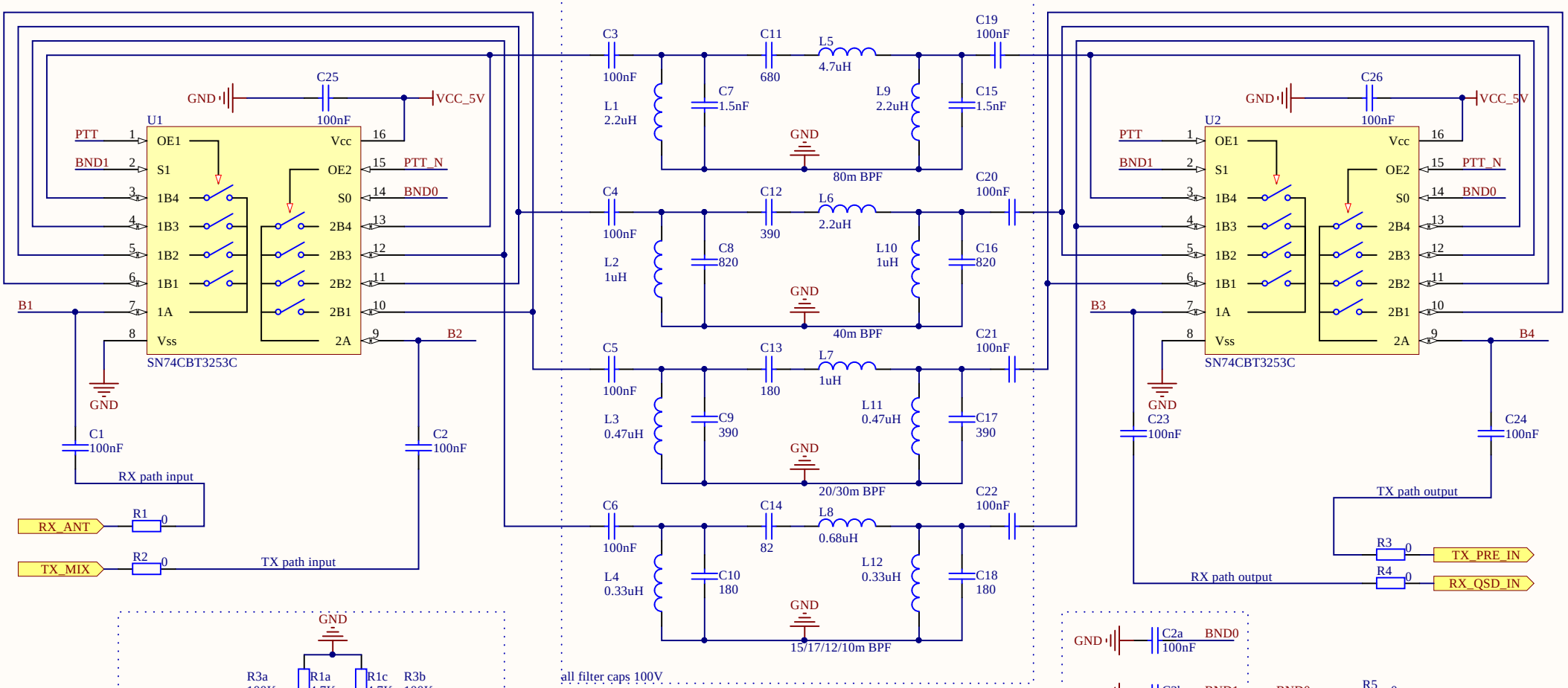
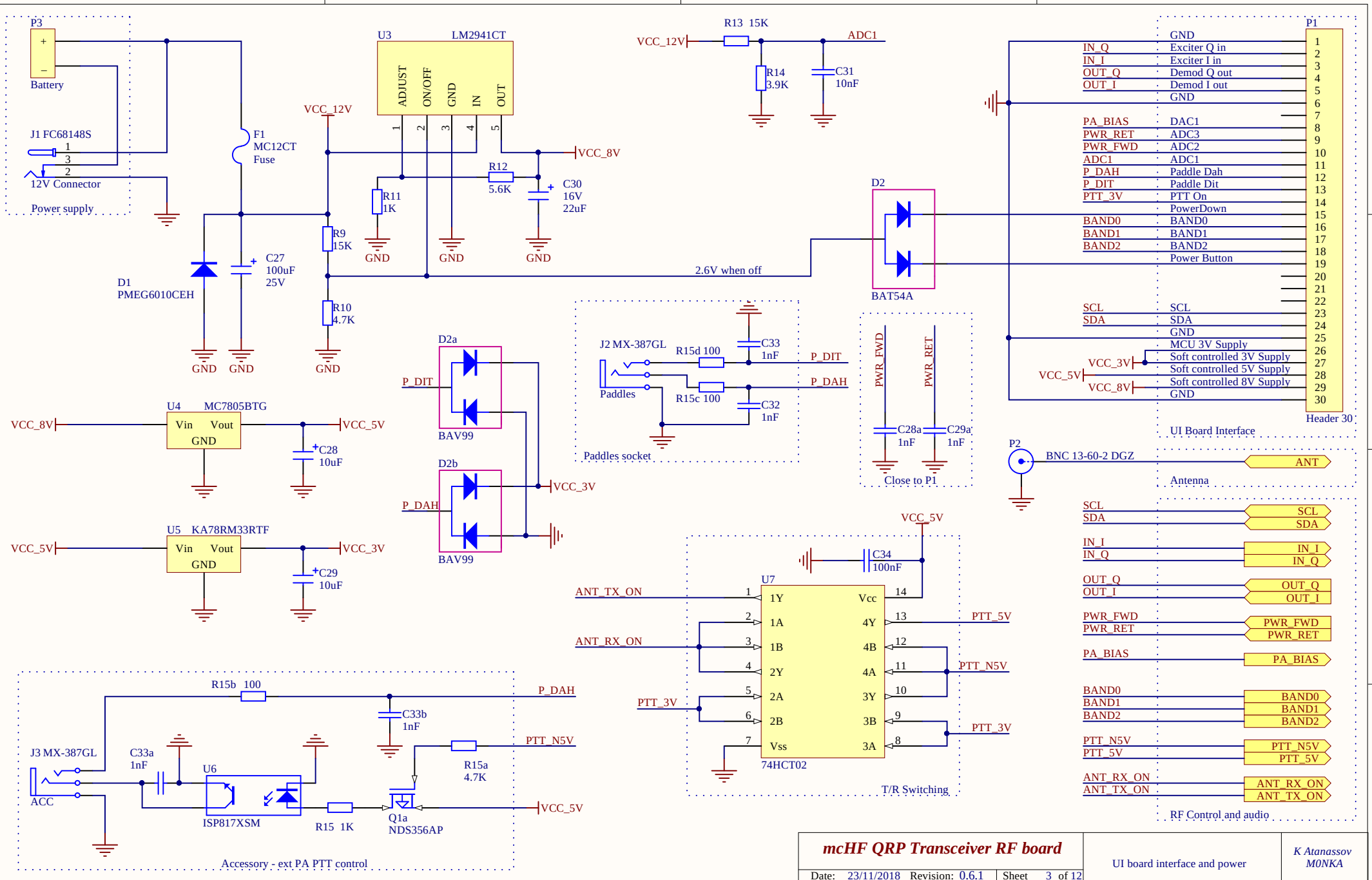
