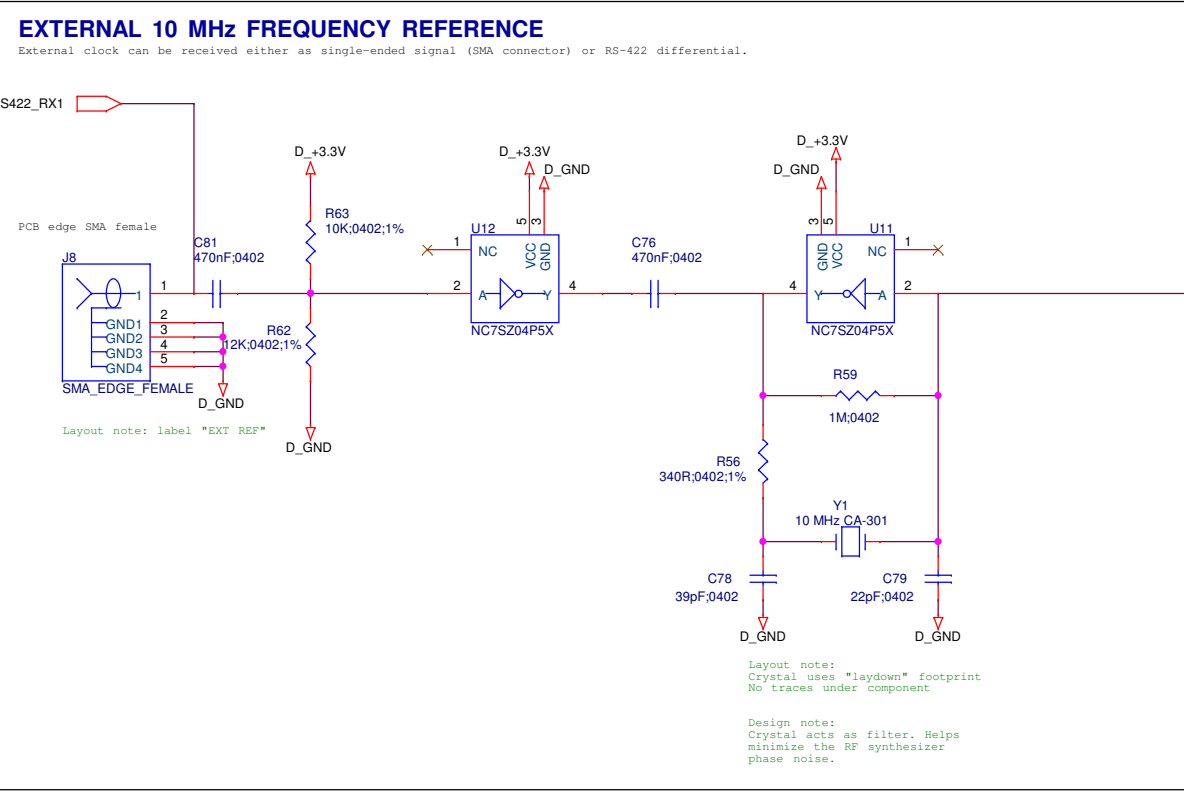
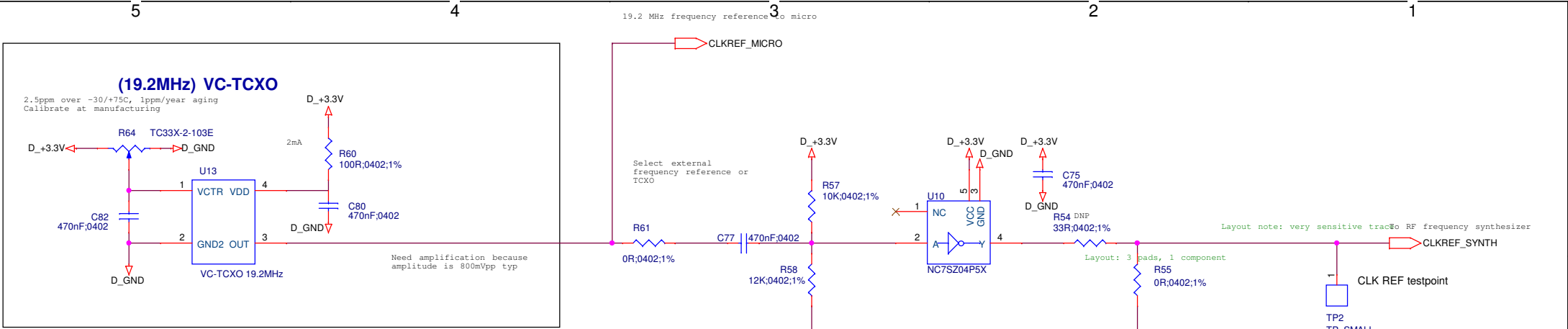


