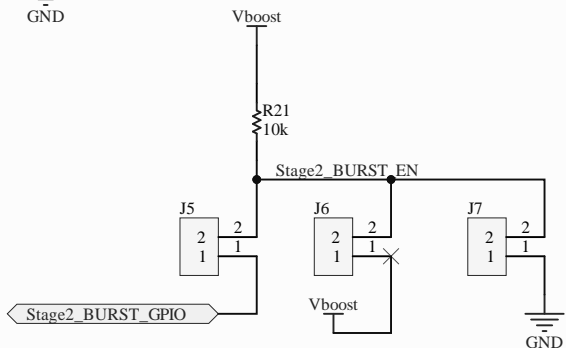
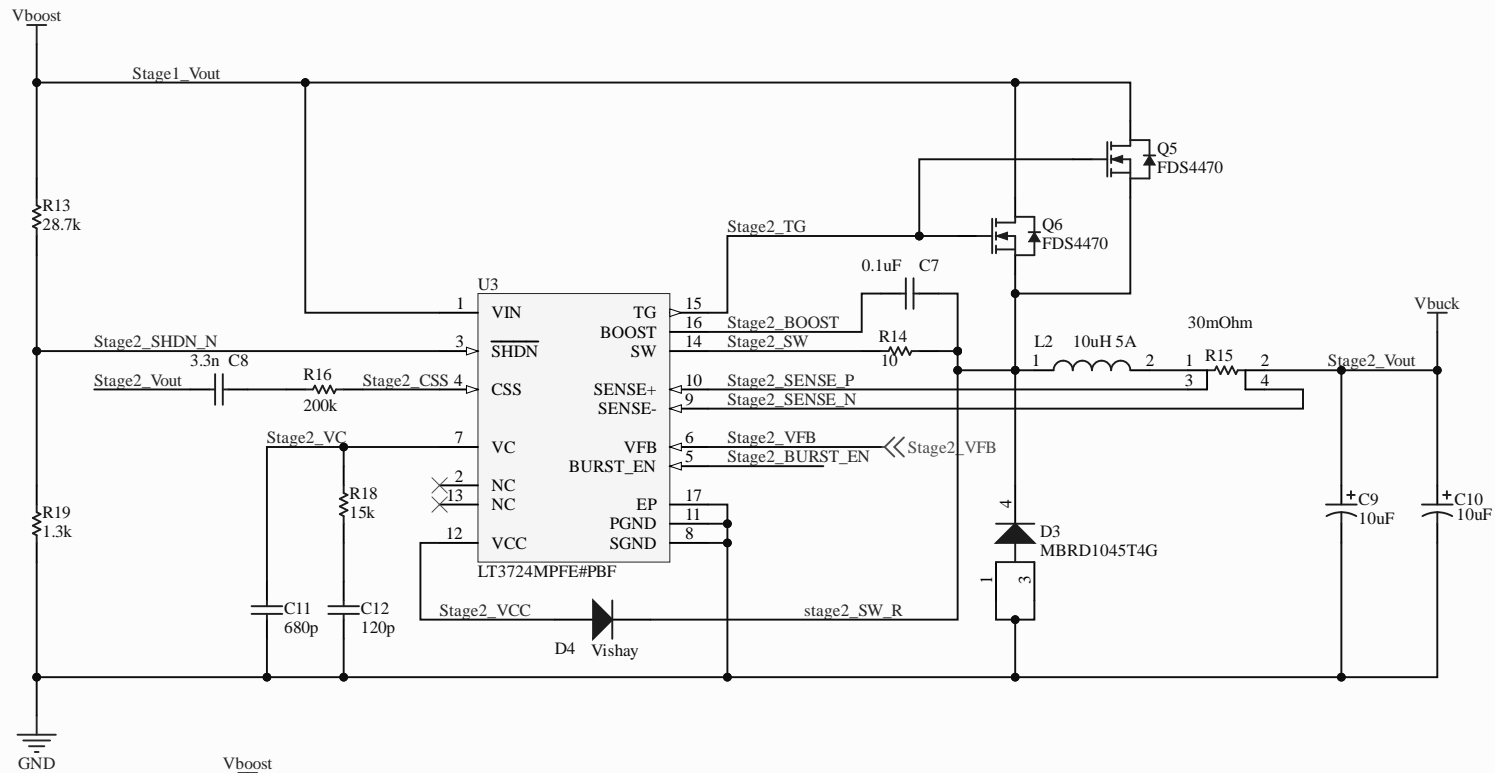
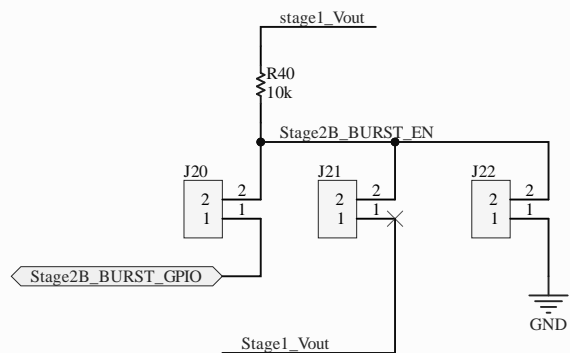
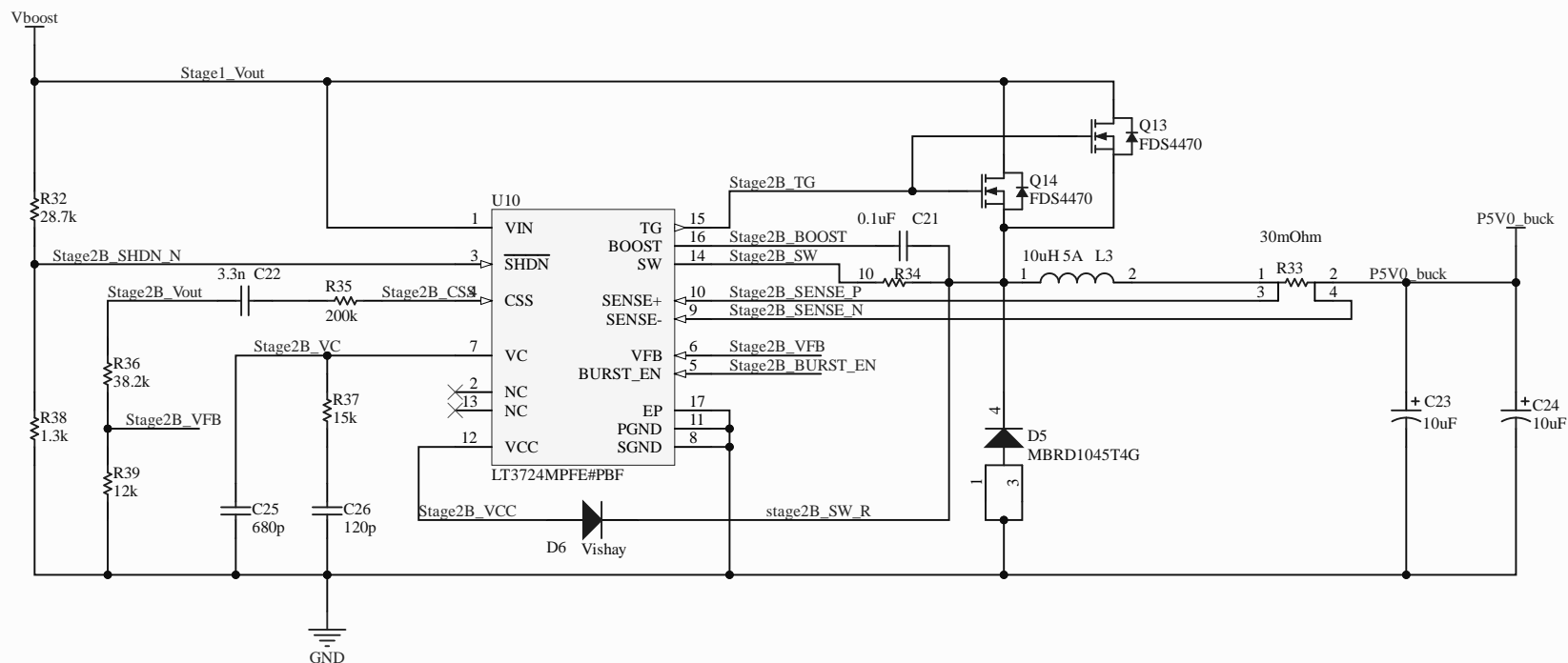


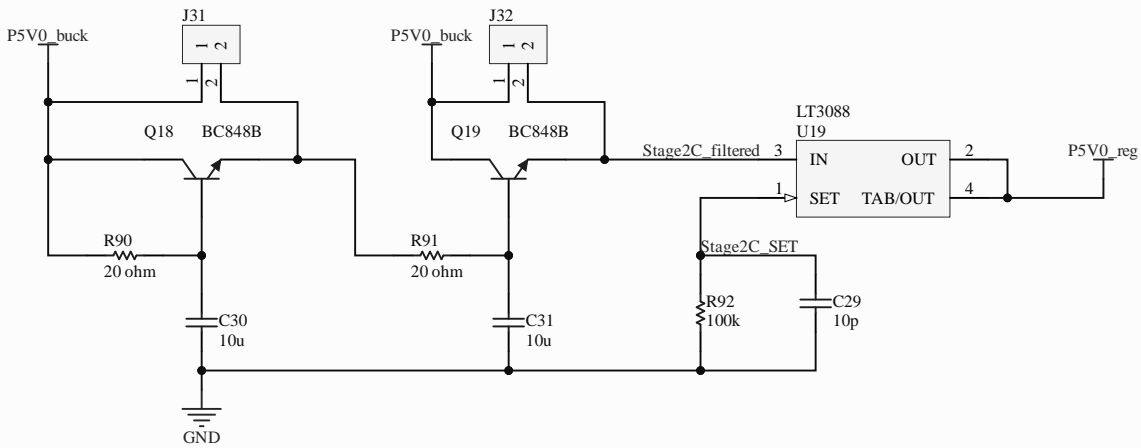
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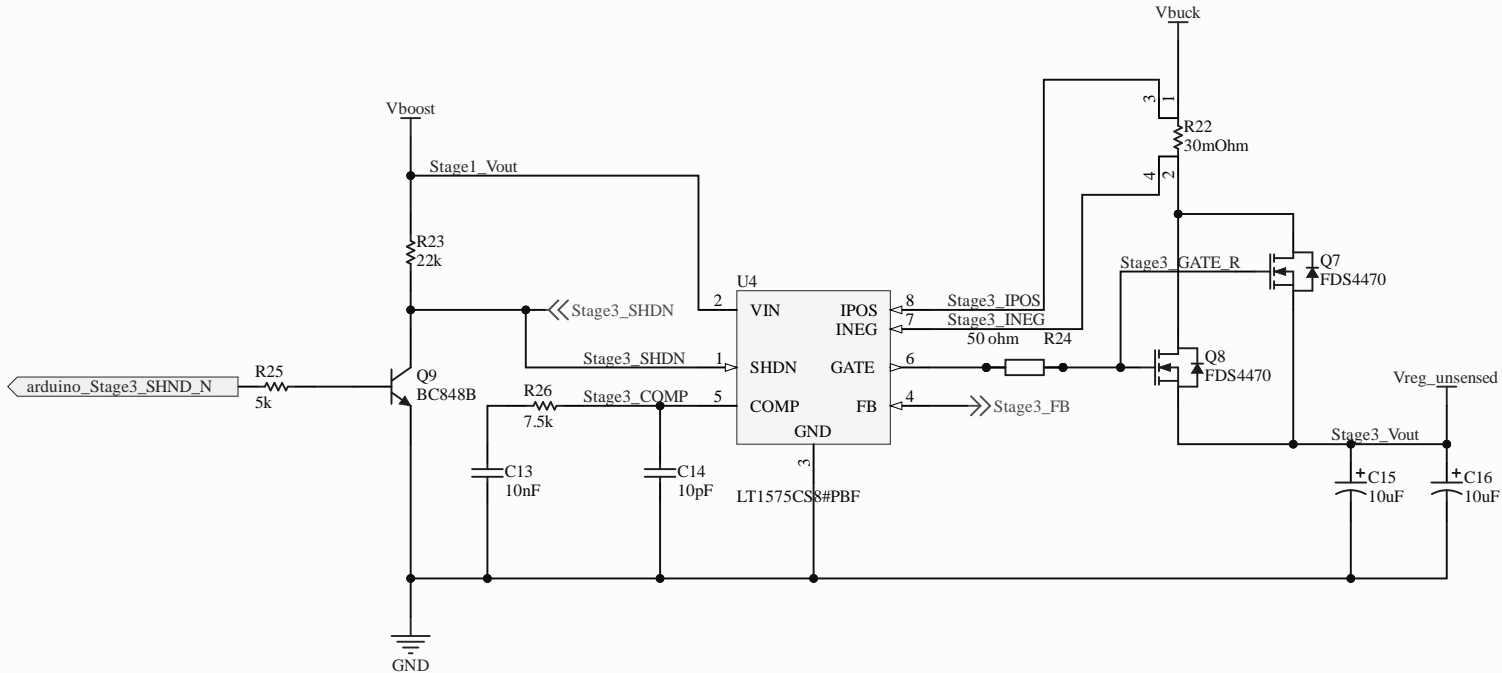
