NXP Platinum Partner

PHYTEC

phyCORE®-i.MX 8M Plus

Arm® Cortex®-A53/-M7 — The "most intelligent" i.MX 8 module

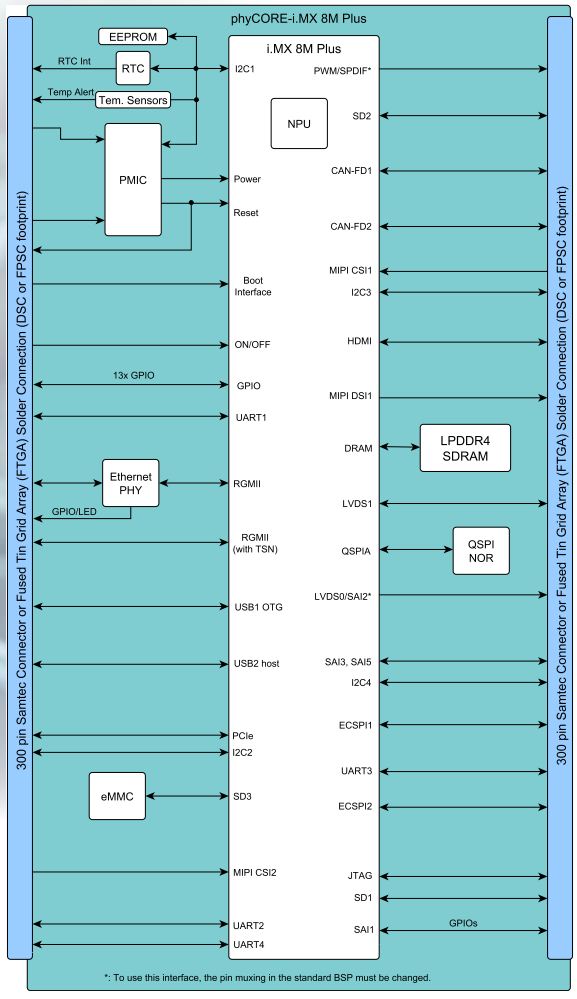
Based on the NXP i.MX 8M Plus SoC, the phyCORE-i.MX 8M Plus is the "most intelligent" PHYTEC module. Equipped with up to 4 Cortex-A53, one Cortex-M7 for real-time applications, as well as a unique combination of a large number of multimedia interfaces with a powerful NPU (Neural Processing Unit), the i.MX 8M Plus SoC is ideal for machine learning (ML), Image processing, advanced multimedia and industrial IoT applications.

The scalable and size-optimized phyCORE-i.MX 8M Plus is the perfect basis for using all the i.MX 8M Plus functions in areas where intelligent and fast processing of multimedia data is required in the smallest of spaces. Be it in the smart home (e.g. home automation), the smart city (e.g. person/traffic monitoring), Industry 4.0 (e.g. intelligent robot control, HMI) or in IIoT applications (e.g. edge computing).

Pluggable

Solderable DSC

Solderable FPSC



Highlights

- Quad-core 1.8 GHz Cortex-A53 Processor
- On-chip Image signal processor (up to 12 MP, 375 MP/s)
- Neural network accelerator up to 2.3 TOPS
- For industrial networks
- With Samtec connectors or as a solder module in two variants, DSC (Direct Solder Connect) or FPSC (Future Proof Solder Core). FPSC enables the use of different FPSC SoMs (e.g. phyCORE-i.MX 95) with the same carrier board
- Reliable, vibration and shock-resistant connections
- Sophisticated power management
- Fully TSN-enabled Ethernet
- Selectable IO voltage between 1.8 V or 3.3 V
- All processor interfaces are available at the SOM connector

Technical Data

Features / Name	phyCORE-**i.MX 8M Plus**
Product	**Module**
Processor	i.MX 8M Plus Dual/Quad
Architecture	Arm® Cortex®-A53 / Cortex®-M7
Bit width	64-bit
Frequency	up to 1.8 GHz (A53) + 800 MHz (M7)
DSP	Tensilica HiFi 4 DSP with 800 MHz
Graphics	3D GPU (2 shader, 16 GFLOPs GC7000UL OpenCL/GL/Vulkan), 2D GPU (GC520)
Video	1080p60 H.265/4 Decode and Encode
AI / ML	Neural Processing Unit with 2.3 TOPS
Crypto	RDC, CAAM, PKHA, RSA, EEC, RTIC, DRM, RSA, AES, 3DES, DES, RNG
HW security	Secure boot, TrustZone, SNVS, SRTC, SJC
MEMORY	
SPI NOR flash	4 MB up to 256 MB Quad SPI Flash
eMMC	4 GB up to 64 GB eMMC 5.1
LPDDR4 RAM	256 MB up to 8 GB (32 Bit)
EEPROM	4 kB up to 32 kB
INTERFACES	
Ethernet	2x 10/100/1000 MBit/s (TSN Support)
USB	2x USB 3.0, 2x USB 2.0 OTG
UART	4x
CAN	2x FlexCAN (CAN FD)
PCI / PCIe	1x (Gen3)
I²C	3x
SPI	3x ECSPI
MMC/SD/SDIO	2x SDIO
PWM	4x PWM, 6x Timer
Display	Dual LVDS (2 x 4 Lanes), MIPI DSI-2, HDMI
Audio	SAI, SPDIF, I2S, AC'97, TDM
Camera	2x MIPI CSI-2
Debugging	JTAG, UART
PHYSICAL PROPERTIES	
RTC	Low power, high precision external RTC
Power supply	3.3 V
Dimensions	40 mm x 37 mm x 6 mm (with connectors) or 40 mm x 37 mm x 3 mm (DSC and FPSC)
PCB connection	Samtec (2x 120 pins + 1x 60 pins) or Fused Tin Grid Array (FTGA) (DSC and FPSC)
Temperature range	-40 °C up to +85 °C
SOFTWARE	
Operating system	Linux (Yocto based), Android

www.phytec.eu/en/phycore-imx-8m-plus

NEW

phyBOARD-**Pollux**

- i.MX 8M Plus processor
- 2x MIPI CSI-2
- GB Ethernet with TSN
- Debug UARTs via USB

www.phytec.eu/en/phyboard-pollux

READY FOR PROJECT START

phyBOARD-**Pollux**
Development Kit

- i.MX 8M Plus processor
- industrial Linux BSP
- integrated NPU and ISP
- Start-up guarantee

www.phytec.eu/en/phyboard-pollux-kit

READY FOR PROJECT START

phyBOARD-**Pollux**
AI Kit

- i.MX 8M Plus processor
- efficient edge computing
- NXP eIQ Machine Learning
- with object detection demo

www.phytec.eu/en/phyboard-pollux-ai-kit

READY FOR PROJECT START

phyBOARD-**Pollux**
Imaging Kit

- i.MX 8M Plus processor
- all inclusive Linux BSP
- integrated NPU and ISP
- 1 MP camera, 2x MIPI CSI-2

www.phytec.eu/en/phyboard-pollux-imaging-kit