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Title <b>COM-4009 / MAIN</b>		
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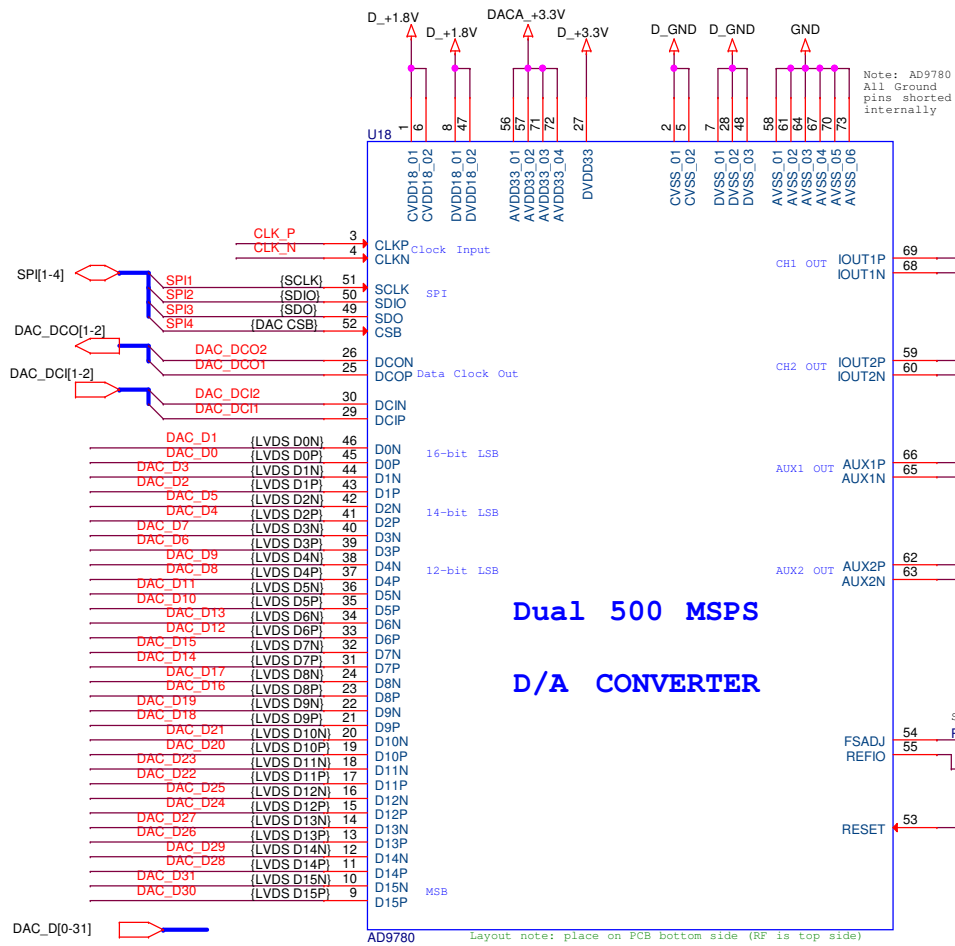
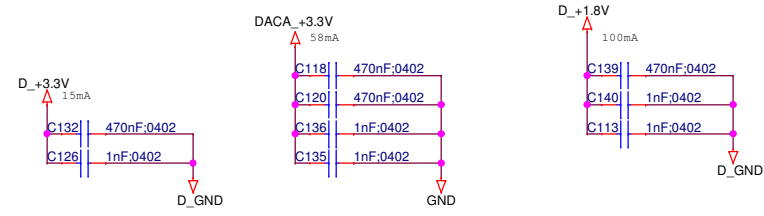
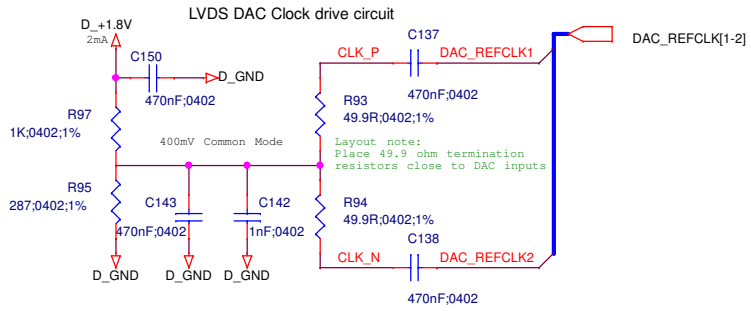