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File:	Stage2B_5volt_buck.SchDoc	Drawn By:



Title		
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A		
Date:	2/21/2022	Sheet of
File:	Stage2C_5volt_reg.SchDoc	Drawn By:



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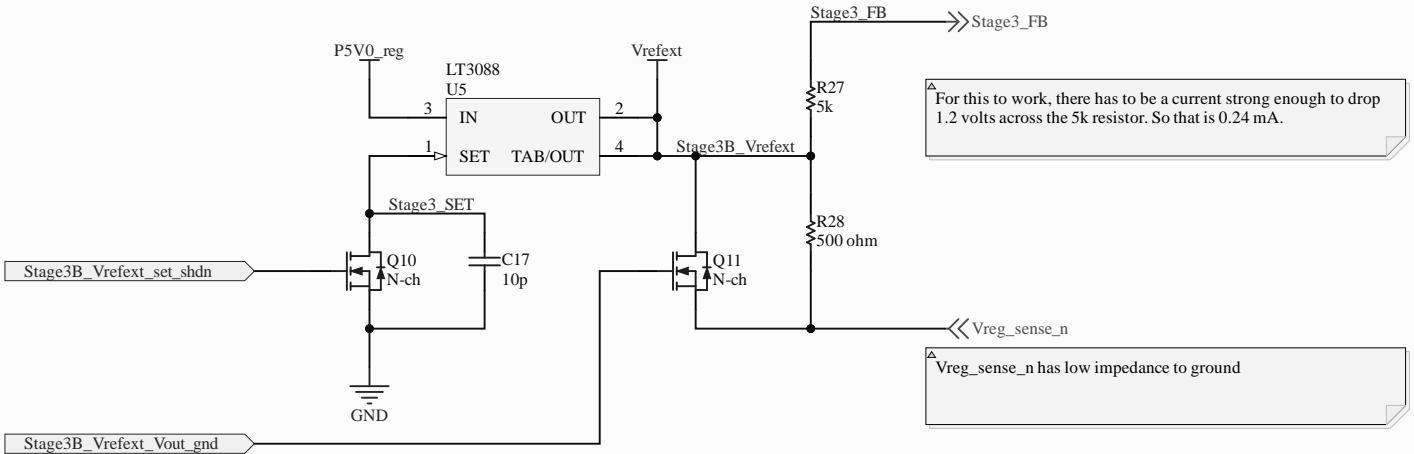
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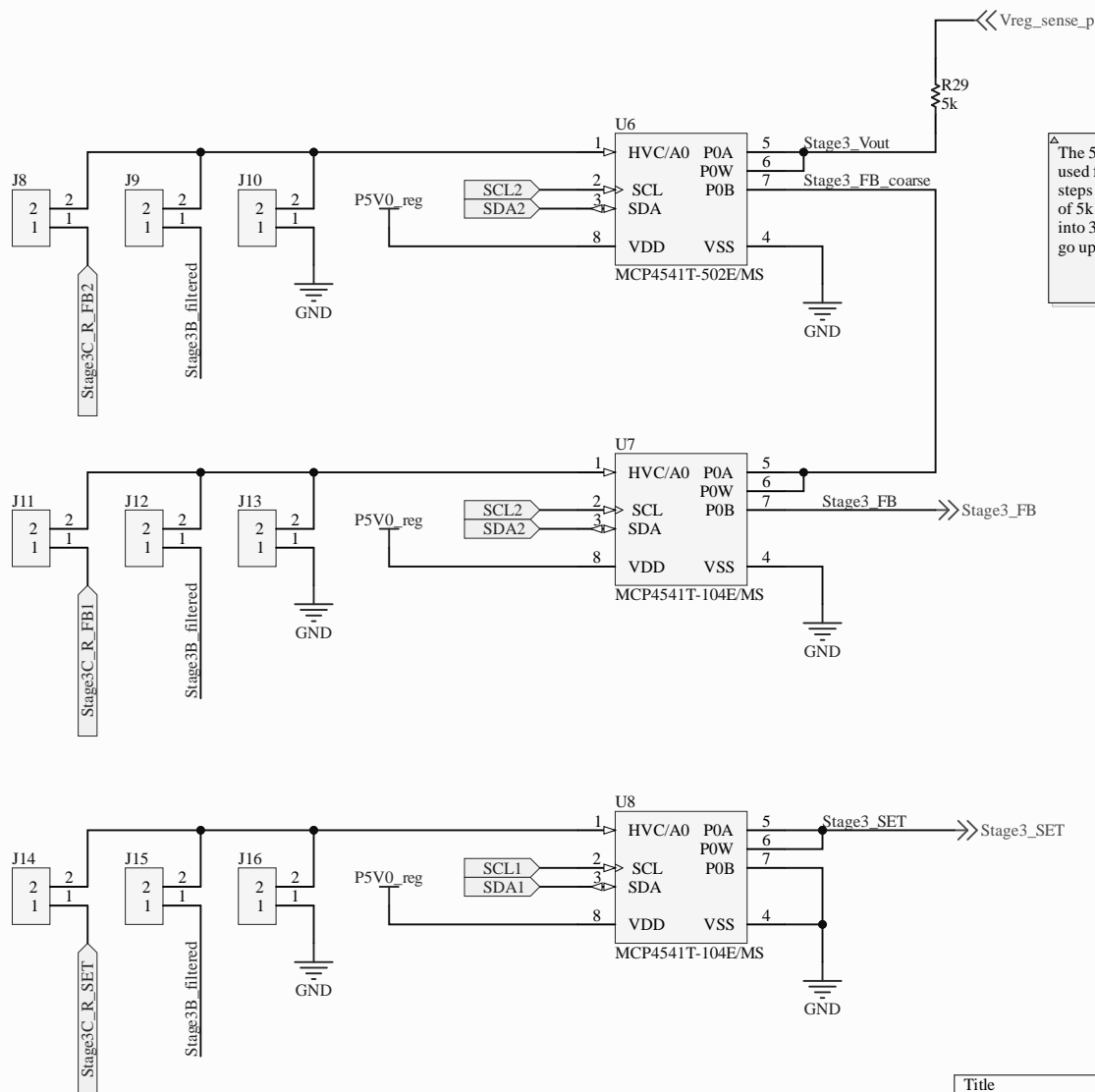
