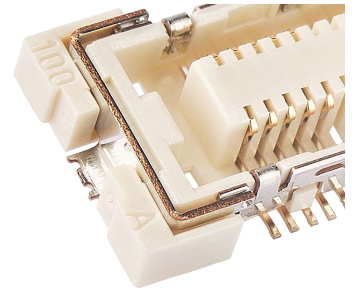


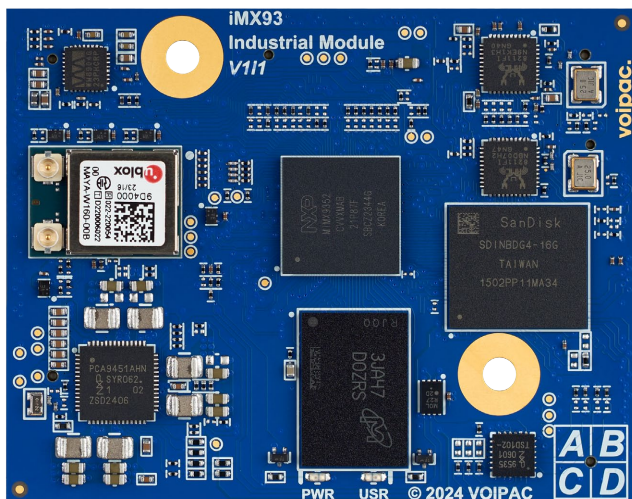
iMX93

Industrial Module

With a size of less than 2/3 of a credit card surface area, the brand-new iMX93 Industrial Module is targeting skilled development teams building **energy-efficient and cost-effective solutions** with excellent performance. This computation power is delivered without efficiency sacrifice providing an **exceptional thermal performance**, ideal for battery-powered applications where heatsink usage is not possible. The module has **3 pieces of robust, shielded and industrial-grade 100-pin connectors with a wide operating temperature range** providing remarkable peripheral availability. Its 2 convenient mounting holes with a wide diameter and clearance deliver an additional option for improving vibration immunity.



The baseboard mating connector is shielded all the way around.

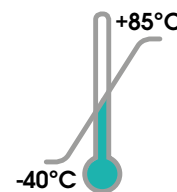


HARDWARE SPECIFICATION

CPU	NXP i.MX 93 ARM® Cortex®-A55, Dual/Solo, 1.7GHz Cortex-M33 real-time co-processor, 250 MHz Arm Ethos™-U65 Machine Learning co-processor (NPU), 1GHz (0.5 TOP/s)
eMMC Flash	up to 64GB
LPDDR4(X)-3733 SDRAM	up to 2GB, 1.866GHz
WiFi	on module, 802.11a/b/g/n/ac/ax 2.4 and 5GHz
Bluetooth	on module, Bluetooth 5.3 supporting LE Audio
Analog stereo audio	soldered on module
Ethernet	2x 10/100/1000 Mbps
I2C EEPROM	1Mbit
LED	User, Power
I/O voltage	3.3V
Input power	5V (DC)
Temperature range	Commercial 0°C to +70°C Extended -20°C to +70°C Industrial -40°C to +85°C
Mounting holes	2x with 3.1mm diameter, 7.8mm clearance
Dimensions	60 x 47 x 6.20mm
100-pin connector	3x with wide mating length, shielded
Compliance	Lead free, REACH / RoHS compliant

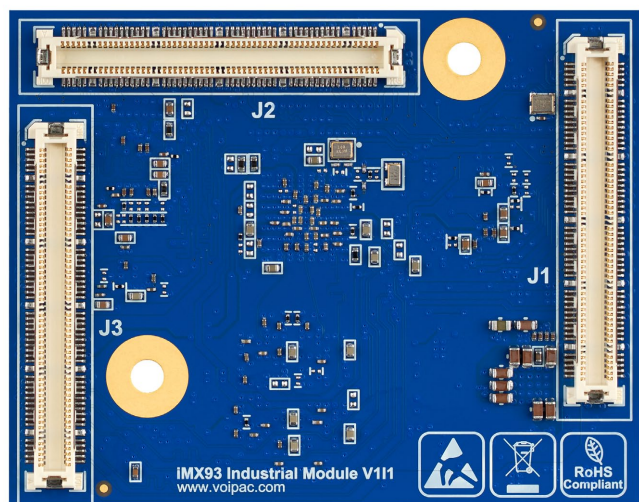
This highly integrated module is a member of growing family of Voipac cross-compatible industrial COMs (Computers On Module) / SOMs (Systems On Module) that are **specially designed for use in the same peripheral-rich development environment**, enabling the newly designed system to be tuned for price and performance by a simple COM / SOM replacement.

With 300 pins available on low-density and wide mating length **connectors delivering outstanding high-speed signal integrity and providing robust power supply via multiple pins**, the module is capable of revealing the full performance potential of the NXP dual core 1.7GHz i.MX 93 ARM® Cortex®-A55 processor with 250MHz Cortex-M33 real-time co-processor. Besides these powerful computational capabilities, the CPU **delivers the industry's first dedicated neural processing unit (NPU) ARM Ethos™-U65, bringing machine learning, edge computing and human-machine interface (HMI) solutions** into the embedded segment, allowing complete system-level and energy-efficient artificial intelligence applications to be developed with ease.



voipac.

