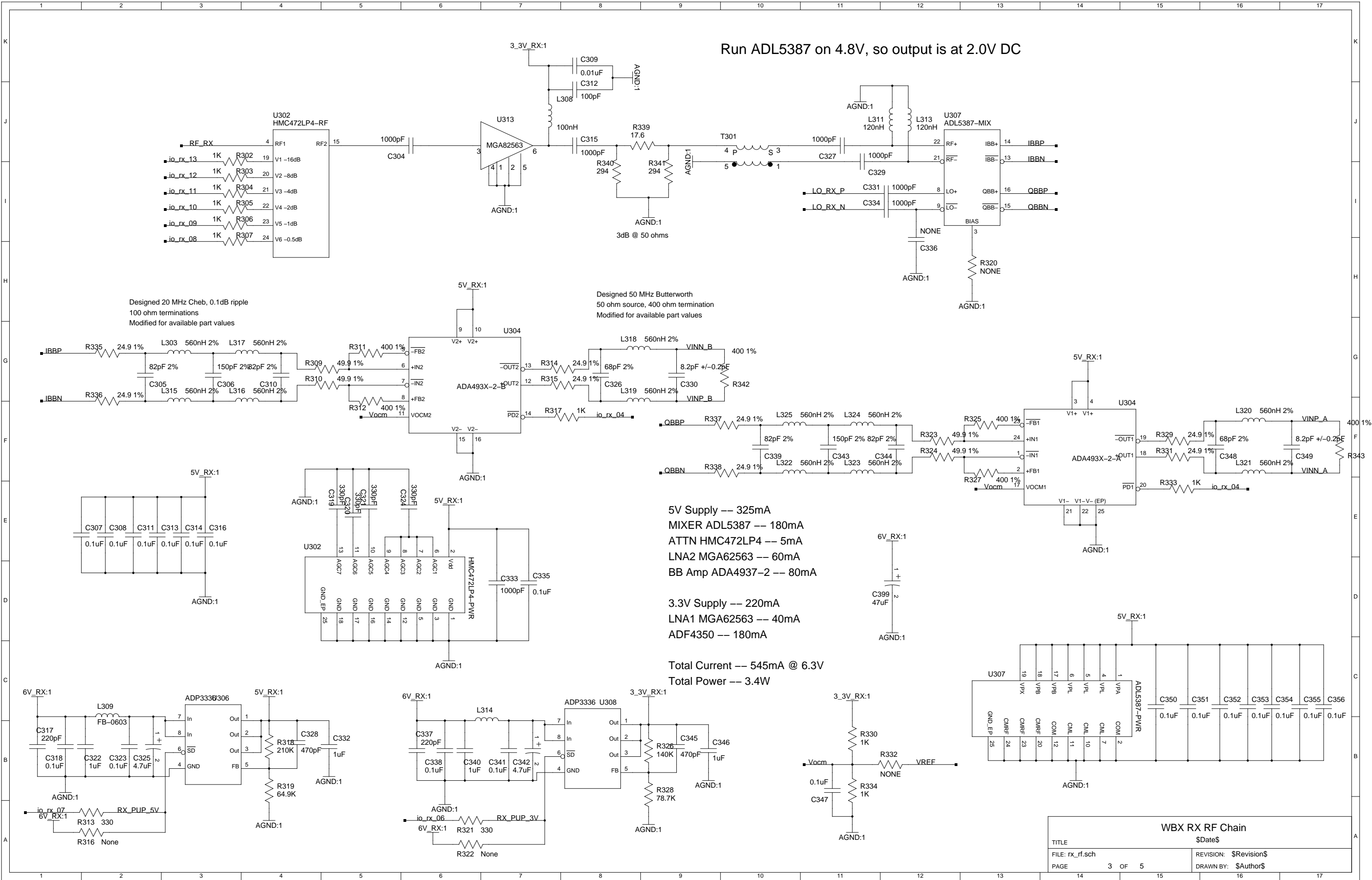


RX

WBX Common	
TITLE	\$Date\$
FILE: common_wbx.sch	REVISION: \$Revision\$
PAGE 1 OF 5	DRAWN BY: \$Author\$

