# i.MX 8M PLUS QUAD AND QUADLITE

High-Performance | Low Power Consumption | Small Footprint

Diamond Technologies Computing Modules offer a robust, yet cost-effective solution for embedded devices that require high-performance processing, low power consumption, and fast time-to-market. Based on the NXP i.MX 8M Plus processor, these Computing Modules deliver powerful quad-core performance to support a wide range of embedded applications. Available in two configurations, 8M Plus QuadLite for streamlined processing and 8M Plus Quad with a neural processing unit (NPU) for AI acceleration and wireless connectivity.

Engineered with proven and tested technology, our Computing Modules are designed to provide the essential processing power and features you need with the option to customize to your to you specific needs. Whether your device requires robust processing or advanced AI acceleration with wireless connectivity, Diamond Technologies has a Computing Modules that fits your project.

KEY FEATURES AT A GLANCE

FEATURE	8M PLUS QUADLITE	8M PLUS QUAD
Processor	Quad-core Arm® Cortex®-A53 up to 1.8 GHz	Quad-core Arm® Cortex®-A53 up to 1.8 GHz
Neural Processing Unit	Not Available	Up to 2.3 TOPS AI/ML processing power
Embedded Memory	2GB LPDDR4	2GB LPDDR4
On-Board Connectivity	Gigabit Ethernet	Gigabit Ethernet Wi-Fi 5 (802.11ac) + Bluetooth 5.0

Target Applications	Devices requiring reliable general-purpose processing:
	  - Industrial Control Panels
	  - Embedded Gateways
	  - Digital Displays & Kiosks
		AI/ML devices requiring & wireless connectivity:
		  - Industrial Vision Systems
		  - Voice Recognition Devices
		  - Edge AI Applications

38MM

28MM

Top

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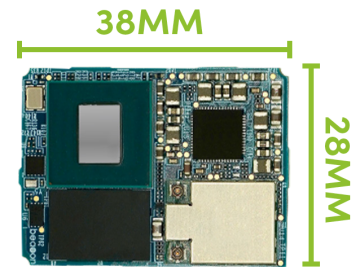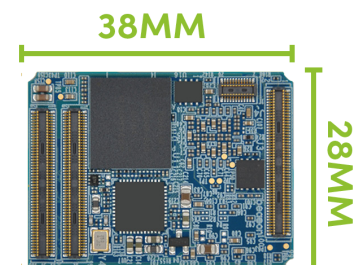
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KEY BENEFITS OF DIAMOND TECHNOLOGY COMPUTING MODULES:

- **Compact Design**: Small form factors ideal for space-constrained applications.

- **Proven Technology:** Leveraging NXP's trusted i.MX 8M Plus processor series for dependable performance.

- **U.S.-Based Design and Support:** Designed, manufactured, and supported in the United States, ensuring high quality and prompt assistance.

- **Low Power Consumption:** Efficient operation for power-sensitive applications.

DEVELOPMENT KITS AVAILABLE:

To facilitate seamless integration and development, Diamond Technologies offers a full-featured, high-performance solution for evaluating and developing with the Diamond Technologies i.MX 8M Plus Quad Computing Modules. The development kit includes everything you need to jumpstart your product development: i.MX 8M Plus Quad Computing Module, audio and network jacks, cables, and all necessary software and BSP's.

Development Kit

i.MX 8M PLUS QUAD COMPUTING MODULE BLOCK DIAGRAM:
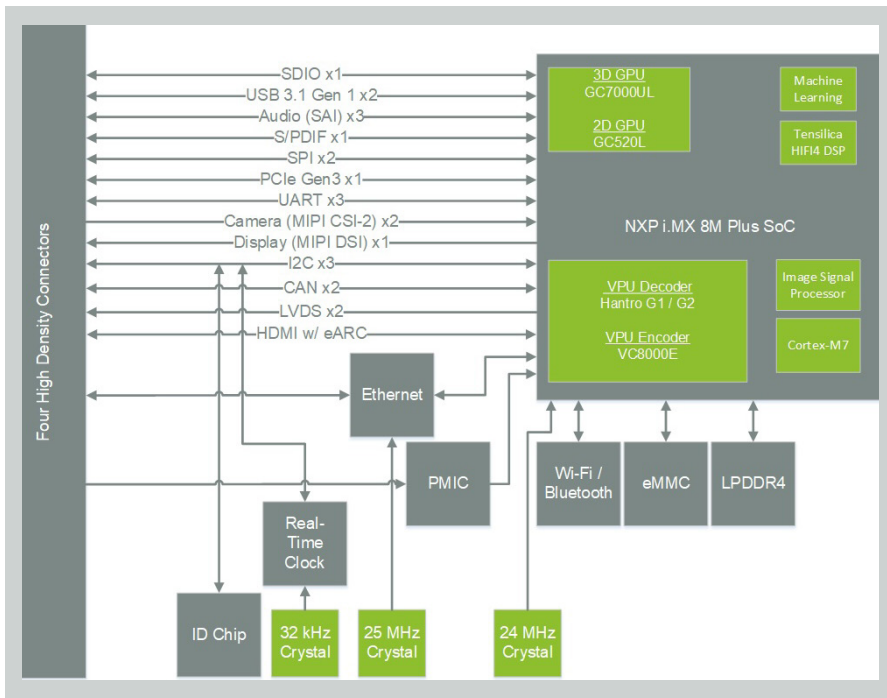
I.MX 8M PLUS QUAD COMPUTING ORDERING INFORMATION

SOM	MODEL NUMBER	DRAM	eMMC	WI-FI / BT	ENET	TEMP (°C)
i.MX 8M Plus QuadLite	SOMIMX8MPQL-10-2AD0DMCR	2GB	16GB	N	Y	0 to +70[1]
i.MX 8M Plus Quad	SOMIMX8MPQ-10-2AD0SMCR	2GB	16GB	Y	Y	0 to +70[1]

Contact us for any configuration option not listed above.

View more information for the:
i.MX 8M Plus Quad Computing Modules at: *www.diamondt.com/8MPlusQuad*
i.MX 8M Plus QuadLite Computing Modules at: *www.diamondt.com/8MPlusQuadLite*

NOTES:
1. *Junction temperature of the processor must be kept under +95C and the LPDDR4 RAM and eMMC case temperatures must be kept below +85°C.*

I.MX 8M PLUS QUAD DEVELOPMENT KIT ORDERING INFORMATION

DEVELOPMENT KIT	SOM CONFIGURATION
8M Plus Quad Dev Kit	TBD

PRODUCT FEATURES

Processor Options
- NXP i.MX 8M Plus processor with up to four Arm® Cortex®-A53 cores running up to 1.8 GHz
- Arm® Cortex®-M7 core running up to 800 MHz
- GC7000UL (3D) up to 1GHz w/ OpenGL® ES1.1, 2.0, 3.1, OpenCL 3.0, OpenVG™ 1.1, Vulkan®
- GC520L (2D)
- **8M Plus w/NPU**
  - Video Processing Unit (VPU)
  - 1080p60 Video Decode H.264, H.265, VP8, VP9, AVC
  - 1080p60 Video Encode H.264, H.265
  - Neural Processing Unit (NPU)

Embedded Memory
- Up to 8GB of 32-bit wide LPDDR4 memory
- eMMC 5.1, configurable

Network Connectivity
- One Ethernet 10/100/1000 MAC + PHY
- One Ethernet 10/100/1000 MAC
- **8M Plus w/NPU**
  - Wi-Fi (802.11a/b/g/n/ac) 2X2 MU-MIMO
  - Bluetooth 5.3
  - BLE Support

USB
- 2x USB 3.1 Gen 1 DRD

Display
- MIPI DSI (Up to 4 lanes) 24-bit RGB at 200Mpixels
- HDMI 2.0a w/eARC up to 4k @ 30fps
- 2 x LVDS up to 1080p @ 60fps

Camera
- Up to two MIPI CSI-2 (Up to 4 lanes w/PHY) up to 12Mpixels @ 30fps
- Image Sensor Processor 375Mpixels/s with HDR

Audio
- Up to six synchronous audio interfaces (SAI) with 49.152 MHz BCLK
- S/PDIF input and output
- Up to 8 Channel Pulse Density Modulation (PDM) input
- Asynchronous Sample Rate Converter (ASRC)

PCIe
- 1x PCIe Gen 3, 1- lane

Serial I/O
- Up to four UART interfaces up to 5Mbps
- Up to six I2C interfaces
- Up to three SPI interfaces operating as either master or slave
- Up to two FlexCAN interfaces

GPIO
- Up to 83 multiplexed GPIOs supporting various peripherals such as PWMs, SDIO, UART, SPI, and I2C

RTC
- On-board ultra-low power real-time clock (RTC)

Debug
- JTAG support

Mechanical
- Dimensions: 28mm x 38mm
- Weight: 7.0 g

Compliance
- RoHS Compliant
- Reach Compliant