The i.MX 6ULZ processor is a high-performance, ultra-efficient consumer processor featuring an advanced implementation of a single Arm® Cortex®-A7 core, which operates at 900 MHz.

TARGET APPLICATIONS
- Computing Engine
- Consumer Electronics
- Audio
- Voice control

The i.MX 6ULZ application processors includes full audio suite: ESAI, I²S X 3, S/PDIF, and an integrated power management module that reduces the complexity of an external power supply and simplifies power sequencing. Each processor in this family provides various memory interfaces, including 16-bit LPDDR2, DDR3, DDR3L, raw and managed NAND flash, NOR flash, eMMC, Quad SPI and a wide range of other interfaces for connecting peripherals such as WLAN, Bluetooth® and GPS. The i.MX 6ULZ is supported by discrete component power circuitry.

i.MX 6ULZ FEATURES
- Single Arm Cortex-A7 core can provide a more cost-effective and power-efficient solution
- Flexible boot options, including support for Quad SPI and raw NAND, and a memory controller that interfaces to both DDR3 and low-power mobile DDR2 memory
- Processor supports connections to a variety of interfaces: two high-speed USB on-the-go connections with PHY, multiple expansion card ports (high-speed eMMC/SDIO host and other), and a variety of other popular interfaces (such as UART, I²C, and I²S serial audio)
**PACKAGE TECHNOLOGY**

The i.MX 6ULZ processor provides the 14 x 14 289 MAPBGA with 0.8 mm pitch brings out all features and GPIO. It is ideal for simple and cost-optimized PCB design.

**SOFTWARE AND TOOLS**

The i.MX 6ULZ processor is supported by the i.MX 6ULL evaluation kit that includes a CPU module and a base board.

### i.MX 6ULZ DEVICE OPTIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>MCIMX6Z0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>Arm® Cortex-A7</td>
</tr>
<tr>
<td>Speed</td>
<td>900 MHz</td>
</tr>
<tr>
<td>Cache</td>
<td>32 KB-I, 32 KB-D</td>
</tr>
<tr>
<td>OCRAM</td>
<td>128 KB</td>
</tr>
<tr>
<td>DRAM</td>
<td>16-bit LP-DDR2, DDR3/DDR3L</td>
</tr>
<tr>
<td>eFuse for customer</td>
<td>256-bit</td>
</tr>
<tr>
<td>NAND (BCH40)</td>
<td>Yes</td>
</tr>
<tr>
<td>Parallel Nor/EBI</td>
<td>Yes</td>
</tr>
<tr>
<td>SDIO</td>
<td>2</td>
</tr>
<tr>
<td>UART</td>
<td>4</td>
</tr>
<tr>
<td>IIC</td>
<td>2</td>
</tr>
<tr>
<td>SPI</td>
<td>2</td>
</tr>
<tr>
<td>PS/SAI</td>
<td>3</td>
</tr>
<tr>
<td>E Sai</td>
<td>1</td>
</tr>
<tr>
<td>S/PDIF</td>
<td>1</td>
</tr>
<tr>
<td>Timer/PWM</td>
<td>Timer x 2, PWM x 4</td>
</tr>
<tr>
<td>Temperature</td>
<td>0°C to 95°C (Tj)</td>
</tr>
</tbody>
</table>

**i.MX 6ULZ APPLICATIONS PROCESSOR BLOCK DIAGRAM**

- **System Control**
  - Secure JTAG
  - PLL, OSC
  - RTC and Reset
  - Smart DMA
  - IOMUX
  - Timer x 2
  - PWM x 4
  - Watch Dog x 3

- **CPU Platform**
  - Arm® Cortex-A7 Core
  - 32 KB I-Cache
  - 32 KB D-Cache
  - Arm NEON™ PTM
  - 128 KB L2-Cache

- **External Memory**
  - Parallel NOR FLASH
  - Dual Channel Quad SPI x 1

- **Internal Memory**
  - 96 KB ROM
  - 128 KB RAM
  - 16-bit LP-DDR2/DDR3/DDR3L

- **Power Management**
  - LDO
  - Temp Monitor

- **Connectivity**
  - eMMC 4.5 / SD 3.0 x 2
  - UART x 4
  - SPI x 2
  - PC x 2
  - 8 x 8 Keypad
  - 8/16-bit LP-DAC
  - USB2 OTG w/ PHY x 2
  - GPIO
  - S/PDIF Tx/Rx
  - PSI/SAI x 3
  - ES AI x 1

- **Security**
  - AES-128
  - RNG
  - eFuse
  - Secure RTC

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*www.nxp.com/iMX6ULZ and www.imxcommunity.org*

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