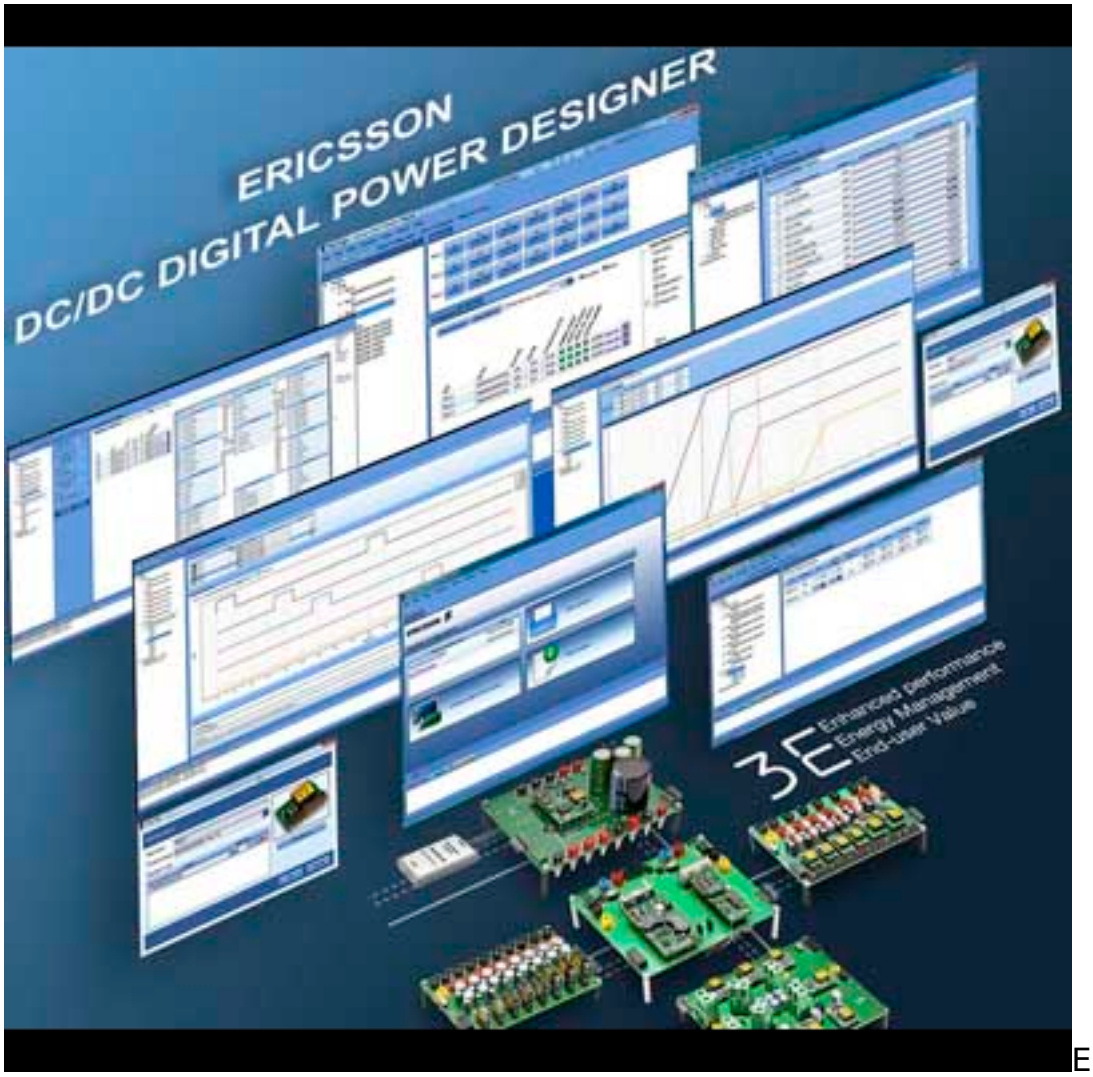
Digital power software tool enables flexibility to optimize energy consumption



Ericsson has unveiled an advanced industry-first toolkit that provides board-power designers with highly advanced software to configure, implement and monitor power conversion devices — from a single unit to a complete system — including the Ericsson 3E* digital Point-Of-Load (POL) regulators, 3E Advanced Bus Converters (ABCs) and 3E Power Interface Modules (PIMs). Called the 'Ericsson DC/DC Digital Power Designer', the software is totally free of charge and can reduce time-to-market, total cost of ownership and energy consumption overall.

Concept to production

The software includes two essential parts – a design tool and a production tool. The Ericsson Power Designer design tool is based on a simple and intuitive interface and offers board-power designers a wide range of possibilities to configure standalone 3E POLs, 3E ABCs and 3E PIMs, or a combination of multiple products as integrated in the final application. The production SMBus-based tool makes it possible to upload configuration files into a set of modules during manufacturing: not only

reducing inventory costs, but also increasing flexibility to upgrade configurations with the implementation of new power schemes.

“Since the introduction of the first digital power module in 2008, we have been working in close cooperation with our customers to develop hardware and software solutions that really unlock the amazing possibilities offered by digital power technology,” said Patrick Le Fèvre, Marketing and Communication Director, Ericsson Power Modules. “The Ericsson DC/DC Digital Power Designer is the most advanced tool ever released in this area. It opens up an unprecedented level of flexibility for board-power designers and power-systems architects to reduce time-to-market and optimize energy utilization.”

Ericsson Power Designer
The Ericsson Power Designer software has been developed in close cooperation between board-power designers and power-systems architects to deliver an advanced tool that truly unlocks the high level of flexibility offered by digital power architectures. Addressing power novices right up to highly experienced power system engineers, the Graphic User Interface has been designed for intuitive learning. Each screen is optimized for easy readability, reducing the time-to-learn and improving productivity as the user learns more about the software tool’s advanced functionalities.

The software includes three major features: Project Mode, which makes it possible to save multiple projects for future use; Offline Mode, which is based on the integrated Ericsson 3E product-profile library and does not requires any connected hardware, thereby simplifying pre-configuration prior to implementation; and Online Mode with connection to 3E Design Kit boards or to end-user applications, making it possible to configure and monitor 3E POL regulators and 3E ABCs. Board-power designers can also build their system in Rail Mode, which provides the ability to specify individual profiles for each rail, save the configuration, and combine rails or modify rails later following implementation in customer applications.

Further functionality
In addition to the standard features that are available from Ericsson 3E products, such as settings for voltage and current set point, current limitation, start-on and -off ramp-up times and slopes, over-temperature limits, and various alarms function among others, Ericsson Power Designer also includes advanced features such as current sharing, sequencing and tracking, synchronization, phase spreading and many others.

The software also includes advanced monitoring functions with fault tracing and warnings down to individual status bits and of temperature, current, voltage, switching frequency and duty cycle. This means it has the ability not only to monitor product and system behavior to optimize the power configuration, but also to monitor any fault in the end application that could later affect system operation. The tool’s update function also guarantees access to the latest 3E product-profile library including any new recently released products.

3E Design Toolbox

As a complement to the Ericsson DC/DC Digital Power Designer software, the Ericsson 3E Design Toolbox includes five boards supporting Power Interface Modules, Advanced Bus Converters, Current Sharing, Single-In-Line 3E POL regulators and a generic board accommodating through-hole 3E POL regulators. All boards can be interconnected to reflect the end application and be configured and monitored via Ericsson Power Designer.

Software download
The free Ericsson DC/DC Digital Power Designer software can be downloaded (with the original built-in 3E product-profile library) following registration at: www.digitalpowerdesigner.com.

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