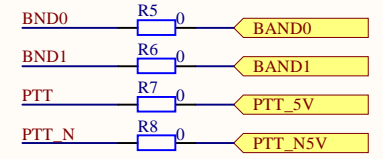
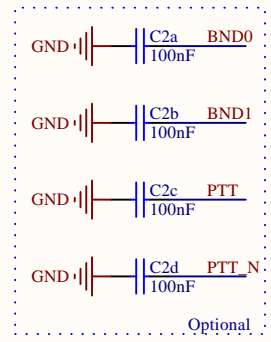
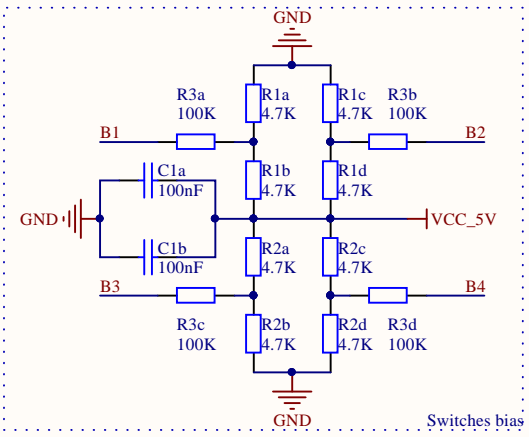
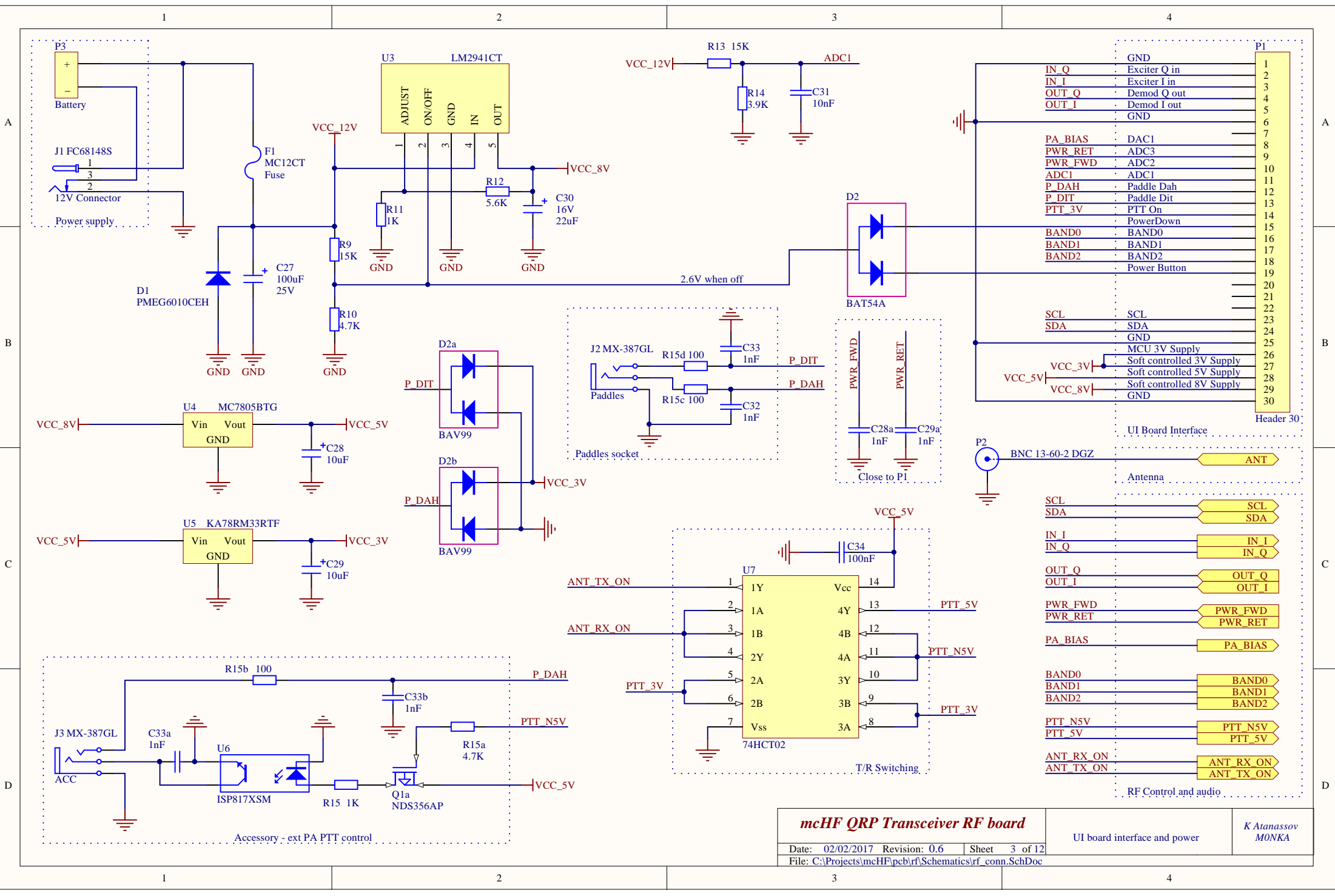


all filter caps 100V

MODE	OE1	OE2	S1	S0	Switches	Filter
TX	1	0	0	0	2B1	20/30m
TX	1	0	0	1	2B2	40m
TX	1	0	1	0	2B3	15-10m
TX	1	0	1	1	2B4	80m
RX	0	1	0	0	1B1	20/30m
RX	0	1	0	1	1B2	40m
RX	0	1	1	0	1B3	15-10m
RX	0	1	1	1	1B4	80m



<b>mcHF QRP Transceiver RF board</b>		Bandpass filters	K Atanassov MONKA
Date: 02/02/2017	Revision: 0.6	Sheet 2 of 12	
File: C:\Projects\mcHF\pcb\rf\Schematics\rf_bpf.SchDoc			



A

B

C

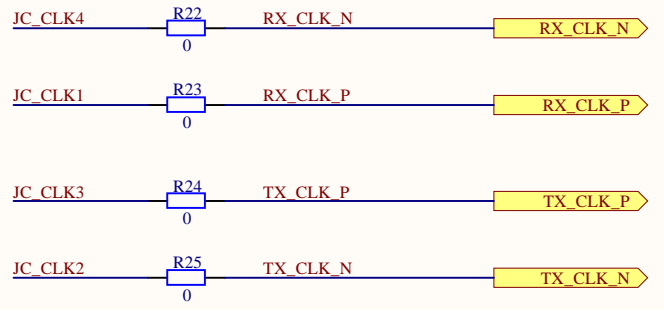
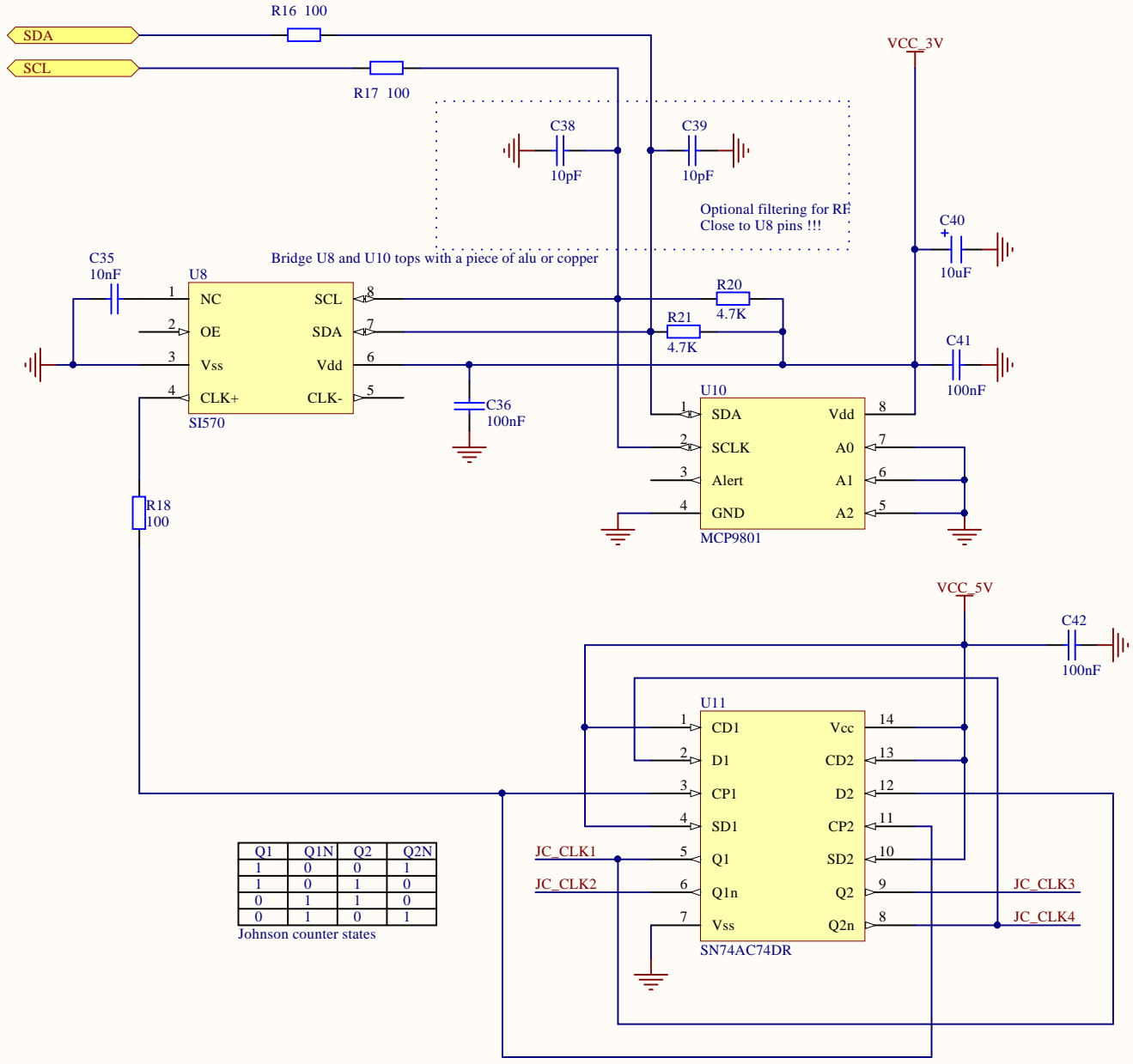
D

