CEVA unveils new DSP platform for embedded vision and ISP applications

CEVA announced the availability of the first imaging and vision platform based on its CEVA-MM3000 architecture framework. CEVA-MM3101 is a fully programmable, low power platform developed to meet the advanced image and vision processing use-cases in camera-enabled devices, including smartphones, tablets and smart TVs.

The CEVA-MM3101 platform integrates video and imaging functions that today are distributed among multiple processor engines, to address the image and video pipeline, image enhancement, embedded vision applications and image encoding functions. Instead of using fixed-function engines or running these functions on the main application processor, the CEVA-MM3101 is specifically architected to support all of these functions on a single processor, resulting in a 20X reduction in power consumption when compared to CPU-based solutions. In addition, the powerful CEVA-MM3101 enables a new level of high-performance image enhancements and embedded vision applications that are not feasible on RISC CPU based designs. For example, the CEVA-MM3101 is capable of processing video streams of 1080p, or 8 megapixel images at 12 frames per second, simultaneously with advanced performance-driven features such as video stabilization, color correction, wide dynamic range (WDR), face detection and gesture recognition.

Eran Briman, vice president of marketing at CEVA commented: “The critical role that high-performance DSP technology plays in mobile and digital home applications is being brought to the forefront by the advent of new video, image and embedded vision applications. Traditional combinations of hardwired blocks and general-purpose CPUs are no longer capable of delivering the required flexibility, power efficiency and performance for these fast-changing market trends. The CEVA-MM3101 specifically targets these highly-complex applications and offers customers the ability to deliver cost-efficient, low-power and differentiated solutions through software.”

Embedded Vision Breaks New Ground

To address the burgeoning area of embedded vision, CEVA has collaborated with CEVAnet partner eyeSight to deliver a comprehensive offering for Human Machine Interface (HMI), based on the CEVA-MM3101 platform. eyeSight’s offering includes hand gesture recognition and virtual mouse user interface technology using finger tracking for multiple users in various conditions. CEVA and eyeSight will demonstrate a range of real-world applications for this technology at CES 2012.

“I congratulate CEVA for developing a powerful platform, integrating imaging and vision-related technologies,” commented Jeff Bier, founder of the Embedded Vision Alliance (http://www.Embedded-Vision.com). “Next-generation mobile and

consumer devices are rapidly adopting embedded vision capabilities including gesture-based user interfaces and object recognition for applications such as augmented reality games, security, and navigation. Implementing this type of visual intelligence in consumer products requires a combination of high processing performance, programmability, energy efficiency, and low cost. Fielding a licensable processing subsystem specifically targeting embedded vision applications is an excellent step forward for CEVA and the industry."

Development Tools and Support

The CEVA-MM3101 platform is supported by a robust Software Development Toolkit that includes an optimizing C-compiler, IDE, debugger, simulators and profiler. The user-friendly IDE helps developers implement, debug, optimize and run code on the platforms. To aid Vector Processor optimization, the IDE provides a view into all core and memory resources. As part of the solution, the CEVA-MM3101 includes a comprehensive library of video and imaging functions, including image pipeline kernels, linear and non-linear filters, pre and post-processing functions, face detection, video codec kernels and more.

To learn more about the CEVA-MM3101, visit www.ceva-dsp.com/ISP [1].

Availability

The CEVA-MM3101, platform is currently available for licensing. For more information, contact sales@ceva-dsp.com [2]

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