

Example with many possible topologies

8 Resonators

4 Tx zeros at finite frequencies

20 dB Return Loss

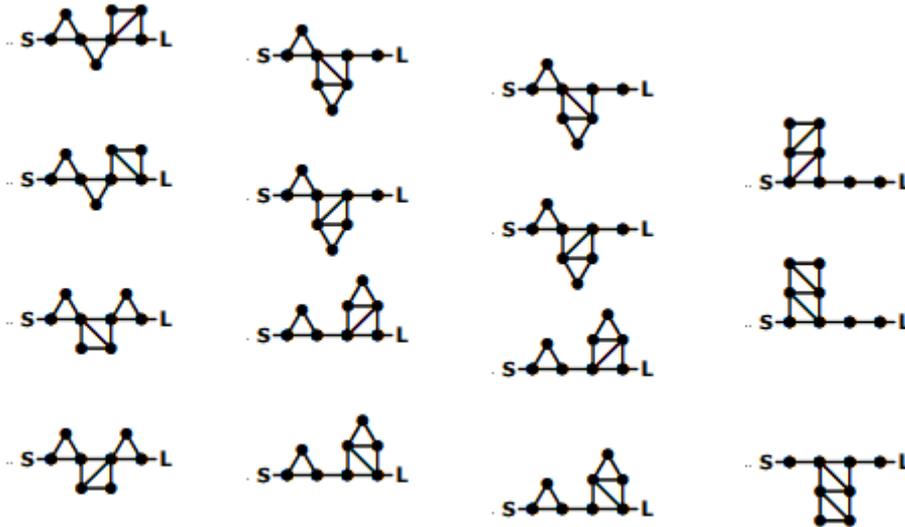
$f_1 = 1803$ MHz

$f_2 = 1882$ MHz

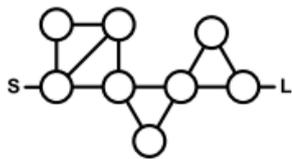
TX zeros: 1748.5MHz, 1775.3MHz, 1785MHz, 1793.3MHz

In this case, there is a large number of possible topologies. A good tool shows all these cases. The experienced user then selects the appropriate ones.

Here are only a few examples of possible topologies:



A topology was chosen, where a maximum of 4 couplings occur on a resonator.



$$M = \begin{bmatrix} 0 & 0.9923 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0.9923 & -0.0231 & 0.6769 & -0.4669 & 0.0736 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0.6769 & 0.6326 & 0.4133 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & -0.4669 & 0.4133 & -0.0364 & 0.5609 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0.0736 & 0 & 0.5609 & -0.0713 & 0.5027 & -0.2309 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0.5027 & 0.3860 & 0.5089 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -0.2309 & 0.5089 & -0.1067 & 0.4362 & -0.4900 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0.4362 & 0.6600 & 0.6645 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & -0.4900 & 0.6645 & -0.0231 & 0.9923 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0.9923 & 0 & 0 \end{bmatrix}$$

Frequency response (original frequencies)

