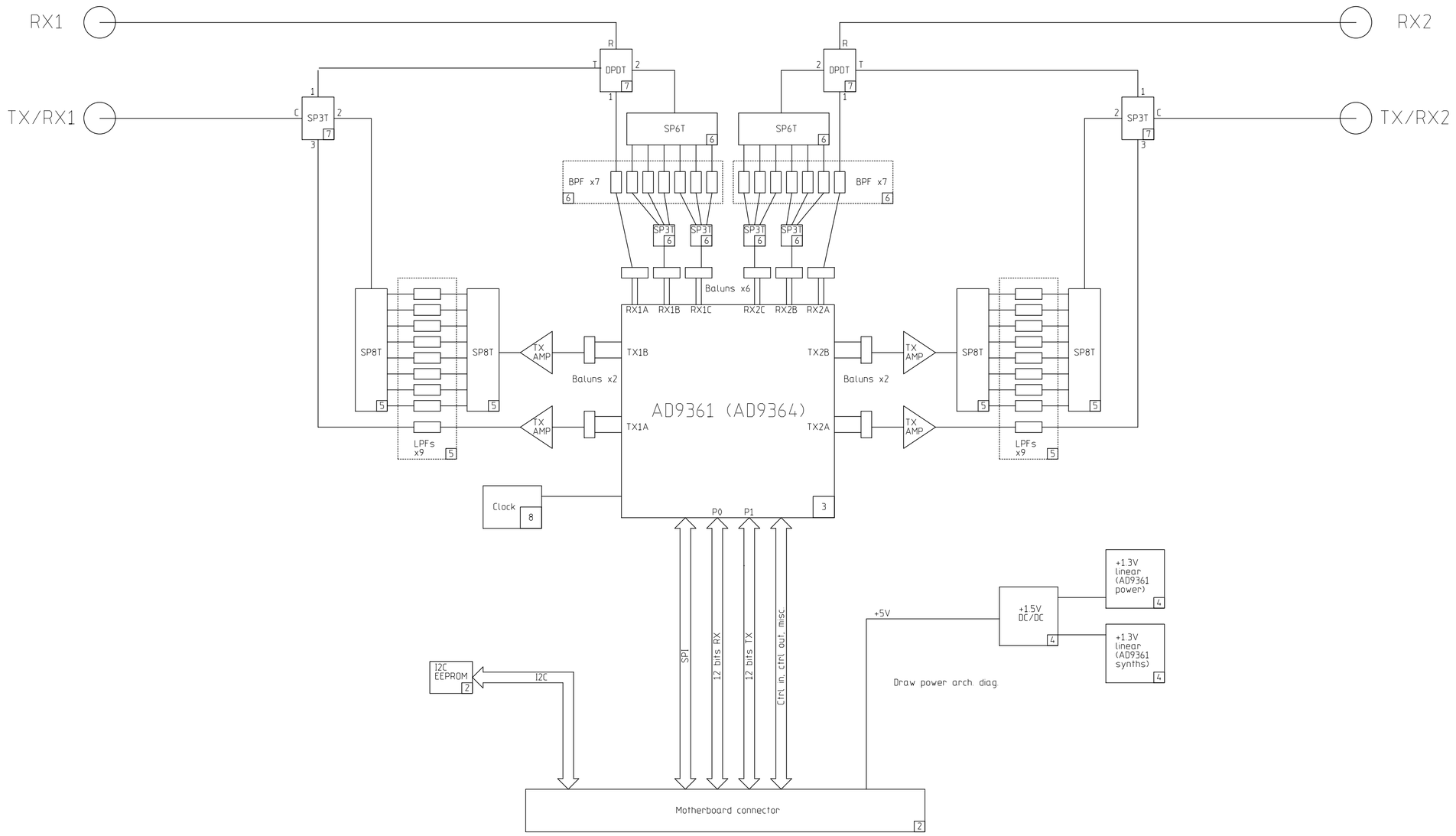
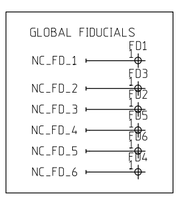
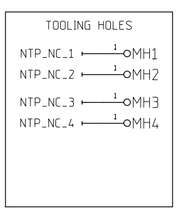
REVISIONS	
REV	DESCRIPTION
1	REFER TO DATABASE FOR DWG STATUS



GLOBAL FIDUCIALS



TOOLING HOLES



DESIGN TEAM	
DRAWN: Nick Foster, J. Kiser	DATE: 05/07/2015
REVISED	DATE
CHECKED: Jorge Quintero	
TECH: Ryan Reyes	
ENGR: Nick Foster	

