

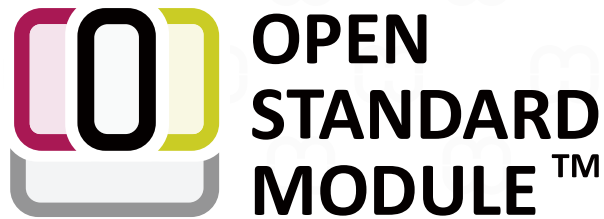


Era of Micro Computing



OPEN  
STANDARD  
MODULE

OSM RISC SOLUTIONS GUIDE



The idea of all Open Standard Modules™ is to create a new, future proof and versatile standard for small-size, low-cost embedded computer modules, combining the following key characteristics:

- Completely machine processible during soldering, assembly and testing
- Different possible packages for direct PCB soldering without connector
- Pre-defined soft- and hardware interfaces
- Open-Source in soft- and hardware

The Open Standard Module™ specification allows developing, producing and distributing embedded modules for the most popular MCU32, ARM and x86 architectures. For a growing number of IoT applications this standard helps to combine the advantages of modular embedded computing with increasing requirements regarding costs, space and interfaces.

## Features of OSML Modules

The size of OSM-L module is 45x45mm and it is set with well defined pin position and the following features.

**Compact and fixed Size**

**Pin to pin compatible**

**Low power consumption**

**Lower thermal**



i.MX8M Plus



i.MX 93

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All specifications are subject to change without further notice

## Versatile Embedded Interfaces



OSM Size-L  
Bottom side

Interface	Size-0	Size-S	Size-M	Size-L	Video Interfaces
LVDS	0	0	0	1	
Display Port	0	0	2	2	
RGB	0	1	1	1	
CSI	0	1	1	1	
DSI	0	1	1	1	High-speed Interfaces
PCIe x 1	0	1	2	2	
PCIe x 4	0	0	0	2	
Ethernet	1	2	3	5	
USB	2	3	4	4	Low-speed Interfaces
GPIO	16	24	32	40	

## All-in-one Computer



**From small to tiny as SoC**  
**Industrial standard (SGeT OSM-L)**  
**CISC & RISC computing supported**

NXP i.MX8M Plus family processor OSM module

MOSM-M320E

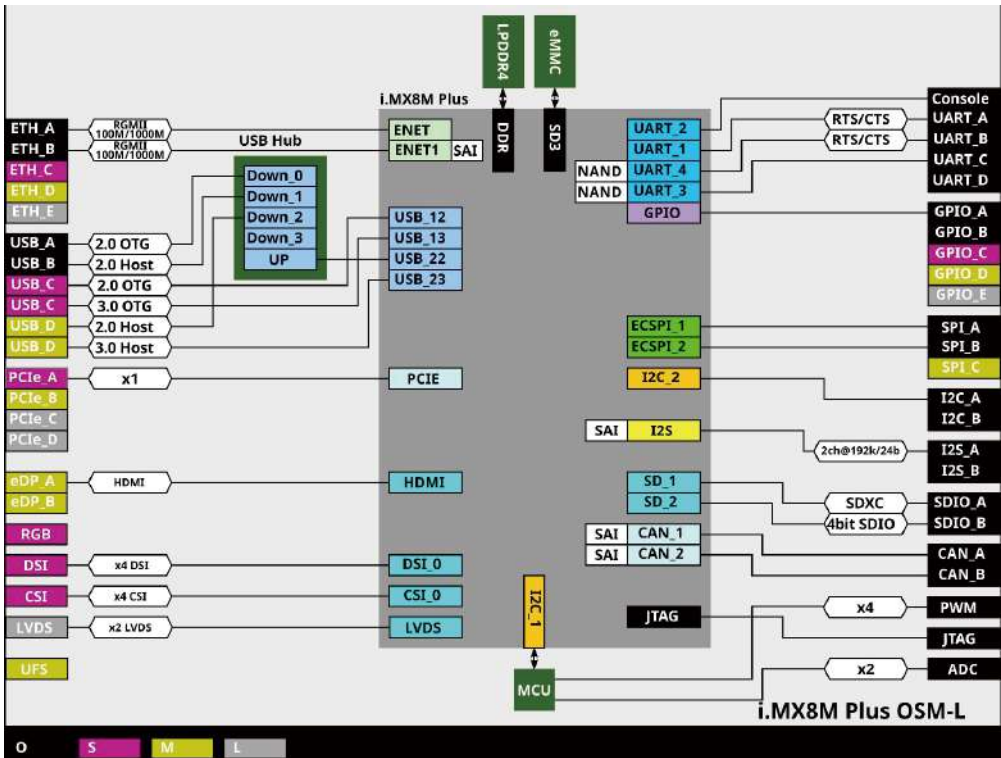
- NXP i.MX8M Plus with quad Arm® Cortex®-A53 processor
- NPU with up to 2.3 TOPS
- Onboard 2GB LPDDR4 memory and 16GB storage
- Multiple video outputs
- Legacy I/O and high-speed interface
- FTGA grid array with 662 contacts



