

# PHYTEC



## phyCORE®-i.MX 8M Plus

ARM Cortex™ -A53/-M7 — The "Most Intelligent" i.MX8 Module

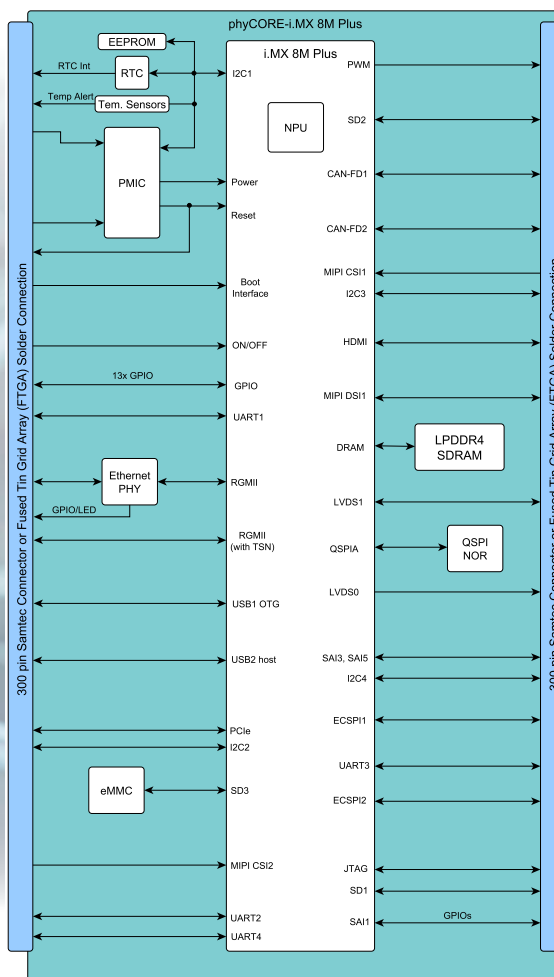
The phyCORE-i.MX8M Plus System on Module is a computing solution for applications requiring machine learning, image processing, advanced multimedia and highly reliable industrial IoT at the edge.

Featuring the most equipped processor of NXP's i.MX 8 controller family, the phyCORE-i.MX8M Plus from PHYTEC optimizes both functionality and a small form factor. The phyCORE-i.MX8M Plus Development kit will be available for purchase at the end of October 2020, are you ready to evaluate the latest and greatest for your next design.



### Highlights

- Neural Processing Unit
- 2x MIPI-CSI Interfaces with a Dual Camera Image signal processor
- HiFi 4 Audio DSP
- 1x LVDS, 1x MIPI DSI-2, 1x HDMI display interfaces
- Real Time Cortex-M7 co-processor
- 2x GB Ethernet (1x mit TSN)
- 2x CAN FD
- 2x USB 3.0
- ECC Memory



## Technical Details

Features / Name	phyCORE-i.MX 8M Plus	phyBOARD-Pollux Alpha Kit
Product	Module	Development Kit
Processor	i.MX 8M Plus Dual/Quad	i.MX 8M Plus Quad
Architecture	ARM Cortex-A53 / Cortex-M7	ARM Cortex-A53 / Cortex-M7
Bit width	64-bit	64-bit
Frequency	up to 1.8 GHz (A53), 1x 800 MHz (M7)	4x 1.8 GHz (A53), 1x 800 MHz (M7)
DSP	NPU Neuronal Processing Unit, HiFi Audio DSP	NPU Neuronal Processing Unit, HiFi Audio DSP
GPU	GC7000UL OpenCL/GL/Vulkan (2 shader, 16 GFLOPs), GC520 2D	GC7000UL OpenCL/GL/Vulkan (2 shader, 16 GFLOPs), GC520 2D
Crypto	RDC, CAAM, PKHA, RSA, EEC, RTIC, DRM, RSA, AES, 3DES, DES, RNG	RDC, CAAM, PKHA, RSA, EEC, RTIC, DRM, RSA, AES, 3DES, DES, RNG
HW security	Secure boot, TrustZone, SNVS, SRTC, SJC	Secure boot, TrustZone, SNVS, SRTC, SJC
MEMORY		
SPI NOR Flash	4 MB up to 256 MB Quad SPI Flash	64 MB
eMMC	4 GB up to 64 GB eMMC 5.1	8 GB eMMC 5.1
LPDDR4 RAM	256 MB up to 8 GB (32 Bit)	4 GB
EEPROM	4 kB - 32 kB	4 kB
INTERFACES		
Ethernet	2x 10/100/1000 MBit/s (TSN Support)	2x 10/100/1000 Mbit/s
WiFi		optional via WiFi Adapter
USB	2x USB3.0 or 2x USB2.0	2x USB 3.0 Host
UART	4x	2x UART (1x FTDI and 1x RS-232)
CAN	2x FlexCAN (CAN-FD)	2x CAN FD
PCI / PCIe	1x (x1 Gen3)	1x miniPCIe
I <sup>2</sup> C	3x	2x
SPI	3x ECSPi	1x ECSPi
MMC/SD/SDIO	3x SDIO (1x for eMMC onboard)	microSD Card Slot
PWM	4x PWM, 6x Timer	
Display	1x LVDS, 1x MIPI DSI-2, 1x HDMI Display interfaces	1x LVDS, 1x MIPI DSI-2, 1x HDMI Display interfaces
Capacitive Touch		I <sup>2</sup> C via A/V Connector
Audio	SAI, SPDIF, I2S, AC'97, TDM	SAI, SPDIF, I2S, AC'97, TDM
Camera	2x MIPI CSI-2	2x MIPI CSI-2
Expansions	I <sup>2</sup> C	I <sup>2</sup> C, SPI, SDIO (8-bit), UART, JTAG, USB
Control elements		1x Reset, 1x On/Off, 1x Boot source select
Boot source		eMMC, SD Card, NOR, USB Serial Download, Internal Fuses
PHYSICAL DATA		
RTC	Low power, high precision external RTC	Real Time Clock (mounted on SoM) with Gold Cap Backup
Power Supply	3.3 V	12 V - 24 V
Dimensions	40 mm x 37 mm	160 mm x 77 mm
Connectors	Samtec (2x 120 pins + 1x 60 pins)	Samtec (2x 120 pins + 1x 60 pins)
Temperature range	-40°C up to +85°C	-40°C up to +85°C
SOFTWARE		
Operating system	Linux	Linux
Distribution	Yocto Zeus	Yocto Zeus