Freescale i.MX27 IP camera reference design delivers high resolution H.264 compression technology

EDN Staff - April 15, 2008

SAN JOSE, Calif. (Embedded Systems Conference) April 15, 2008 – Freescale Semiconductor has developed an IP camera reference design based on the i.MX27 multimedia applications processor to address the growing video surveillance market as IP network cameras transition from analog to digital. The royalty-free i.MX27 IP camera reference design comes with a comprehensive hardware and software package, designed to allow OEMs to quickly design and deliver IP network cameras that offer crisp video streaming for video surveillance and other applications.

Freescale’s hardware-optimized reference design is engineered to allow OEMs and ODMs to easily differentiate their own IP cameras with added features, instead of focusing on core hardware/software design. The Freescale IP camera reference design implements the “must have” features for IP network cameras, beginning with H.264 compression technology to minimize network bandwidth and provide outstanding image quality. Other features include low-power operation, Power-over-Ethernet (POE) technology for seamless integration into existing networks, and D1 resolution image compression for sharp image detail and fast intruder identification.

Security is of paramount concern for enterprises, institutions, organizations and ordinary citizens. As a result, the IP network camera market is experiencing tremendous growth. Closed-circuit television surveillance systems leveraging analog sensors are migrating to digital IP network cameras. Meanwhile, embedding intelligent processing within the camera provides greater image quality, simpler installation, and enables remote monitoring from anywhere in the world where there is Internet access.

In addition to IP network cameras, the i.MX27 reference design targets the video and voice over IP (V2IP) market and can be used to create applications such as household doorbell products and consumer baby monitor devices. Consumers may view an enhanced live video feed – from their office, mobile or other connected product – allowing them to remotely track home security and receive email status notifications when a potential threat is detected. The design is ideal for V2IP applications requiring a camera, high-performance video compression, low-power operation and wired or wireless connectivity.

“This market-ready IP network camera reference design unlocks the powerful hardware capabilities of Freescale’s i.MX27 multimedia applications processor,” said Aaron Shagrin, director of enablement for Freescale’s Multimedia Applications Division. “This proven hardware/software design allows OEMs to be creative in adding their unique software features while maintaining quick time-to-market to capitalize on the fast-growing trend toward IP cameras.”
i.MX multimedia applications processors

The i.MX27 balances high performance with low power consumption through its intelligent combination of dedicated hardware video accelerators and a fast ARM926EJ-S™ core. This enables D1 resolution encode of H.264 and MPEG-4 Part 2 video with very low overhead on the ARM926EJ-S™ core, freeing it up to perform additional software features – all on a single system-on-chip. In addition, overall system cost is reduced through intelligent integration of features, such as on-chip Ethernet 10/100 MAC, boot from NAND flash capability and peripheral integration for expandable memory and wireless connectivity.

Availability and pricing

The comprehensive i.MX27 IP camera reference design, including camera unit with tripod and comprehensive hardware and software packages, is expected to ship in Q2 2008. In advance of shipment, hardware design files and additional information may be requested online at www.freescale.com/imx27ipcamera. Freescale’s i.MX27 applications processor is shipping in volume at a suggested resale price of $12.11 (USD) in 10K quantities.

About Freescale Semiconductor

Freescale Semiconductor is a global leader in the design and manufacture of embedded semiconductors for the automotive, consumer, industrial, networking and wireless markets. The privately held company is based in Austin, Texas, and has design, research and development, manufacturing or sales operations in more than 30 countries. Freescale is one of the world’s largest semiconductor companies with 2007 sales of $5.7 billion (USD). www.freescale.com

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