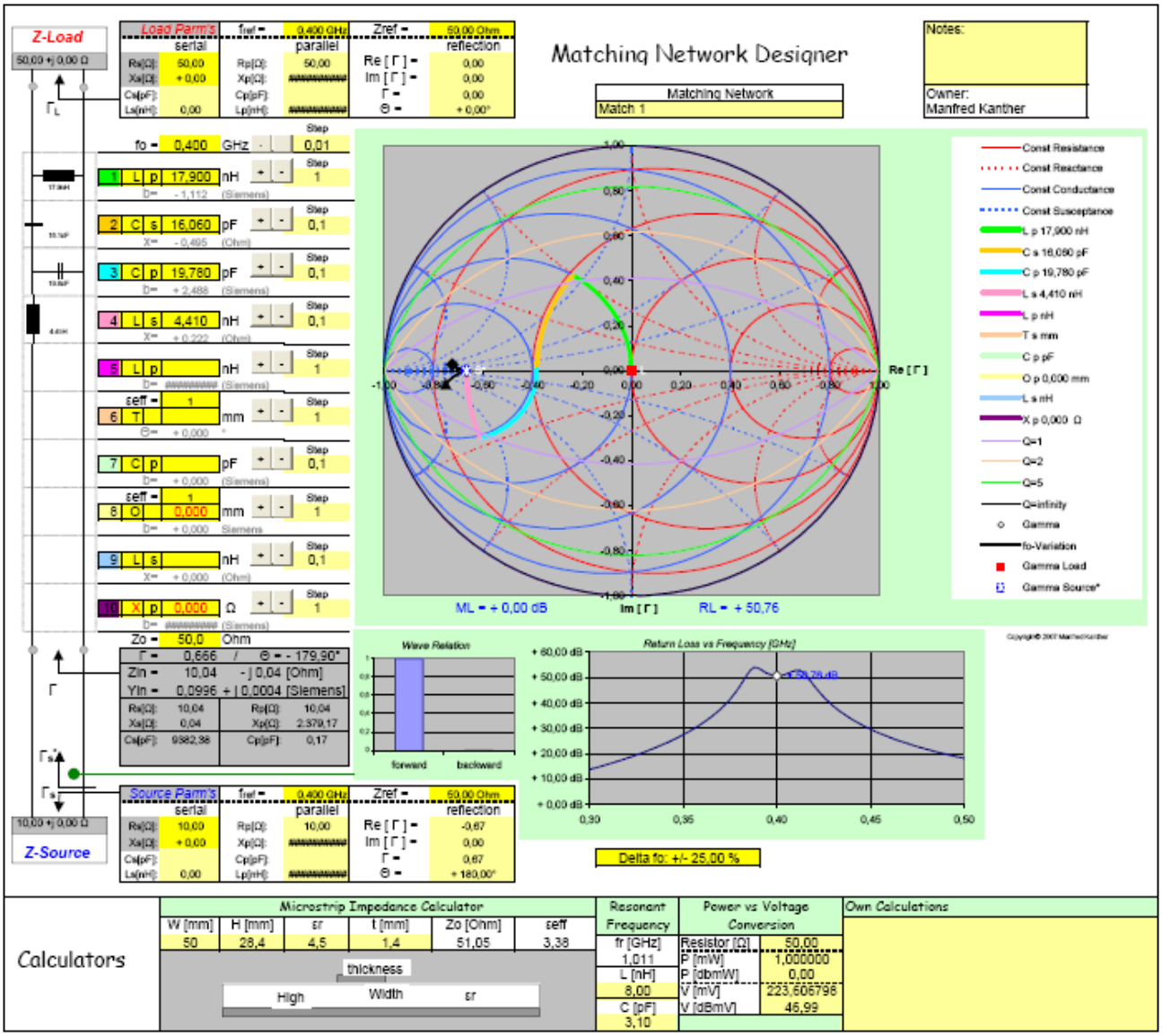
Product Description for the

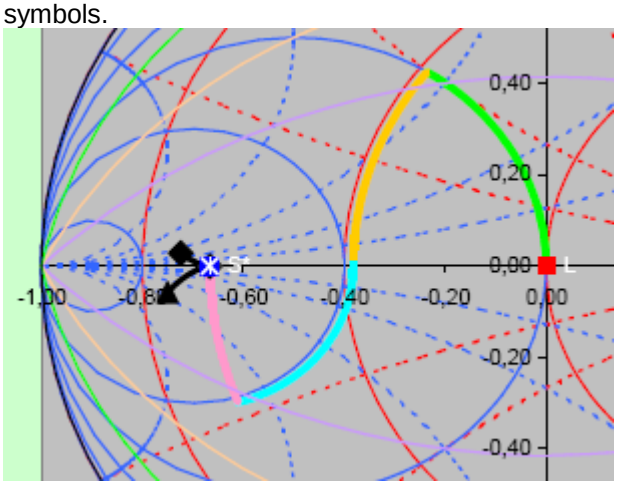
Matching Network Designer

in Excel©

This is a screen shot of the spreadsheet:

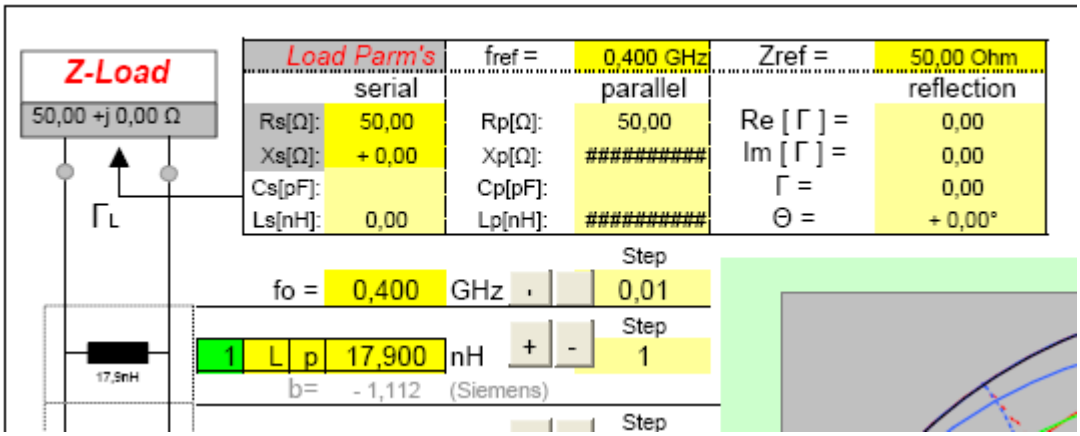


The complex load and complex source impedance can be set directly.
With the design of the matching circuit, by means of constructing an impedance trace from the Complex Load to the Complex Conjugate of the Source, the perfect match can be found.
The Complex Load and the Complex Conjugate of the Source is marked in the Chart by red (L) and blue (S*) symbols.



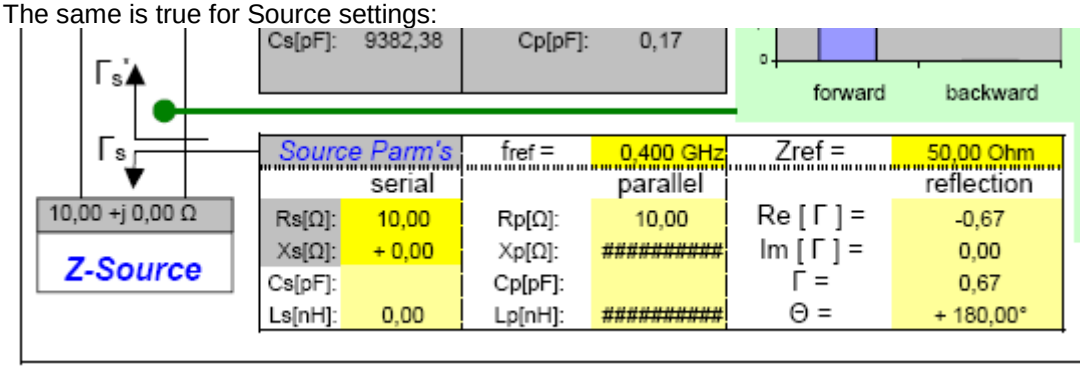
(Detailed view of the spreadsheet)

Below is a detail of how the Load Impedance can be set. Each yellow cell in the setup table accept input data. After input of one parameter, say Gamma or Lp or Cs or Xs etc. the other parameters in the table are re-calculated by the known conversion rules. This makes it easy to take the data directly from a given datasheet.
(The table can also by used as a conversion calculator)



