Qpixel intros new Main Profile H.264 codec

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2007 SEMITECH, TAIPEI, -- Qpixel Technology, an innovator in video compression silicon and software solutions, announced today the availability of the Qpixel QL202B, the third member of its low-power Main Profile (MP) H.264 codec family. The QL202B leverages the unique architecture of the QL201B silicon already in volume production. The new system-on-a-chip (SOC) integrates a 10/100 Ethernet MAC and an external flash memory interface for stand-alone operation, reducing cost and component count in devices such as digital video recorders, security cameras and networked audio visual (AV) streaming appliances.

With the new QL202B from Qpixel, consumers will be able to store and transmit video with the same quality as today's MPEG-4-based systems, using as low as half the bandwidth and storage space. This results in significant savings in operation cost over the life of the appliance. The QL202B's high level of integration reduces system component count, which when combined with its ultra low power consumption, gives manufacturers the ability to build lower cost solutions and aggressively pursue smaller, more compact form factors in their system designs. Unlike its predecessor the QL201B, which was designed to run as a companion chip, the QL202B is ideal for stand-alone operation in a variety of networked and storage-based consumer appliances. Using the software development kit, customers can quickly and easily develop a product with the QL202B, since the SOC design handles all processing for capture, compression, transmission and storage of audio and video content. The integration of the ARM processor and the 10/100 Base-T Ethernet MAC, along with the comprehensive software suite, reduces the total bill of materials in networked appliances by up to $8 relative to competing designs, by eliminating the need for an external network processor and the associated memory.

"The Qpixel QL202B continues the momentum of our H.264 family of codecs and marks a milestone for the company in high levels of integration and innovative design," said Kourosh Amiri, vice president of marketing at Qpixel Technology. "The QL202B SOC, with its stand-alone operation, advanced media processing features and low power architecture, is well suited for ultra small form factor Internet Protocol (IP) camera designs. This is particularly important in the security industry as camera manufacturers move toward smaller enclosures, such as in dome cameras, where heat dissipation is a major concern."

Network streaming appliances, such as media servers, place-shifting devices and remote monitoring IP cameras, can take advantage of several features in the Qpixel QL202B design. For residential deployments, where upstream bandwidth is often limited to a few hundred kilobits-per-second (Kbps), compression efficiency has an immense impact on the quality of the transmitted video content. The QL202B H.264 Main Profile compression engine enables the transmission of very high quality video, at twice the quality provided by MPEG-2 compression, for the same network throughput. For enterprise surveillance applications, where both compression efficiency and encoding latency are a concern, the QL202B provides the flexibility to switch from Main Profile to Baseline H.264 compression for low latency operation. With its integrated ARM processor, 10/100
Base-T Ethernet MAC, and audio DSP, the QL202B minimizes the BOM (bill of materials) for an IP camera subsystem, thereby reducing the major components to only an external DDR memory, boot Flash, Ethernet PHY and power regulators. In addition, by consuming only a few hundred mW of power, the QL202B enables a basic camera subsystem to be put together using less than 1.5W of power. This is less than what a typical media processor or a DSP consumes today just to provide MPEG-4 compression.

"When it comes to H.264 compression technology and low power consumption, Qpixel's QL200 family offers superior performance over competitive solutions," said Jay Aggarwal, director of sales and business development at Nuvation. "Nuvation specializes in electronic design services, so we have extensive experience with a variety of different silicon platforms including DSPs, programmable logic, media processors and application-specific standard products (ASSPs.) Qpixel's unique architecture offers the right balance of power, performance and customization, at a price point that is unmatched by any other H.264 silicon solution we have worked with."

Another target application for the QL202B's stand-alone operation is the emerging flash-based personal digital video recorder/player. This new flash-based recorder category offers an attractive alternative to the popular DVD-based video recorder, since the flash-based system offers the same video recording/playback capability at much lower cost and power consumption. The QL202B Main Profile H.264 codec's, ultra low power consumption and direct interface to SD and Compact-Flash memory cards, make it an ideal silicon platform for original equipment manufacturers (OEMs) and original design manufacturers (ODMs) to build desktop and portable versions of these personal video recording/playback devices.

To enable customers a faster time-to-production, Qpixel provides an evaluation kit (EVK-202B) and a software development kit (SDK-202B). The EVK consists of a complete set of hardware, schematics, BOM and application software on PC. The SDK is a comprehensive kit, which allows customers to port their own UI and Application level software to create a unique differentiation for their products. The QL202B's software includes the core audio and video compression firmware, device drivers, APIs, common network stacks and user applications for ease of configuration and development. In addition, Qpixel also provides a unique QoS (Quality of Service) software to increase the reliability and robustness of the streaming media content.

The QL202B is available today and is priced at $13.5 in quantities of 10,000 units.

Qpixel Technology, an innovator in video compression silicon and software solutions, specializes in digital consumer applications that balance superior video quality with extended hours of portable operation at mass market prices. The first to ship H.264 Main Profile encoder technology in October 2005, Qpixel's highly integrated, low power family of QL200 codecs offer advanced algorithms and rich features that slash bandwidth and storage requirements in digital audio/video consumer appliances such as digital video camcorders and cameras, IP set-top boxes and remote monitoring devices. Qpixel is a fabless semiconductor designer and manufacturer with a U.S. office in Cupertino, Calif. and worldwide engineering and sales offices in Taiwan and Japan. For more information about Qpixel Technology visit www.qpixeltech.com.