The i.MX 6 series of applications processors combines scalable platforms with broad levels of integration and power-efficient processing capabilities particularly suited to multimedia applications. The i.MX 6Dual processor features:

- Enhanced capabilities of high-tier portable applications by fulfilling MIPS needs of operations systems and games
- Multilevel memory system
- Smart speed technology that enables the designer to deliver a feature-rich product, requiring levels of power far lower than industry expectations
- Dynamic voltage and frequency scaling
- Powerful graphics acceleration
- Interface flexibility
- Integrated power management throughout the device
- Advanced hardware-enabled security

The i.MX 6Dual is supported by a companion NXP® power management IC (PMIC), MMPF0100.

i.MX 6 applications processors are part of NXP’s EdgeVerse™ edge computing platform.
### i.MX 6Dual Multimedia Applications Processor Block Diagram

#### System Control
- Secure JTAG
- PLL, Osc.
- Clock and Reset
- Smart DMA
- IOMUX
- Timer x3
- PWM x4
- Watch Dog x2

#### Power Management
- Power Supplies
- Temperature Monitor

#### Internal Memory
- ROM
- RAM

#### Security
- RNG
- Security Ctrl
- TrustZone
- Secure RTC
- Ciphers
  - eFuses

#### CPU Platform
- Dual ARM® Cortex™-A9 Core
- 32 KB I-Cache per Core
- 32 KB D-Cache per Core
- NEON per Core
- PTM per Core

#### Multimedia
- Hardware Graphics Accelerators
  - 3D
  - 2D
- Vector Graphics
- Video Codecs
  - 1080p30 Enc/Dec
- Audio
  - ASRC

#### Imaging Processing Unit
- Resizing and Blending
- Image Enhancement
- Inversion/Rotation

#### Display and Camera Interface
- HDMI and PHY
- 24-bit RGB, LVDS (x2)
- MIPI DSI
- 20-bit CSI
- MIPI CSI2

#### Connectivity
- MMC 4.4/SD x3
- USB2 HSIC
- MII HSI
- UART x5, 5 Mbps
- S/PDIF Tx/Rx
- SPI x3
- PCIe 2.0 (1-Lane)
- FlexCAN x2
- MLB150 + DTP
- ESAi, I²S/SSl x3
- 3.3V GPIO
- Keypad
- S-ATA and PHY 3 Gbps
- NAND Ctrl.
- 1 Gb Ethernet + IEEE® 1588
- LP-DDR2, DDR3
- LV-DDR3

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View additional information for i.MX 6Dual Processors - Dual-Core, 3D Graphics, HD Video, Multimedia, Arm® Cortex®-A9 Core.

Note: The information on this document is subject to change without notice.