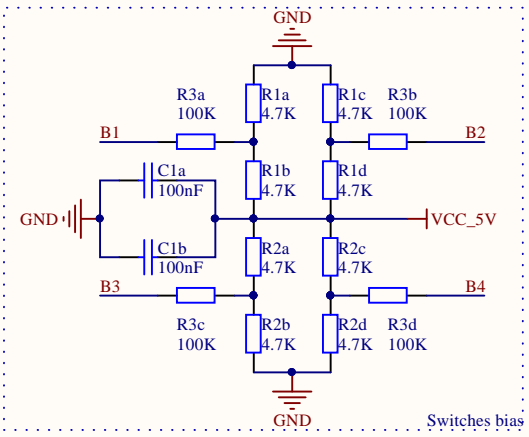
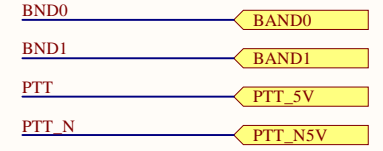
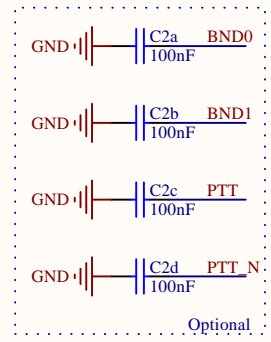
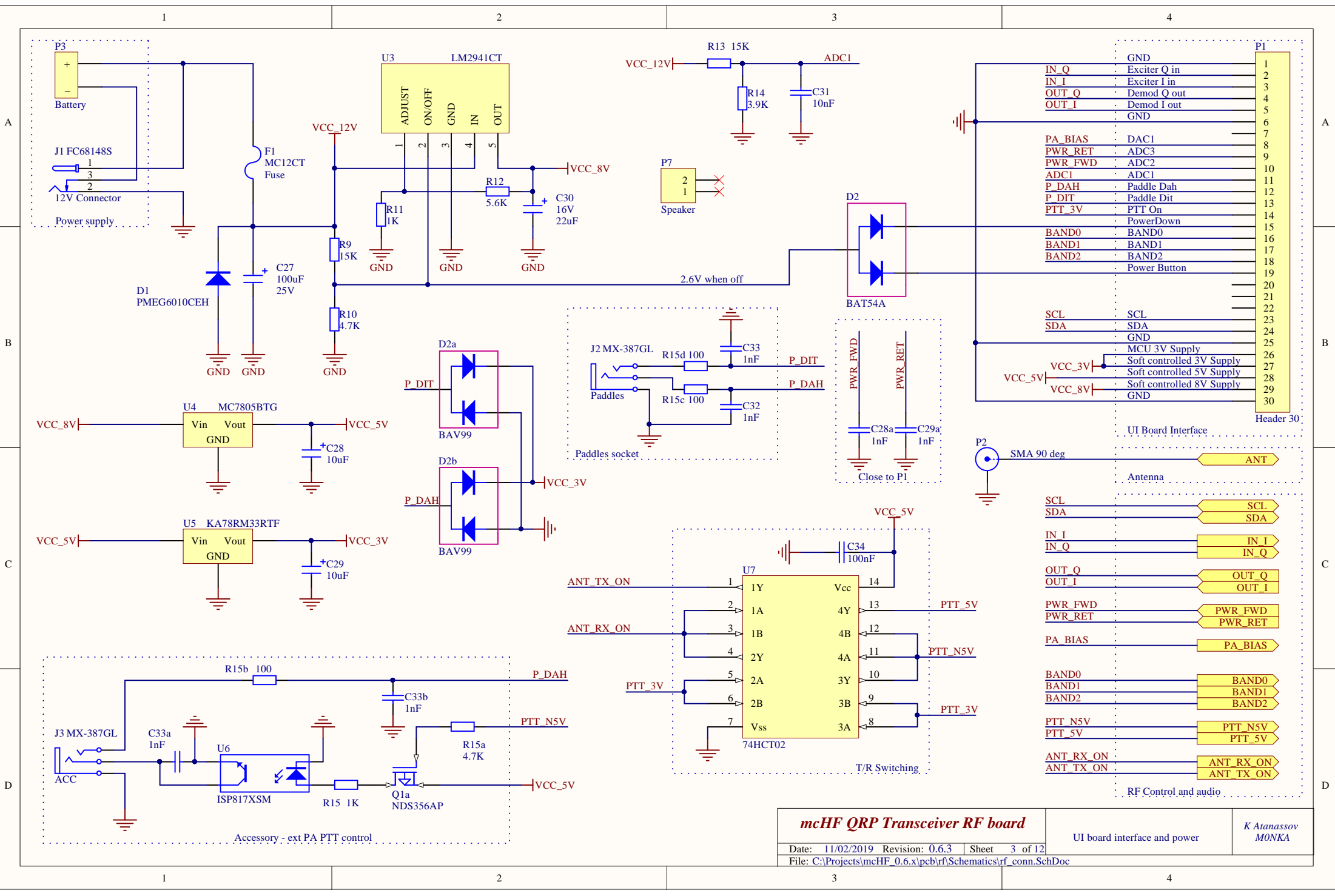