NATIONAL INSTRUMENTS® AUSTIN, TEXAS

TITLE

SCHEMATIC DIAGRAM

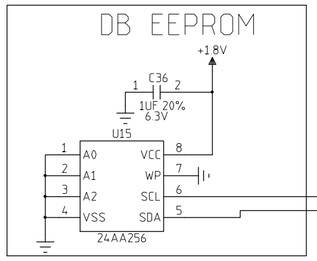
E310 DAUGHTERBOARD, 70 MHZ - 6 GHZ, 2X2 MIMO

SIZE	CODE IDENT NO.	DRAWING NO.	REV
C	7U296	154906E-01	1

SCALE: NONE | SHEET 01 OF 08

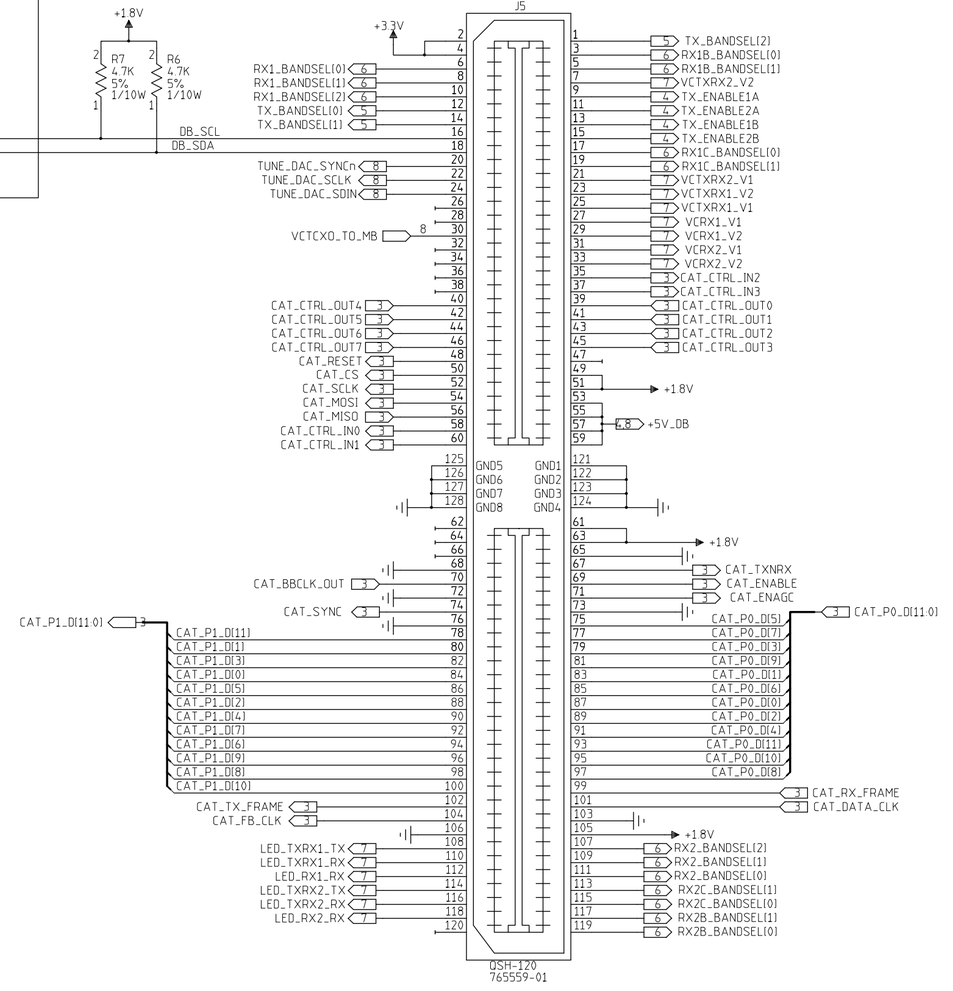
154906E-01 1

DB EEPROM



DB_SCL
DB_SDA

RF board connector



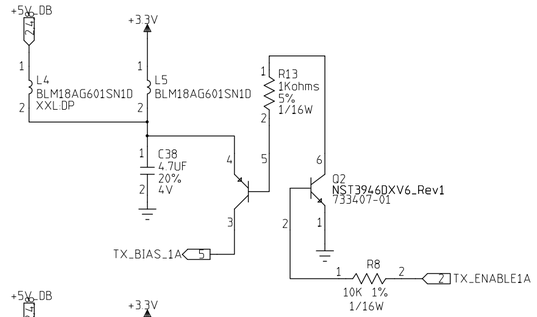
Daughterboard connector			
E300 DAUGHTERBOARD			
SIZE: C	CODE IDENT NO.: 7U296	DRAWING NO.: 154906E-01	REV: 1
SCALE: NONE		SHEET 02 OF 08	