This scalable COM provides all of today's necessary peripherals of a standard embedded system like the industry-focused i.MX 93 CPU, with up to 2GB LP-DDR4(X) RAM, up to 64GB eMMC NAND Flash, **on-chip LVDS**, and USB. Moreover, this embedded-tailored performance is combined with numerous industrial must-haves such as **dual native CAN, dual Gigabit Ethernet**, analog-digital converters (ADCs) and plenty of robust UARTs, SPIs and I2Cs for reliable communication. **It also includes the essential high-speed and design-demanding interfaces soldered right on the COM, such as dual 1Gb Ethernet PHY, Analog Stereo Audio codec, I2C Serial EEPROM, and dual-band WiFi 6 and Bluetooth 5.3 module**, to significantly reduce new product time-to-market.



47 mm

60 mm

KEY FEATURES

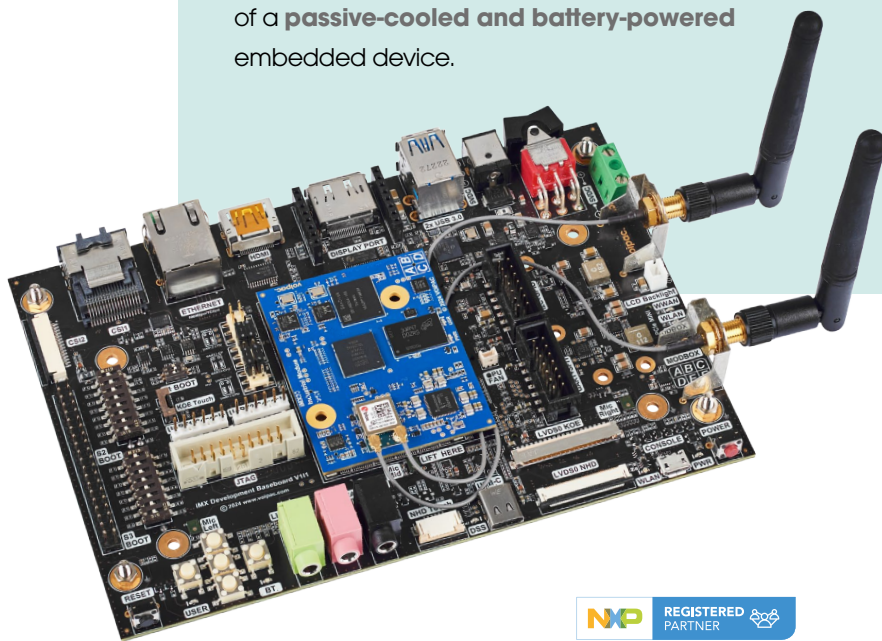
- 4-lane 1080p60 MIPI DSI, 4-lane 720p60 LVDS
- 24-bit parallel RGB display
- 2-lane 1080p60 MIPI CSI video input
- 8-bit parallel RGB/YUV video input
- Media Processing Engine (MPE) with Neon™ technology
- 2x USB 2.0
- 2x 1000Mbit RGMII interface
- WiFi 6 on module (802.11a/b/g/n/ac/ax 2.4 and 5GHz)
- Bluetooth on module (Bluetooth 5.3 supporting LE Audio)
- eMMC 5.1 Flash (8-bit), SD (4-bit)
- 2x CAN-FD
- 4-channel 12-bit analog-to-digital converter (ADC)
- 1x Octal SPI, 8x SPI, 8x UART, 7x I2S, 2x I3C, 8x I2C
- PDM mic, MQS output, SPDIF
- SAI, GPIO and PWM
- System signals: Reset IN/OUT, ON/OFF, 4x Boot mode, Power OK, User button, JTAG

SUPPORTED SOFTWARE

- Yocto 4.2 Mickledore / Linux version 6.1.22 (preinstalled)
- Ubuntu (porting in progress)
- Android (porting in progress)

The Computer On Module is suitable for conformal coating, and is **available in 3 standard webshop configurations that can be further customized to better match customers' specific performance and operating temperature range requirements**, helping to build competitive and cost-effective products.

With Yocto Linux OS including driver support for all the COM's peripherals preinstalled on its eMMC Flash, **PDF schematic of the iMX93 Industrial Module**, complete Altium Designer project documentation of the peripheral rich **iMX Development Baseboard including Schematic, BOM and PCB files**, and well documented EMC, vibration, and climate chamber measurements, this development kit is a perfect solution for designers or system integrators looking for an acceleration of time-to-market of a **passive-cooled and battery-powered** embedded device.



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VOIPAC TECHNOLOGIES s.r.o.
Gen. M. R. Stefanika 6670/19
911 01 Trenčín, SLOVAKIA
sales@voipac.com
www.voipac.com

Your Local Distributor:

