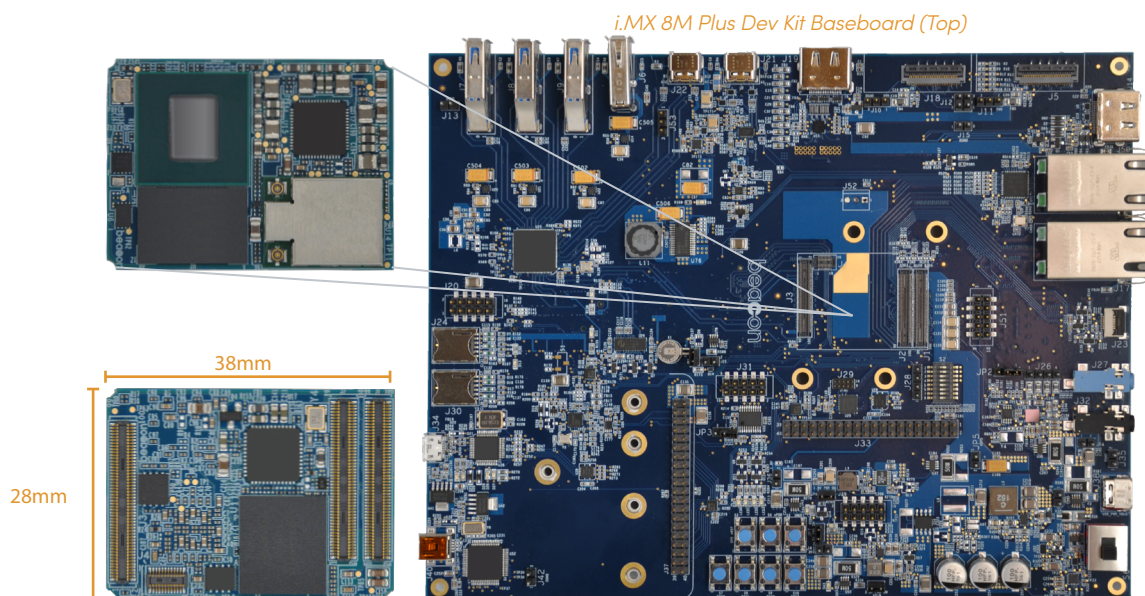


i.MX 8M PLUS SOM

Boasts speeds of up to 1.8 GHz and contains both on-board Wi-Fi 5 and Bluetooth 5. The NXP i.MX 8M Plus has a dedicated neural processing unit (NPU) rated at 2.3 TOPS for any AI/ML edge applications from modeling sensor data to object detection.

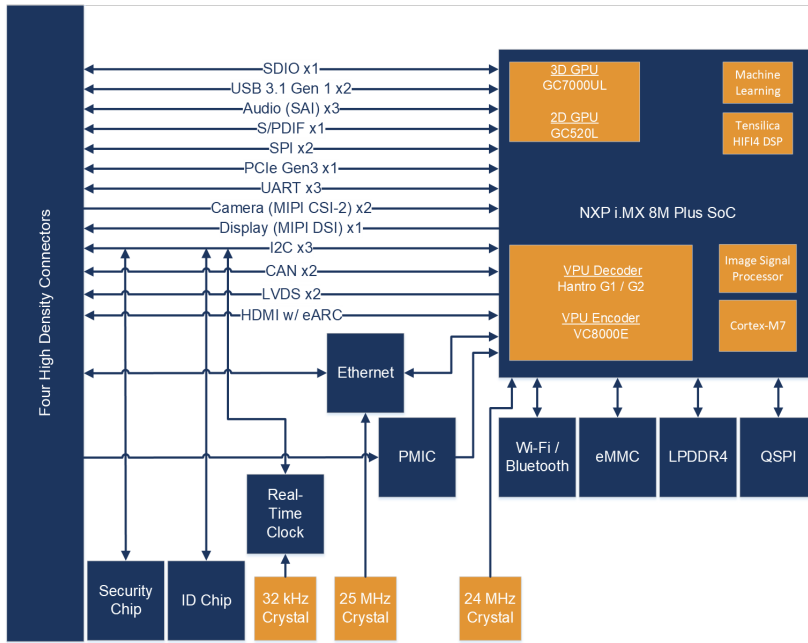
Beacon EmbeddedWorks' i.MX 8M Plus SOM can help you get your product to market faster and reduce your design risk. The multicore architecture of NXP's i.MX 8M Plus applications processor provides the platform to develop a portfolio of devices on a single hardware design. The i.MX 8M Plus SOM provides security, high-performance multimedia processing including 3D graphics and high-definition video, power-efficient processing capabilities, and wireless connectivity. With a low stack height and compact footprint, the i.MX 8M Plus SOM is an excellent choice for next generation medical, military, aerospace, and industrial applications where space is at a premium.



The design, development, manufacturing, and ongoing support of embedded technology is a complex and time-consuming process without the right expertise. At Beacon EmbeddedWorks, we elevate your product development with custom SOM solutions and high-performance application development kits. Beacon EmbeddedWorks is a leader in designing and developing SOMs with wireless technologies, low power capabilities and small form factors. We have the experience and knowledge to help you select the right SOM, integrate the SOM into your product design, or develop a customized SOM to meet the needs of your application.

Beacon EmbeddedWorks can also help at any stage in the product lifecycle, so our expertise and assistance doesn't end when you've completed your hardware design. Beacon EmbeddedWorks provides continuation support including obsolescence management and application engineering for any product utilizing one of our SOMs. We also continually update our board support package (BSP) options with versions of Linux, Android, and real-time operating systems.

i.MX 8M Plus SOM Block Diagram



i.MX 8M Plus SOM Ordering Information

MODEL NUMBER	DDR	eMMC	WIFI 5	ETHERNET	TEMP (°C)
SOMIMX8MPQ-10-1CE1SMXR-A	6GB	32GB	Y	Y	-30 to +85 ²
SOMIMX8MPD-10-2BE0SMCR-A	4GB	32GB	Y	Y	0 to +70 ¹

Contact us for any configuration option not listed above.

NOTES:

1. Junction temperature of the processor must be kept under +95°C and the LPDDR4 RAM and eMMC case temperatures must be kept below +85°C.
2. Junction temperature of the processor must be kept under +105°C; case temperature of the eMMC must be kept below +85°C; LPDDR4 RAM case temperature must be kept below +95°C.
3. SOMIMX8MPQ-10-1CE1SMXR-A available in development kit.

i.MX 8M Plus Development Kit Ordering Information

MODEL NUMBER	SOM CONFIGURATION	SUGGESTED RESALE
SDK-IMX8MPQ-10-6G32GR-A	SOMIMX8MPQ-10-1CE1SMXR-A	\$724

View the i.MX 8M Plus development kit at

beaconembedded.com/project/i-mx-8m-plus-development-kit/

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)
- HiFi4 DSP
- 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
- Quad SPI NOR Flash, configurable

Network Connectivity

- Wi-Fi 802.11a/b/g/n/ac 2X2 MU-MIMO
- Bluetooth 5.3
- BLE Support
- One Ethernet 10/100/1000 MAC + PHY
- One Ethernet 10/100/1000 MAC
- Security
- Integrated secure element for end-to-end security

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 @ 30 fps
- 2x LVDS up to 1080p @ 60fps

Camera

- Up to two MIPI CSI-2 (Up to 4 lanes w/PHY) up to 12MP @ 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 grams

Compliance

- RoHS Compliant
- Reach Compliant