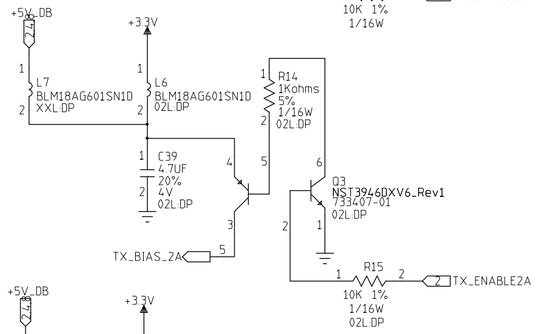
154906E-01 1

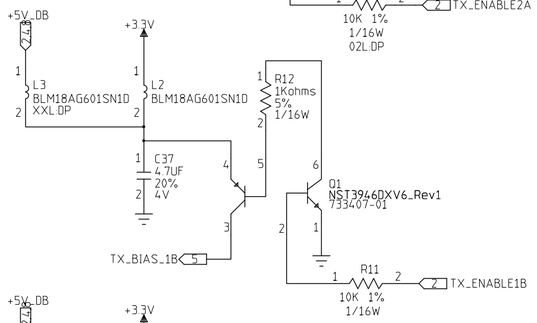
AD9361
U8

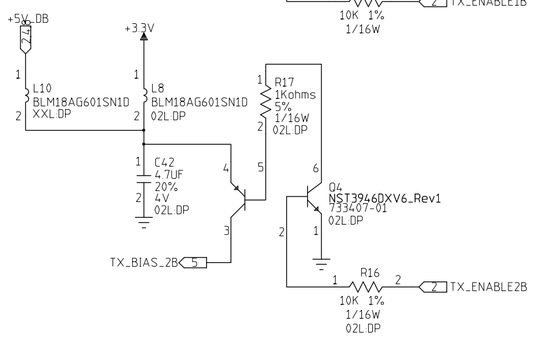
AD9361			
E300 DAUGHTERBOARD			
SIZE: C	CODE IDENT NO.: 7U296	DRAWING NO.: 154906E-01	REV: 1
SCALE: NONE			SHEET 03 OF 08

Populate the DNP ferrites (and not the rest) for use with 5V amps (PSA-0012+, for instance).



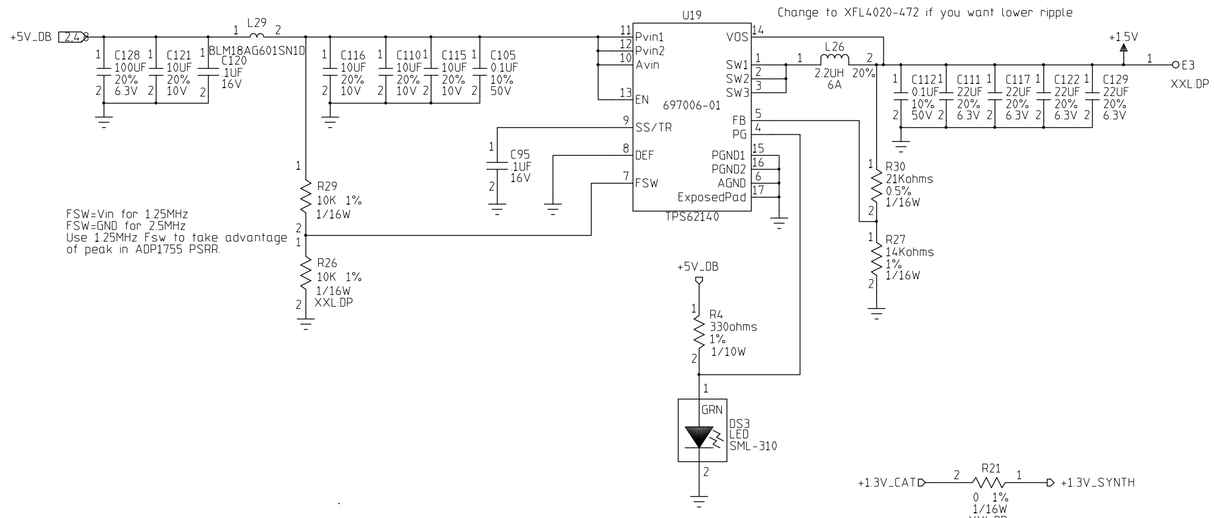




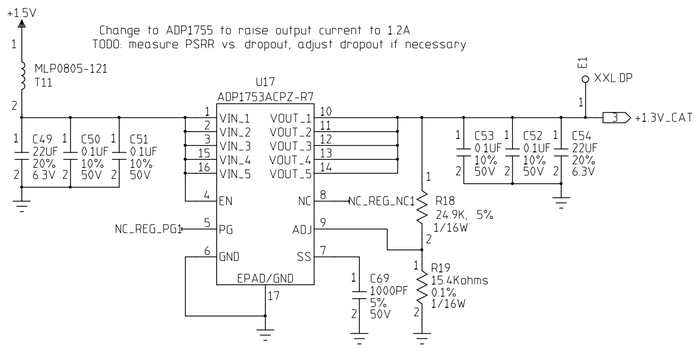


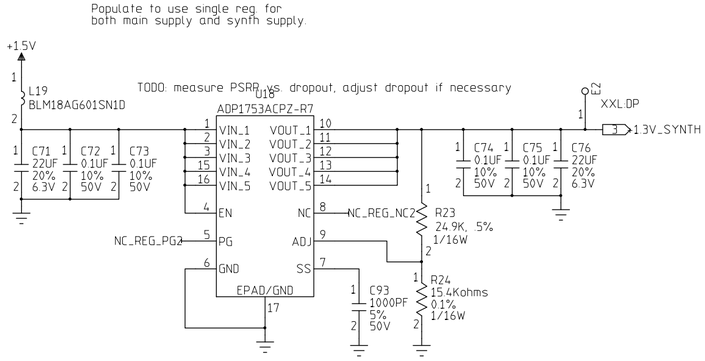
Note: Amps want 3.0V, Vcesat is around 0.3V.

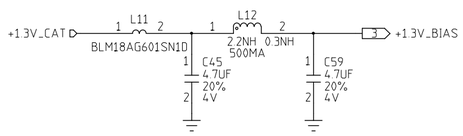
Separate the ground plane of the switcher from the rest of the daughterboard; connect only at a single point. Alternatively, use a top-layer ground "island" connected to the plane with vias in a single point.

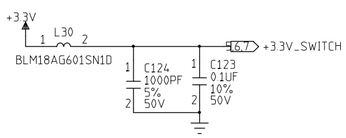


Populate to use single reg. for both main supply and synth supply.



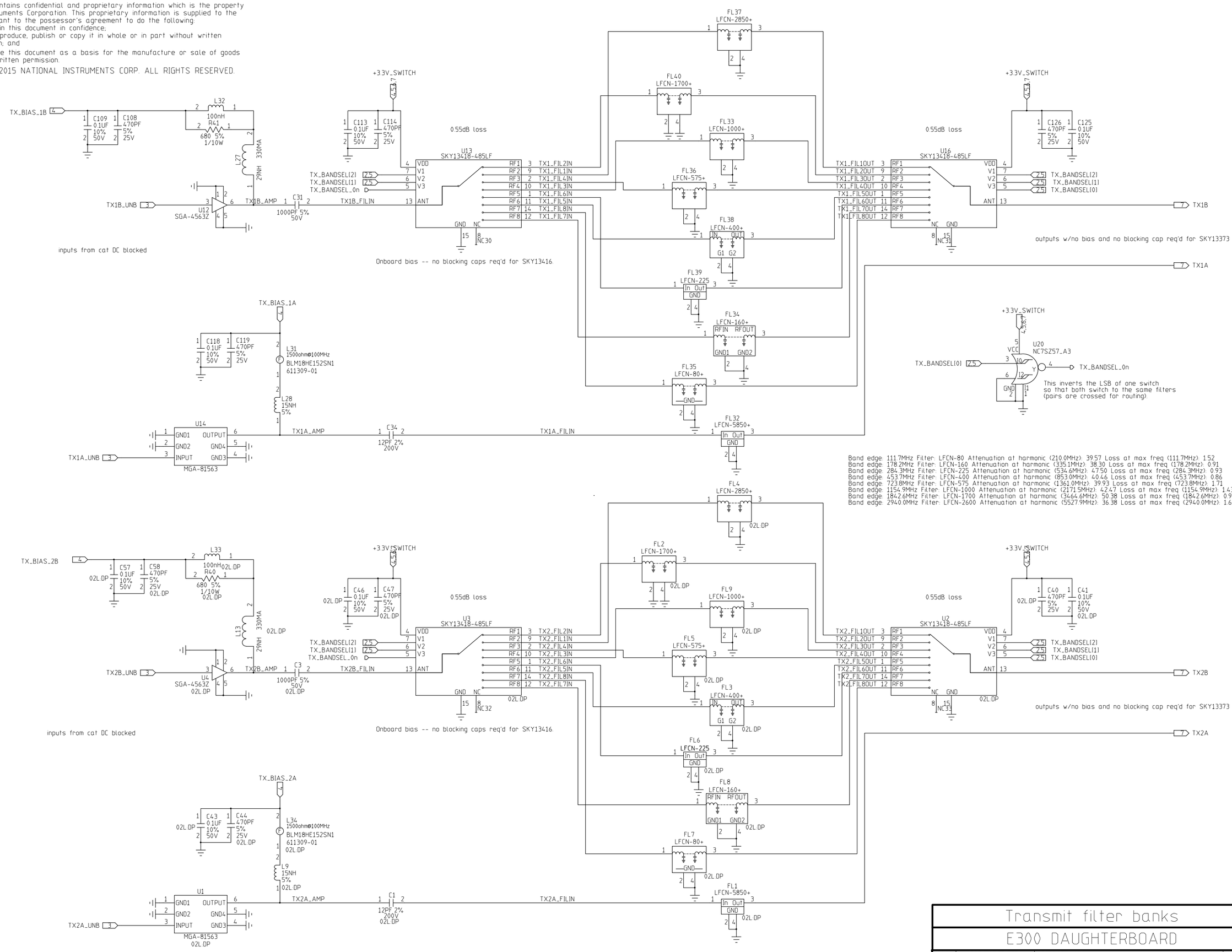






Power supplies			
E300 DAUGHTERBOARD			
SIZE: C	CODE IDENT NO.: 7U296	DRAWING NO.: 154906E-01	REV: 1
SCALE: NONE			SHEET 04 OF 08