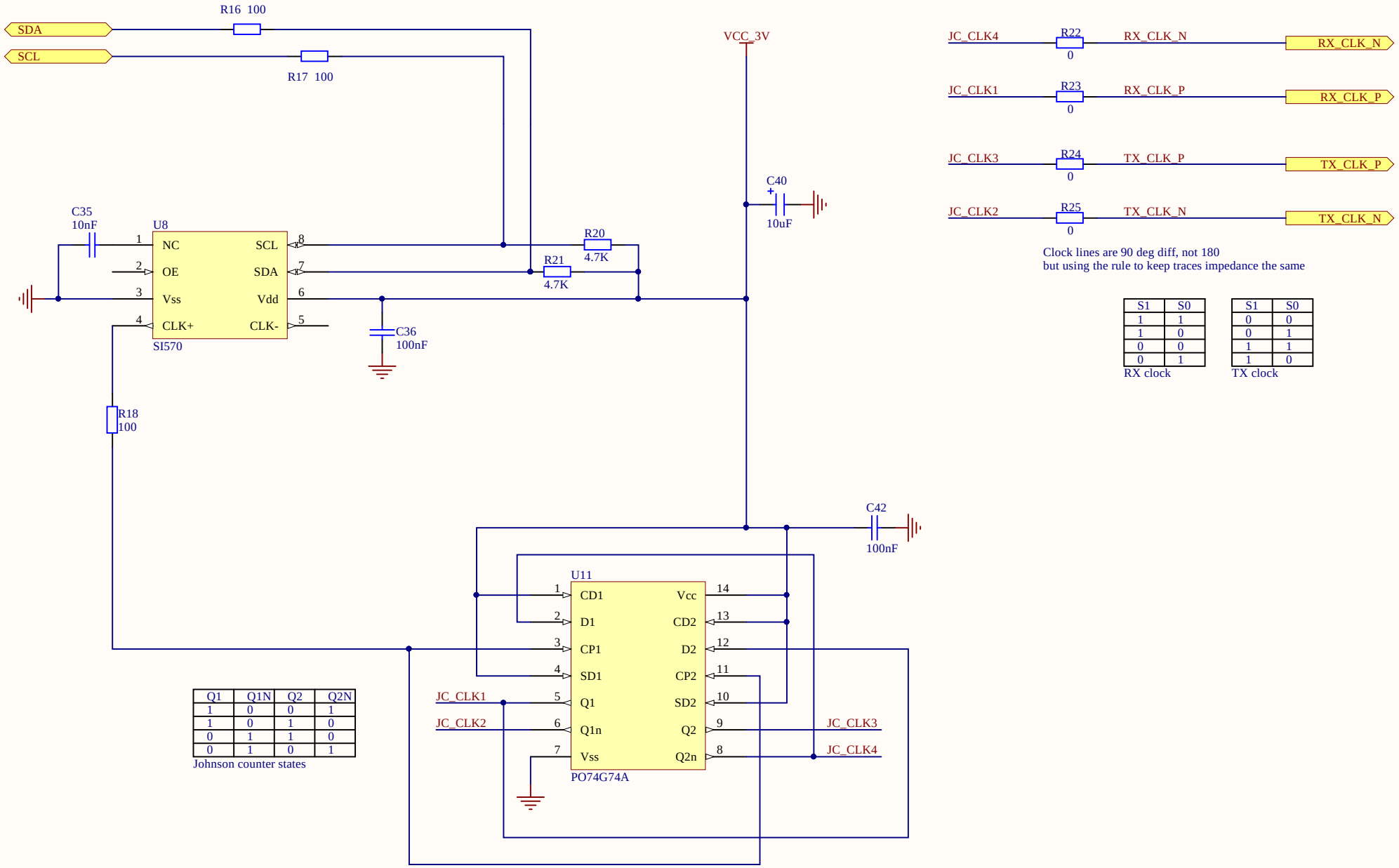