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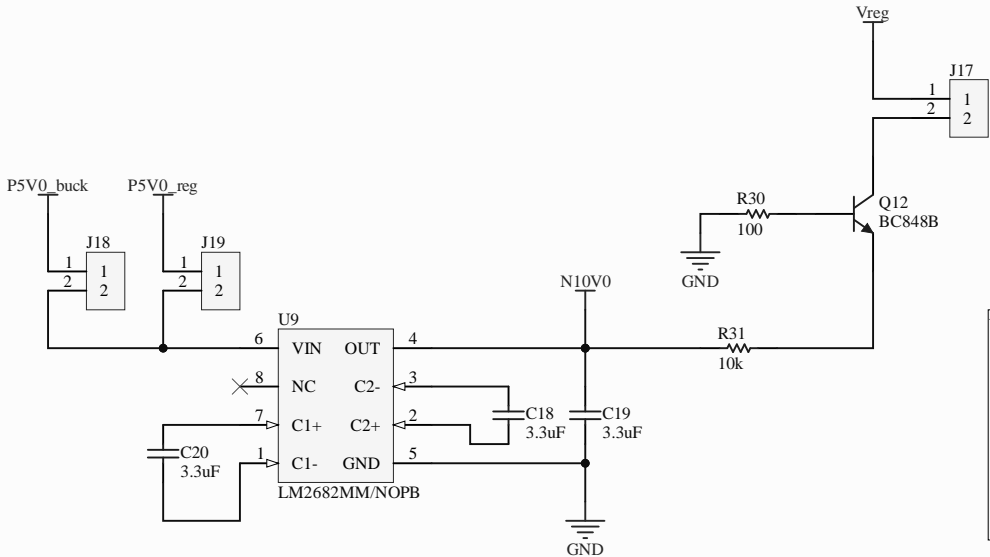
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Date:	2/21/2022	Sheet of
File:	Stage3B_ref_voltage.SchDoc	Drawn By:



The 5k will make sure that $R_{top} \geq R_{bot}$ and the two digital pot will be used for coarse and fine adjustments. The coarse pot of 100k with 128 steps will have a step size of 781 ohms. So not all the steps of the fine pot of 5k will be relevant since its step is 39 ohms. Now if we divide the 100k into 39 ohm steps we get a total of 2564 steps since this power supply will go upto 20 volts we have a resolution of 10 mV.

