TOWER SEMICONDUCTOR LTD
Form 6-K
June 06, 2013

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of June 2013 No. 2

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

Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek, Israel 23105
(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 S 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 S

On June 6, 2013, the registrant announced the registrant and Cavendish Kinetics Collaborate to Deliver High Volume Tunable RF MEMS Products for Fast Growing 4G Mobile Market.

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: June 6, 2013

By: /s/ Nati Somekh
Name: Nati Somekh
Title: Corporate Secretary

NEWS ANNOUNCEMENT FOR IMMEDIATE RELEASE

TowerJazz and Cavendish Kinetics Collaborate to Deliver High Volume Tunable RF MEMS Products for Fast Growing 4G Mobile Market

Industry analyst forecasts MEMS market to reach $21 billion by 2017; predicts some new MEMS devices such as RF MEMS for mobile devices could see CAGR > 90%

NEWPORT BEACH, Calif. and SAN JOSE, Calif., June 6, 2013 – TowerJazz and Cavendish Kinetics, today announced their collaboration to bring MEMS tunable RF solutions to the consumer mobile wireless market. The process technology combines the Cavendish NanoMech™ MEMS technology with the TowerJazz power CMOS process and custom RF interconnect in a single chip solution. Designed specifically for radio frequency (RF) applications, the Cavendish NanoMech™ MEMS technology has passed rigorous reliability testing and enables products boasting advantages in size and performance compared to other technologies. NanoMech™ MEMS technology can be combined with other TowerJazz technologies such as SOI CMOS, SiGe BiCMOS and Through-Silicon Vias (TSVs) to service a wide variety of emerging applications.

Cavendish is shipping antenna frequency tuning products to strategic partners for sampling to end customers. These products address challenges with 4G/LTE in achieving its theoretical data throughput. Historically, performance has been limited for several reasons. The increasing number of features in phones and increasing number of frequencies supported require more components and antennas. The increasing size of displays creates a ground plane that blocks the antenna signal and limits performance. To address these trends which lead to further RF performance degradation, the Cavendish components are used to dynamically tune antennas. Because the Cavendish components have an Equivalent Series Resistance (ESR) comparable to a passive component without needing a lossy RF switch, designers can incorporate the components to perform Antenna Frequency Tuning (AFT) in mobile devices. AFT changes the resonant frequency of the antenna and enables much higher antenna efficiency. RF switches, both discrete and solid state, can reduce efficiency by up to 50% when used for AFT. Eliminating the switch, and instead implementing the tunable solutions, dramatically improves overall RF system performance.

Higher demands on LTE mobile devices for better reception of wireless broadband signals is driving the need for this next generation solution. The Cavendish device improves the quality of RF signal by using a large array of bi-state MEMS capacitors on a CMOS chip to provide a variable capacitance to the RF circuit. This class of components addresses needs for: antenna frequency tuning, antenna impedance matching, tunable power amplifiers, and tunable filters.

Fabrication of these tunable solutions, as done at TowerJazz, includes standard CMOS processing steps, but uses a novel and differentiating technique that encapsulates the MEMS elements inside tiny micro-cavities to isolate the moving parts from the outside world. The encapsulation is performed within the semiconductor wafer fab process, not at packaging assembly facilities.

“We have aligned with a strong manufacturing partner with an established track record and known capabilities to deliver robust and reliable products in a high volume manufacturing environment,” said Dennis Yost, President and CEO of Cavendish Kinetics. “TowerJazz has proven its ability to quickly transfer process technologies and we are now in a position to supply tens of millions of devices per month to support the large and rapidly growing 4G/LTE mobile device market,” Yost added.

"We are excited to bring the Cavendish Kinetics NanoMech™ MEMS devices into volume manufacturing," said Russell Ellwanger, CEO of TowerJazz. "The integrated RF MEMS process is strategic for TowerJazz and broadens our specialty fab leadership position. TowerJazz is a large supplier to the consumer RF market and the Cavendish relationship expands our market participation. By combining the TowerJazz high volume manufacturing capability with the innovative NanoMech™ MEMS process from Cavendish, a highly reliable CMOS-MEMS solution is helping to solve some very difficult 4G/LET issues."

About Cavendish Kinetics
Cavendish Kinetics (www.cavendish-kinetics.com) provides compelling, high-performance RF tuning solutions for mobile device manufacturers in the global wireless industry. These solutions improve device connectivity, delivering performance benefits to mobile devices and networks and reducing manufacturing costs. As the world’s leading expert on RF microelectromechanical systems (MEMS) design and manufacturing, Cavendish has achieved a breakthrough—applying its patented MEMS technology and manufacturing processes to solving tough radio-frequency (RF) connectivity problems, particularly for 4G and LTE. Privately held, Cavendish is based in San Jose, CA, USA, and has offices in Korea, Taiwan, China and The Netherlands.

About TowerJazz
Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), its fully owned U.S. subsidiary Jazz Semiconductor Ltd., and its fully owned Japanese subsidiary TowerJazz Japan, Ltd., operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures integrated circuits, offering a broad range of customizable process technologies including: SiGe, BiCMOS, Mixed-Signal/CMOS, RFCMOS, CMOS Image Sensor, Power Management (BCD), and MEMS capabilities. TowerJazz also provides a world-class design enablement platform that enables a quick and accurate design cycle. In addition, TowerJazz provides (TOPS) Technology Optimization and development Process Services to IDMs and fabless companies that need to expand capacity. TowerJazz offers multi-fab sourcing with two manufacturing facilities in Israel, one in the U.S., and one in Japan. For more information, please visit www.towerjazz.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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