

ANSYS SYNMATRIX FILTER

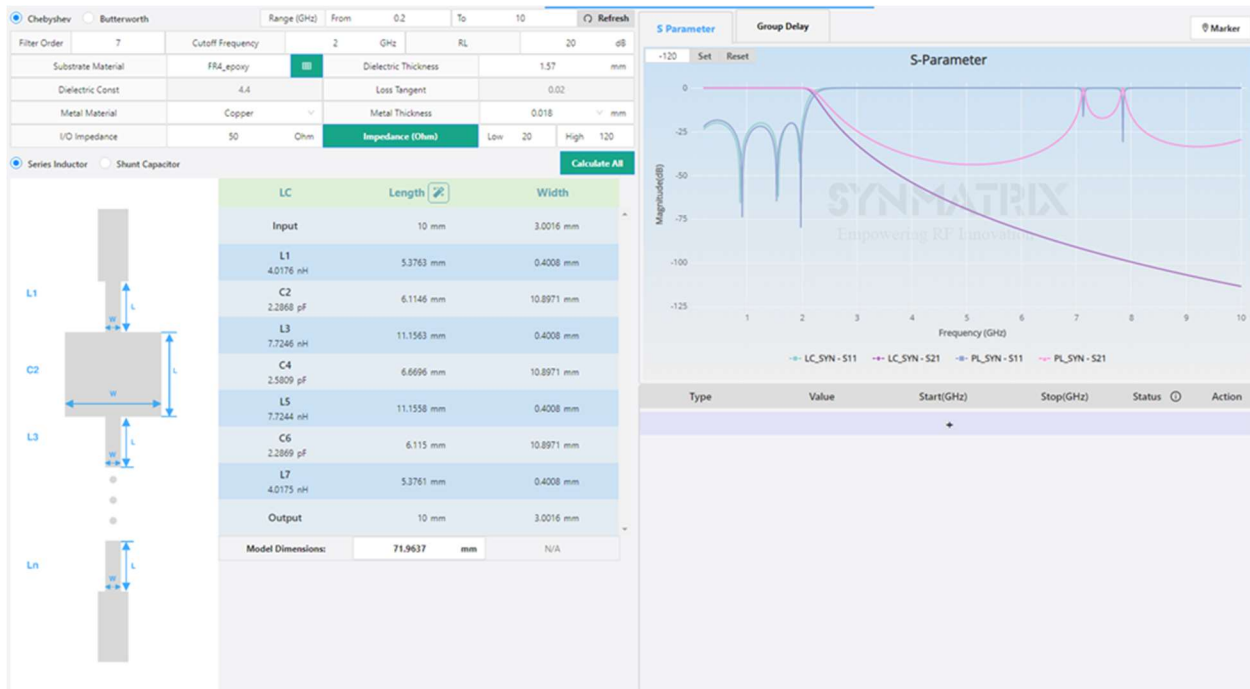
SynMatrix is now available for download on the Ansys portal under 2024.R1. The latest product update features support for low pass Microstrip filters and several other upgrades to improve the transition with Ansys systems and the Ansys license manager. Here are the highlights:

- Fully customizable workflows for low pass Microstrip filters including automated 3D geometry builds in HFSS
- Availability on the Ansys Startup Bundle
- Availability on the Ansys Academic Bundle

Low Pass Microstrip Filters

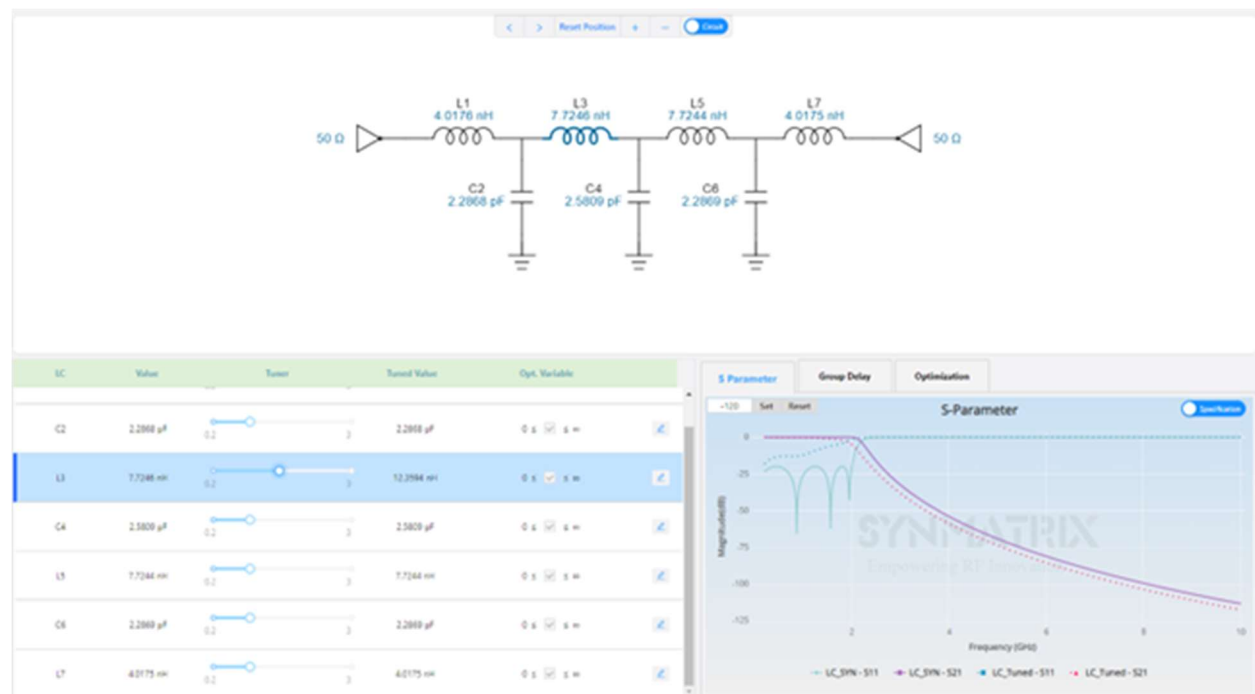
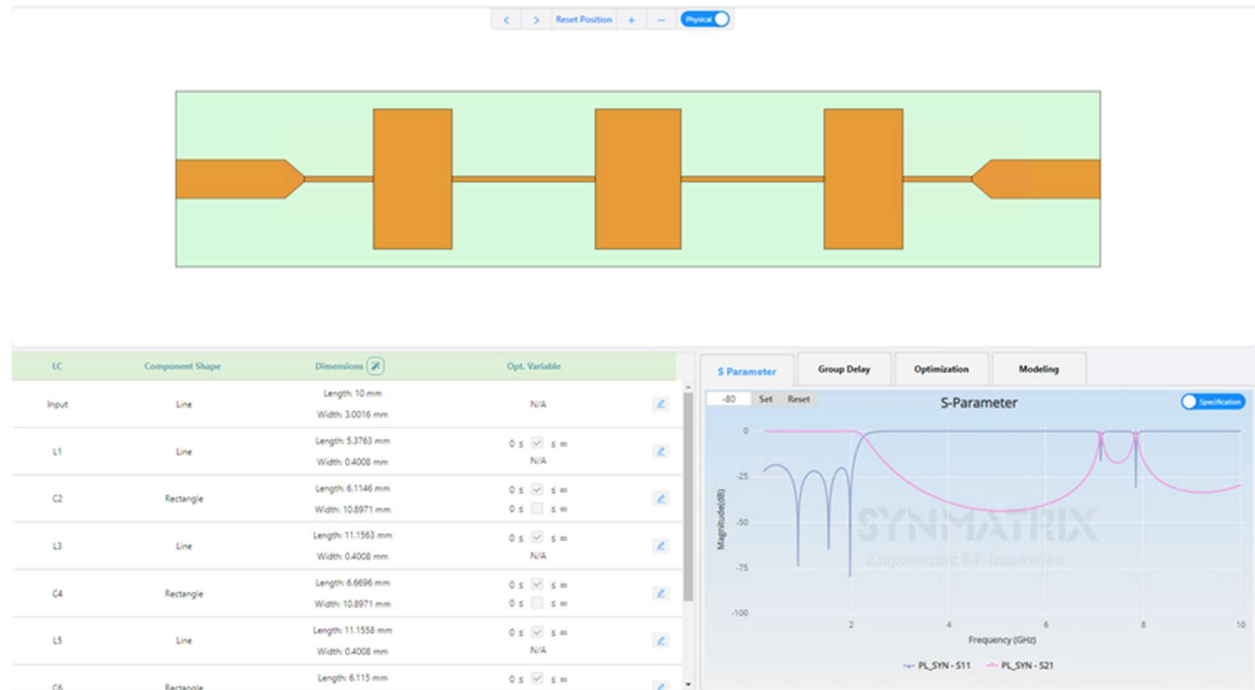
Microstrip filters play a crucial role in modern communication systems, providing efficient solutions for signal processing and frequency control.

Synmatrix currently supports three types of filter synthesis: step impedance, open stub and elliptic. Similar to other supported filter technology workflows, users can input their design specifications (filter type, material definition). Once this is complete, users will get the L&C values, dimensions, group delay, and S-parameter responses:

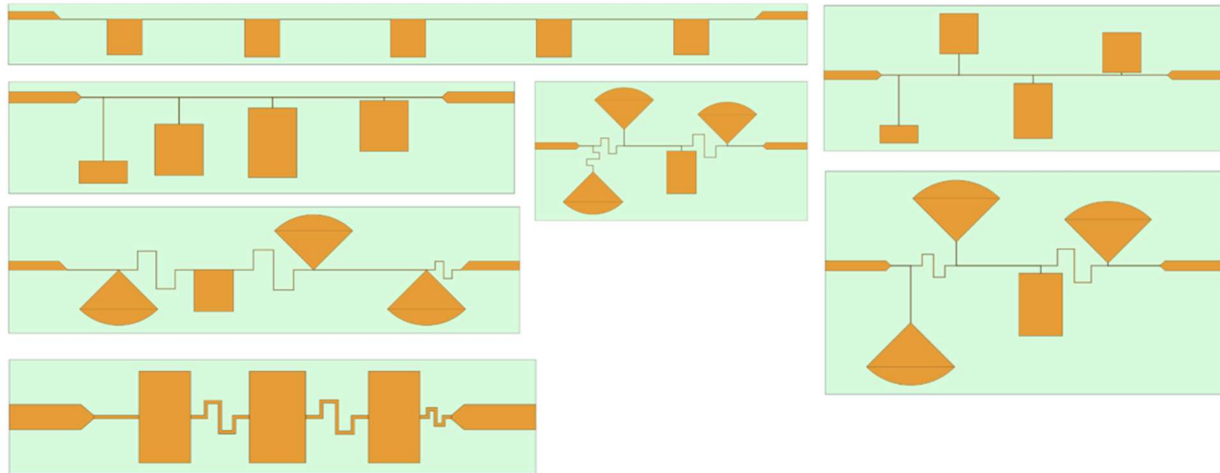


Synmatrix GUI Page Overview

Users will be able to review their 3D modelling parameter inputs for several component types before they are generated automatically in HFSS. There is also a page dedicated for circuit analysis and users can change the LC values of the filter circuit model.



Users will enjoy a host of customization features to help choose component types and dimensions values to help meet their design requirements. As an example, Synmatrix supports different capacitor shapes (rectangle and circular) and different shapes for meander and straight line for inductor modelling. With this flexibility, users are given a powerful set of modelling tools to help configure and customize models in HFSS.



Users will be able to automatically generate the 3D geometry and run the HFSS simulation directly from SynMatrix. Mesh settings can also be adjusted based on the user requirements. Once the simulation is complete, the results will be returned to SynMatrix automatically and users can compare the simulation and algorithm-based S-parameters.

