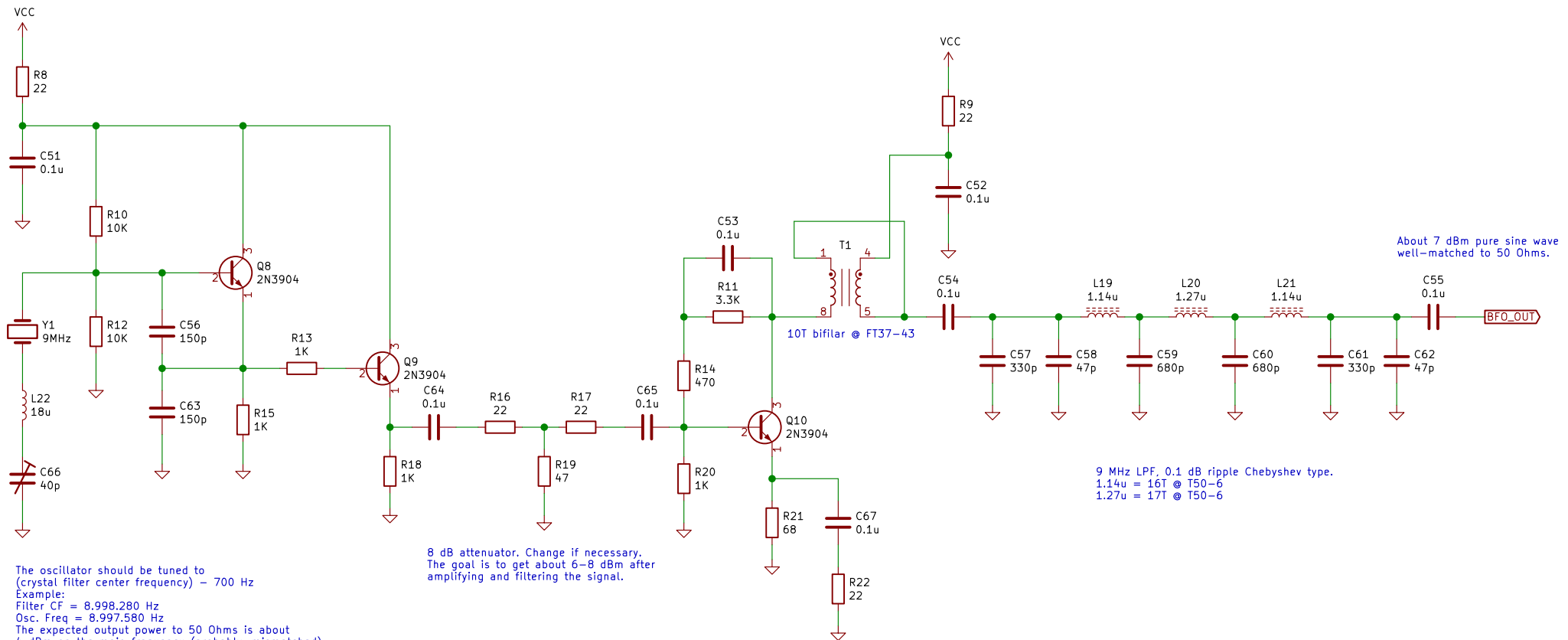


The secret of a superheterodyne receiver free of spurious signals is a clean BFO. The signal of SI5351 is way too dirty and can't be used as a BFO. Trust me, I've tried many times.

For this project I wanted a clean, well-matched to 50 Ohm, 7 dBm BFO. However, if space is limited, try removing the attenuator and the amplifier, and then – the filter. Chances are everything will work adequately without them.



The oscillator should be tuned to (crystal filter center frequency) – 700 Hz
Example:
Filter CF = 8.998.280 Hz
Osc. Freq = 8.997.580 Hz
The expected output power to 50 Ohms is about 4 dBm on the main frequency (probably, mismatched).