MODE	OE1	OE2	S1	S0	Switches	Filter
TX	1	0	0	0	2B1	20/30m
TX	1	0	0	1	2B2	40m
TX	1	0	1	0	2B3	15-10m
TX	1	0	1	1	2B4	80m
RX	0	1	0	0	1B1	20/30m
RX	0	1	0	1	1B2	40m
RX	0	1	1	0	1B3	15-10m
RX	0	1	1	1	1B4	80m

mcHF QRP Transceiver RF board		Bandpass filters	*K Atanassov M0NKA*
Date: 23/11/2018	Revision: 0.6.1	Sheet 2 of 12	
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_bpf.SchDoc			



mchHF QRP Transceiver RF board	UI board interface and power	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1	Sheet 3 of 12	
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_conn.SchDoc		

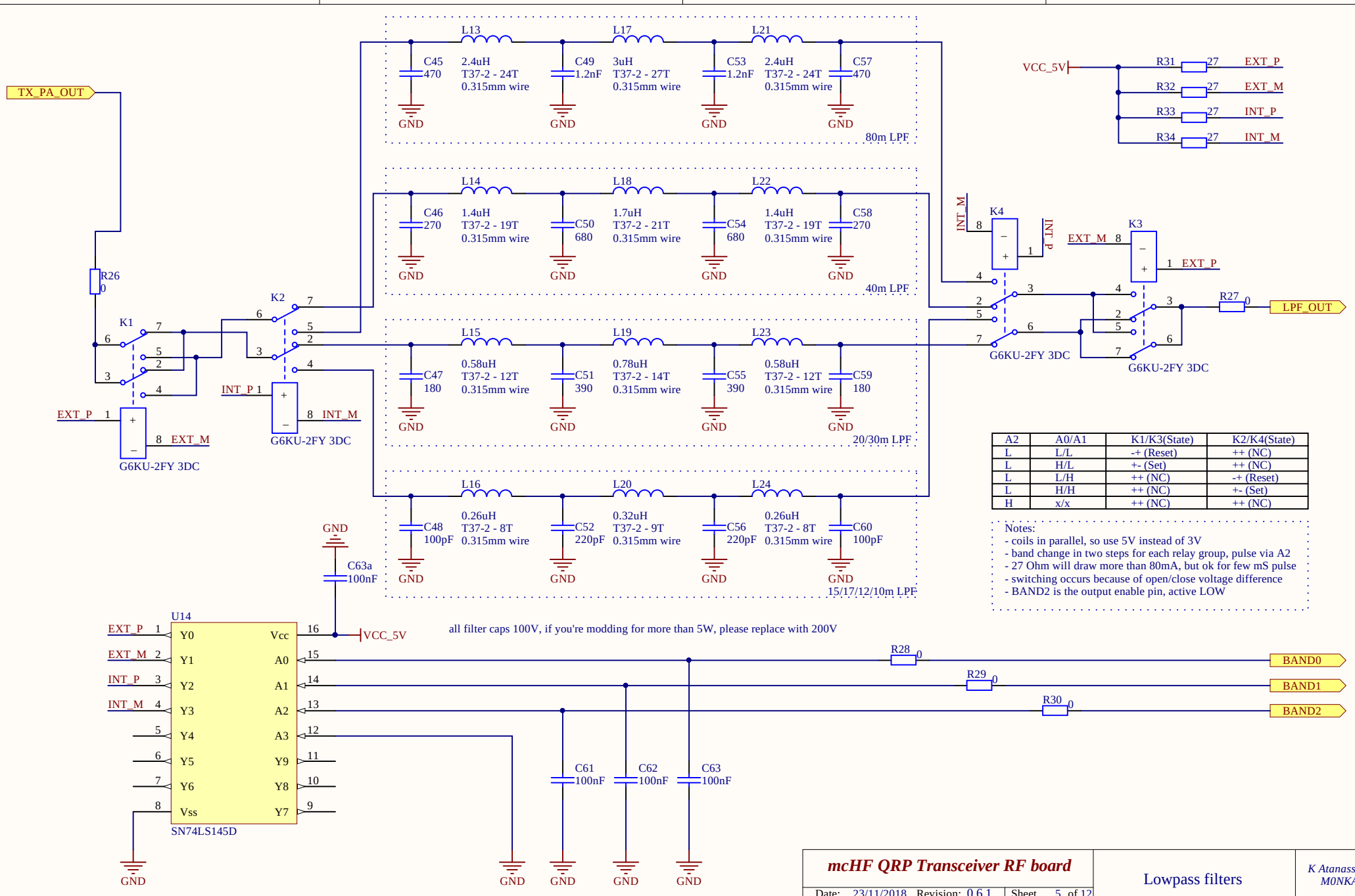


Q1	Q1N	Q2	Q2N
1	0	0	1
1	0	1	0
0	1	1	0
0	1	0	1

S1	S0
1	1
1	0
0	0
0	1

S1	S0
0	0
0	1
1	1
1	0

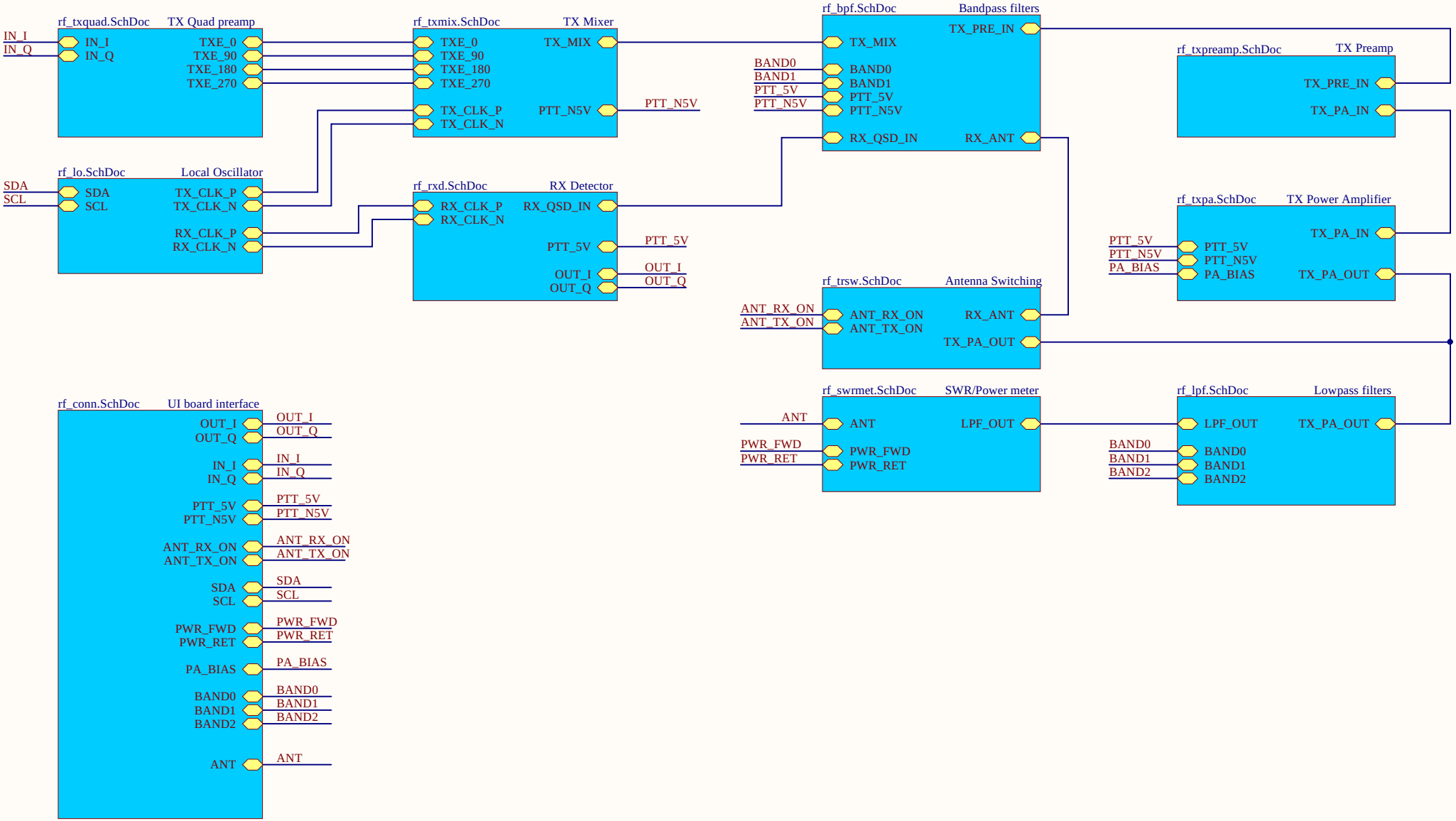
mcHF QRP Transceiver RF board			Local Oscillator	*K Atanassov M0NKA*
Date: 23/11/2018	Revision: 0.6.1	Sheet 4 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_lo.SchDoc				



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)

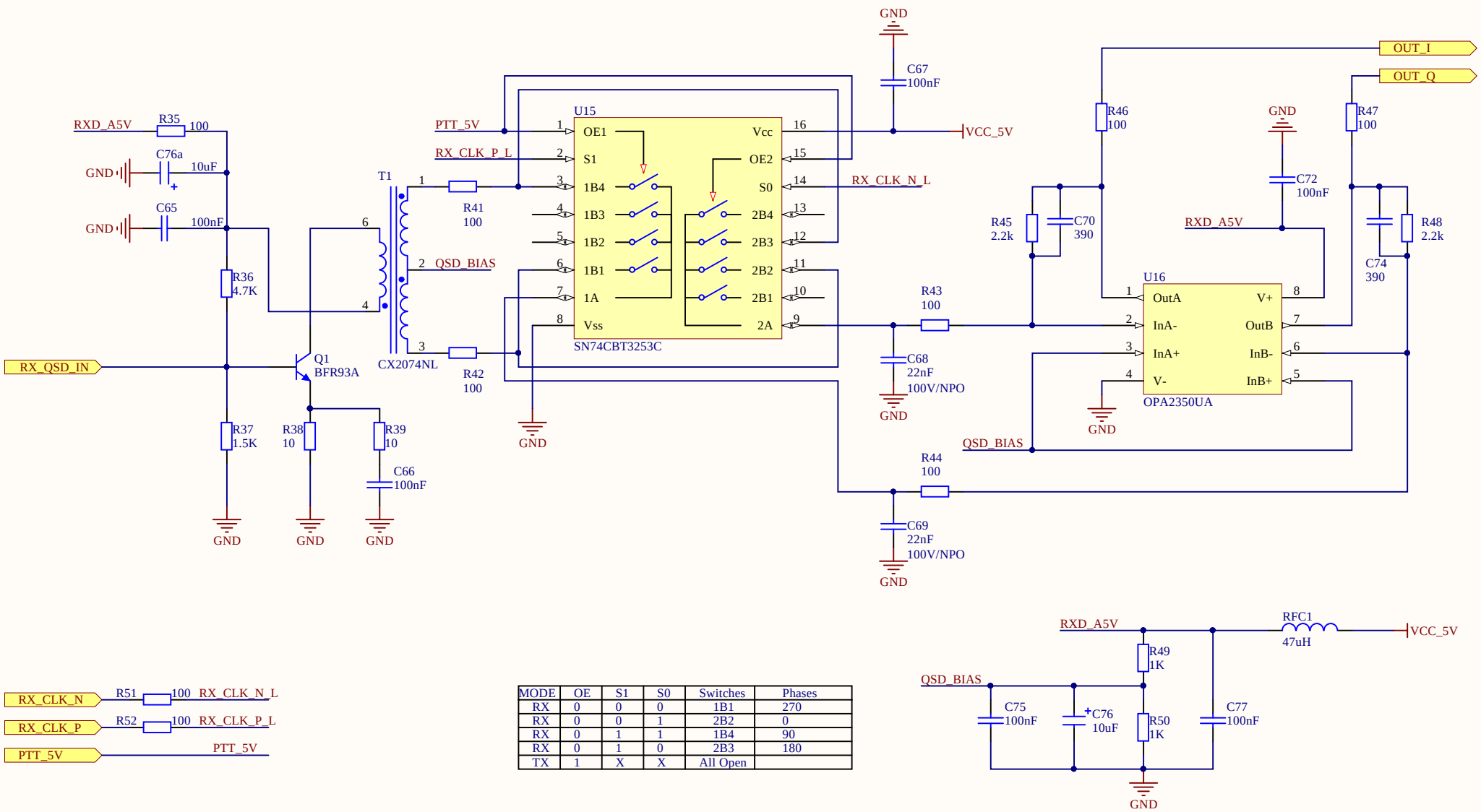
Notes:
- coils in parallel, so use 5V instead of 3V
- band change in two steps for each relay group, pulse via A2
- 27 Ohm will draw more than 80mA, but ok for few mS pulse
- switching occurs because of open/close voltage difference
- BAND2 is the output enable pin, active LOW