A

B

C

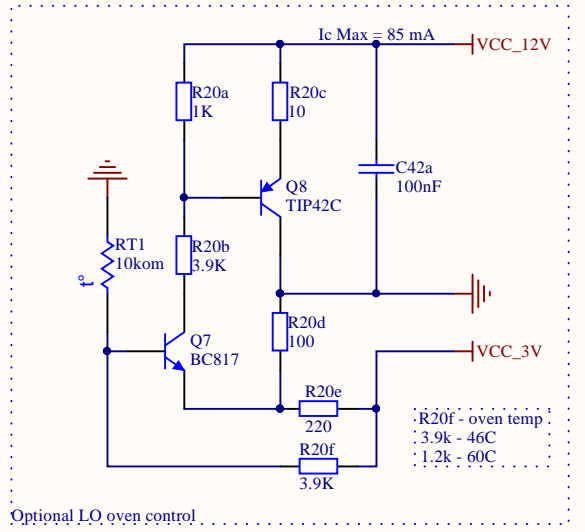
D

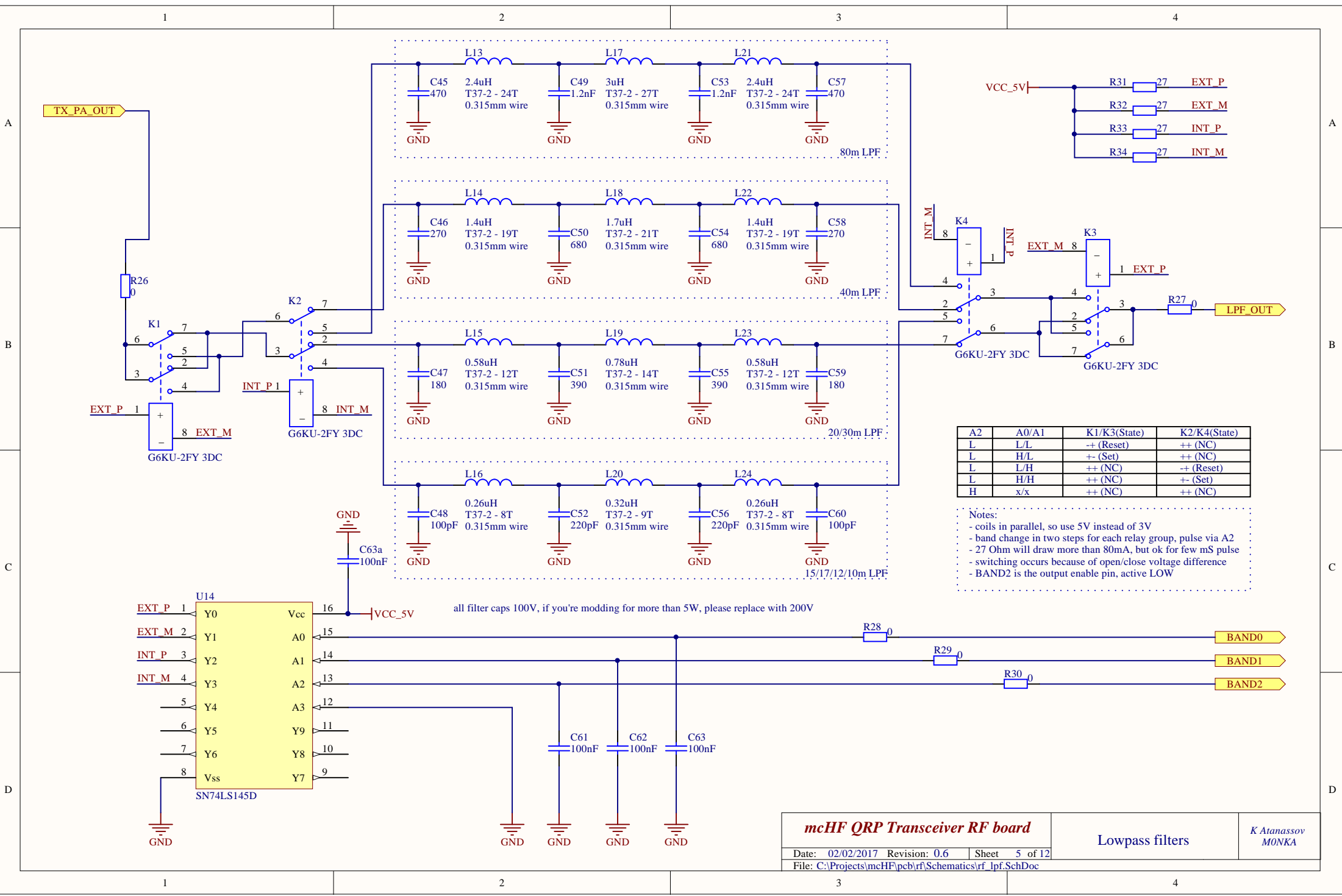


Clock lines are 90 deg diff, not 180  
but using the rule to keep traces impedance the same

S1	S0	S1	S0
1	1	0	0
1	0	0	1
0	0	1	1
0	1	1	0

RX clock      TX clock





A2	A0/A1	K1/K3(State)	K2/K4(State)
L	L/L	+- (Reset)	++ (NC)
L	H/L	+- (Set)	++ (NC)
L	L/H	++ (NC)	+- (Reset)
L	H/H	++ (NC)	+- (Set)
H	x/x	++ (NC)	++ (NC)

Notes:  
 - coils in parallel, so use 5V instead of 3V  
 - band change in two steps for each relay group, pulse via A2  
 - 27 Ohm will draw more than 80mA, but ok for few mS pulse  
 - switching occurs because of open/close voltage difference  
 - BAND2 is the output enable pin, active LOW

all filter caps 100V, if you're modding for more than 5W, please replace with 200V