all filter caps 100V

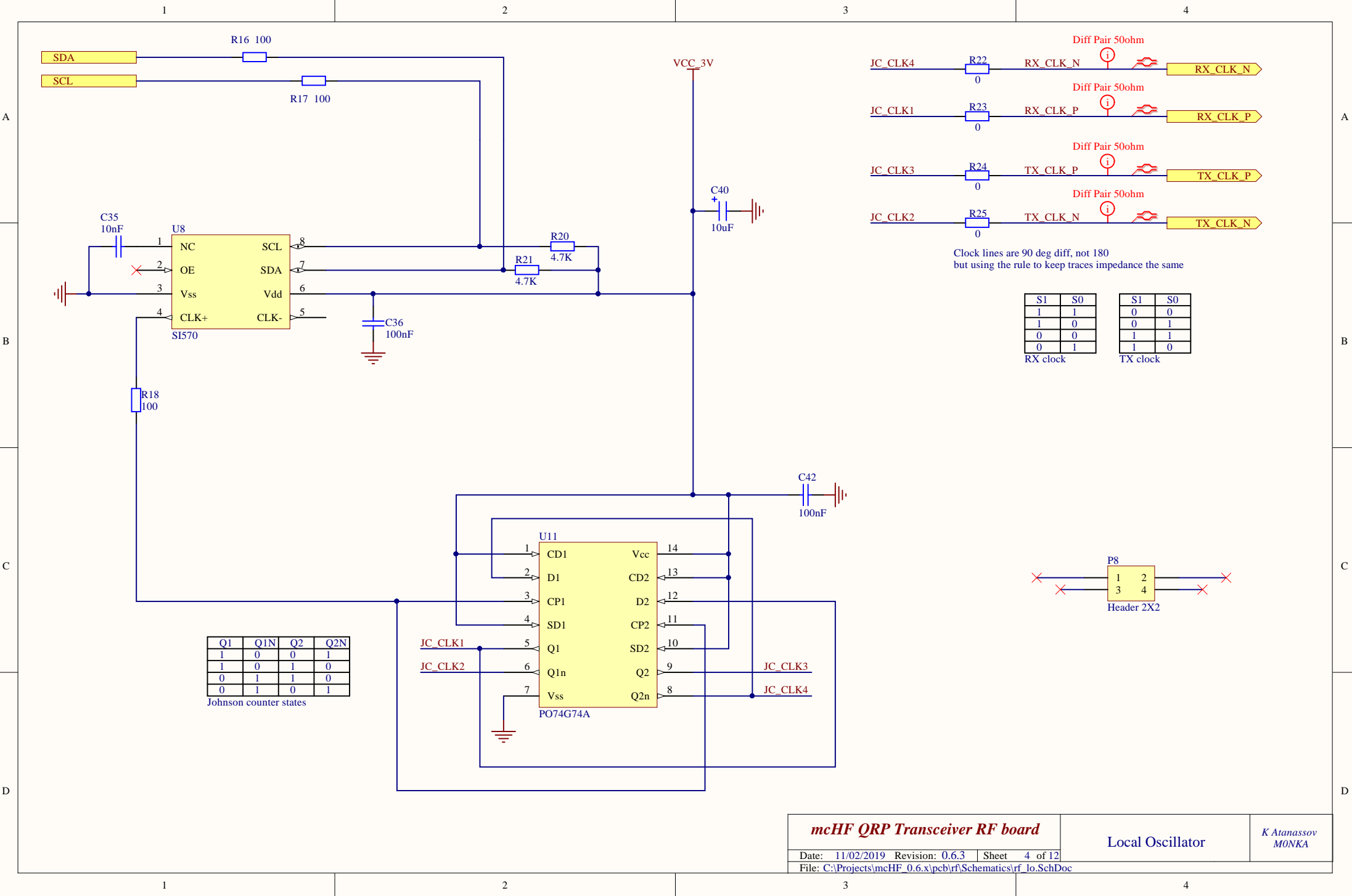


MODE	OE1	OE2	S1	S0	Switches	Filter
TX	1	0	0	0	2B1	20/30m
TX	1	0	0	1	2B2	40m
TX	1	0	1	0	2B3	15-10m
TX	1	0	1	1	2B4	80m
RX	0	1	0	0	1B1	20/30m
RX	0	1	0	1	1B2	40m
RX	0	1	1	0	1B3	15-10m
RX	0	1	1	1	1B4	80m





mcHF QRP Transceiver RF board			UI board interface and power	K Atanassov MONKA
Date: 11/02/2019	Revision: 0.6.3	Sheet 3 of 12		
File: C:\Projects\mcHF_0.6.x\pcb\rf\Schematics\rf_conn.SchDoc				



