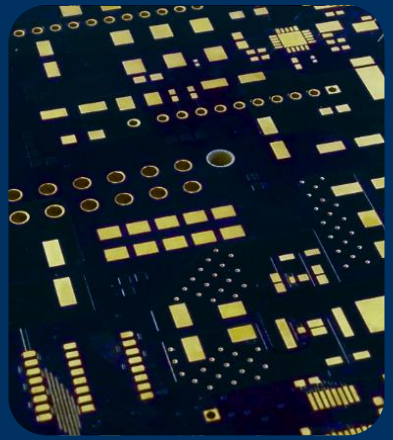


SPISim Analysis Suite

TD/FD analysis for SI/PI

SPISim

EDA expertise in Signal, Power Integrity and Simulation

EDA focusing on SI and PI:

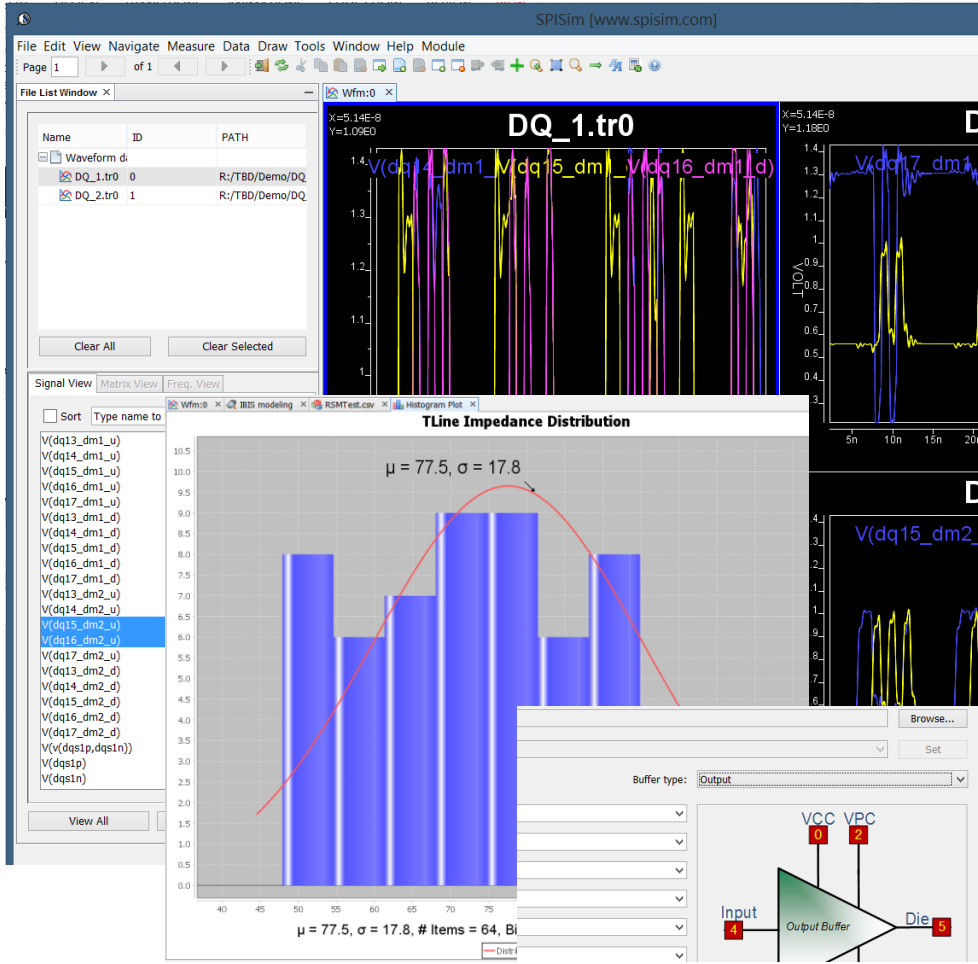
SPISim is an EDA company specialized in system level signal, power integrity and simulation. From pre-layout schematic editor, IBIS, Verilog-A, transmission line and S-parameters modeling and analysis to post-layout net based performance analysis and design synthesis. From design-of-experiments setup, design sample generations to linear programming, neural network or genetic algorithm based optimization. We have experience in them all and can provide industry level best practice flow to meet your high speed system design needs.

Unified analysis suite:

SPISim brings latest software technologies in framework infrastructure and libraries to our design. These modules and integrated suite are built from ground up to meet SI/PI engineers' day-to-day needs. Be they TD/FD/TLine/S-Parameters focused waveform viewing, model generation and analysis, or IBIS inspector and tuning capabilities, you will not find such comprehensive SI/PI capabilities in our single analysis suite.

