



TowerJazz, Cadence and Lumerical Deliver Silicon-Photonics and SiGe- Integrated PDK with a Complete Optical Transceiver Design Environment

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Cadence logo

Lumerical logo

NEWS ANNOUNCEMENT FOR IMMEDIATE RELEASE

Targeting 400Gb and 800Gb optical fiber applications in data center and telecommunications markets

MIGDAL HAEMEK, Israel, San Jose, CA and Vancouver, BC, July 10, 2019 – [TowerJazz](#), the global specialty foundry leader, Cadence Design Systems, Inc. (NASDAQ: CDNS), and [Lumerical](#) Inc., a leading developer of photonic design and simulation tools, today announced the availability of a complete custom design [Silicon Photonics](#) (SiPho) and [Silicon Germanium](#) (SiGe) integrated [process design kit](#) (PDK). The differentiated PDK is based on the Cadence® Virtuoso® custom IC design platform, providing native synthesis using the Cadence CurvyCore engine and Electrical-Optical co-simulation capability in Lumerical's photonic integrated circuit simulator INTERCONNECT. The complete, photonics-optimized solution provides SiPho designers with a single, streamlined design environment for developing complex multi-fabric systems, while enabling them to collaborate in a shared IC design environment to leverage the electro-optical interface that is critical for enabling 400GB optical transceivers.

"We are excited to expand our industry-leading SiPho technology, and to be the first major foundry to offer, through this collaboration with Cadence and Lumerical, the co-optimization of electrical SiGe and optical SiPho components in a single EDA environment," said Marco Racanelli, senior vice president and general manager of the Analog IC Business Unit at TowerJazz. "This new capability enables our mutual customers to shortcut development cycles and accelerate the introduction of 400Gb and 800Gb breakthrough products."

Customers using the new TowerJazz PDK can now confidently synthesize non-Manhattan shaped photonics designs utilizing the Cadence CurvyCore

technology, which allows to systematically manage curvilinear shapes within the Cadence Virtuoso design environment using its high-performance shape generation and manipulation infrastructure with dedicated SKILL API.

Delivery of the new TowerJazz PDK encompasses the previously available Lumerical Compact Model Library (CML) to enable a proven, complete solution incorporating co-simulation utilizing industry leading tools.

“TowerJazz and Cadence customers can begin leveraging the high-performance shape generation technology within the Virtuoso design environment to further advance the development of complete multi-chip photonics systems,” said Glen Clark, Vice President, Research and Development at Cadence. “TowerJazz, Lumerical and Cadence have a long history of collaboration that enables our mutual customers to achieve success in delivering quality products to market faster and easier.”

“A touchstone of the commercialization of photonics is ecosystem development by world class companies,” said James Pond, Lumerical CTO. “Our partnership with Cadence and TowerJazz enables photonic integrated circuit designers to co-simulate their electro-optical and photonic components using leading tools they are familiar with, and fabricate those designs at TowerJazz, a foundry they have utmost confidence in.”

For additional information about TowerJazz’s technology, please click [here](#).

For additional information about Cadence, please click [here](#).

For additional information about Lumerical, please click [here](#).

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and its subsidiaries operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures next-generation integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, medical and aerospace and defense. TowerJazz’s advanced technology is comprised of a broad range of customizable process platforms such as SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz also provides world-class design enablement for a quick and accurate design cycle as well as Transfer Optimization and development Process Services (TOPS) to IDMs and fabless companies that need to expand capacity. To provide multi-fab sourcing and extended capacity for its customers, TowerJazz operates two manufacturing facilities in Israel (150mm and 200mm), two in the U.S. (200mm) and three facilities in Japan (two 200mm and one 300mm) through its partnership with Panasonic Semiconductor Solutions Co. LTD. For more information, please visit www.towerjazz.com.

About Cadence

Cadence enables electronic systems and semiconductor companies to create the innovative end products that are transforming the way people live, work and play. Cadence® software, hardware and semiconductor IP are used by customers to deliver products to market faster. The company’s Intelligent System Design strategy helps customers develop differentiated products—from chips to boards to systems—in mobile, consumer, cloud data center, automotive, aerospace, IoT, industrial and other market segments. Cadence is listed as one of Fortune Magazine’s 100 Best Companies to Work For. Learn more at www.cadence.com.

About Lumerical

Lumerical develops photonic simulation software – tools which enable product designers to understand light, and predict how it behaves within complex structures, circuits, and systems. Since being founded in 2003, Lumerical has grown to license its design tools in over 50 countries and its customers include 10 of the top 15 companies in the S&P 1200 Global IT index, and 46 of the top 50 research universities as rated by the Times Higher Education rankings. Lumerical’s substantial impact on the photonic design and simulation community means its tools are among the most widely cited in the scientific press, with references in more than 10,000 scientific publications and patents. Lumerical enables its customers to achieve more with light and establish a leading position in the development of transformative technologies employing photonics. For more information, please visit www.lumerical.com.

Safe Harbor Regarding Forward-Looking Statements

This press release includes forward-looking statements, which are subject to risks and uncertainties. Actual results may vary from those projected or implied by such forward-looking statements. A complete discussion of risks and uncertainties that may affect the accuracy of forward-looking statements included in this press release or which may otherwise affect TowerJazz’s business is included under the heading "Risk Factors" in Tower’s most recent filings on Forms 20-F, F-3, F-4 and 6-K, as were filed with the Securities and Exchange Commission (the “SEC”) and the Israel Securities Authority and Jazz’s most recent filings on Forms 10-K and 10-Q, as were filed with the SEC, respectively. Tower and Jazz do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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Attachments

- [Cadence CurvyCore Lumerical FINAL](#)
- [TowerJazz Cadence Lumerical PDK](#)

