

Rectangular Spiral Inductor with Air-bridge

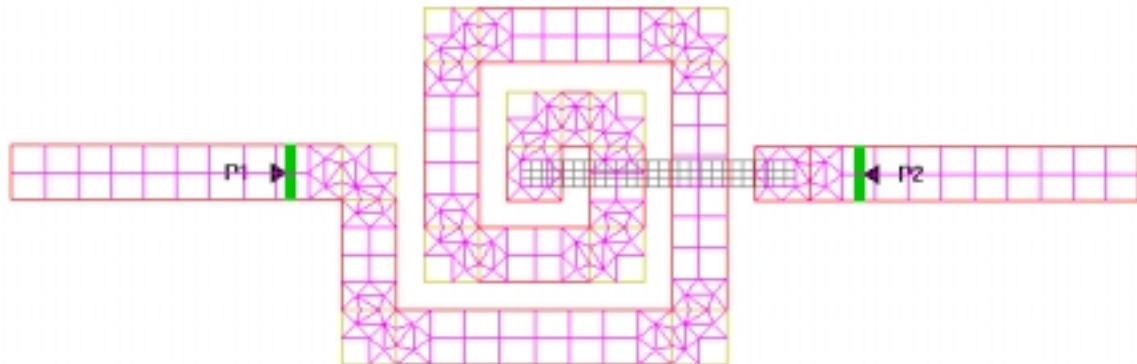
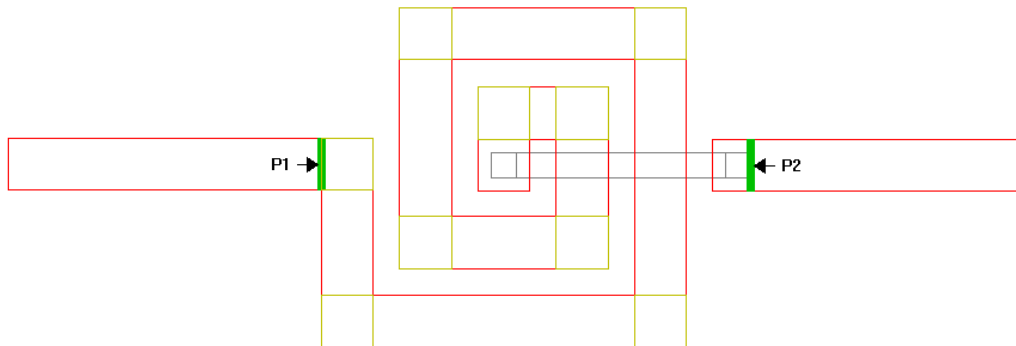
Parameters:

Substrate: Thickness = $635\ \mu\text{m}$, $\epsilon_r = 9.8$

Air-bridge: Height = $317.5\ \mu\text{m}$

Frequency: 11 – 20 GHz

Sampling rate: 20 for regular regions, 30 for discontinuities



Exact dimensions from literature were used. Rectangular spiral measures 3.125mm by 3.125mm. Spiral's two turns are $625\ \mu\text{m}$ wide, separated by gap of $312.5\ \mu\text{m}$. Air-bridge modeled as flat strip with rectangular vias of width $312.5\ \mu\text{m}$.

Literature:

Becks and Wolff, "Analysis of 3-D Metallization Structures by a Full-Wave Spectral Domain Technique", IEEE Transactions on Microwave Theory and Techniques, Vol.40, No.12, Dec 92, pp.2219-2227

Results:

