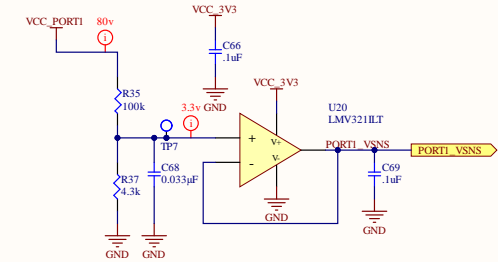
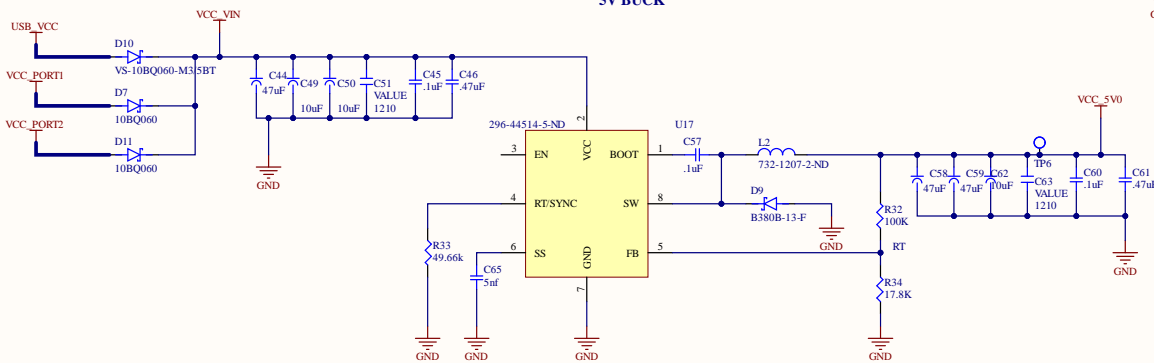
### Power Port 1



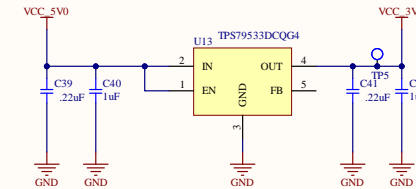
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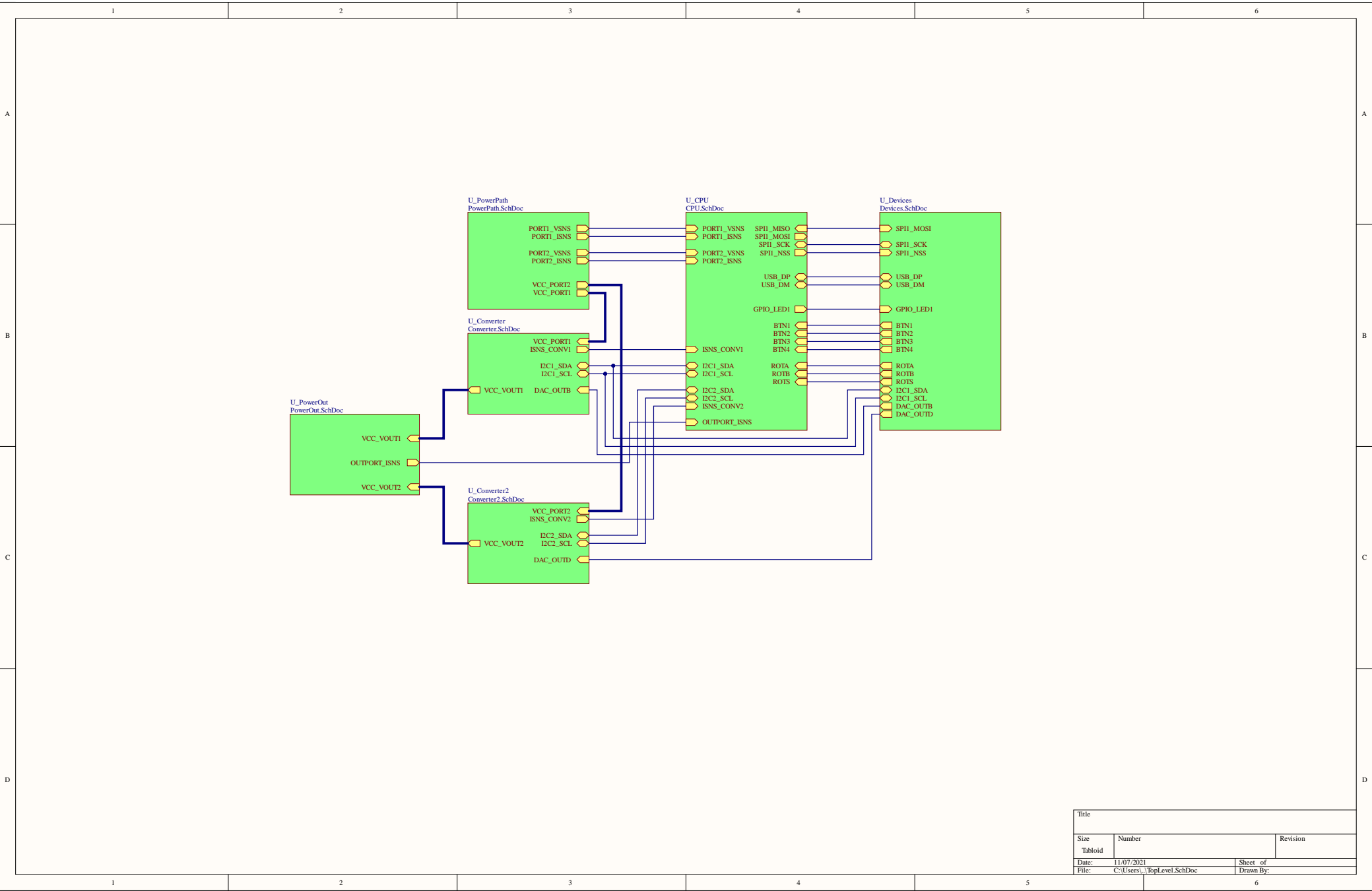
### 5V BUCK



