FOR IMMEDIATE RELEASE

Pinnacle Imaging Systems and ON Semiconductor Collaborate on New HDR Surveillance Solution Using Xilinx Technology to Push the Boundaries of High Dynamic Range Video

Under real world testing the new solution captures and tone-maps high contrast scenes up to 120 dB or 20EV, all in real time at full HD 1080p 30 fps output

Stuttgart, Germany – VISION Trade Fair – November 5, 2018 – Pinnacle Imaging Systems, a developer of high dynamic range (HDR) Image Signal Processors (ISP) and HDR video solutions and ON Semiconductor, a leading provider of HDR capable image sensors, today jointly announced a new lower cost HDR video surveillance solution capable of capturing high contrast scenes (120 dB) with 1080p and 30 frames per second (fps) output. The new HDR video platform, running on the Xilinx Zynq 7030 SoC, meets the requirements to capture the highlight and shadow details of high contrast scenes, providing the market's most-expansive dynamic range for surveillance and machine vision applications. The new surveillance solution will be demonstrated during the VISION trade fair (November 6-9, 2018). Camera, AI developers and media interested in seeing live product demonstrations can visit Avnet Silica /Avnet EMG GmbH booth (Hall 1 Stand 1C82) and talk to Pinnacle Imaging representatives.

The Pinnacle Imaging Systems Denali-MC HDR ISP IP Core has been ported to run on Xilinx technology and paired with ON Semiconductor's AR0239 CMOS image sensor, maximizing the capability of the sensor's unique three-exposure HDR. The Xilinx hardware-programmable SoC architecture enabled Pinnacle Imaging to develop a new custom sensor interface to support the AR0239 at a fraction of the cost and development time of other SoC or ASIC-based ISPs. Denali-MC's advanced motion compensation algorithms minimize motion artifacts often associated with multi-exposure HDR capture and Pinnacle's locally adaptive tone mapping algorithms accurately reproduce color and tonal gradations of high contrast scenes. With Pinnacle Imaging's proprietary Ultra HDR™ technology, camera placement is no longer a concern. These powerful capabilities also provide camera and AI developers more accurate image data, increasing recognition system accuracy, making the solution ideal for surveillance cameras and machine vision systems, intelligent traffic systems, smart city, autonomous surveillance systems and more.

"As a technology partner, ON Semiconductor has been instrumental in providing the critical support necessary to bring this project to fruition," said Alfred Zee, CEO of Pinnacle Imaging Systems. "The high dynamic range capabilities of the ON Semiconductor AR0239 sensor, coupled with the performance of the Xilinx Zynq SoC, make an ideal foundation for our Ultra HDR Surveillance Platform. Working closely with the ON Semiconductor team, we've been able to achieve the best possible HDR and low light performance from the AR0239 CMOS image sensor."

Pinnacle Imaging also worked closely with the ON Semiconductor engineers to develop a new sensor interface to support the three-exposure HDR capture mode of the AR0239 CMOS image sensor.

"Pinnacle Imaging's HDR merge and locally adaptive tone mapping IP achieve the best results from our AR0239 sensor not just in dynamic range but also with respect to accurate color and contrast

reproduction," said Gianluca Colli, VP and General Manager, Consumer Solutions Division of Intelligent Sensing Group at ON Semiconductor. "The flexibility of the Xilinx hardware programmable SoC architecture enabled them to be first-to-market to support our new three-exposure sensor design and serves as an important reference design going forward."

The Pinnacle Imaging team further optimized its Denali-MC HDR ISP IP to fit into the smaller, cost-optimized Xilinx Zynq 7030 SoC, enabling competitive new markets for smart security and surveillance cameras.

"To be able to offer best in class solutions to our customers we evaluate many ISPs from different vendors. Pinnacle Imaging System's Denali-MC ISP demonstrated exceptional image quality and HDR tone mapping results and we are excited to have Pinnacle using Xilinx," said Christoph Fritsch, Senior Director, Industrial IoT Scientific and Medical Business Unit, Xilinx.

Availability & Demonstrations

The Denali-MC ISP with the ON Semiconductor AR0239 sensor will be on display throughout the VISION trade fair in Stuttgart, Germany (November 6-9, 2018) in the Avnet Silica /Avnet EMG GmbH booth (Hall 1 Stand 1C8).

Pinnacle Imaging Systems will make the Denali-MC development platform available for camera designers in Q1 2019. For more information on the new video development platform, or to arrange a demonstration during the VISON trade fair, please contact: Ron Tussy, Director of Business Development for Pinnacle Imaging Systems at ron@pinnacleimagingsystems.com.

About Pinnacle Imaging Systems Corporation

Headquartered in South San Francisco, C.A., Pinnacle Imaging Systems, the HDR experts, is defining the future of digital high dynamic range video. Built on a human vision model, its Ultra HDR™ technology delivers the utmost image detail to high contrast video and provides 24/7 round the clock capture capability, for any scene. Pinnacle Imaging licenses its technology for applications that demand maximum image data such as surveillance, law enforcement, drone cameras, automotive applications, machine vision systems, as well as professional and consumer still and video cameras, etc. More information about Pinnacle Imaging Systems can be found at: http://www.pinnacleimagingsystems.com.

About ON Semiconductor

ON Semiconductor (Nasdaq: ON) is driving energy efficient innovations, empowering customers to reduce global energy use. The company is a leading supplier of semiconductor-based solutions, offering a comprehensive portfolio of energy efficient power management, analog, sensors, logic, timing, connectivity, discrete, SoC and custom devices. The company's products help engineers solve their unique design challenges in automotive, communications, computing, consumer, industrial, medical, aerospace and defense applications. ON Semiconductor operates a responsive, reliable, world-class supply chain and quality program, a robust compliance and ethics program, and a network of manufacturing facilities, sales offices and design centers in key markets throughout North America, Europe and the Asia Pacific regions. For more information, visit http://www.onsemi.com/.

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Media Contacts
Pinnacle Imaging Systems: Zach Heath (zach@engagecoms.com)
ON Semiconductor: Veronika Holscher (veronika.holscher@onsemi.com)