



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<sup>2</sup>C, and I<sup>2</sup>S).
- ▶ 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

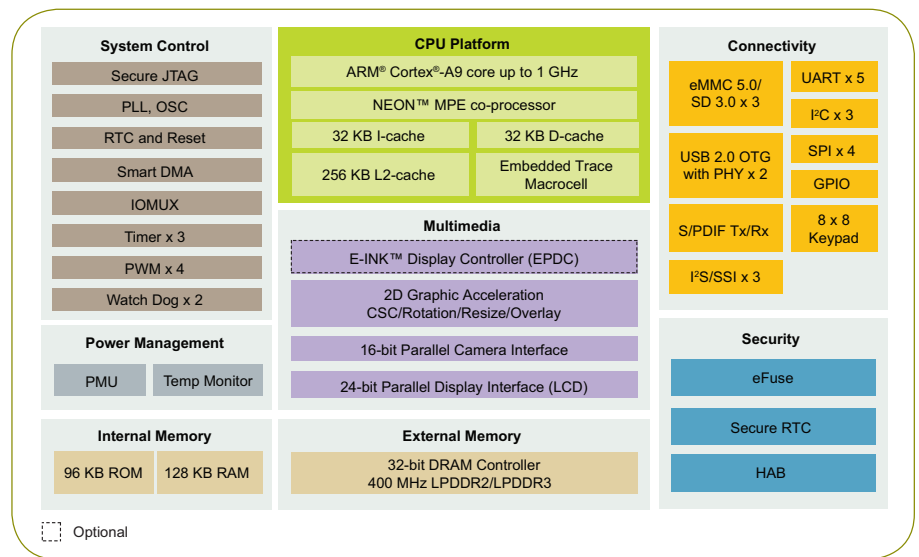
## SOFTWARE AND TOOLS

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

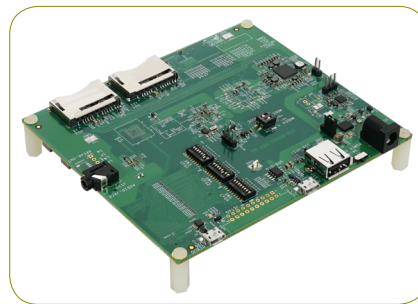
## i.MX 6SLL APPLICATIONS PROCESSOR BLOCK DIAGRAM



## 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](http://www.nxp.com/iMX6SLL)

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. ARM and Cortex are registered trademarks of ARM Limited (or its subsidiaries) in the EU and/or elsewhere. All rights reserved.  
© 2017 NXP B.V.

Date of Release: April 2017  
Document Number: IMX6SLLFAMA4FS REV 0