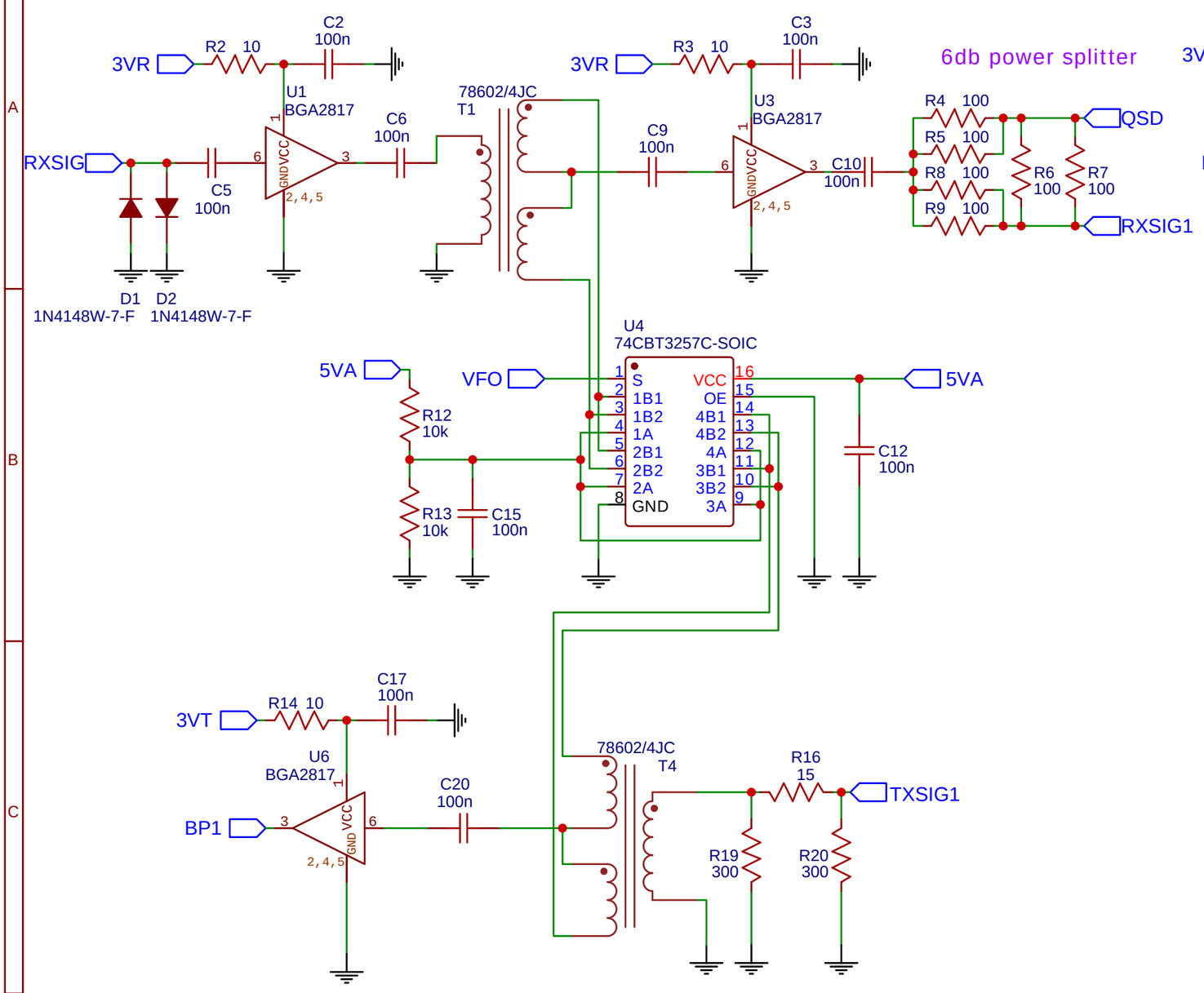
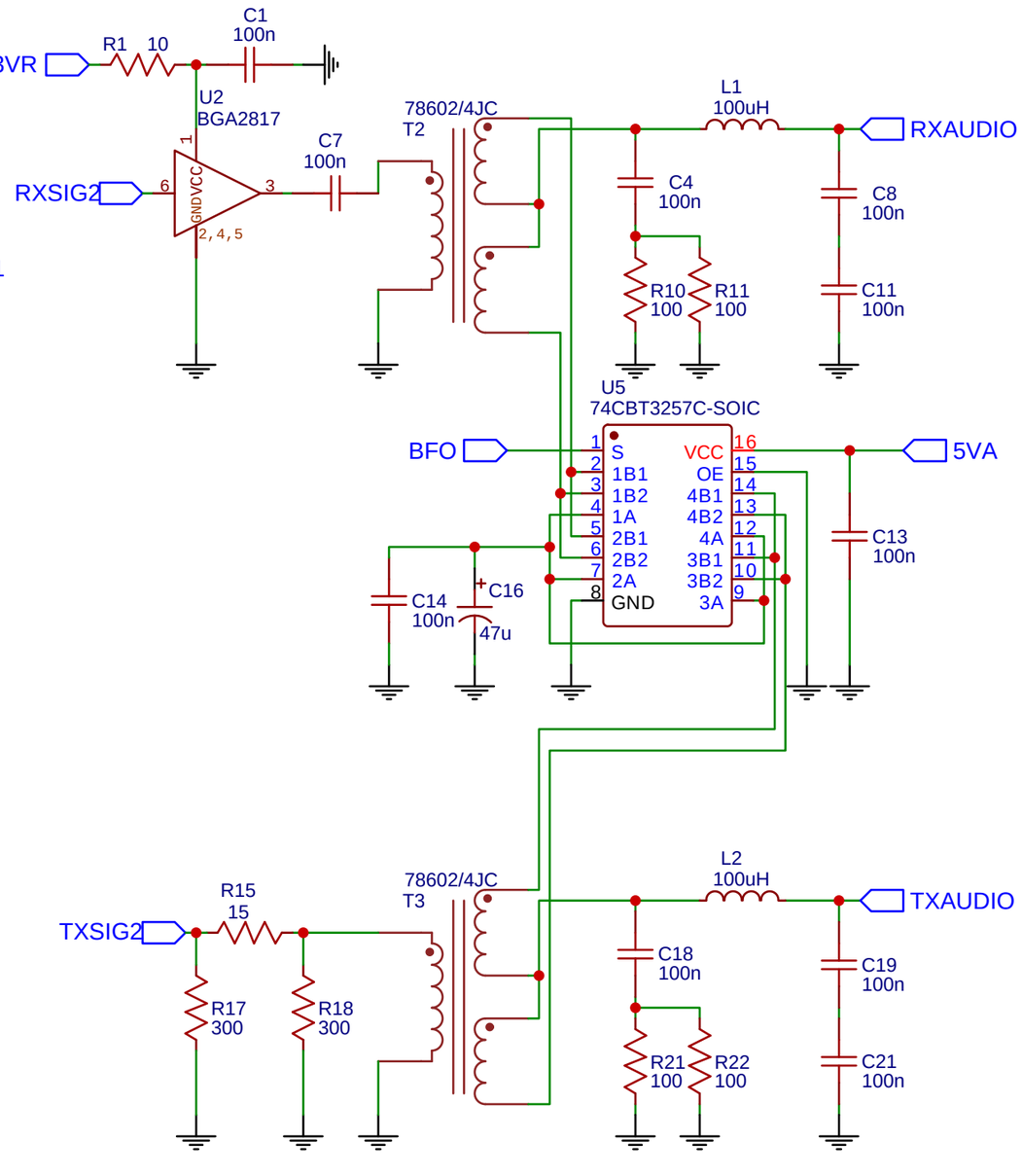
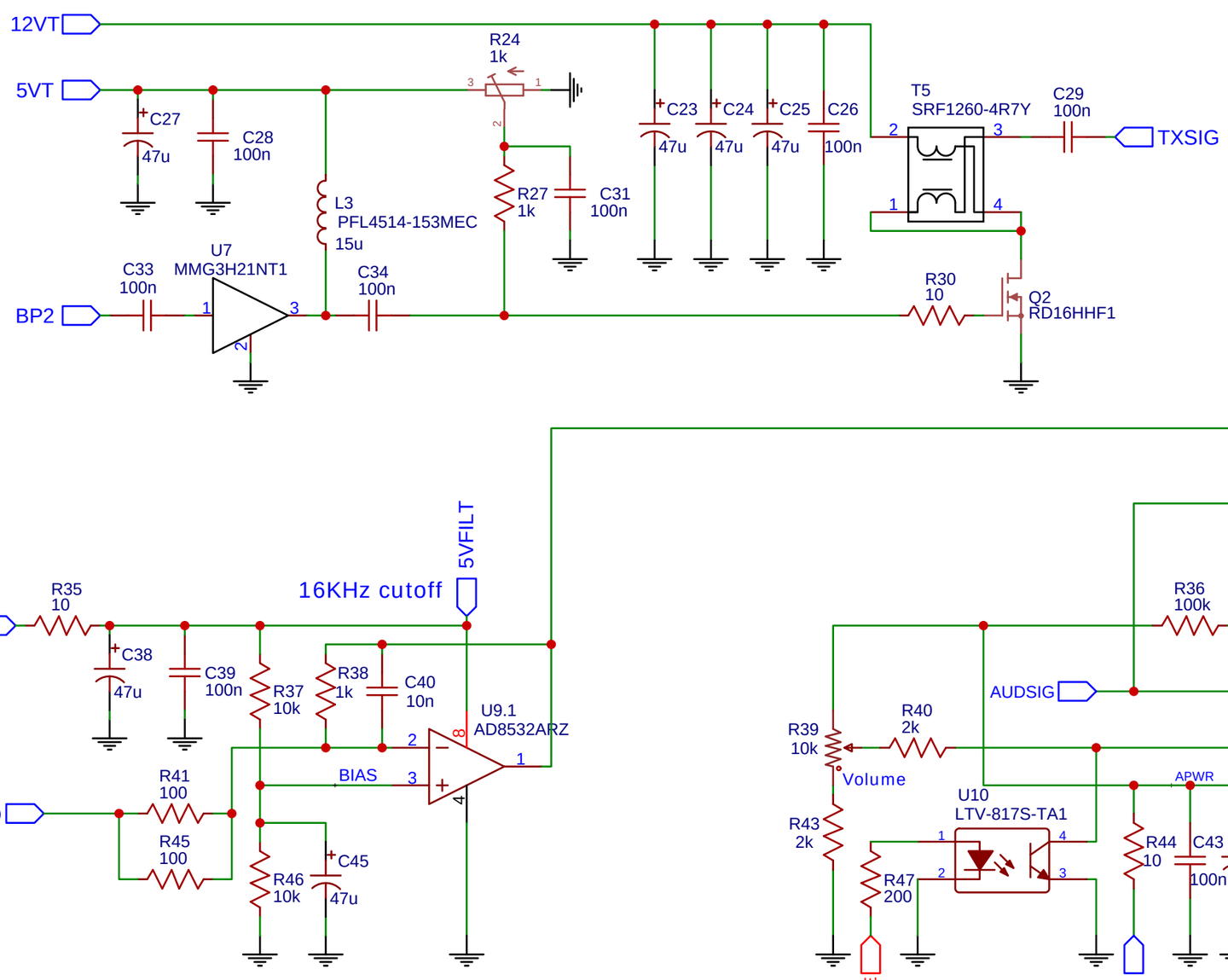
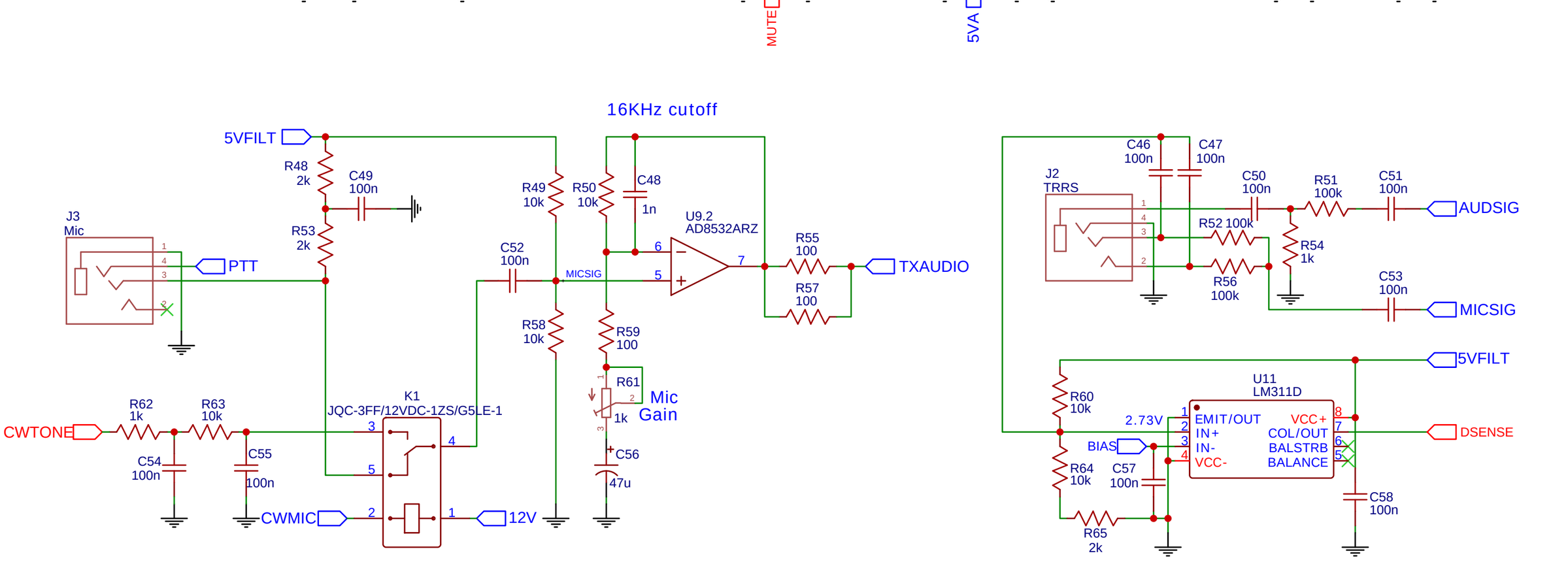
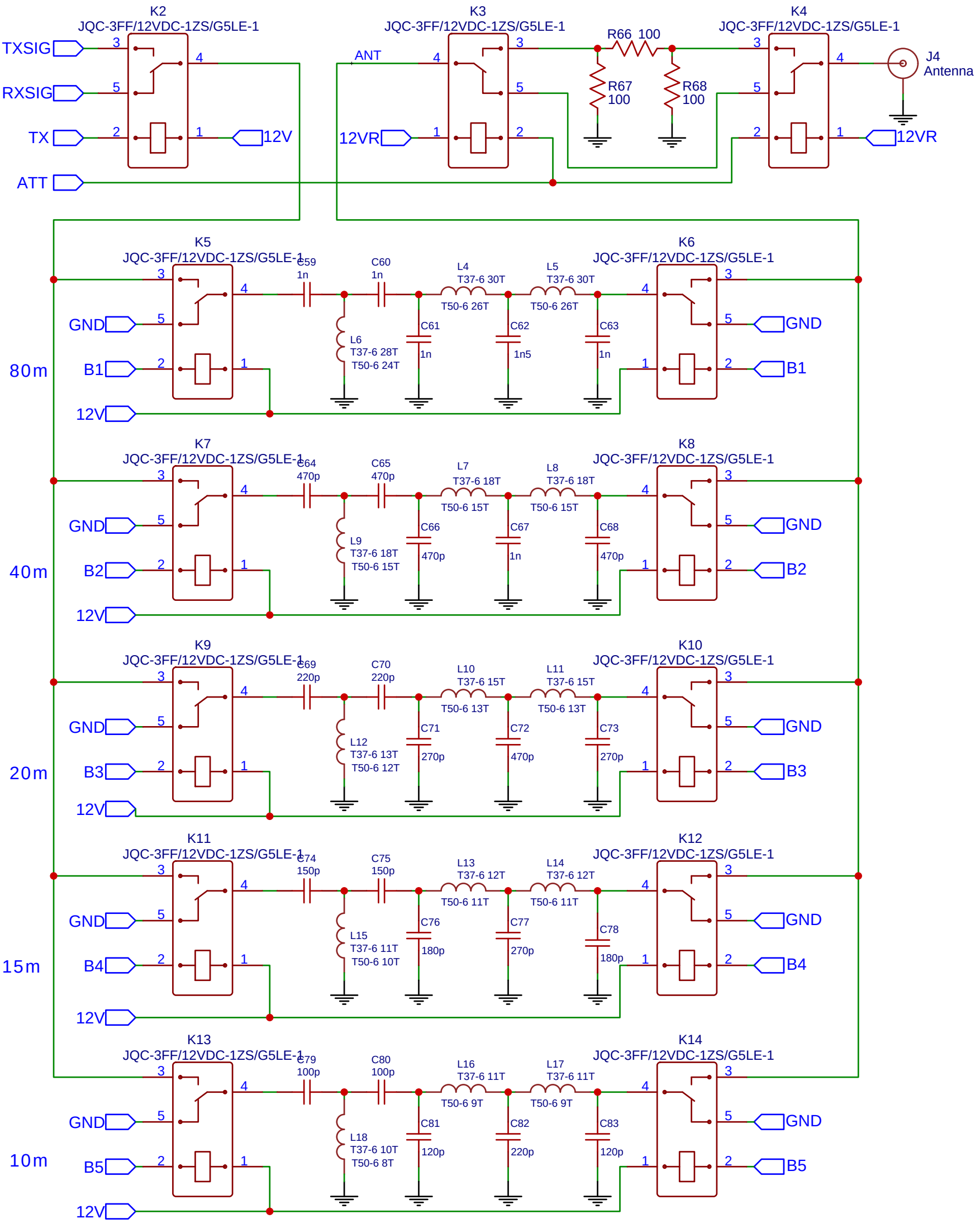




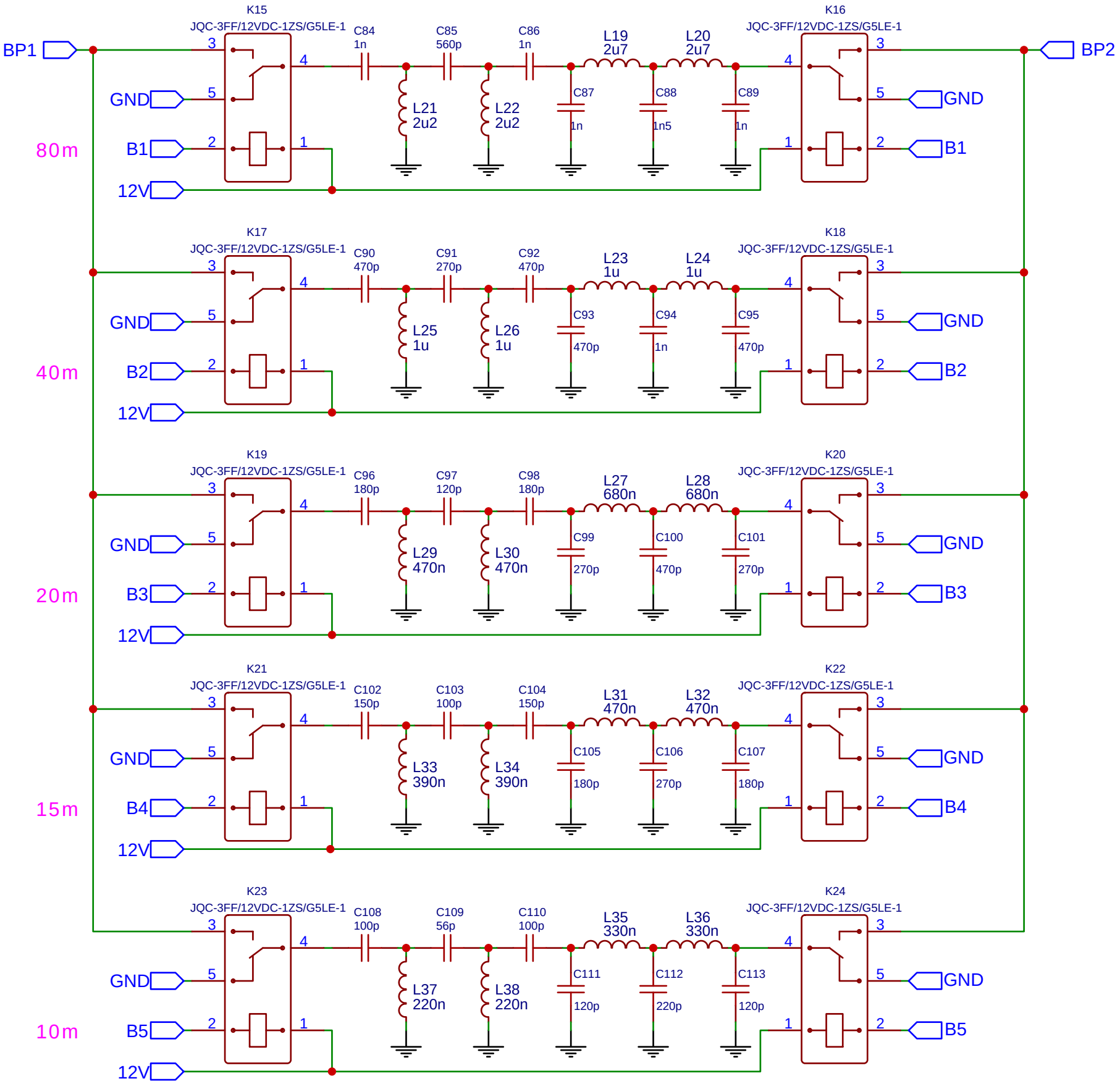




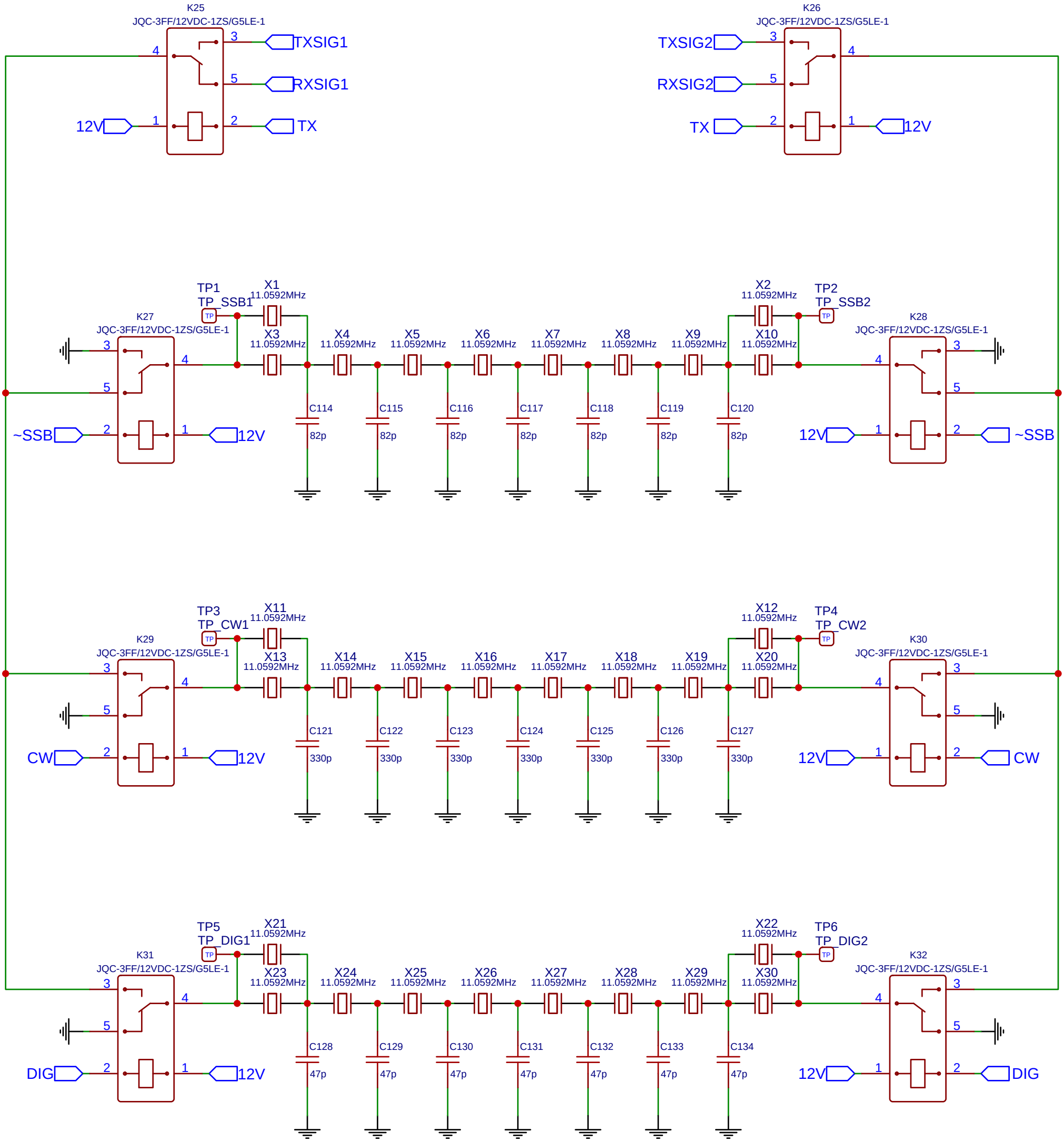
TITLE: HySSB - RX/TX		REV: 1.3
EasyEDA	Company: VK7IAN	Sheet: 1/1
	Date: 2021-09-07 Drawn By: ianm	



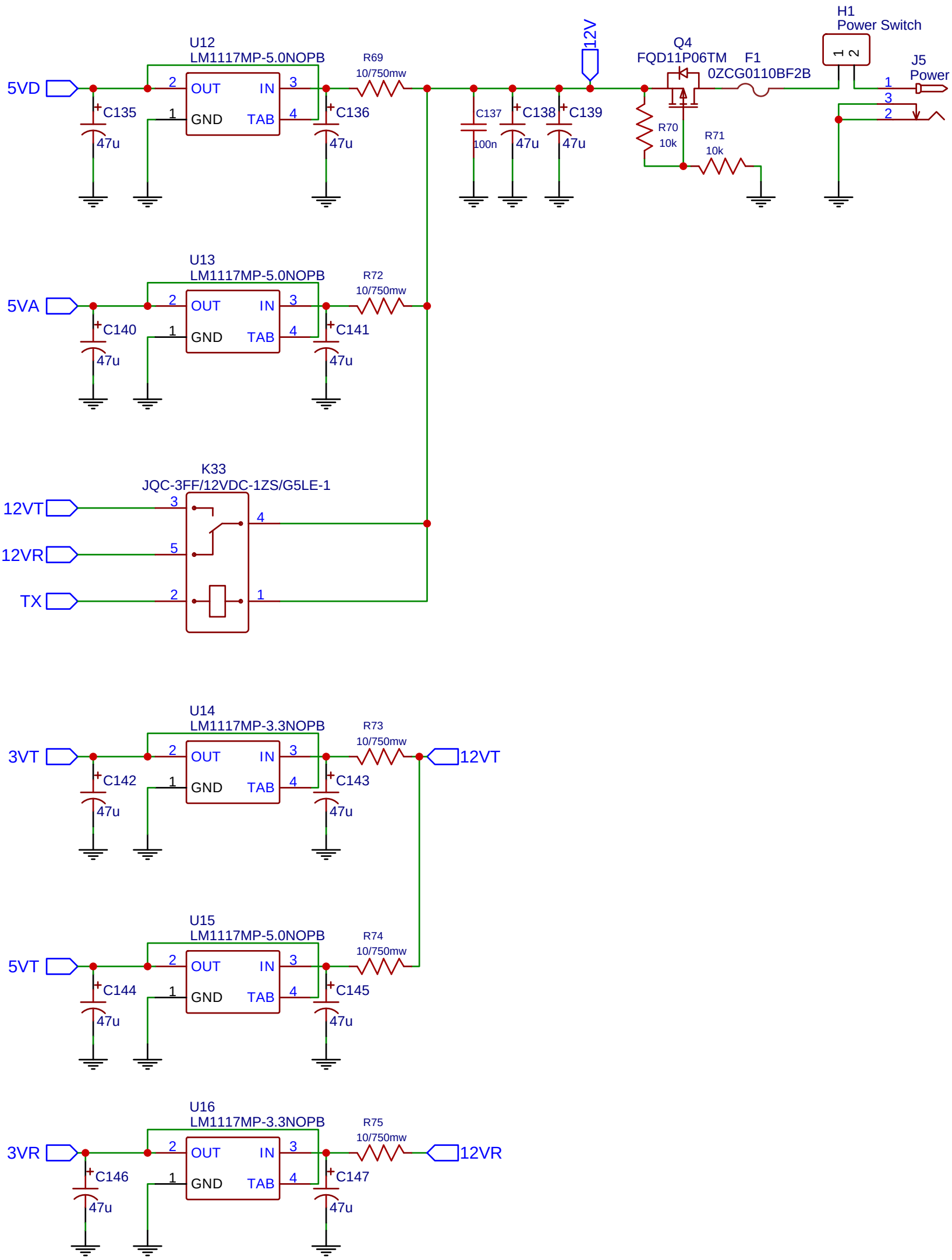
TITLE: HySSB - LPF		REV: 1.2
EasyEDA	Company: VK7IAN	Sheet: 1/1
	Date: 2021-09-29 Drawn By: ianm	



TITLE: HySSB - TX BPF		REV: 1.2
EasyEDA	Company: VK7IAN	Sheet: 1/1
	Date: 2021-09-20 Drawn By: ianm	



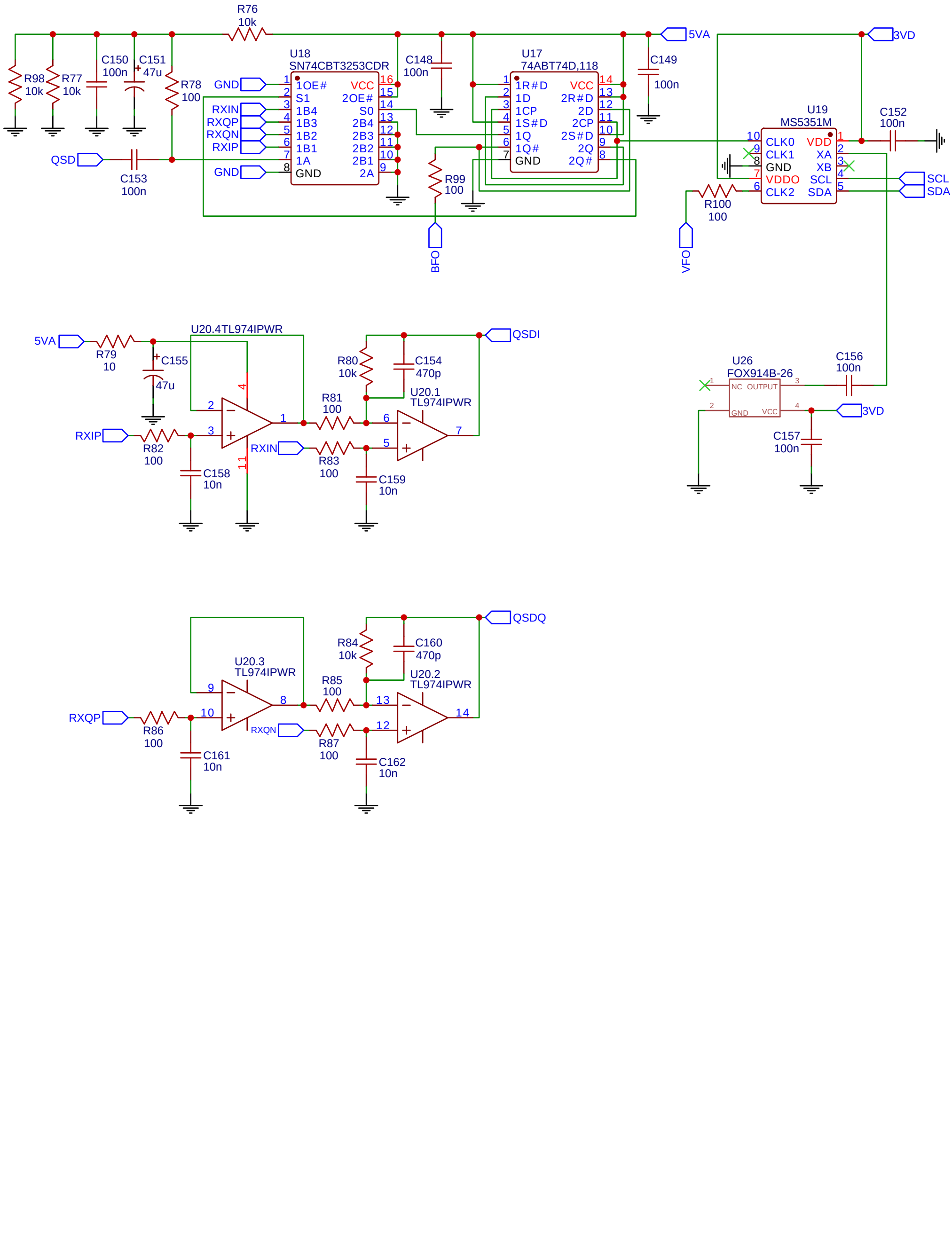
TITLE: HySSB - Crystal Filters		REV: 1.2
EasyEDA	Company: VK7IAN	Sheet: 1/1
	Date: 2021-09-20 Drawn By: ianm	



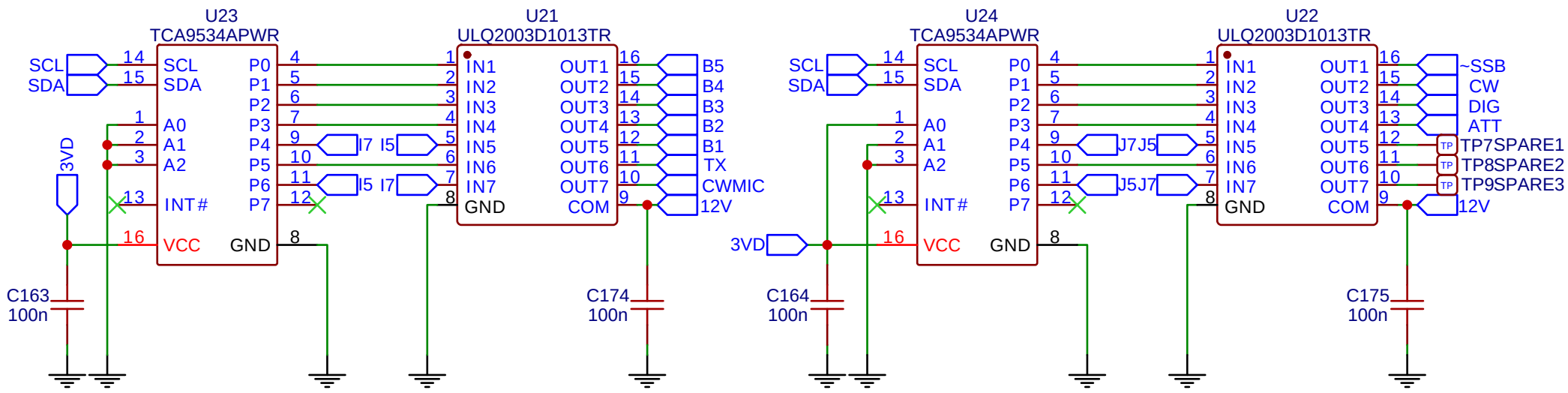
Notes:

* LM1117 output capacitance must be at least 10uf tantalum.

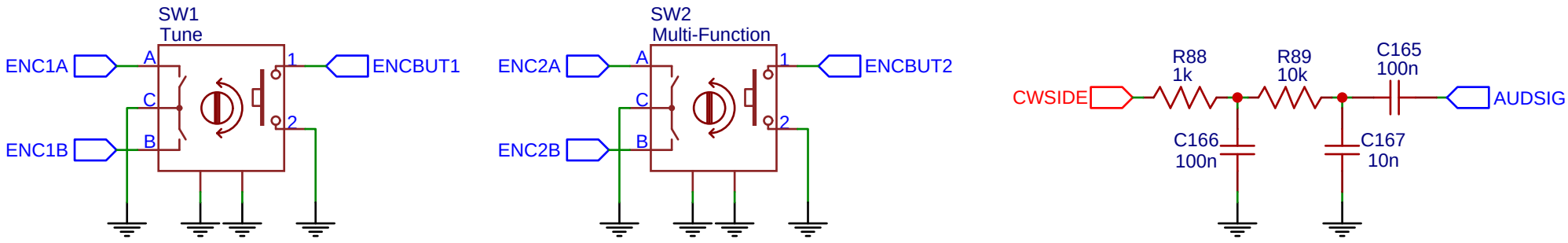
TITLE: HySSB - Power		REV: 1.2
EasyEDA	Company: VK7IAN	Sheet: 1/1
	Date: 2021-09-30 Drawn By: ianm	

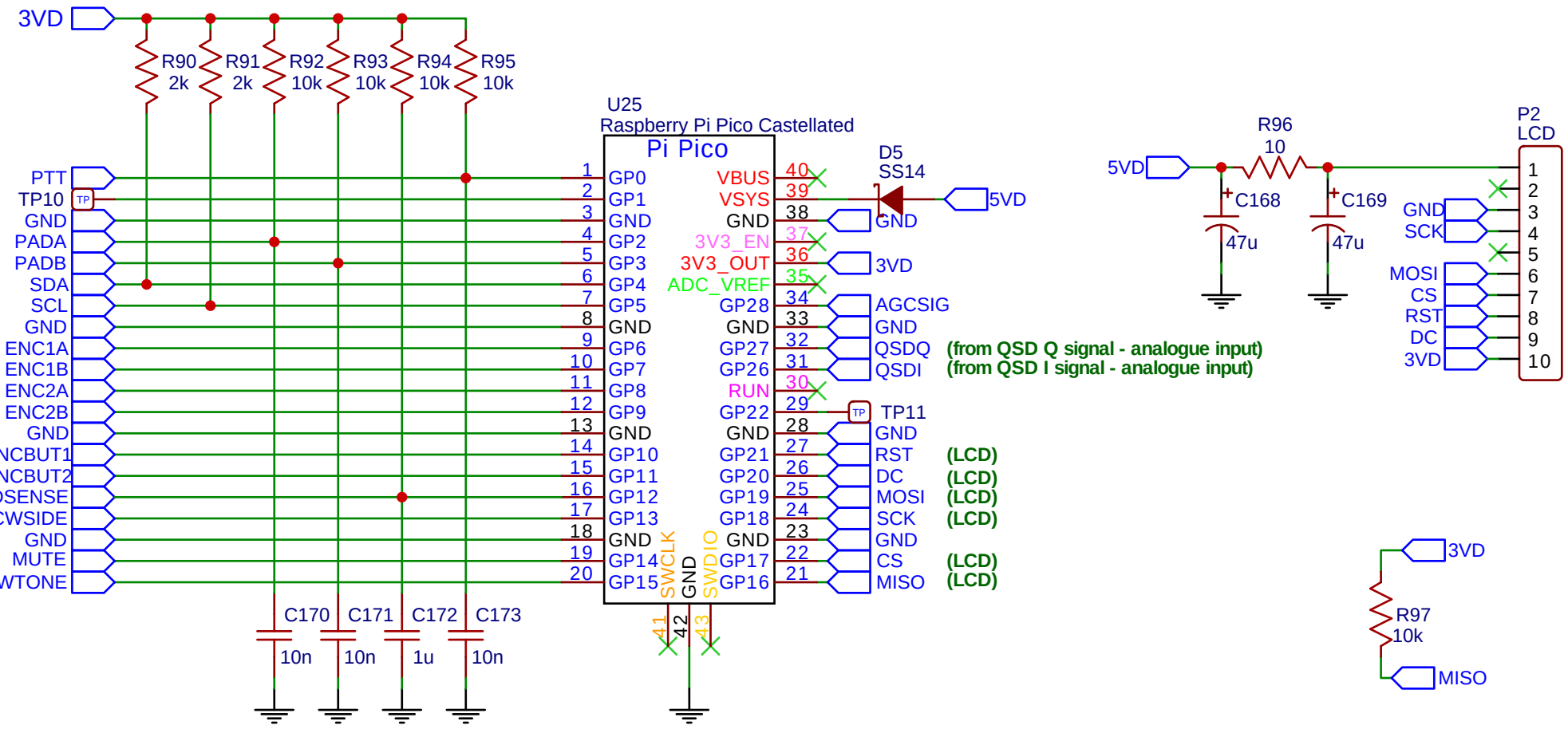


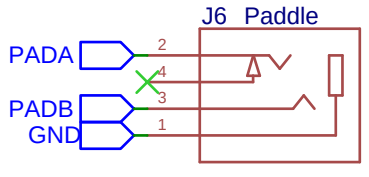
TITLE: HySSB - QSD		REV: 1.2
EasyEDA	Company: Vk7IAN	Sheet: 1/1
	Date: 2021-09-30 Drawn By: ianm	



(CWMIC = route CW tone to mic or mute mic)







TITLE: HySSB - Controller		REV: 1.2
EasyEDA	Company: VK7IAN	Sheet: 1/1
	Date: 2021-09-30 Drawn By: ianm	

Changes
V1.1:
* TX and CWMIC signals should go via relay drivers not directly from the Pico
* changed tantalum to VE-470M1CTR-0505 electro
* fixed relay footprint
* fixed phones footprint (was 2.5mm)
* changed volume to PCB mount footprint
* U6 was reversed!
* Added connector for paddle
* Added bypass caps to U21 and U22 (ULQ2003)
* Reversed B1-B5 for easier PCB layout
* Added connector for power switch
* Update bandpass filter inductor footprint to accept 0805 and 1206 devices

V1.2:
* Part number for VCXO was incorrect - should be FOX914 (not FOX924)
* Added R98 so that DC reference for ADC is 1.66V (instead of 2.5V)
* Updates to crystal filter capacitor values using LCSC crystals: SSB 82p, CW 330p, Dig 47p
* Added R99 and R100 to reduce potential ringing on VFO and BFO
* changed R29, R31 and R32 to 1M to improve AGC
* Added limiting diodes D6 and D7 to AGC
* Update to AGC based on a design idea in EDN August 2005
* Changed L3 to 15u SM inductor

V1.3:
* Added T50-6 winding details
* Change C44 to 1000u

TODO:
* power switch - done
* power on LED
* speaker connector?
* use PCB mount volume - done
* heatsink for Q2
* add I2C connector

https://github.com/earlephilhower/arduino-pico/releases/download/global/package_rp2040_index.json

https://www.aliexpress.com/i/4000152810614.html
https://learn.adafruit.com/adafruit-1-14-240x135-color-tft-breakout/pinouts
https://github.com/hideakitai/TCA9534
https://github.com/etherkit/Si5351Arduino
https://github.com/Bodmer/TFT_eSPI
https://github.com/brianlow/Rotary
https://github.com/adafruit/Adafruit_ZeroFFT

TITLE: HySSB - Notes		REV: 1.2
EasyEDA	Company: VK7IAN	Sheet: 1/1
	Date: 2021-10-29 Drawn By: ianm	