High-performance, low power applications processor for industrial and consumer markets

i.MX 6SLL Applications Processors

The i.MX 6SLL applications processor is a high-performance, low power consumption processor family featuring NXP's advanced implementation of a single ARM® Cortex-A9 core, which operates at speeds up to 1GHz.

TARGET APPLICATIONS

- Human machine interface (HMI)
- Home energy management systems
- Portable medical
- Intelligent industrial control systems
- Smart appliances
- Smart energy concentrators
- Color and monochrome eReaders

The i.MX 6SLL processor represents NXP's latest achievement in i.MX 6 applications processors, which are part of a growing family of industrial and consumer products that offer high performance processing and are optimized for lowest power consumption.

The processor features NXP's advanced implementation of a single ARM® Cortex®-A9, which operates at speeds up to 1GHz. The processor provides a 32-bit DDR interface that supports LPDDR2 and LPDDR3. In addition, there are a number of other interfaces for connecting peripherals, such as WLAN, Bluetooth™, GPS, hard drive, displays, and camera sensors.

FEATURES

- Single Cortex-A9 core with the NEON SIMD engine and a floating point engine.
- Multilevel memory system based on the L1 instruction and data caches, L2 cache, and internal and external memory.
- Low power DDR controller supports 32-bit LPDDR2 and LPDDR3.
- Powerful 2D graphics processor called the pixel processor (PXP) that can support CSC, dithering, rotation, resize, overlay and new generation EPDC waveform processing.
- Supports connections to a variety of interfaces including high-speed USB on-the-go with PHY, high-speed USB host PHY, multiple expansion card ports (high-speed MMC/SDIO host and other), and a variety of other popular interfaces (such as UART, I^2C, and I^2S).
- E Ink display controller supports EPD panel up to 2332 x 1650 resolution and 5-bit grayscale.
- Advanced hardware-enabled security features that enable secure information encryption, secure boot, and secure software downloads.
- GPIO with interrupt capabilities supports configurable dual voltage rails at 1.8 V and 3.3 V supplies.

PACKAGE TECHNOLOGY

The i.MX 6SLL applications processor provides multiple compatible and scalable package options. The 14 x 14 BGA with 0.65 mm pitch brings out all features and GPIO. It is ideal for simple and cost-optimized PCB design. The 13 x 13 BGA with 0.5 mm pitch provides smaller form factors than ever before for space-constrained applications.

i.MX 6 SERIES ECOSYSTEM

Leveraging the broad ARM community, the i.MX 6 series builds technology alliances to enable better customer solutions and faster time-to-market.

Partner solutions include:

- Tool chains
- Software
- Codecs
- Middleware/applications
- Embedded board solutions
- Design services
- System integrators
- Training

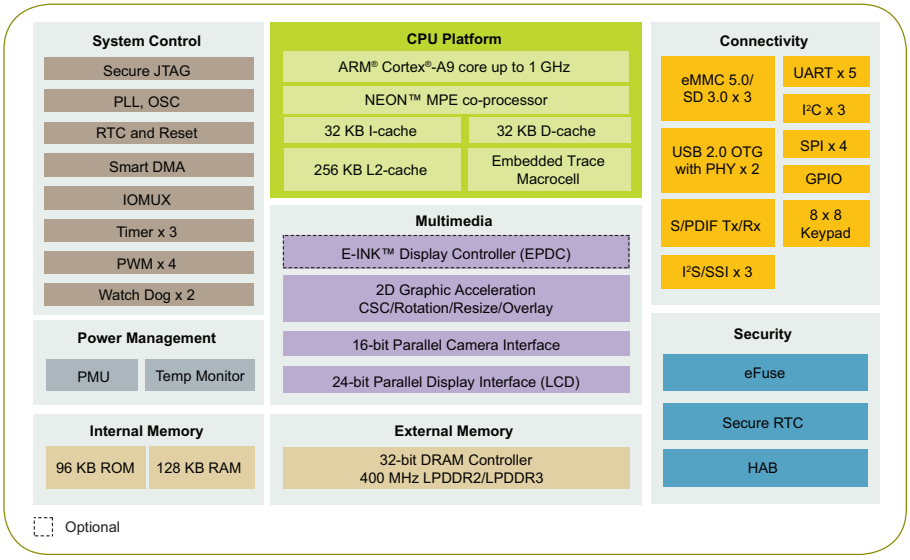
SOFTWARE AND TOOLS

The i.MX 6SLL processor is supported by the i.MX 6SLL (MCIMX6SLL-EVK) evaluation kit that includes a CPU module, base board and comes with an SD card pre-installed with Linux® operating system.

i.MX 6SLL EVK CONTENTS

- i.MX 6SLL applications processor-based system
- Power supply and USB cable
- Quick Start Guide
- A bootable SD card containing Linux OS

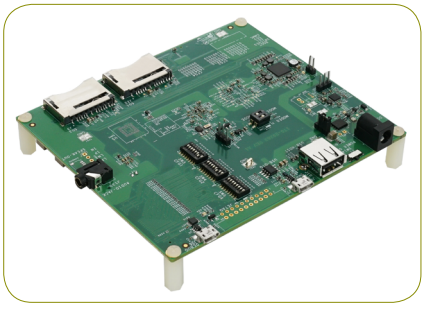
i.MX 6SLL APPLICATIONS PROCESSOR BLOCK DIAGRAM



i.MX 6SLL DEVICE OPTIONS

Feature	MCIMX6V2CVM08AB	MCIMX6V7DVN10AB
Core	ARM® Cortex-A9	
Speed	800 MHz	1 GHz
Cache	32 KB-I, 32KB-D, 256 KB L2	
OCRAM	128 KB	
DRAM	32-bit LPDDR2/LPDDR3	
USB with PHY	OTG, HS/FS x 2	
CSI	16-bit Parallel CSI	
LCD	24-bit Parallel LCD	
EPDC	0	1
SDIO/UART/IIC/SPI	3/5/4/4	
I²S/SSI	3	
S/PDIF	1	
Timer/PWM	3/4	
Temperature	-40°C to 105°C (Tj)	0°C to 95°C (Tj)

i.MX 6SLL EVK



MCIMX6SLL-EVK FEATURES

Processor	• i.MX 6SLL 1 GHz ARM® Cortex®-A9 core
PMIC	• PF0100
Memory	• LPDDR3 running at 400 MHz • Footprint for eMMC • 2 x SD card sockets
Display board interface	• Footprint of EPD connector • LCD daughter card
Audio	• Wolfson WM8962 audio codec • Audio HP jack • External speaker connection • Microphone
Connectivity	• USB host connectors • Micro USB OTG connector
Debug	• JTAG connector (footprint) • One console UART
LCD	• MCIMX28LCD (sold separately)

www.nxp.com/iMX6SLL

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