TOWER SEMICONDUCTOR LTD
Form 6-K
September 18, 2006

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of September 2006, No. 4

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 [X] 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 [X]

On September 18 2006, the Registrant announced that Tower Semiconductor Produces Latest Wireless LAN 802.11g Chip for Atheros Communications, attached hereto is a copy of the press release.

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 18, 2006

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

TOWER SEMICONDUCTOR PRODUCES LATEST WIRELESS LAN 802.11G CHIP FOR ATHEROS COMMUNICATIONS

MIGDAL HAEMEK, ISRAEL - September 18, 2006 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM), a pure-play independent specialty foundry, today announced that Atheros Communications, Inc. (NASDAQ: ATHR), a market leader in advanced wireless solutions, selected Tower to produce its latest RF on standard digital CMOS, wireless LAN 802.11g chip, This product is now ramping production in Tower's 0.18-micron, RF on standard digital CMOS technology at its advanced Fab2, thanks to the optimization of the design cycle by Tower's design services.

The rapidly growing wireless LAN semiconductor market in which Atheros competes is estimated to be over $1.7 billion in 2006 and $3 billion in 2009.(1)

Atheros used Tower's design services to implement the product's physical design, thereby expediting the chip's time to market. This highly integrated Netlist-to-GDS design project required Tower to put together the physical design of the complete chip while integrating complex proprietary circuits from Atheros. This product is the latest addition among other Atheros products already in volume production at Tower.

"Tower's design services, as applied to this project, proved invaluable," said Rick Bahr, vice president of engineering at Atheros Communications. "The design team demonstrated strong engineering and communication skills which helped reduce the design cycle of this complex chip. I look forward to future projects with Tower."

"We were delighted by this opportunity to help our customer shorten their product's time to market. Our design team rose to the challenge of implementing the physical design of this advanced RF on standard digital CMOS chip," said Yaakov Milstain, vice president and general manager of design services at Tower Semiconductor. "Using Tower's silicon proven design flow, we were able to achieve working silicon at first pass while meeting our customer's expectations."

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(1) Worldwide WLAN Semiconductor Forecast, 2005-2009, IDC Research, April, 2005

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. is a pure-play independent specialty foundry established in 1993. The company manufactures integrated circuits with geometries ranging from 1.0 to 0.13-micron; it also provides complementary technical services and design support. In addition to digital CMOS process technology, Tower offers advanced non-volatile memory solutions, mixed-signal and CMOS image-sensor technologies. To provide world-class customer service, the company maintains two manufacturing facilities: Fab 1 has process technologies from 1.0 to 0.35-micron and can produce up to 16,000 150mm wafers per month. Fab 2 features 0.18 and 0.13-micron, standard and specialized process technologies and has a current capacity of up to 15,000 200mm wafers per month. Tower's website is located at www.towersemi.com.

SAFE HARBOR

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 OUR BUSINESS IS INCLUDED UNDER THE HEADING "RISK FACTORS" IN OUR MOST RECENT ANNUAL REPORT ON FORMS 20-F, F-1, F-3 AND 6-K, AS WERE FILED WITH THE SECURITIES AND EXCHANGE COMMISSION AND THE ISRAEL SECURITIES AUTHORITY.

CONTACTS:

Tower Semiconductor USA:
Michael Axelrod, +1 408 330 6871
pr@towersemi.com