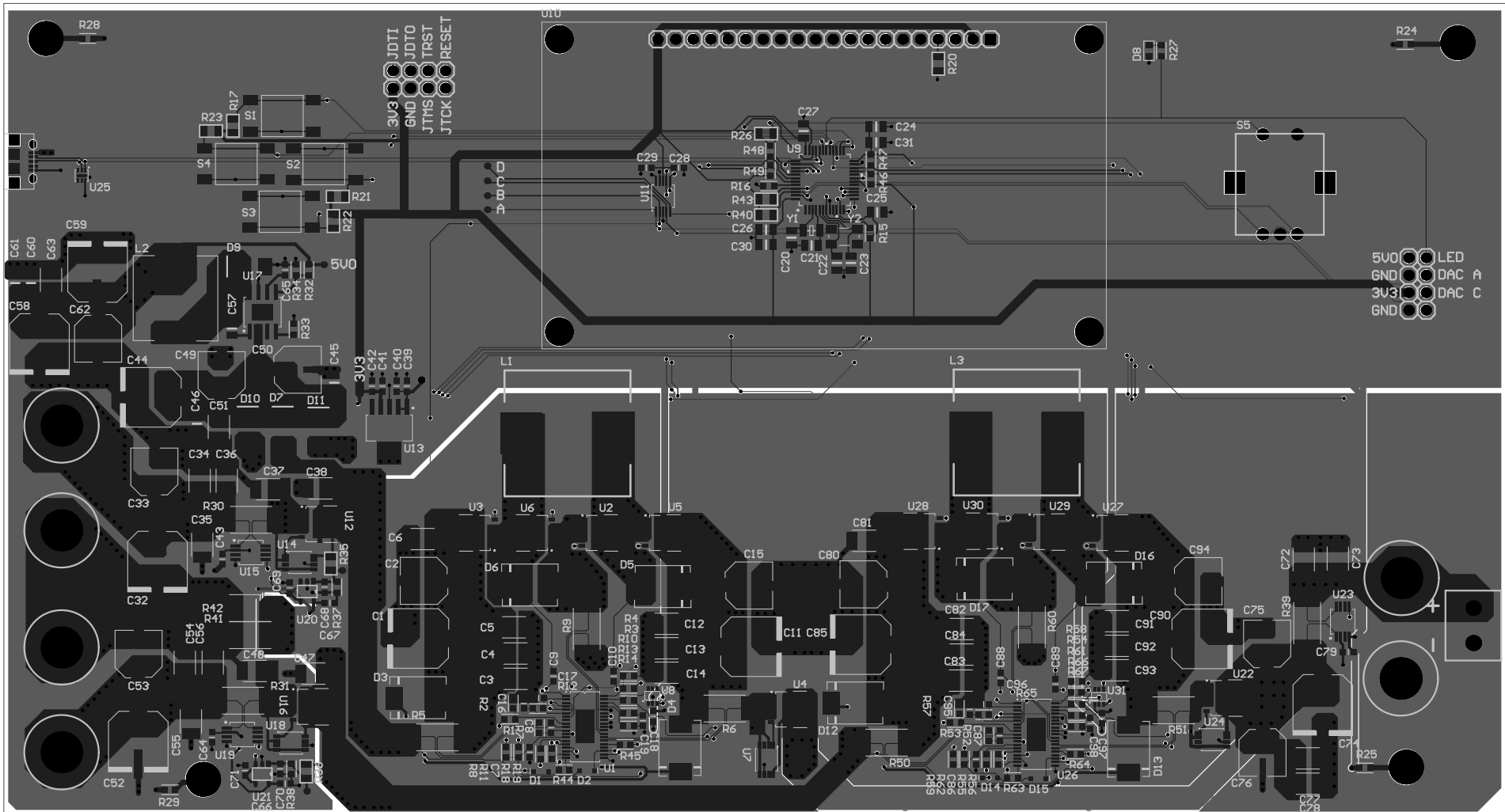
### 3.3V LDO



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Bottom Layer  
 Layer 2  
 Layer 1  
 Top Layer