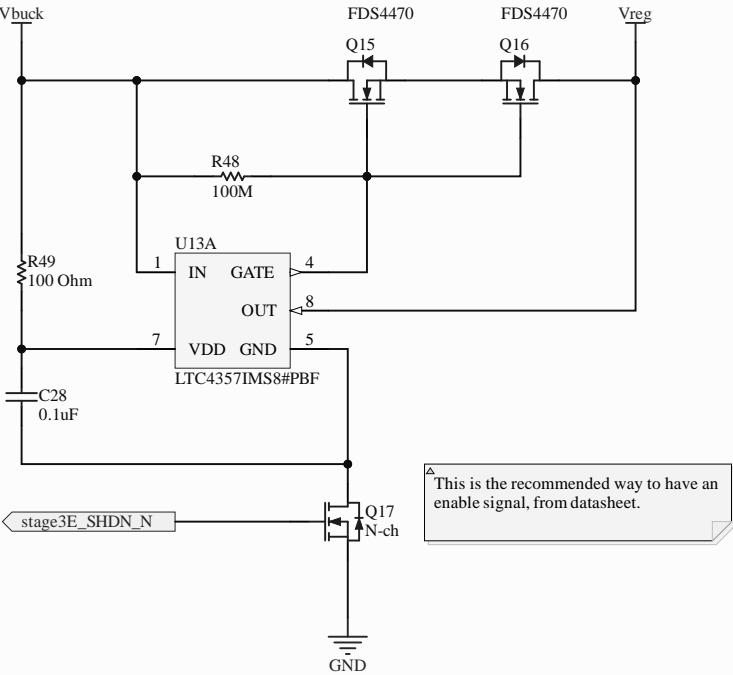
This will set Vrefxt. $V_{refxt} = 50\mu A * R$, where R is control of the digital pot with steps of 781 ohms $* 50\mu A = 40 \text{ mV}$

Title		
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File:	Stage3C_digital_pot.SchDoc	Drawn By:



^ We just need a 0.25mA running on the output such that there is at least a 1.2V drop on a 5k resistor.

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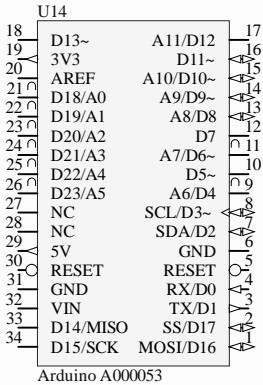
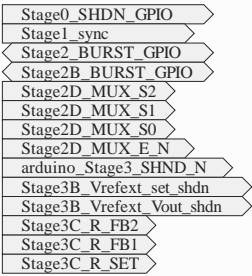


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Stage0_Vin



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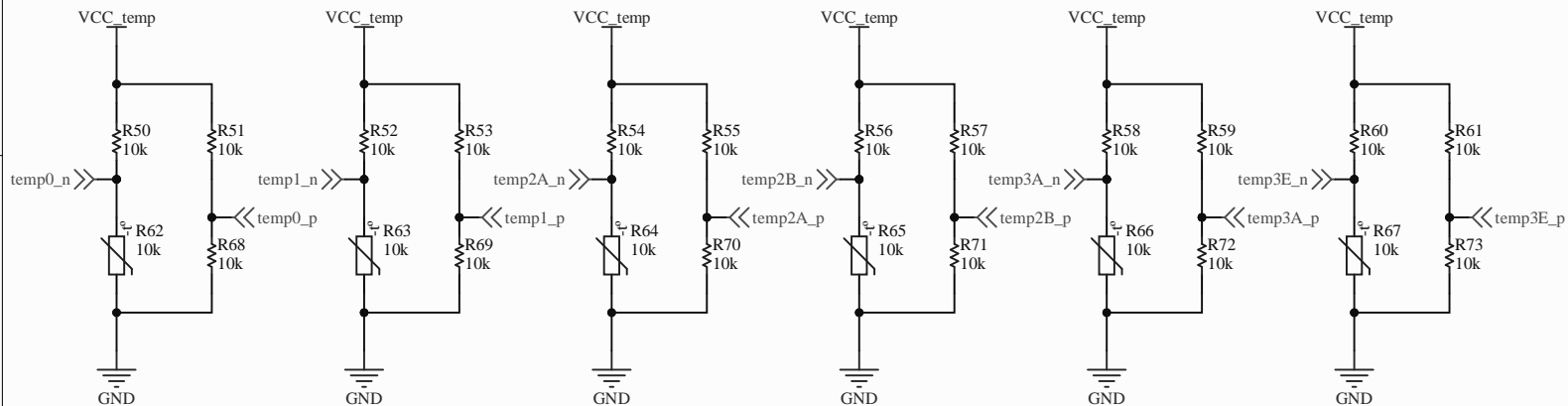
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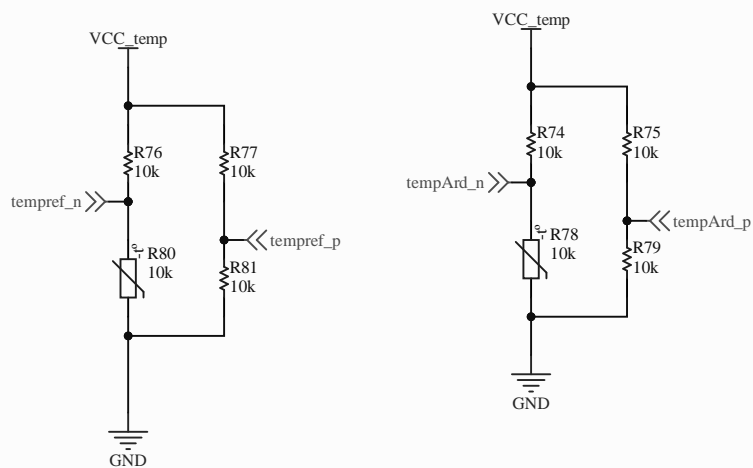


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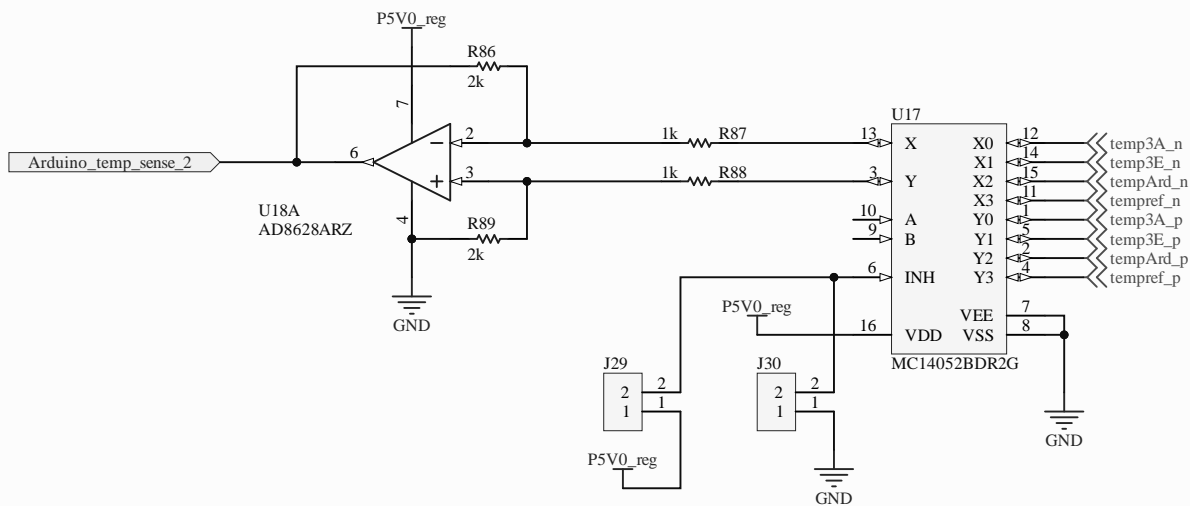
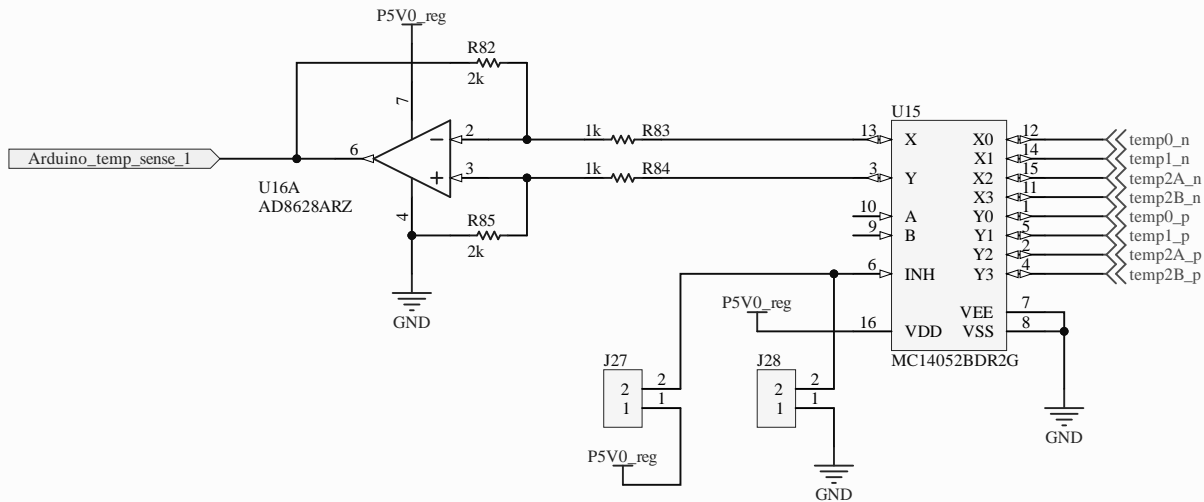
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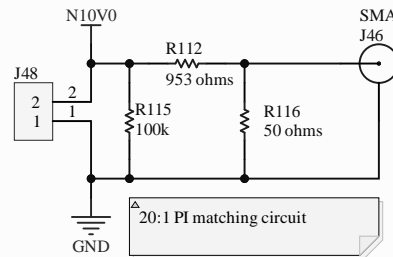
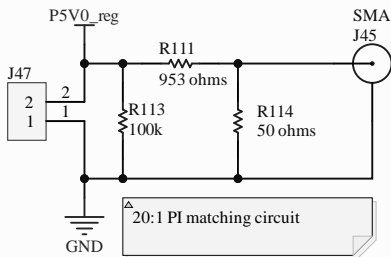
