

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of September 2009 No. 1

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

On September 02, 2009, the registrant announces Higher Third Quarter Revenue Guidance.

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

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: September 02, 2009

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

Tower Semiconductor Announces Higher Third Quarter Revenue Guidance Third Quarter Revenue Guidance Calls for 30% Sequential Growth and 34% Year-over-Year Growth, Representing Company Record Revenue

MIGDAL HAEMEK, Israel – September 2, 2009 – Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), an independent specialty foundry, today announced it expects third quarter revenue to exceed the company's previous guidance given on August 12, 2009 due to increased customer demand. The company now expects third quarter revenue to be between \$77 million and \$80 million, which is higher than the previous guidance with a mid-range representing a 30% increase from previous quarter revenues of \$60.6 million and a 34% increase year over year, representing company record revenue.

Russell Ellwanger, chief executive officer of Tower Semiconductor, said: "We are experiencing increased customer demand in most all product segments and increased utilization rates in all three of our fabs (fab1, fab2, Newport Beach). The new mid-range guidance of \$78.5 million would be the highest revenue in the company's history, coupled with greatly improved Ebitda performance. The fourth quarter promises continued strong quarter over quarter and year over year growth."

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

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) is a global specialty foundry leader and its fully owned subsidiary Jazz Semiconductor, a Tower Group Company 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 industry leading design enablement tools to allow complex designs to be achieved quickly and more accurately. Tower and Jazz offer a broad range of process technologies including Digital, Mixed-Signal and RFCMOS, HV CMOS, BCD, Non-Volatile Memory (NVM), Embedded NVM, MEMS, and CMOS Image Sensors. To provide world-class customer service, Tower and Jazz maintain two manufacturing facilities in Israel and one in the U.S. with additional manufacturing capacity available in China through partnerships with ASMC and HHNEC. For more information, please visit www.towersemi.com and www.jazzsemi.com.

As applied in this release, the term Earnings Before Interest Tax Depreciation and Amortization (EBITDA) consists of loss, according to U.S. GAAP, excluding interest and financing expenses (net), tax, depreciation and amortization and stock based compensation expenses. EBITDA is not a required GAAP financial measure and may not be comparable to a similarly titled measure employed by other companies. EBITDA should not be considered in isolation or as a substitute for operating income, net income or loss, cash flows provided by operating, investing and financing activities, or other income or cash flow statement data prepared in accordance with GAAP.

Forward Looking Statements

There is no assurance that results for the full quarter will be in line with the company's current expectations. Potential risk and uncertainties that may affect the final results include (i) possible significant production event that may prevent uninterrupted production and timely product delivery, due to operating our facilities at high utilization rates or any other reason, (ii) failure to receive orders currently expected, (iii) cancellation of orders, (iv) our ability to accurately forecast financial performance, which is affected by limited order backlog, (v) credit to customers for product returns or any other reason and (vi) business interruption due to fire, the security situation in Israel and other events beyond the company's control. A more 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 our business is included under the heading "Risk Factors" in the company's most recent filing on Form 20-F as was 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. Future results may differ materially from those previously reported. The company does not intend to update, and expressly disclaims any obligation to update, the information contained in this release.

Contact:

Tower Semiconductor
Noit Levi, +972 4 604 7066
noitle@towersemi.com

or:

GK Investor Relations
Kenny Green, (646) 201 9246
info@gkir.com