154906E-01

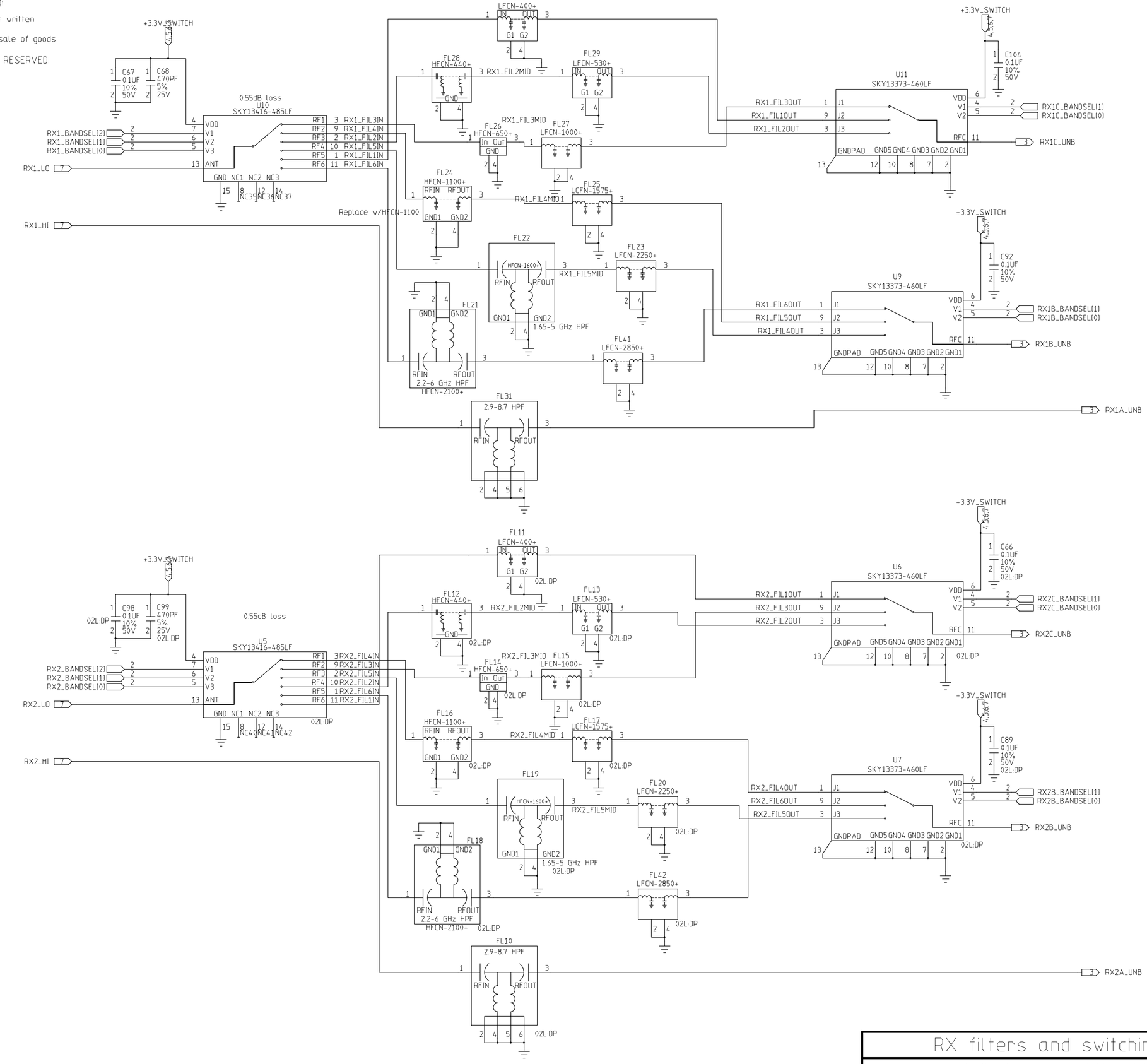


Transmit filter banks

E300 DAUGHTERBOARD

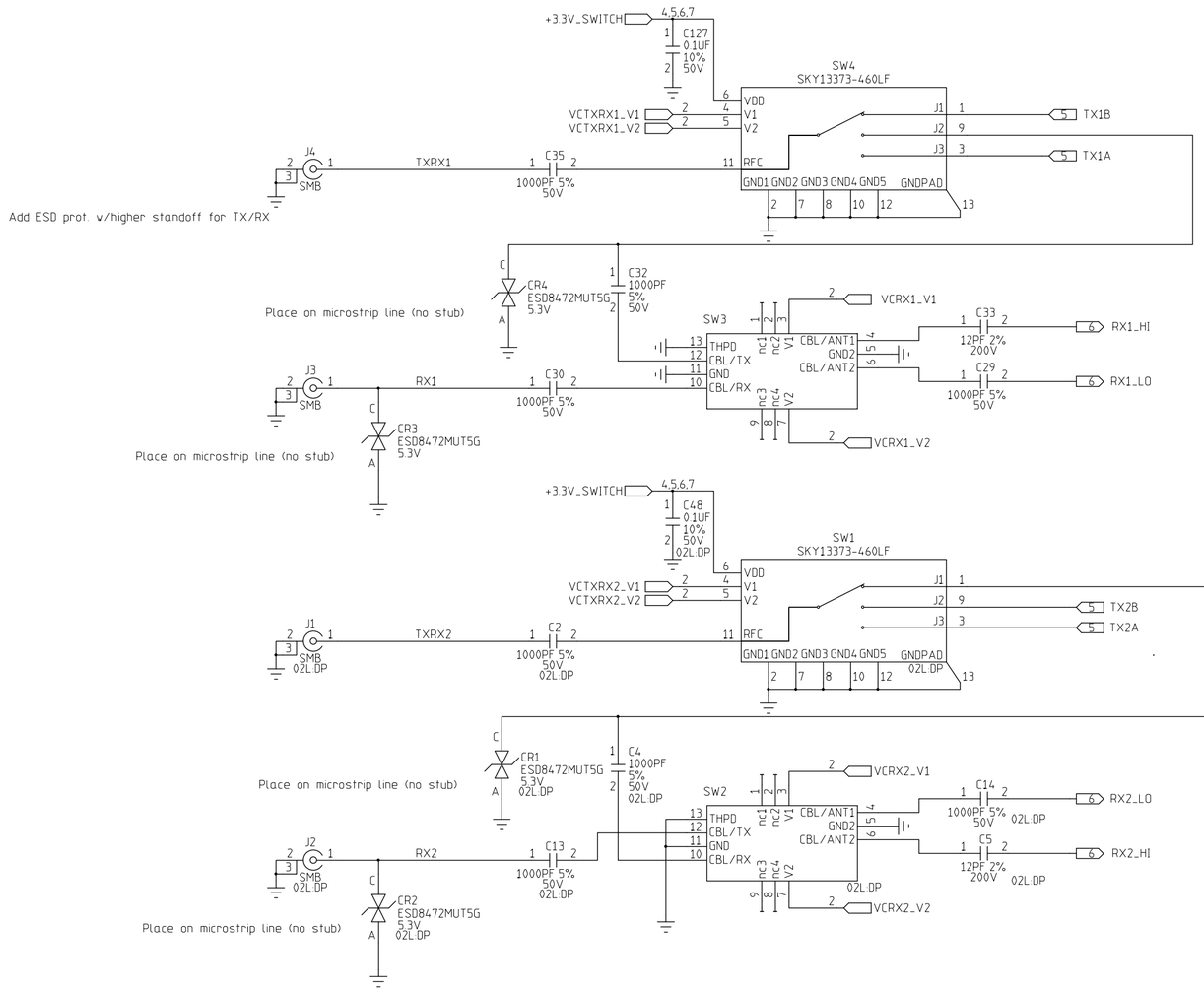
SIZE	CODE IDENT NO.	DRAWING NO.	REV
C	7U296	154906E-01	1

