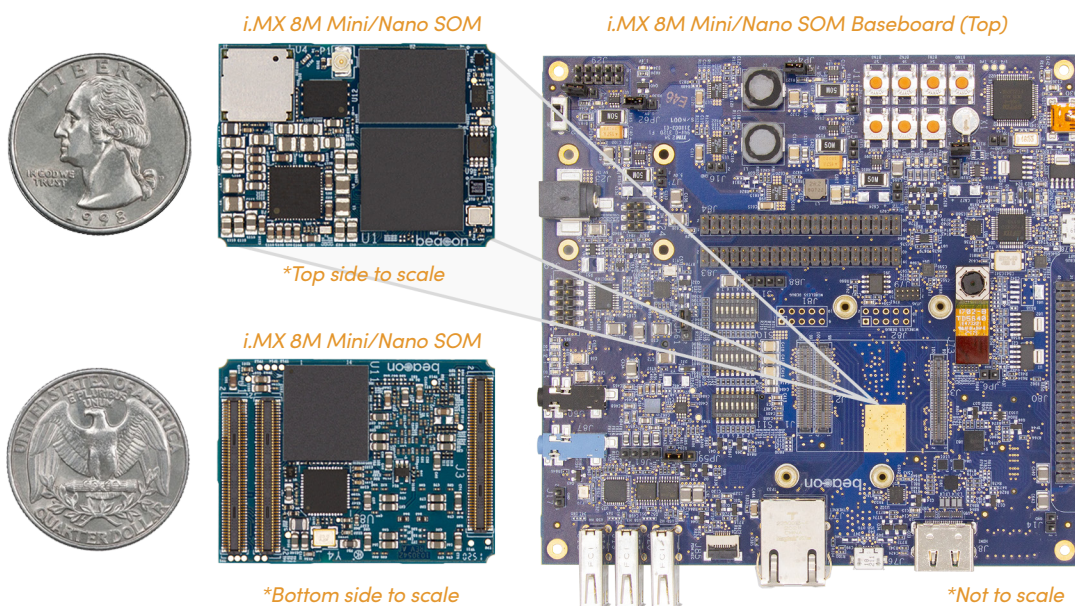


## i.MX 8M MINI/NANO SOM

Boasts speeds of up to 1.8 GHz and contains both on-board Wi-Fi 5 and Bluetooth 4.2

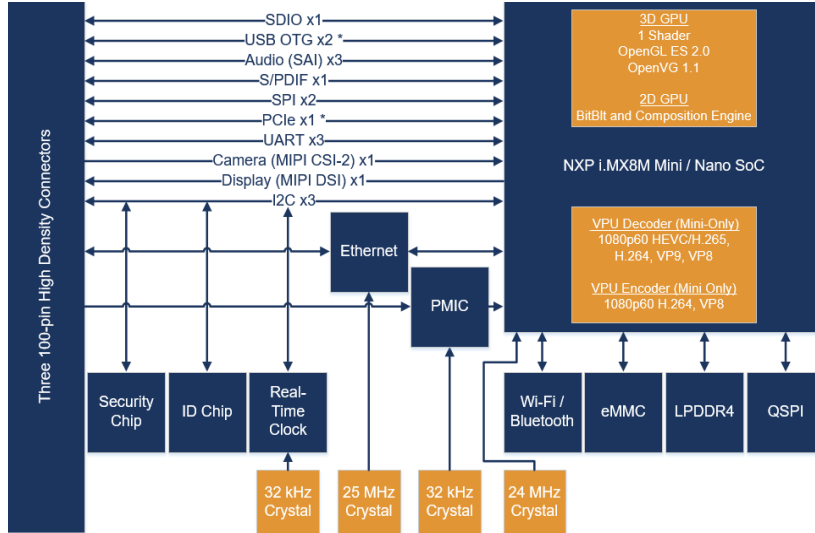
Beacon EmbeddedWorks' i.MX 8M Mini/Nano SOM can help you get your product to market faster and reduce your design risk. The multicore architecture of NXP's i.MX 8M Mini/Nano applications processor provides the platform to develop a portfolio of devices on a single hardware design. The i.MX 8M Mini/Nano 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 Mini/Nano 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 Mini/Nano SOM Block Diagram



\*i.MX 8M Nano SOM: Only one USB 2.0 OTG and PCIe not available.

