Alpine Optoelectronics Produces 400G PAM4 nCP4™ SiPho Optical Engine on Tower Semiconductor Technology

Based on Tower Semiconductor's market leading PH18 Silicon Photonics technology platform

Designed for use in 400Gbps DR4 transceivers to support high-speed connectivity in data center applications

MIGDAL HAEMEK, Israel, and Fremont, California, December 29, 2020 –Tower Semiconductor (NASDAQ/TASE: TSEM), the leader in high-value analog semiconductor foundry solutions, and Alpine Optoelectronics, inc, a supplier of high data rate Silicon Photonics optical engine chips, today announced that Alpine Optoelectronics, Inc. began production of its 400G PAM4 nCP4™ optical engine on Tower Semiconductor's PH18 Silicon Photonics technology platform. Alpine's nCP4™ chip converts 4 lanes of 56Gbaud electrical input into 4 lanes of optical output for use in 400Gbps DR4 transceivers to support high-speed connectivity in data center applications.

"Alpine selected Tower Semiconductor as a foundry partner 2 years ago, because we believe in Tower's capabilities of technology development and to seamlessly ramp production," said Dr. Tongqing Wang, CEO, Alpine Optoelectronics, Inc. "We were able to develop a proprietary design to enable wafer level testing and a flexible yet efficient edge coupler that works with both lens coupling and fiber array attachment. We are also pleased with the high OE bandwidth of our modulators, thanks in part to Tower's selection of PN junction doping."

Based on LightCounting's recent Integrated Optical Devices Report, Silicon Photonics based optical transceivers will enjoy an annual growth of 45% from 2019 to 2025, and it is expected to reach a market size of 3.9B USD in 2025.

Tower's PH18 Silicon Photonics open foundry process offers a rich set of optical components including ultra-high bandwidth modulators, photodetectors, and low-loss waveguides that can be combined to enable innovative and highly integrated photonic products.

"We are excited to announce another production success story for our open foundry Silicon Photonics platform and our partnership with Alpine, an elite supplier to some of the leaders in the optical industry," said Dr. Marco Racanelli, Senior Vice President and General Manager of Analog IC Business Unit. Tower Semiconductor, "Our unique foundry process provides customers like Alpine not only a sustainable level of maturity but also the flexibility to innovate in a market that is still young and expected to grow strongly in the coming years as 400Gb and 800Gb platforms are deployed."

For more information about Tower Semiconductor's RF & HPA process technology offerings, please click here.

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About Alpine Optoelectronics

Alpine Optoelectronics, Inc. is a US-based innovator in photonic products, headquartered in Fremont, California. The company was founded in 2017 by industry veteran entrepreneurs with extensive experience in optical transceiver design, development, and manufacturing. The company's core competencies center on Silicon Photonics, PAM4, and Coherent technology bringing advanced solutions for next generation optical networks. The company is backed by private and strategic investors. For more information visit Alpine Optoelectronics at www.alpineoptoelectronics.com or contact sales@alpineoptoelectronics.com.

About Tower Semiconductor
Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the leader in high-value analog semiconductor foundry solutions, provides technology and manufacturing platforms for integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, mobile, infrastructure, medical and aerospace and defense. Tower Semiconductor focuses on creating positive and sustainable impact on the world through long term partnerships and its advanced and innovative analog technology offering, comprised of a broad range of customizable process platforms such as SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, non-imaging sensors, integrated power management (BCD and 700V), and MEMS. Tower Semiconductor 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. To provide multi-fab sourcing and extended capacity for its customers, Tower Semiconductor 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 TPSCo. For more information, please visit www.towersemi.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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