

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of January 2006

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

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 January 3, 2006, the Registrant announced that it begins production of Zoran's demodulator chip for digital broadcast televisions and set-top boxes. 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: January 3, 2006

By: /S/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

TOWER SEMICONDUCTOR BEGINS PRODUCTION OF ZORAN'S DEMODULATOR CHIP
FOR DIGITAL BROADCAST TELEVISIONS AND SET-TOP BOXES

TIGHTLY COUPLED DESIGN AND MANUFACTURING ACHIEVE SUPERIOR PERFORMANCE

MIGDAL HAEMEK, Israel - January 03, 2006 - Tower Semiconductor, Ltd., a pure-play independent specialty wafer foundry (NASDAQ: TSEM; TASE: TSEM) today announced that it has begun manufacturing Zoran Corporation's Cascade2 demodulator chip at Tower's FAB2, using 0.18-micron process.

The Cascade2 demodulator is a component in Zoran's Digital TV platform solution, aimed at the transition of the United States market from the NTSC TV broadcasting standards to the digital television (DTV) standard propagated by the Advanced Television System Committee (ATSC).

Industry analysts estimate that worldwide shipments of digital televisions will increase to over 160 million units in 2009, while the US shipments will exceed 60 million units.

"With Tower's 0.18-micron process, our Cascade2 demodulator achieved excellent product performance. Zoran's digital TV enabled products provide consumers with a DVD-class video and audio experience far superior to what they are receiving today on their analog TV sets" said Ram Ofir, senior vice president and general manager, DTV division at Zoran.

"We found Tower's customer support from design to production to be highly responsive, which is important to delivering products quickly in this fast growing market" said Tzach Hadas, vice president operations at Zoran.

"We are pleased to complement Zoran's expertise in digital TV solutions with our process offering that supports bringing intricate digital functionality to the market at affordable prices," said Dani Ashkenazi, General Manager of CMOS product line at Tower. "We take pride in supporting customers such as Zoran with very fast ramps to volume production."

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. is a pure-play independent specialty wafer 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-micron and below standard and specialized process technologies, and has the current capacity of up to 15,000 200mm wafers per month. Tower's Web site 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 AND 6-K, AS WERE FILED WITH THE SECURITIES AND EXCHANGE COMMISSION AND THE ISRAEL SECURITIES AUTHORITY.

TOWER CONTACTS:

Tower Semiconductor USA
Michael Axelrod, 408-330-6871
pr@towersemi.com

or

Pacifico Inc.
Mary Curtis, 408-293-8600
mcurtis@pacifico.com