Q1	Q1N	Q2	Q2N
1	0	0	1
1	0	1	0
0	1	1	0
0	1	0	1

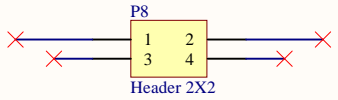
Johnson counter states

S1	S0
1	1
1	0
0	0
0	1

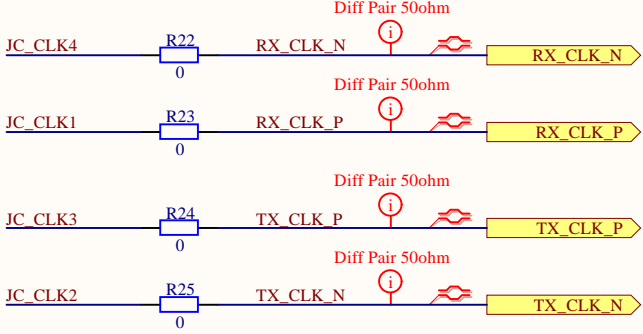
RX clock

S1	S0
0	0
0	1
1	1
1	0

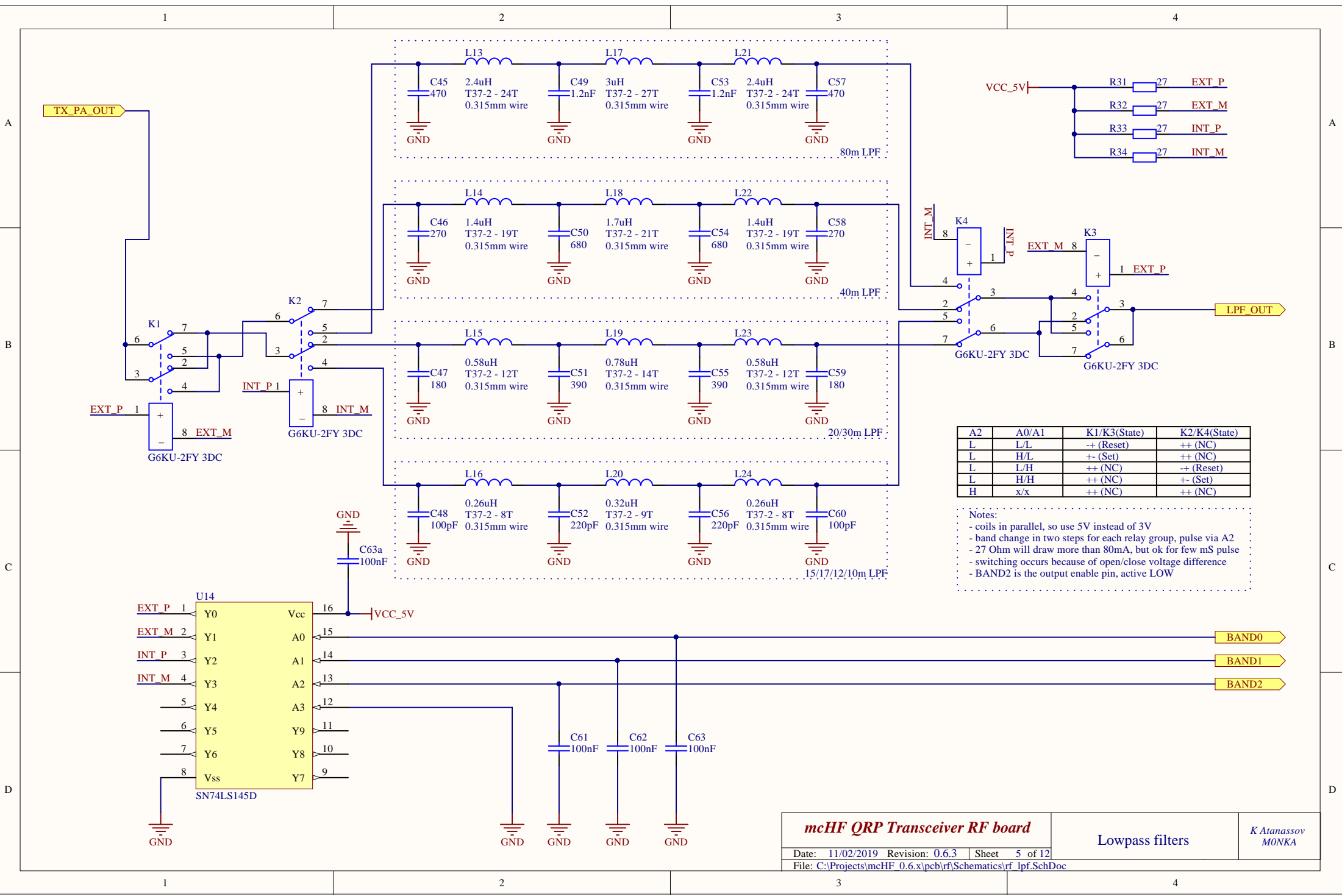
TX clock



Header 2X2



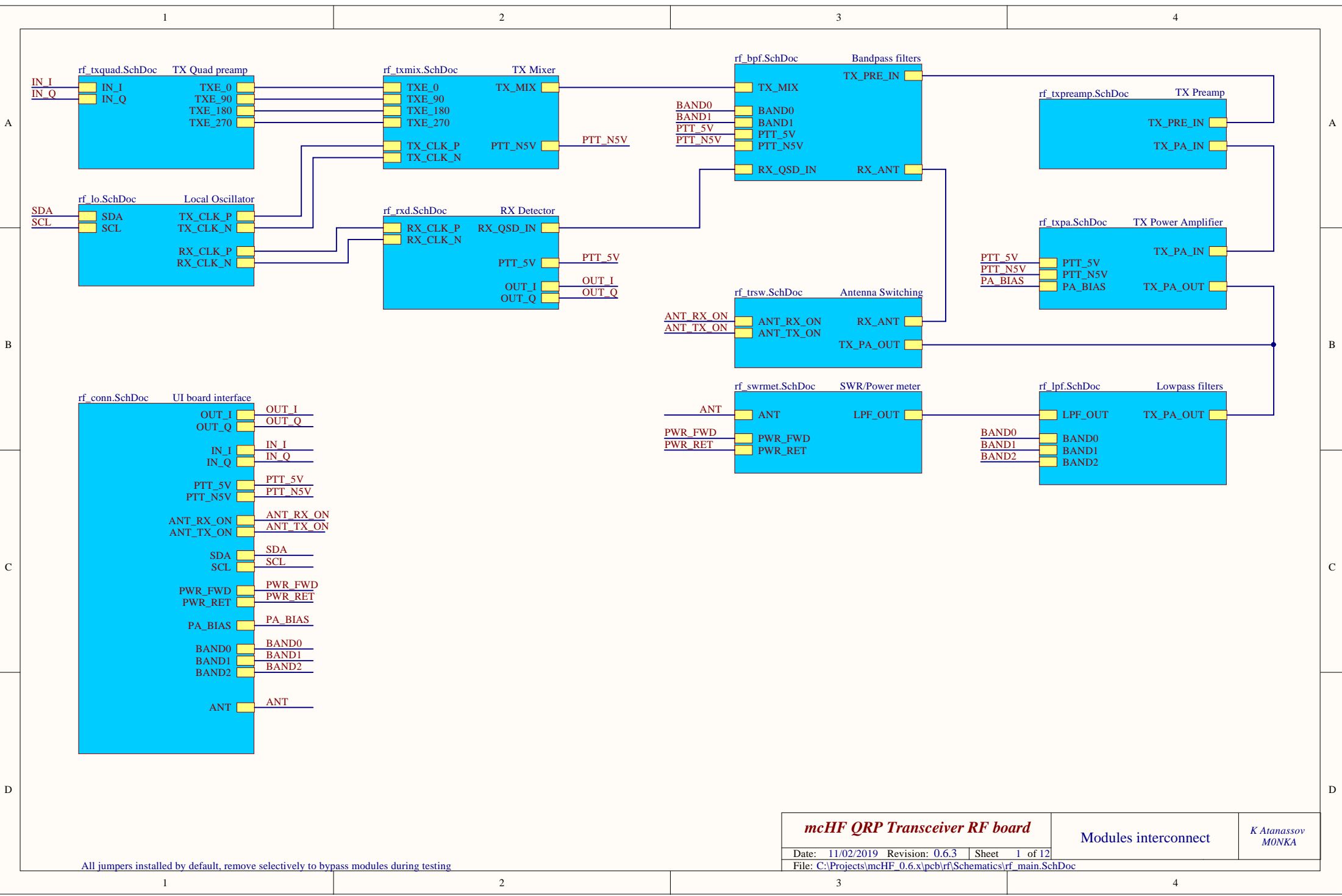
Clock lines are 90 deg diff, not 180 but using the rule to keep traces impedance the same



