

iMX93 uCOM Board Feature Highlights

- NXP i.MX 9352, Dual-core Arm Cortex-A55 and Cortex-M33, up to 1.7GHz/250MHz
- Machine learning (ML) acceleration via Arm Ethos™ - U65 microNPU
- 1 GByte LPDDR4X 3700 MT/s, 16-bit databus
- 8 GByte eMMC on-board Flash
- MIPI-DSI, LVDS, Parallel-RBG graphical outputs
- MIPI-CSI camera input
- USB2.0, Gigabit Ethernet, CAN-FD and more
- Linux BSP
- 42 x 45 mm small form factor
- Long term availability

Introduction

The **iMX93 uCOM Board** provides a quick and easy solution for implementing a high-performance Arm dual-core Cortex-A55 / Cortex-M33 based design. The Cortex-A55 / Cortex-M33 heterogeneous architecture enables the system to run an OS like **Linux on the dual-core Cortex-A55** and a **Real-Time OS (RTOS) on the Cortex-M33**.

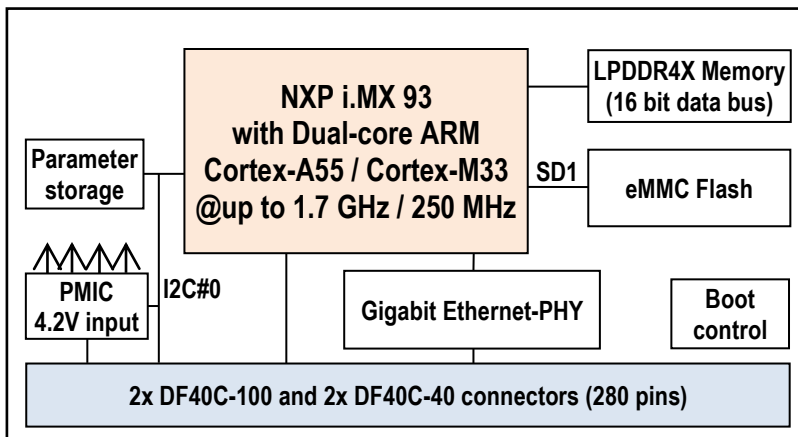
The i.MX 93 supports multiple display output formats and MIPI-CSI camera input. The design is a **low-power implementation** with an LPDDR4X memory and PMIC supporting DVFS techniques. Typical applications are industrial automation, building control and energy, smart city, communication gateways, general graphical interface solutions, and connected real-time systems.

Specification

Processor	Cores	NXP i.MX 9352 Dual-core Arm Cortex-A55 and Cortex-M33
	Frequency	1.5/1.7 GHz on Cortex-A55 (industrial/commercial temperature range) 250 MHz on Cortex-M33
Memory	SDRAM	1 GByte LPDDR4X 3700 MT/s, 16-bit databus
	NAND FLASH	8 GByte eMMC NAND Flash for OS and bootloader
Graphics output	MIPI-DSI	4 lanes with resolution up to 1920 x 1080px at 60 Hz (1080p60)
	LVDS	4 lanes with resolution up to 1280 x 720px at 60 Hz (720p60)
	Parallel RGB	18-bit parallel RGB
	2D Graphics Engine	PXP
Graphics input	CMOS sensor interface (camera)	MIPI-CSI2, 4 lanes, supporting resolutions up to 1080p60 8-bit parallel YUV/RGB
Ethernet		1x On-board Gigabit Ethernet interface based on Realtek RTL8211FDI-CG Ethernet PHY Second Gigabit Ethernet interface can be implemented on carrier board.
Wi-Fi/BT		Multiple solutions, supported via M.2 interface on carrier board.
I/O (all functions are not available at the same time)	USB	2x USB2.0 Type C
	CAN	2x CAN-FD
	UART, SPI, I2C, Audio	8x UART, 8x SPI, 8x I2C, 2x I3C, 7x TDM, 8x PDM inputs, SPDIF, MQS
	GPIO	Unused digital I/Os can be used as GPIOs
	Memory card	2x SD 3.0/SDIO3.0
	ADC	4-ch, 12-bit ADC
Other	Boot parameters	E2PROM storing board information including Ethernet MAC addresses
	Watchdog	On-board watchdog functionality
	RTC	On-board RTC via PMIC (PCA9451AHNY)
	Power Management (PMIC)	PMIC (PCA9451AHNY) supporting DVFS techniques for low power modes

Power	Supply voltage	+4-5V
	Power consumption	TBD
Environment	Operating Temperature	0 - 70° and -25 - 85° Celsius (-30° and -40° Celsius on request)
	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

Block Diagram



Ordering Information

Part No. ^[1]	CPU	Corex-A55 Top Frequency	NPU ML accelerator	SDRAM	eMMC	Operating Temperature
EAC00470	MIMX9352DVUXMAA	1.7GHz	Yes	1 GByte LPDDR4X	8 GByte	0 - 70° C
EAC00462	MIMX9352CVUXKAA	1.5GHz	Yes	1 GByte LPDDR4X	8 GByte	-25 - 85° C

[1] Standard configuration listed. single-core versions and other memory configurations on request.

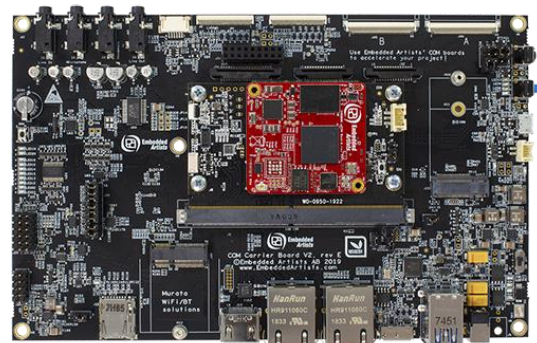
Support Highlights

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 iMX93 COM Board is supported by the **iMX93 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. **EAK00471**



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