

# Ultra Low Cost Linux® Applications Processors

# i.MX 6ULZ Applications Processors

The i.MX 6ULZ processor is a high-performance, ultra-efficient consumer processor featuring an advanced implementation of a single Arm<sup>®</sup> Cortex<sup>®</sup>-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, I<sup>2</sup>S 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  $14 \times 14$  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

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

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

System Control	CPU P	CPU Platform		Connectivity	
Secure JTAG	5.5			NAND Ctrl	AES-128
PLL, OSC	Arm® Corte	Arm® Cortex®-A7 Core		(BCH40)	AE3-120
RTC and Reset	_				5110
Smart DMA	32 KB I-Cache	32 KB D-Cache			RNG
IOMUX	Arm NEON™	PTM	UART x 4	SPI x 2	eFuse
Timer x 2	AIIII NEON ····	PTW			
PWM x 4	128 KB L	128 KB L2-Cache		8 x 8 Keypad	Secure RTC
Watch Dog x 3					Secure RTC
Power Management	External	External Memory		S/PDIF Tx/Rx	
LDO	Parallel N	Parallel NOR FLASH			
Temp Monitor				USB2 OTG	
	Dual-Channel	Dual-Channel Quad SPI x 1		w/ PHY x 2	
Internal Memory	_ dai ondinio				
96 KB ROM			ASRC		
128 KB RAM	16-bit LP-DDR	16-bit LP-DDR2/DDR3/DDR3L		ESAI x 1	

## $www.nxp.com/iMX6ULZ\ and\ www.imxcommunity.org$

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