Run ADL5387 on 4.8V, so output is at 2.0V DC



Designed 20 MHz Cheb, 0.1dB ripple  
100 ohm terminations  
Modified for available part values

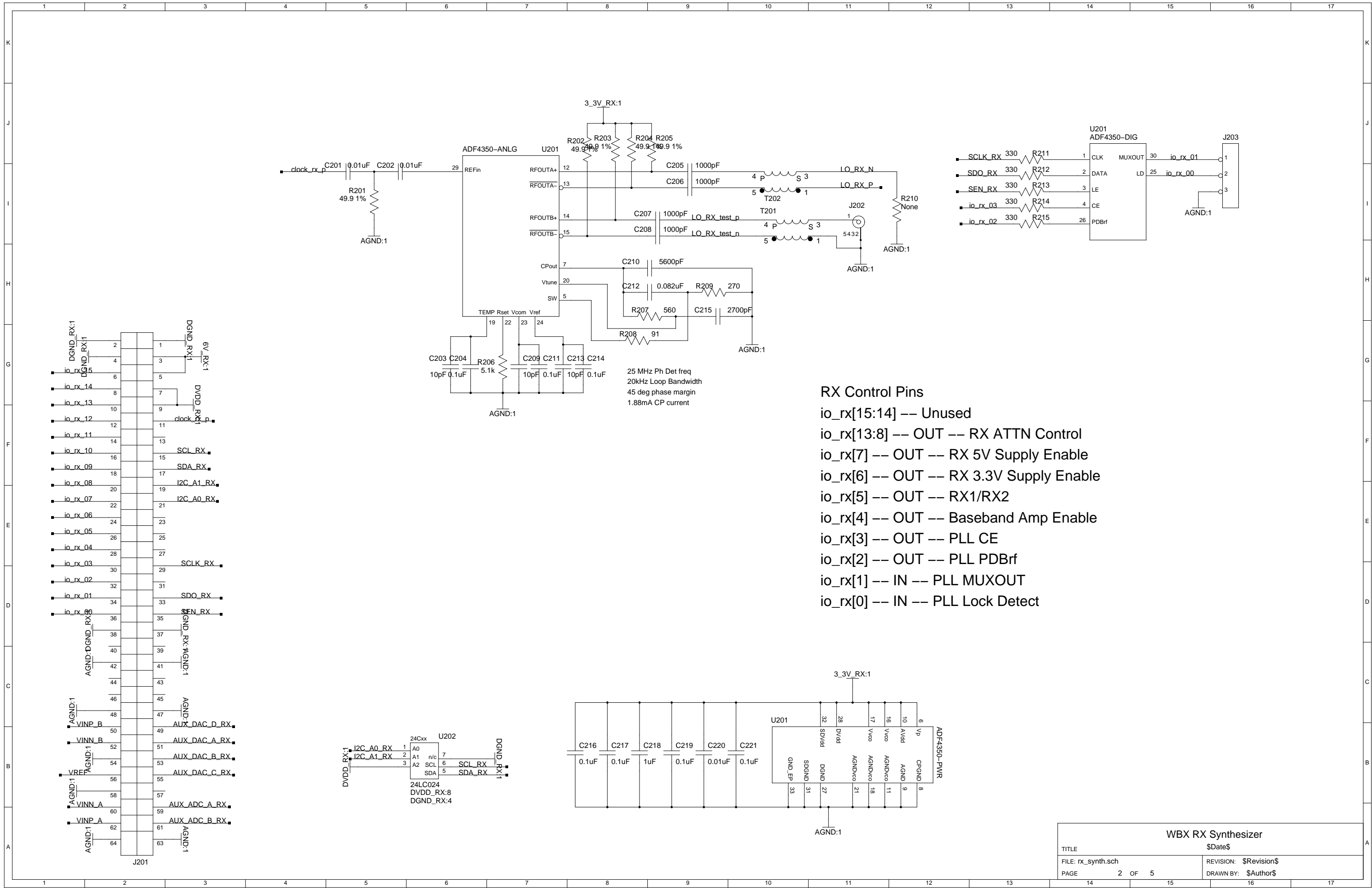
Designed 50 MHz Butterworth  
50 ohm source, 400 ohm termination  
Modified for available part values