<b>mcHF QRP Transceiver RF board</b>		Lowpass filters	K Atanassov MONKA
Date:	02/02/2017	Revision:	0.6
Sheet	5	of	12
File: C:\Projects\mcHF\pcb\rf\Schematics\rf_lpF.SchDoc			

A

A

B

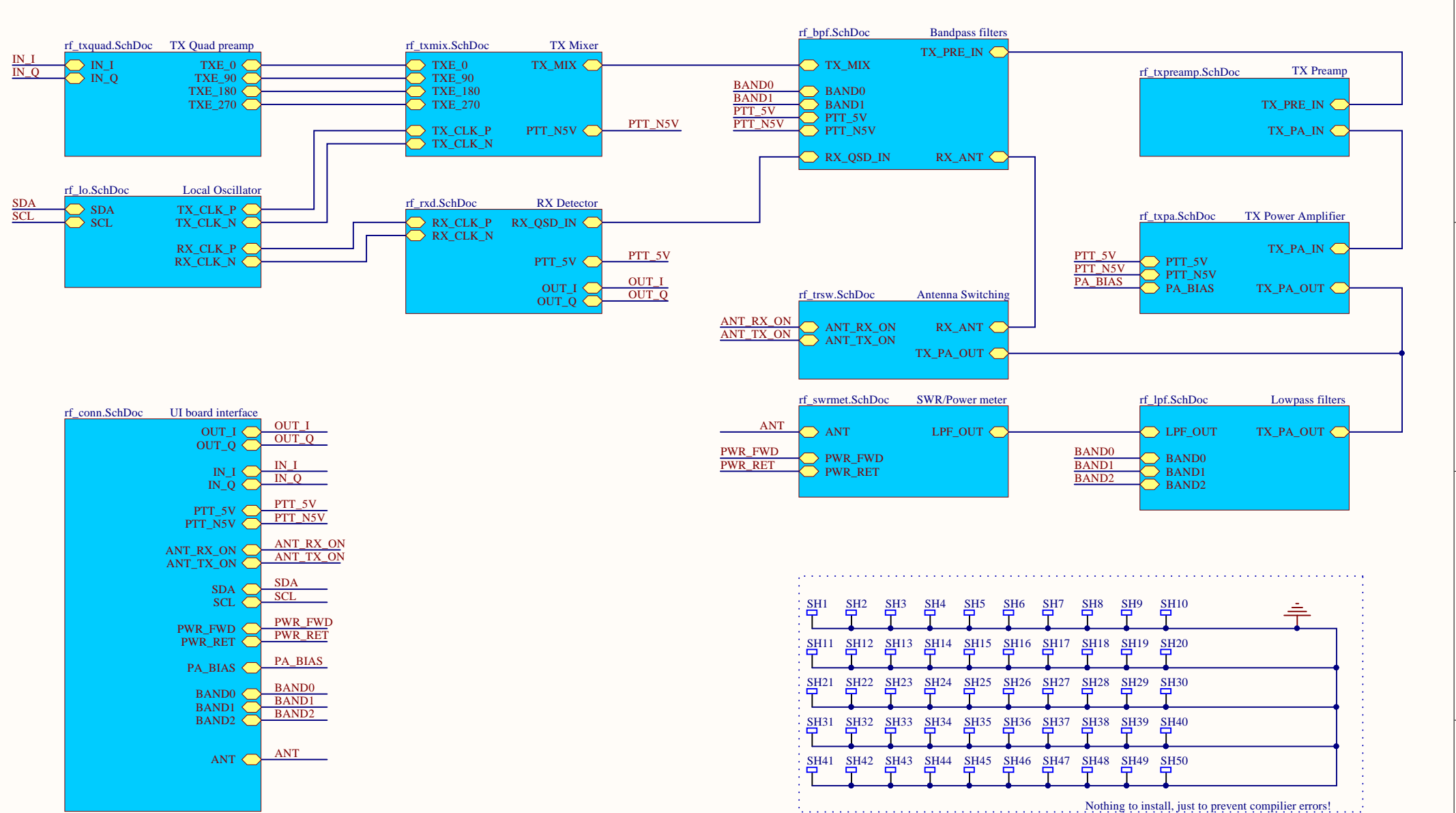
B

C

C

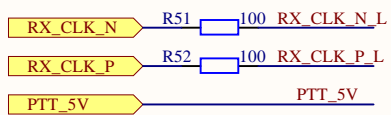
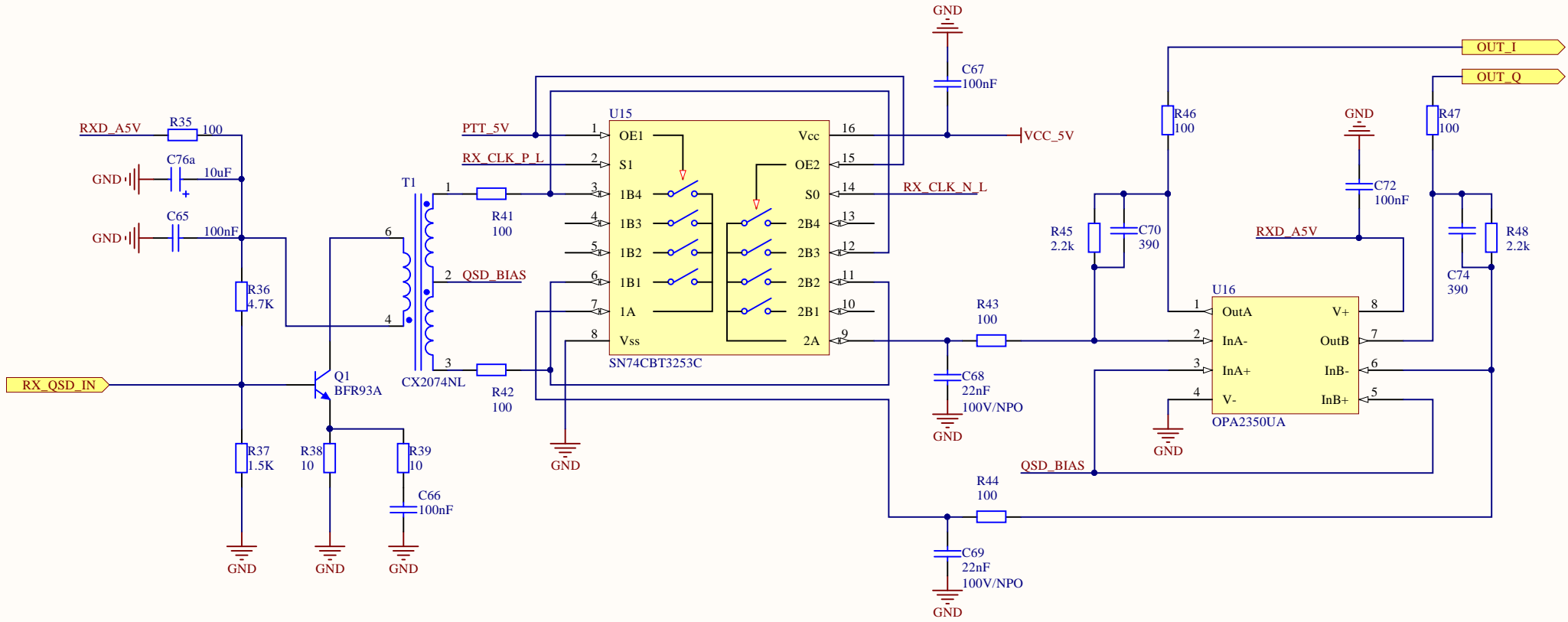
D

D



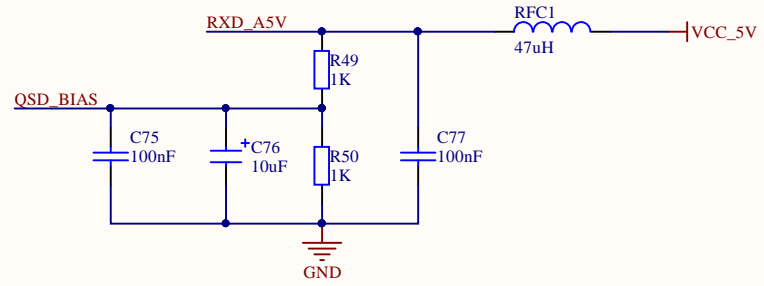
All jumpers installed by default, remove selectively to bypass modules during testing

<b>mcHF QRP Transceiver RF board</b>			Modules interconnect	K Atanassov MONKA
Date: 02/02/2017	Revision: 0.6	Sheet 1 of 12		
File: C:\Projects\mcHF\pcb\rf\Schematics\rf_main.SchDoc				

