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**FORM 6-K**

**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

For the month of June 2010  
No. 3

**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

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On June 10, 2010, the registrant announces TowerJazz Participation with Cadence at DAC 2010.

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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.**

Date: June 10, 2010

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

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## **NEWS ANNOUNCEMENT**

**FOR IMMEDIATE RELEASE**

### **TowerJazz Announces Participation with Cadence at DAC 2010**

#### ***Companies to present advanced PDK features to enable success for RF and Power designs***

**NEWPORT BEACH, Calif., June 10, 2010** – TowerJazz, the global specialty foundry leader, today announced joint participation with Cadence Design Systems at the 2010 Design Automation Conference (DAC) taking place in Anaheim, Calif. on June 13-18. Representatives from the companies will provide a presentation entitled, “Silicon Realization in RF and Power Designs: How advanced PDK features enable design success” on Monday, June 14 at 4:00PM.

Discussion will cover physical design kit (PDK) building blocks created specifically for the RF or power management markets and how those blocks work along with the Cadence Virtuoso IC 6.1 software suite to provide customers with increased productivity, better design robustness, and higher confidence in the finished design.

“TowerJazz has achieved a full release of our SKILL PDK for the Cadence Virtuoso® custom design platform in our 0.18-micron SiGe BiCMOS process (SBC18). This capability, together with world-class device performance, will allow us to grow share of this segment of the specialty wafer market which we estimate at \$1.2B in size,” said Robert Milkovits, Customer Technical Support at TowerJazz. “These design kits, created in collaboration with Cadence, will increase access to this platform for our customers and provide them with world-class design features that are immediately usable in their design environments. Through advanced offerings and our commitment to design enablement, our customers continue to achieve first silicon success.”

“TowerJazz’s SKILL PDKs serve as excellent examples of high-value design features that can help our mutual customers quickly and accurately achieve System Realization, one of the key pillars of the EDA360 vision,” said John Stabenow, Group Director, Virtuoso Product Marketing at Cadence. “Narrowing the productivity and profitability gaps depends on effective IP integration, and with the latest version of the Cadence Virtuoso platform, the companies are providing customers with more predictable design cycles to accelerate delivery of their next-generation products.”

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**About TowerJazz**

Tower Semiconductor Ltd. (NASDAQ: [TSEM](#), TASE: TSEM), the global specialty foundry leader and its fully owned U.S. subsidiary Jazz Semiconductor, operate collectively under the brand name TowerJazz, manufacturing integrated circuits with geometries ranging from 1.0 to 0.13-micron. TowerJazz provides industry leading design enablement tools to allow complex designs to be achieved quickly and more accurately and offers a broad range of customizable process technologies including SiGe, BiCMOS, Mixed-Signal and RFCMOS, CMOS Image Sensor, Power Management (BCD), and Non-Volatile Memory (NVM) as well as MEMS capabilities. To provide world-class customer service, TowerJazz maintains two manufacturing facilities in Israel and one in the U.S. with additional capacity available in China through manufacturing partnerships. For more information, please visit [www.towerjazz.com](http://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 Tower and/or Jazz'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.

*Cadence and Virtuoso are registered trademarks, and the Cadence logo is a trademark of Cadence Design Systems, Inc. in the U.S. and other countries. All other marks are properties of their respective holders.*

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