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5 4 3 2 1

5 4 3 2 1

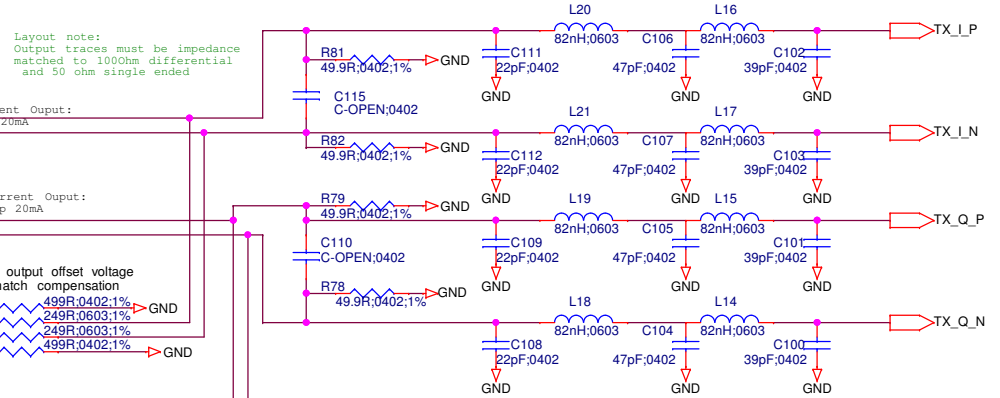


## Dual 500 MSPS D/A CONVERTER

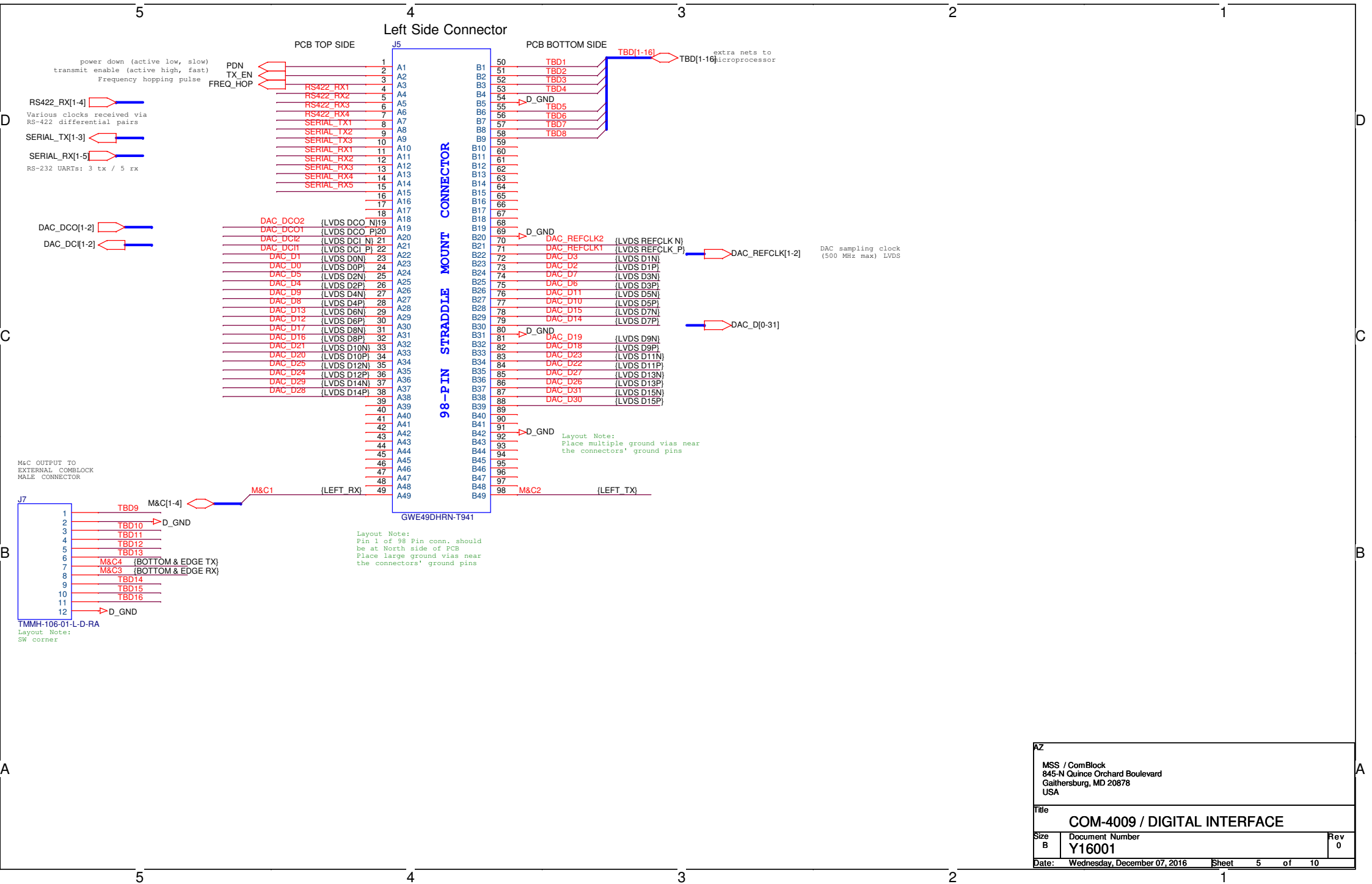
DAC Output:  
1Vpp (diff) + 500mV DC bias

