TowerJazz and DARPA Collaborate on Advanced SiGe HBT Development of up to 500GHz Devices

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NEWPORT BEACH, Calif., Jun 09, 2011 (BUSINESS WIRE) --

Jazz Semiconductor, a fully owned U.S. subsidiary of Tower Semiconductor Ltd. (operating collectively under the brand name, TowerJazz), today announced a cost-sharing collaboration with DARPA to advance its roadmap for high frequency SiGe HBT (heterojunction bipolar transistor) devices. The DARPA program name is GRATE (Gratings of Regular Arrays and Trim Exposures) and will employ the use of grating masks combined with conventional photolithography to achieve very fine dimension features as an alternative to more costly lithography techniques such as immersion lithography. The grating masks will be used in combination with the standard masks used today in volume semiconductor device manufacturing.

The TowerJazz roadmap includes BiCMOS platforms which have both CMOS and BiPolar devices on a single wafer and are offered monthly in multi-project wafer (MPW) runs. The existing BiCMOS platforms are based on 350nm, 180nm and 130nm CMOS nodes, and the variants include HBT device performance at 60, 150, 200 and recently 260GHz. In the multi-year GRATE program, TowerJazz will develop methods for implementing grating and trim exposures in its existing BiCMOS platforms in three stages: to target 200-300GHz devices, 300-400GHz devices and finally with research on 400-500GHz HBT devices.

TowerJazz has partnered with the University of California, San Diego (UCSD) for novel circuit demonstrations using the new technology platforms and for teaming on extremely high frequency test and characterization of HBT devices as well as interconnect and passive components such as microstrip lines and MIM capacitors. This high frequency data and modeling will be the basis for mmWave design kits that enable customers to design and simulate mmWave circuits and products.

In addition, TowerJazz will bring its pure-play specialty wafer foundry approach to the program through MPW runs to allow select, early access to the technology.

"It is exciting to work with DARPA on the use of gratings and trim exposures. Our team has demonstrated abilities to print sub-90nm features with very good depth of focus, and we are applying these methods to our SiGe BiCMOS technologies. We look forward to demonstrating novel capabilities and offering these technologies to our customers through our MPW infrastructure," said David Howard, TowerJazz Executive Director and Primary Investigator for GRATE.

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, one in the U.S., and one in Japan with additional capacity available in China through manufacturing partnerships. For more information, please visit 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 TowerJazz'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.

SOURCE: TowerJazz

TowerJazz
Company Contact
Melinda Jarrell
+1 949 435 8181
melinda.jarrell@towerjazz.com
or
Media Contact
Lauri Julian
+1 949 715 3049

lauri.julian@towerjazz.com
or
Investor Relations Contact
Noit Levi
+972 4 604 7066
noit.levi@towerjazz.com