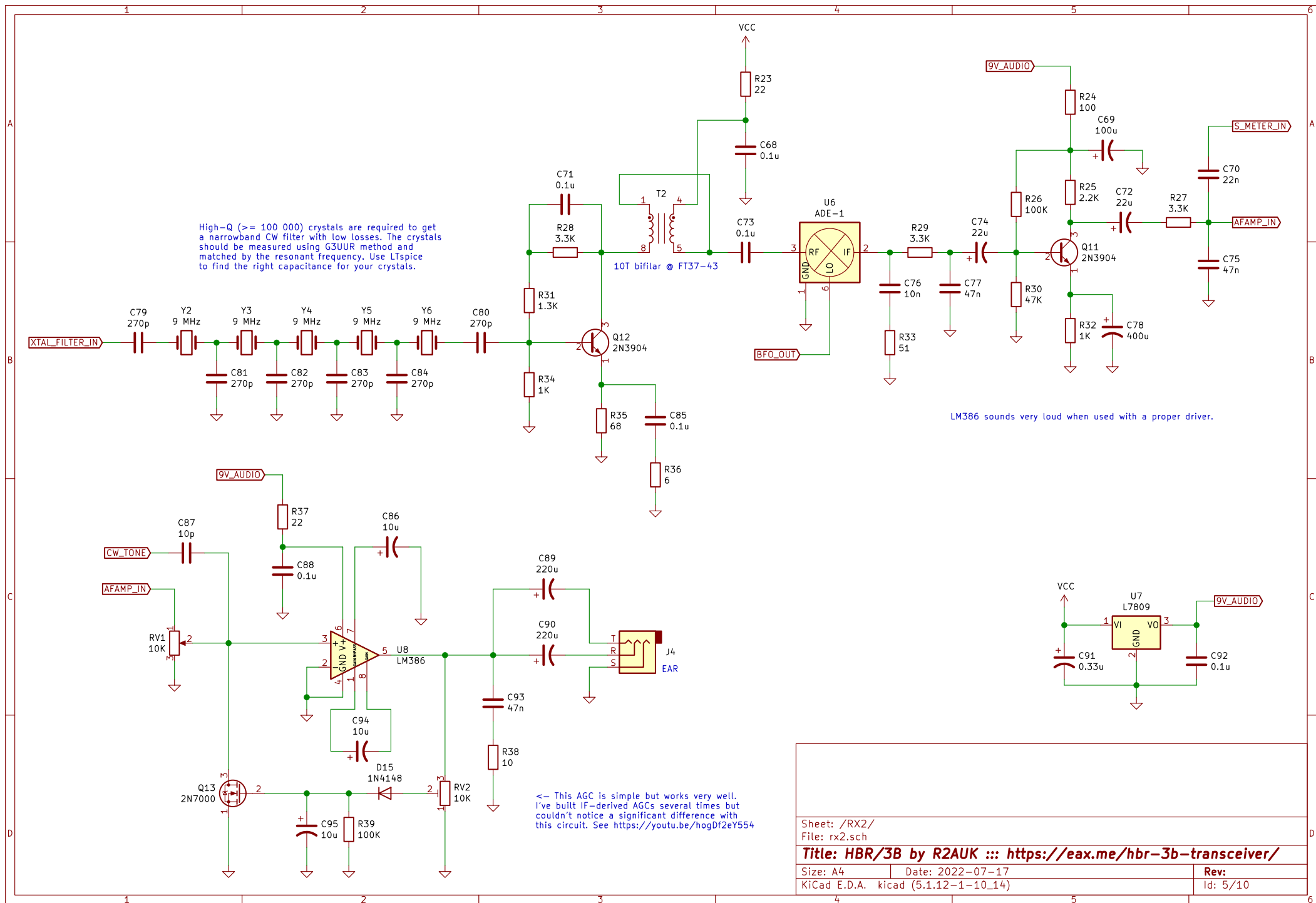
Some experimentation may be required. Try different coils and crystals if the oscillator doesn't tune to the required frequency. Low Q crystals are preferable in this circuit.

