

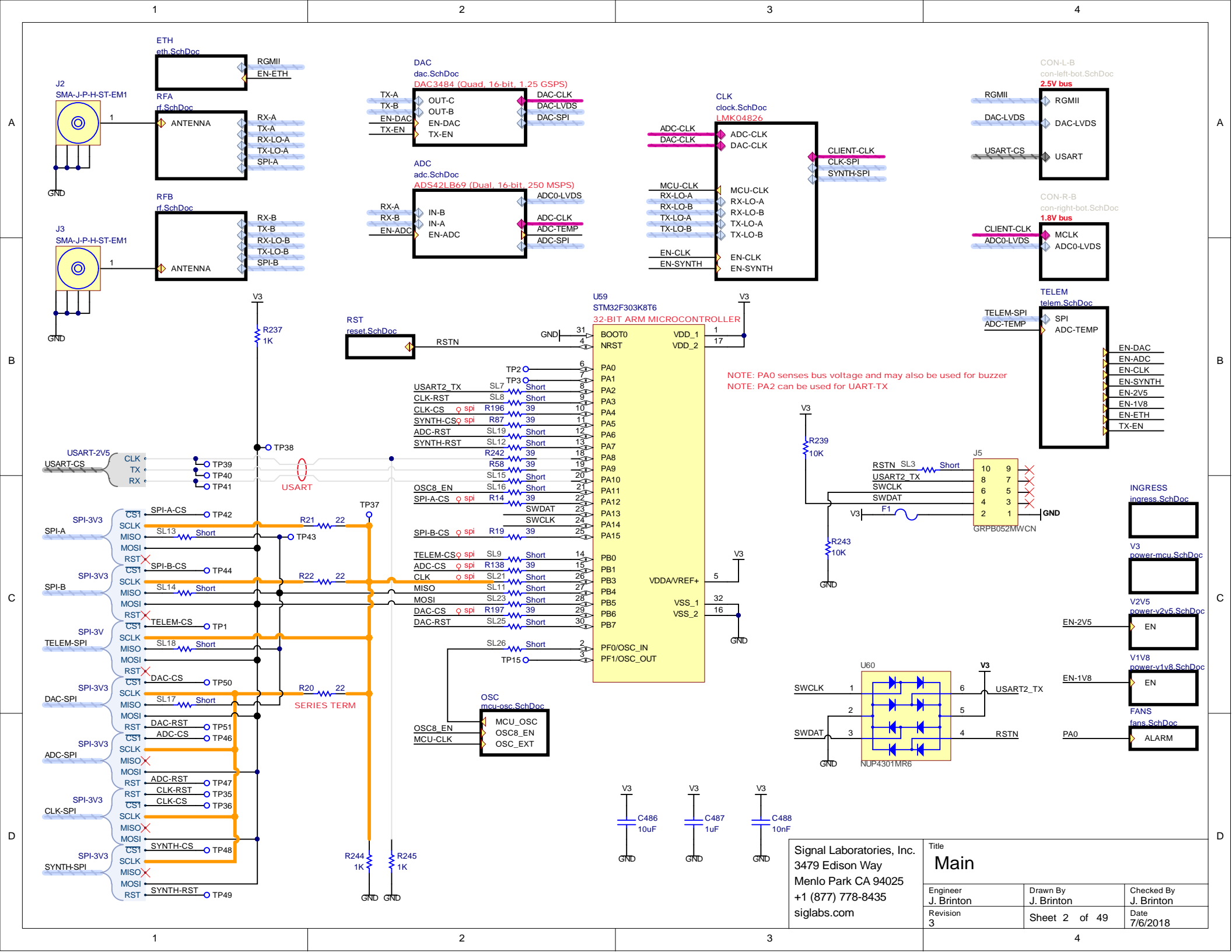
MAIN

MECH

Graviton Rev. 3 is a brand new design unrelated to Rev. 2B.  
It is still called Graviton because the board serves the same purpose.  
Graviton sits on top of and is connected to the Copper Suicide FPGA array.

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Title		
Graviton SDR		
Engineer	Drawn By	Checked By
J. Brinton	J. Brinton	J. Brinton
Revision	Sheet 1 of 49	Date
3		7/6/2018



A

B

C

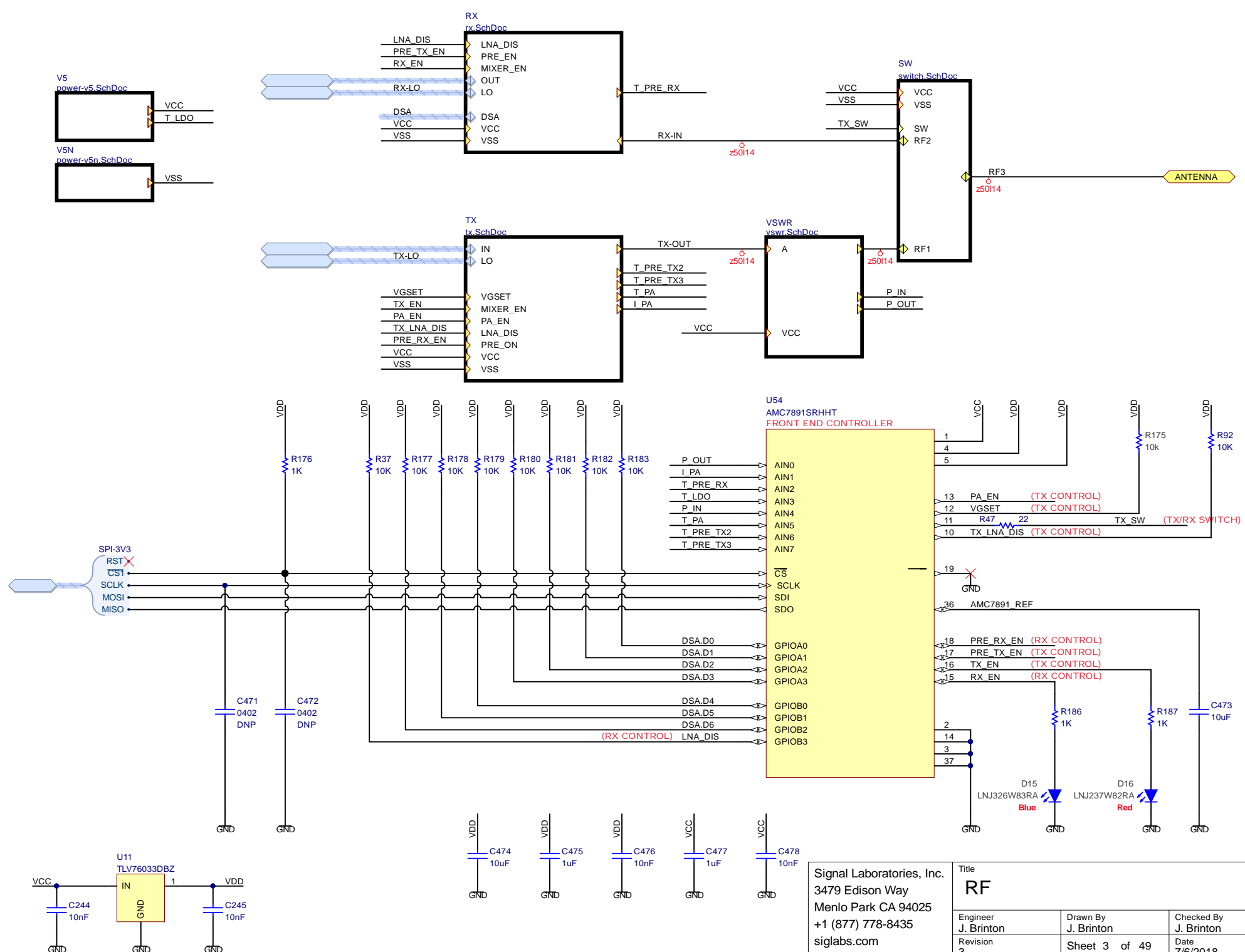
D

A

B

C

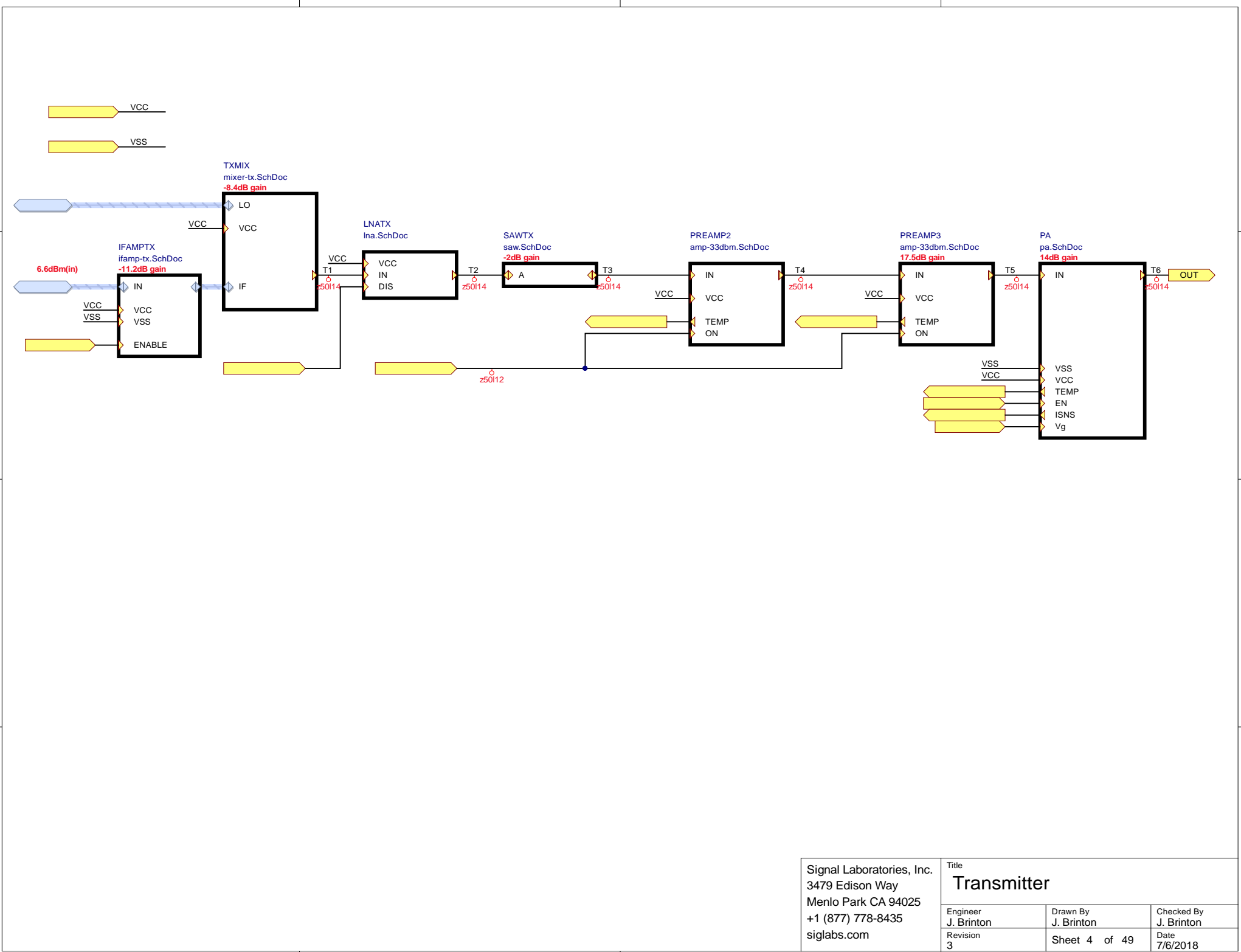
D



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Title  
**RF**

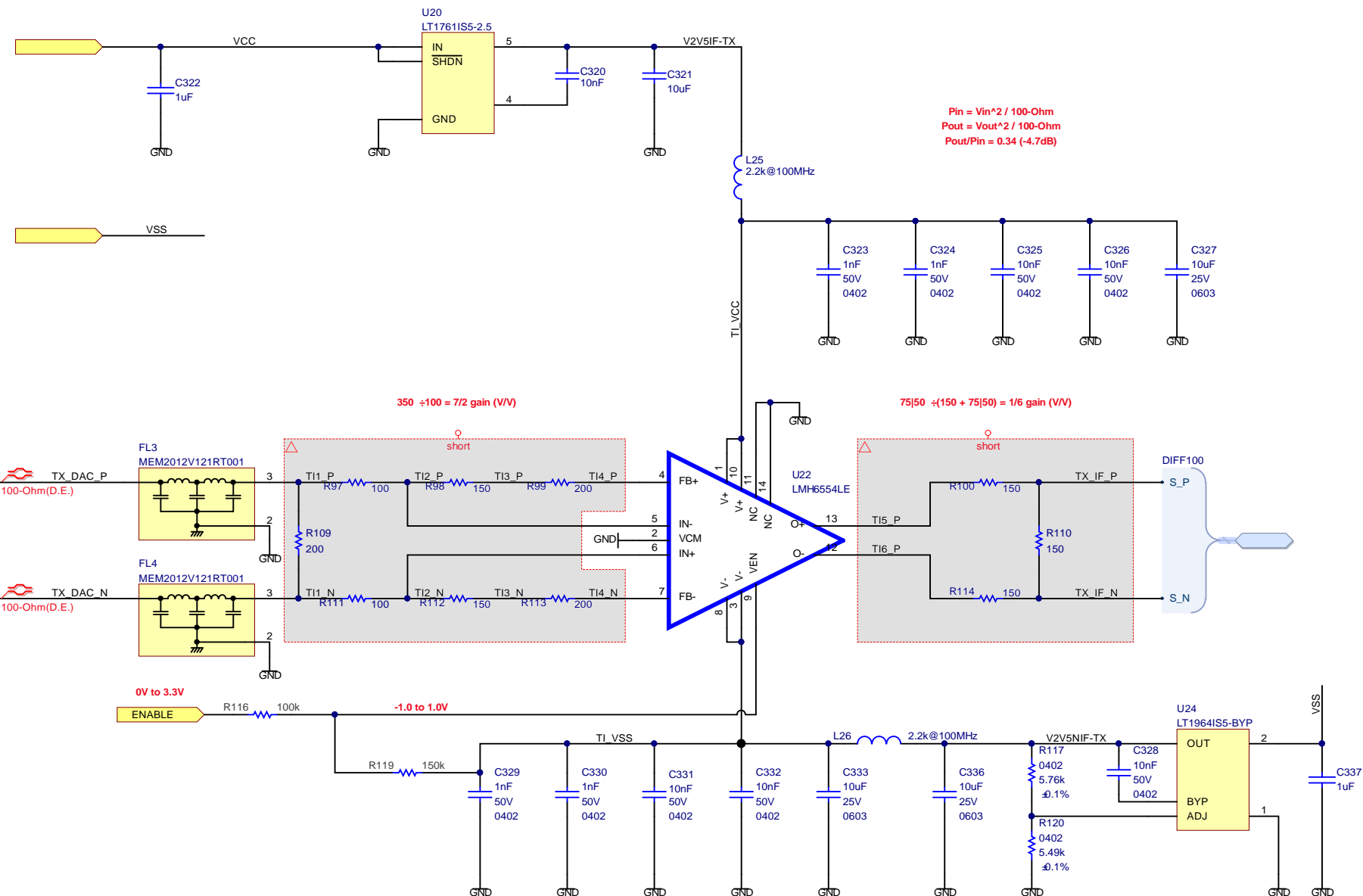
Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 3	Sheet 3 of 49	Date 7/6/2018



