

IP Camera Reference Platform



Overview

Design engineers seeking a development platform for a high-performance digital IP video surveillance device need look no further than Freescale Semiconductor.

The i.MX27 IP Camera Reference Design provides the requisite hardware engine and robust software applications to enable an OEM to quickly add their differentiating IP or go straight to manufacture.

The comprehensive form factor reference design is based on the powerful i.MX27 multimedia applications processor from Freescale. It delivers a high-performance, low-power and cost-effective solution for a variety of imaging solutions, including the rapidly expanding digital IP video surveillance market.

IP Camera Features

- Form factor design is based on the Freescale i.MX27 multimedia applications processor and Freescale Linux® 2.6 Board Support Package (BSP)
- Comprehensive IP camera system solution ready for manufacture or OEM customization
- Real-time compression of full-color 720 x 480 (D1) video in H.264, H.263 or MPEG-4 part 2 format at 30 fps
- Wired streaming of compressed video to standard browser
- Simple Web-based interface allows for easy setup and evaluation of key system parameters
- Freescale i.MX27 multimedia applications processor
 - ARM926EJ-S™ processor targeted for low-power, high-performance video applications
 - Multi-standard hardware video codec
 - .. Enables high-quality, low-power video compression and decompression
 - .. Leaves ample headroom on the ARM® core to implement your differentiating software features
 - Advanced power management enables low-power design targets to be met
 - Integrated 10/100 Ethernet, SDIO, USB 2.0
 - Support for external data storage to SD/MMC card, USB or hard disk
 - Provides the connectivity to integrate external Power over Ethernet (PoE) and Wi-Fi solutions
- Industrial temperature for outdoor applications
- Optics
 - 2 MP CMOS sensor provides best-in-class image quality in low light conditions
 - Entire field of view of the sensor can be scanned to display any one portion at a time, without moving the camera
 - Ideally suited for the consumer and industrial security markets

Comprehensive Development Kit

- Camera unit with enclosure and tripod
- Robust documentation suite, including Quick Start Guide, and hardware and software design documents
- Design files include schematics, Gerber files and Bill of Materials (BOM)
- Linux Board Support Package (BSP) provided with IP camera application source code

IP Camera Hardware Features

- i.MX27 multimedia applications processor
- Aptina® MT9D131 2MP sensor
- Tamron M13VM246 C-Mount lens
- PoE
- Wolfson® WM8974 audio codec
- Microphone
- USB 2.0 and OTG are supported
- SD connector for expandable storage
- 64 MB SDRAM
- 32 MB NOR flash
- 128 MB NAND flash for mass storage and reduced system cost

IP Camera Software Features

- D1 resolution H.264 or MPEG-4 video compression and streaming
- 10/100 Ethernet physical layer
- Video stream to client application from video server under HTTP control
- Embedded web server provides basic network, camera and encoder configuration page to client
- FFPLAY client for rendering captured data
- Motion detection

About the i.MX27 Multimedia Applications Processor

The i.MX27 multimedia applications processor is derived from the widely adopted i.MX21 processor and is based on the ARM926EJ-S core. The i.MX27 processor adds an H.264 D1 hardware codec for high-resolution video processing, an Ethernet 10/100 MAC, security, plug-and-play connectivity and an abundance of power management features. The processor is architected with Freescale's Smart Speed™