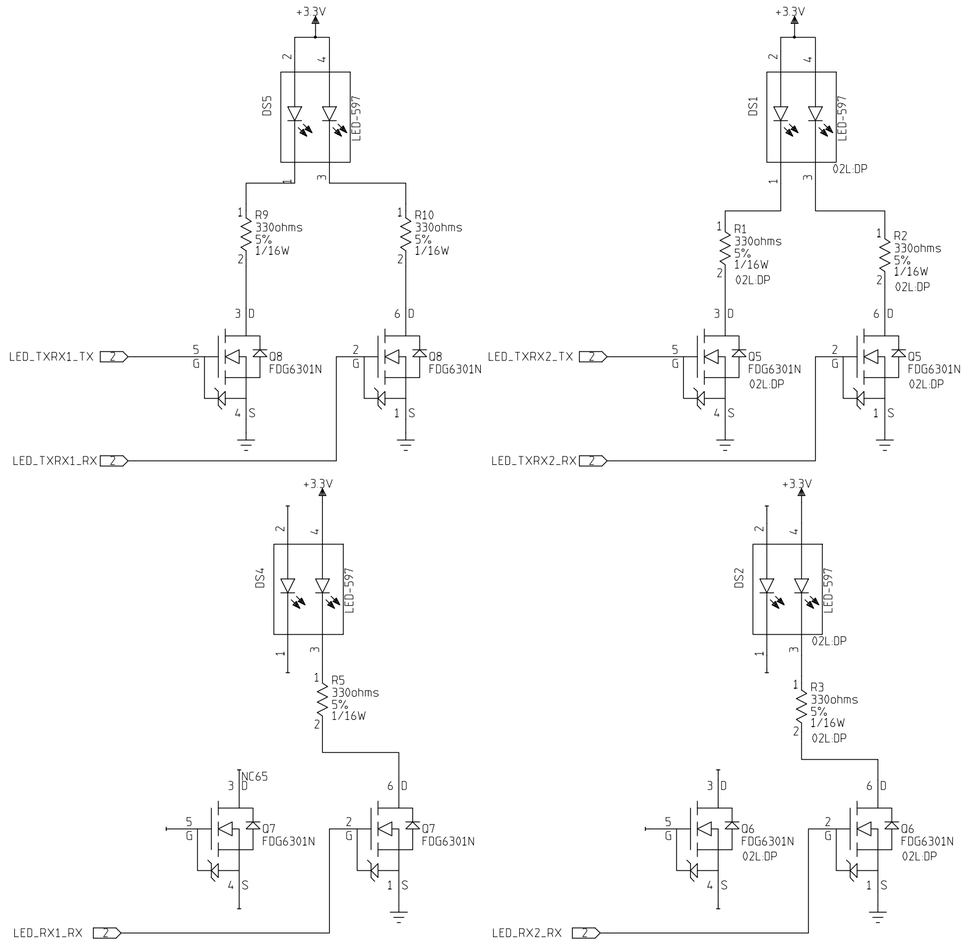
SCALE: NONE | SHEET 05 OF 08



RX filters and switching			
E300 DAUGHTERBOARD			
SIZE C	CODE IDENT NO. 7U296	DRAWING NO. 154906E-01	REV 1
SCALE: NONE		SHEET 06 OF 08	

154906E-01 1





Inputs: TXBAND[0-2], RXBAND[0-2], FDX, TXnRX, TX_EN[0-1]

[T,R]XH] = TXBAND[2] AND TXBAND[1]
[T,R]XSW = FDX OR TX
VCTX_TXA = TXH] AND TXSW
VCTX_TXB = !TXH] AND TXSW
VCTX1_RX = !TXSW
VCRX_V1 = !VCRX_V2
VCRX_V2 = (RXH] AND FDX) OR !(RXH] OR FDX)
TX_ENABLE1A = RXH] AND TX_EN[0]
TX_ENABLE1B = !RXH] AND TX_EN[0]
TX_ENABLE2A = RXH] AND TX_EN[1]
TX_ENABLE2B = !RXH] AND TX_EN[1]
RXB_BANDSEL_1 = RX_BANDSEL[0-2] == 0
RXB_BANDSEL_2 = RX_BANDSEL[0-2] == 1
RXB_BANDSEL_3 = RX_BANDSEL[0-2] == 2
RXC_BANDSEL_1 = RX_BANDSEL[0-2] == 3
RXC_BANDSEL_2 = RX_BANDSEL[0-2] == 4
RXC_BANDSEL_2 = RX_BANDSEL[0-2] == 5
RX_BANDSEL_A = RX_BANDSEL[0]
RX_BANDSEL_B = RX_BANDSEL[1]
RX_BANDSEL_C = RX_BANDSEL[2]
TX_BANDSEL_A = TX_BANDSEL[0]
TX_BANDSEL_B = TX_BANDSEL[1]
TX_BANDSEL_C = TX_BANDSEL[2]