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Title  
**Transmitter**

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 3	Sheet 4 of 49	Date 7/6/2018



A

A

B

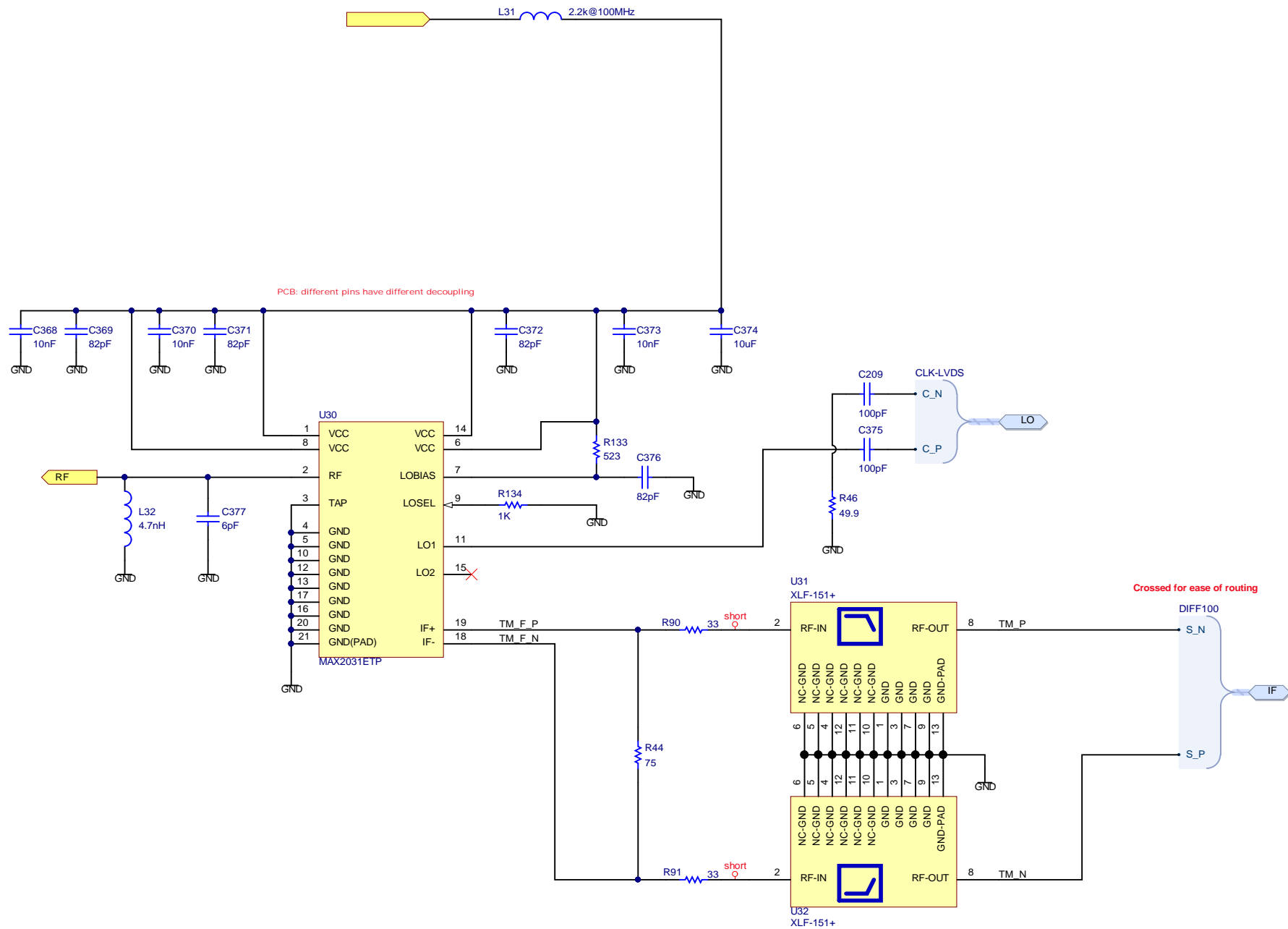
B

C

C

D

D



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Title  
**TX Mixer**

Engineer  
J. Brinton  
Revision  
3

Drawn By  
J. Brinton  
Sheet 6 of 49

Checked By  
J. Brinton  
Date  
7/6/2018

1

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A

A

B

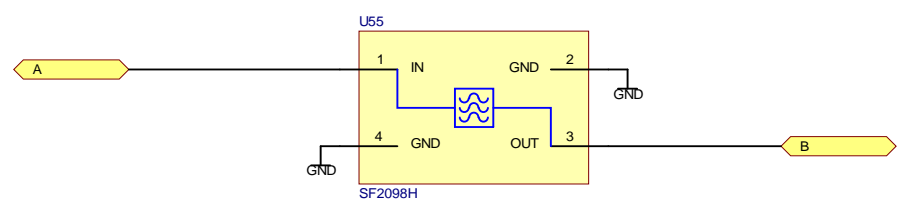
B

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D



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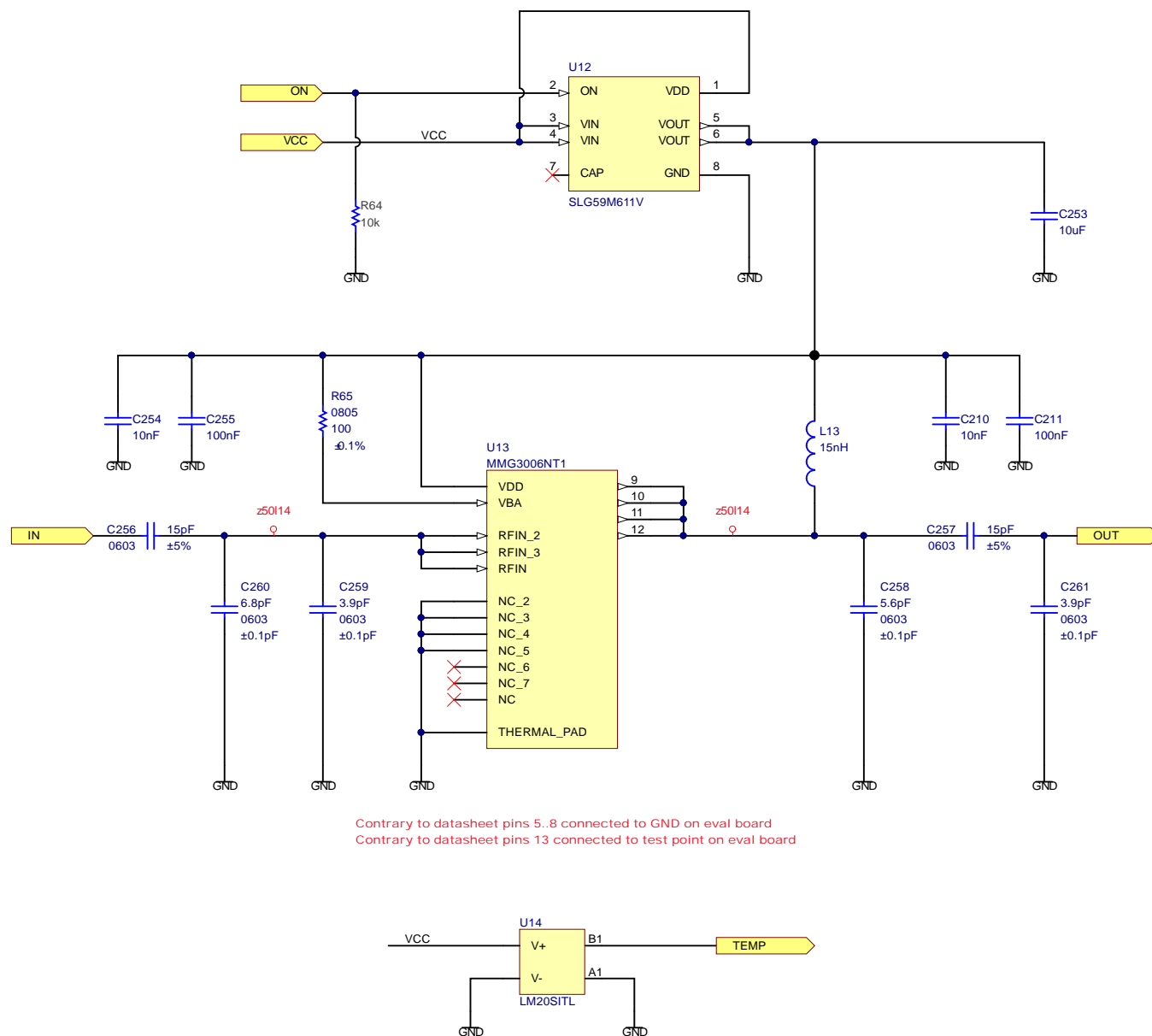
Title <b>SAW Filter</b>		
Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 3	Sheet 7 of 49	Date 7/6/2018

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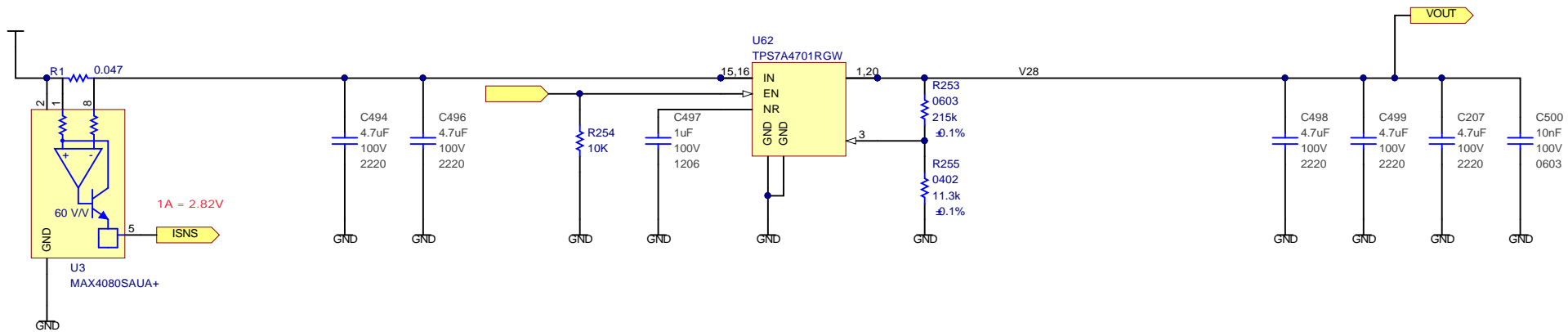


Contrary to datasheet pins 5..8 connected to GND on eval board  
Contrary to datasheet pins 13 connected to test point on eval board

PCB: PLACE LMT87 DIRECTLY UNDER NPA1006

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Engineer J. Brinton	Drawn By J. Brinton		Checked By J. Brinton		
Revision 3	Sheet 8 of 49		Date 7/6/2018		





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Engineer J. Brinton	Drawn By J. Brinton		Checked By J. Brinton		
Revision 3	Sheet 9 of 49		Date 7/6/2018		

1

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A

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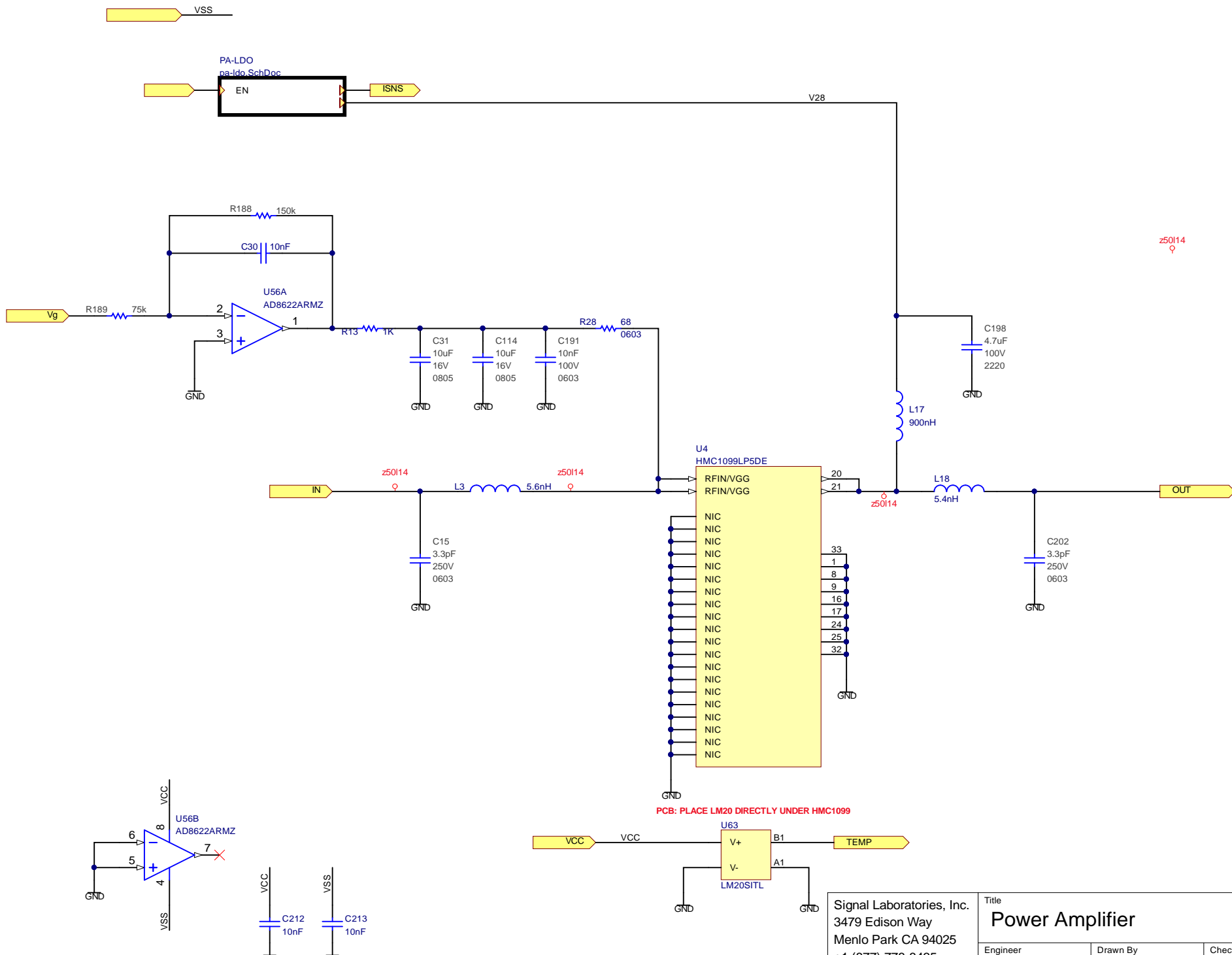
B