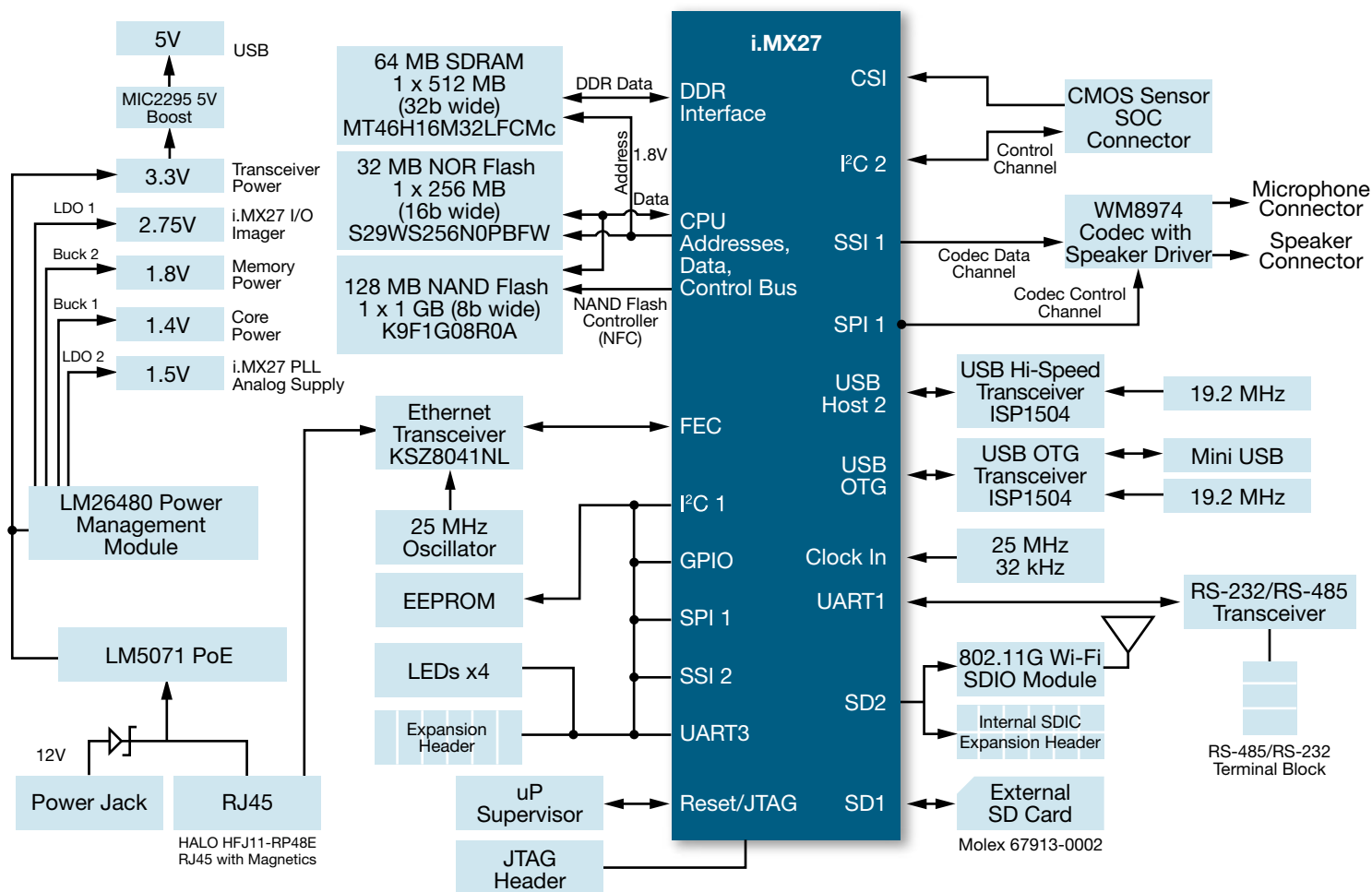
technology, an intelligent integrative approach that uses hardware accelerators to offload the CPU, and a crossbar switch to bring parallelism to the system. The result is a processor that performs like a much higher MHz device, but conserves power for long battery life.

Freescale Wireless Developer Network

The Freescale Wireless Developer Network is a global program designed to provide platforms, tools, technology and expertise

to get products to market fast. This program offers platforms that include hardware, software, tools, systems integration and other services as pre-integrated solutions to help shorten product development cycles. With early access to tools, our partners are equipped to deliver cost-effective mobile wireless solutions to a worldwide audience quickly and easily. For more information, please visit www.freescale.com/fwdn.

i.MX27 IP Camera Block Diagram



Freescale technology

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