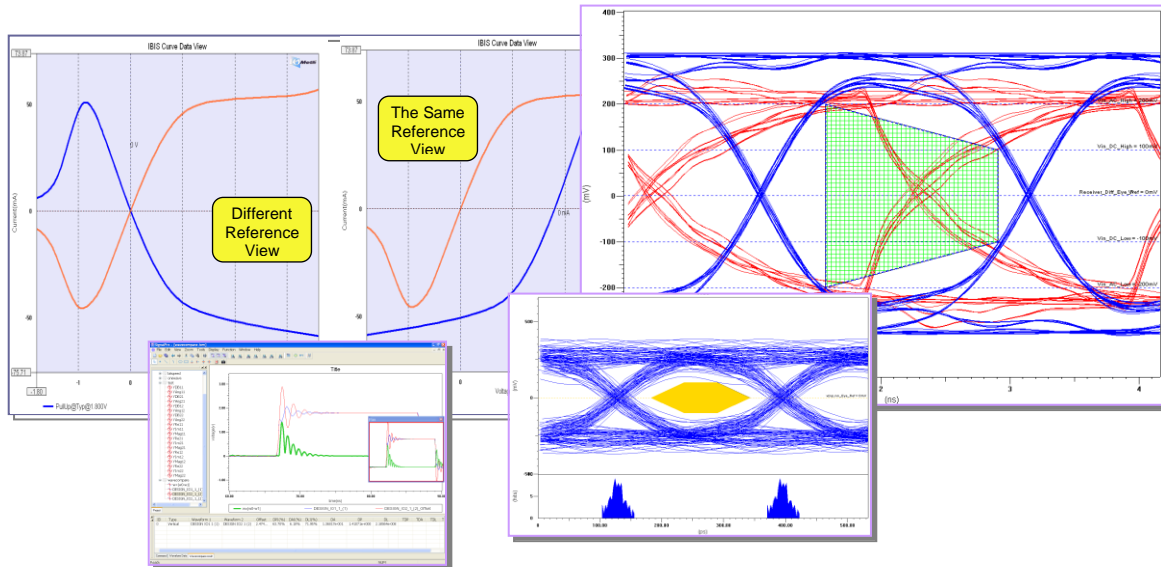


SimDE™ WAVEFORM

- Multi-Format Waveform Viewer with Analysis Capabilities



SimDE™ WAVEFORM Overview

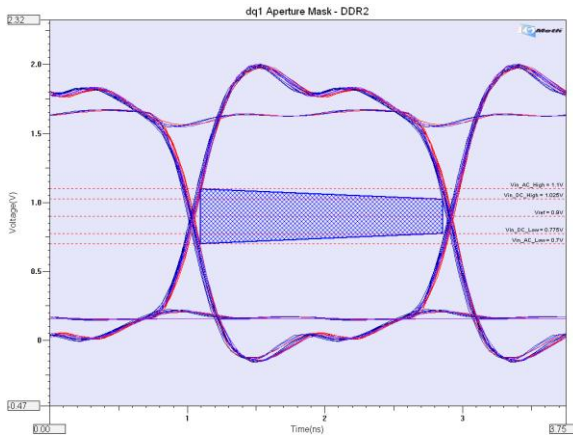
Signal Integrity specialists and Design Engineers are dealing with Waveforms/Signals everyday. A high-performance waveform/signal post-processing tool is critically important for improving work efficiency and a must-have for your next High-Speed system design.

SimDE™ WAVEFORM is a utility tool designed for Signal Integrity analysis and signal processing. It provides an **environment** and many advanced analysis functions. It also includes the advanced IBIS model analysis, signal / waveform viewing functionality, preset / programmable SI analysis features and a unique signal / waveform comparison capability. It is powerful and easy to use. It provides a direct and visual inspection for signal, verification runs and waveform post processing. SimDE™ WAVEFORM enables customized measurement and processing for Signal Integrity analysis.

SimDE™ WAVEFORM Application Module is a revolutionary methodology for waveforms / signals post analysis. It provides a very flexible, yet comprehensive way for complex standard-compliant analysis and validation. (IBIS and DDR2 are available

- DDR2 Standard Analysis Capability
- IBIS Analysis Capability
- Multi-Format Waveform Viewing Capabilities
- Flexible Granularity and Grid Control
- Eye Diagram Analysis with Mask/Aperture and Jitter Distribution
- Modulus, Real/Imaginary and Angle FFT Processing
- Spice Stimulus Generator with code viewing
- Waveform Comparison
- Waveform Manipulation
- Slope Measurement
- Basic Search and Report
- Waveform Filter

for current release).