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)

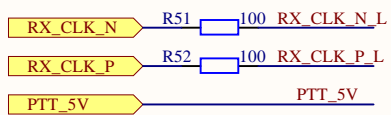
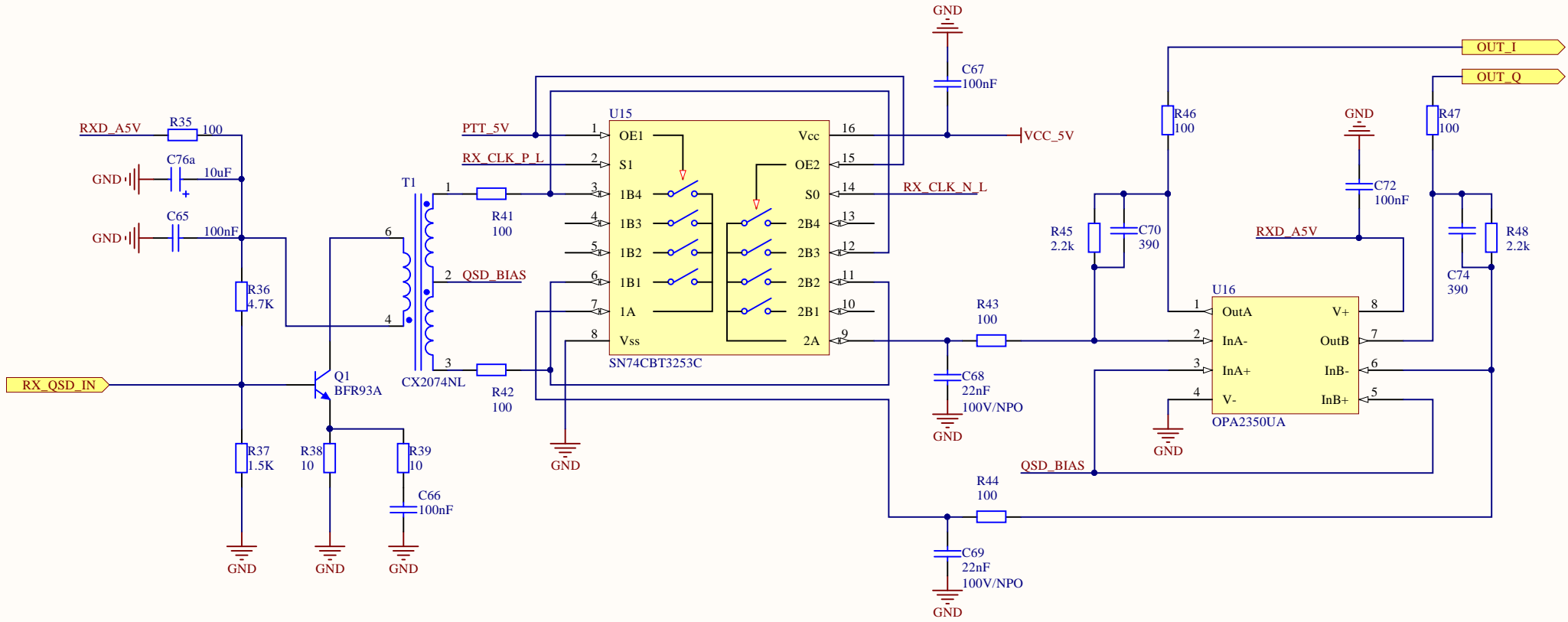
Notes:
 - coils in parallel, so use 5V instead of 3V
 - band change in two steps for each relay group, pulse via A2
 - 27 Ohm will draw more than 80mA, but ok for few mS pulse
 - switching occurs because of open/close voltage difference
 - BAND2 is the output enable pin, active LOW

mcHF QRP Transceiver RF board		Lowpass filters	K Atanassov MONKA
Date:	11/02/2019 Revision: 0.6.3 Sheet 5 of 12		
File: C:\Projects\mcHF_0.6.x\pcb\rf\Schematics\rf_lpf.SchDoc			



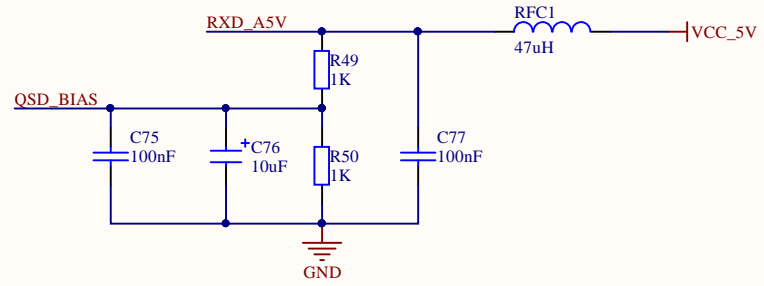
All jumpers installed by default, remove selectively to bypass modules during testing

mcHF QRP Transceiver RF board			Modules interconnect	K Atanassov MONKA
Date:	11/02/2019	Revision:	0.6.3	Sheet 1 of 12
File: C:\Projects\mcHF_0.6.x\pcb\rf\Schematics\rf_main.SchDoc				

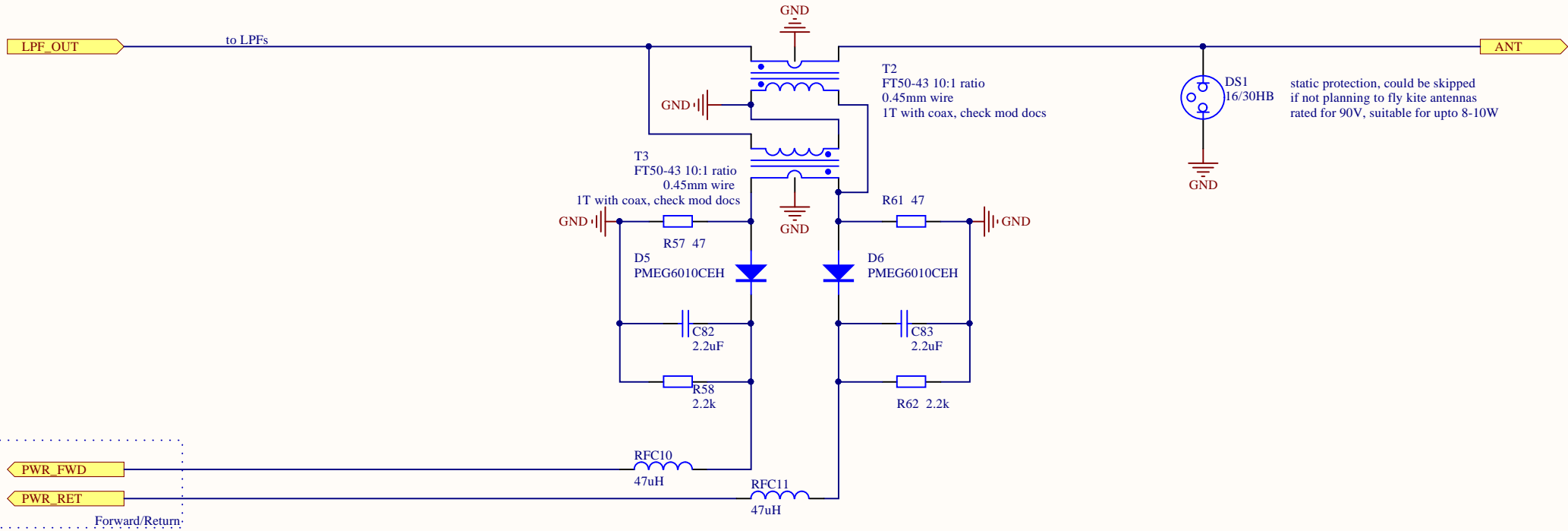


MODE	OE	S1	S0	Switches	Phases
RX	0	0	0	1B1	270
RX	0	0	1	2B2	0
RX	0	1	1	1B4	90
RX	0	1	0	2B3	180
TX	1	X	X	All Open	