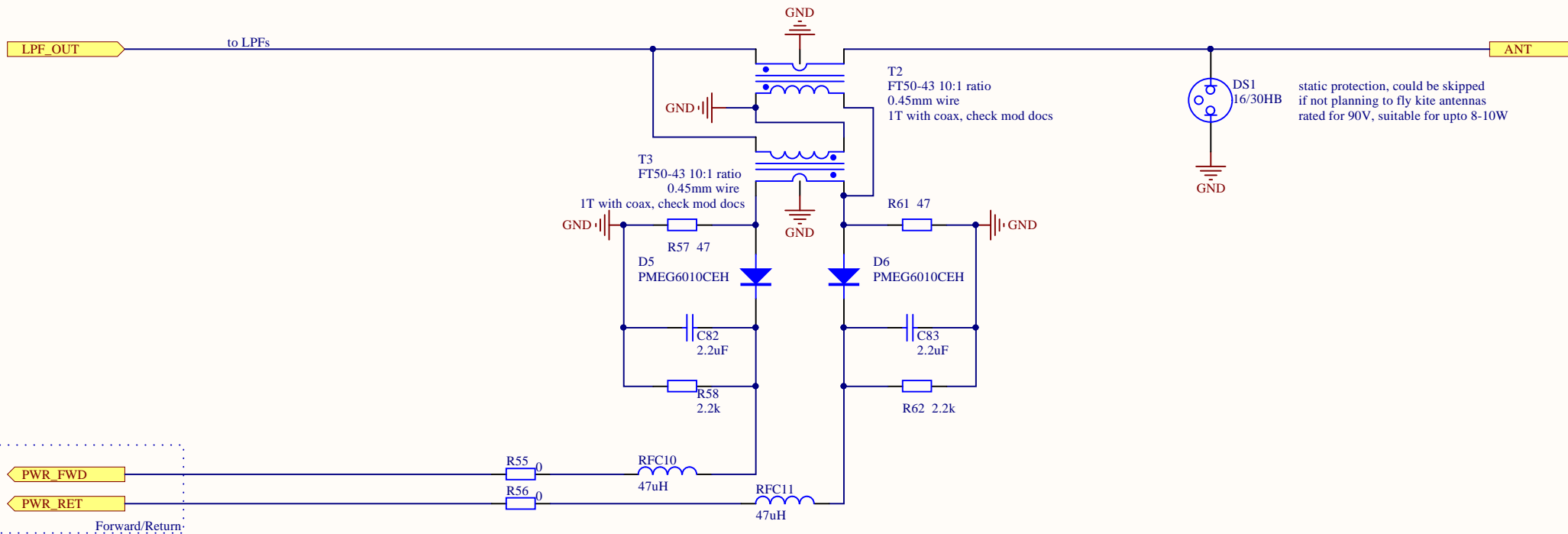


MODE	OE	S1	S0	Switches	Phases
RX	0	0	0	1B1	270
RX	0	0	1	2B2	0
RX	0	1	1	1B4	90
RX	0	1	0	2B3	180
TX	1	X	X	All Open	

R51,R52 - damping resistors, as LO divider and mixer on diff power rails could be replaced with jumpers if one feels they are not needed



<b>mcHF QRP Transceiver RF board</b>			<b>RX Detector</b>	<i>K Atanassov MONKA</i>	
Date:	02/02/2017	Revision: 0.6			Sheet 6 of 12
File: C:\Projects\mcHF\pcb\rf\Schematics\rf_rxd.SchDoc					



