

## FORM 6-K

### SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of July 2009 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  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

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On July 13, 2009, the registrant announces that Jazz Semiconductor and Entropic Communications Announce Volume Production for Multi-mode Hybrid Silicon Tuner.

This Form 6-K is being incorporated by reference into all effective registration statements filed by us under the Securities Act of 1933.

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### 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.**

By: /s/ Nati Somekh Gilboa

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Nati Somekh Gilboa  
Corporate Secretary

Date: July 21, 2009

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### **Jazz Semiconductor and Entropic Communications Announce Volume Production for Multi-mode Hybrid Silicon Tuner**

*Collaboration on innovative EN4020 all-CMOS tuner design enables low system cost and high performance solution to fuel digital TV and set-top box momentum worldwide*

**NEWPORT BEACH and SAN DIEGO, Calif., July 21, 2009** – Jazz Semiconductor<sup>®</sup>, a Tower Group Company (NASDAQ: TSEM, TASE: TSEM), and the leader in Analog-Intensive Mixed-Signal (AIMS) foundry solutions, and Entropic Communications, Inc. (Nasdaq:ENTR), a leading provider of silicon & software solutions to enable connected home entertainment, today announced volume production of Entropic's EN4020, the company's new multi-mode hybrid silicon tuner. The EN4020 uses Jazz's cost-effective 0.18-micron CMOS process (CA18QD) and its world class RF modeling design kit to develop small yet effective inductors essential for silicon tuner products. The EN4020 multi-mode silicon tuner supports worldwide standards and is targeted at high volume can tuners as well as high performance digital TV (DTV) and cable/terrestrial set-top box (STB) products.

"In 2009, we are estimating that the fixed reception silicon tuner market is 170M units, with that number nearly doubling to over 300M units by 2013", said Hiroko Ishii, Analyst at Techno Systems Research, Inc. "Fueling that growth is demand for high performance DTV and cable/terrestrial set-top boxes as well as a significant shift in designs moving from discrete solutions to integrated silicon tuners."

Complex RF designs like Entropic's silicon tuner solutions require high quality design tools to achieve fast time-to-market and first time silicon success. Jazz worked with Entropic, specifically leveraging the unique Jazz Inductor Tool Kit, to optimize the design of the EN4020. Jazz differentiates itself by strategically focusing on RF silicon process technologies, offering its customers advanced analog and RF design and modeling expertise to meet the demanding performance requirements of analog and RF ICs. "In addition to the higher levels of performance our processes allow Entropic to achieve, Jazz technology platforms enable them to realize smaller die size by scaling down the analog portion of the chip, without compromising quality" said Chuck Fox, senior vice president, worldwide sales and marketing for Tower and Jazz Semiconductor. "Our advanced silicon process technology is a cost-effective, high-performance solution for customers like Entropic to enable quick time-to-market for innovative products such as the EN4020, targeted at the rapidly growing home entertainment market."

Building on the success of Entropic's first generation tuner solutions, the EN4020 was the first to offer hybrid functionality in a fully integrated CMOS design, eliminating the need, cost and footprint of two tuner modules. The EN4020's multi-mode capability allows designers to develop a single hardware variant for worldwide operation, simplifying design complexity and drastically lowering development costs.

"As the worldwide transition from analog to digital grows, Entropic continues to lead the charge by addressing the demanding performance specifications required for today's TV's and STB's," said Vinay Gokhale, senior vice president of marketing and business development at Entropic. "As a result of our partnership with Jazz, Entropic has brought to market our most advanced silicon tuner to date, offering tuner manufacturers a hybrid, low cost, flexible solution."

#### **About the EN4020**

Entropic's innovative design on the EN4020 allows simple software configurability for different market applications and operating environments. In addition, the EN4020 has proven performance advantages in the emerging digital cable (DVB-C) networks where excessive interference from legacy analog signal and terrestrial signal leakage into the cable can cause performance limitations, degrading picture quality for the end user. The high level of integration on the EN4020 contains all front-end functions and requires no external SAW filters or amplifiers.

The EN4020 is available now and is ideally suited to a variety of devices including:

- iDTV, HDTV
- Cable set-top box
- Terrestrial set-top box
- Multi tuner digital video recorder (DVR, PVR)
- Digital Cable Ready TV
- PCTV

In addition, the EN4020 is also ideal for can tuner manufacturers enabling a more streamlined and lower-cost development, test and assembly process.

#### **About Entropic Communications**

Entropic Communications, Inc. is a leading fabless semiconductor company that designs, develops and markets systems solutions to enable connected home entertainment. The company's technologies significantly change the way high-definition television-quality video and other multimedia content such as movies, music, games and photos are brought into and delivered throughout the home. For more information, please visit [www.entropic.com](http://www.entropic.com).

#### **About Tower Semiconductor, Ltd. and Jazz Semiconductor, Inc.**

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) is a pure-play independent specialty wafer foundry and its fully owned U.S. subsidiary Jazz Semiconductor, Inc., is a leader in Analog-Intensive Mixed-Signal (AIMS) foundry solutions. Tower and Jazz manufacture integrated circuits with geometries ranging from 1.0 to 0.13-micron and provide complementary technical services and design support. In addition to digital CMOS process technology, Tower offers advanced mixed-signal and RF CMOS, Power Management, CMOS image-sensor, non-volatile memory technologies and Flash MTP and OTP solutions. Jazz's comprehensive process portfolio of modular AIMS technologies includes RFCMOS, Analog CMOS, Silicon and SiGe BiCMOS, SiGe C-BiCMOS, MEMS, Power CMOS and High Voltage CMOS. To provide world-class customer service, Tower maintains two manufacturing facilities in Israel; Jazz maintains a fab in the U.S. and additional manufacturing capacity is available in China through partnerships with ASMC and HHNEC. For more information, please visit [www.towersemi.com](http://www.towersemi.com) and [www.jazzsemi.com](http://www.jazzsemi.com).

#### **Safe Harbor Regarding Forward-Looking Statements**

This press release includes forward-looking statements, which are subject to risks and uncertainties, including, but not limited to, statements regarding the advantages and deployment of Entropic's tuners and its relationship with Jazz. 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 Tower's, Jazz's or Entropic'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, Jazz's most recent filings on Forms 10-K and 10-Q, as were filed with the SEC and Entropic's most recent filing on Form 10-Q for as was filed with the SEC. Tower, Jazz and Entropic do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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