

iMX7ULP uCOM Board Feature Highlights

- NXP i.MX 7ULP, ARM Cortex-A7 and Cortex-M4F, up to 720MHz/200MHz
- 1 GByte LPDDR3 720 MT/s, 32-bit databus
- 8 GByte eMMC / 4 MByte QSPI on-board Flashes
- MIPI-DSI graphical output
- Optional Murata 1LV Wi-Fi/BT module supporting 802.11 a/b/g/n/ac-friendly™ and BT/BLE 5.0
- Rohm PMIC BD70528MWV with on-chip battery charger
- Low-power consumption - very power efficient
- Linux BSP
- Long term availability

Introduction

The **iMX7ULP uCOM Board** provides a quick and easy solution for implementing a high-performance ARM Cortex-A7 / Cortex-M4F based design. The Cortex-A7 / Cortex-M4F heterogeneous architecture enables the system to run a feature rich OS like **Linux on the Cortex-A7** and a **Real-Time OS (RTOS) on the Cortex-M4F**.

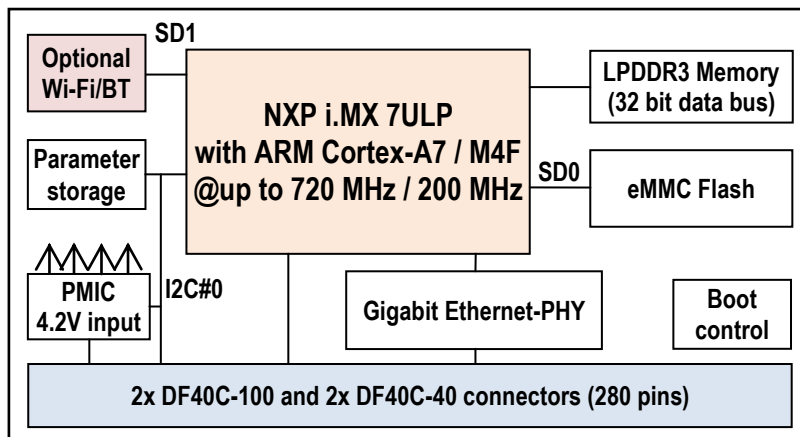
The i.MX 7ULP supports 2D/3D graphical acceleration in HW and has MIPI-DSI display output and parallel camera input. The design is an **ultra low-power implementation** with LPDDR3 memories and a PMIC supporting DVFS techniques and integrated 1S battery charger, making the board ideal for portable applications. Other typical applications are graphical interface solutions, communication solutions and connected real-time systems.

Specification

Processor	Cores	NXP i.MX 7ULP ARM Cortex-A7 and Cortex-M4F
	Frequency	720/650 MHz on Cortex-A7 (commercial/industrial temperature range), 200 MHz on Cortex-M4F
Memory	SDRAM	1 GByte LPDDR3 720 MT/s, 32-bit databus
	NAND FLASH	8 GByte eMMC NAND Flash for OS and bootloader
	QSPI FLASH	4 MByte
Graphics output	MIPI-DSI	2 lanes with resolution up to 1024 x 768 pxels (max 200 MHz pixel clock)
	2D/3D Graphics Engine	GCNanoUltra/GC320, OpenVG 1.1, OpenGL ES 2.0
Video input		Parallel video input unit
Wi-Fi/BT	Optional	Murata LBEE59B1LV (1LV) Wi-Fi/BT module, 802.11 a/b/g/n/ac-friendly™ and BT/BLE 5.0, SDIO I/F
I/O (all functions are not available at the same time)	USB	1x USB2.0 OTG, 1x USB HSIC
	UART, SPI, I2C, Audio	8x UART, 4x SPI, 8x I2C, 4x I2S
	GPIO	Unused digital I/Os can be used as GPIOs
	Memory card	1x SD3.0/MMC5.0 (none if Wi-Fi/BT module mounted)
	Analog IO	2x 12-bit ADC with 8 channels multiplexed each, 2x 12-bit DAC, 2x analog comparators
Other	Boot parameters	E2PROM storing board information including Ethernet MAC address
	Watchdog	On-board watchdog functionality
	RTC	On-board RTC via PMIC (BD70528MWV)
	Power Management (PMIC)	PMIC (BD70528MWV) supporting DVFS for low power modes and integrated 1S battery charger
Power	Supply voltage	+4.2V (see datasheet for voltage input range)
	Power consumption	TBD
Environment	Operating Temperature	0 - 70° and -40 - 85° Celsius
	Operating Humidity	5 - 90% relative humidity, non-condensing
Mechanical	Dimensions (W x H x D)	42 x 45 x 5 mm, EAuCOM form factor

Connectors	2x DF40C-100 and 2x DF40C-40 connectors, 0.4 mm pitch. 280 pins in total
	Optional u.fl. antenna connector if Wi-Fi/BT module mounted

Block Diagram



Ordering Information

Part No. ^[1]	CPU	Core-A7 Top Frequency	SDRAM	eMMC	QSPI	Wi-Fi/BT Module	Operating Temperature
EAC00345	MCIMX7U5DVP07	720 MHz	1 GByte LPDDR3	8 GByte	4 MByte	No	0 - 70° C
EAC00352	MCIMX7U5CVP06	650 MHz	1 GByte LPDDR3	8 GByte	4 MByte	No	-40 - 85° C
EAC00351	MCIMX7U5DVP07	720 MHz	1 GByte LPDDR3	8 GByte	4 MByte	Yes	0 - 70° C

^[1] Standard configuration listed. Other configurations on request.

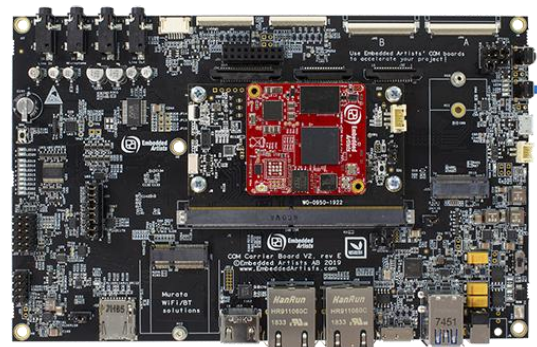
Support Highlights

Embedded Artists is a reliable and competent partner - we help you become successful!

- 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 *iMX7ULP COM Board* is supported by the ***iMX7ULP uCOM Developer's Kit*** that provides a quick path to get started with development and integration work. The kit provides reference implementations of key interfaces. Ordering part No. **EAK00346**



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