

Teledyne e2v's Emerald 67M, Ultra-high Resolution Image Sensor Now Available

The sensor uses TowerJazz's best-in-class 2.5µm global shutter pixel that doubles the resolution for the same optical format

GRENOBLE, France, and MIGDAL HAEMEK, Israel, 12 June, 2019 -- [Teledyne e2v](#), a Teledyne Technologies [NYSE: TDY] company and global innovator of imaging solutions, and [TowerJazz](#) [Nasdaq: TSEM], the global specialty foundry leader, announces that Teledyne e2v's Emerald™ 67M image sensor, designed for ultra-high resolution electronics inspection, high-end surveillance and microscopy is now available.

The sensor is a member of Teledyne e2v's Emerald family and features TowerJazz's smallest in the world 2.5µm low-noise global shutter pixel, on TowerJazz's 65nm platform, in its Uozu, 300mm Japanese manufacturing facility. The pixel is integrated with a unique light pipe technology, offering superb angular response, more than 80dB shutter efficiency, in a significantly small size, and extremely low noise (one electron). This unique pixel architecture provides cutting edge performance that enables improved manufacturing yields, through detection of smaller defects.

The Emerald family of sensors, solely manufactured by TowerJazz, provides customers with an unprecedented set of features and are all suitable for high-speed interface systems including 10GigE, CoaXPress, Camera Link, and Camera Link HS. Special features include HDR modes with up to 120dB dynamic range and also a unique Region Of Interest (ROI) mode which allows multiple ROI to be captured under different exposure conditions, further improving the dynamic range of an image.

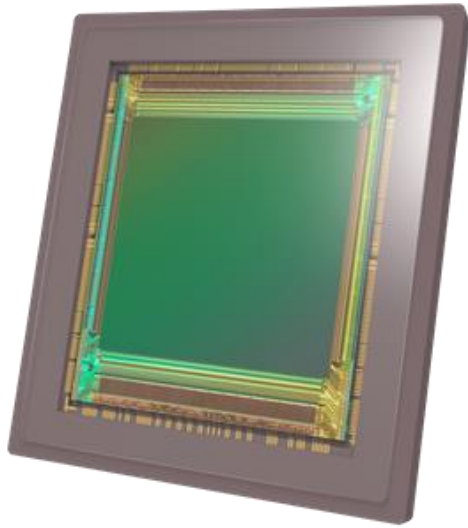
Emerald 67M has a square shape with 8k resolution per side, enabling 95% utilisation of the image area for the next generation of display manufacturing, gen 10.5. The ultra-high resolution optimizes vision system movements in large product inspection, reducing system complexity and removing instabilities. It is available in two different speed grades (ultra-high speed, 60fps and high speed, 30fps).

Rafael Romay, Vice President of Professional Imaging at Teledyne e2v, said "The Emerald 67M is the first sensor of its kind and is enjoying strong interest in inspection applications due to its ultra-high resolution and fast speed. It also shares many of the smart features within other Emerald sensors making it easier to deploy within vision systems. The great technology innovation and support from TowerJazz allowed us to bring to market [this](#) best-in-class solution, customized to product and application needs."

Dr. Avi Strum, TowerJazz Senior Vice President and General Manager of the Sensor Business Unit said, "Teledyne e2v's design and supply chain along with TowerJazz's state of the art 65nm process have again brought a game changing sensor to machine vision applications. We are proud to have developed this together and look forward to further collaboration with Teledyne e2v to serve the machine vision market."

For sample and evaluation kit requests or more information visit the [product webpage](#). You can also see a live demo of the sensor at the Image Sensing Show 2019, 12-14 June in Yokohama, Japan. You can find us exhibiting with our partner, the IPN Corporation, on booth 19.

For more information about TowerJazz's CMOS image sensor technology offering, please visit [here](#).



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Notes to Editors:

About Teledyne e2v

Teledyne e2v is part of the Teledyne Imaging Group. Their innovations lead developments in healthcare, life sciences, space, transportation, defence and security and industrial markets. Teledyne e2v's unique approach involves listening to the market and application challenges of customers and partnering with them to provide innovative standard, semi-custom or fully-custom imaging solutions, bringing increased value to their systems. For more information www.teledyne-e2v.com

About Teledyne Imaging

Teledyne Imaging is a group of leading-edge technology companies aligned within the Teledyne brand. With unrivalled expertise across the electromagnetic spectrum and decades of experience, the group offers world-leading capabilities in sensing, signal generation and processing. The collective delivers innovative solutions to aerospace, defense, geospatial, machine and industrial vision, medical and life sciences, semiconductors and MEMs. For more information, visit teledyneimaging.com

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and its subsidiaries operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures next-generation integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, medical and aerospace and defense. TowerJazz's advanced technology is comprised of a broad range of customizable process platforms such as: SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz also provides world-class design enablement for a quick and accurate design cycle as well as Transfer Optimization and development Process Services (TOPS) to IDMs and fabless 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 and 200mm), two in the U.S. (200mm) and three facilities in Japan (two 200mm and one 300mm) through its partnership with Panasonic Semiconductor Solutions Co. LTD. For more information, please visit: www.towerjazz.com.