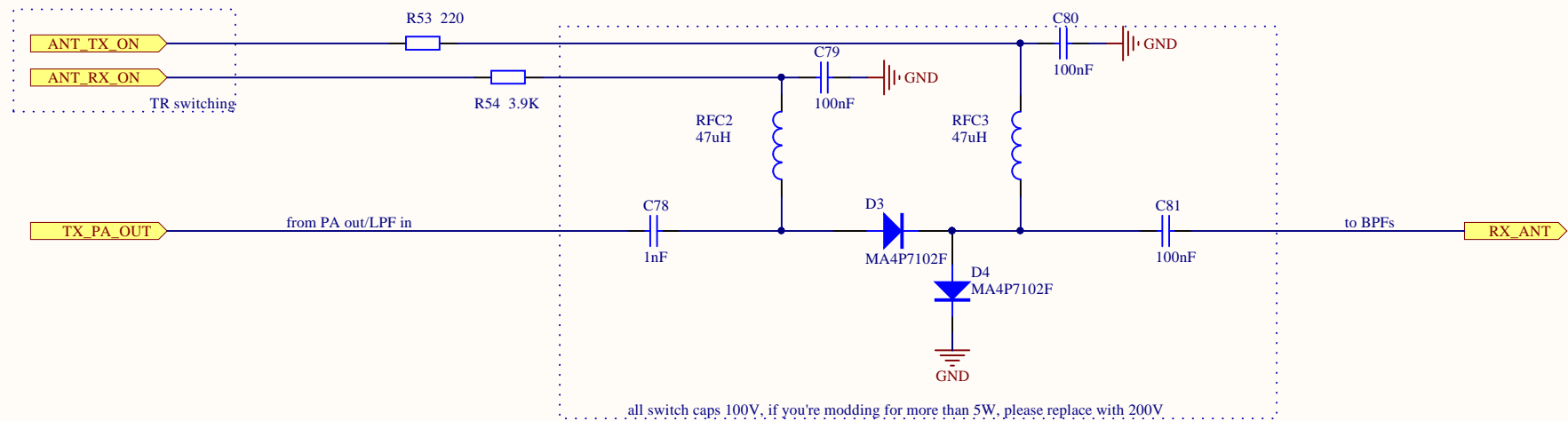
**mcHF QRP Transceiver RF board**

SWR/PWR Meter

K Atanassov  
MONKA

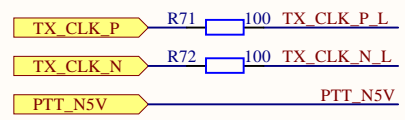
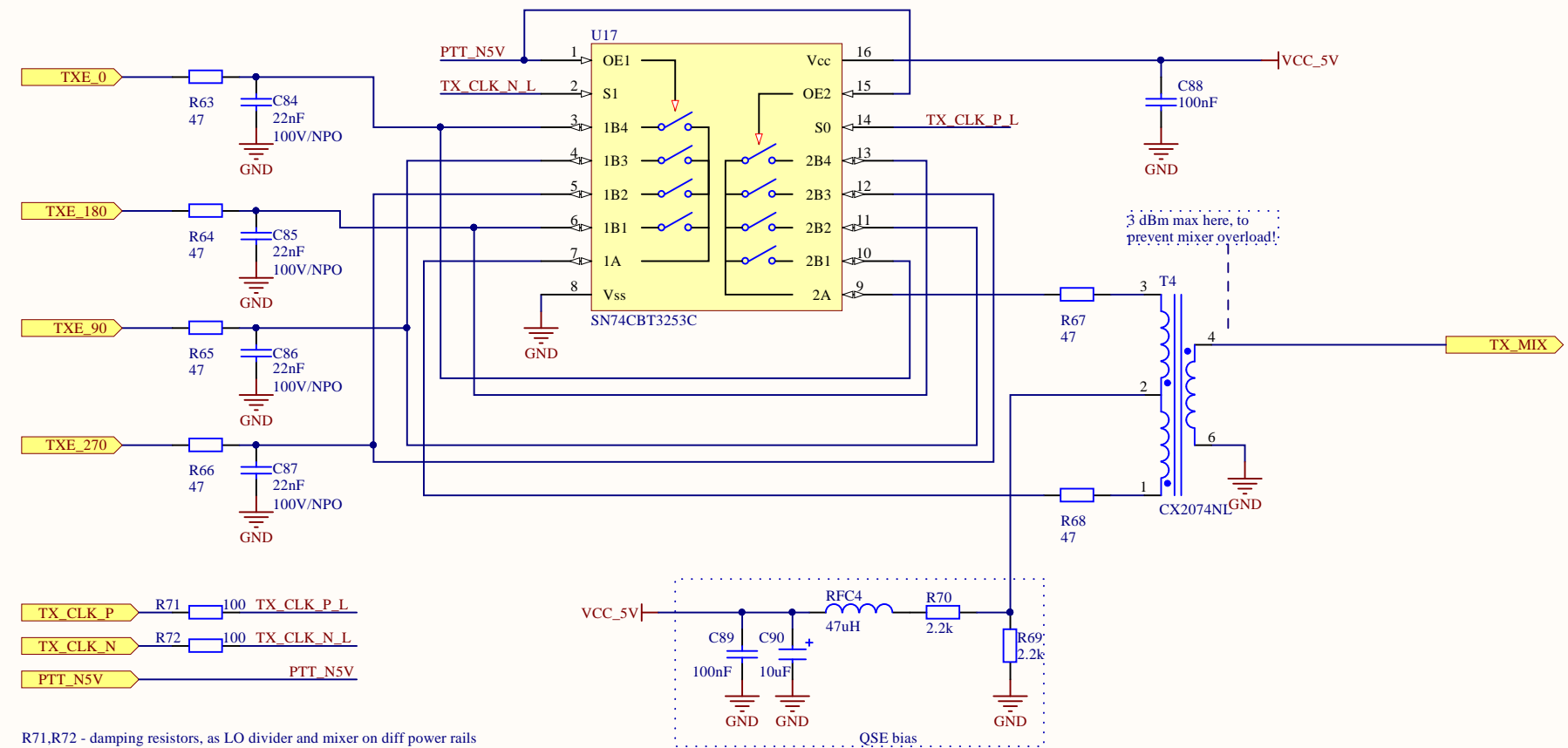
Date: 02/02/2017 Revision: 0.6 Sheet 12 of 12

