



Himax Imaging Chooses TowerJazz Panasonic Semiconductor's State of the Art 65nm Process with Outstanding 1.12um Pixel for Its Next Generation Cameras for Smart Phone Applications

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The market for high end cameras for smart phones having resolution of above 8Mp is estimated to grow from 500M units in 2013 to 1300M units in 2017

MIGDAL HAEMEK, Israel & TAINAN, Taiwan--(BUSINESS WIRE)--Aug. 28, 2014-- [TowerJazz](#) (NASDAQ: TSEM)(TASE: TSEM), the global specialty foundry leader, and TowerJazz Panasonic Semiconductor Co., Ltd. (TPSCo) today announced its first major third party CMOS image sensor (CIS) customer, [Himax Imaging, Inc.](#), a subsidiary of Himax Technologies, Inc. (Nasdaq: HIMX), that is developing its next generation high end cameras for smart phone applications using TPSCo's state of the art 1.12um-pixel CMOS image sensor (CIS) 65nm process. According to a report from Yole Développement on mobile phone business, 500 million units of high end cameras for smart phones having resolution of above 8Mp were sold in 2013 and sales of such cameras are expected to grow to 1300 million units in 2017.

TPSCo's CIS technology meets the growing demand for high dynamic range and signal to noise ratio optical sensors used in mobile, high-end photography, security, and surveillance applications. Extensive experience in the imaging field combined with in-house CIS technology development enables TowerJazz and TPSCo to meet the market's rigorous requirements for leading-edge performance, advanced features, reduced die size and price. TowerJazz's worldwide recognized leadership in CMOS sensors and pixel technology is derived from its proven ability to supply sensors with best in class performance. Specifically, the 1.12um-pixel CIS incorporates cutting edge light loss reduction technologies using a proprietary 65nm process, allowing 1.12um pixel with a world leading quantum efficiency of 74%. Through proprietary design and processing the dark current at 60C is measured at 6.5 electrons per second, and the readout noise is 0.9 electrons.

"Himax Imaging has been focused on delivering high value image sensors to mobile, consumer, surveillance and automotive markets with our ultra low power and low noise architectures. After extensive evaluation of TPSCo's 1.12um state of the art pixel, we believe that our architecture combined with TPSCo's advanced 65nm CIS process, which provides extremely low dark noise, high quantum efficiency, and excellent angular response, will enable DSC quality performance for our next generation of high resolution image sensors," said Amit Mitra, Vice President and Chief Technology Officer of Himax Imaging.

"We are very pleased that Himax Imaging is putting their trust in TowerJazz and is now working with us through TPSCo to enable technological advances for its next generation products," said Dr. Avi Strum, Vice President and General Manager, CMOS Image Sensor Business Unit, TowerJazz.

"By utilizing the advanced features of our 1.12um-pixel CIS 65nm process, Himax Imaging will offer evermore innovative technology to meet their customers' -- some of the world's leading device manufacturers -- growing demands for both high quality, yet cost-effective, cameras for high end smart phone applications. We are excited to work with Himax Imaging and look forward to more product engagements in the future," said Guy Eristoff, CEO, TowerJazz Panasonic Semiconductor Co.

TPSCo's 1.12um-pixel CIS platform includes: advanced 65nm specialty process for CIS, color filters and micro-lenses, stacked light pipe technology for enhanced optical performance, optical/device simulations design optimization, operating voltage of 1.2/1.8/2.8V, 4LM metallization (3LM-Cu and 1LM-Al) and 32nm pitch M1. For mobile and DSC applications, the features include: high resolution sensors, demanding frame rate, high sensitivity and dynamic range, low dark current, and high angular response performance.

About Himax Imaging

Himax Imaging is a fables semiconductor company that develops CMOS Image Sensors (CIS), system-on-chip (SOC) and wafer level camera solutions for next generation camera, video communication and sensing applications. As a relative newcomer in the CIS industry, Himax Imaging has quickly developed a broad portfolio of products and technologies that have been adopted by leading mobile computing and communication device manufacturers. For more information, please visit: <http://himaximaging.com/>.

About TowerJazz Panasonic Semiconductor Co.

TowerJazz Panasonic Semiconductor Co., Ltd. (TPSCo) is a newly established company, 51% owned by Tower Semiconductor Ltd. (NASDAQ: TSEM)(TASE: TSEM) and 49% owned by Panasonic Corporation (NASDAQ ADS: PCRFY)(TYO: 6752). TPSCo has three manufacturing facilities in Hokuriku, Japan which have been producing large scale integrated circuits for over 30 years. Areas of process technology focus include: high dynamic range image sensors (CIS and CCD), integrated power devices (BCD, SOI, and LDMOS) and high frequency silicon RFCMOS. With over 120 qualified silicon process flows on 200mm and 300mm wafers from super micron to 45nm as well as internal back end processing, assembly and test services, TPSCo provides both IDMs and fables companies with unparalleled semiconductor manufacturing quality and technology, including in-house turnkey services. For more information, please visit www.towerjazz.com.

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM)(TASE: TSEM) and its fully owned U.S. subsidiary Jazz Semiconductor, Inc. operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures integrated circuits, offering a broad range of customizable process technologies including: SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz also provides a world-class design enablement platform for a quick and accurate design cycle as well as Transfer Optimization and development Process Services (TOPS) to IDMs and fables companies that need to expand capacity.

To provide multi-fab sourcing and extended capacity for its customers, TowerJazz operates two manufacturing facilities in Israel (150mm & 200mm), one in the U.S. (200mm) and three additional facilities in Japan (two 200mm and one 300mm) through **TowerJazz Panasonic Semiconductor Co.** (TPSCo), established with Panasonic Corporation of which TowerJazz has the majority holding. Through TPSCo, TowerJazz provides leading edge 45nm CMOS, 65nm RF CMOS and 65nm 1.12um pixel technologies. 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.



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