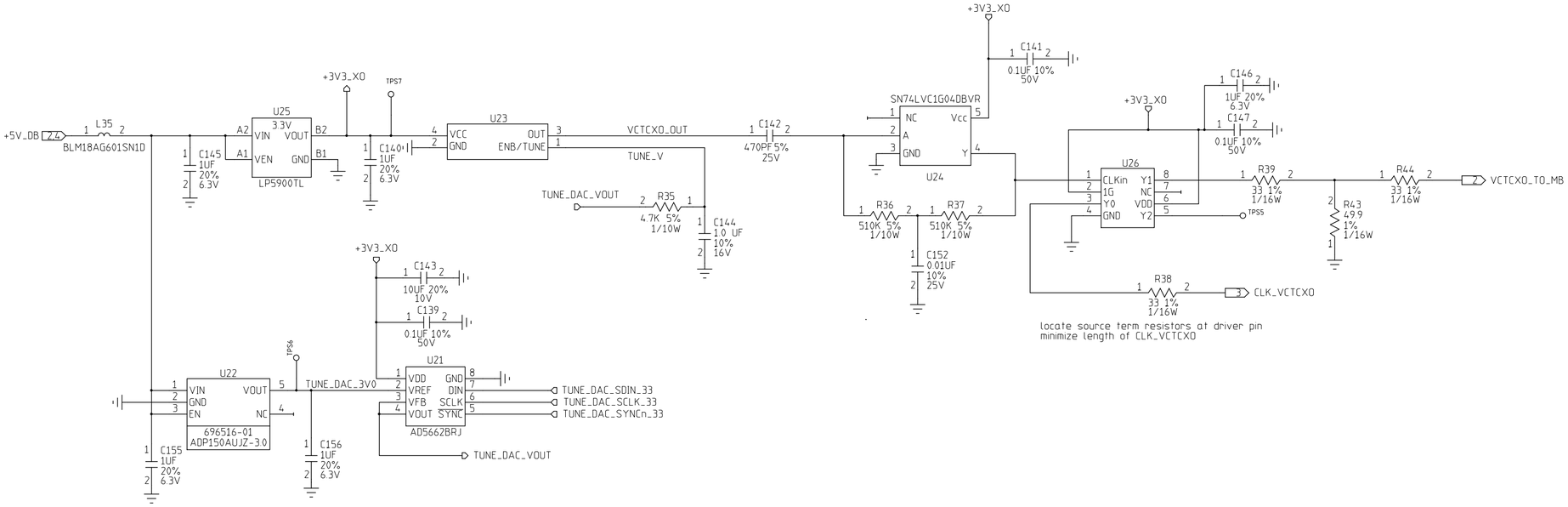
T/R switches, RF connectors, LEDs

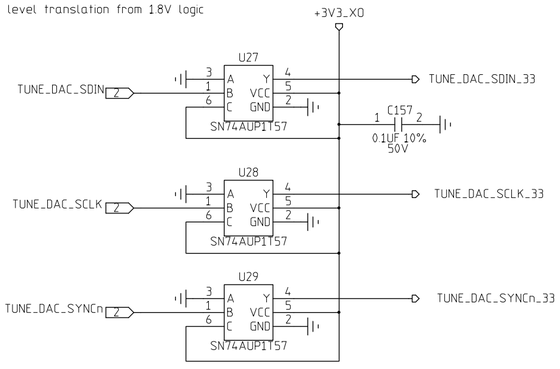
E300 DAUGHTERBOARD

SIZE	CODE IDENT NO.	DRAWING NO.	REV
C	7U296	154906E-01	1

SCALE: NONE | SHEET 07 OF 08

154906E-01 1





Clock (VCTCXO)			
E300 DAUGHTERBOARD			
SIZE: C	CODE IDENT NO.: 7U296	DRAWING NO.: 154906E-01	REV: 1
SCALE: NONE			SHEET 08 OF 08

154906E-01 1