iMX6 UltraLite COM Board Feature Highlights

- NXP ARM Cortex-A7 i.MX 6UltraLite 528 MHz
- 0.5 GByte DDR3L 800 MT/s, 16-bit databus
- 4 GByte eMMC on-board Flash
- 24-bit parallel RGB graphical output
- 2D graphical acceleration
- Dual 10/100 Mbps Ethernet with on-board PHY
- USB, CAN and many more interfaces
- Low-power consumption
- Linux BSP
- 82 x 50 mm small form factor
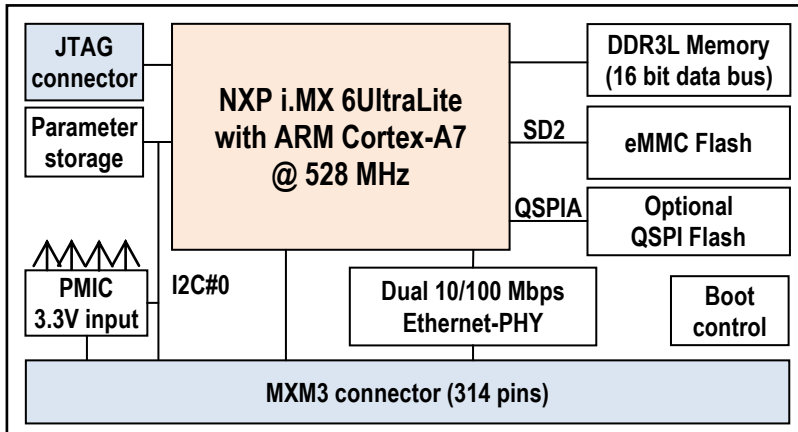- Long term availability

Introduction

The **iMX6 UltraLite COM Board** provides a quick and easy solution for implementing a high-performance ARM Cortex-A7 based design. The system is ideal for running an OS like **Linux**.

The design has a **low-power implementation** with DDR3L memory and a PMIC supporting DVFS techniques, making the board ideal for portable applications. Other typical applications are graphical interface solutions (GUI/HMI), point-of-sale, communication solutions like telemetric and IoT gateways, access control and connected real-time systems.

Specification

Processor	Cores	NXP ARM Cortex-A7 i.MX 6UltraLite
	Frequency	528 MHz on Cortex-A7
Memory	SDRAM	0.5 GByte DDR3L 800 MT/s, 16-bit databus
	NAND FLASH	4 GByte eMMC NAND Flash for OS and bootloader
Graphics output	Parallel RGB	24-bit, up to WXGA (1366 x 768 px) at 60 Hz
	Graphics Engines	Pixel Processing Pipeline (PXP) supporting 2D image processing
Graphics input	Digital	CMOS sensor interface (camera), parallel interface
Ethernet		Dual 10/100 Mbps Ethernet interface based on Micrel KSZ8081 Ethernet PHY
I/O (all functions are not available at the same time)	USB	1x USB2.0 OTG, 1x USB2.0 Host
	UART, SPI, I2C, Audio	8x UART, 4x SPI, 4x I2C, 3x I2S/SSI, S/PDIF TX/RX
	CAN	2x CAN bus 2.0B
	GPIO	Up to 99 pins and 8 pins for keypad
	Memory card	1x SD/MMC 4.5
	ADC	10ch 12-bit resolution
Other	RTC	i.MX 6UltraLite on-chip RTC
	Watchdog	On-board watchdog functionality
	Power Management (PMIC)	PMIC (MMPF3000) supporting DVFS techniques for low power modes
Power	Supply voltage	+3.3V
	Power consumption	TBD
Environment	Operating Temperature	0 - 70° / -40 - 85°
	Operating Humidity	5 - 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	82 x 50 mm, same as SMARC form factor but different pinning for better carrier board routing
Connectors		314 pos MXM3 edge connector, 0.5 mm pitch
		10 pos 0.5 mm pitch FPC for JTAG

Block Diagram

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┌─────────────┐   ┌──────────────────┐        ┌─────────────────────┐
│    JTAG     │   │                  │        │   DDR3L Memory      │
│  connector  │   │  NXP i.MX 6UltraLite      │   (16 bit data bus) │
├─────────────┤   │  with ARM Cortex-A7│ SD2  ├─────────────────────┤
│  Parameter  │   │     @ 528 MHz    │        │     eMMC Flash      │
│   storage   │   │                  │ QSPIA ├─────────────────────┤
├─────────────┤   │                  │        │     Optional        │
│             │   └──────────────────┘        │    QSPI Flash       │
│  PMIC    I2C#0│  ┌──────────────────┐       ├─────────────────────┤
│ 3.3V input  │   │ Dual 10/100 Mbps │        │       Boot          │
│             │   │   Ethernet-PHY   │        │     control         │
└─────────────┘   └──────────────────┘        └─────────────────────┘
┌────────────────────────────────────────────────────────────────────┐
│                  MXM3 connector (314 pins)                           │
└────────────────────────────────────────────────────────────────────┘
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Ordering Information

Part No.[1]	CPU	SDRAM	eMMC	QSPI	Ethernet	Pinning	Supply Voltage	Operating Temperature
EAC00252	MCIMX6G2DVM05AA	0.5 GByte DDR3L	4 GByte	Not mounted	Dual 10/100 Mbps	EACOM board spec	3.3V	0 - 70° C
EAC00275	MCIMX6G2CVM05AA	0.5 GByte DDR3L	4 GByte	Not mounted	Dual 10/100 Mbps	EACOM board spec	3.3V	-40 -85° C

[1] Standard configurations listed. Others on request.

Support Highlights

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- Professional and responsive support
- Pre-designed standard Carrier boards for integration
- Custom Carrier board design
- Customization
  - Different pinning, supply voltage, memory sizes, etc
  - Single Board Computer (SBC) solutions
- Display solutions
- Mechanical solutions
- Schematic review of customer carrier board designs
- Driver and application development

Development Kit

The iMX6 UltraLite COM Board is supported by the *iMX6 UltraLite Developer's Kit V2* that provides a quick path to get started with development and integration work.
The kit provides reference implementations of key interfaces.
Ordering part No. **EAK00343**
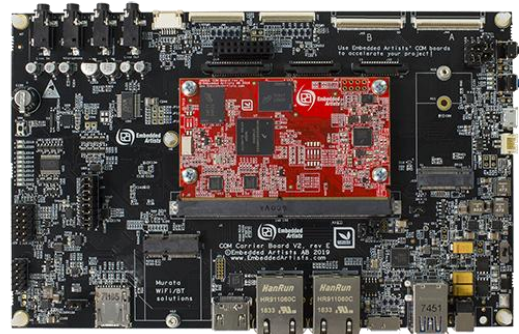
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