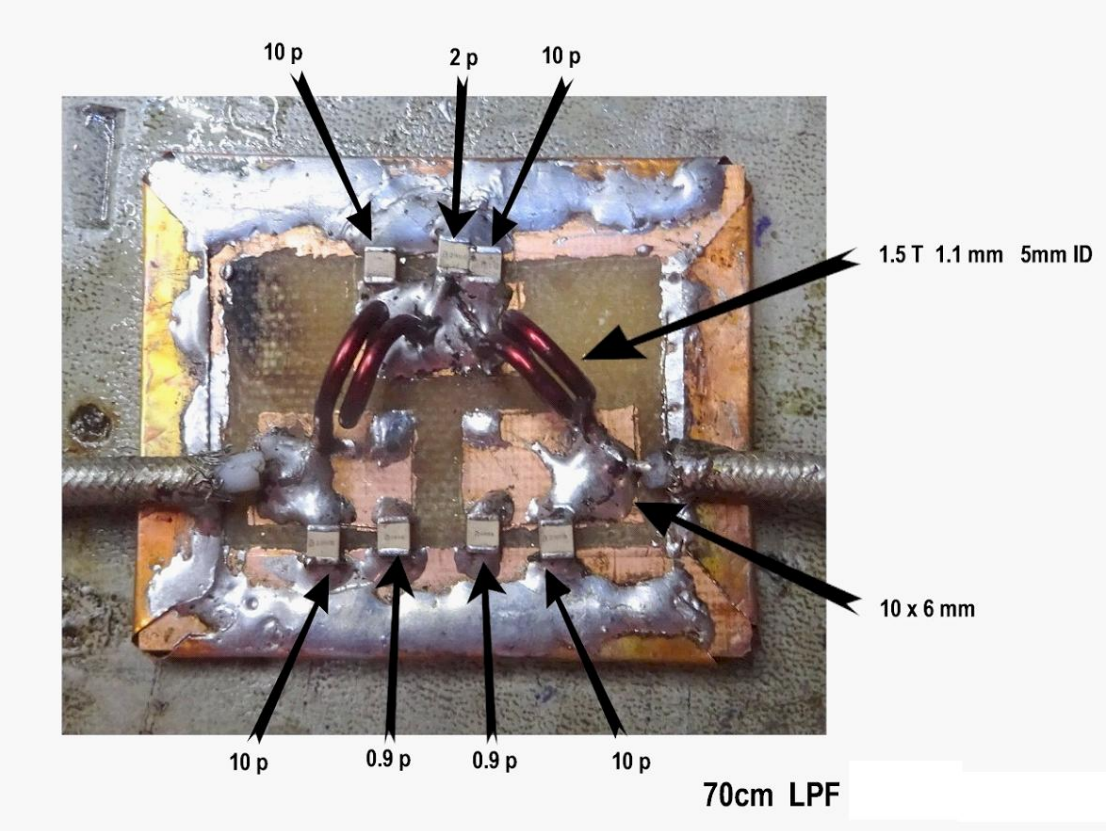
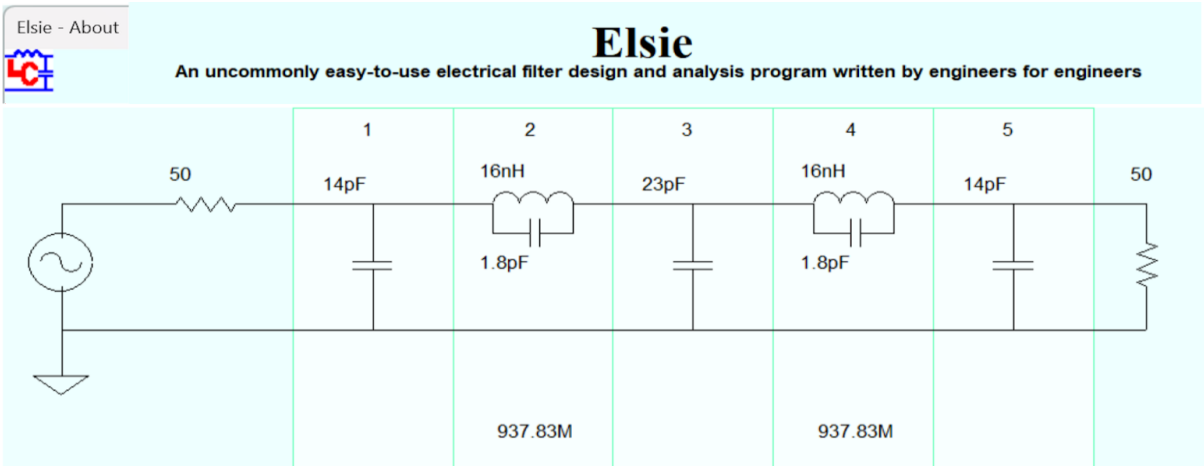
70 cm Low Pass Filter 400W