Powerful yet affordable:

All our tools are cross-platform (Windows, Linux and OSX), self-patchable and extra licenses free. That means no need for hassle MCR installation or additional toolbox's purchase. Our tools can also integrate with your existing highly priced point tools to compose a streamlined flow. We also provide customization service based on our modules. With this, your company can focus on core business logic instead of reinventing wheel for the design infrastructure.



SPISim Analysis Suite

TD/FD analysis for SI/PI

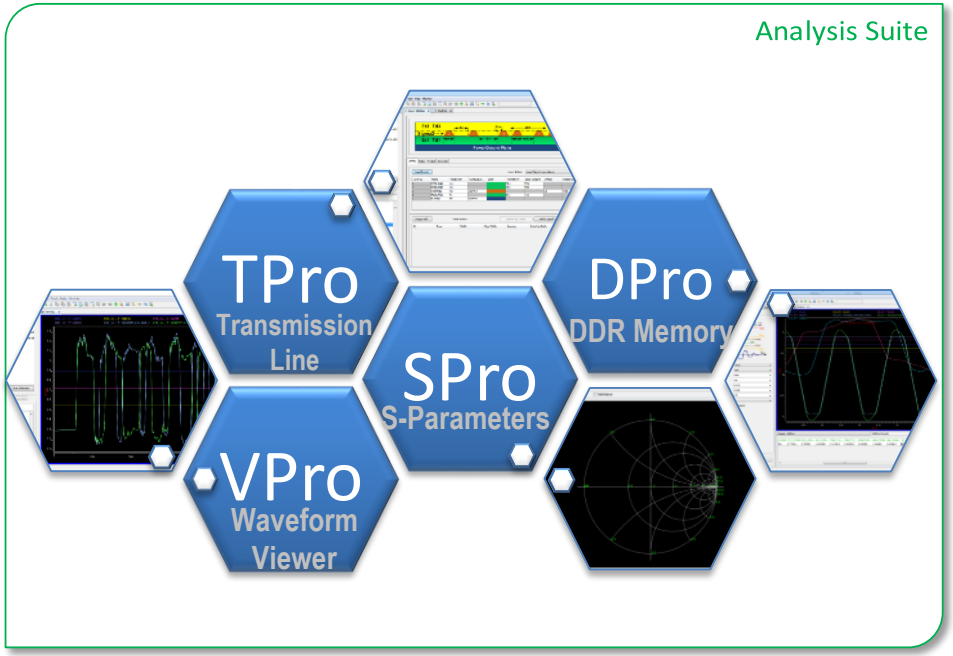
For SI/PI analysis:

SPISim analysis suite targets at your pre-layout modeling data analysis and waveform viewing needs. It has integrated the following core modules for pre-layout modeling and analysis needs:

- VPro: a powerful FD/TD waveform viewer and analyzer w/ signal generator;
- SPro: S-parameter analysis and automation;
- TPro: Layer stack-up and Transmission line modeling and analysis;
- DPro: DDR time domain simulation processing for JEDEC parameter reporting.

Dynamic and Scalable:

Modules used in SPISim analysis suite are plug-N-play and can be extended to meet your growing designs and technology challenges. Add-ons can also be developed for your organization for to present a step-by-step, check mark or wizard based analysis flow. This means not only experienced engineer can make use of our tool's comprehensive capabilities, junior persons or lab technicians can also deliver productive results very quickly with simplified, straightforward GUI frontend.



SPIVPro:

Time domain/Frequency domain waveform viewer

Multi-format waveform viewer:

SPIVPro accept many different data types and formats for analysis. They including TD/FD data like HSpice's tr#/ac# format and comma-separated-value csv (e.g. excel), s-parameters, transmission line tabular table and IBIS model. Large data (>4GB or more) are also support for tr#/ac# and .s#p s-param format.