Sheet: /BFO/
File: bfo.sch

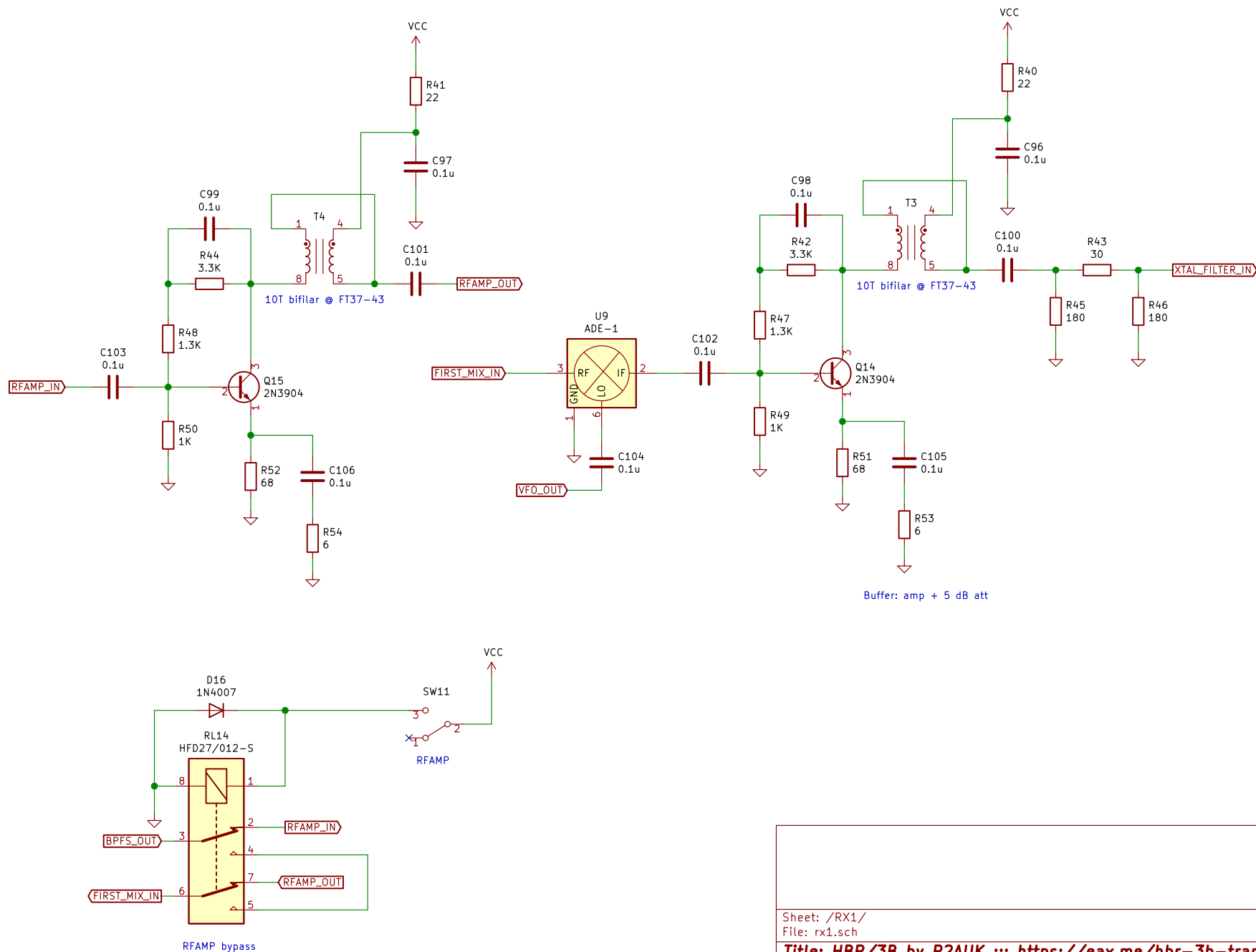
Title: HBR/3B by R2AUK ::: <https://eax.me/hbr-3b-transceiver/>

Size: A4 Date: 2022-07-17
KiCad E.D.A. kicad (5.1.12-1-10_14)