### I to V Conversion

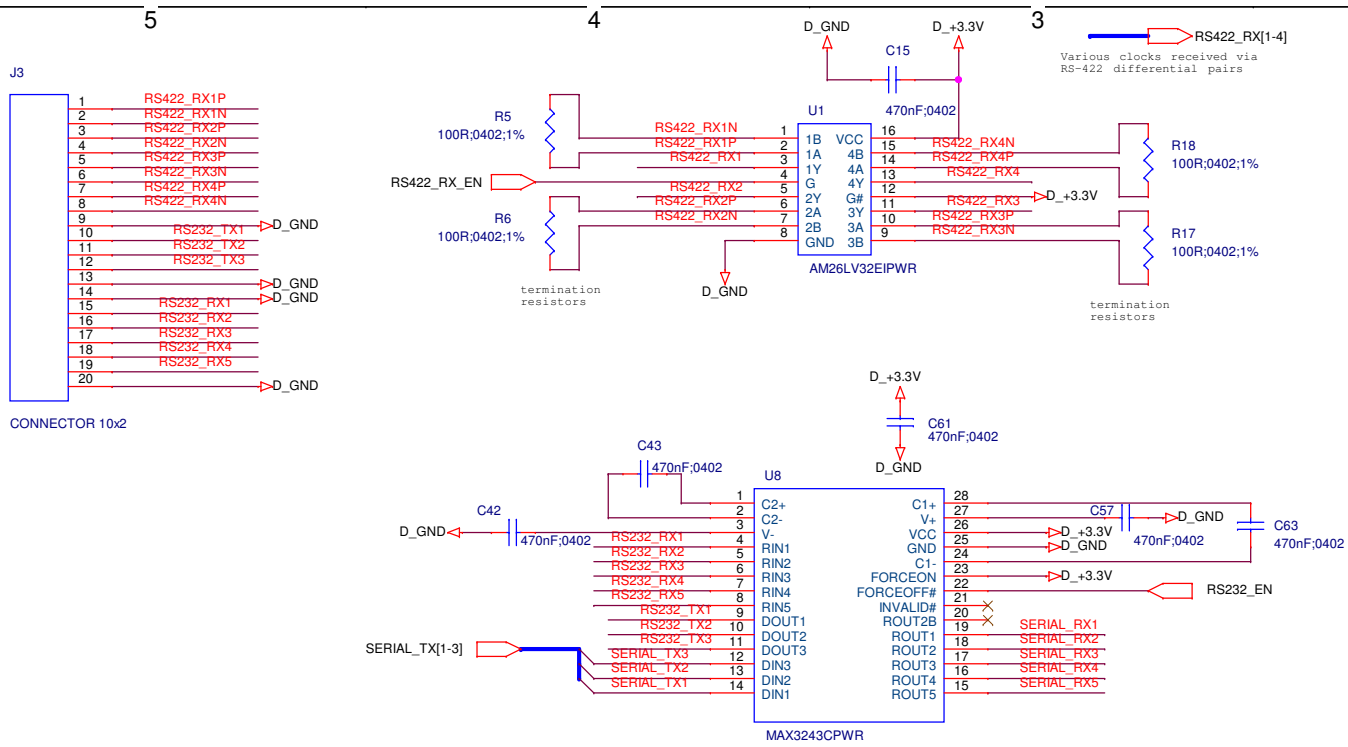
### Low Pass Filter



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Title <b>COM-4009 / DIGITAL INTERFACE</b>		
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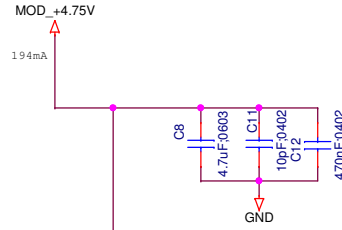
J3

1	RS422_RX1P
2	RS422_RX1N
3	RS422_RX2P
4	RS422_RX2N
5	RS422_RX3P
6	RS422_RX3N
7	RS422_RX4P
8	RS422_RX4N
9	RS232_TX1
10	RS232_TX2
11	RS232_TX3
12	RS232_TX3
13	D_GND
14	D_GND
15	D_GND
16	RS232_RX1
17	RS232_RX2
18	RS232_RX3
19	RS232_RX4
20	RS232_RX5
	D_GND

CONNECTOR 10x2

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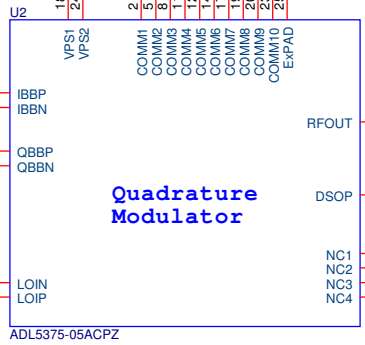
Layout note:  
Add SHIELD PAD for SHIELD FENCE for the modulator + follow-on amp.



Vin = 1Vpp differential (0.5Vpp on each input)  
Input common-mode level = 500 mV dc

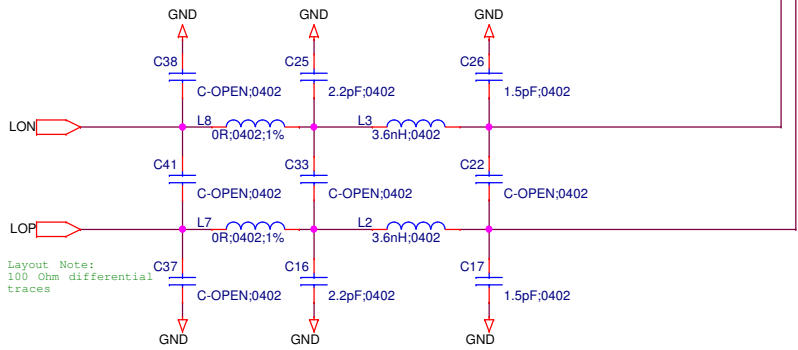
BASEBAND  
I-CHANNEL

BASEBAND  
Q-CHANNEL

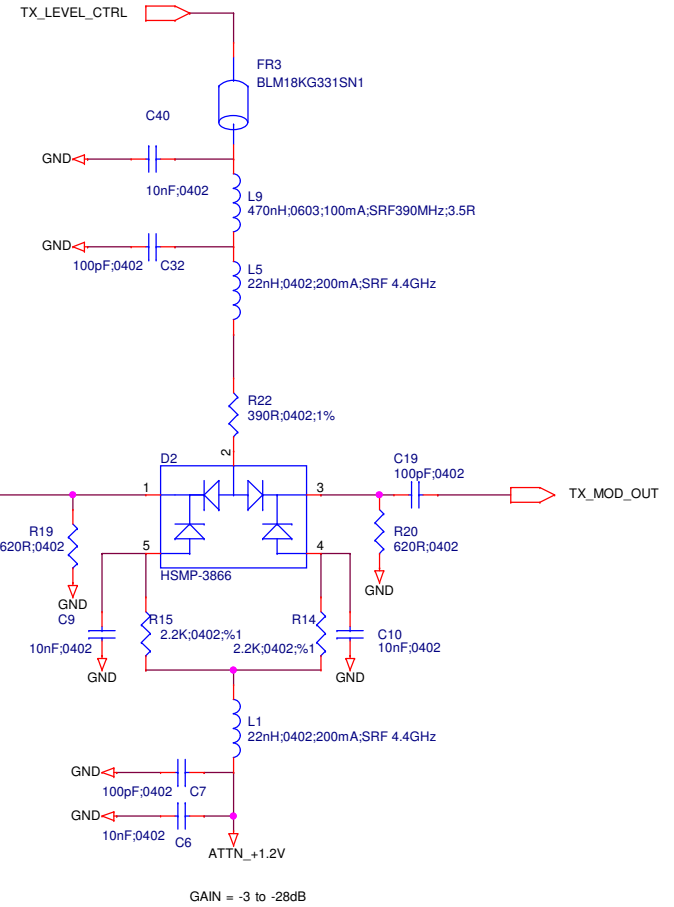


Layout note:  
IBBP&IBBN and QBBP&QBPN lines are 100 Ohm differential pairs.