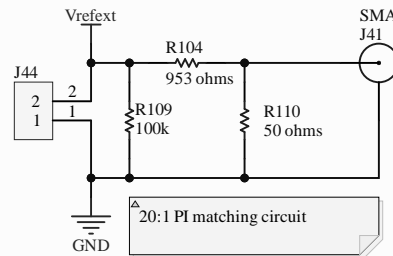
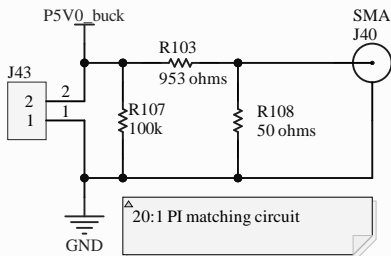
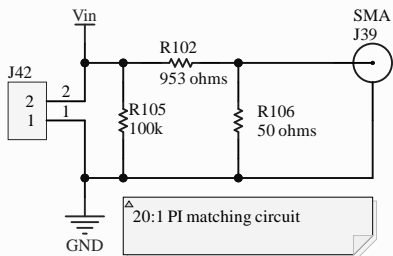
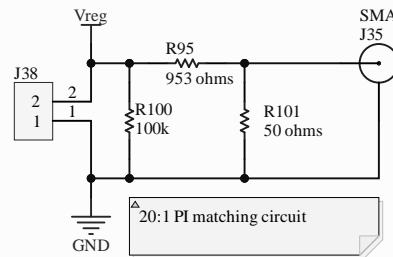
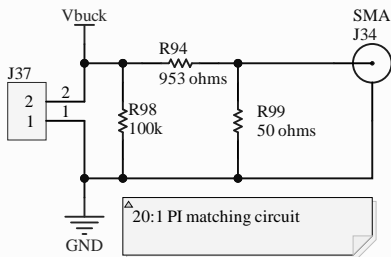
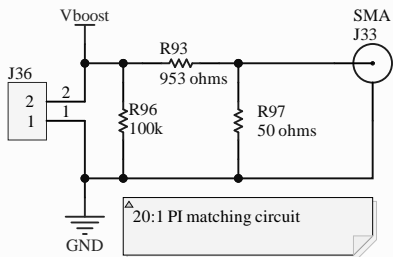
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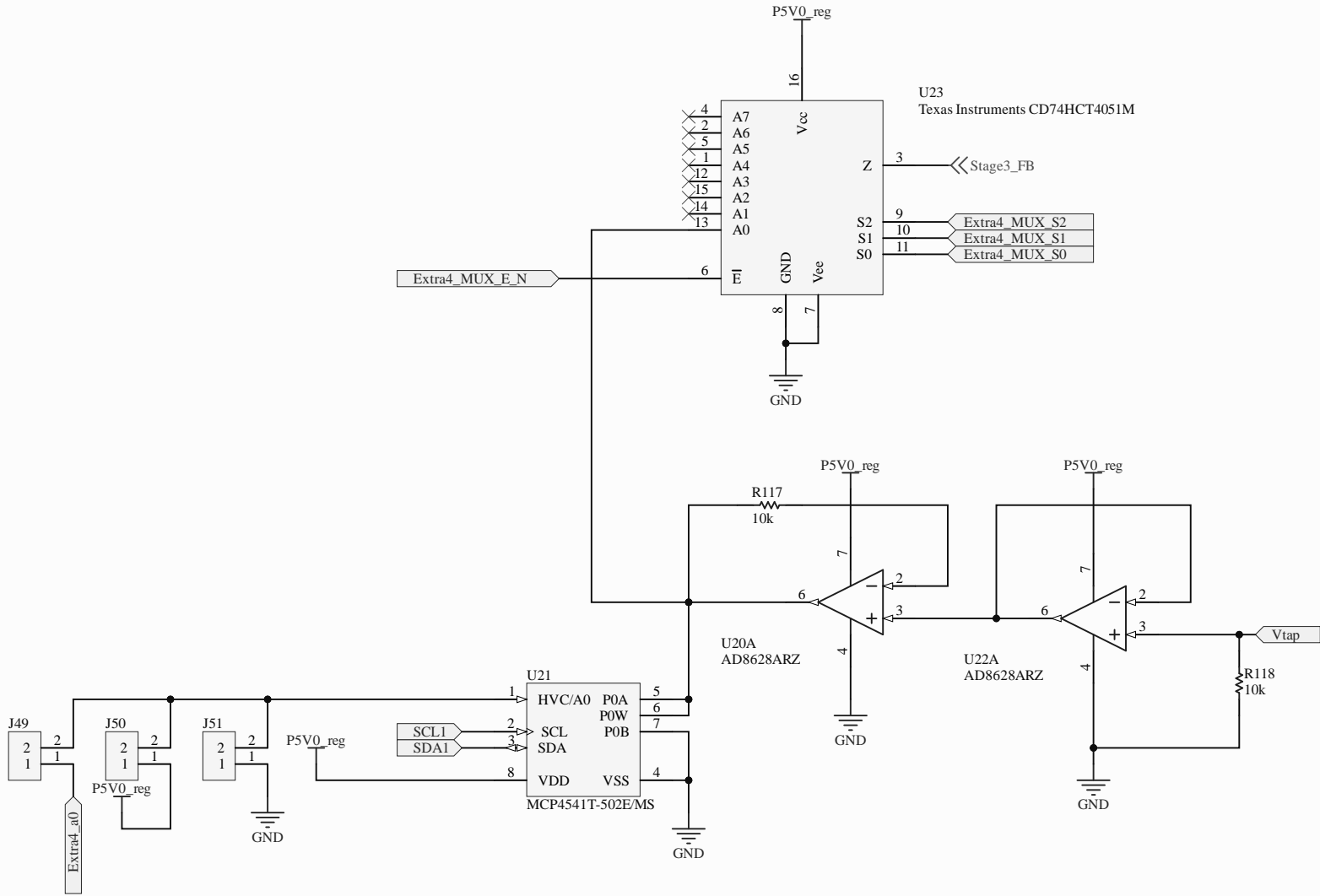
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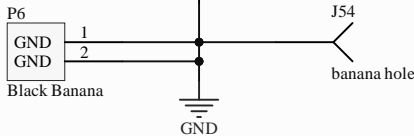
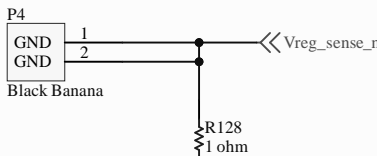
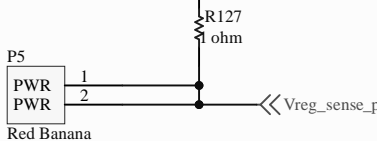