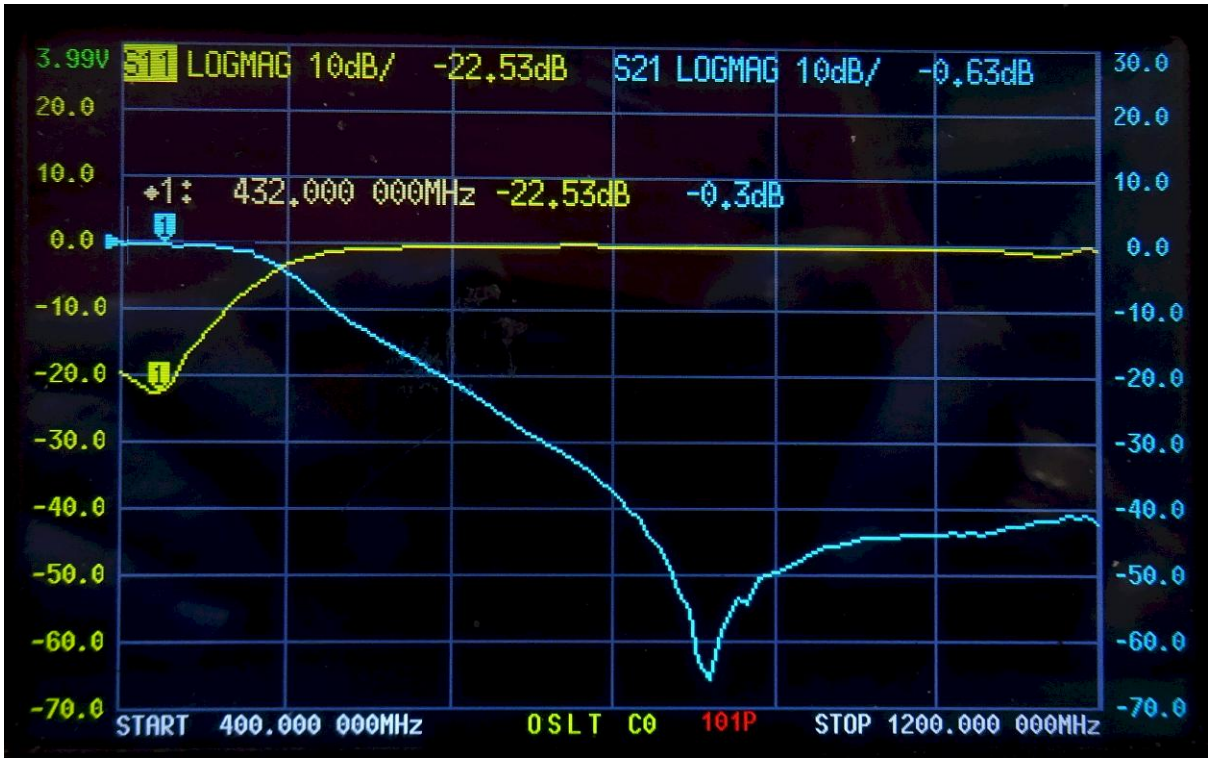
A simple to build 70cm Low Pass Filter which is repeatable. As the use of microstrip capacitors is minimised, this design is low loss and capable of handling 400W. Multiple ATC capacitors provide the bulk of the required capacitance.

The filter is built on a piece of double-sided PTFE PCB. The microstrips may be etched or the waste removed with a sharp knife. Copper or brass 0.4mm sheet is soldered to the ground plane side and folded over to provide ground connection on the top side. Multiple Short pigtails maybe used to short the ground strips to the ground side of the PCB.

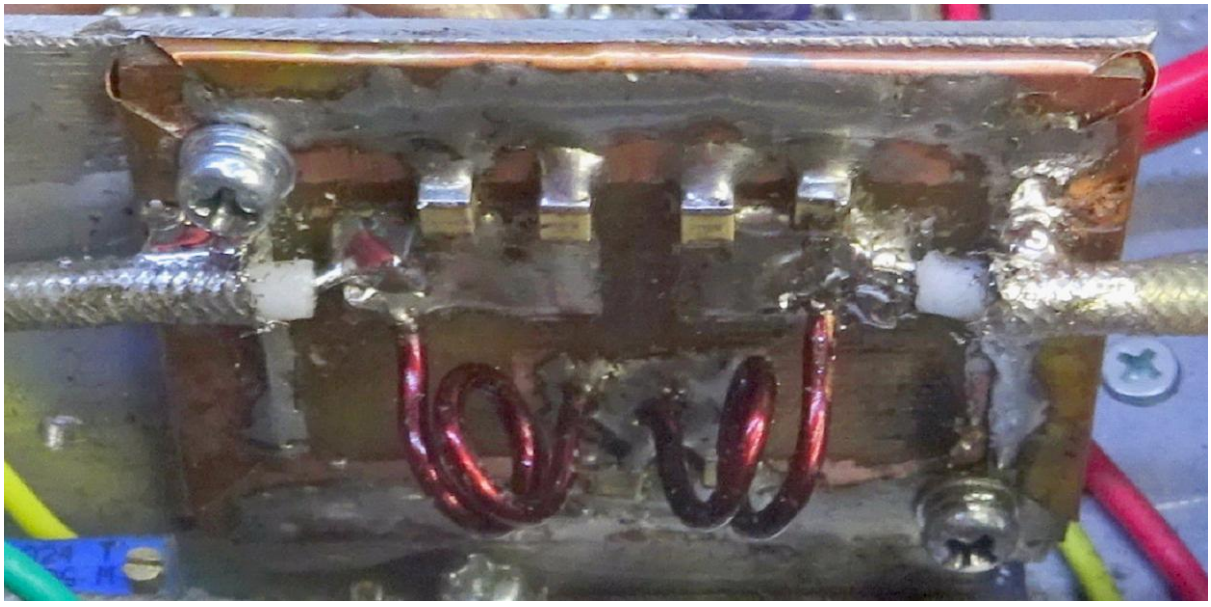


The design was fine tuned in Elsie calculator (© James L Tonne).





The notch at 850MHz was fortuitous in this layout. Stray capacitance between microstrip capacitors. The notch may be tuned by adding ATC capacitors across each inductor. Values of 0.5 to 1.0pf may be expected. The notch improves the transmission loss at the 2nd harmonic, improving the performance beyond that expected by a two stage M-derived design.



Where a VNA or spectrum analyser is not available, the filter may be tuned for minimum SWR by spreading or compressing the coils.