Source: ADL5375 table 4 (interfacing with ADF4351)  
Four different sets of caps/inductors depending on  
the frequency range. Baseline is 1250-2800 MHz



LO harmonics rejection



GAIN = -3 to -28dB

AK + AZ		
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**+5V DC Supply**  
**OPERATIONAL RANGE: 4.9 - 5.5V**

**Filter**

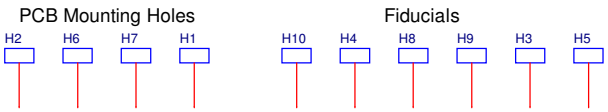
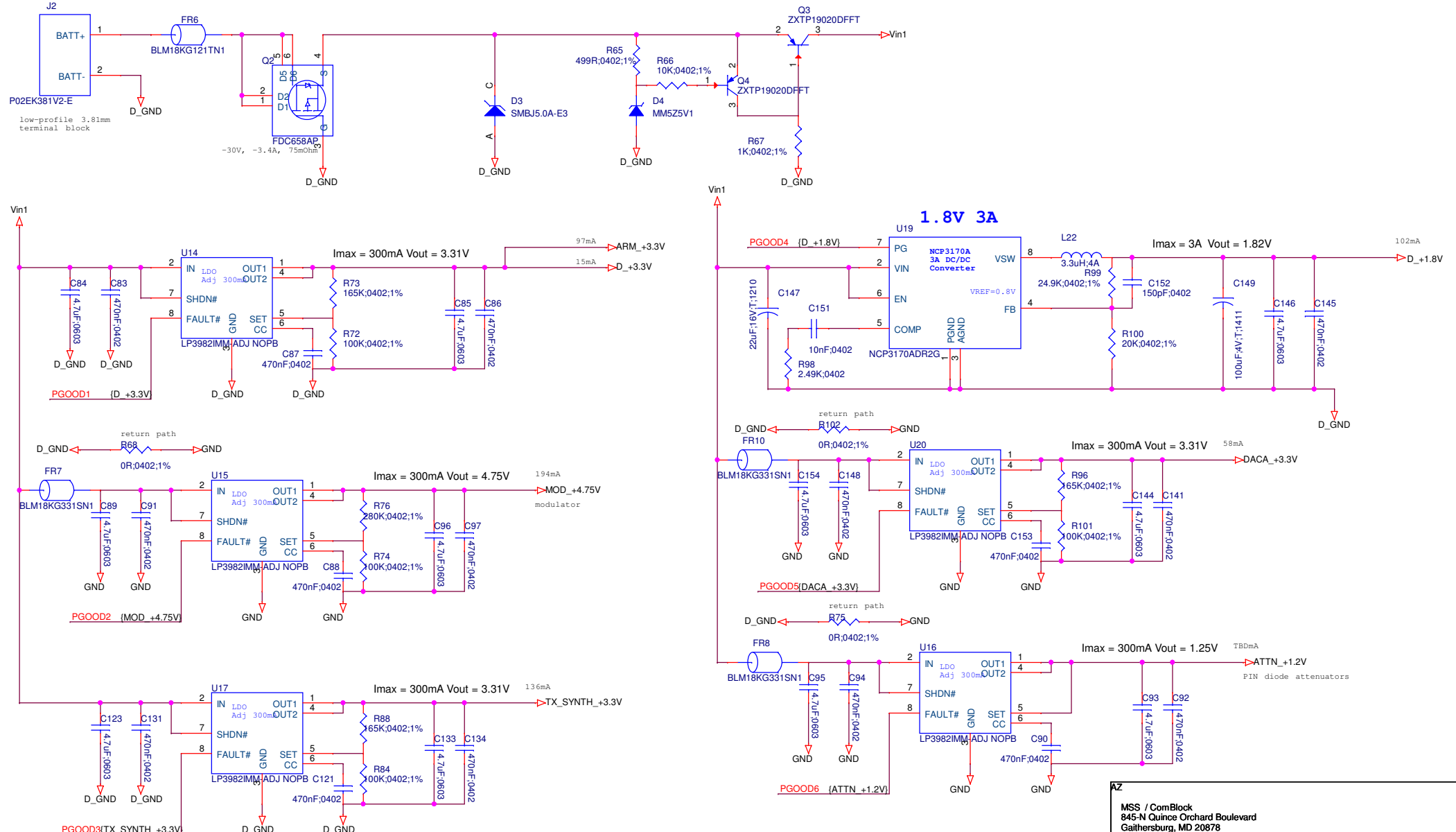
**Reverse Voltage Protection**