Rev:
Id: 4/10

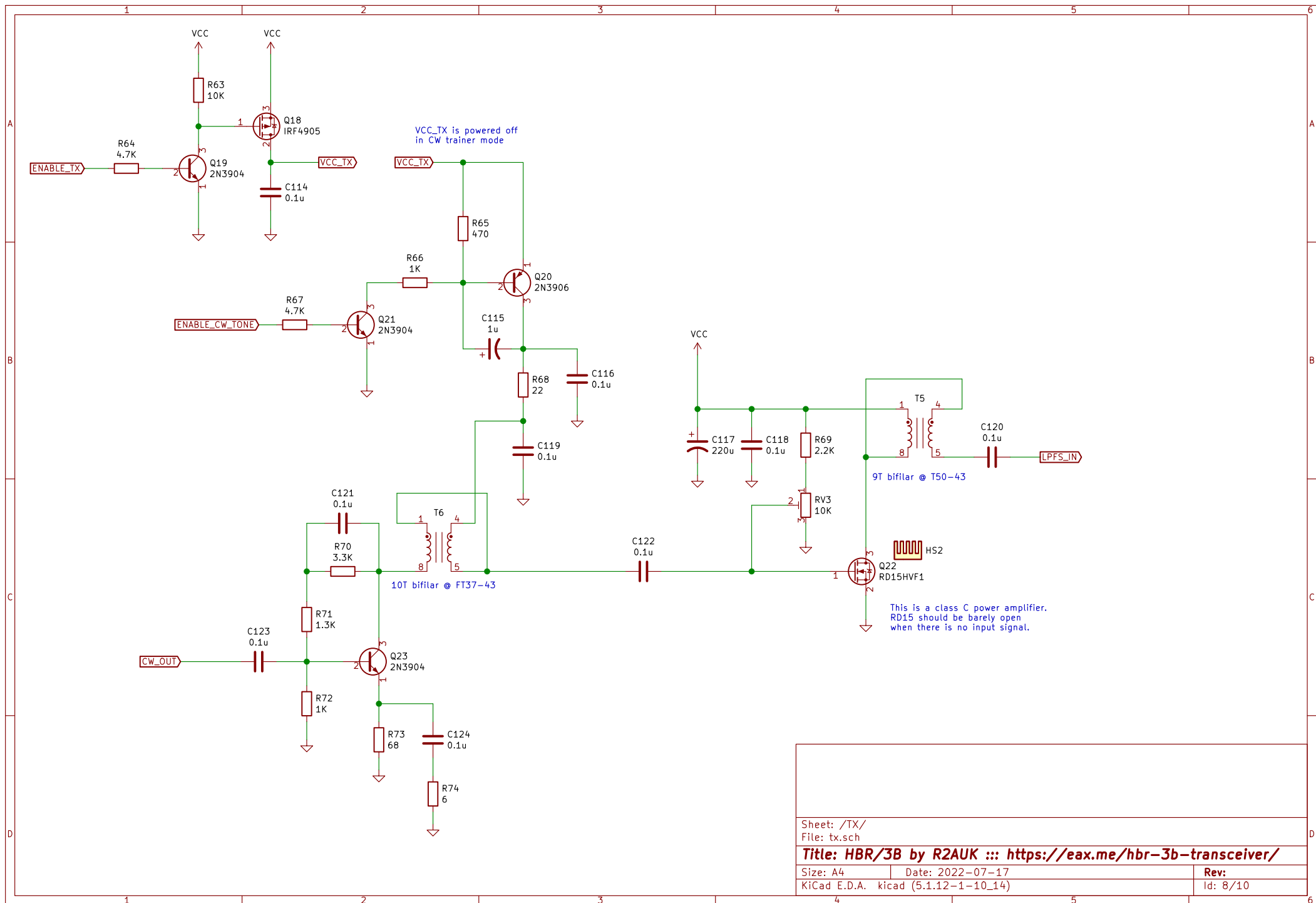


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|---|------------------|------|
| Sheet: /RX2/ File: rx2.sch | | |
| Title: HBR/3B by R2AUK ::: https://eax.me/hbr-3b-transceiver/ | | |
| Size: A4 | Date: 2022-07-17 | Rev: |
| KiCad E.D.A. kicad (5.1.12-1-10_14) | Id: 5/10 | |





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|--|------------------|----------|
| Sheet: /CW Tone/ | | |
| File: cw-tone.sch | | |
| Title: HBR-3B by R2AUK :: https://eax.me/hbr-3b-transceiver/ | | |
| Size: A4 | Date: 2022-07-17 | Rev: |
| KiCad E.D.A. kicad (5.1.12-1-10_14) | | Id: 7/10 |