DDR2 Standard-Compliant Analysis Application Module

SimDE™ WAVEFORM provides an easy to use DDR2 standard-compliant analysis application module for your DDR2 design signal analysis. It can accept your scope data or simulation data (HSpice, PCB SI, Hyperlnx, etc.). Key capabilities are:

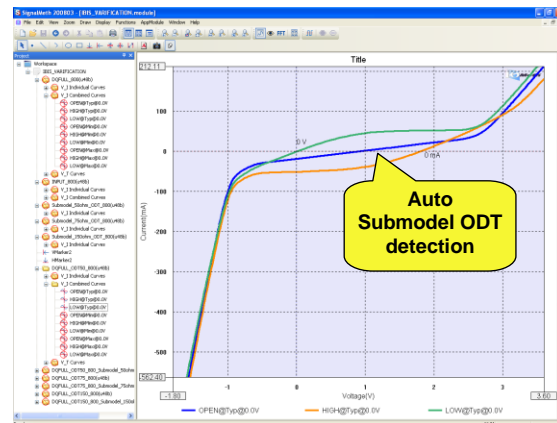
- DDR2 SI and Timing Analysis
- Comprehensive slew measurement and automatic derating table calculation
- DDR2 Spec setup and load, save-as capabilities
- Flexible waveform set-up systems to define the usages in your DDR2 systems
- Automatic DDR2 analysis report
- Multi-format waveform support
- Standard-Compliant validation
- Complete Eye diagram / Aperture / Jitter Distribution views

IBIS Model Analysis Application Module

SimDE™ WAVEFORM provides an IBIS model analysis application module for

easy and visual IBIS buffer model inspections. It can:

- Selective loading IBIS buffers
- Automate the same reference curve view for loaded buffers
- Auto-generated HIGH, LOW and OPEN state curves
- Auto detection for referred Submodel
- Report for non-monotonic, loadline and on-die termination
- Project module save, save-as and open functionalities.



Multi-Format Signal/Waveform Viewer

SimDE™ WAVEFORM can accept many different format signal/waveform files from the tools as well as from the scopes and text, Microsoft Excel files, etc. It has very **high** performance import capability, at a very reasonable price. It is **an excellent replacement tool** for other waveform viewing tools.

Multi-functional Signal/Waveform Viewer imports:

- Synopsys HSpice outputs: .tr#, .ac#, sw#, .lis
- Cadence PCB SI output: .sim
- SiSoft QSI output: .csd

- Mentor HyperLynx output: .csv
- Cadence PSF ASCII: .tran
- TISpice3 output: .prt
- LTSpice output: .raw
- Touchstone S-parameter: .snp(.s?p)
- Agilent Scope Date file: .txt
- Tektronix Scope Date file: .txt
- LeCroy Scope Data file: .dat
- Microsoft Excel: .csv
- IBIS buffer curves: .ibs
- Other text formats: .dat, .txt

Output:

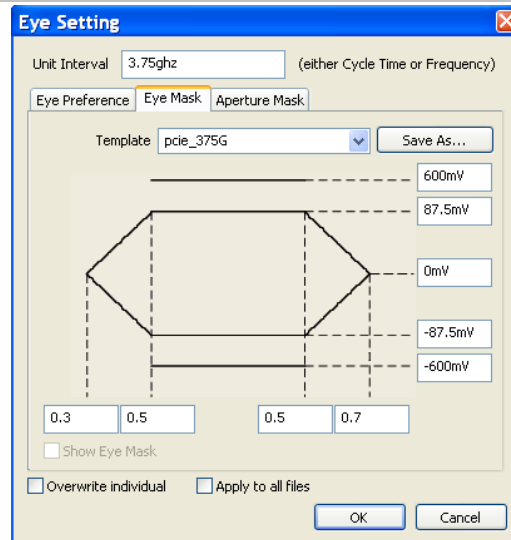
- Cadence PCB SI .sim
- Excel .csv
- SimDE .iom

It also contains build-in analysis viewing capabilities, such as:

- Eye diagram
- FFT with Modulus, Real/Imaginary and Angle views
- Named Eye Mask View with auto-fitted function
- Named Threshold View
- Automatic DDR2/DDR3 Aperture View
- Jitter Distribution View
- Standard measurements
- Free draw
- Free style defined View
- Pan View
- Full-functional Granularity Control
- Easy Grid Display Control
- Tree Structure view for HSpice and TouchStone files

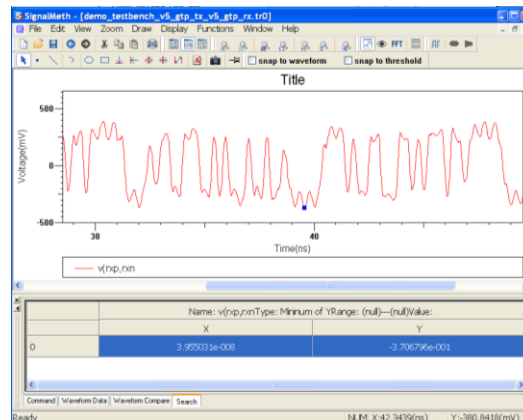
Comprehensive Eye Mask / Aperture / Jitter Distribution Viewing

SimDE™ WAVEFORM has comprehensive viewing features for automatic Eye Masks and Apertures as well as Jitter Distributions. It allows users to name a setting and save it for future use.