Specifications ▼

General		Basic I/O Interface	
CPU	NXP i.MX8M Plus with Quad core Cortex-A53	Audio	1x I2S
Memory	2G onboard LPDDR4, 3733MT/s 4GB/8GB by project	PCI Express	1x PCIe x1 (Gen3)
Storage	16GB onboard eMMC 5.1 flash 32GB/64GB by project	USB	4x USB2.0 / (1 port with dual role) 1x USB3.0
Power Input	5C DC	Display	1x 24bit LVDS dual channel 1x HDMI 1x MIPI DSI
OS	Embedded Linux (Yocto distribution)	Video	Integrated in CPU
Mechanical		Camera	1x CSI
Form Factor	SGeT OSM Specification v1.1 OSM size L 662 pins	Ethernet	2x GbE LAN (RGMII)
Dimension	45 (L) x 45 (W) mm	Legacy I/O	8x GPIO, 1x I2C, 4x UART(2xRTS/CTS) 2x SPI, 2xC AN Bus, 2x SDIO (4bit) 2x ADC, 4x PWM, 1x JTAG
Mechanical and Environmental			
Operating Temperature	(-)20°C to +85°C		
Humidity	5-95% RH, non-condensing		

Function Block Diagram ▼





NXP i.MX 93 family processor OSM module

MOSM-M330E

- NXP i.MX 93 Plus with Dual Arm® Cortex®-A55 processor
- NPU with up to 0.5 TOPS
- Onboard 2GB LPDDR4 memory and 16GB storage
- Legacy I/O and high-speed interface
- Size L module, OSM v1.1



Specifications ▼

General		Basic I/O Interface	
CPU	NXP i.MX 93 with Dual core Cortex-A55	Audio	1x I2S
Memory	2G onboard LPDDR4, 3733MT/s	PCI Express	N/A
Storage	16GB onboard eMMC 5.1 flash 32GB/64GB by project	USB	4x USB2.0 / (1 port with OTG)
Power Input	5C DC	Display	1x 24bit LVDS single channel 1x MIPI DSI
OS	Embedded Linux (Yocto distribution)	Video	2D Graphic only
Mechanical		Camera	1x CSI 2-lane
Form Factor	SGeT OSM Specification v1.1 OSM size L 662 pins	Ethernet	2x GbE LAN (RGMII) (1 port with TSN)
		Legacy I/O	14x GPIO, 2x I2C, 3x UART(2xRTS/CTS) 2x SPI, 2xCAN Bus, 1x SD card 2x ADC, 1x PWM, 1x JTAG
Dimension	45 (L) x 45 (W) mm		
Mechanical and Environmental			
Operating Temperature	(-)20°C to +85°C		
Humidity	5-95% RH, non-condensing		

Function Block Diagram ▼