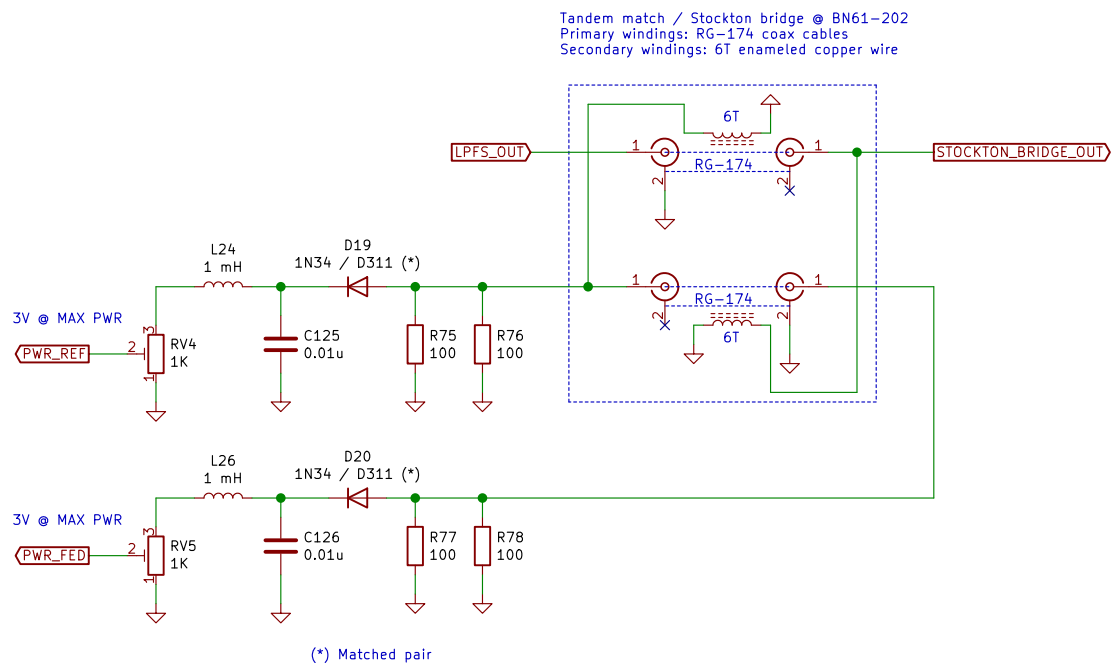
Sheet: /TX/
File: tx.sch

Title: HBR/3B by R2AUK ::: <https://eax.me/hbr-3b-transceiver/>

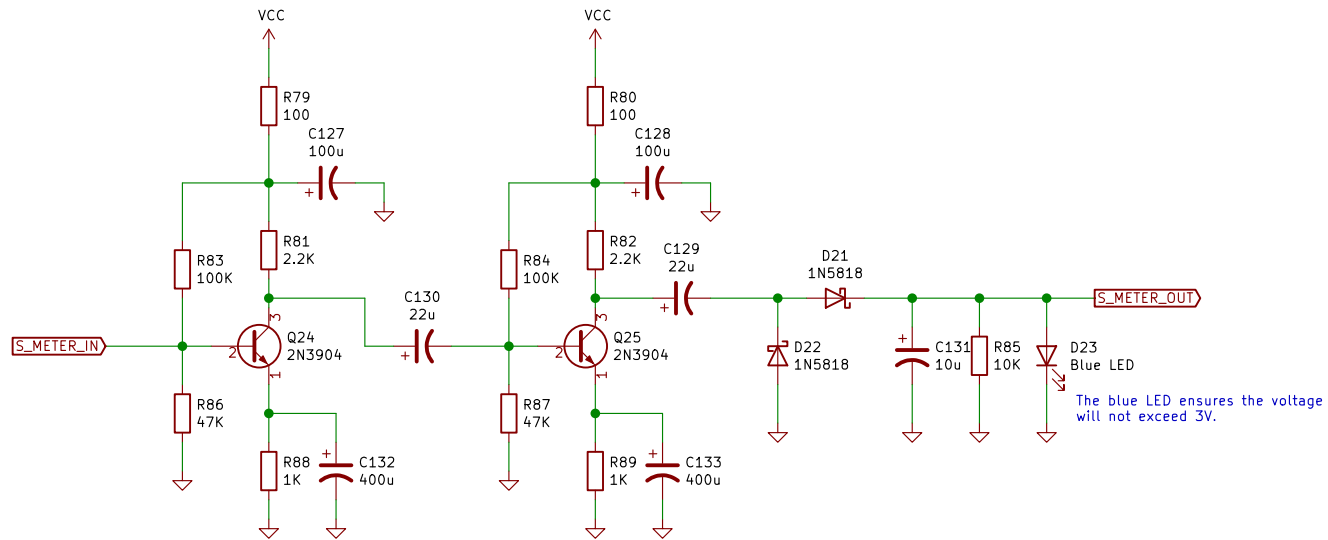
Size: A4 Date: 2022-07-17

KiCad E.D.A. kicad (5.1.12-1-10_14)

Rev:
Id: 8/10



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|---|------------------|
| Sheet: /Stockton Bridge/ | |
| File: stockton-bridge.sch | |
| Title: HBR/3B by R2AUK ::: https://eax.me/hbr-3b-transceiver/ | |
| Size: A4 | Date: 2022-07-17 |
| KiCad E.D.A. kicad (5.1.12-1-10_14) | Rev: 9/10 |



Sheet: /S Meter/
File: s-meter.sch

Title: HBR/3B by R2AUK ::: <https://eax.me/hbr-3b-transceiver/>

Size: A4 Date: 2022-07-17

KiCad E.D.A. kicad (5.1.12-1-10_14)

Rev:

Id: 10/10