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 DEVICE OPTIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>MCIMX6V2CVM08AB</th>
<th>MCIMX6V7DVM10AB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>ARM® Cortex-A9</td>
<td>ARM® Cortex-A9</td>
</tr>
<tr>
<td>Speed</td>
<td>800 MHz</td>
<td>1 GHz</td>
</tr>
<tr>
<td>Cache</td>
<td>32 KB-I, 32KB-D, 256 KB L2</td>
<td></td>
</tr>
<tr>
<td>OCRAM</td>
<td>128 KB</td>
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</tr>
<tr>
<td>DRAM</td>
<td>32-bit LPDDR2/LPDDR3</td>
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</tr>
<tr>
<td>USB with PHY</td>
<td>OTG, HS/FS x 2</td>
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</tr>
<tr>
<td>CSI</td>
<td>16-bit Parallel CSI</td>
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<tr>
<td>LCD</td>
<td>24-bit Parallel LCD</td>
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<tr>
<td>EPDC</td>
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<td>1</td>
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<tr>
<td>SDIO/UART/IIC/SPI</td>
<td>3/5/4/4</td>
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</tr>
<tr>
<td>I²S/SSI</td>
<td>3</td>
<td></td>
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<tr>
<td>S/PDIF</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Timer/PWM</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to 105°C (Tj)</td>
<td>0°C to 95°C (Tj)</td>
</tr>
</tbody>
</table>

**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: MCIMX2BLC (sold separately)