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

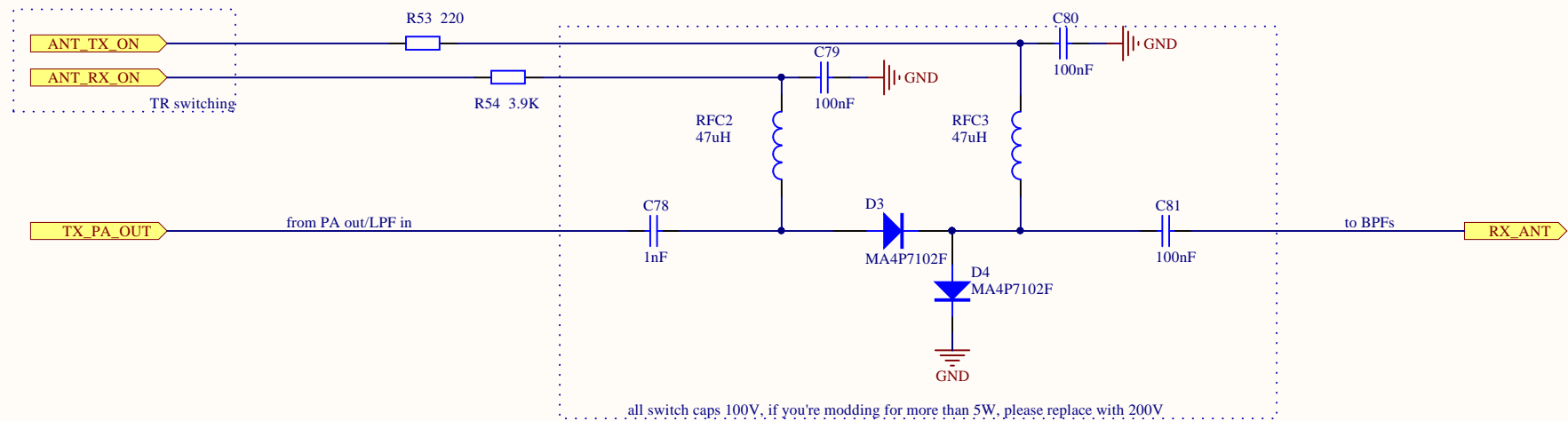


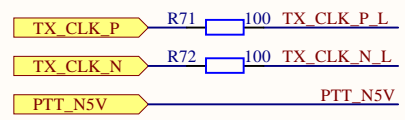
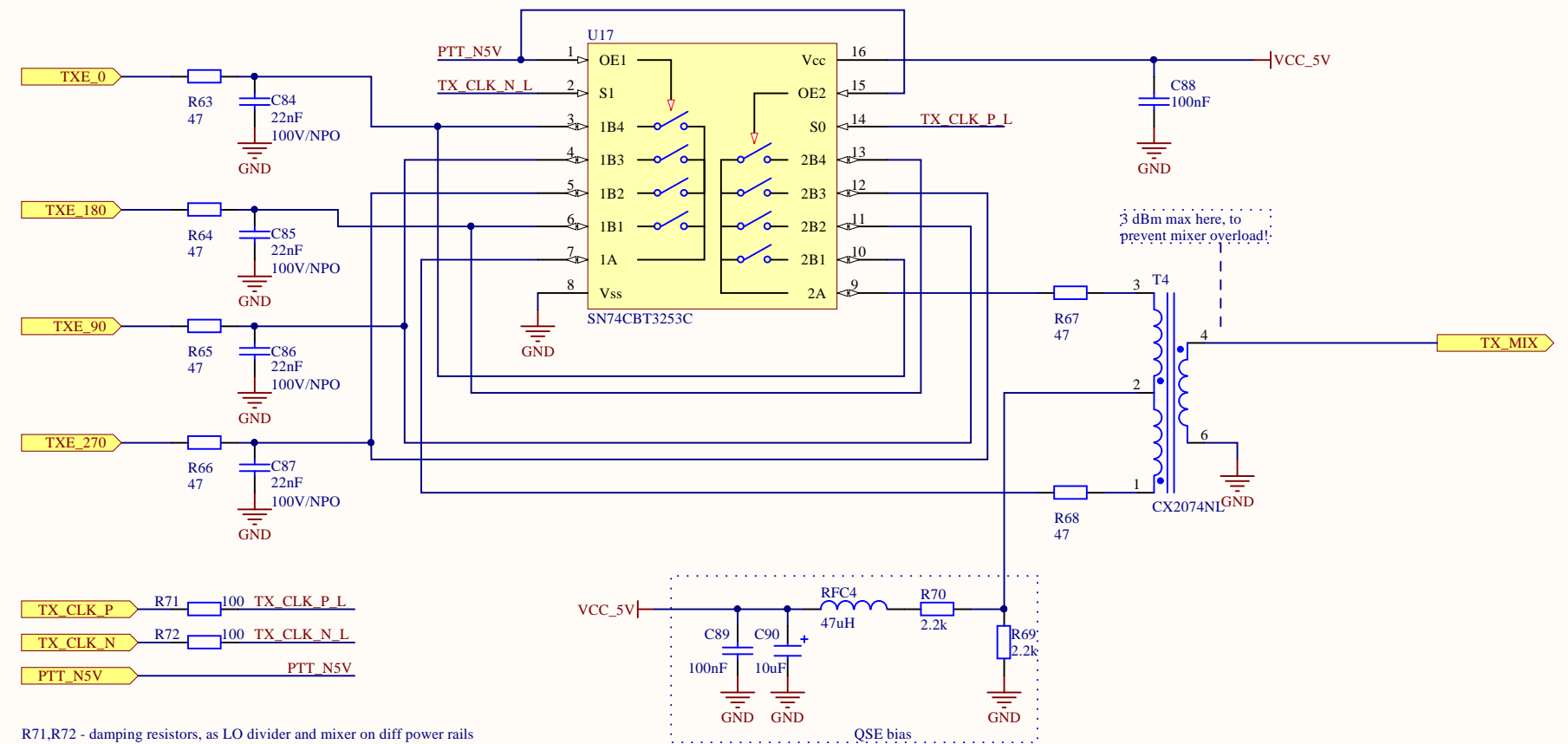
mcHF QRP Transceiver RF board		RX Detector	<i>K Atanassov MONKA</i>
Date:	11/02/2019 Revision: 0.6.3 Sheet 6 of 12		
File: C:\Projects\mcHF_0.6.x\pcb\rf\Schematics\rf_rxd.SchDoc			