**Transient Voltage Suppression**

**Over Voltage Protection (5.85V, 1.5A)**

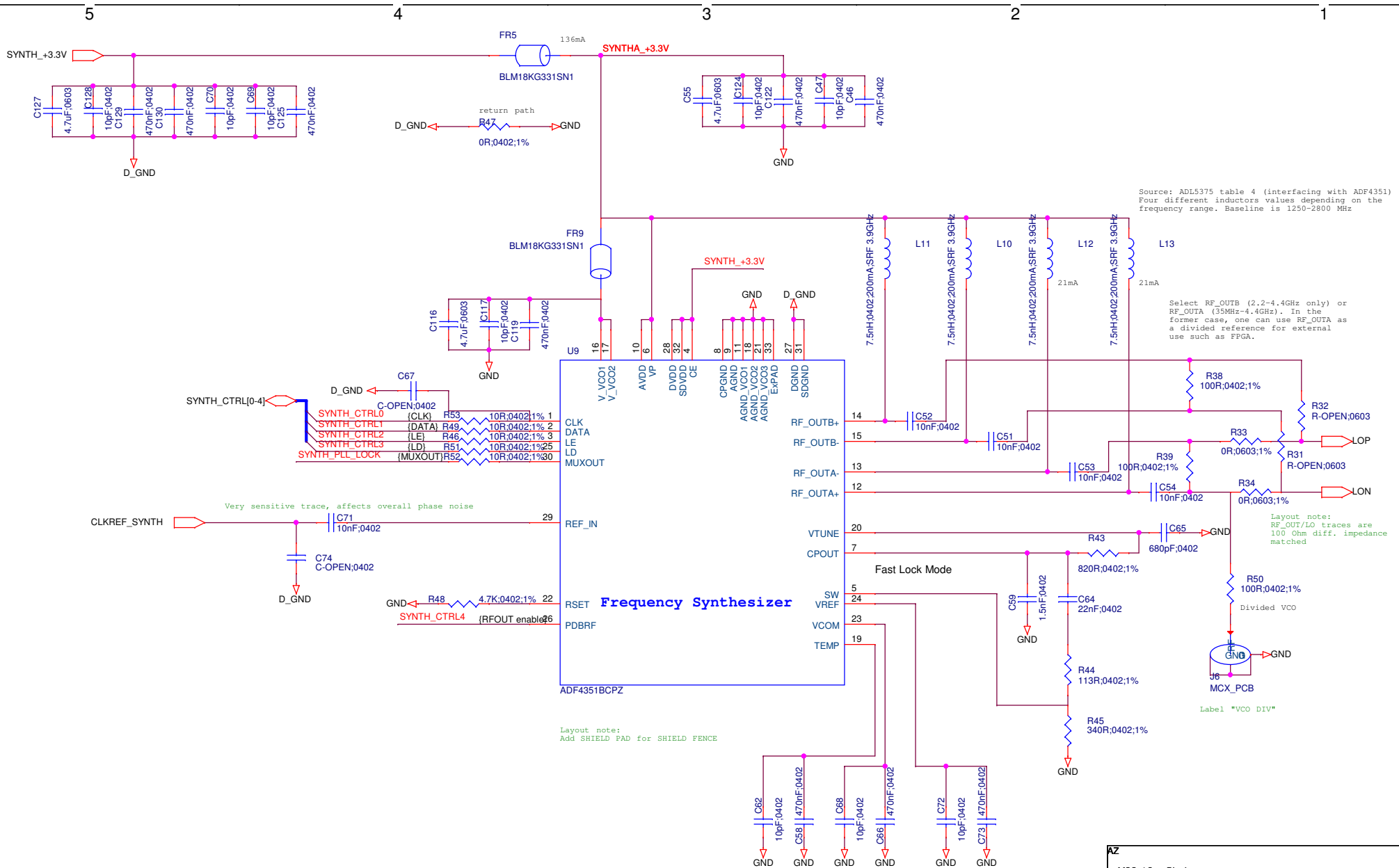
Layout Note:  
 FR4, Q1, Q2 & Q4 must be placed and routed for a high current throughput.

Power Good Indicators  
 PGOOD[1-6] Must be pulled up by ARM processor



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Title <b>COM-4009 / POWER1</b>		
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Source: ADL5375 table 4 (interfacing with ADF4351)  
 Four different inductors values depending on the frequency range. Baseline is 1250-2800 MHz

Select RF\_OUTB (2.2-4.4GHz) only or RF\_OUTA (35MHz-4.4GHz). In the former case, one can use RF\_OUTA as a divided reference for external use such as FPGA.

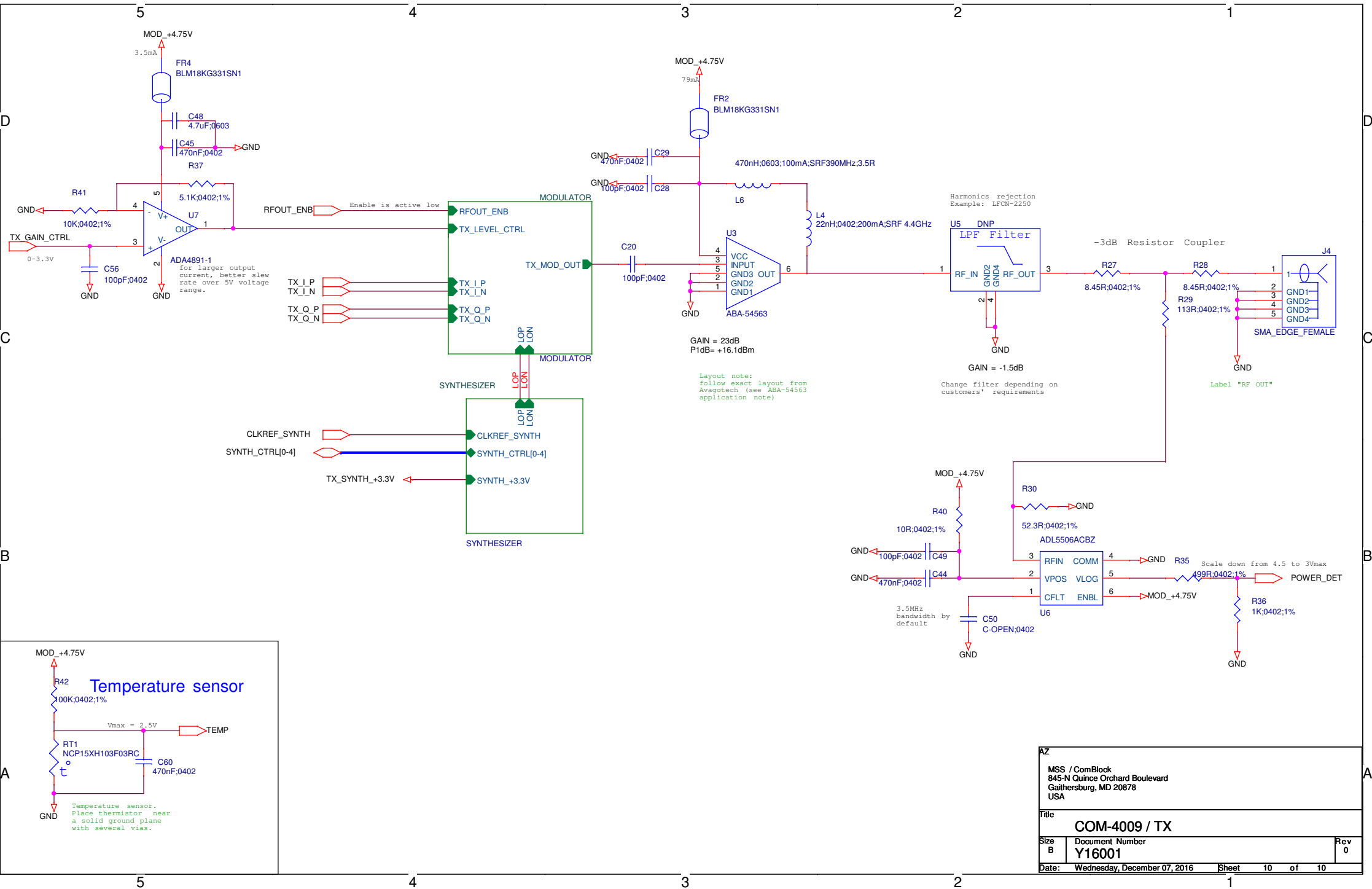
Layout note:  
 RF\_OUTA traces are 100 Ohm diff. impedance matched

Layout note:  
 Add SHIELD PAD for SHIELD FENCE

Layout note:  
 Label Testpoints

SYNTH\_PLL\_LOCK (MUXOUT) 1 TP1 PLL LOCK testpoint  
 TP\_SMALL

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Title <b>COM-4009 / RF SYNTHESIZER</b>		
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Title <b>COM-4009 / TX</b>		
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