mchF QRP Transceiver RF board	Lowpass filters	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1 Sheet 5 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_lpf.SchDoc		



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

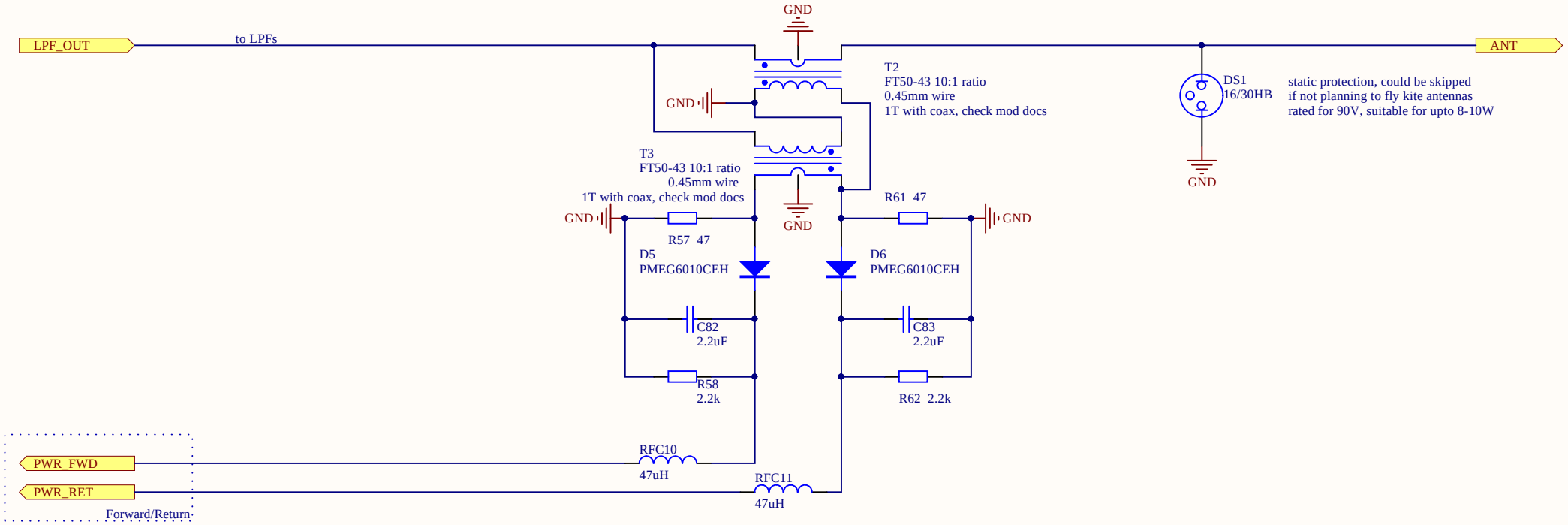
mcHF QRP Transceiver RF board	Modules interconnect	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1 Sheet 1 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_main.SchDoc		



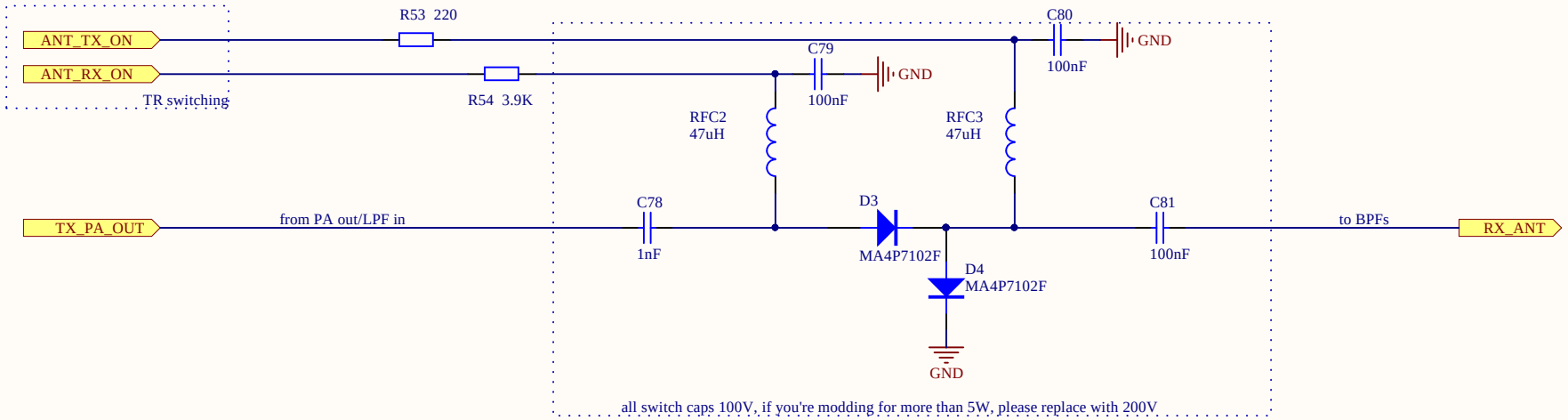
MODE	OE	S1	S0	Switches	Phases
RX	0	0	0	1B1	270
RX	0	0	1	2B2	0
RX	0	1	1	1B4	90
RX	0	1	0	2B3	180
TX	1	X	X	All Open	

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

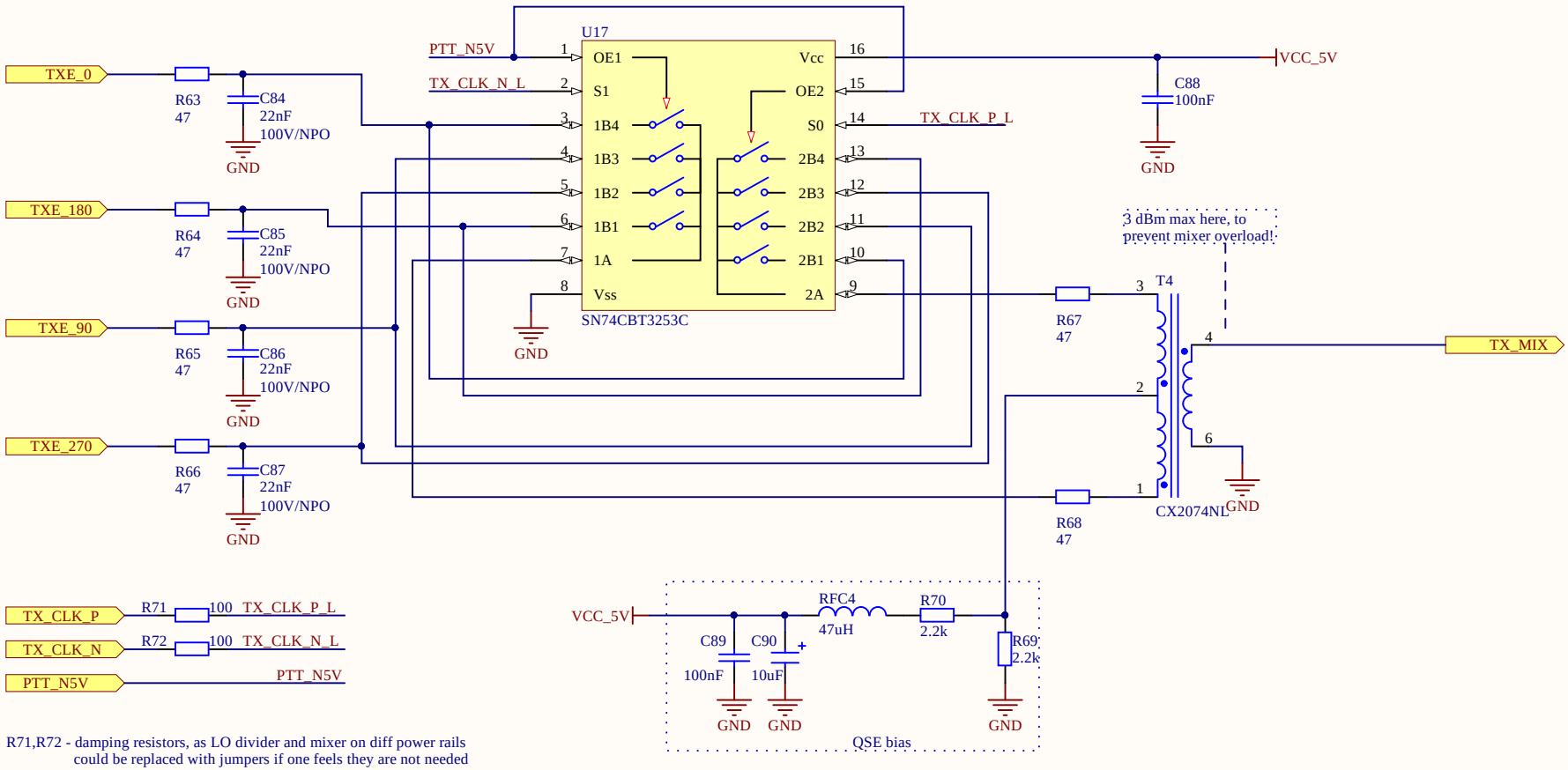
mchHF QRP Transceiver RF board		RX Detector	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1	Sheet 6 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_rxd.SchDoc			



mcHF QRP Transceiver RF board	SWR/PWR Meter	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1 Sheet 12 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_swrmet.SchDoc		



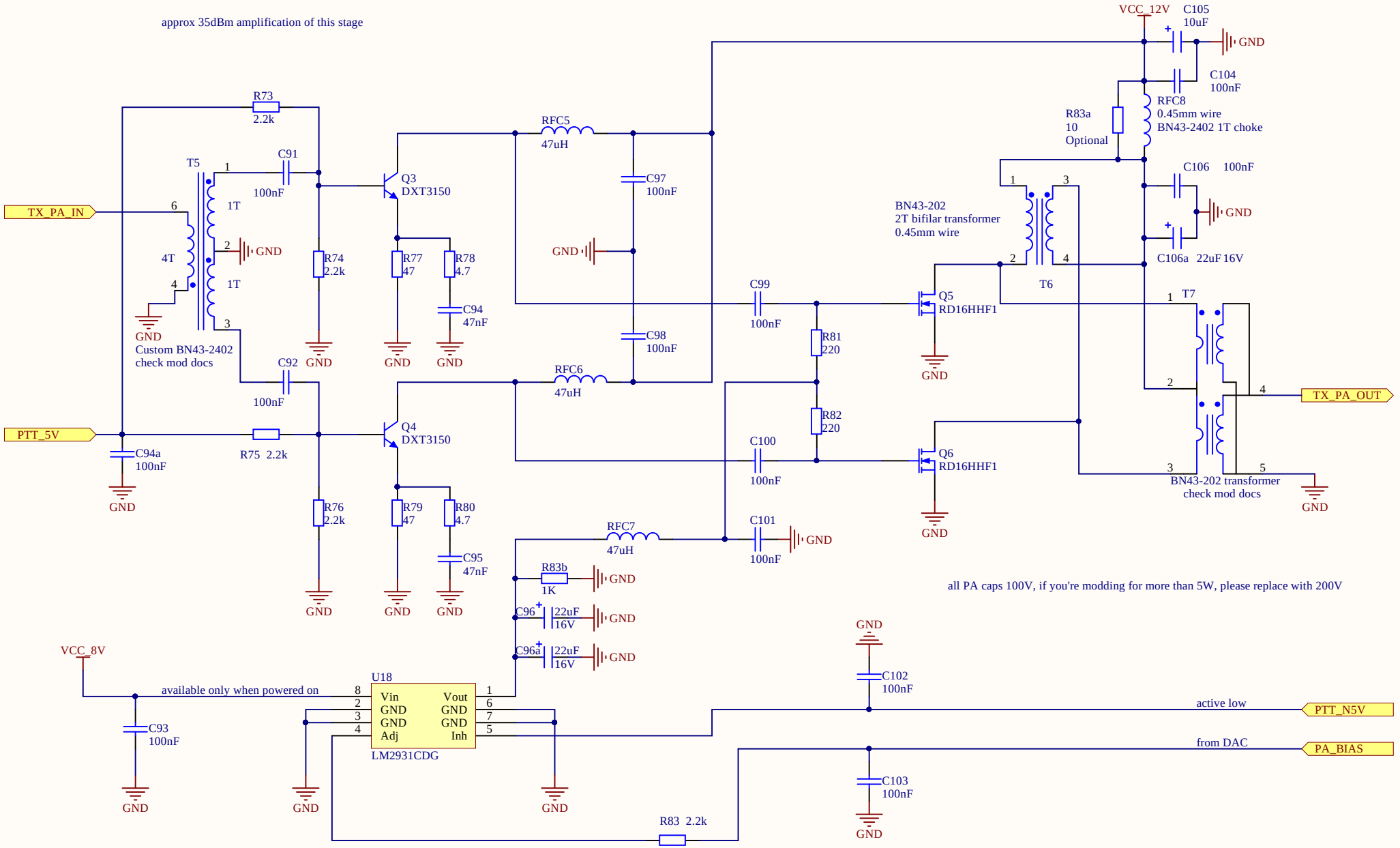
mcHF QRP Transceiver RF board	Antenna Switching	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1	Sheet 7 of 12	
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_trsw.SchDoc		



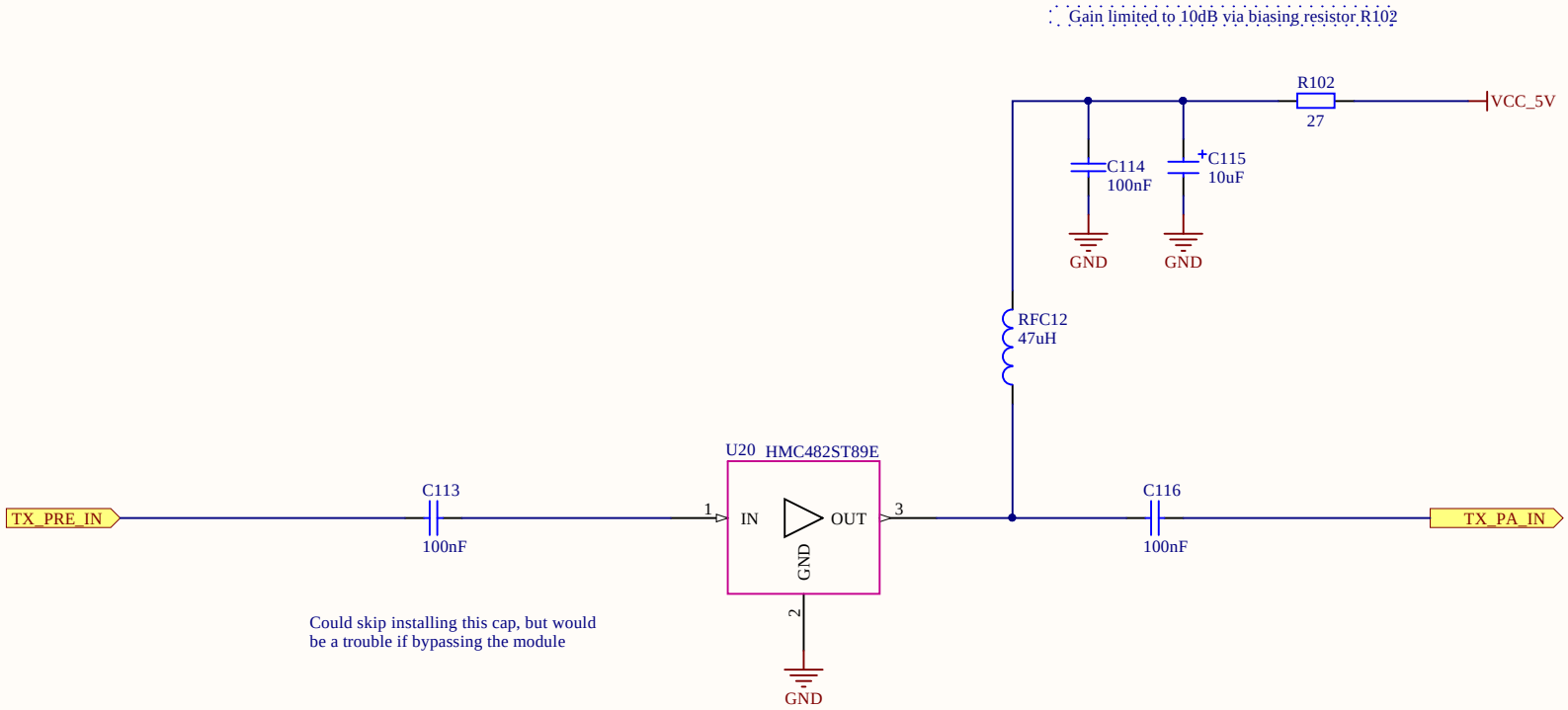
R71,R72 - damping resistors, as LO divider and mixer on diff power rails could be replaced with jumpers if one feels they are not needed

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	

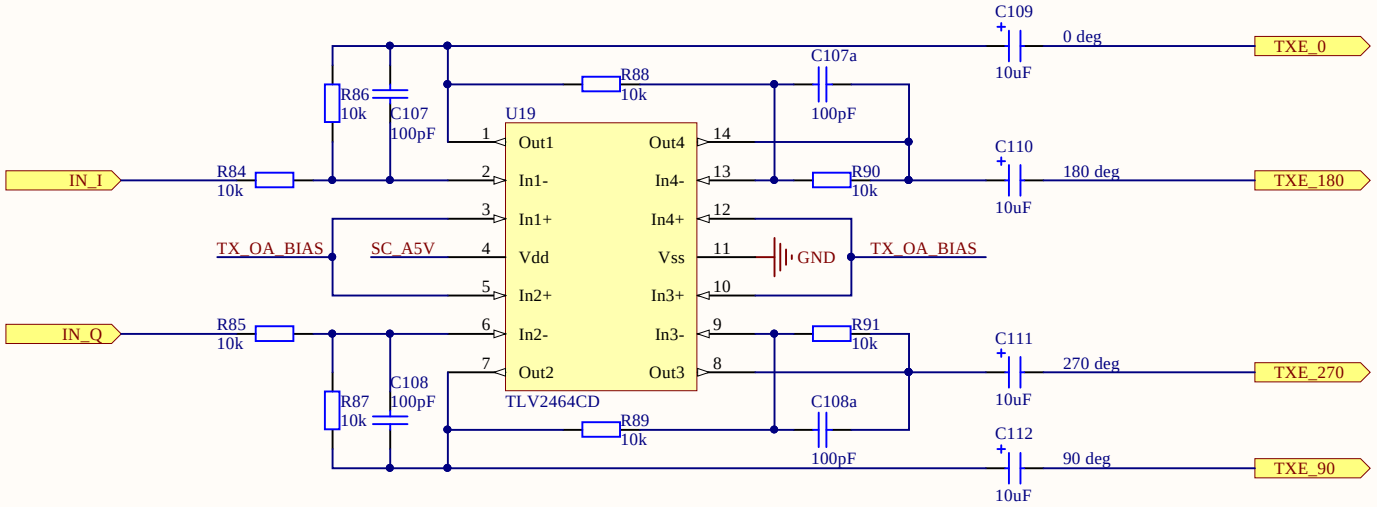
mcHF QRP Transceiver RF board	TX Mixer	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1 Sheet 8 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_txmix.SchDoc		

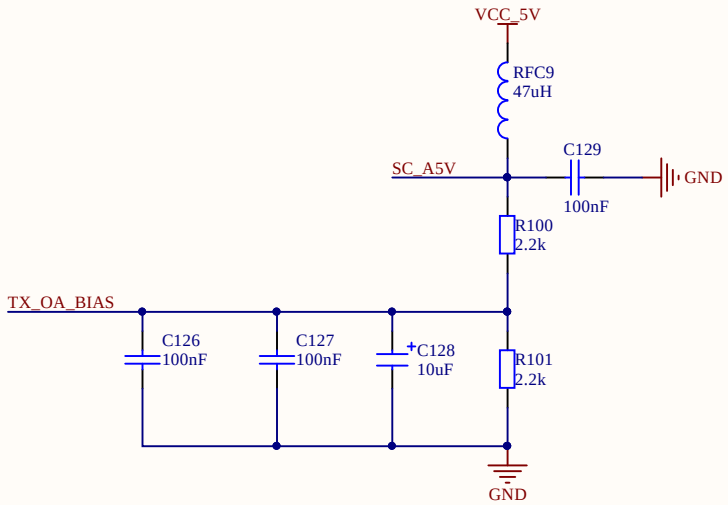


mchHF QRP Transceiver RF board	TX Power Amplifier	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1 Sheet 9 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_txpa.SchDoc		



mcHF QRP Transceiver RF board	TX RF preamp	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1 Sheet 11 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_txpreamp.SchDoc		





mcHF QRP Transceiver RF board	TX Quad preamp	*K Atanassov M0NKA*
Date: 23/11/2018 Revision: 0.6.1 | Sheet 10 of 12		
File: C:\Projects\mcHF_6.1\pcb\rf\Schematics\rf_txquad.SchDoc		