



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, I²C, and I²S).
- ▶ 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

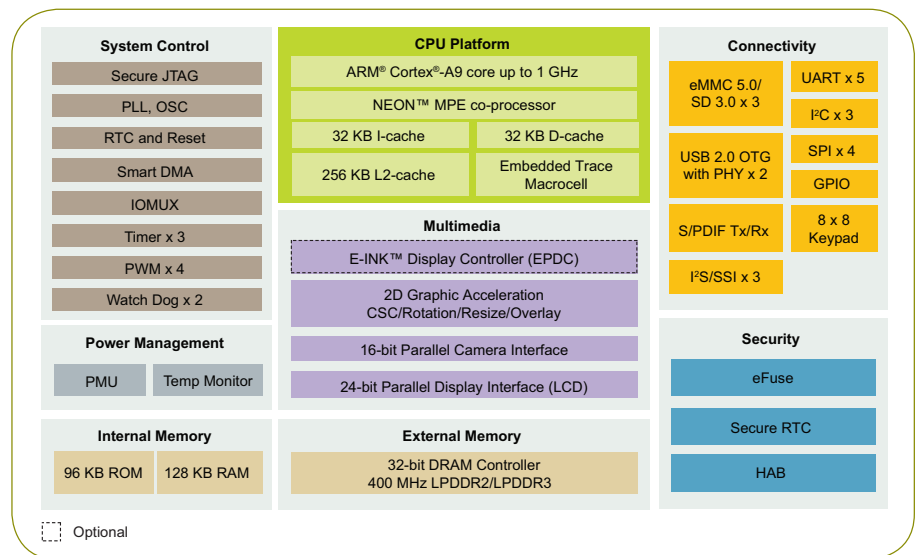
SOFTWARE AND TOOLS

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

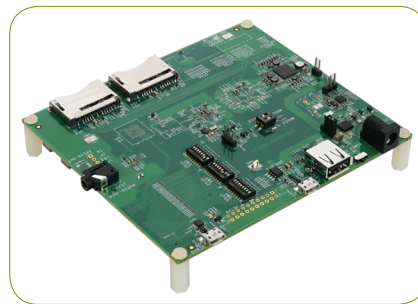
i.MX 6SLL APPLICATIONS PROCESSOR BLOCK DIAGRAM



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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