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TowerJazz launches initial silicon photonics design kit based on the Mentor Calibre nmPlatform

Mentor[®], a Siemens business, today announced that [TowerJazz](#) has released its initial silicon photonics design kit based on the industry-leading [Calibre[®] nmPlatform](#). The initial release includes design kits for the [Calibre nmDRC™](#) and [Calibre nmLVS™](#) tools. With Calibre nmPlatform support, customers targeting TowerJazz's PH18 Silicon Photonics process can now have the same high level of confidence in producing physically correct silicon photonics devices as they have always had with producing physically correct complementary metal-oxide-semiconductor (CMOS) devices using the trusted Calibre nmDRC Platform. TowerJazz's PH18 Silicon Photonics process and leading design platform target optical networking and data center interconnect applications.

Silicon photonics is enabling companies to bring fiber optics directly onto integrated circuits (ICs), allowing wired communications infrastructure to reach speed-of-light levels of system performance. However, silicon photonic devices have curved features rather than the Manhattan grid (north south east west linear) features found in traditional CMOS processes. Trying to apply traditional design rule checking (DRC) used for CMOS to silicon photonic layouts would yield numerous false positive errors that design teams would have to spend weeks tracking down.

To address this issue, TowerJazz leveraged the [Calibre eqDRC](#) equation-based DRC functionality, which allows one to write checks using an equation. The result? A streamlined silicon photonics DRC process, so design teams can get designs to market faster in this emerging, yet highly competitive, market.

The TowerJazz Calibre nmLVS design kit initially supports the electronic components of photonic design, and there are plans to add the optical components in future releases.

“As TowerJazz moves into a broad market silicon photonics offering, it is critical that our customers be able to sign off with the same tools they use for all of TowerJazz’s foundry offerings,” said Ori Galzur, vice president of VLSI Design Center and Design Enablement, TowerJazz. “As such, our Silicon Photonics design platform verification engine is based on Mentor’s Calibre nmPlatform”

In addition to providing the initial design kit elements needed for today’s silicon photonics designs, Mentor has been working with other companies to provide a complete design flow via its [OpenDoor Program](#). This will bring greater degrees of automation to the silicon photonics development process, resulting in faster release of designs to TowerJazz and faster time to market for customers’ silicon photonic innovations.

“Mentor is pleased to be able to extend our mutual offering with TowerJazz into the new and emerging silicon photonics market,” said Michael Buehler-Garcia, senior director of Calibre Design Solutions marketing. “With silicon photonics being a modular solution that entails multiple chips created from different processes, it is critical that design teams be able to use a single physical verification solution.”

For more information, about the TowerJazz-Mentor offering, please visit <http://www.towerjazz.com/process-design-kits.html>.

For more information, about the Mentor OpenDoor Program, please visit https://www.mentor.com/company/partner_programs/opendoor/.

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Mentor Graphics Corporation, a Siemens business, is a world leader in electronic hardware and software design solutions, providing products, consulting services, and award-winning support for the world's most successful electronic, semiconductor, and systems companies. Corporate headquarters are located at 8005 S.W. Boeckman Road, Wilsonville, Oregon 97070-7777. Web site: <http://www.mentor.com>.

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