5V Supply --- 325mA  
MIXER ADL5387 --- 180mA  
ATTN HMC472LP4 --- 5mA  
LNA2 MGA62563 --- 60mA  
BB Amp ADA4937-2 --- 80mA

3.3V Supply --- 220mA  
LNA1 MGA62563 --- 40mA  
ADF4350 --- 180mA

Total Current --- 545mA @ 6.3V  
Total Power --- 3.4W

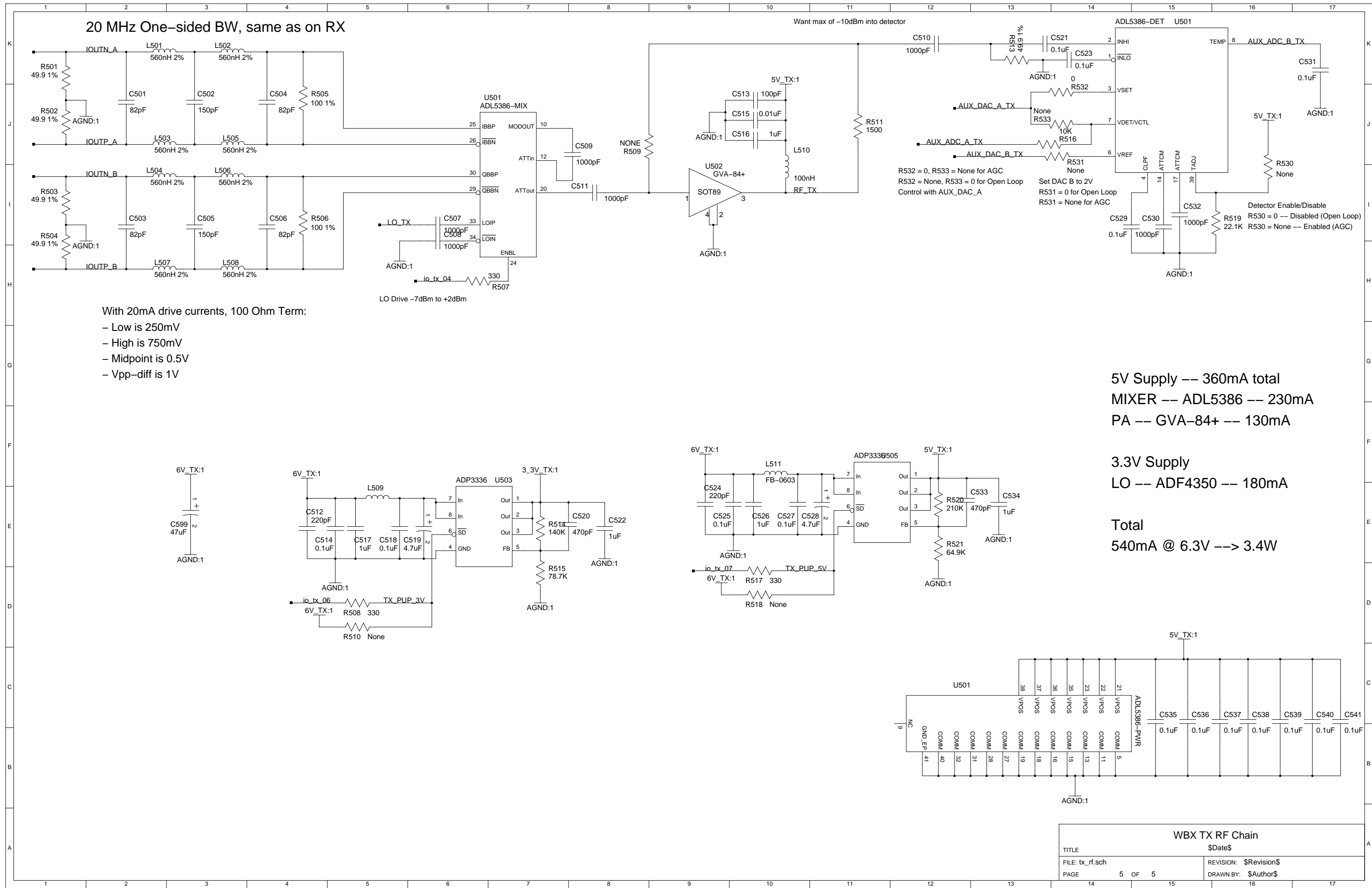
WBX RX RF Chain	
TITLE	\$Date\$
FILE: rx_rf.sch	REVISION: \$Revision\$
PAGE 3 OF 5	DRAWN BY: \$Author\$



