FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month May 2021 No. 2

TOWER SEMICONDUCTOR LTD.
(Translation of registrant's name into English)

Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek, Israel 2310502
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F ☒   Form 40-F ☐

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes ☐   No ☒

On May 6, 2021, the Registrant and Gpixel announced a Cutting-Edge iToF Sensor for 3D Imaging Applications

---

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TOWER SEMICONDUCTOR LTD.

Date: May 6, 2021   By: /s/ Nati Somekh

Name: Nati Somekh
Title: Corporate Secretary

Gpixel and Tower Semiconductor Announce a Cutting-Edge iToF Sensor for 3D Imaging Applications

Addressing ~$4 billion market, the new, highly advanced GTOF0503 sensor is the first product in the new GTOF 3D sensor family targeting a broad range of fast-growing depth sensing and distance measurement applications

CHANGCHUN, China, and MIGDAL HAEMEK, Israel - May 3, 2021 – Gpixel and Tower Semiconductor, the leading foundry of high value analog semiconductor solutions, today announced Gpixel's innovative indirect Time of Flight (iToF) sensor for 3D imaging, GTOF0503, utilizing TOWER's pixel on its 65nm leading pixel-level stacked BSI CIS technology fabricated in its Uozo, Japan facility. The advanced GTOF0503 sensor features a 5um 3-tap state-of the-art iToF pixel incorporating a pixel array with a resolution of 640 x 480 pixels, offering superb performance for a broad range of fast-growing depth sensing and distance measurement applications in markets such as vision guided robotics, bin picking, automated guided vehicles, automotive and factory automation applications. According to Yole Development, the market is currently estimated at ~$4B and is expected to grow to ~$8B by 2025.

"We are very proud to announce the release of our new iToF sensor, entering the 3D imaging market, made possible by our collaboration with Tower's team. Tower's vast expertise in development of iToF image sensor technology provided an outstanding platform for the design of this cutting-edge performing product," said Wim Wuyts, Chief Commercial Officer, Gpixel." This collaboration produced a unique sensor product that is perfectly suited to serve a wide variety of fast-growing applications and sets a roadmap for future successful developments."

The unique features of the GTOF0503 sensor are the combination of a small, cost-effective footprint with industry-leading depth accuracy at short, mid and long-range distances. This allows for exceptional depth sensing even in challenging ambient light conditions by using pulse modulation iToF technique. A demodulation contrast of > 80% is achieved with modulation frequencies of up to 165 MHz at either 60 depth frames per second (fps) in Single Modulation Frequency (SMF) or 30 fps in Dual Modulation Frequency (DMF) depth mode.

"Tower is excited to take an important role in this extraordinary project, collaborating with Gpixel's talented team of experts in the field of sensor development and bringing to market this new, cutting-edge iToF sensor," said Dr. Avi Strum, Senior Vice President and General Manager of Sensors & Displays Business Unit, Tower Semiconductor. "Gpxiel is a valuable and long-term partner, and we are confident that this partnership will continue to bring to market additional intriguing solutions".

Advanced features such as integrated light source control, 2x2 and 4x4 digital binning, H/V image flipping, multiple ROI read out to boost fps, several supported acquisition modes, depth measurement with both single and dual frequency, low-power standby modes and an industry standard MIPI CSI-2 high speed interface, enable versatile use and flexible operation, providing a cost-effective all-in solution, making this product the ultimate choice for various 3D imaging applications.

GTOF0503 is both available as bare die and in a 11 x 11 mm ceramic package.
Samples (bare die) and evaluation kits are available as well. Please contact info@gpixel.com or visit product page at https://www.gpixel.com/products/ for more information.

About GTOF sensor family:
The GTOF family is a new Gpixel iToF image sensor product range featuring pixel-level stacked BSI technology, targeting high accuracy depth sensing and distance measurement applications.

About Gpixel
Gpixel provides high-end customized and off-the-shelf CMOS image sensors for industrial, professional, medical and scientific applications. Gpixel's standard products include the GMAX and GSPRINT global shutter, fast frame rate sensors, the GSENSE and GLUX high-end scientific CMOS image sensor series, the GL series of line scan imagers, and the GLT series of TDI line scan imagers. Gpixel's broad portfolio of products utilizes the latest technologies to meet the ever-growing demands of the professional imaging market.
For more information visit www.gpixel.com or contact us at info@gpixel.com.

About Tower Semiconductor

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the leading foundry of high value analog semiconductor 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.