Basic Waveform Search Functionalities

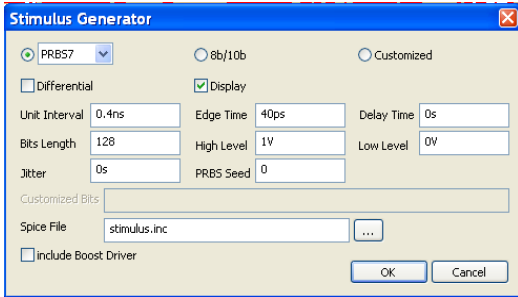
SimDE™ WAVEFORM provides basic waveform search functionality for finding waveform points by CrossX and Y, on Rising and Falling edges with specific region setting, etc.



Convenient Spice Stimulus Generator

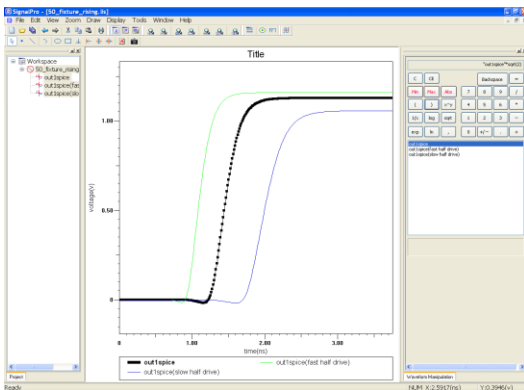
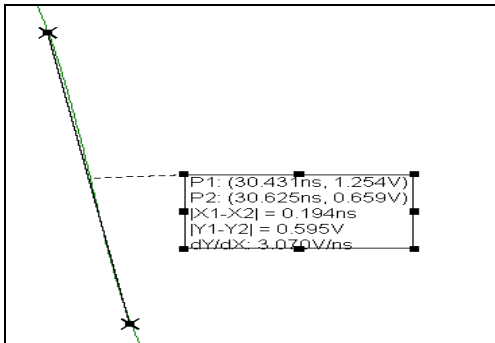
SimDE™ WAVEFORM has a build-in Spice Stimulus Generator for creating Spice stimulus subcircuits (.subckt, HSpice compatible). The user can select pre-coded bit scheme (PRBS, 8b/10b) or customize bit stream. It allows the user to define UI, rising/falling edge time, delay time, bit length and levels, random jitter,

PRBS seeds, etc. It can be defined for single-ended or differential-ended stimulus even with a boost driver stimulus for pre-emphasis. The bit stream can also be displayed for coding, jitter checking and other purposes.



Slope Measurement

A straight-forward slope measurement capability to make your complex measurement easy.



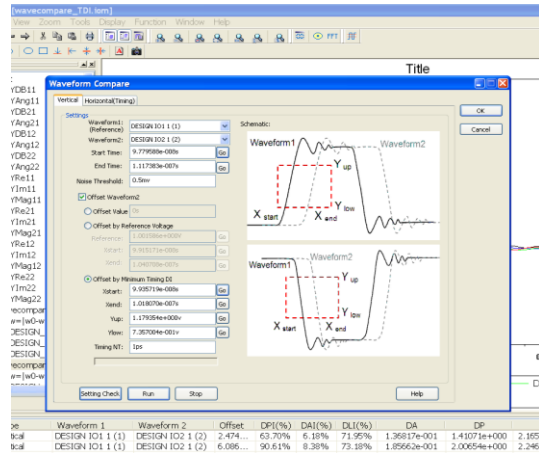
Build-in Signal/Waveform Manipulation functionality

SimDE™ WAVEFORM contains many calculation functions, such as +, -, *, /, exp, x^y, sqrt, log, ln, 1/x and abs, min/max, etc. for signal / waveform manipulations.

Unique Signal/Waveform Comparison Functionality

SimDE™ WAVEFORM includes a build-in GUI based Signal/Waveform Comparison capability. It can compare two signals / waveforms quantitatively. The differential Index (DI)* can indicate how much difference between two signals/waveforms to give the designers/engineers a clear idea of signal quality. It also enables tool automations for design optimization purposes.

Signal/Waveform Comparison command-line executable and DLL are available for integration with other tools.



* US and China Patent pending

Convenient Waveform Player Functionality

SimDE™ WAVEFORM also includes a build-in GUI waveform player function to allow displaying waveforms one-by-one for the convenience check-up.

