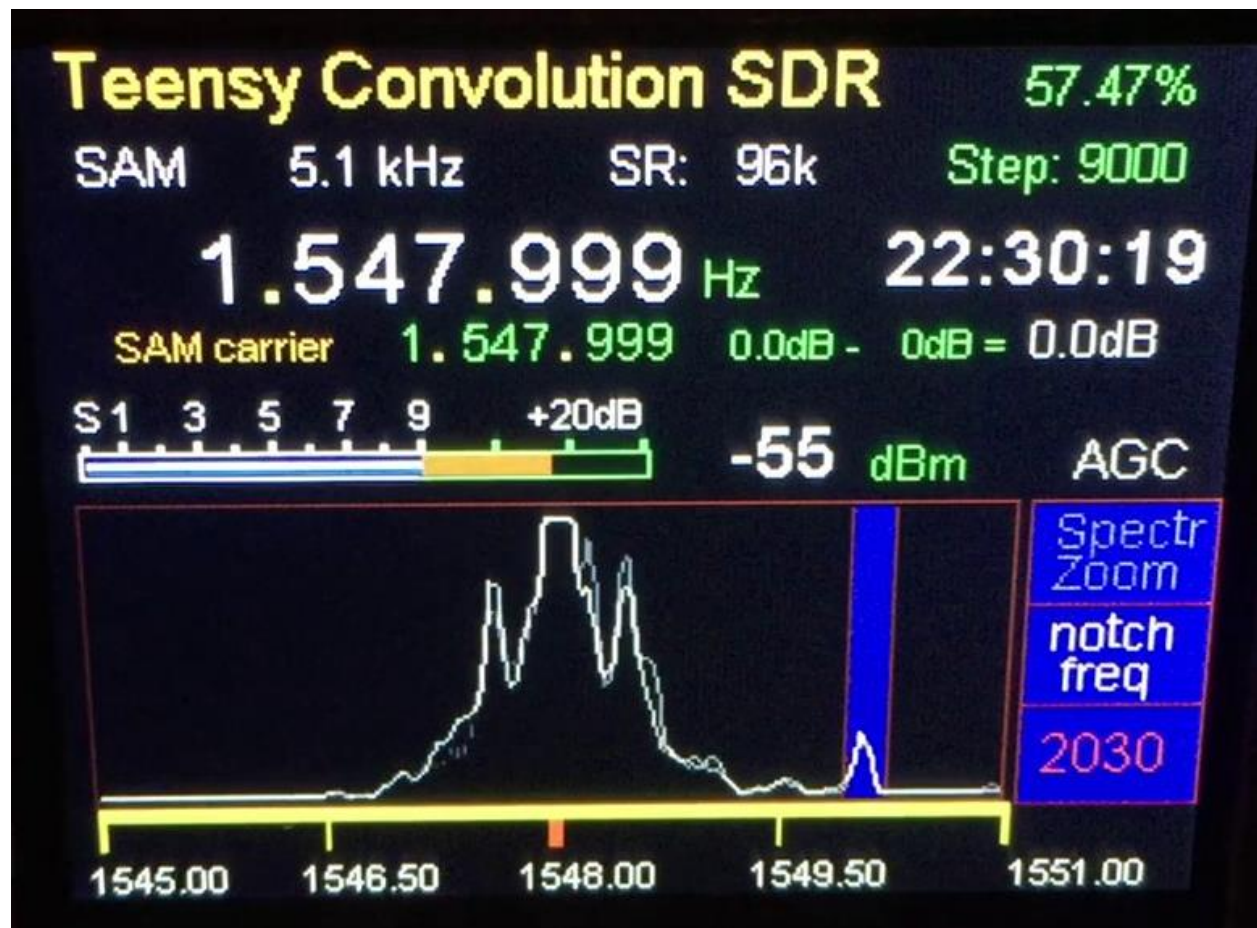


# TEENSY CONVOLUTION



# TEENSY CONVOLUTION MAIN IQ BOARD

## Part ITEMS

ENC\_2 ALPS\_EC12E\_SW

ENC\_3 ALPS\_EC12E\_SW

ENC\_TUNE ALPS\_EC12E\_SW

FB1 FB2 FB3 FERRITE BEAD 1206

FUSE 1206

PCA9674 SOIC16R

C1 C2 C3 C4 C5 C6 1206 10NF – NC

C7 C8 C9 C11 C2 C14 100NF 1206

C10 C13 C16 10Uf 1206

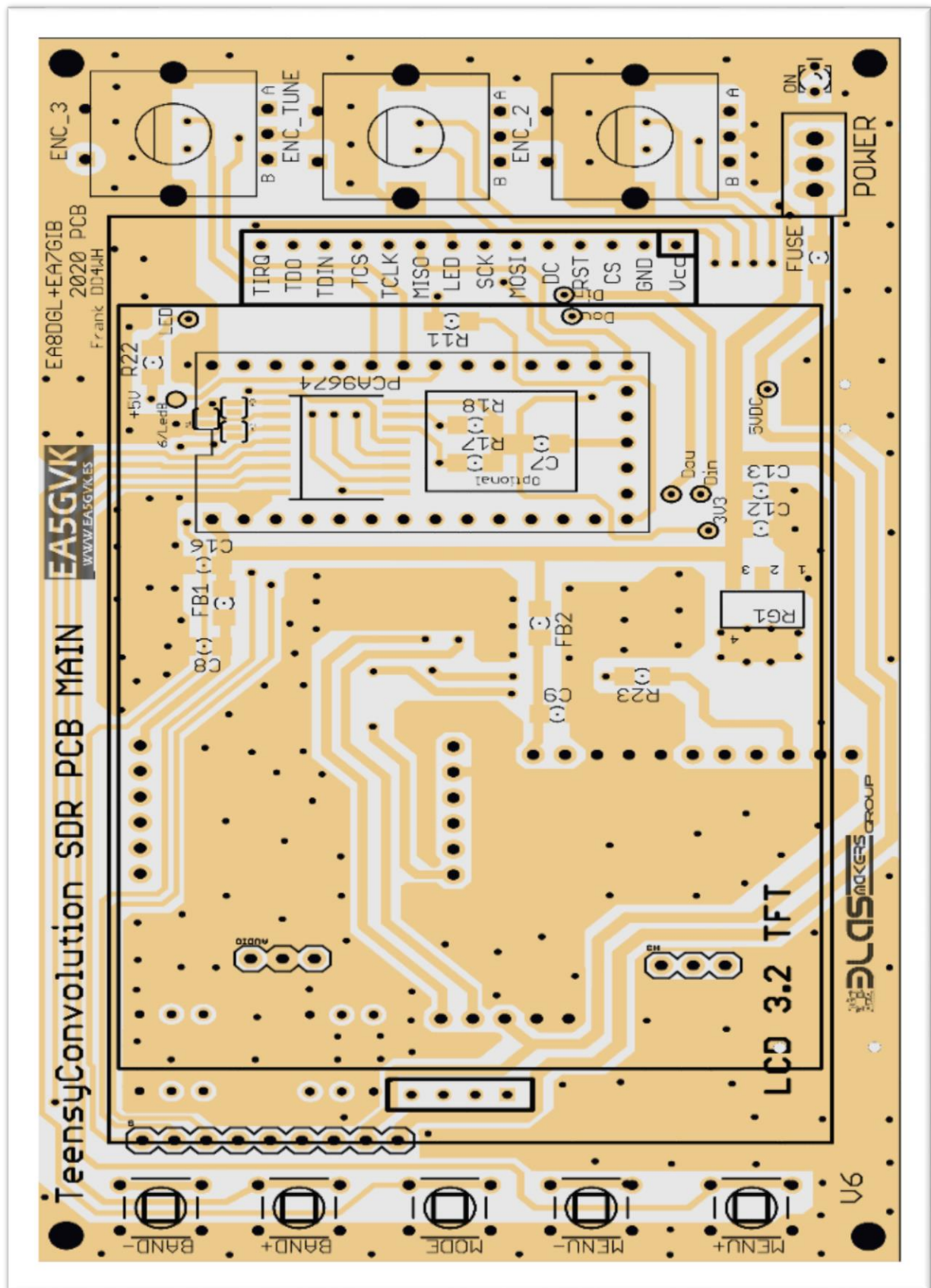
R1 R2 R3 R4 R5 R6 R11 R12 R13 R14 R15 R16 R19 R20 R23 1206 100 OHM

R21 R22 1206 10K

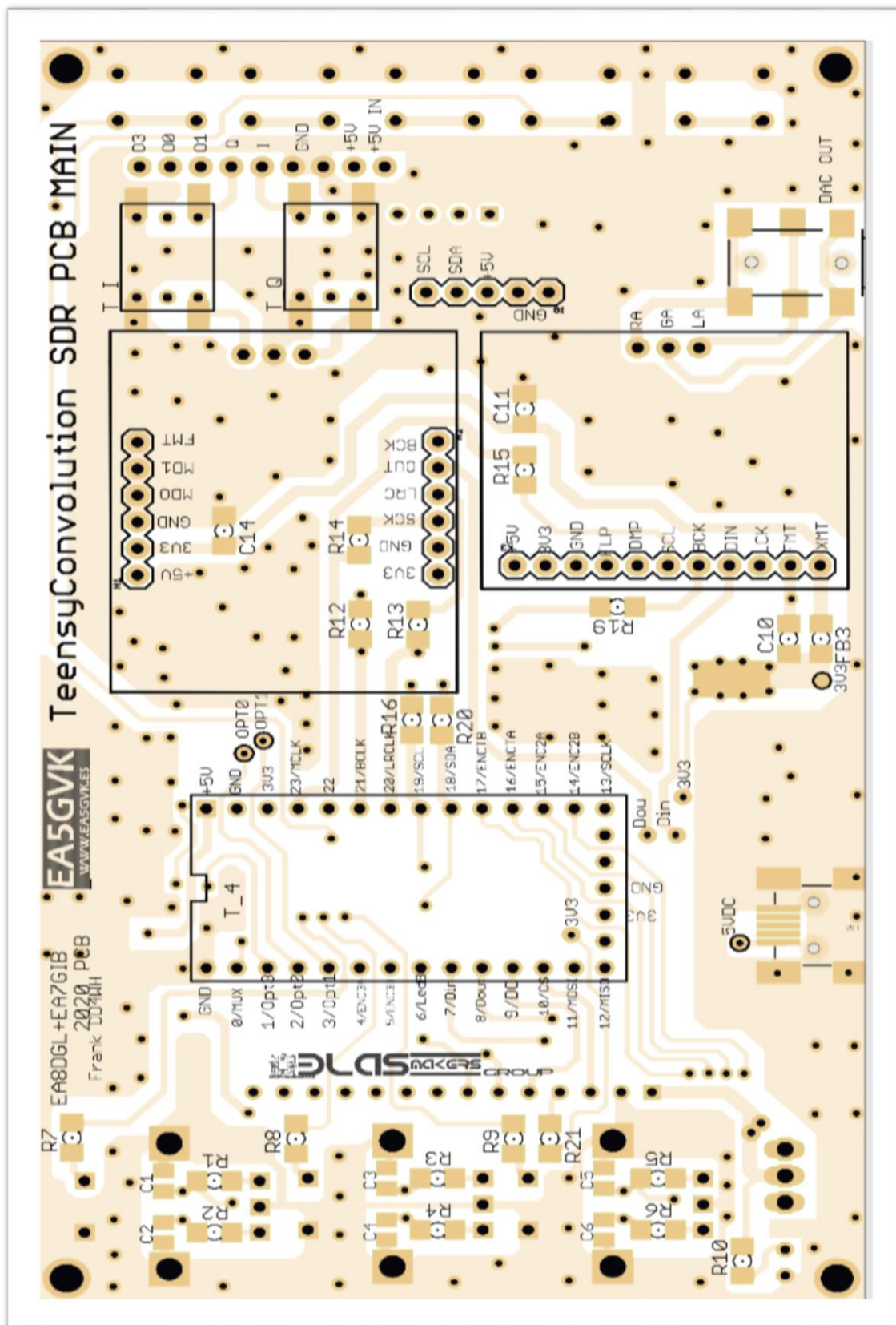
R7 R8 R9 1206 100 OHM – JUMPER 0 OHM

R10 1206 2 K

RG1 LD1117S33TR 3V3 SOT223



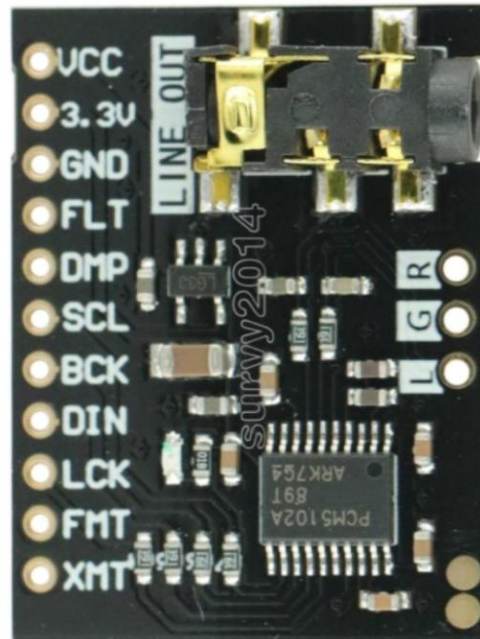




EA8DGL FW / EA7GIB PCB / EB5DXJ STL 3D BOX --- Mod for MSi0001 / QSD IQ PCB – 07/2020 V3.0 DOC  
 DD4WH <https://github.com/DD4WH/Teensy-ConvolutionSDR>

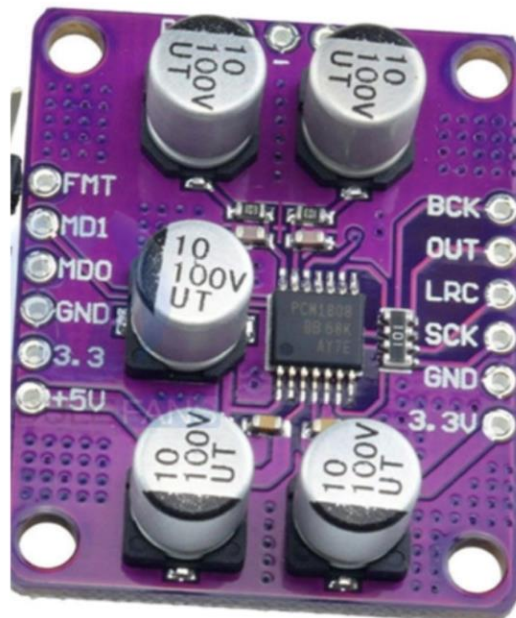
#### DAC PCM5102A MOD

	TO	
VCC	Vin	
3V3	NC	
GND	GND	
FLT	GND	
DMP	GND	R
SCL	23/100 Ohm	GND
BCK	21	L
DIN	7	
LCK	20	
FMT	GND	
XMT	3V3	



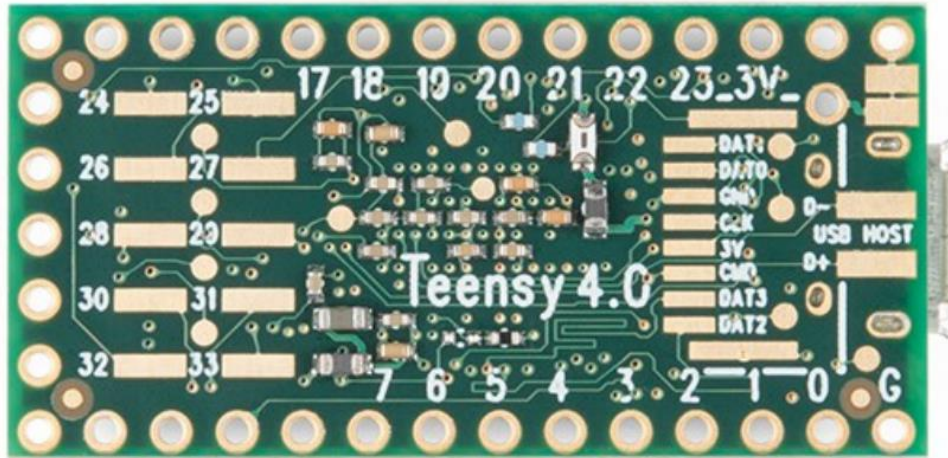
#### ADC PCM1808 MOD

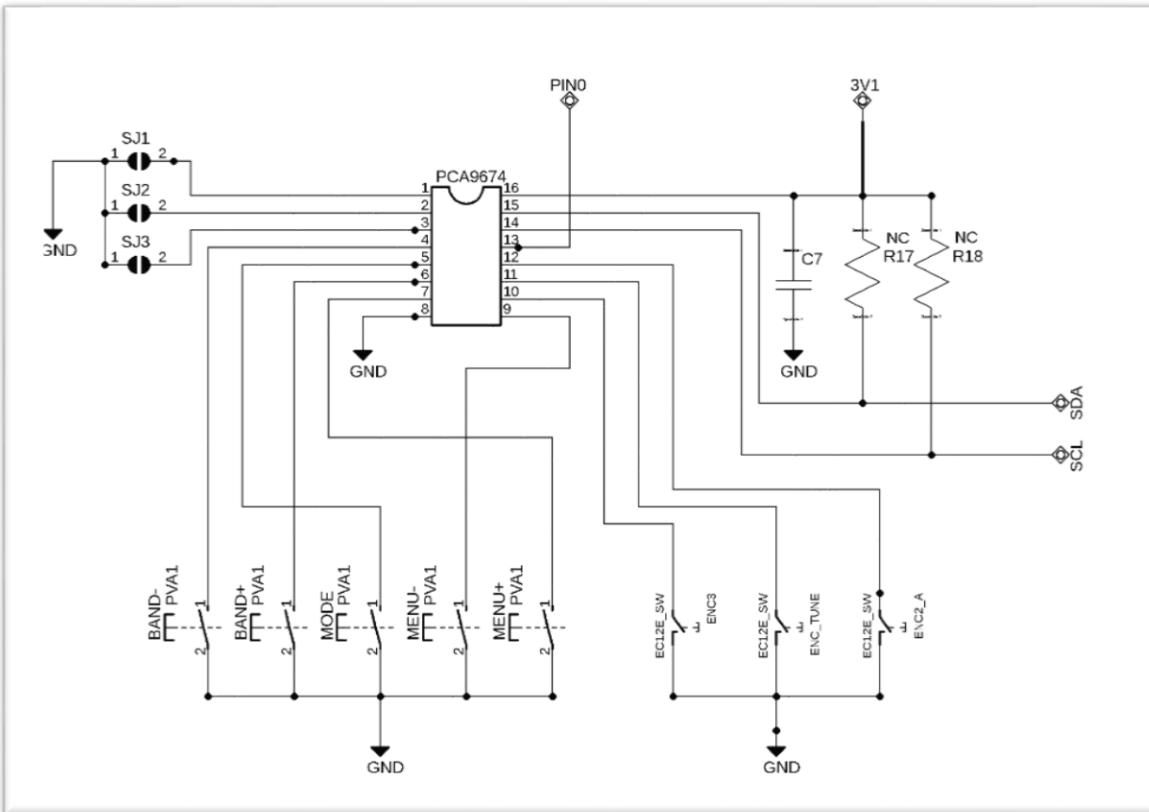
RIN	GND	LIN	
5V	Vin	3V3	NC
3V3	3V3	GND	NC
GND	GND	SCK	23/100 Ohm
MD0	GND	LRC	20/100 Ohm
MD1	GND	OUT	8
FMT	GND	BCK	21/100 Ohm



## Teensy 4.0 pinout

0			
1			
2		23 MCLK	24 BAND -
3		22	26 BAND +
4 ENC 3 ?A	21 BCLK	28 MODE	29 ENC2 BUTTON 6
5 ENC 3 ?B	20 LRCLK	30 MENU --	31 ENC3 BUTTON 8
6 LED /BACKLIGHT	19 SCL	32 MENU++	33
7 DIN	18 SDA		
8 DOUT	17 ENC TUNE b		
9 DC	16 ENC TUNE a		
10 CS	15 ENC 2 ?A		
11 MOSI	14 ENC 2 ?B		
12 MISO	13 SCLK F.TFT		





Mod. MUX for SW @EA8DGL FW

R17/R18 NC - SJ1-SJ3 CLOSE

**Only for QSD IQ PCB - SOFT**

**S0 PIN 2 / S1 PIN 3 del T4**

**00 de 0-4 mhz**

**01 de 4 a 9 mhz**

**10 de 9 a 16 mhz**

**11 > 16 mhz**

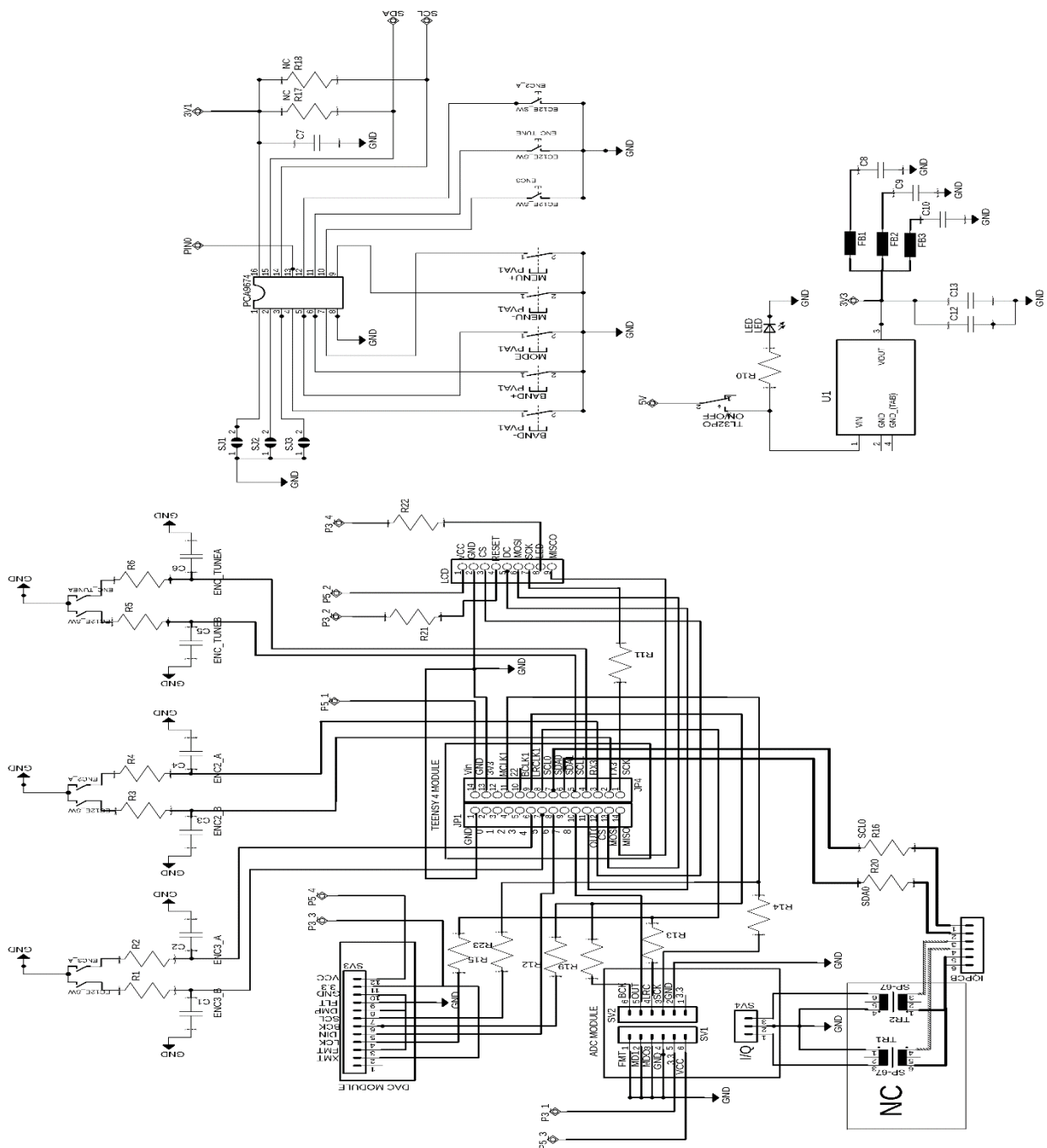
**Only for MSi001 PCB - SOFT**

**msi001\_cs\_pin = 1**

**msi001\_dat\_pin = 2**

**msi001\_clk\_pin = 3**





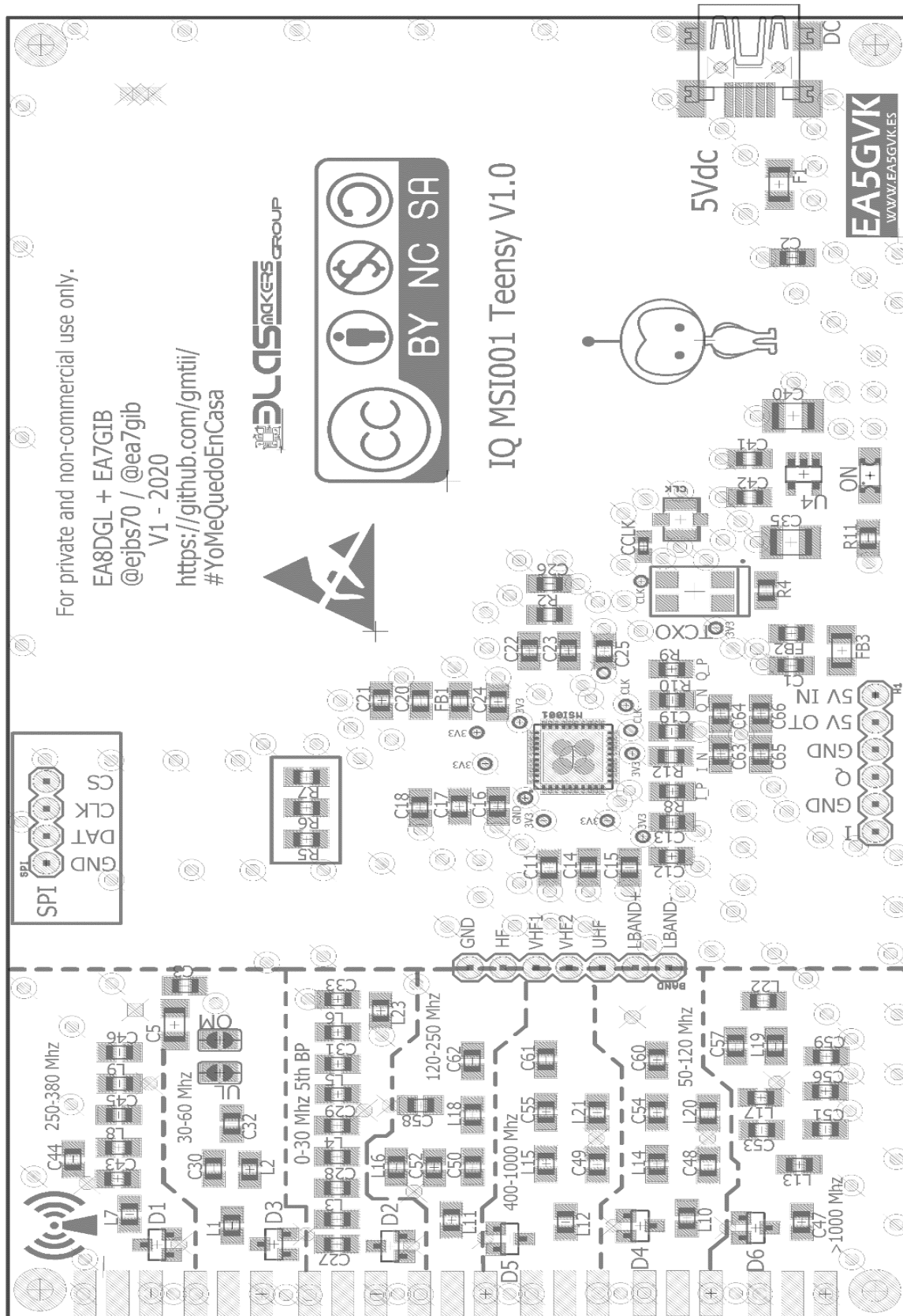


# TEENSY CONVOLUTION MSi001

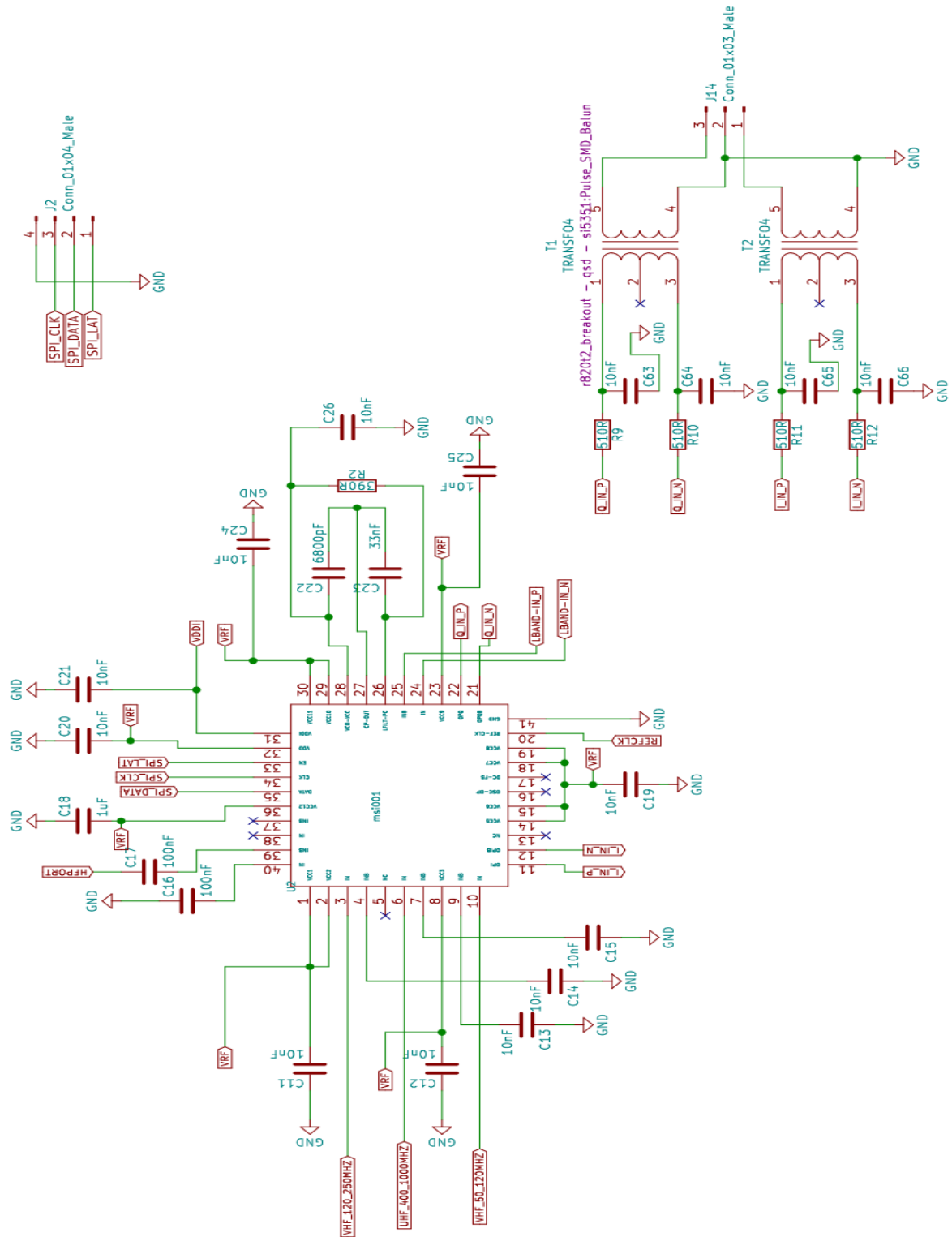
PART NUMBER	PACK	VALUE	
C1 C2 C11 C12 C16 C17 C18 C19 C20 C24 C25	C0805K	100nF	
C13 C14 C15 C26 C42 C63 C64 C65 C66	C0805K	10nF	
C22 C23	C0805K	6800pF	
C21	C0805K	10uF	
C35 C40	C1206K	10uF	
CCLK	C0603K	22pF	
CLK	U.FL	UFL SMD CONECTOR	
D1 D2 D3 D4 D5 D6	SOT23	SMP1322 - DIODE DUAL BAV99	
F1	C1206K	FUSE SMD 200mA	
FB1 FB2 FB3	C0805K	FERRITE BEAD	
L1	C0805K	220nH	
L2	C0805K	330nH	
C30	C0805k	3.9pF	
C33	C0805k	39pF	
L10	C0805K	68nH	
L14	C0805K	100nH	
L20	C0805K	270nH	
C48	C0805K	27pF	
C54	C0805K	39pF	
C60	C0805K	10nF	
L11	C0805K	82nH	
L16	C0805K	39nH	
L18	C0805K	100nH	
C50	C0805K	10pF	
C52	C0805K	39pF	
C58	C0805K	22pF	
C52	C0805K	10pf	
L12	C0805K	15nH	
L15	C0805K	33nH	
L21	C0805K	47nH	
C49	C0805K	1.8pF	
C55	C0805K	1.5pF	
C61	C0805K	10nF	
L7	C0805K	47nH	
L8	C0805K	120nH	

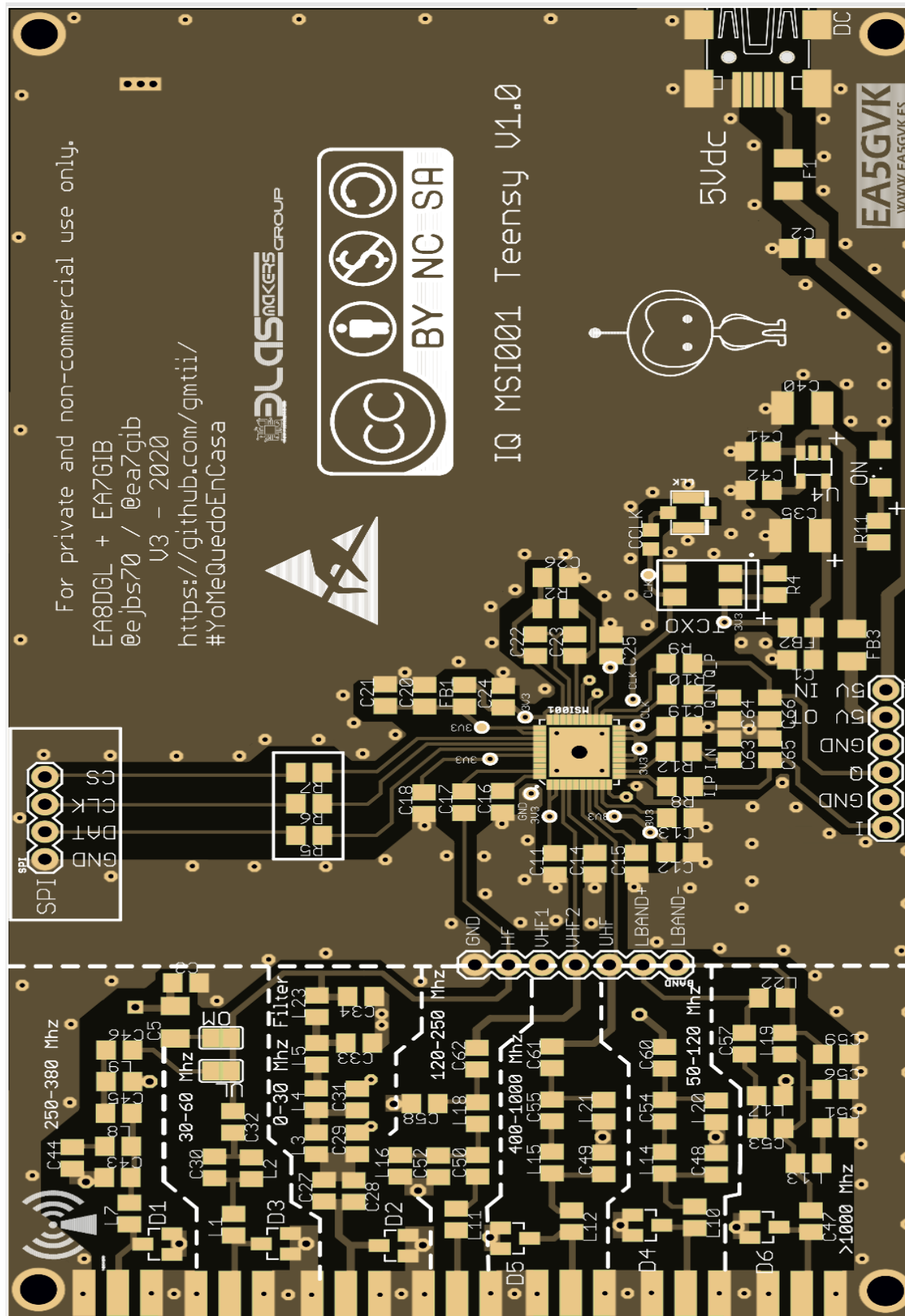
L9	C0805K	8.2nH	
C43	C0805K	3.3pF	
C44	C0805K	12pF	
C45	C0805K	2.7pF	
C46	C0805K	4.7pF	
L13	C0805K	22nH	
L17	C0805K	6.8nH	
L19	C0805K	6.8nH	
L22	C0805K	8.2nH	
C47	C0805K	4.7pF	
C51	C0805K	27pF	
C53	C0805K	1.8pF	
C56	C0805K	27pF	
C57	C0805K	2.2pF	
C59	C0805K	1.8pF	
L3	C0805K	11uH	2.2uH
L4	C0805K	220nH	2.2uH
L5	C0805K	2.4uH	560nH
L6	C0805K	390nH	2.2uH
L23	C0805K	2.4uH	2.2uH
C27	C0805K	30pF	180pF
C28	C0805K	1.5nF	180pF
C29	C0805K	130pF	680pF
C31	C0805K	820pF	180pF
C33	C0805K	130pF	180pF
MSI001	QFN-40	MSI001	
ON	SML1206	LED	
R2	C0805K	390	
R4	C0805K	10K	
R5 R6 R7	C0805K	100	
R8 R9 R10 R12	C0805K	510	
R11	C0805K	2K2	
TCXO	5.2X3.4-4-PAD	22Mhz	
U4 REG 3V3 max 5.5 V. In.	SOT23-5	LD398M33 / MIC5205 3V3 SMD TLV73333PDBVT	
C3	C0805K	100nF	
C5	C1206K		



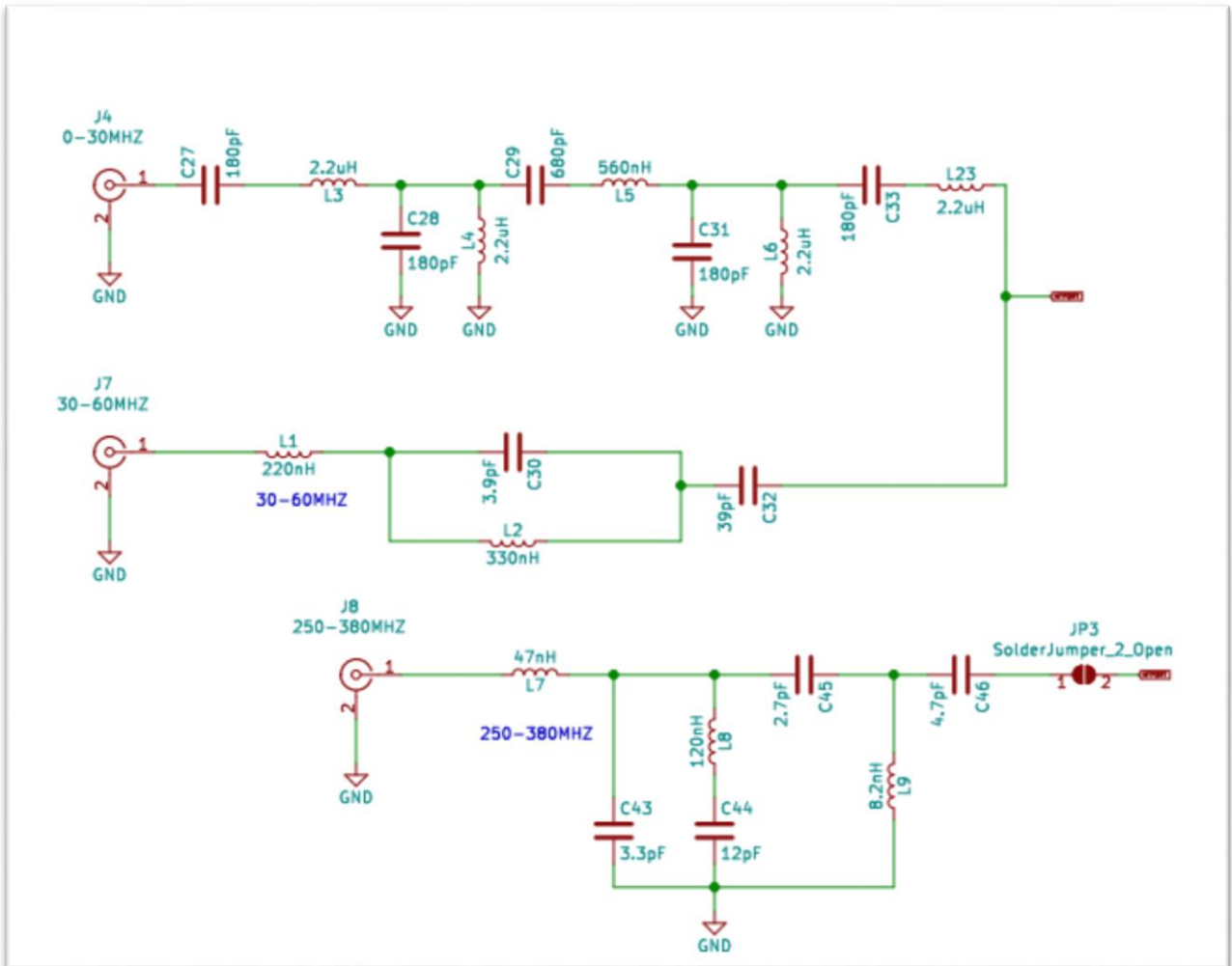




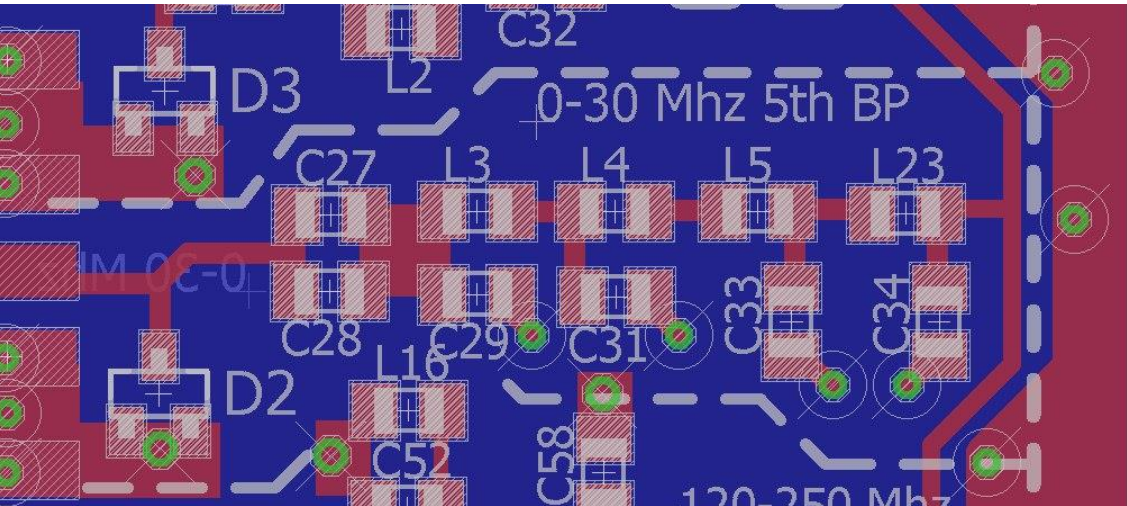
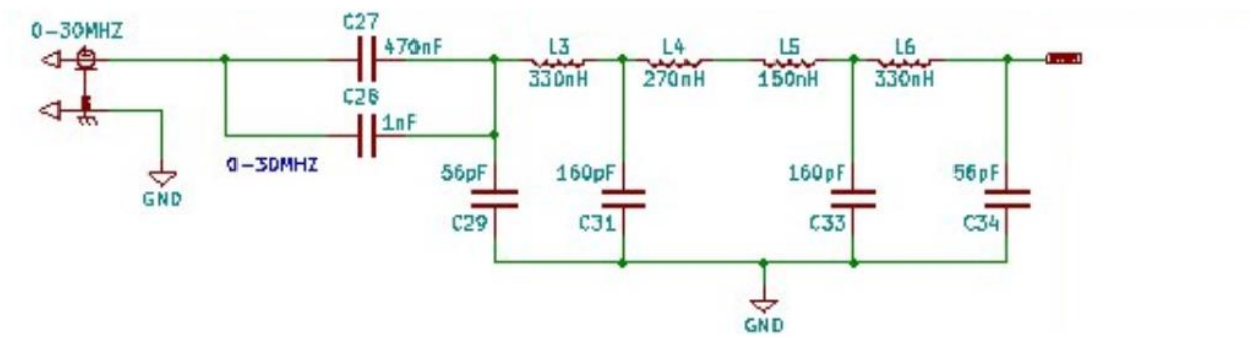




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 DD4WH <https://github.com/DD4WH/Teensy-ConvolutionSDR>

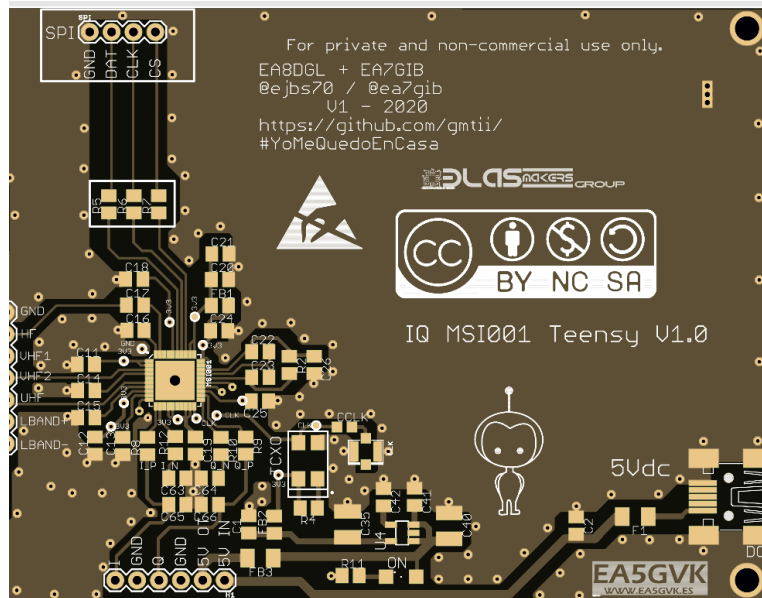
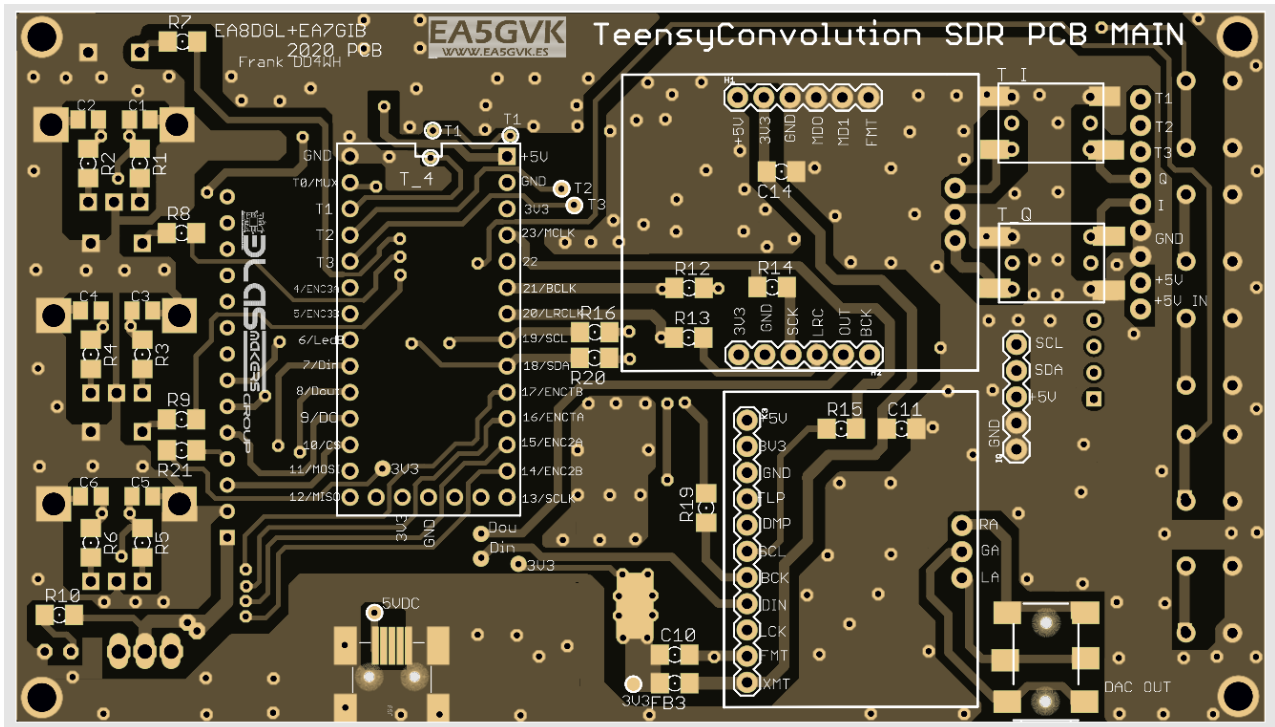


<https://rf-tools.com/lc-filter/>



MSi001 PCB		MAIN PCB TEENSY REAR PANEL
HI 5V - Pin 1	→	5V IN - Pin 1
HI 5V - Pin 2	←	5V Out - Pin 2
HI GND - Pin 3		GND - Pin 3 / 4
HI I - Pin 4 - I	→	I - Pin 5
HI I - Pin 5 - Q	→	Q - Pin 6
CS	↔	T1
DAT	↔	T2
CLK	↔	T3





# NOTES:
