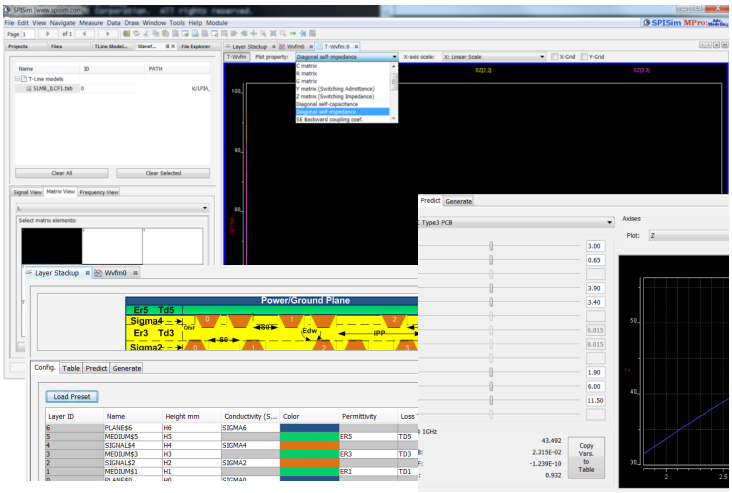
SPITPro

Stack-up/Transmission Line Analysis

DATASHEET



SPITPro Overview:

SPITPro is an add-on module on top of SPIVPro waveform viewing/analysis application. It is designed for stackup/transmission which, is an essential portion of platform interconnects. It supports many stack-up analysis functions only available at much more expensive EDA tools. Straightforward UI components targeted at T-Line models also make SI/PI engineers' analysis work with T-Line modeling/analysis much easier and efficient.

SPIVPro Overview:

SPIVPro product is a waveform viewer/tool designed for signal/power integrity analysis, measurement and processing. Built on-top of SPISim framework, it provides an unified, straightforward environment with many general and advanced analysis capabilities. It supports common simulation, lab-measured data or even IBIS models. SPIVPro also has scripting functionality for extended/customized processing. We also provide module customization service to meet your platform analysis challenges.

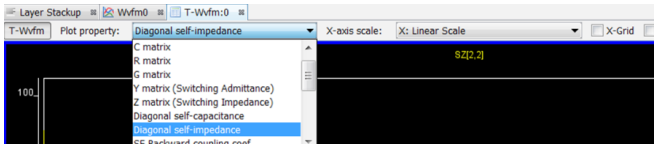
APPLICATION SCOPES:

- Transmission line model/data viewing, measurement in different qualitative matrix formats.
- Stack-up analysis such as impedance, near-end/far-end crosstalk, attenuation and propagation speed etc.
- Stack-up model generation and performance prediction for channel simulation/analysis.

MAJOR BENEFITS:

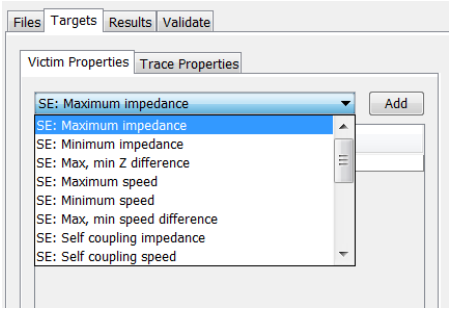
- Built on-top of SPIVPro module, bring all VPro features/benefits to this advanced add-on module.
- Support parametric RLGC or frequency dependent tabular formats, view data plots in dedicated waveform windows designed for T-Line models. Switch view of models' performance matrices like impedance, crosstalk or attenuation etc in real time.
- Stack-up planner and predictor allows what-if analysis for various stack-up dimensions. Generate transmission line models via HSpice* simulator.
- Avoid expensive stack-up toolbox purchase and save engineering effort in scripting or debugging.

Data Format and Viewer:



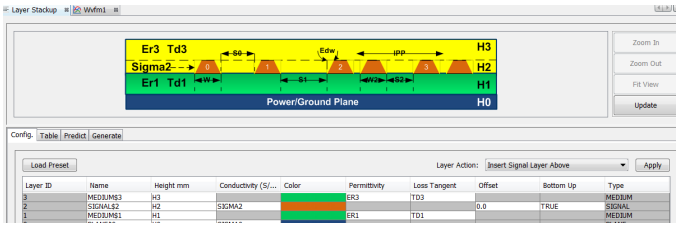
SPITPro supports both parametric (in .rlc extensions) and tabular (.tab) formats. Once activated, SPITPro module will install several extra menu items on-top of VPro menu system. Among which, T-Waveform window is an enhanced viewer designed for T-Line model data viewing. Given a model, user can switch between different views of parameters (impedance, crosstalk, attenuation and propagation speed etc) and X-Scale (Linear or Log). Data can be plotted in single tab or correlated within multi-Pane/Page UI is also built-in as those are in VPro module.

Stack-up Model Post-Processing:

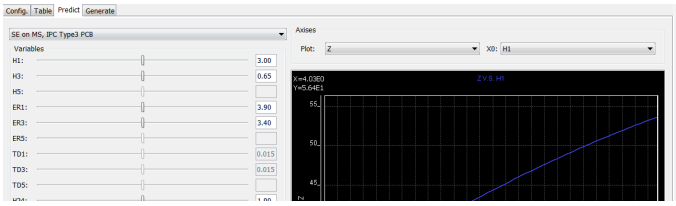


SPITPro also includes a dedicated UI pane for batch mode post-processing of one ore more traces from one or more T-Line model files. Measurements like modal/differential/even-odd mode impedance, speed-difference and coupling coefficients between traces can be calculated. Results will be summarized in a .csv table format for further analysis or modeling.

Stack-up Analysis/Generation:



SPITPro has a dedicated UI for stackup planer and generation. User can specify predefined or customized stack-up with customized trace conductor layout and their dimension/spacing parameters in tabular format. HSpice* compatible input files will be generated to perform field solving for these input conditions. Generated stackup/T-Line models can then be inspected/checked for their performance qualities such as impedance etc.



In stackup predictor UI, user can specify a predefined stackup and interested performance targets, then adjust input conditions with sliders to see how the input parameters impact outputs. Tens of thousands data points were used to build prediction model within TPro so user can perform this what-if analysis in real time. Once desired outputs are found, their corresponding input conditions can be feedback to "Generate" pane to generate stackup models for these configurations.

* SPISim LLC is a member of Synopsys HSPICE Integrator Program. For more info. About HSpice, please visit www.synopsys.com.