



phyCORE[®]-i.MX 95 FPSC

Arm[®] Cortex[®]-A55/-M7/-M33

Combines powerful graphics and AI with energy efficiency and security for state-of-the-art edge applications.

At just 45 mm x 48 mm and an ultra-slim 3.4 mm height, an on-board Ethernet PHY and modern LPDDR5 RAMs, the phyCORE-i.MX 95 has been developed precisely for the target markets of the i.MX 95 from NXP. The solderable module is equipped with the new FPSC footprint, which not only provides all the features of the processor, but also allows the module to be interchanged with the existing phyCORE-i.MX 8M Plus and future SoMs. This allows scalable applications and increases the longevity of the application. The intelligent geometry of FPSC simplifies the design of a carrier board.

i.MX 95 Processor

- Powerful multi-core design with up to 6x Arm[®] Cortex[®]-A55 (up to 2 GHz)
- Cortex[®]-M33 (333 MHz) and Cortex[®]-M7 (800 MHz) for real-time and safety-critical applications
- Powerful AI thanks to NXP eIQ[®] Neutron NPU with 2.0 TOP/s
- 3D Grafik with Arm[®] Mali-G310 V2 GPU (OpenGL[®] ES 3.2, Vulkan[®] 1.2, OpenCL 3.0)
- Wide range of multimedia interfaces
- Advanced hardware security
 - Modern security with integrated EdgeLock[®] Secure Enclave
 - Tamper, WDT, temperature and voltage monitoring

Module Features

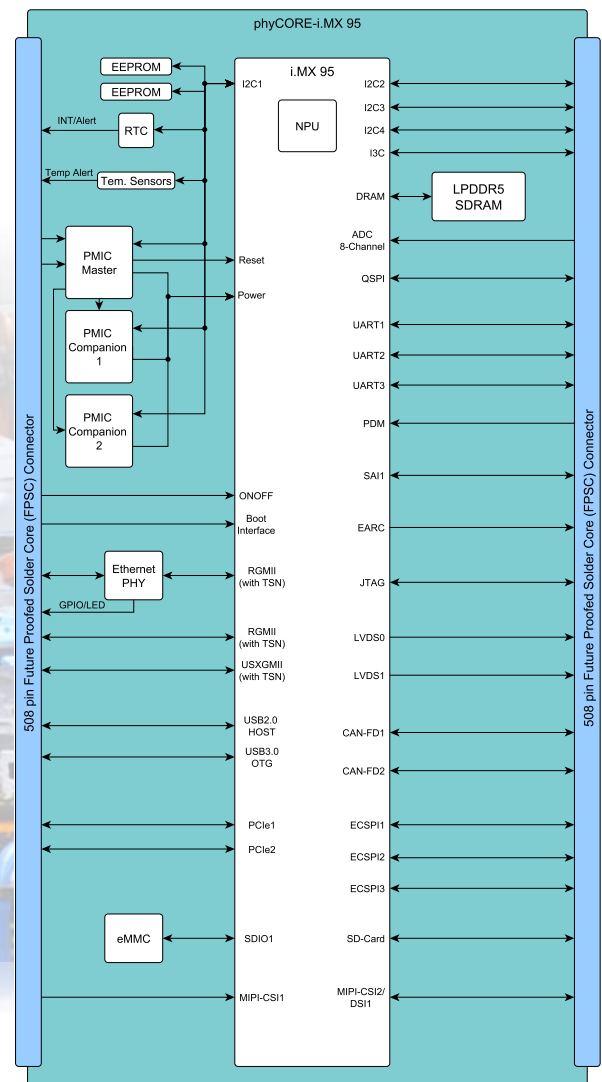
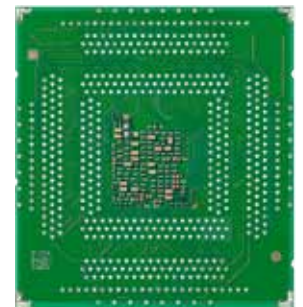
- Up to 256 GB TLC eMMC and up to 16 GB LPDDR5 RAM
- On-board Ethernet PHY and voltage conversion
- FPSC-24A.0 footprint (FTGA, 1.27 mm pitch)
- Dimensions 45 mm x 48 mm , low profile (ca. 3.4 mm)

Your Advantages

- Ready adapted Linux[®] operating system
- Only one device design for different performance configurations
- Product Life-Cycle Management program
- Global Technical Support



www.phytec.eu/en/phycore-imx-95-fpsc



Technical Data

Module Configuration

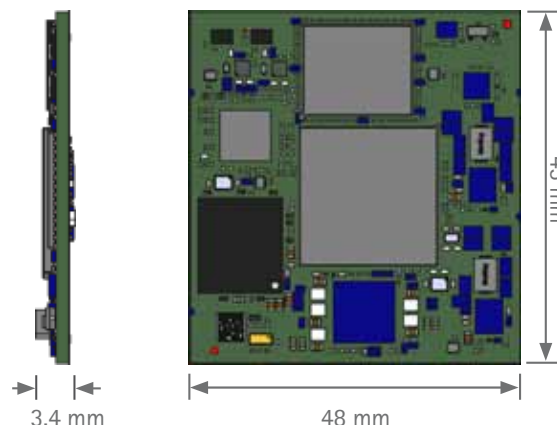
SOC	
Processor	i.MX 95
Core	up to 6x Arm® Cortex®-A55
Coprocessor	Arm® Cortex®-M33, Arm® Cortex®-M7
Clock frequency	up to 2 GHz (A55), 333 MHz (M33), 800 MHz (M7)
L2 Cache	64 kB per A55 Kern with ECC
Internal RAM	1 MB + 352 kB with ECC
Graphics	Arm® Mali-G310 V2 GPU(OpenCL 3.0, Vulkan® 1.2, OpenGL® ES 3.2)
Video	4K60P H.265/H.264 Dekodierung oder Kodierung (bei 4K30P gleichzeitig)
AI/ML	eIQ Neutron 2.0 TOP/s up to 1.0 GHz
Crypto	tbd.
HW Security	Secure boot, TrustZone, SNVS, SRTC, EdgeLock® secure enclave
Functional Safety	Hardware Integrity: SIL 2
EXT. MEMORY	
eMMC	up to 256 GB TLC
DDR4	4 GB up to 16 GB
EEPROM	4 kB up to 32 kB
PHYSICAL PROPERTIES	
Dimensions	45 mm x 48 mm x 3.4 mm
Weight	tbd.
Operating temperature	-40 °C to +85 °C
Humidity	95 % RH non condensing
Operating voltage	5.0 V
Power consumption typ.	tbd.
PCB connection	FPSC-24A.0 (FTGA, 1.27 mm pitch)
SOFTWARE	
Operating system	Linux

Module Interfaces

MAXIMUM INTERFACES*, **	
Ethernet	1x GbE, 1x GbE RGMII, 1x 10 GbE USXGMII, (all with TSN)
USB	2x USB2.0, 1x USB 3.0 (all dual-role)
UART	up to 8
CAN	up to 5x CAN FD
PCI / PCIe	2x Gen3 1 Lane
I²C	up to 8 (+2x I3C)
SPI	up to 8
MMC/SD/SDIO	up to 2
PWM	up to 3
Display	1/2x LVDS (8/4-lane), 1x MIPI DSI
Audio	up to 5x SAI, SPDIF, MQS, PDM
Camera	up to 2x MIPI CSI-2
ADC	up to 8 (12-bit)
Debugging	JTAG
RTC	1x i.MX 95 internal and 1x external RTC

* Due to multiplexing, not all interfaces may be fully available.

** Due to the exclusive use of individual interfaces on the module, the maximum number may differ from the processor specification.



Carrier Board FSPC-24A.0

Versatile development platform for FPSC modules



INTERFACES	
Ethernet	2x 1 GbE , 1x 10 GbE (all RJ45) (TSN support)
USB	1x USB 3.0 (Type-A), 1x USB 3.2 (Type-C)
Serial	1x RS-232 or RS-485, 2x CAN FD (3x pin header 2x5)
PCI / PCIe	2x PCIe 3.0 (mPCIe, M.2 Key-M)
Camera	2x phyCAM-M
Display	2x LVDS
Debugging	JTAG (Expansion sockets) 1x USB 2.0 Debug(Micro-AB)
Various	I²C, SPI, GPIO, ADC (Expansion connectors)
MISCELLANEOUS	
MMC/SD/SDIO	microSD Card Slot
User Control	3x LED, 1x RGB LED, 2x button
Dimensions	230 mm x 140 mm
Supply Voltage	24 V or USB-C