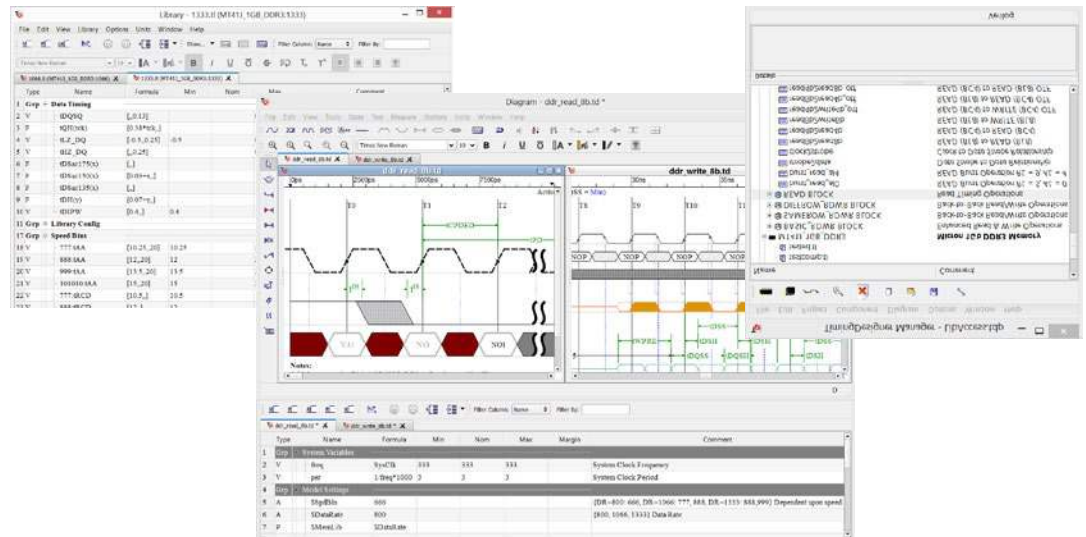# TimingDesigner

The industry's most accurate static timing analysis

Timing

TimingDesigner Key Features

- Easy-to-use timing diagram editor enables rapid specification of design requirements

- Dynamically linked timing spreadsheet with patented technology allows accurate parameterized modeling of timing complexities

- Powerful timing analysis engine quickly identifies worst-case timing margins to identify and correct trouble spots

- Instant updates of intelligent timing diagrams support quick evaluation of design alternatives

- Comprehensive styling options for spreadsheets and diagrams

- WYSIWYG editor to create impactful documentation

- Robust project manager organizes component diagrams within a single project tree

- Extensive import/export support eases exchange of waveform and timing data between third party tools

- Timing model library with hundreds of commonly used ICs and FPGAs

TimingDesigner® is the interactive timing analysis tool users trust to deliver fast and accurate results for timing critical designs. It can evaluate comprehensive sets of timing alternatives and provide direction to the most complex of timing challenges, enabling designers to manage and monitor timing margins through the design process.

TimingDesigner multi-windows environment provides for the best of both worlds; graphical visualization of timing coupled with a spreadsheet interface

Specify—Analyze—Document

TimingDesigner is ideal for high-speed, multi-frequency designs where it is essential to accurately model and analyze signal relationships between devices on a board, or embedded functions on an ASIC or programmable IC. It can evaluate comprehensive sets of timing alternatives and provide direction to the most complex of timing challenges, enabling designers to manage and monitor timing margins through the design process.

TimingDesigner excels at using an intuitive timing diagram approach for developing specifications to drive the design process, analyzing timing to answer critical design questions, and documenting results. TimingDesigner's ability to create impactful images and diagrams directly from your engineering analysis streamlines documentation. Users can easily style their

work with colors, fonts, and line weights to clearly illustrate and communicate the design implementation.

Putting TimingDesigner to Work

TimingDesigner models complex digital circuit timing by combining an interactive timing diagram editor with a patented, dynamically linked, timing spreadsheet. The timing diagram editor is used to define key elements of a proposed design, including waveforms (sequences of events), delays (cause-and-effect relationships), and timing constraints. The parameter spreadsheet, coupled with selectable library spreadsheets, is used to establish min/nom/max values for each critical signal relationship based on device speed grade or voltage rating. TimingDesigner also provides the option to model path delays, rise/fall times, effects of loading and temperature, and other complex formulas.
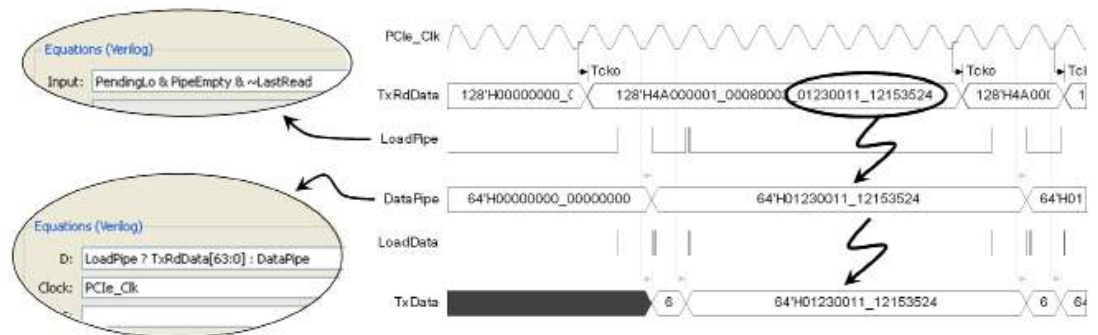
TimingDesigner

Delivers fast and accurate results for timing critical designs

TimingDesigner Key Benefits

- One tool to manage timing throughout the design flow; from product specification to documentation

- Patented algorithms ensure accurate timing analysis

- Easy re-use and what-if analysis

- Interfaces with current design flows

- A graphical user interface makes it easy to understand and analyze timing on your critical signals

- Simplifies the exchange of critical timing information among project teams

- Supports multiple image export formats for producing project timing documentation at the same time you are doing your analysis

For More Information

For sales and pricing information contact EMA Design Automation, a Cadence Channel Partner.

EMA Design Automation, Inc.
225 Tech Park Drive
Rochester, New York 14623

Phone: 585.334.6001
Fax: 585.334.6693
eMail: info@ema-eda.com
Web: www.ema-eda.com

With larger and more complex designs, monitoring and managing the analysis of critical timing objectives across project teams is not a trivial task. With the built-in project management features in TimingDesigner, you have a logical way to organize multiple timing diagrams associated with specific devices or functional blocks of a design, and a simple way to exchange timing information with your team at any stage in the process.

TimingDesigner allows HDL equations that can directly manipulate elements of a data bus and can provide quick verification of problem resolutions

The Static Timing Analysis Engine

TimingDesigner traces all delay paths specified in the timing diagram, removes common uncertainties, adjusts for track delays, selects critical paths, and then computes worst-case timing margins. The effects of complex design changes can be instantly visualized. Automatically calculated timing constraints identify timing violations in easy-to-distinguish red, as well as in a convenient Violations Report window, so problem areas can be addressed quickly. A configurable format to generate reports and export timing constraint information is available using the Dynamic Text window.

Through linked access to timing analysis results, reports and constraint information are automatically updated and saved. Alternatively, results can be cut and pasted into third-party constraint editors. TimingDesigner also eases the project management challenges of designing complex timing interfaces. The project manager provides a logical way to organize multiple timing diagrams as components within one project. It eases the exchange of timing data among team members and provides a way to easily manage and monitor timing margins throughout the design process.

TimingDesigner's proven technology is straightforward to use, providing a clear and consistent methodology for analyzing designs and communicating critical timing information. The tool's interface has been designed with easy to indentify icons and simple to navigate menus. Operation of the tool is intuitive, and uses commands that are familiar to most computer users. TimingDesigner is the productivity enhancing solution designers rely on to get the right design at the right time.

Design Kits

EMA offers a wide variety of design kits for TimingDesigner users, including: DDRx, Flash, PCI, popular processors, FPGAs, and many others. These kits help designers quickly set up their timing analysis, and ensure accurate modeling.

cadence®   EMA Design Automation™