C

C

D

D



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Title

## Power Amplifier

Engineer  
J. Brinton

Drawn By  
J. Brinton

Checked By  
J. Brinton

Revision  
3

Sheet 10 of 49

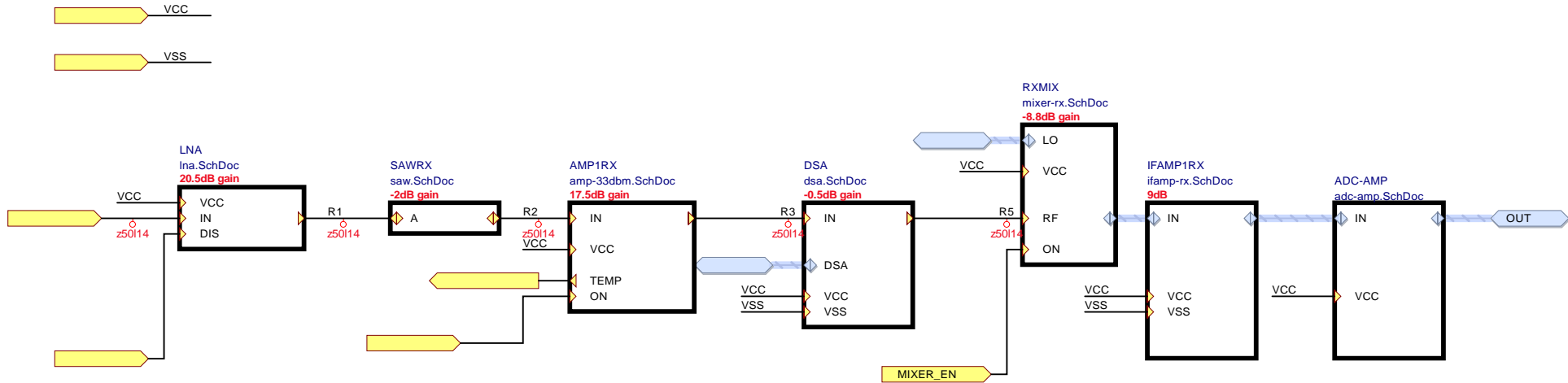
Date  
7/6/2018

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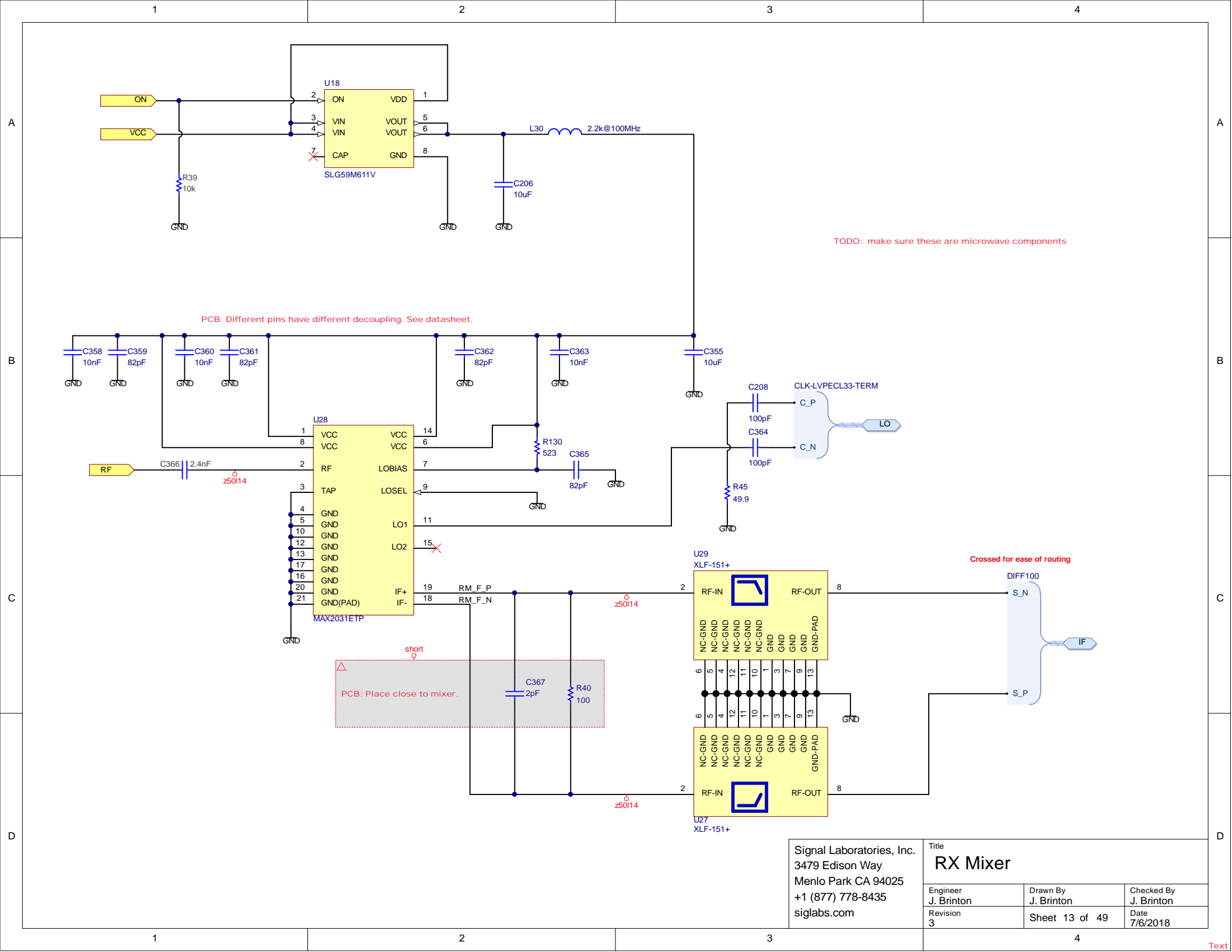
3

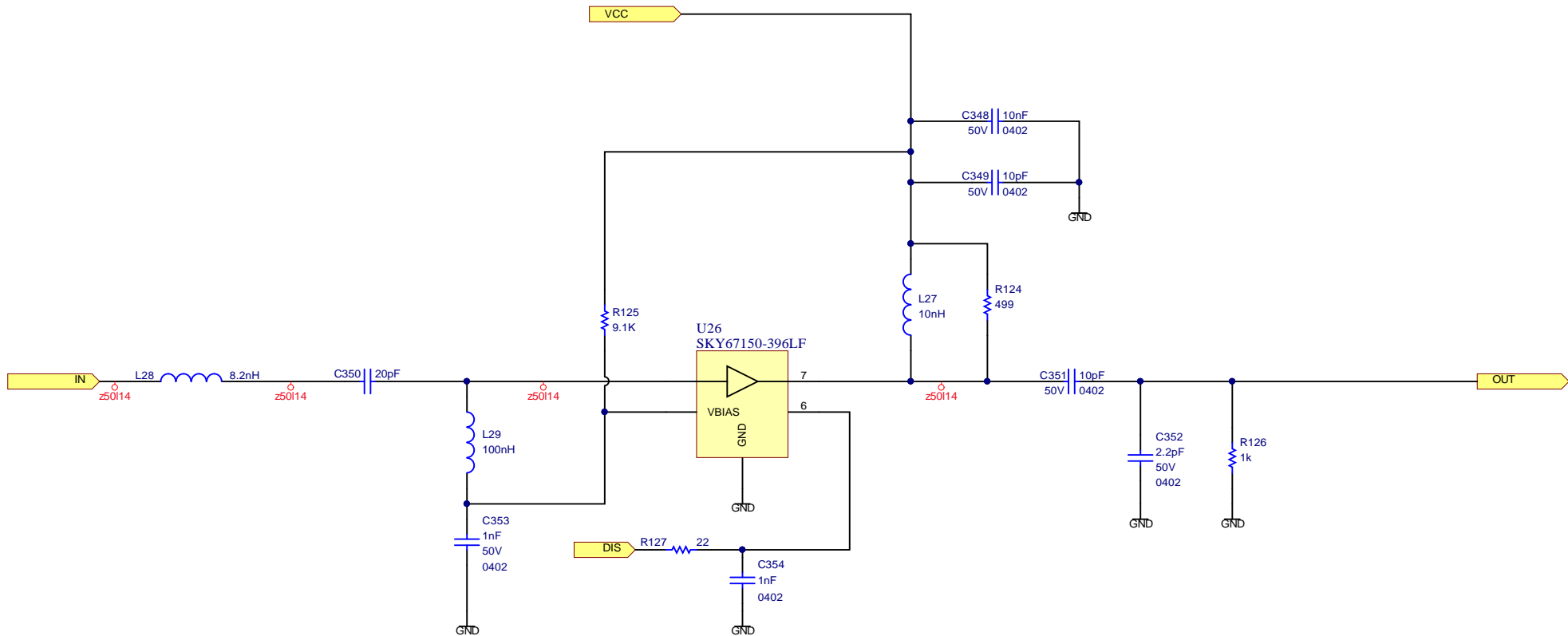
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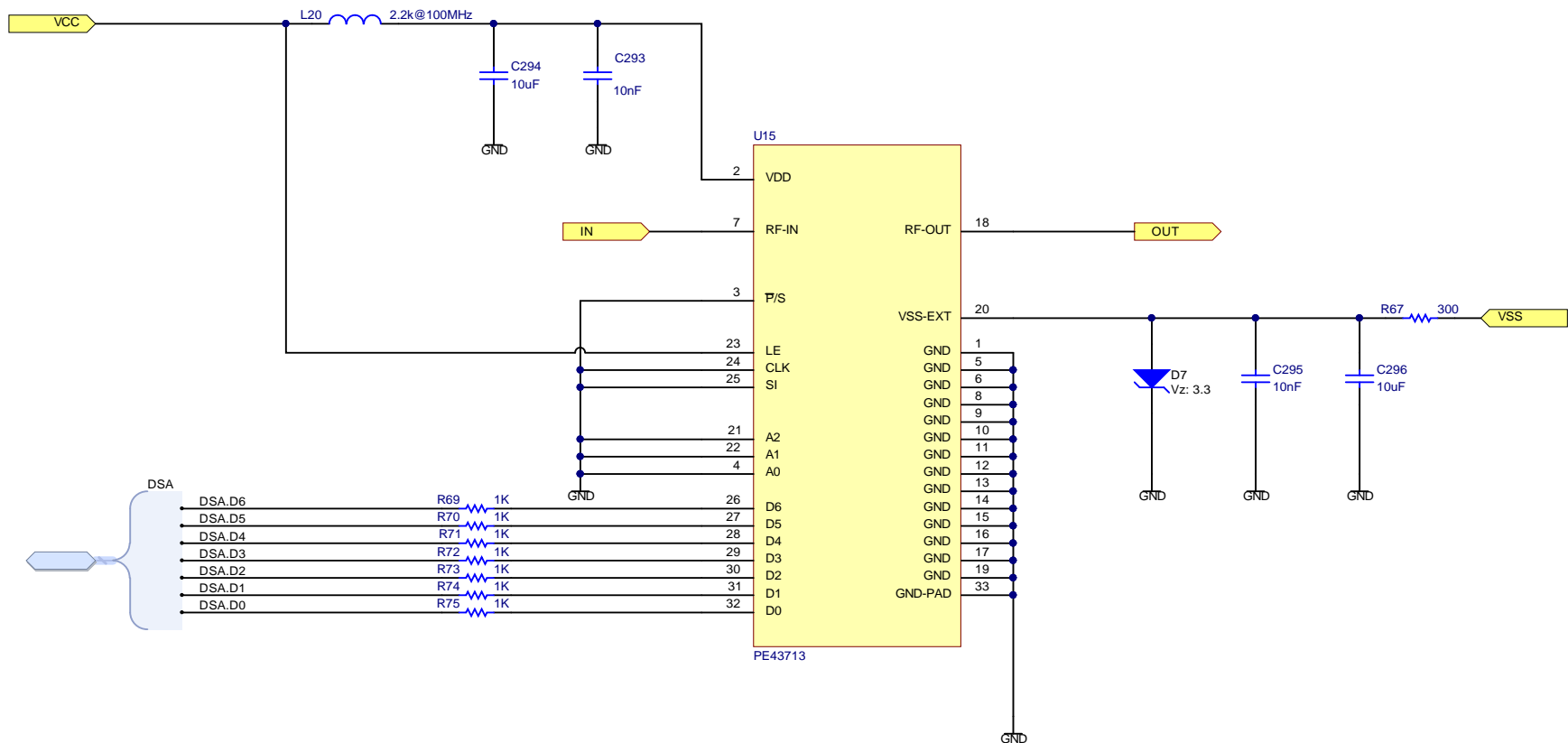
Signal Laboratories, Inc. 3479 Edison Way Menlo Park CA 94025 +1 (877) 778-8435 siglabs.com			Title <b>Receiver</b>		
Engineer J. Brinton	Drawn By J. Brinton		Checked By J. Brinton		
Revision 3	Sheet 11 of 49		Date 7/6/2018		







Signal Laboratories, Inc. 3479 Edison Way Menlo Park CA 94025 +1 (877) 778-8435 siglabs.com			Title <b>RX LNA</b>		
Engineer J. Brinton		Drawn By J. Brinton		Checked By J. Brinton	
Revision 3		Sheet 14 of 49		Date 7/6/2018	



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Title

**DSA**

Engineer  
J. Brinton

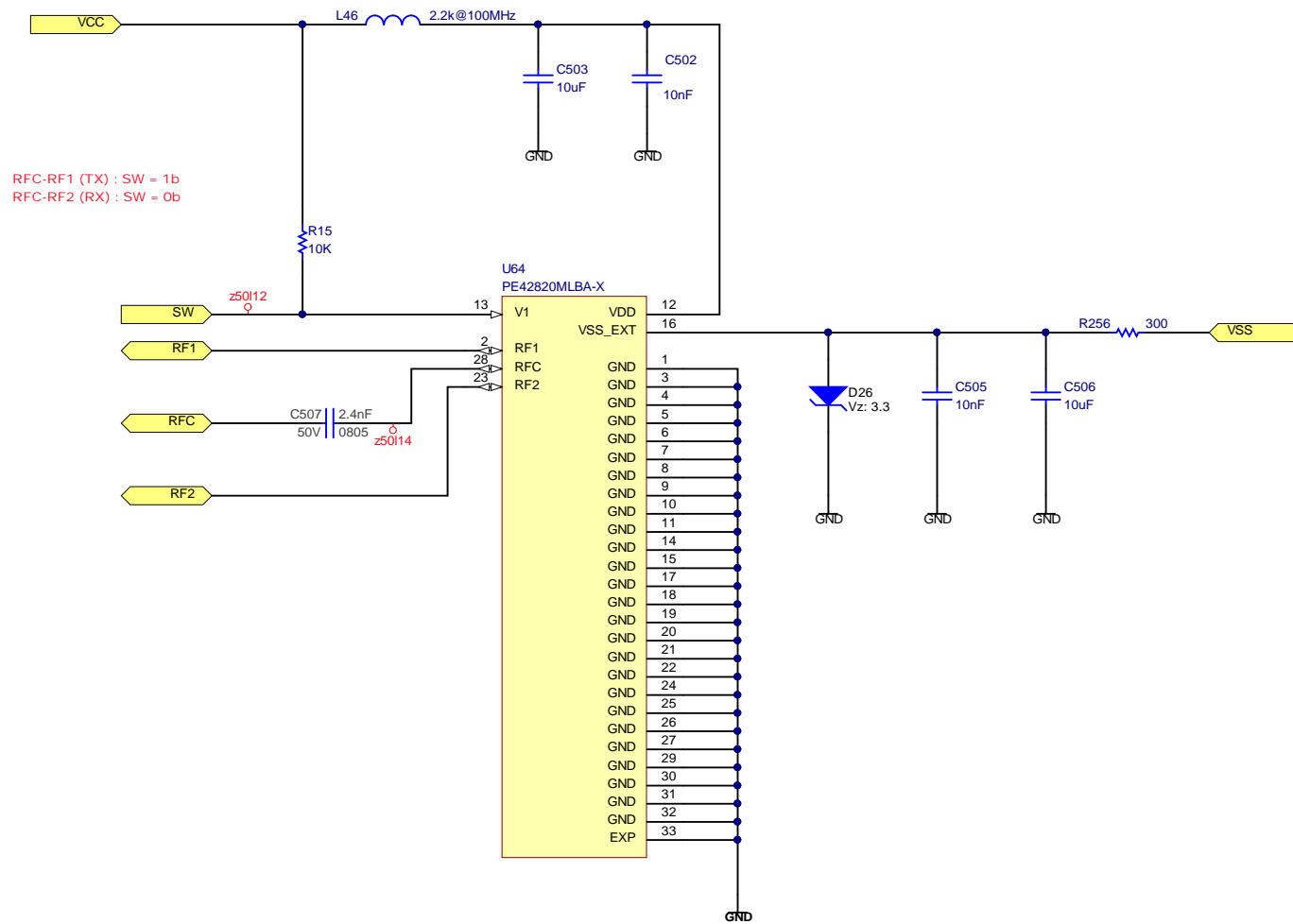
Revision  
3

Drawn By  
J. Brinton

Sheet 15 of 49

Checked By  
J. Brinton

Date  
7/6/2018

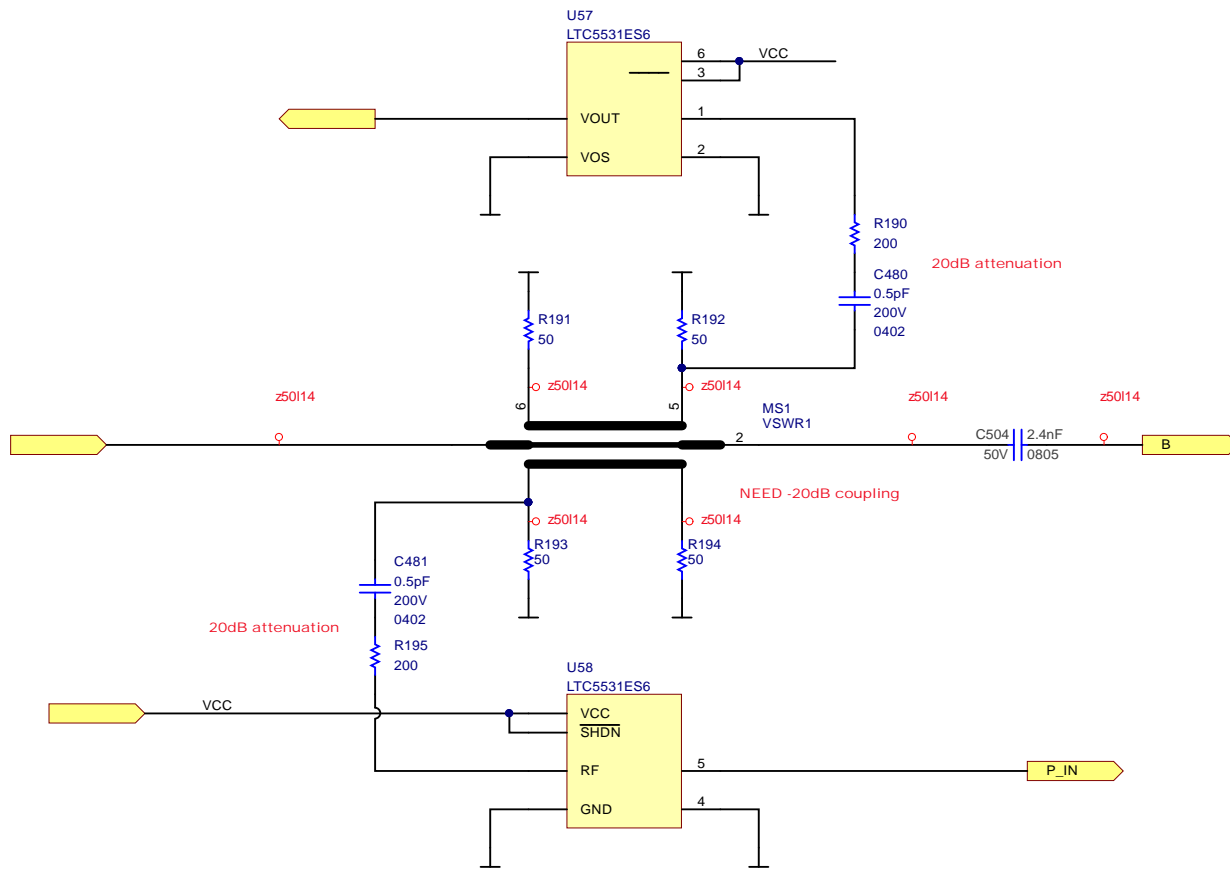


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Title  
**RF Switch**

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 3	Sheet 16 of 49	Date 7/6/2018





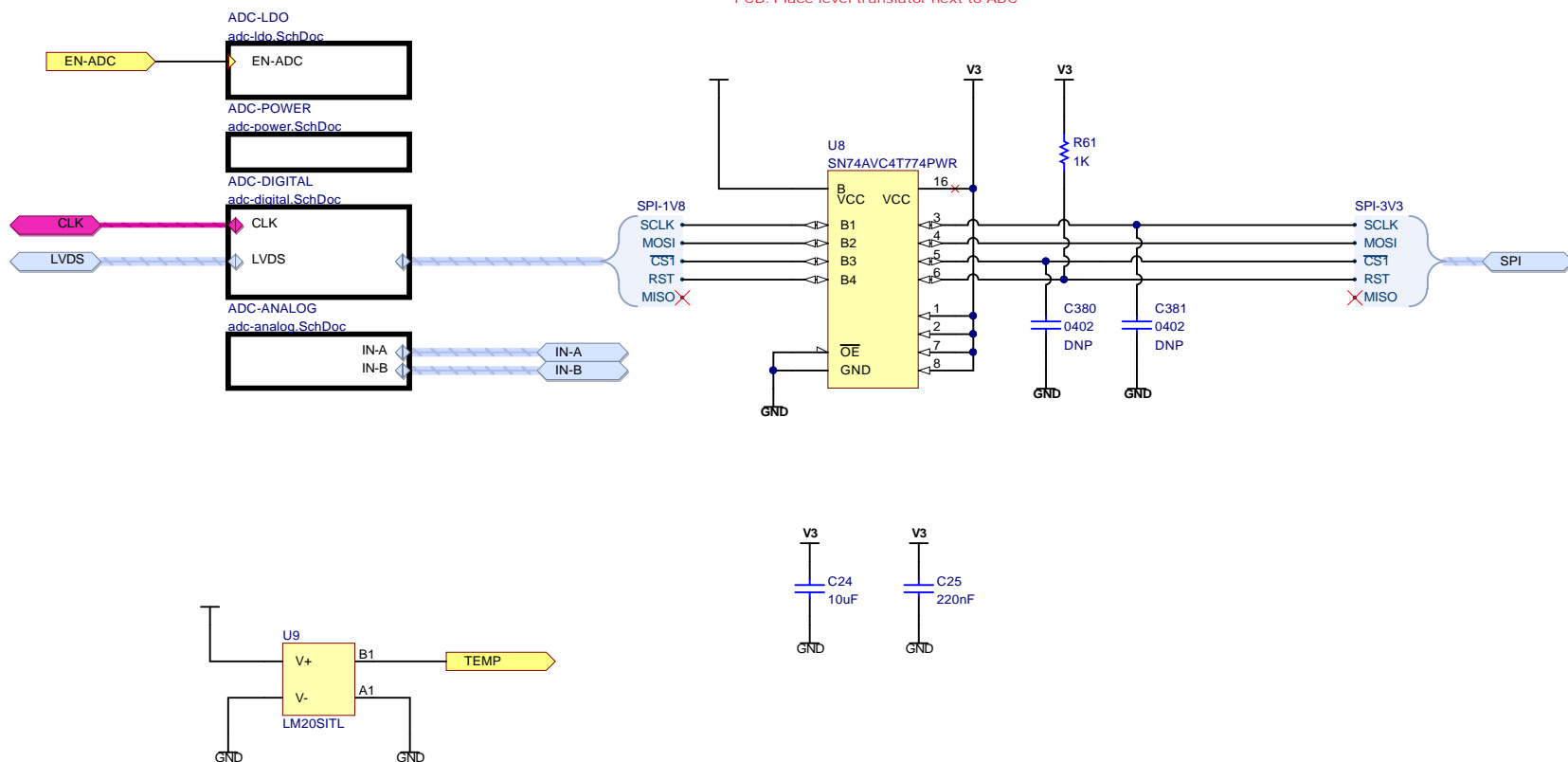
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Title  
**VSWR Meter**

Engineer  
J. Brinton  
Revision  
3

Drawn By  
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Sheet 17 of 49

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J. Brinton  
Date  
7/6/2018



PCB: Place level translator next to ADC

PCB: PLACE LM20 DIRECTLY UNDER ADS42LB69

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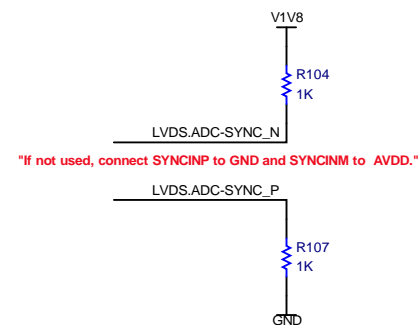
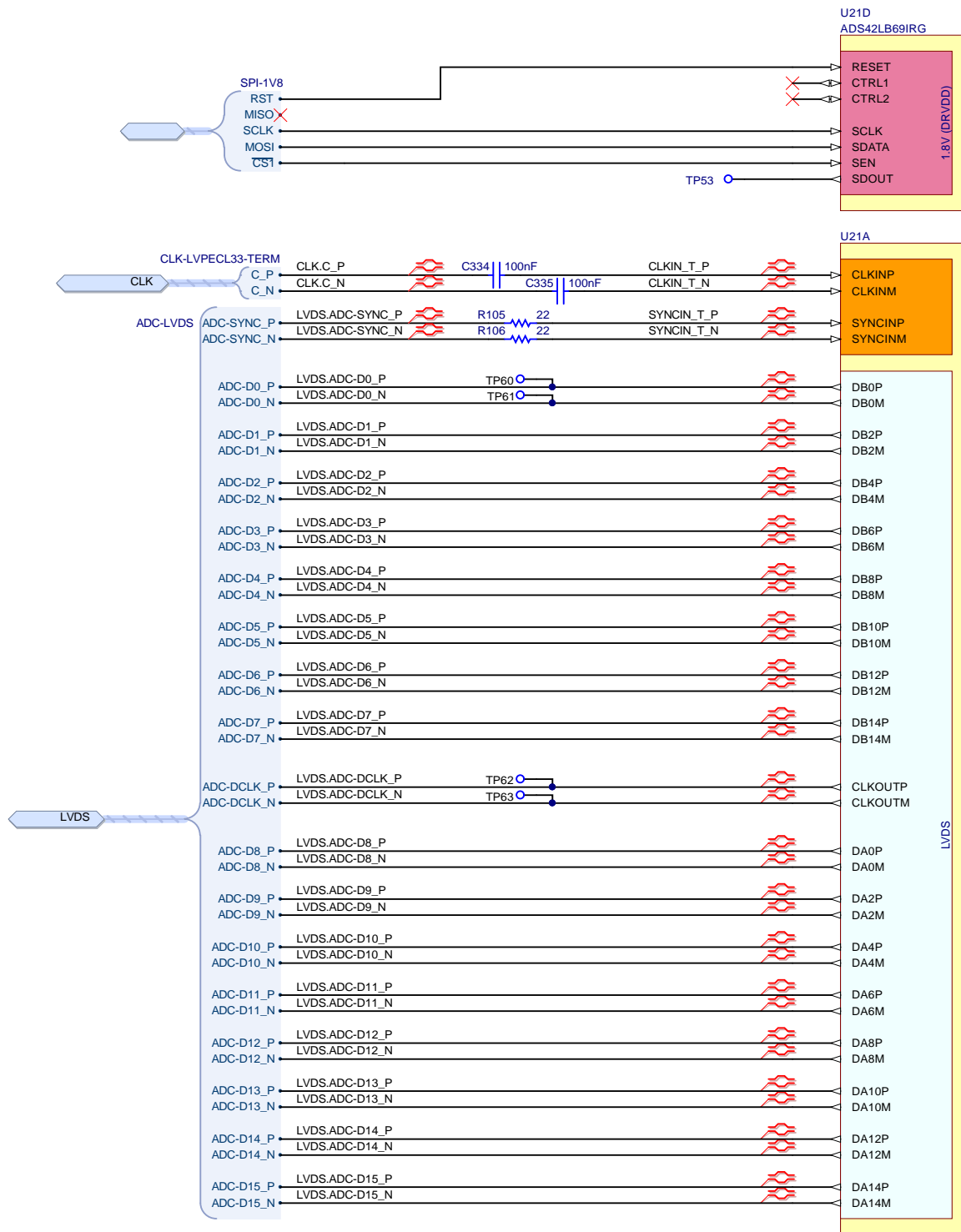
Title

ADC

Engineer  
J. Brinton  
Revision  
3

Drawn By  
J. Brinton  
Sheet 18 of 49

Checked By  
J. Brinton  
Date  
7/6/2018





A

B

C

D

A

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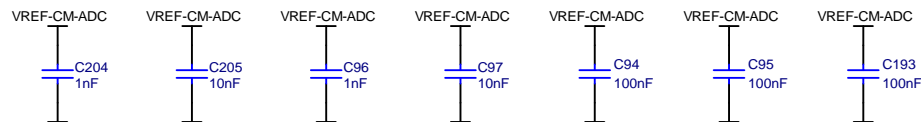
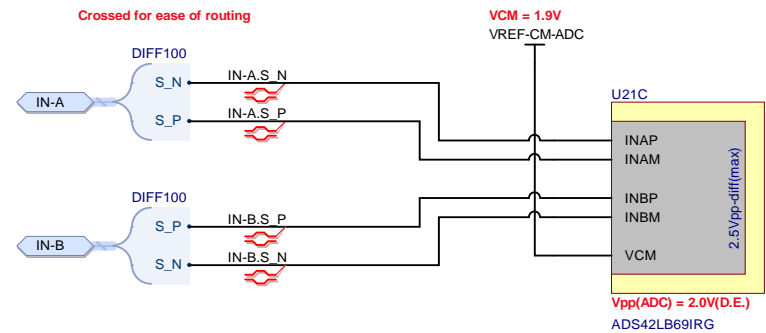
4

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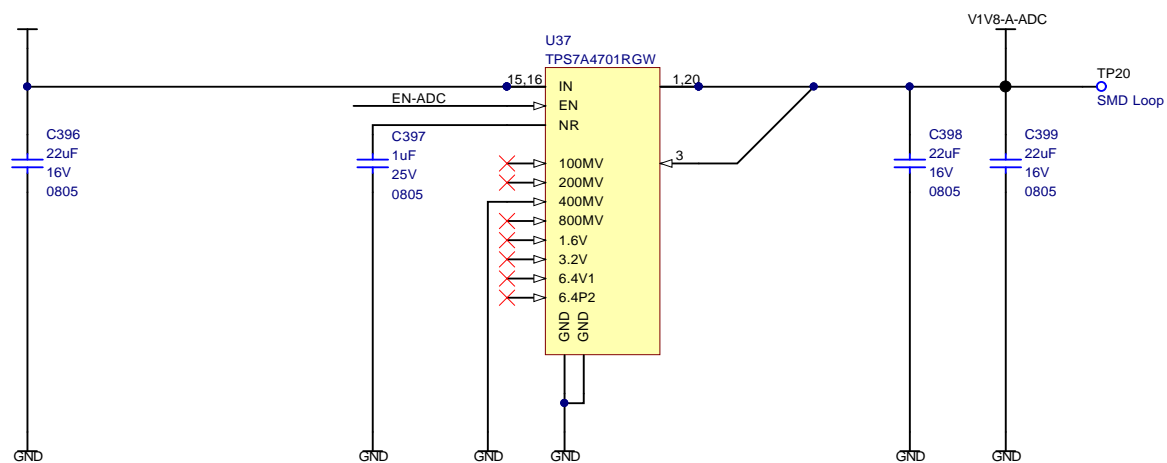
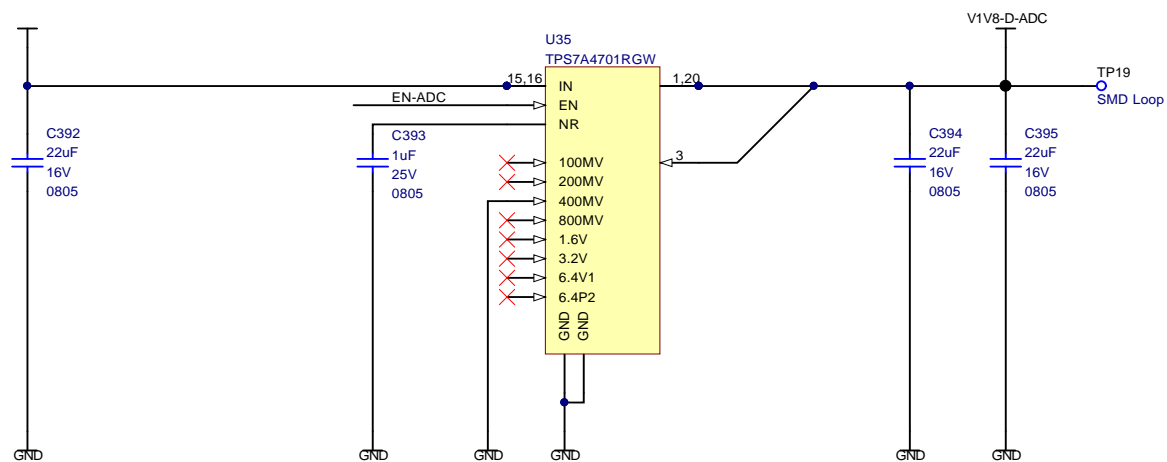
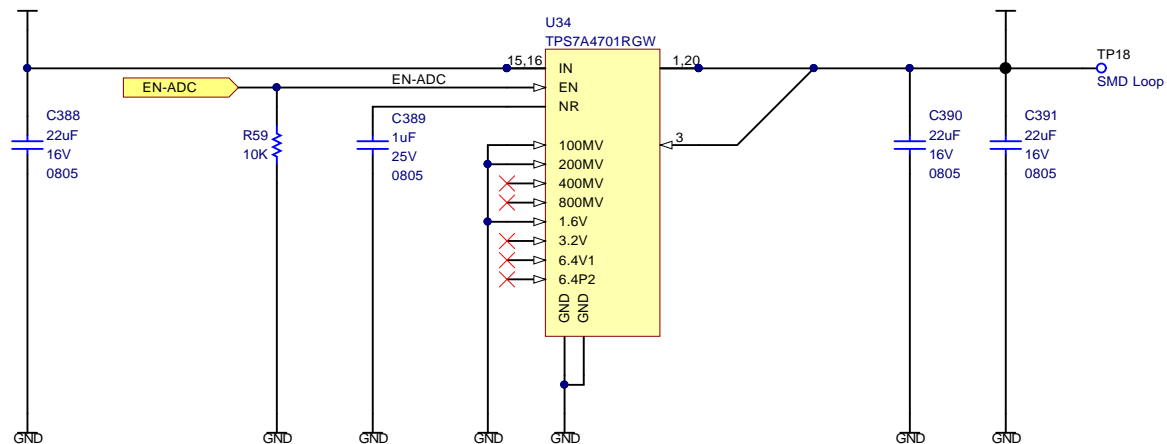
3

4



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Engineer J. Brinton	Drawn By J. Brinton		Checked By J. Brinton		
Revision 3	Sheet 21 of 49		Date 7/6/2018		

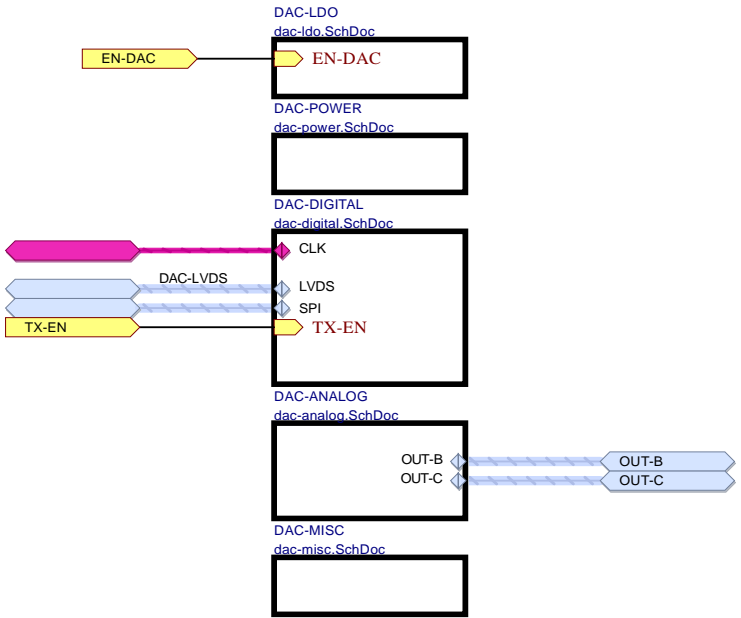




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# ADC - LDOs

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Revision 3	Sheet 23 of 49	Date 7/6/2018

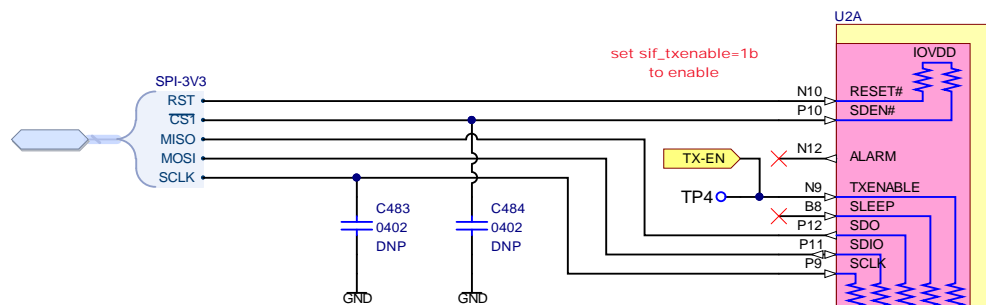


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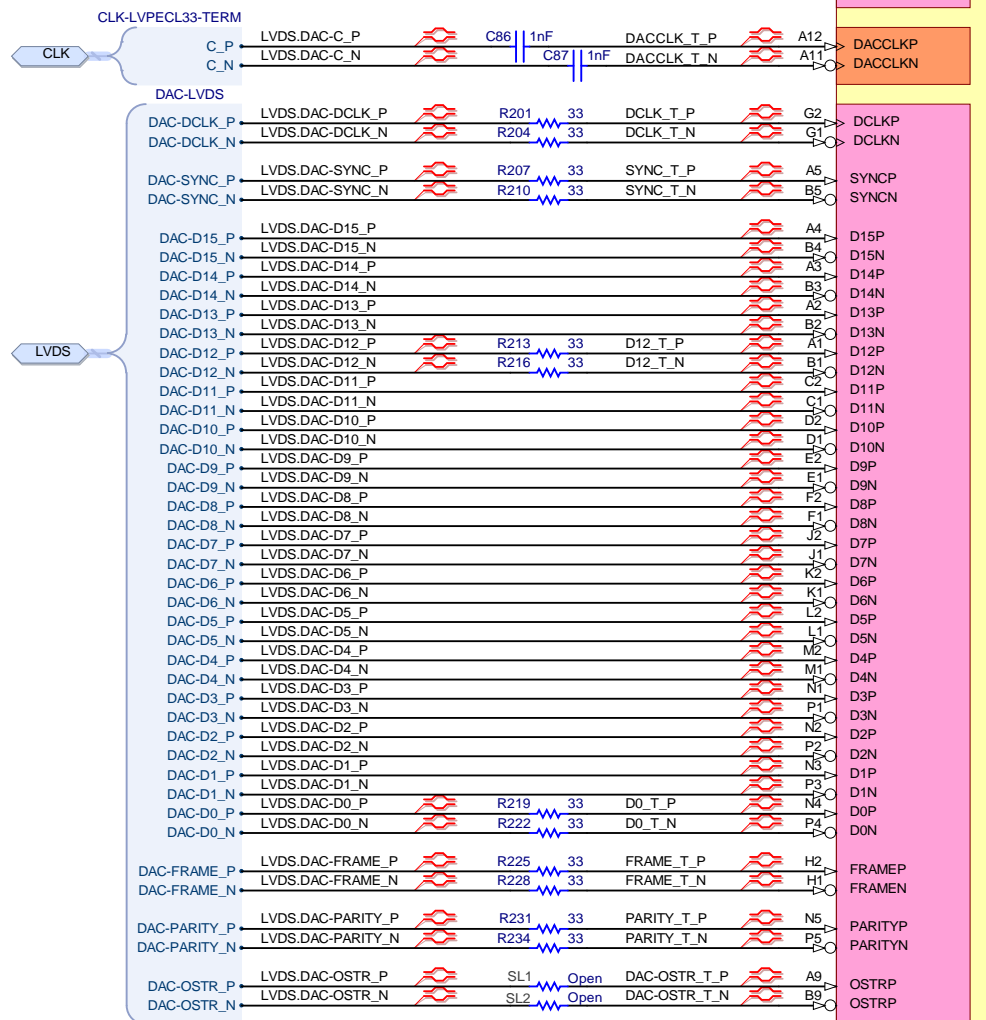
Title DAC		
Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 3	Sheet 24 of 49	Date 7/6/2018



A



B



D

DAC3484IZAY

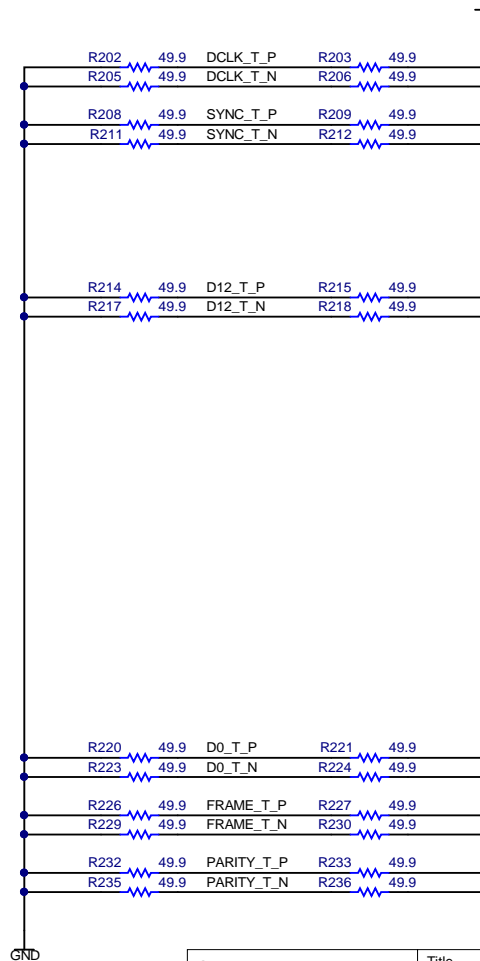
NOTE: DAC3484 has on-chip LVDS termination

NOTE: Use DAC3484 in PLL Bypass and Single Sync Source modes



CLK, SYNC, D12, D0, FRAME, PARITY have LVCMOS25 drivers and should be terminated to VTT. Set LVCMOS25 drive current to 8mA.

PCB: Place series and parallel termination resistors next to ADC.



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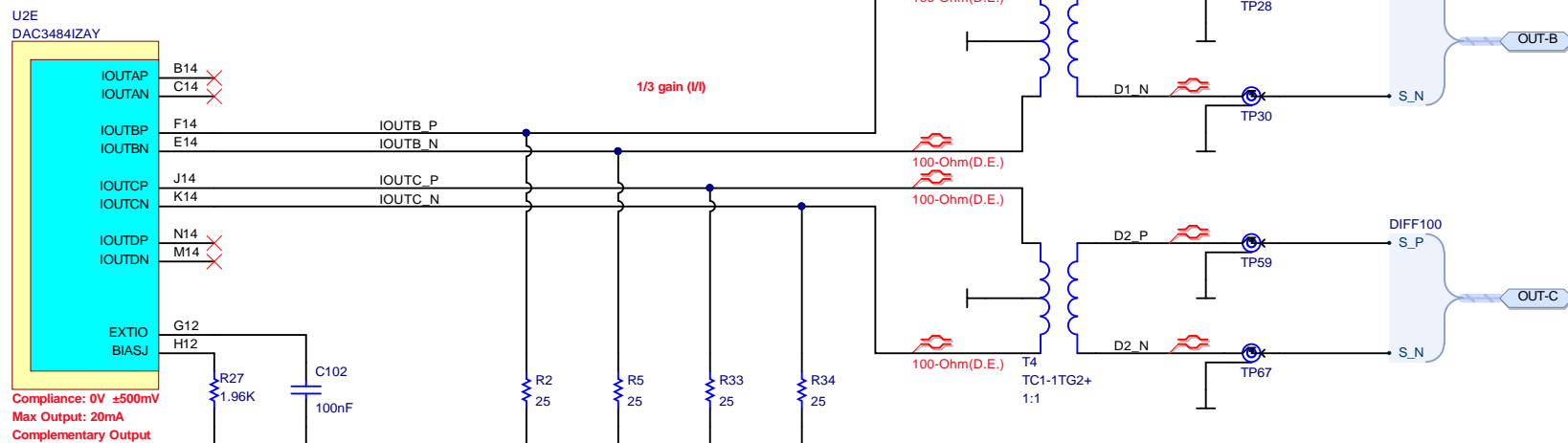
Title

DAC - Digital

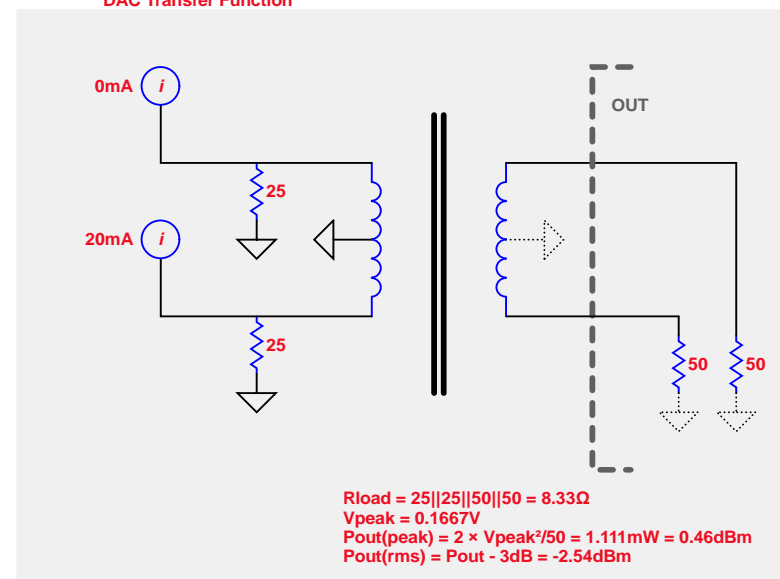
Engineer  
J. Brinton  
Revision  
3

Drawn By  
J. Brinton  
Sheet 25 of 49

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DAC Transfer Function



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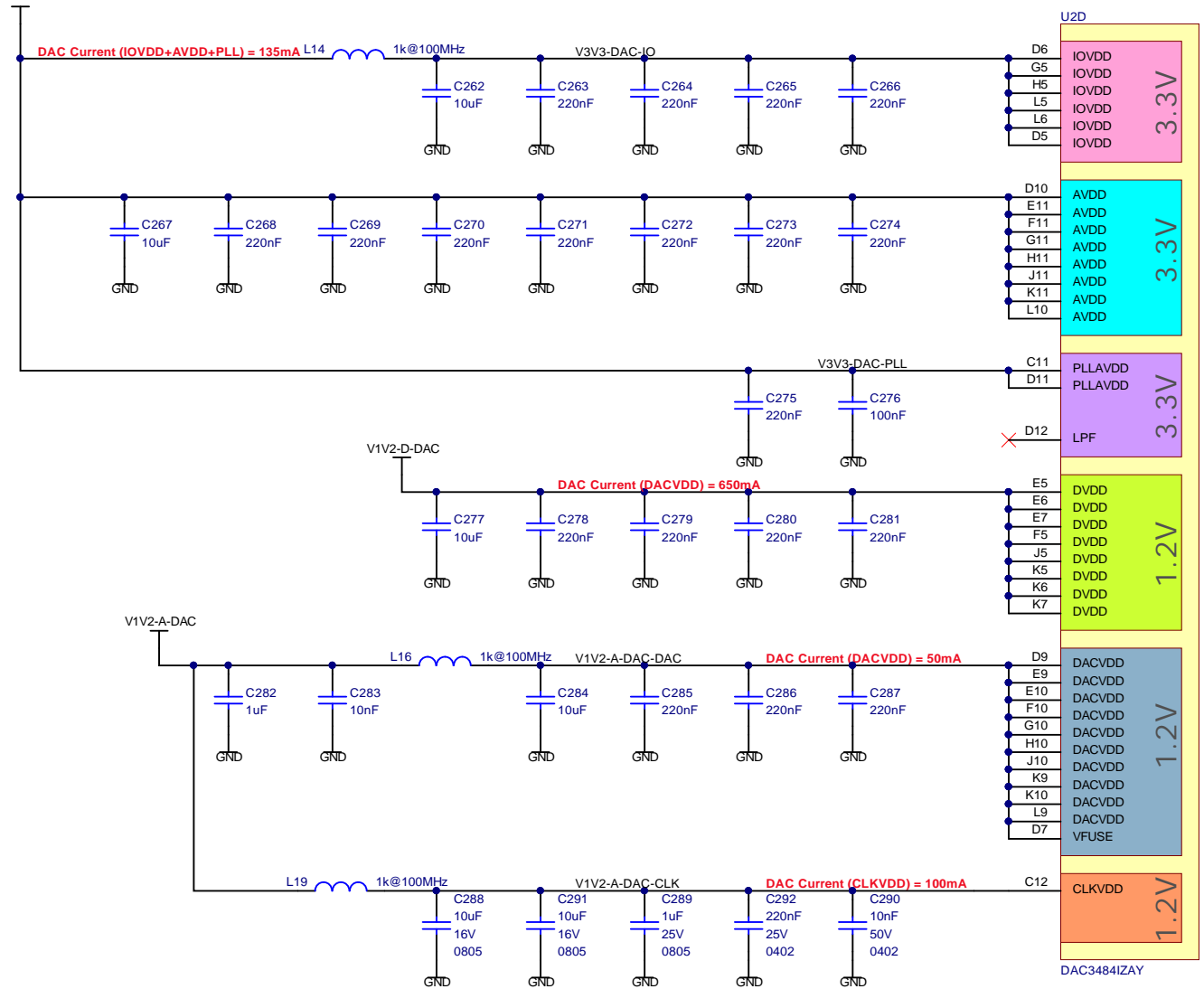
Title

DAC - Analog

Engineer  
J. Brinton  
Revision  
3

Drawn By  
J. Brinton  
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J. Brinton  
Date  
7/6/2018

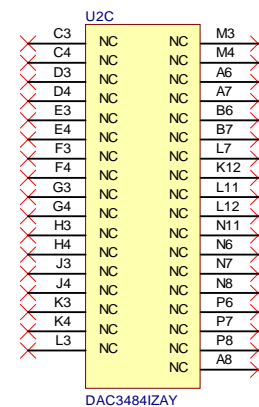


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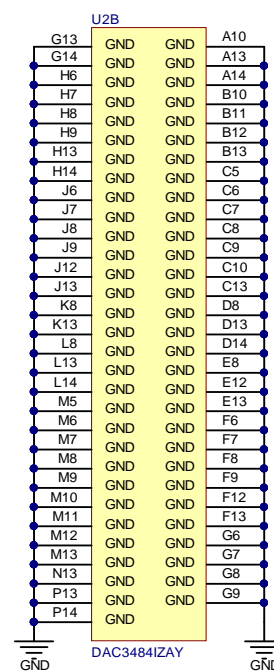
Title  
**DAC - Power**

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 3	Sheet 27 of 49	Date 7/6/2018





DAC3484IZAY



DAC3484IZAY

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Title

DAC - Misc.

Engineer  
J. Brinton

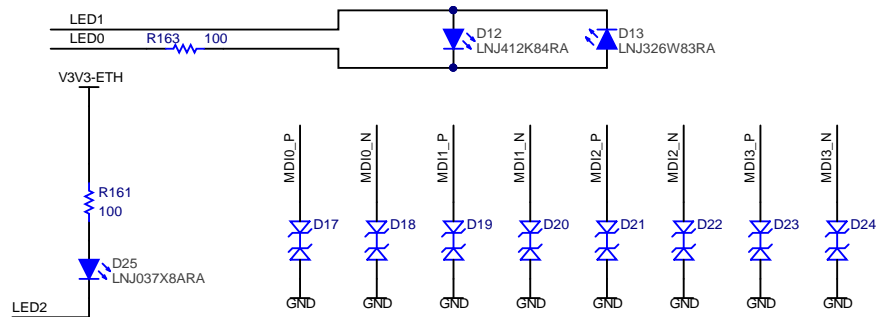
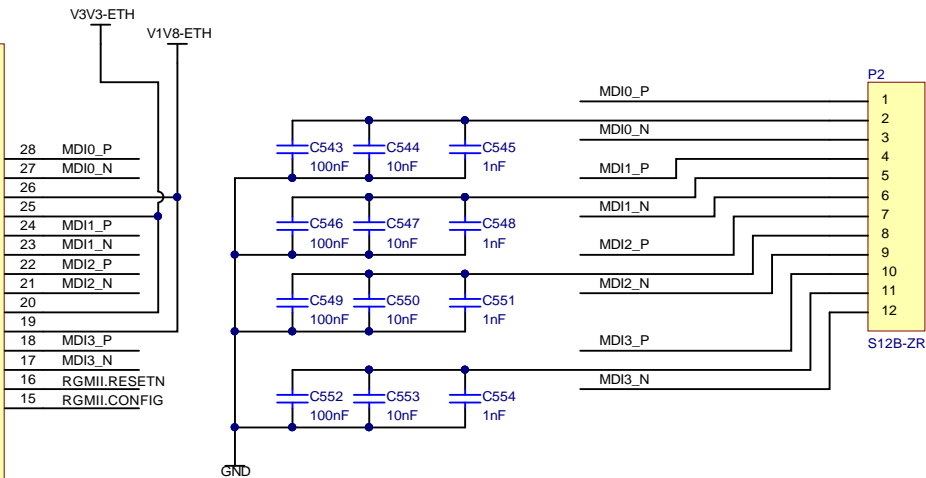
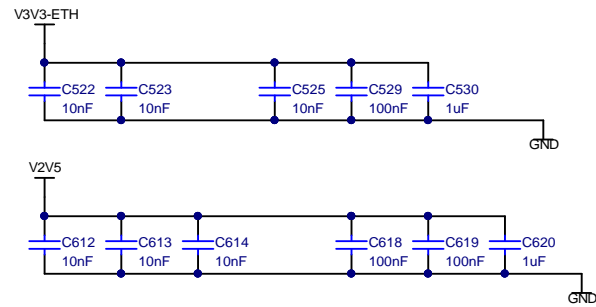
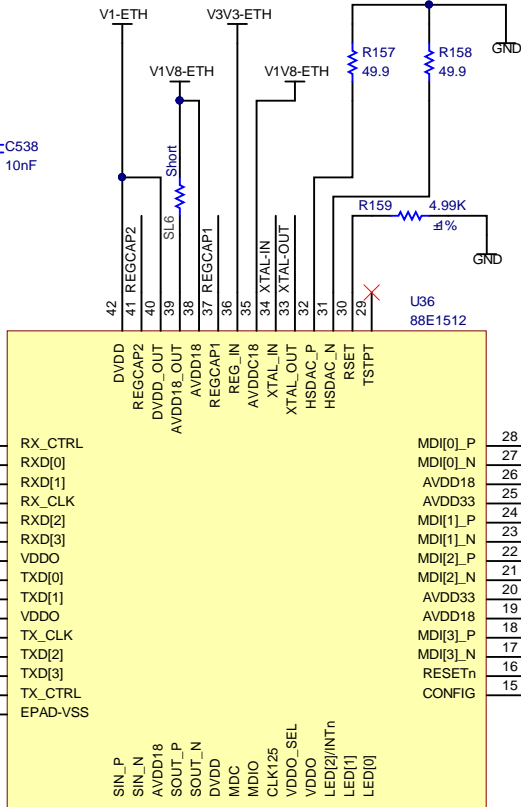
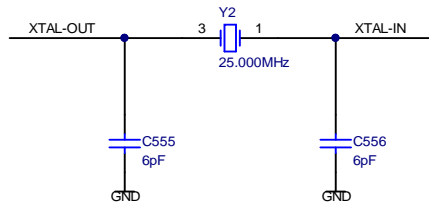
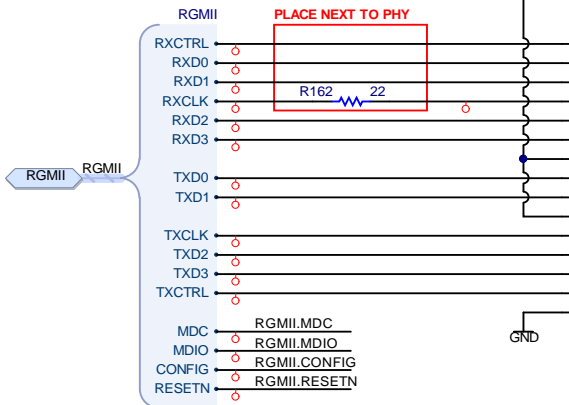
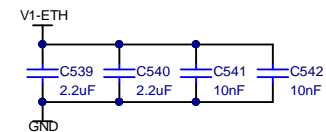
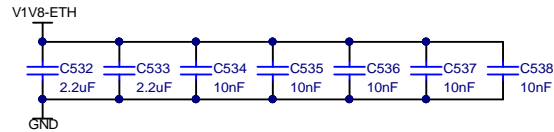
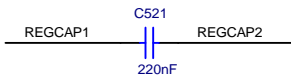
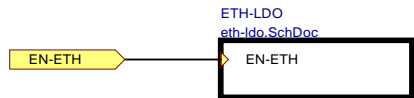
Drawn By  
J. Brinton

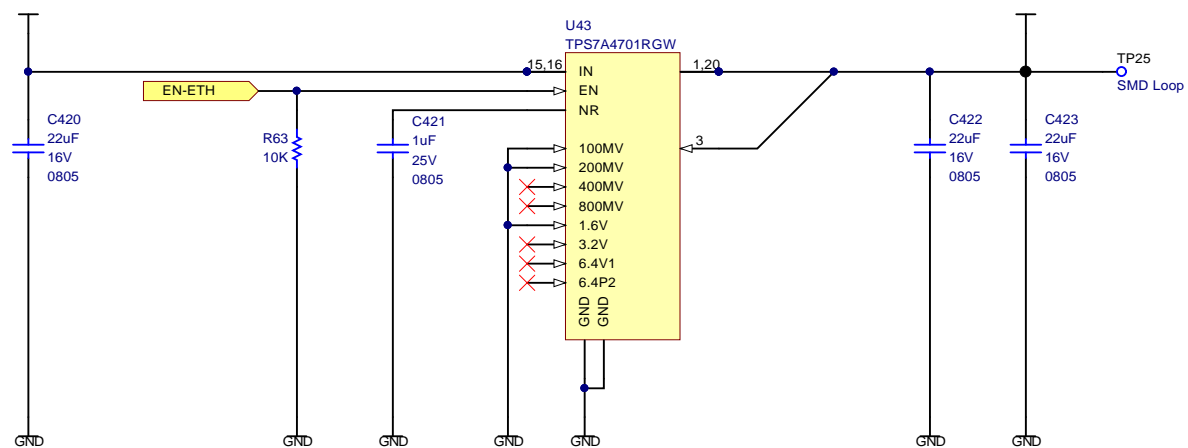
Checked By  
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3

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Title

Ethernet - LDOs

Engineer  
J. Brinton

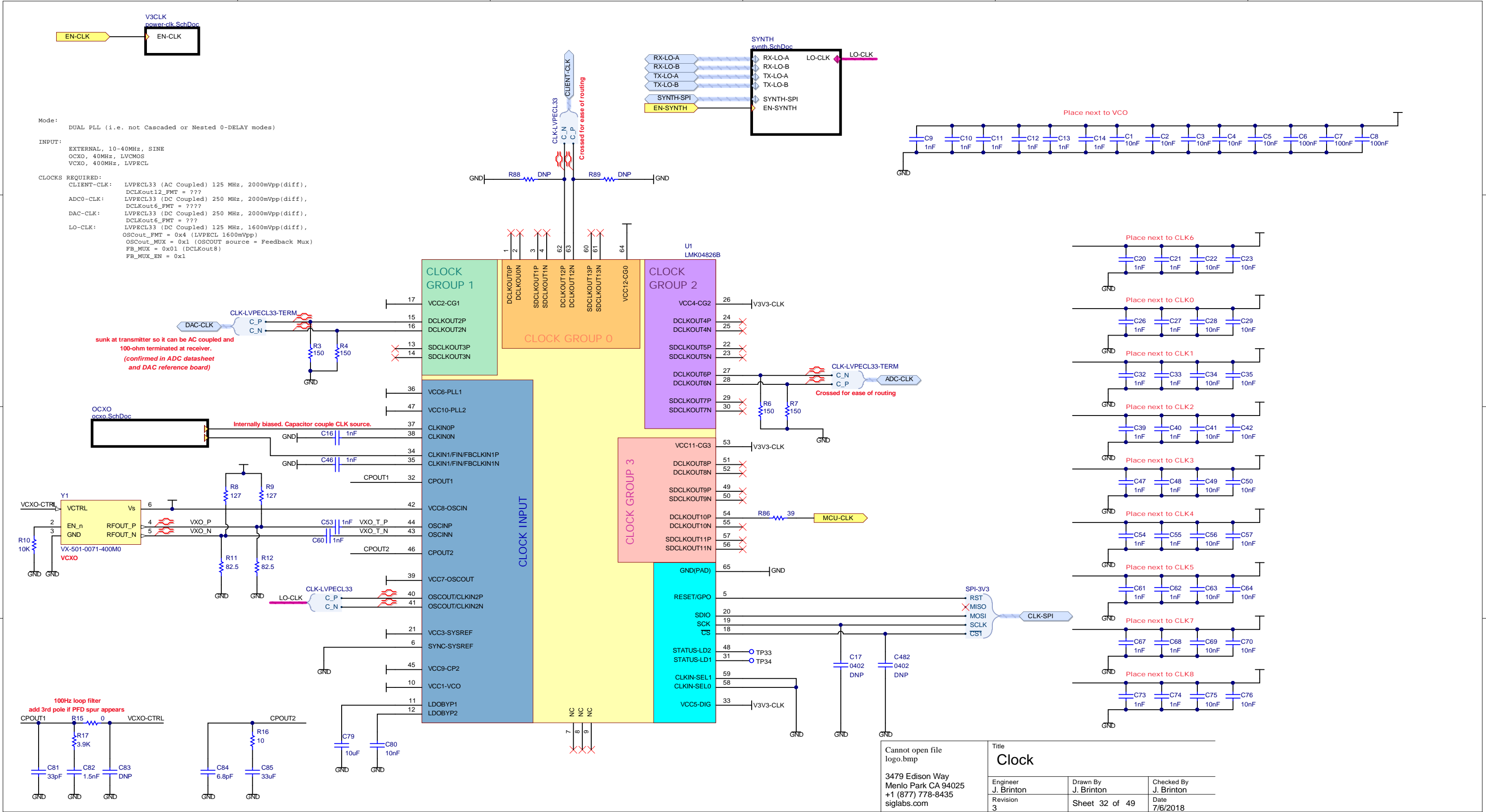
Drawn By  
J. Brinton

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J. Brinton

Revision  
3

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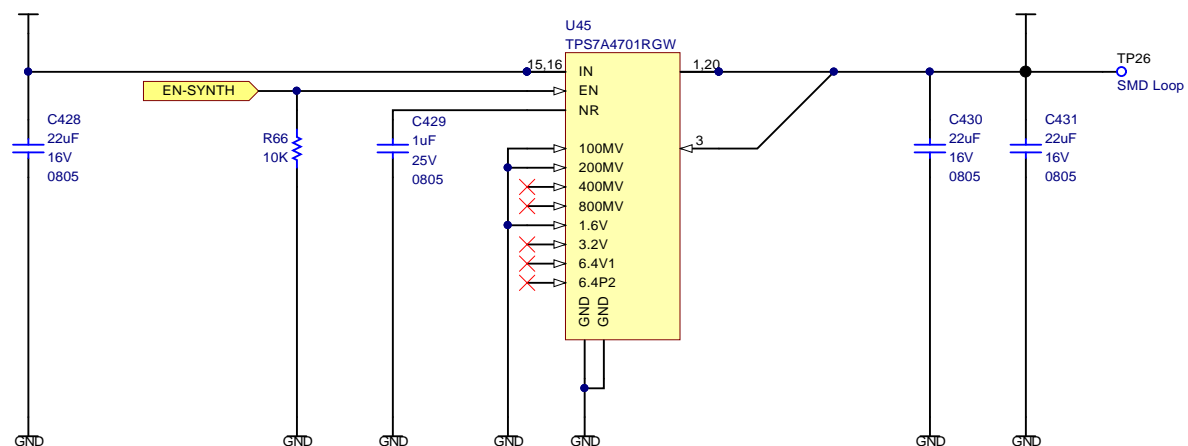
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Title

## Synthesizer - LDO

Engineer  
J. Brinton

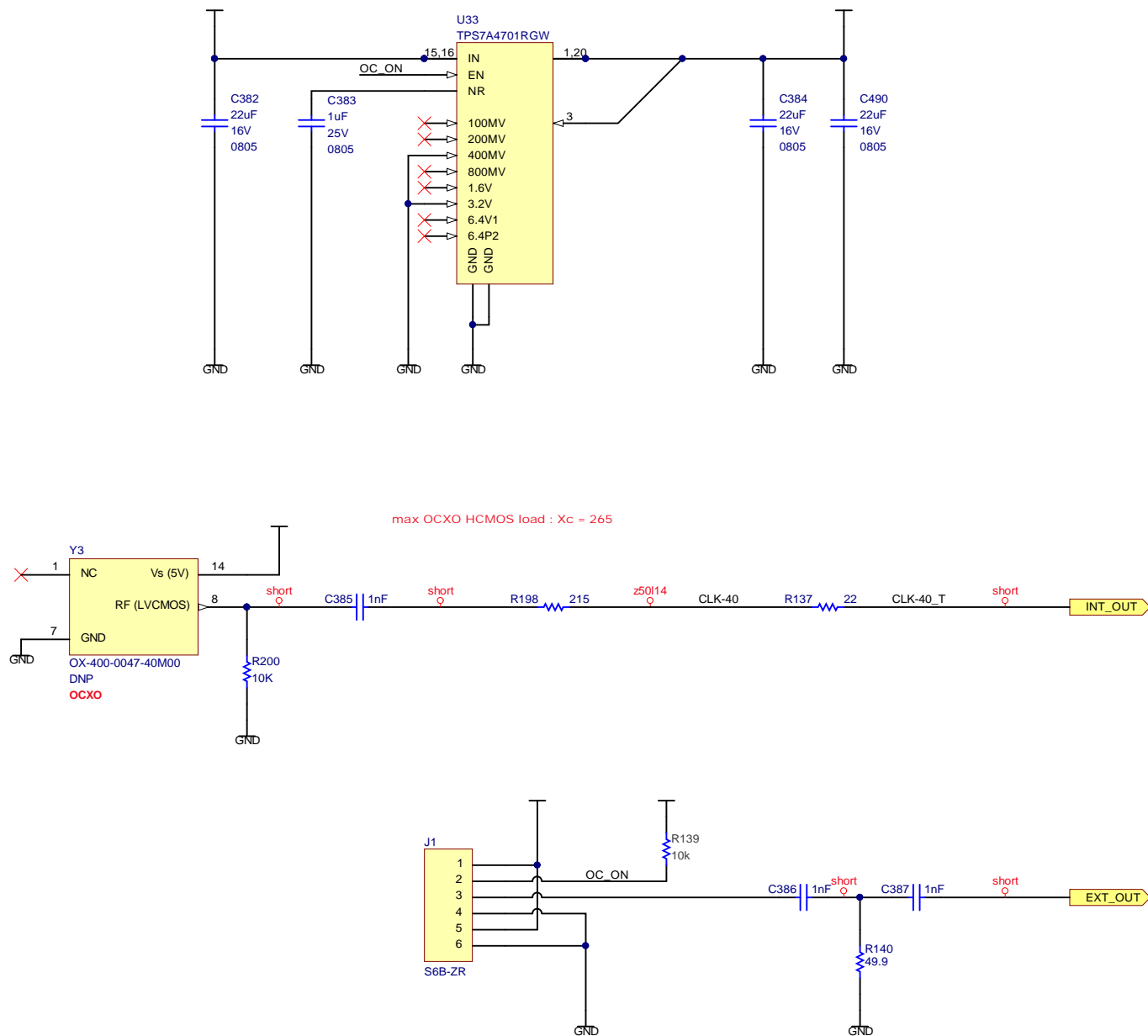
Drawn By  
J. Brinton

Checked By  
J. Brinton

Revision  
3

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Date  
7/6/2018



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Title  
**OCXO**

Engineer  
J. Brinton  
Revision  
3

Drawn By  
J. Brinton  
Sheet 36 of 49

Checked By  
J. Brinton  
Date  
7/6/2018



1

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A

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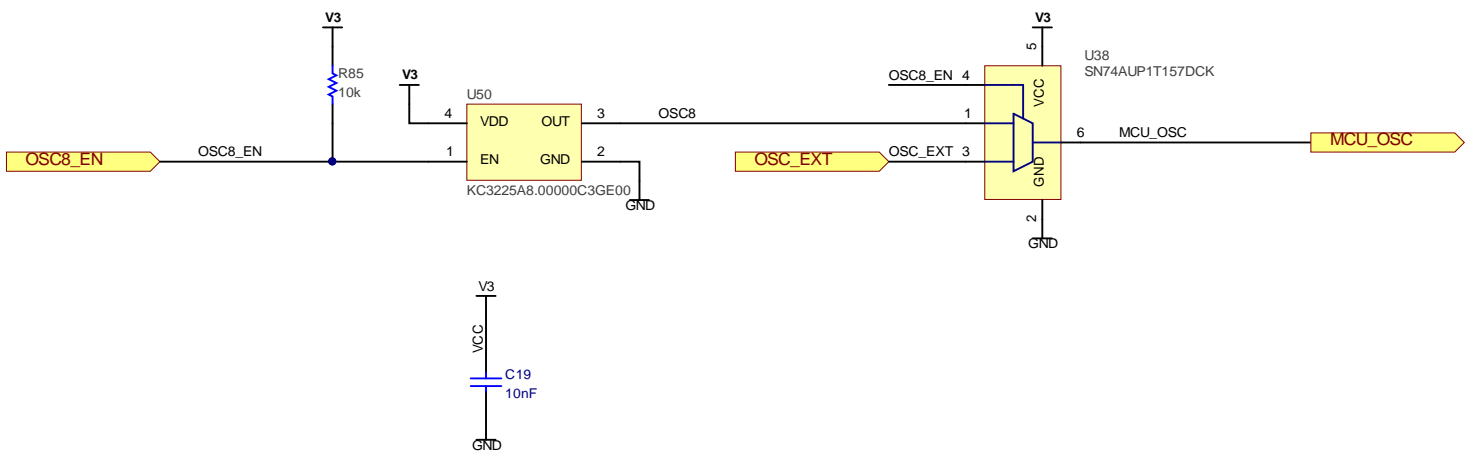
B

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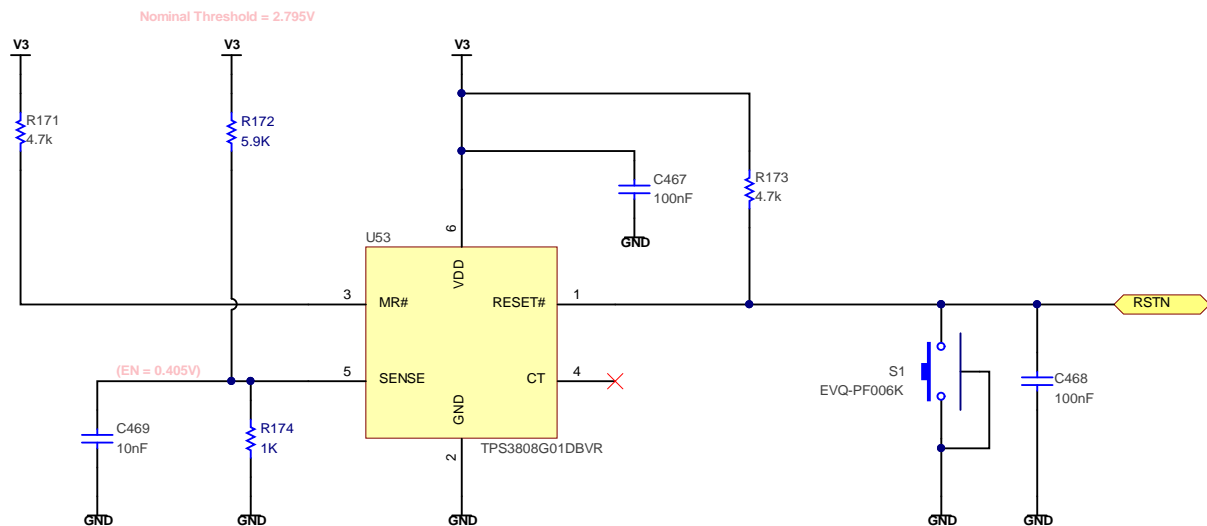
Signal Laboratories, Inc. 3479 Edison Way Menlo Park CA 94025 +1 (877) 778-8435 siglabs.com	Title <b>MCU Oscillator</b>		
	Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
	Revision 1	Sheet 38 of 49	Date 7/6/2018

