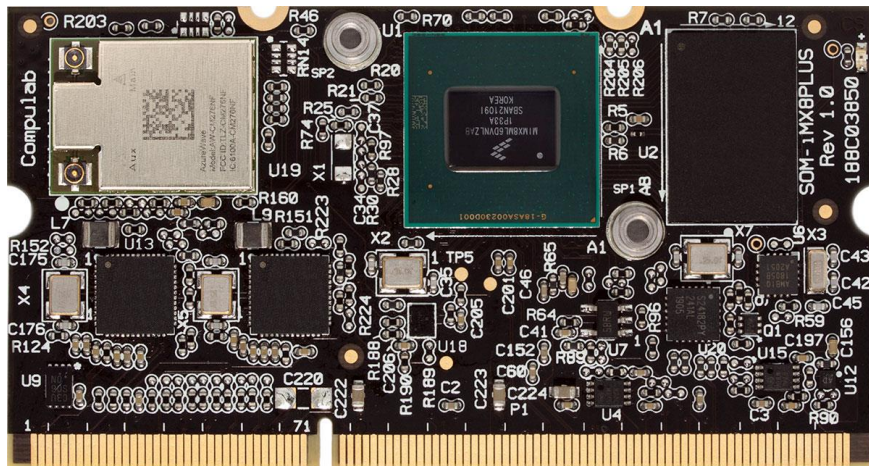


Computer on Module

CL-SOM-iMX8Plus

Datasheet v1.0



CL-SOM-iMX8-Plus is a tiny Computer-on-Module (CoM) built around the NXP i.MX8M-Plus. It features high performance graphics and image capabilities for a wide range of applications which require high-speed graphics including industrial HMI, medical, IOT, digital signage and professional audio visual devices.

This extremely powerful module offers a wide range of high-speed display interfaces including HDMI, LVDS, MIPI-DSI, 2x MIPI-CSI.

With up-to 8GB RAM and 128 eMMC, it also features a rich I/O, including Gbit Ethernet, Wifi 802.11ac and Bluetooth 5.0, PCIe, 2 x USB3.0, 4 x UART, 88x GPIO and 2xSD/SDIO. In addition, CL-SOM-iMX8Plus offers a wide operating temperature range of -40°C to +85°C.

Key Features:

- Quad-core ARM Cortex-A53 CPU, 1.8GHz
- 2D/3D GPU, 1080p VPU and audio DSP
- Integrated AI/ML Neural Processing Unit
- Real-time ARM Cortex-M7 co-processor
- Up to 8GB LPDDR4 and 128GB eMMC
- HDMI, LVDS, MIPI-DSI, 2x MIPI-CSI
- Certified 802.11ac WiFi, BT 5.0
- 2x GbE / RGMII, PCIe, 2x USB3.0, 2x CAN, 4x UART

CL-SOM-iMX8-Plus

System and Graphics

Note:

- "Option" column specifies the configuration code required to have the particular feature.
- "+" means that the feature is always available

Feature	Specification	Option
CPU	NXP i.MX8M Plus Quad, quad-core ARM Cortex-A53, 1.8GHz	C1800QM
	NXP i.MX8M Plus Quad, quad-core ARM Cortex-A53, 1.6GHz, industrial temp. grade	C1600QM
	NXP i.MX8M Plus QuadLite, quad-core ARM Cortex-A53, 1.8GHz	C1800Q
Video	Decode: 1080p60 HEVC/H.265, AVC/H.264, VP9, VP8 Encode: 1080p60 HEVC/H.265, AVC/H.264	C1800QM or C1600QM
GPU	GC7000UL GPU OpenGL ES 3.1/3.0, Vulkan, Open CL 1.2 FP, OpenVG 1.1	+
NPU	AI/ML Neural Processing Unit, up to 2.3 TOPS	C1800QM or C1600QM
DSP	Tensilica® HiFi 4 DSP	C1600QM
Real-Time Coprocessor	ARM Cortex-M7, 800Mhz	+
RAM	1GB – 8GB, LPDDR4	D
Storage	eMMC flash, 4GB – 64GB	N

Display & Camera

Display	HDMI 2.0a, up to 1080p60	+
	Single-channel LVDS, up to 1366x768	+
	Dual-channel LVDS, up to 1080p60	L2
	MIPI-DSI, 4 data lanes, up to 1080p60	not L2
Touchscreen	Capacitive touch-screen support through SPI and I2C interfaces	+
Camera	2x MIPI-CSI, 4 data lanes	+

Audio

Digital Audio	Up-to 2x I2S / SAI	+
	S/PDIF input/output	+

CL-SOM-iMX8-Plus

Network

Feature	Specification	Option
Ethernet	1x Gigabit Ethernet port (MAC+PHY)	E1
	2x Gigabit Ethernet ports (MAC+PHY)	E2
	Up to 2x RGMII	Not E1/E2
WiFi	Certified 802.11ac WiFi NXP 88W8997 chipset	WB
Bluetooth	Bluetooth 5.0 BLE	WB

I/O

PCI Express	PCIe x1 Gen. 3.0	+
USB	2x USB3.0 dual-role ports	+
UART	Up to 4x UART	+
CAN bus	Up-to 2x CAN	+
SD/SDIO	Up to 2x SD/SDIO	+
SPI	Up to 2x SPI	+
I2C	Up to 2x I2C	+
PWM	Up to 4x general purpose PWM signals	+
GPIO	Up to 88x GPIO (multifunctional signals shared with other functions)	+
RTC	Real Time Clock, powered by external lithium battery	+
JTAG	JTAG debug interface	+

Electrical, Mechanical and Environmental Specifications

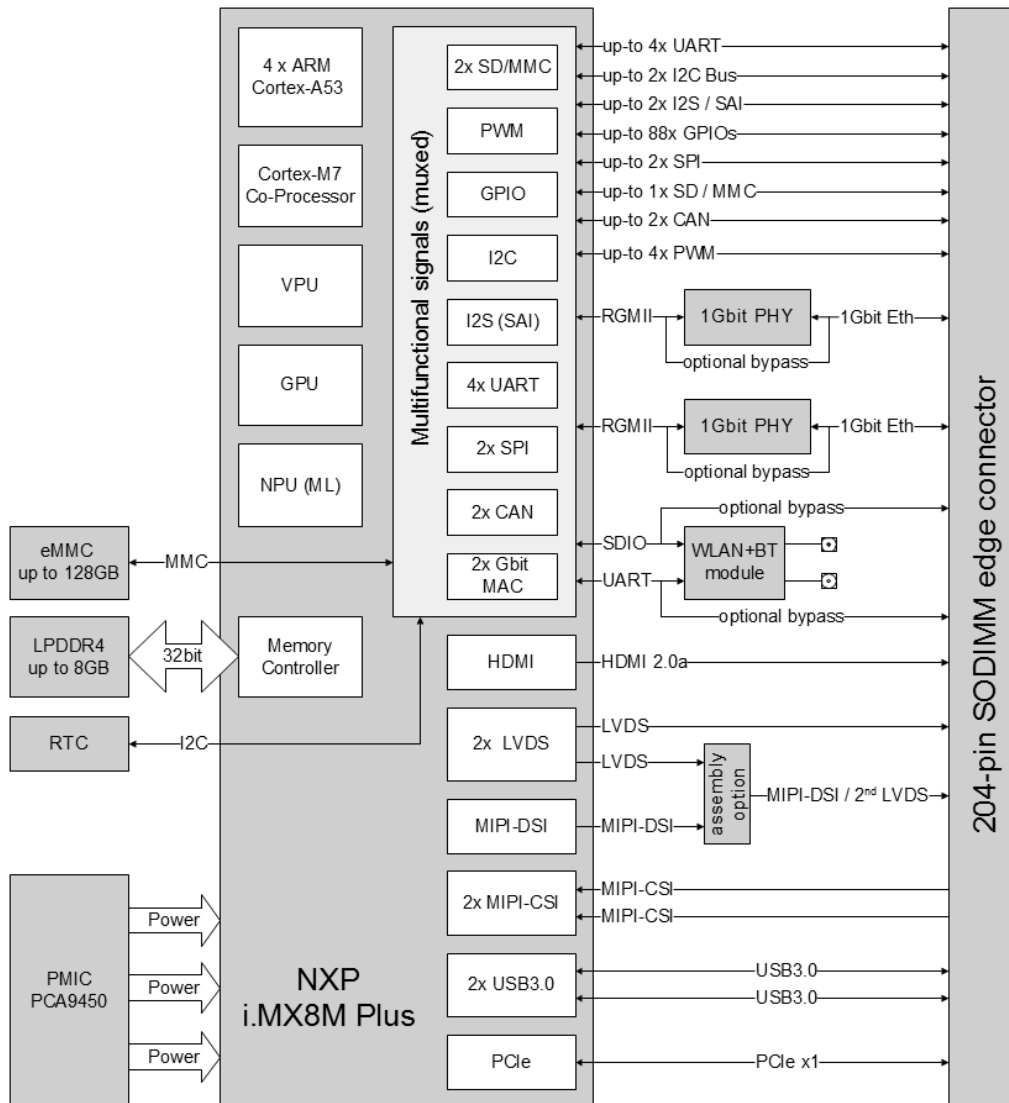
Supply Voltage	3.45V to 4.4V
Digital I/O Voltage	3.3V
Dimensions	36 x 68 x 5 mm
Weight	12 grams
Connectors	204-pin SO-DIMM edge connector
MTTF	> 200,000 hours
Operating Temperature (case)	Commercial: 0°C to +70°C Extended: -20° to 70° C - only with C1600QM Industrial: -40° to 85° C - only with C1600QM
Storage Temperature	-40°C to +85°C
Relative Humidity	10% to 90% (operation) 05% to 95% (storage)

CL-SOM-iMX8-Plus

Shock	50G / 20 ms
Vibration	20G / 0 - 600 Hz

CL-SOM-iMX8-Plus

Block Diagram



CL-SOM-iMX8-Plus

CL-SOM-iMX8Plus Evaluation Kit

Hardware

- SOM-iMX8PLUS-C1800QM-D4-N32-E2-WB-H
- SB-iMX8Plus carrier board
- 5" WXGA LCD with capacitive touch panel
- WiFi antennas and cables
- Serial port cable
- USB cable and adapter
- 12V power supply

Technical Support

- Technical support for 12 months.
- Schematics review of the customer's carrier board design.
- LCD panel compatibility verification and driver adaptation service.
- 45-day trial period. Eval Kit will be accepted for refund if the user finds the product not suitable for their needs.