static protection, could be skipped if not planning to fly kite antennas rated for 90V, suitable for upto 8-10W

mcHF QRP Transceiver RF board		SWR/PWR Meter	<i>K Atanassov MONKA</i>
Date: 11/02/2019	Revision: 0.6.3	Sheet 12 of 12	
File: C:\Projects\mcHF_0.6.x\pcb\rf\Schematics\rf_swrmet.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

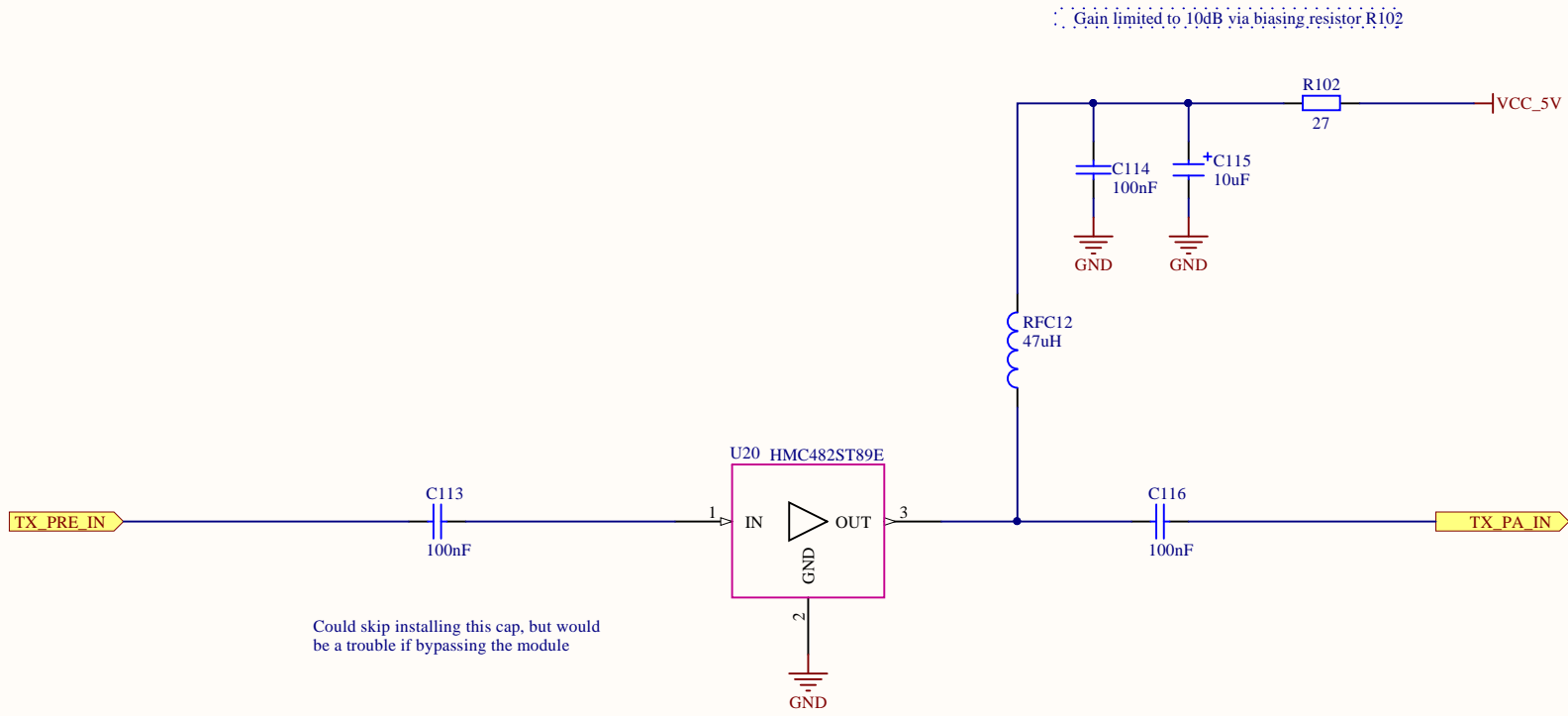
B

C

C

D

D



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

1

2

3

4