The following formats are supported for input viewing:

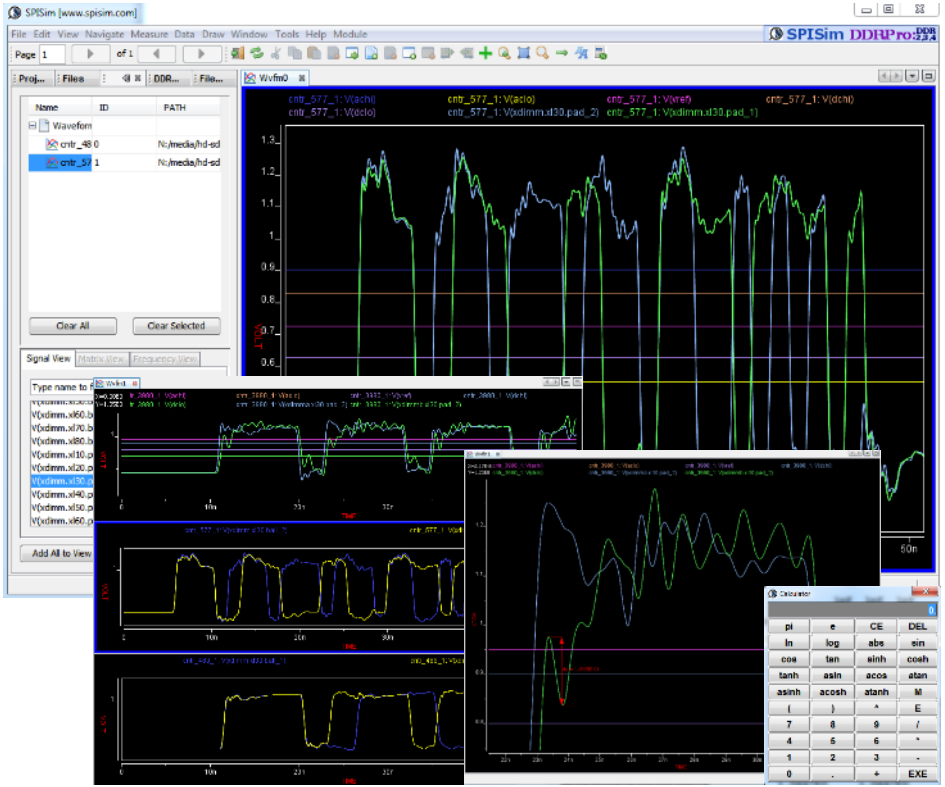
- Synopsys HSpice or ISpice output: .tr#, .ac#, .chi, .split/.spo
- Mentor Graphics Eldo: .swx;
- Matlab: .mat, LTSpice: .raw;
- General csv format from excel, xplot or lab measurement;
- S-param model in .s#p/.ts and .citi;
- Transmission line model in .rlc and .tab;
- IBIS data table up to Spec. V5.1.

Measurement and analysis:

SPIVPro has more than 20 SI focused measurements built-in. These can be used to measure edges, peaks, peak-to-peak or valleys for various SI qualities such as ring-back, overshoot and undershoots etc. Values can be measured across whole x-axis range or specified fixed/moving timing windows. Data measured or peaks/point identified will be marked automatically fir easy reporting.

Waveform calculator/scripting:

SPIVPro has built-in waveform calculator to perform point-to-point calculation between traces and trace groups (like all traces from file A form a group v.s. all traces from file B as a group). Further more, multi-scripting languages such jscript, ruby and tcl are also supported.



SPISPro:

S-parameter analysis and automation

S-parameter add-on:

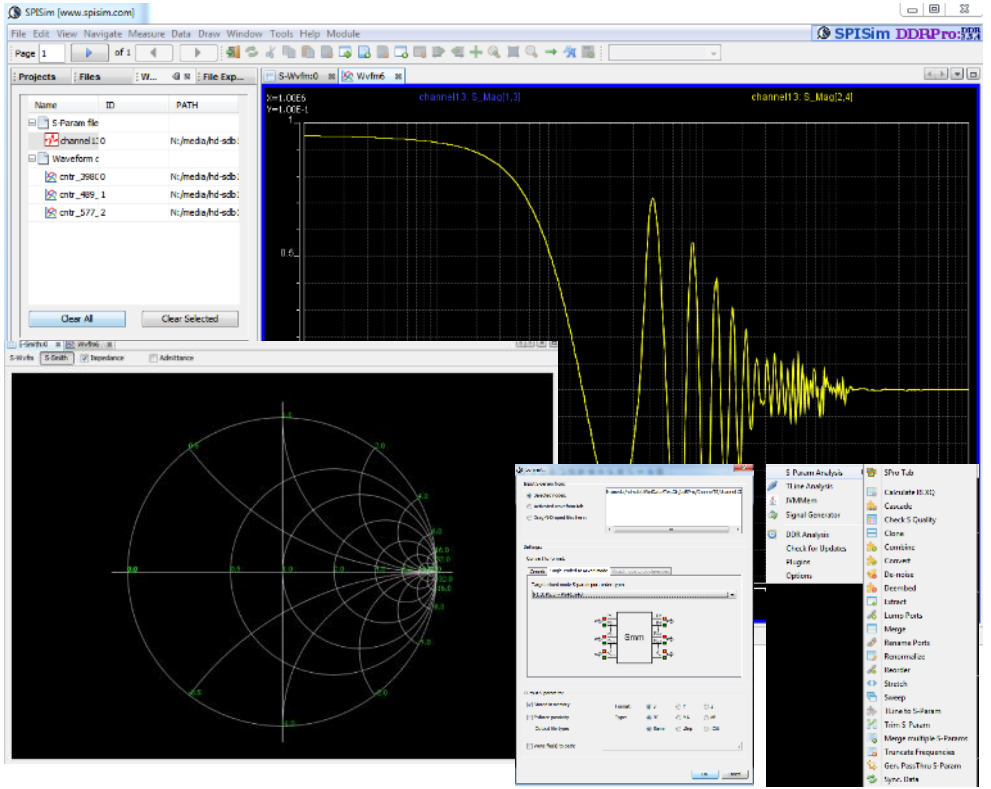
SPISPro is an add-on module on top of SPIVPro waveform viewing/analysis application. It is designed for S-parameters from either simulation or measurement. It supports many S-Param. analysis functions only available at much more expensive EDA tools. Straight-forward UI components targeted at S-Param. also make SI/PI engineers' analysis work with S-Parameters much easier and efficient.

Powerful data viewer:

SPISPro supports both touch-stone (in .s#p/.ts extensions) and citi (.citi) formats. S-Waveform window is an enhanced viewer designed for S-param. data viewing. User can switch between different parameters (S, Y, Z or Mixed-mode etc) with different Y-unit (Magnitude, dB etc) and X-Scale (Linear or Log). Data can be plotted in either trace type viewer or Y/Z Smith-charts. Multi-Pane/Page viewing is also built-in as those are in VPro module. S-Table window enables viewing frequency-specific S-Param. matrix content or frequency-dependent trace value in textual format

Analysis capabilities:

SPro has more than 20 functions like cascade, convert (to mixed-mode or Y/Z), lump ports, re-ordering, renormalizing (to different reference impedance) etc are included. HSpice* input file generation to extract S-Param. via circuit simulation is also supported. A batch processing and reporting function is available to generate summarized report for instant debugging and data analysis.



SPITPro:

Transmission line modeling and analysis

Transmission-line add-on:

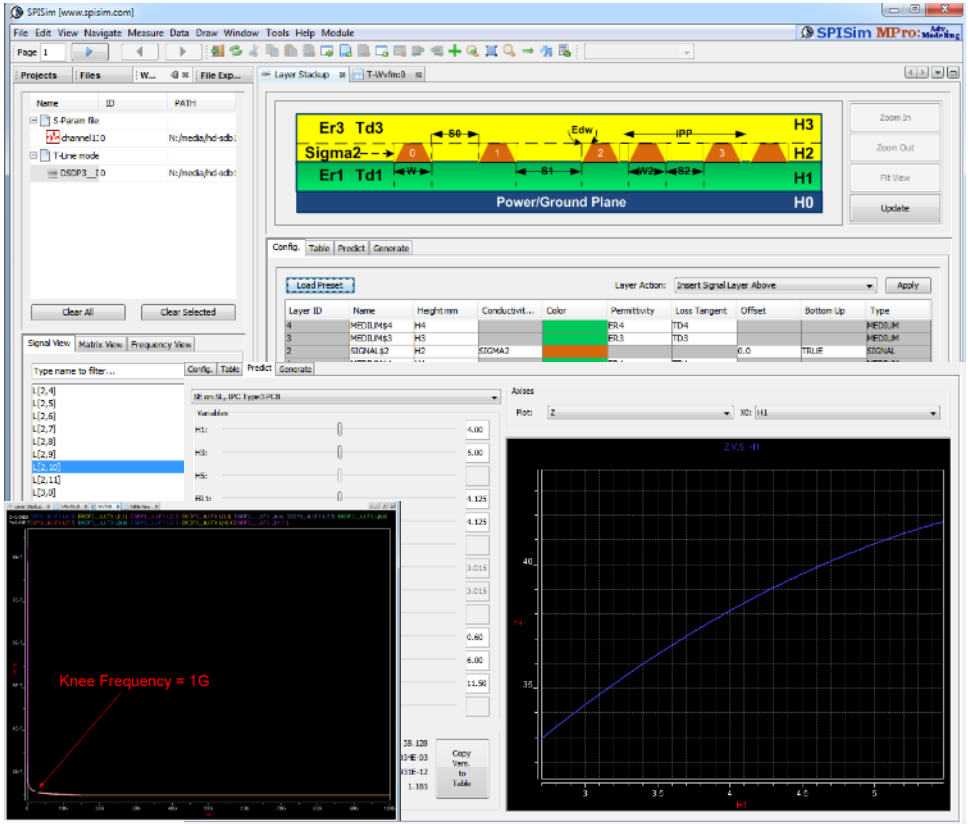
SPITPro is an add-on module on top of SPIVPro waveform viewing/analysis application. It is designed for stackup/transmission which, is an essential portion of platform interconnects. Straight-forward UI components targeted at T-Line models also make SI/PI engineers' analysis work with T-Line modeling/analysis much easier and efficient.

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.

T-Line model 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). .



SPIDPro:

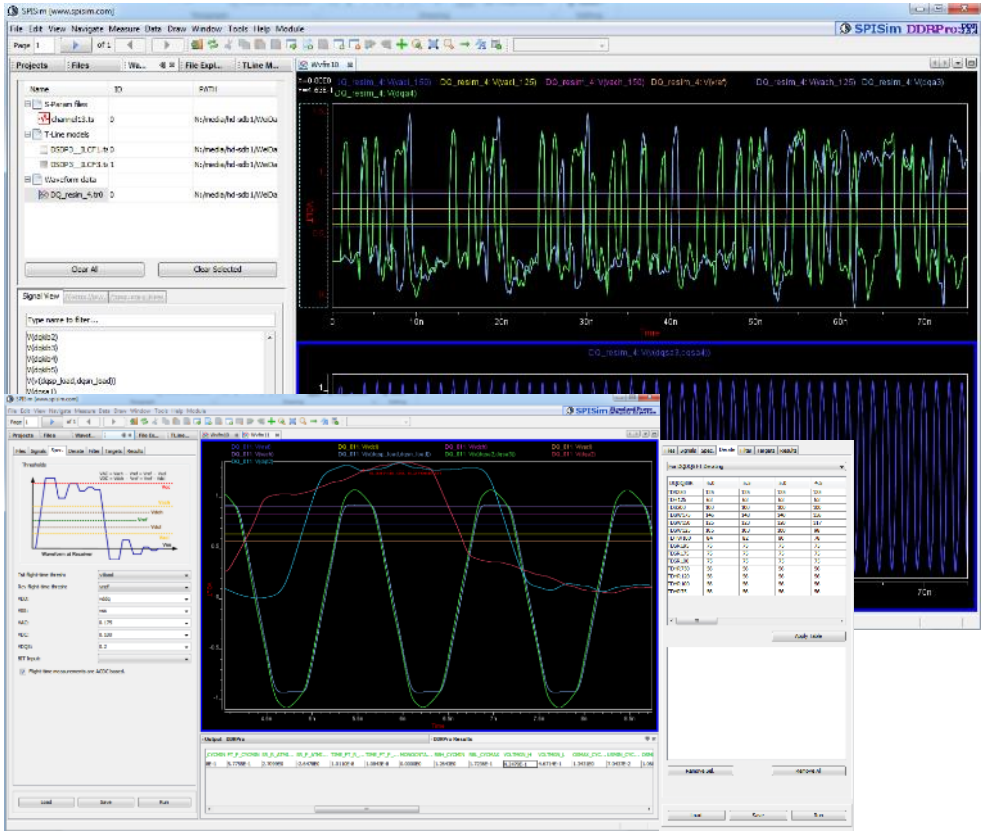
DDR simulation post-processing

DDR data analysis:

SPIDPro is an add-on module on top of SPIVPro waveform viewing/analysis application. It is designed to post-process DDR simulation results. It provides in-place AC/DC derating and report measured results in excel's .csv format. Measurement can be cross-probed to find out the duty cycle in which violation or worst/best case occurred. More than 70 JEDEC compliant measurement can be performed. It comes with pre-defined AC table and also allow user to provide customized table values

Dedicated UI for validation:

Dedicated UI for setup, process and cross validate simulated/measured DDR results. Reported results are cross-referenced to the points where corner case measurement happened. Allowing quick check of results v.s. input data.



EDA Expertise in Signal, Power Integrity and Simulation

WebSite: www.spisim.com, Email: sales@spisim.com, Tel:+1-408-905-6692, Location: Vancouver, WA, USA

SPISim is a member of Synopsys HSPICE Integrator Program