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Title

**Reset**

Engineer  
J. Brinton

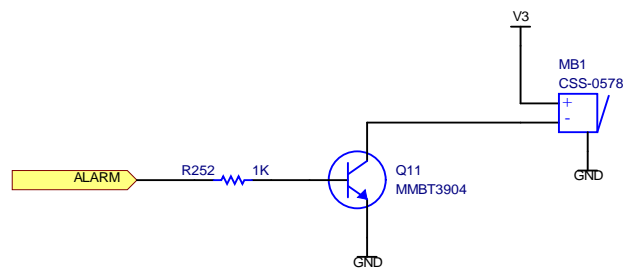
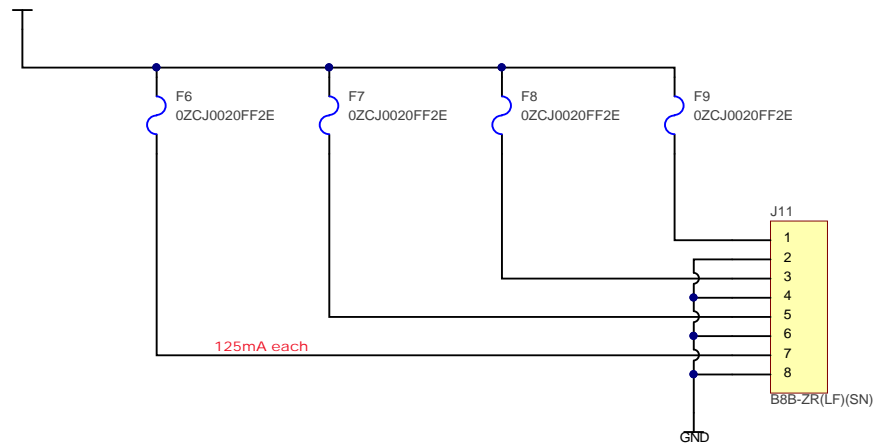
Drawn By  
J. Brinton

Checked By  
J. Brinton

Revision  
3

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7/6/2018





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A

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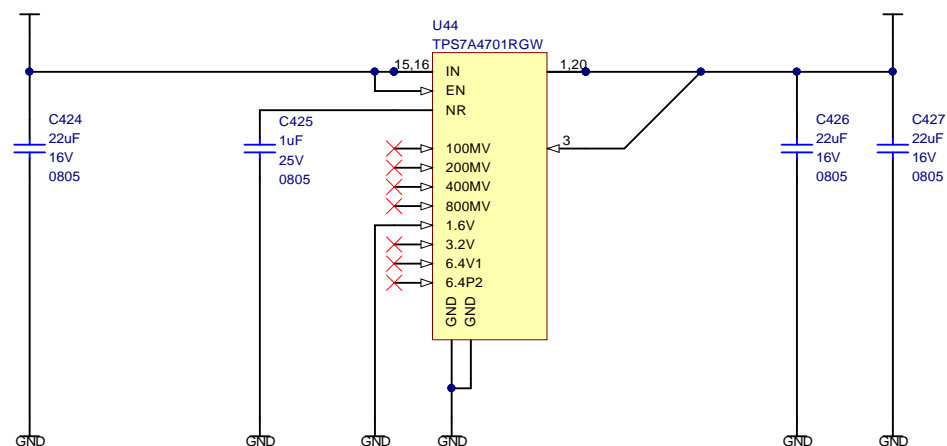
B

C

C

D

D



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Title

**Power 3V**

Engineer  
J. Brinton

Drawn By  
J. Brinton

Checked By  
J. Brinton

Revision  
3

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7/6/2018

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A

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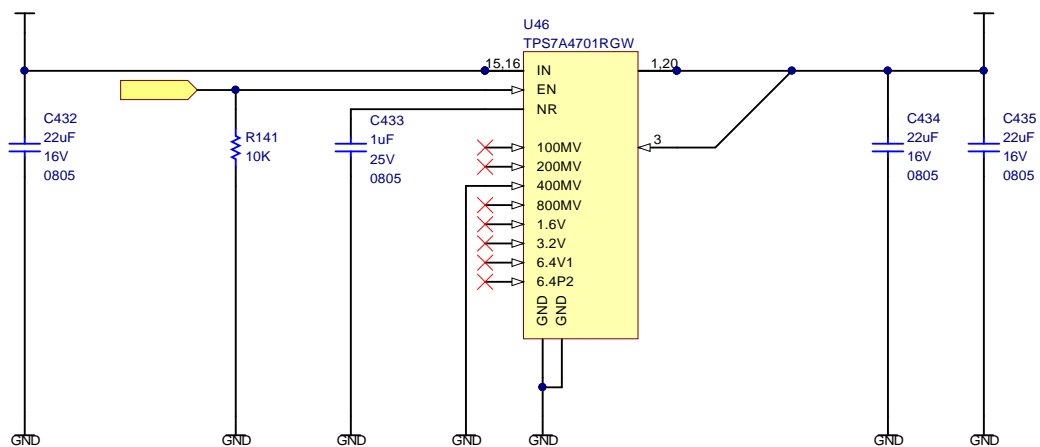
B

C

C

D

D



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Title

**Power 1.8V**

Engineer  
J. Brinton

Drawn By  
J. Brinton

Checked By  
J. Brinton

Revision  
3

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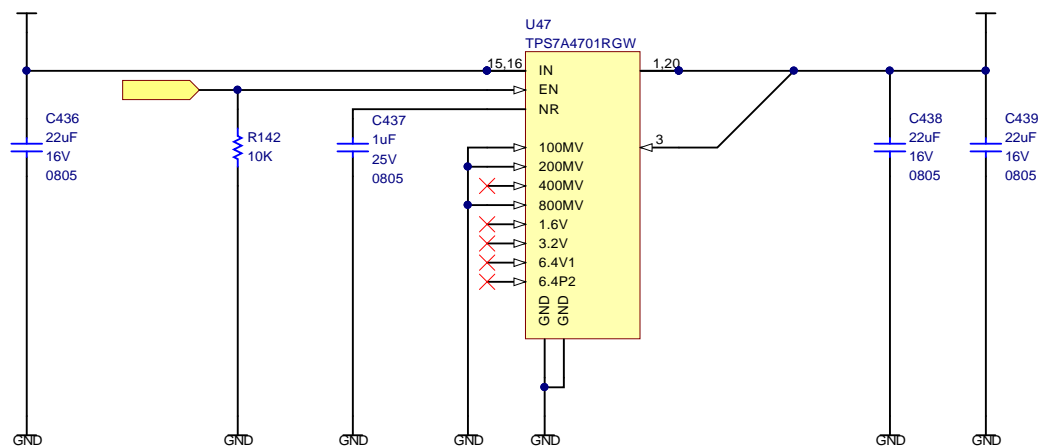
Date  
7/6/2018

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Title

**Power 2.5V**

Engineer  
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Drawn By  
J. Brinton

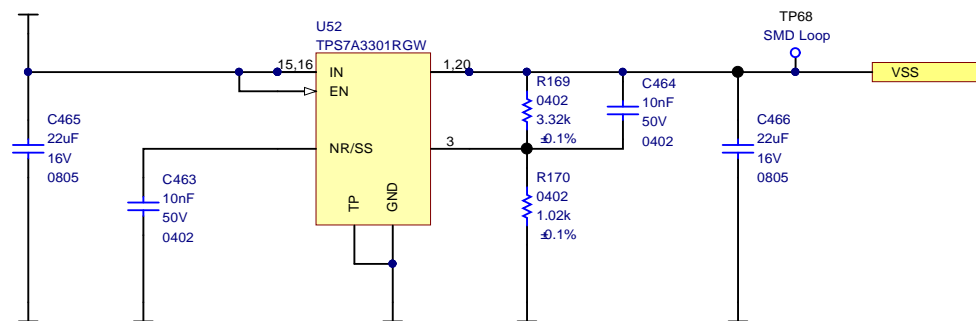
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Menlo Park CA 94025  
+1 (877) 778-8435  
siglabs.com

Title

**Power -5V**

Engineer  
J. Brinton

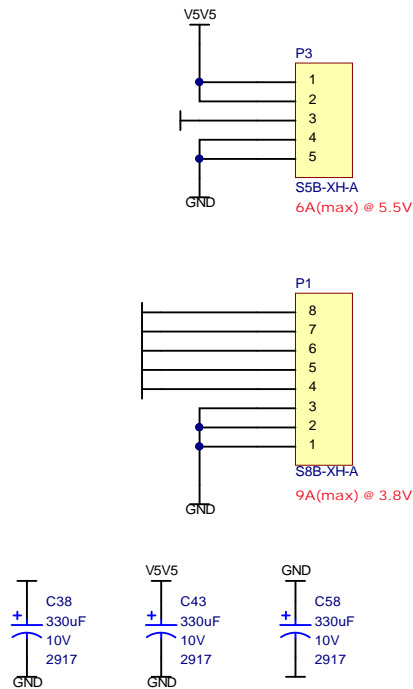
Revision  
3

Drawn By  
J. Brinton

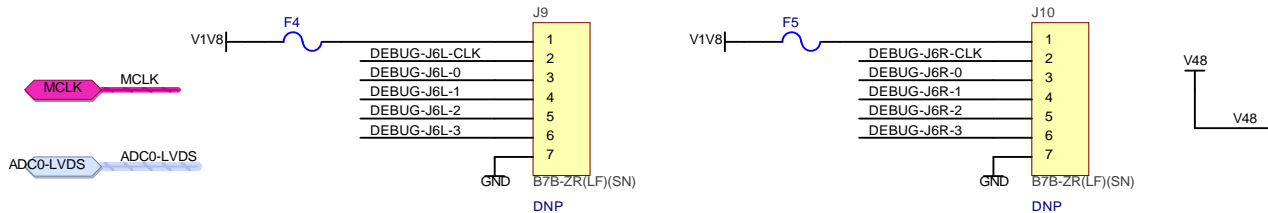
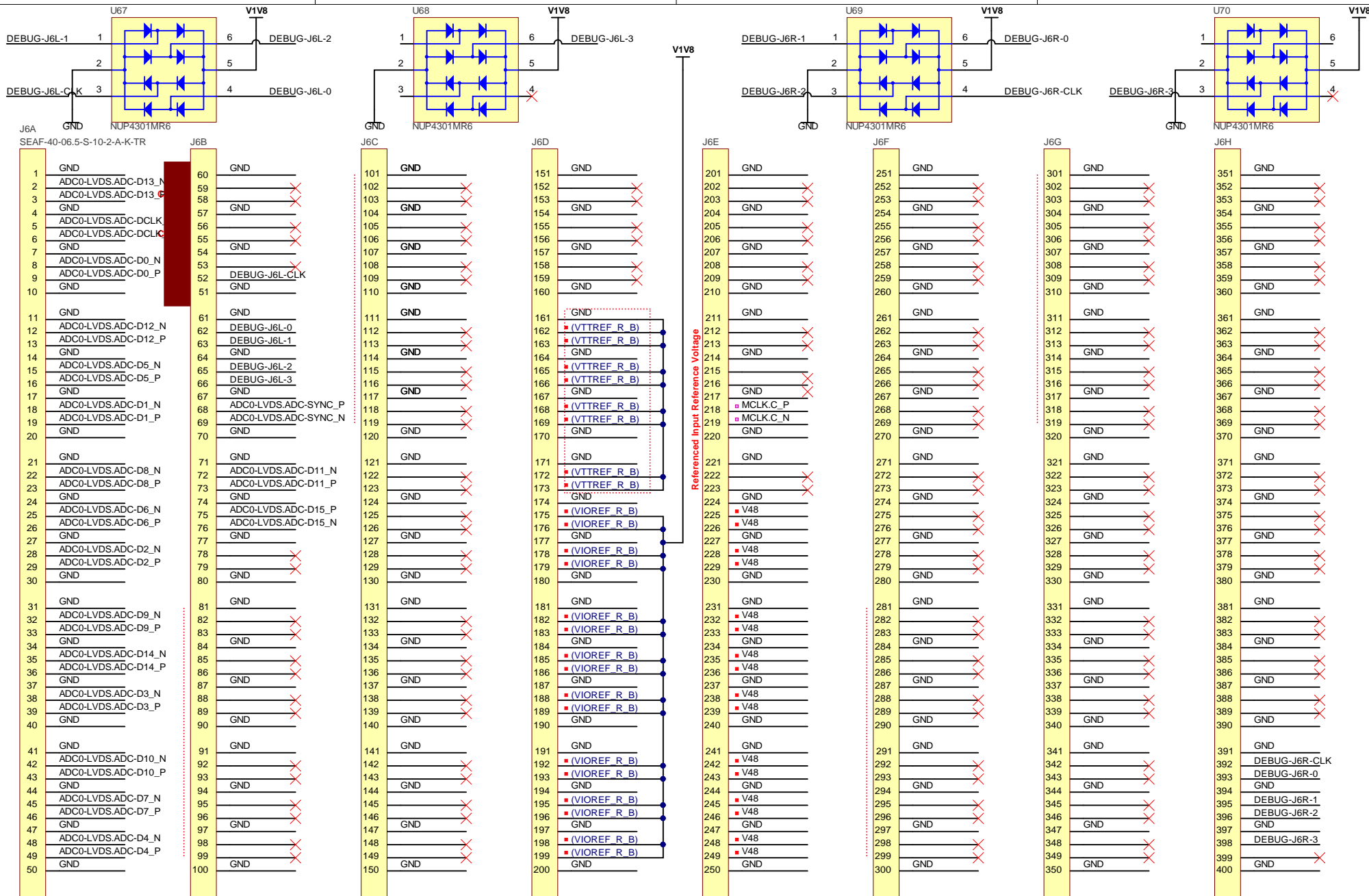
Sheet 45 of 49

Checked By  
J. Brinton

Date  
7/6/2018



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Engineer J. Brinton		Drawn By J. Brinton		Checked By J. Brinton	
Revision 3		Sheet 46 of 49		Date 7/6/2018	



Title		
Right Bottom Connector		
Engineer	Drawn By	Checked By
J. Brinton	J. Brinton	J. Brinton
Revision	Sheet	Date
3	47 of 49	7/6/2018





