Online Workbench

National Semiconductor released WEBENCH&#153 2.0, an online workbench that accelerates design cycles through automated design creation, virtual physical layouts and Web-based simulations. WEBENCH 2.0 is a free, interactive collection of online tools that enable a designer to move from component selection to design, analysis and sampling faster than ever before possible. The WEBENCH tools include EasyPLL, a tool for simulating PLL designs, WebSIM&#153, an enhanced version of the power simulation tool released last fall, and WebTHERM&#153, a tool used for thermal design and analysis.

EasyPLL is an interactive online simulator for PLL design and analysis. Entering the desired frequencies will generate an electrical circuit including selections for a PLL, Voltage Controlled Oscillator (VCO), and passive components from a catalog of over 350 devices. The resulting simulations cover PLL and loop filter performance, including phase noise, Bode plots and lock time, enabling complete designs in minutes.

Launched last October in cooperation with Transim Corporation, the updated power design flow now integrates the Switchers Made Simple software. The four-step process allows any engineer to build power supply circuits, select from over 2000 components from dozens of vendors, perform online simulations, create physical layouts and develop prototypes in a few hours..

The industry's first online thermal simulator, WebTHERM, developed in cooperation with Flomerics Corporation, combines physical layout with thermal modeling to generate full-color thermal images of board designs in minutes. WebTHERM produces an accurate thermal picture by calculating the heat transfer and interaction between components on the board and the environment to generate junction temperatures at the die level as well as the thermal envelope for a design. This process allows designers to adjust environmental and air flow parameters while optimizing heat dissipation and electrical performance - capabilities never before possible online.

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