

Design data:
 Bandwidth: 2M
 Family: Cauer
 Passband ripple: .0002
 Cauer LP stopband freq: 3.4M
 Cauer LP stopband depth: 55

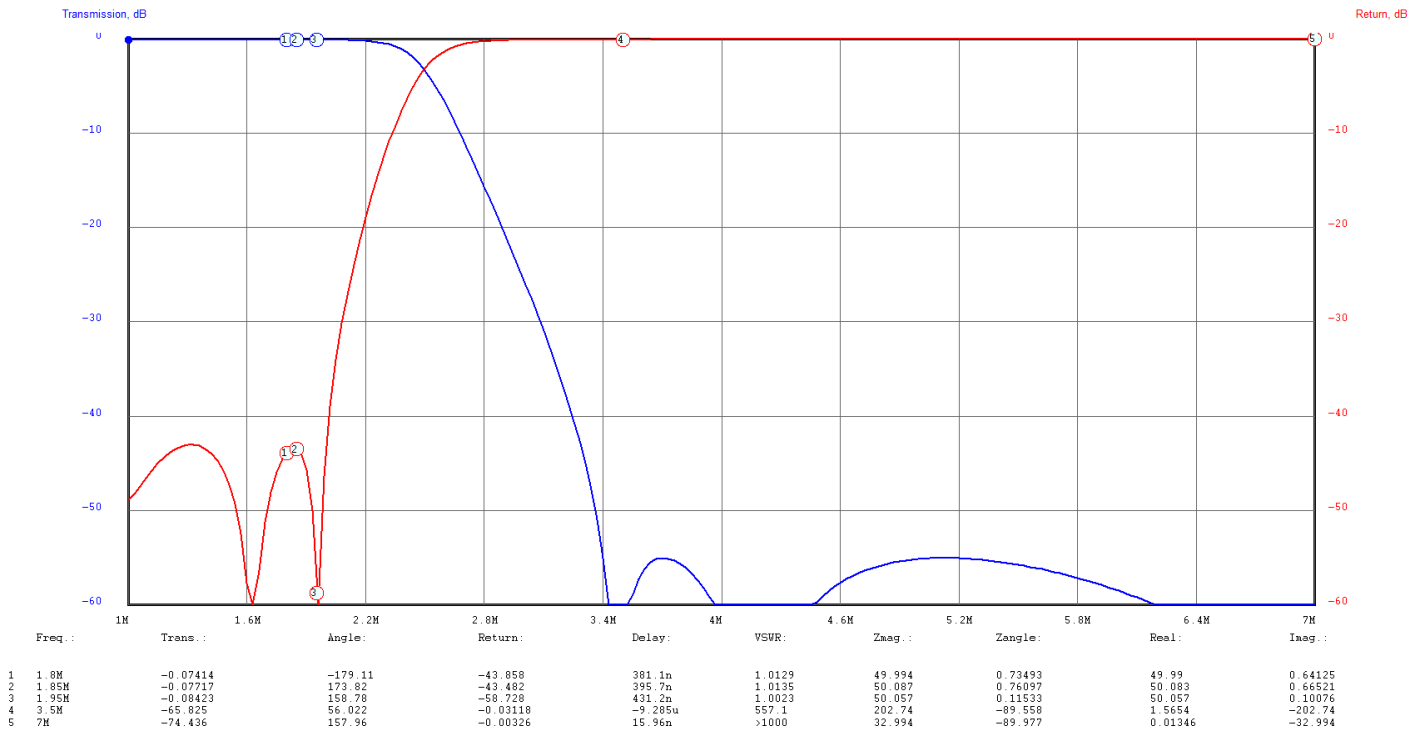
Q values:
 Inductors: 300
 Capacitors: 5000

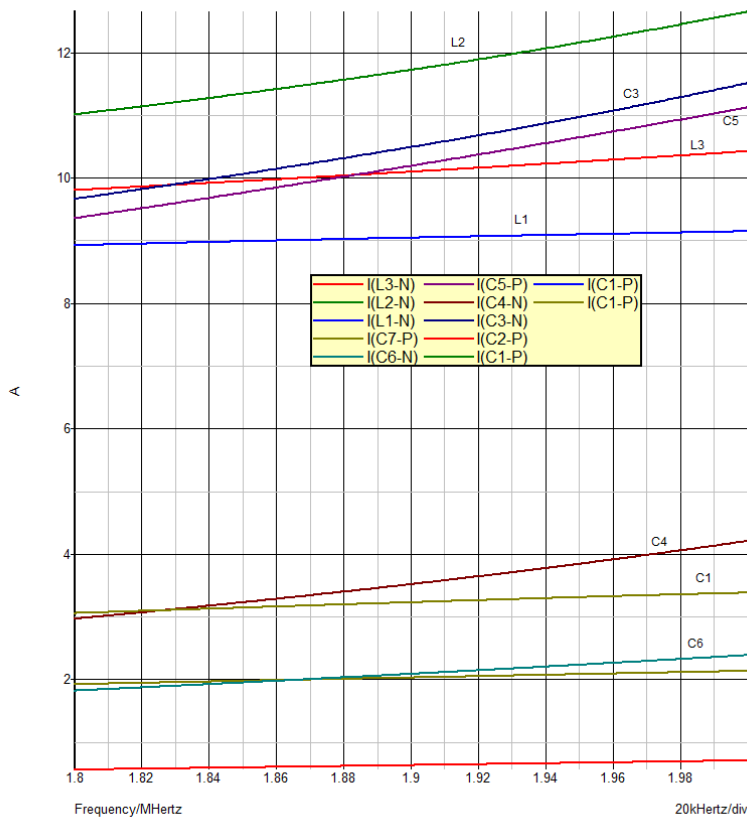
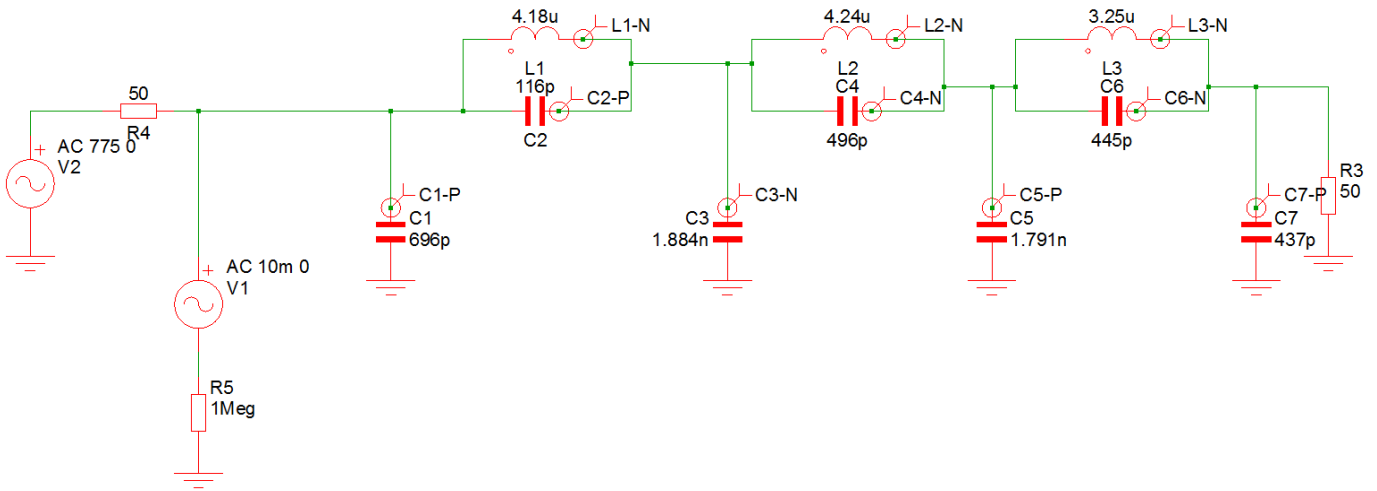
Maximum / minimum ratios:
 Capacitors: 16.188
 Inductors: 1.303

