

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of July 2007

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 July 03, 2007, the Registrant announced that Tower Semiconductor Delivers the first Space Application SoC product, 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.

Date: July 03, 2007

TOWER SEMICONDUCTOR LTD.

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

TOWER SEMICONDUCTOR DELIVERS THE FIRST SPACE APPLICATION
SOC PRODUCT

Migdal Haemek, Israel - July 3, 2007 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM), an independent specialty foundry, and Ramon Chips Ltd., a fabless company that specializes in the space industry, announced today the successful completion of a prototype radiation-hardened System-on-Chip (SoC) controller for space applications. The SoC is being fabricated on Tower's Fab2 0.18-micron process technology.

The SoC controller operates at 150 MHz, and the on-chip SpaceWire interface achieves 250 Mbits/sec transfer rates. The product is expected to sustain cosmic radiation and harsh environmental conditions and is thus useful for all space missions in earth-orbiting satellites. It is also intended for high-reliability avionic applications.

The SoC controller has been designed and fabricated using Ramon Chips' proprietary RadSafe(TM) methodology and standard cell library, which assure radiation hardness of parts fabricated in Tower Semiconductor's manufacturing lines.

Another prototype chip fabricated using the same RadSafe(TM) library and the same Tower Semiconductor 0.18 micron CMOS process has been tested successfully at radiation levels of 300 Krads and had sustained no radiation-induced latch-ups and less than 10-13 soft error events per bit per day at LET levels exceeding 100 MeVxcm²/mg.

"We are satisfied with the accomplishment of the radiation hardened high performance product on Tower's 0.18-micron technology platform", said Prof. Ran Ginosar, CEO of Ramon Chips Ltd. "Tower's team assisted greatly in upgrading the standard cell library to make it radiation hardened. We see several promising business opportunities based on this technology accomplishment".

"We are happy that Ramon Chips product demonstrated the resilience and versatility of Tower's process technology", said Dani Ashkenazi, CMOS product line manager at Tower. "The proven Rad Hard libraries add another dimension to Tower's offering and may serve penetrating additional customer domains".

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. is an 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 & RF-CMOS, and CMOS image-sensor technologies. To provide world-class customer service, the company maintains two manufacturing facilities: Fab 1 has process standard and specialized technologies from 1.0 to 0.35 micron and Fab 2 features standard and specialized technologies of 0.18, 0.16 and 0.13-micron. Tower's Web site is located at <http://www.towersemi.com>.

ABOUT RAMON CHIPS, LTD.

Ramon Chips, Ltd. is a fabless semiconductor company focused on developing and marketing unique VLSI /ASIC solutions for space and avionics applications, based on its RadSafe(TM) methodology and cell library and on Tower Semiconductor CMOS processes. Named in memory of the late Col. Ilan Ramon, Israel's first astronaut who perished at the Columbia space shuttle re-entry accident in 2003, the company was founded in 2004 and is based in Israel. For additional information contact info@ramon-chips.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 Form 20-F, Forms F-1, F-3 and 6-K, as were filed with the Securities and Exchange Commission and the Israel Securities Authority. We do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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