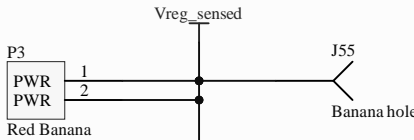
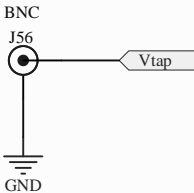
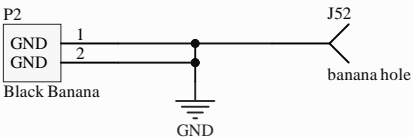
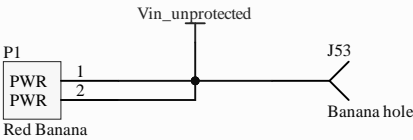
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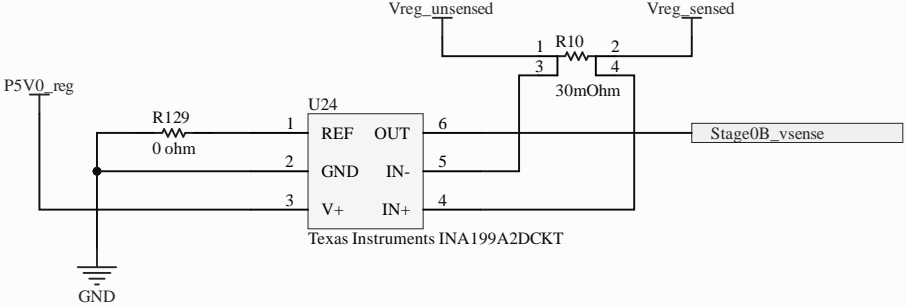
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A		
Date:	2/21/2022	Sheet of
File:	Extra5_connectors.SchDoc	Drawn By:



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Date:	2/21/2022	Sheet of
File:	Stage3F_current_sense.SchDoc	Drawn By: