

# Computer on Module

## UCM-iMX8M-Plus

Datasheet v1.4



**UCM-iMX8M-Plus is an ultra-miniature Computer-on-Module (CoM) that features high performance graphics and imaging capabilities as well as impressive power efficiency. Ideal for a wide range of space constrained applications such as wearable healthcare monitors, medical devices, portable handheld devices and instrumentation equipment.**

Measuring just 28mm x 38mm this tiny module brings out the full capabilities of the i.MX8M Plus Quad core offering up-to 8GB RAM and 64GB eMMC, Gbe Ethernet, PCIe, 2 USB ports, 4 UARTs, and up-to 75 GPIOs. Display and camera connectivity is supported with HDMI, MIPI-DSI and LVDS interfaces. In addition, UCM-iMX8M-Plus offers a wide temperature range of -40°C to +85°C and Linux kernel, Yocto Project file-system, RTOS BSP and U-Boot support.

### Key Features:

- Tiny size and weight – 28 x 38 x 4mm, 7 grams
- Quad Core ARM Cortex A-53 CPU at 1.8GHz
- 2D/3D GPU and 1080p VPU and audio DSP
- Up to 8GB LPDDR4 and 64GB eMMC
- HDMI, LVDS, MIPI-DSI, 2x MIPI-CSI
- GbE, PCIe, 2x USB3.0, 2x CAN, 4x UART, 75x GPIO
- Wide temperature range of -40°C to 85°C



## 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 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 C1800QM
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
Real-Time Coprocessor	ARM Cortex-M7, 800Mhz	+
RAM	1GB – 8GB, LPDDR4	D
Storage	eMMC flash, 4GB – 64GB	N
DSP	Tensilica® HiFi 4 DSP	C1800QM

## Display & Camera

Display	HDMI 2.0a, up to 1080p60	+
	MIPI-DSI, 4 data lanes, up to 1080p60	+
	LVDS, 4 lanes, up to 1366x768 p60	+
Touchscreen	Capacitive touch-screen support through SPI and I2C interfaces	+
Camera	2x MIPI-CSI, 4 data lanes	+
	Up-to 2x I2S / SAI	+

## Network

Ethernet	GbE Ethernet port (MAC+PHY)	E
RGMII	Up to 2x RGMII	Not E

## Audio

Digital Audio	S/PDIF input/output	+
	eARC	+

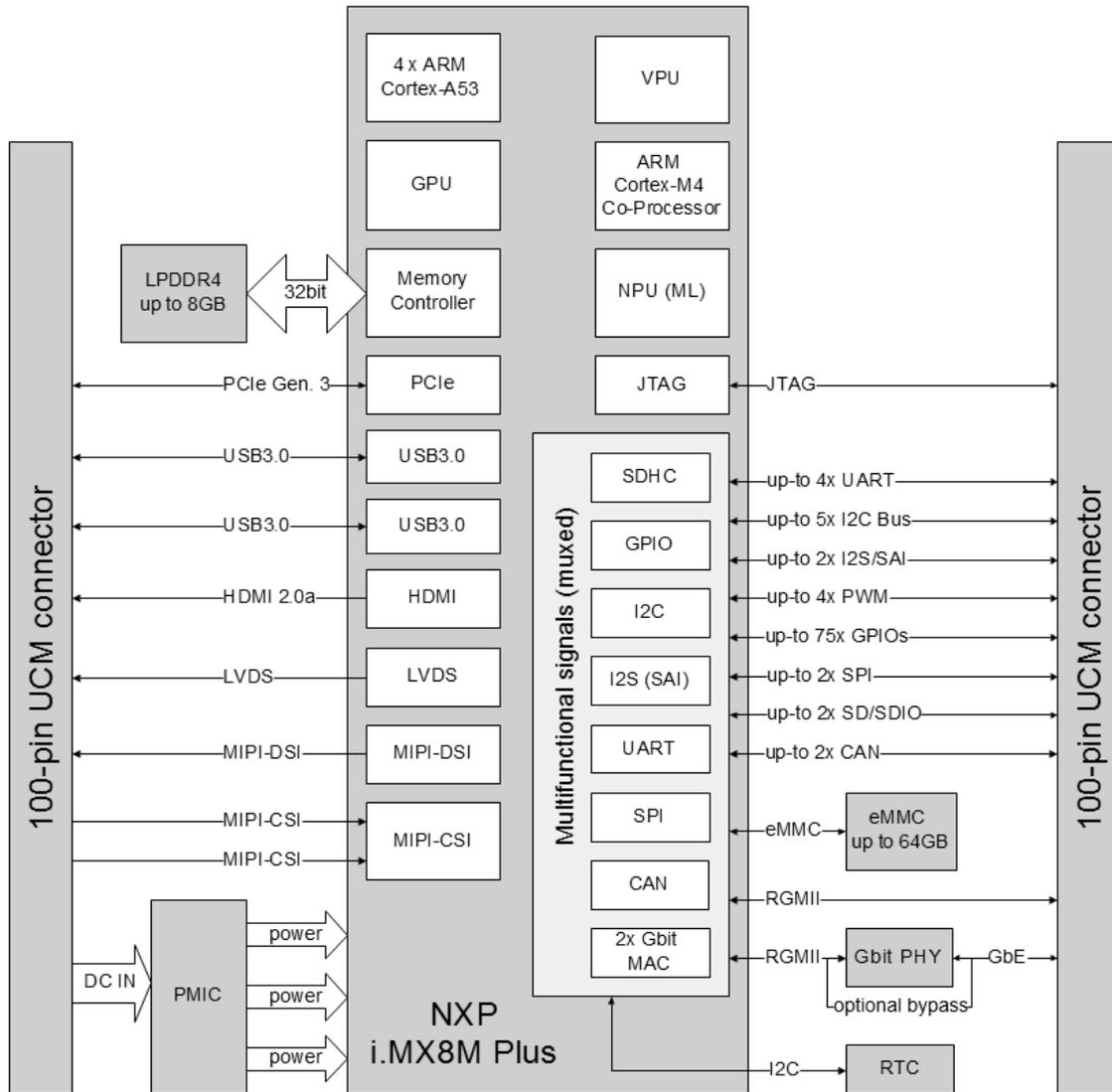
## I/O

Feature	Specification	Option
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 5x I2C	+
PWM	Up to 4x general purpose PWM signals	+
GPIO	Up to 75x 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	28 x 38 x 5 mm
Weight	7 grams
Connectors	2 x 100 pin, 0.4mm pitch
MTTF	> 200,000 hours
Operating Temperature (case)	Commercial: 0°C to +70°C Extended: -20°C to +70°C Industrial: -40°C to +85°C
Storage Temperature	-40°C to +85°C
Relative Humidity	10% to 90% (operation) 05% to 95% (storage)
Shock	50G / 20 ms
Vibration	20G / 0 - 600 Hz

## Block Diagram



## UCM-iMX8M-Plus Evaluation Kit

### Hardware

- UCM-iMX8PLUS-C1800QM-D2-N32-E
- SB-UCMIMX8PLUS carrier board
- 5" WXGA LCD with capacitive touch panel
- Wi-Fi antenna and cable
- 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.