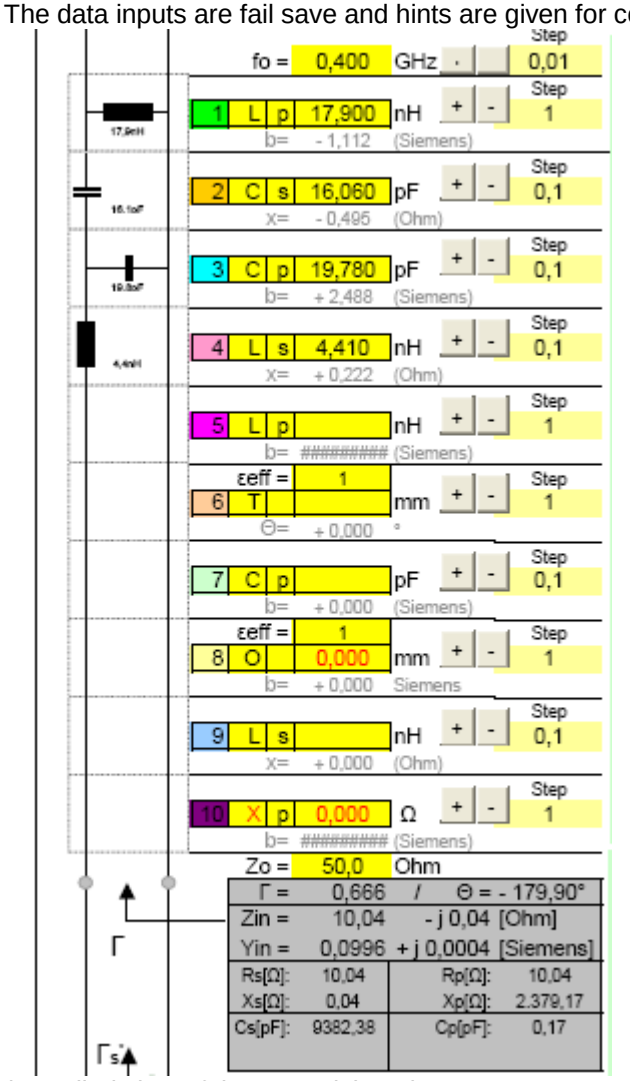
(Detailed view of the spreadsheet)

The same is true for Source settings:



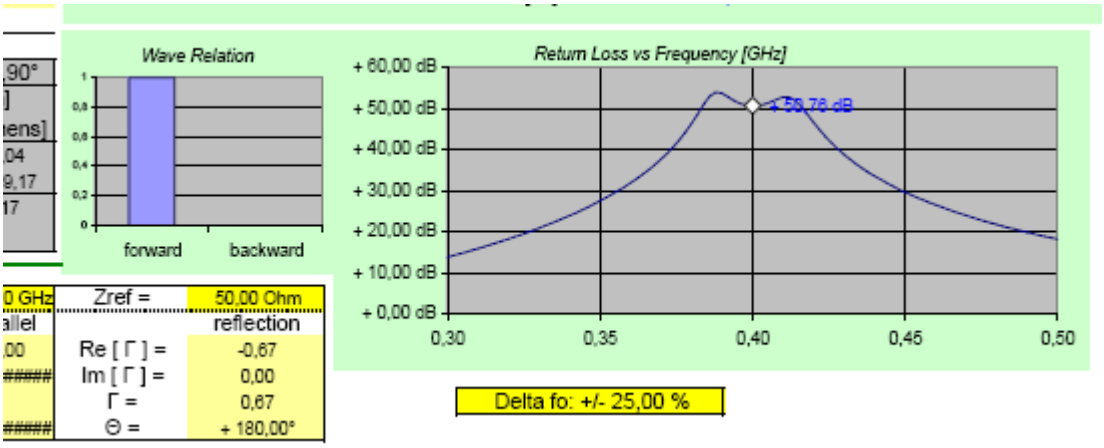
(Detailed view of the spreadsheet)

The network design is made by parrallel (p) and/or serial (s) component arrangements of Inductor (L), Resistor (R), Capacitor (C), Transmission Line (T), Open Stub (O) and Shorted Stub (S).
Also the input of Reaktance (X) is possible.
The data inputs are fail save and hints are given for correct entering.



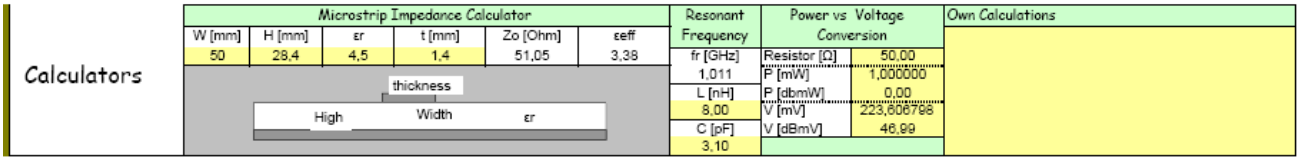
(Detailed view of the spreadsheet)

Two diagrams have been added. One shows the frequency response of the Return Loss (RL) (in this case a wideband matching example), the other is more a nice indication of the wave relation in the network circuit.



(Detailed view of the spreadsheet)

Finaly, some calculators are available:



(Detailed view of the spreadsheet)