**RX Control Pins**

- io\_rx[15:14] --- Unused
- io\_rx[13:8] --- OUT --- RX ATTN Control
- io\_rx[7] --- OUT --- RX 5V Supply Enable
- io\_rx[6] --- OUT --- RX 3.3V Supply Enable
- io\_rx[5] --- OUT --- RX1/RX2
- io\_rx[4] --- OUT --- Baseband Amp Enable
- io\_rx[3] --- OUT --- PLL CE
- io\_rx[2] --- OUT --- PLL PDBrf
- io\_rx[1] --- IN --- PLL MUXOUT
- io\_rx[0] --- IN --- PLL Lock Detect

WBX RX Synthesizer	
TITLE	\$Date\$
FILE: rx_synth.sch	REVISION: \$Revision\$
PAGE 2 OF 5	DRAWN BY: \$Author\$



20 MHz One-sided BW, same as on RX

Want max of -10dBm into detector

With 20mA drive currents, 100 Ohm Term:

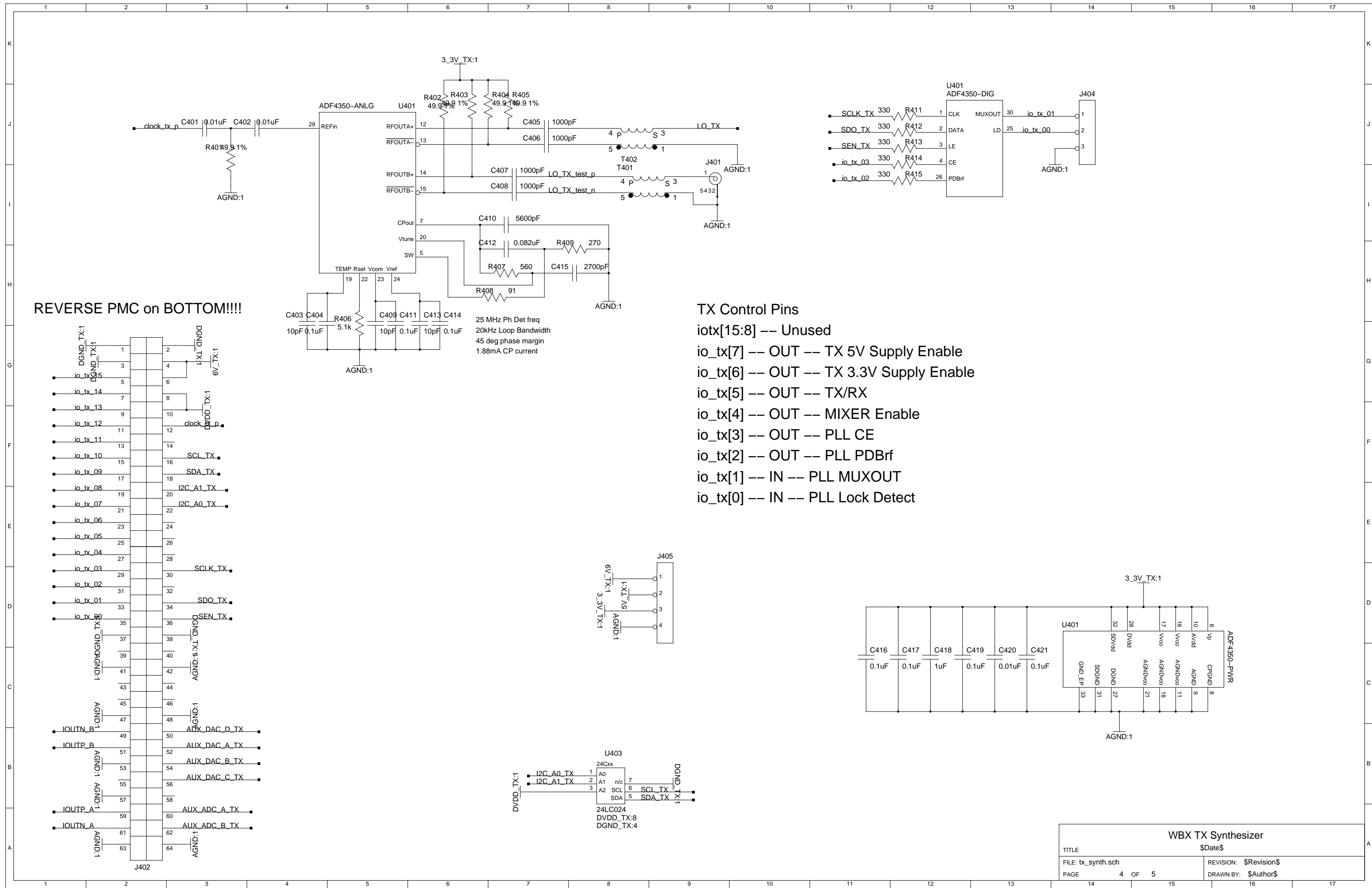
- Low is 250mV
- High is 750mV
- Midpoint is 0.5V
- Vpp-diff is 1V

5V Supply -- 360mA total  
 MIXER -- ADL5386 -- 230mA  
 PA -- GVA-84+ -- 130mA

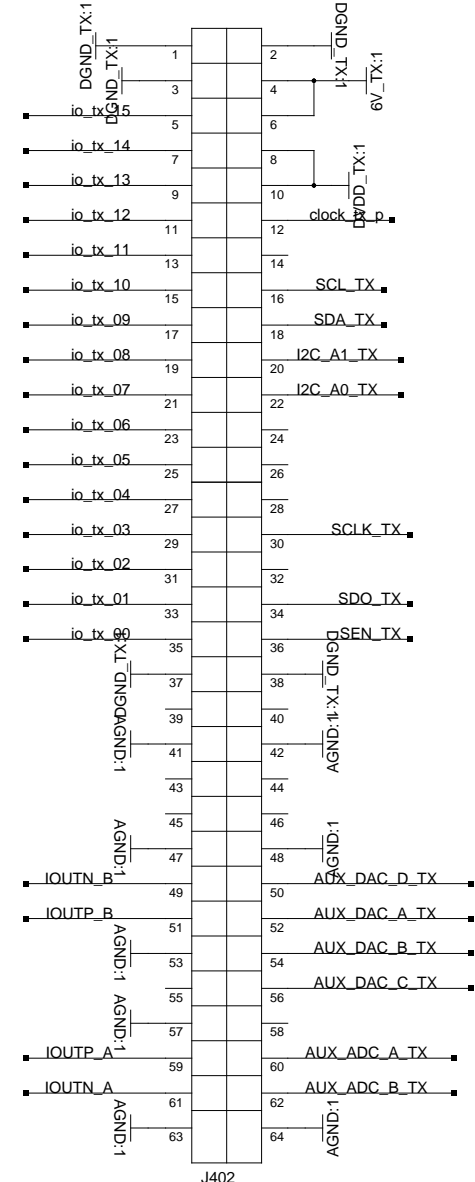
3.3V Supply  
 LO -- ADF4350 -- 180mA

Total  
 540mA @ 6.3V --> 3.4W

WBX TX RF Chain	
TITLE	\$Date\$
FILE: tx_rf.sch	REVISION: \$Revision\$
PAGE 5 OF 5	DRAWN BY: \$Author\$



REVERSE PMC on BOTTOM!!!!



- TX Control Pins
- io\_tx[15:8] --- Unused
  - io\_tx[7] --- OUT --- TX 5V Supply Enable
  - io\_tx[6] --- OUT --- TX 3.3V Supply Enable
  - io\_tx[5] --- OUT --- TX/RX
  - io\_tx[4] --- OUT --- MIXER Enable
  - io\_tx[3] --- OUT --- PLL CE
  - io\_tx[2] --- OUT --- PLL PDBrf
  - io\_tx[1] --- IN --- PLL MUXOUT
  - io\_tx[0] --- IN --- PLL Lock Detect