File: C:\Projects\mcHF\pcb\rf\Schematics\rf\_swrmet.SchDoc



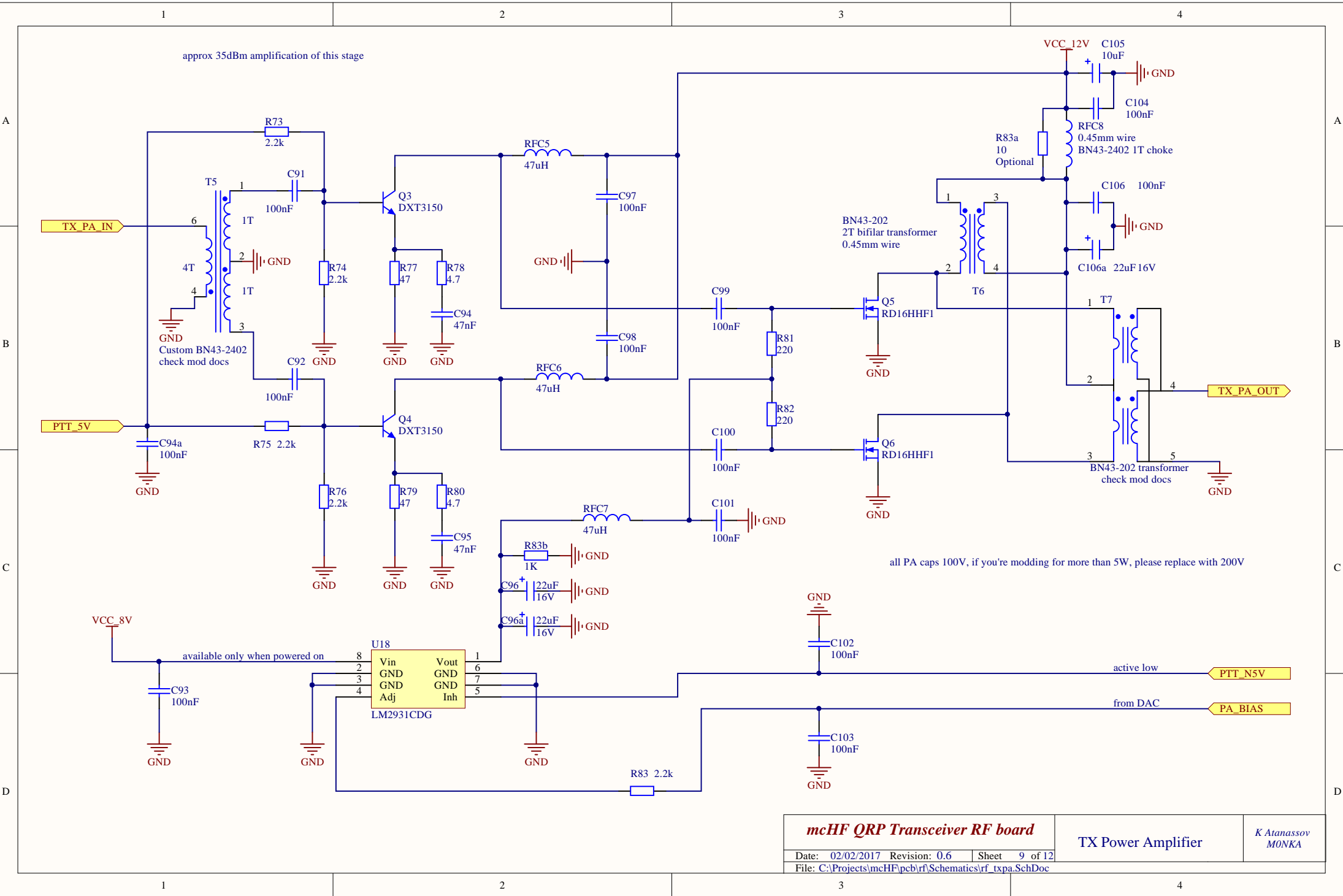
<b>mcHF QRP Transceiver RF board</b>		Antenna Switching	K Atanassov MONKA
Date: 02/02/2017	Revision: 0.6	Sheet 7 of 12	
File: C:\Projects\mcHF\pcb\rf\Schematics\rf_trsw_SchDoc			





R71,R72 - damping resistors, as LO divider and mixer on diff power rails could be replaced with jumpers if one feels they are not needed

MODE	OE	S1	S0	Switches	Phases
TX	0	0	0	1B1/2B1	180/0
TX	0	0	1	2B2/1B2	90/270
TX	0	1	1	1B4/2B4	0/180
TX	0	1	0	2B3/1B3	270/90
RX	1	X	X	All Open	



1

2

3

4

A

A

B

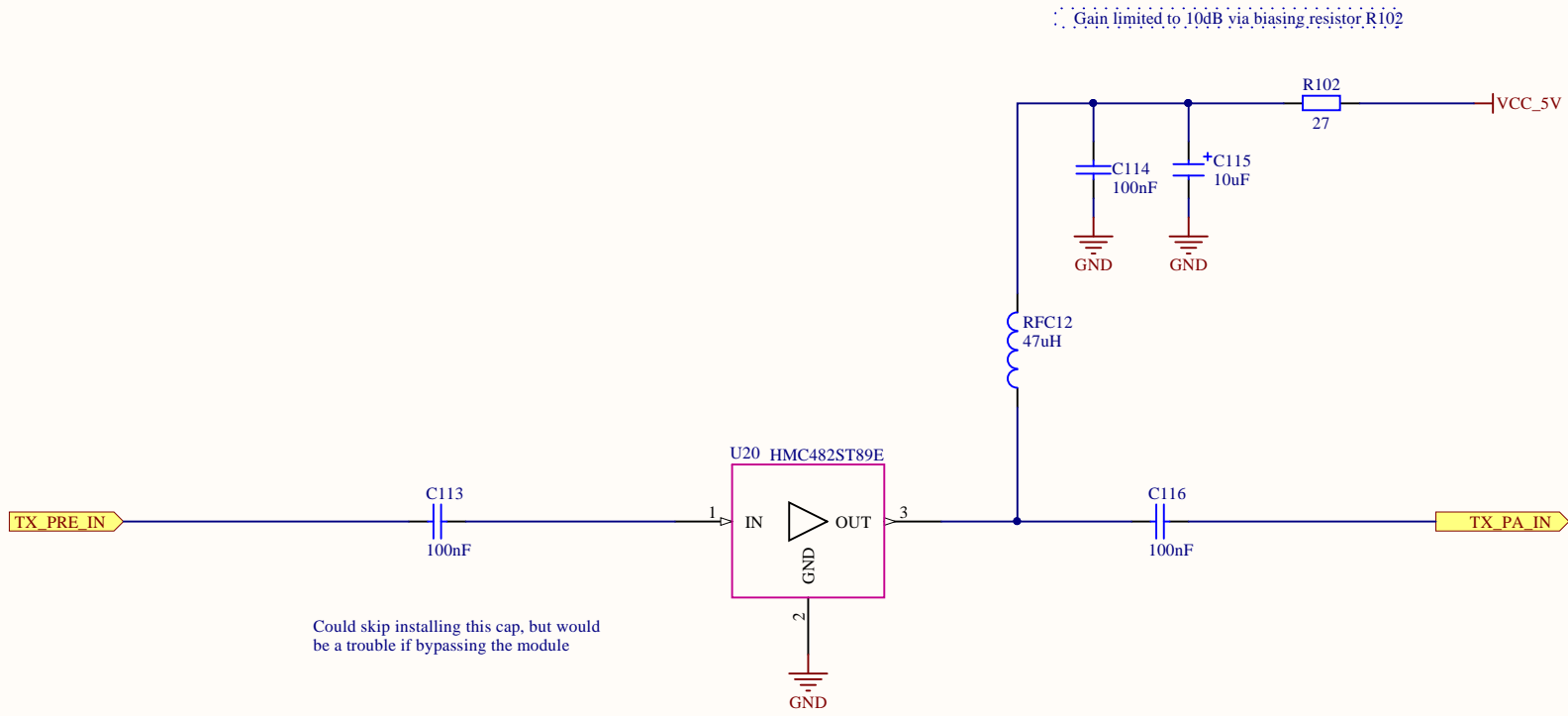
B

C

C

D

D



Could skip installing this cap, but would be a trouble if bypassing the module

1

2

3

4