## i.MX 8M Mini/Nano SOM Ordering Information

MODEL NUMBER	DDR	eMMC	WIFI 5	ETHERNET	TEMP (°C)
SOMIMX8MMQ-10-1BE4SMIR	4GB	32GB	Y	Y	-40 to +85 <sup>2</sup>
SOMIMX8MNS-10-29C0DMCR	1GB	8GB	N	Y	0 to +70 <sup>1</sup>
SOMIMX8MMQ-10-2AE4SMCR <sup>3</sup>	2GB	32GB	Y	Y	0 to +70 <sup>1</sup>

Contact us for any configuration option not listed above.

### NOTES:

- Junction temperature of the processor must be kept under +95C and the LPDDR4 RAM and eMMC case temperatures must be kept below +85C.
- Junction temperature of the processor must be kept under +105C; case temperature of the eMMC must be kept below +85C; LPDDR4 RAM case temperature must be kept below +95C.
- SOMIMX8MMQ-10-2AE4SMCR available in development kit.
- Higher temperature eMMC and LPDDR4 RAM options are available.

## i.MX 8M Mini Development Kit Ordering Information

MODEL NUMBER	SOM CONFIGURATION	SUGGESTED RESALE
SDK-IMX8MMQ-10-2G32GR-A	SOMIMX8MMQ-10-2AE4SMCR	\$724

Contact us for any configuration option not listed above.

View the i.MX 8M Mini development kit at

[beaconembedded.com/project/i-mx-8m-mini-development-kit/](https://beaconembedded.com/project/i-mx-8m-mini-development-kit/)

## PRODUCT FEATURES

### Processor Options

- Mini: NXP i.MX 8M Mini processor with up to four ARM® Cortex™-A53 cores running up to 1.8 GHz, plus an ARM® Cortex™-M4 core running up to 400 MHz, GPU (GCNanoUltra + GC320), VPU
- Nano: NXP i.MX 8M Nano processor with up to four ARM® Cortex™-A53 cores running up to 1.5 GHz, plus an ARM® Cortex™-M7 core running up to 750 MHz, GPU (GC7000UL)

### Embedded Memory

- Mini: Up to 8GB of 32-bit wide LPDDR4 memory
- Nano: Up to 4GB of 16-bit wide LPDDR4 memory
- eMMC, configurable
- Quad SPI NOR Flash, configurable

### Network Connectivity

- Wi-Fi 5 (802.11a/b/g/n/ac)
- Bluetooth 4.2
- BLE support
- Ethernet 10/100/1000 MAC + PHY
- Security
- Integrated secure element for end-to-end security

### USB

- Mini: Two USB 2.0 high-speed On-the-Go
- Nano: One USB 2.0 high-speed On-the-Go

### Display

- MIPI DSI (Up to 4 lanes)

### Camera

- MIPI CSI-2 (Up to 4 lanes)

### Audio

- Mini: Up to Three synchronous audio interfaces (SAI) with support for 9 TX and 13 RX lanes
- Nano: Up to Two synchronous audio interfaces (SAI) with support for 1 TX and 5 RX lanes
- S/PDIF input and output
- Up to 8 Channel Pulse Density Modulation (PDM) input

### PCIe

- Mini: 1x PCIe Gen 2.0, 1- lane

### Serial I/O

- Up to three UART interfaces
- Up to three I2C interfaces
- Up to two SPI interfaces operating as either master or slave

### GPIO

- Up to 87 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: 7.7 g

### Compliance

- RoHS Compliant
- Reach Compliant
- Wi-Fi and Bluetooth are pre-certified for FCC and ISED