Schematic display mode

Normal - unbalanced

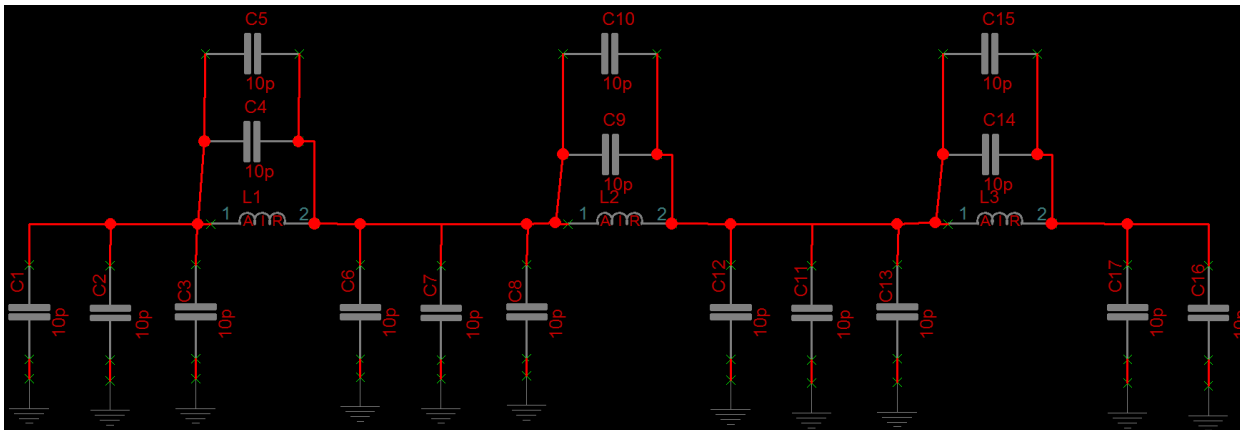
Balanced - floating





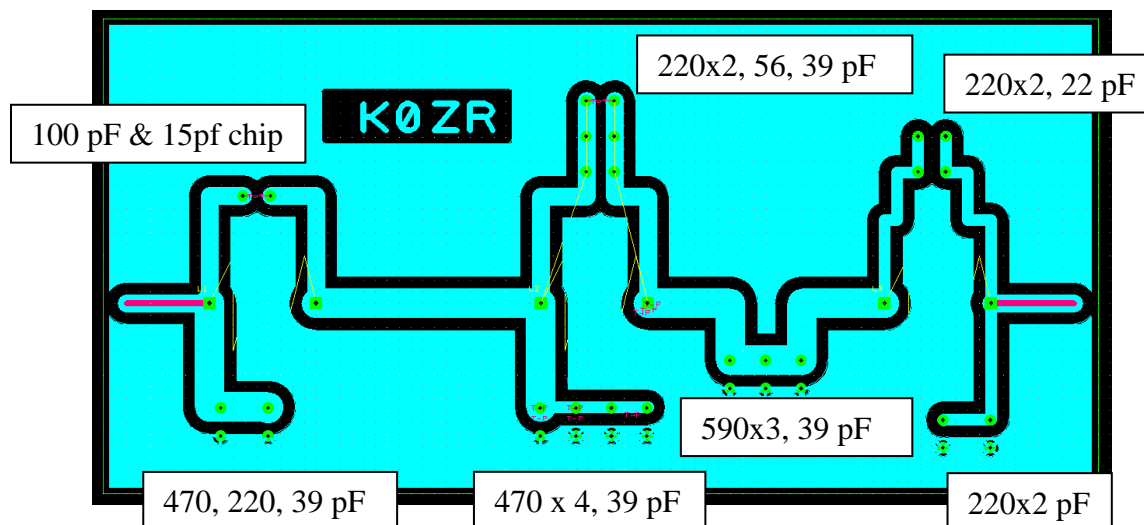
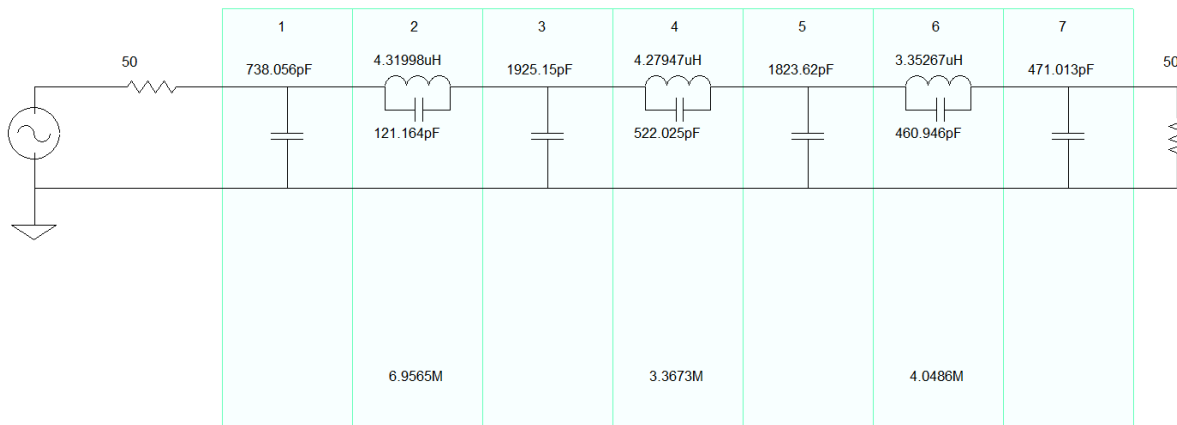
| | | | |
|----------------|---------|----------------|------|
| C ₁ | 3.1-3.3 | L ₄ | 11.1 |
| C ₂ | 0.6 | C ₅ | 9.5 |
| L ₂ | 9 | C ₆ | 1.9 |
| C ₃ | 9.8 | L ₆ | 9.9 |
| C ₄ | 3.1 | C ₇ | 2.1 |

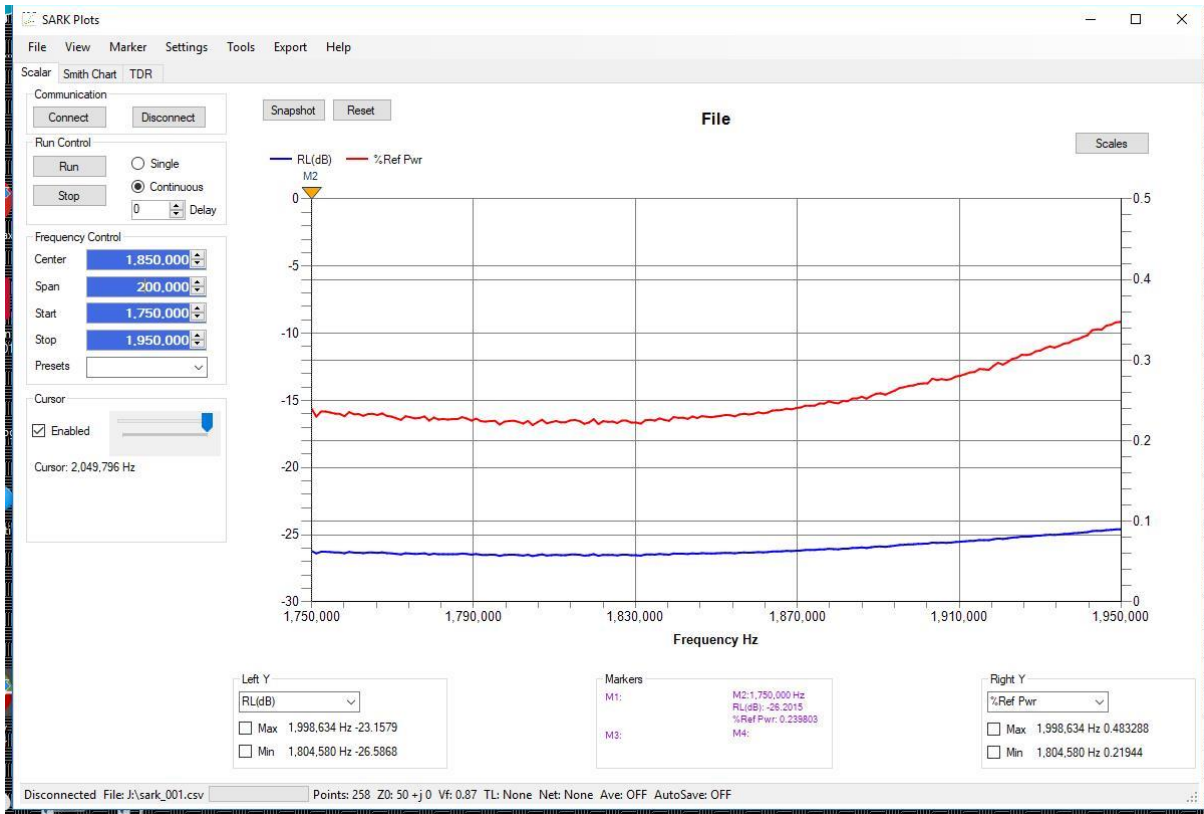
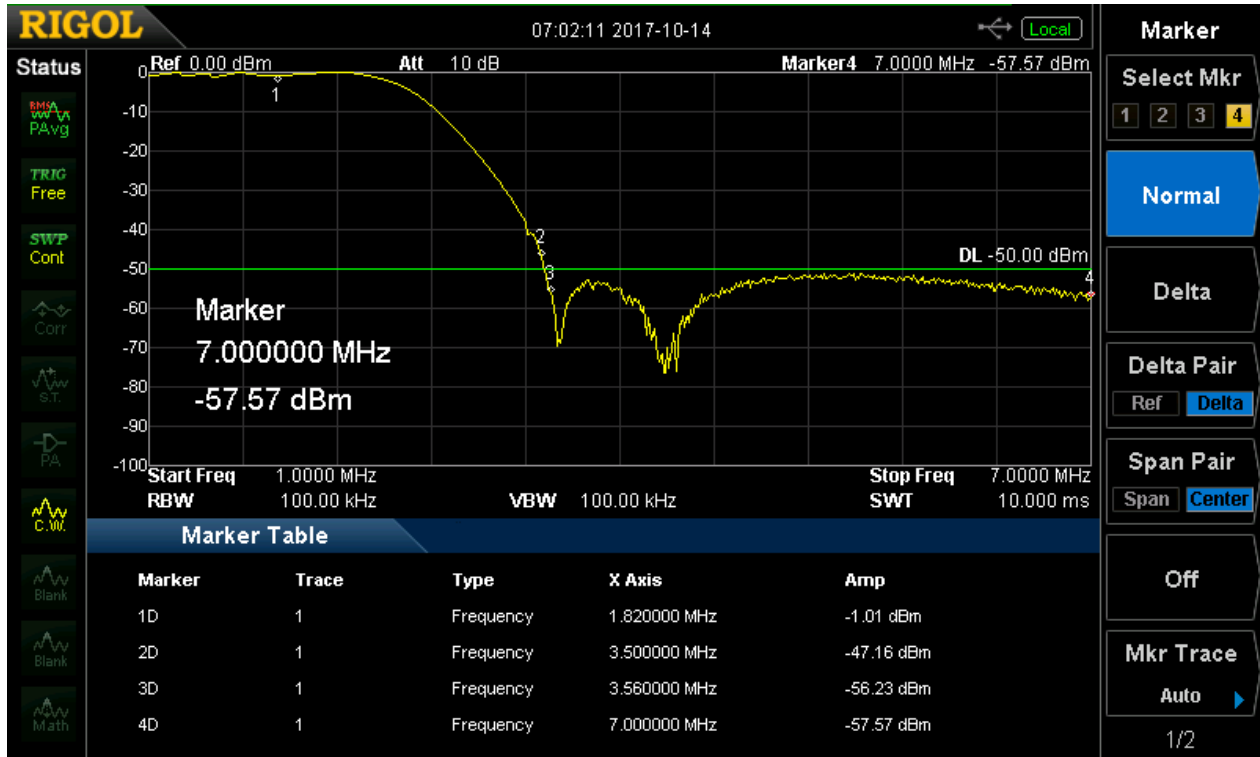
Table 1 Currents @ 1.83 MHz



In actuality, found that the first null appearing at 3.45 MHz had lower rejection than desired; likely due to tolerances on capacitors, etc. A redesign was done using ELSIE for a corner of 3.3 MHz rather than the original 3.4 MHz. Attenuation became 48-49 dB at 3.5 MHz; an improvement of some 10 dB. If I were doing it again I would go for 3.2 MHz.

3.3 MHz ELSIE Design





Maximum Currents and Voltages for 1,500 watts into 50 Ohms

| | | | | | |
|----------------|------|----------------|------|---------------------------------|-----|
| C ₁ | 3.42 | C ₄ | 3.9 | V ₁ , V ₄ | 386 |
| C ₂ | 0.7 | C ₅ | 10.5 | V ₂ | 485 |
| L ₂ | 9.2 | C ₆ | 2.3 | V ₃ | 490 |
| C ₃ | 10.9 | L ₆ | 10.3 | | |
| L ₄ | 12.1 | C ₇ | 2.2 | | |

Changing the load impedance to 25 Ω did not alter the parameters very much. There is ~ 2:1 headroom for voltage and likely more than that for the currents.

And here is the filter

