



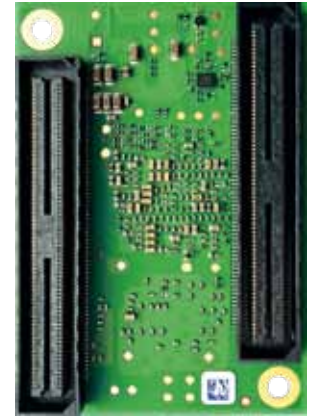
phyCORE[®]-AM62Px

Arm[®] Cortex[®]-A53/-R5F

Latest processor technology and high-performance embedded 3D graphic features at a fair price

Being designed for high-performance embedded 3D display applications, the phyCORE-AM62Px is the perfect basis for a broad range industrial applications digital instrumentation, displays, industrial HMI, and many more.

The SoM is available with Samtec connectors or as solderable module, equipped with the new FPSC footprint. FPSC does not only provide all the features of the processor, but also allows the module to be interchanged with the existing FPSC modules 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.



AM62Px Processor

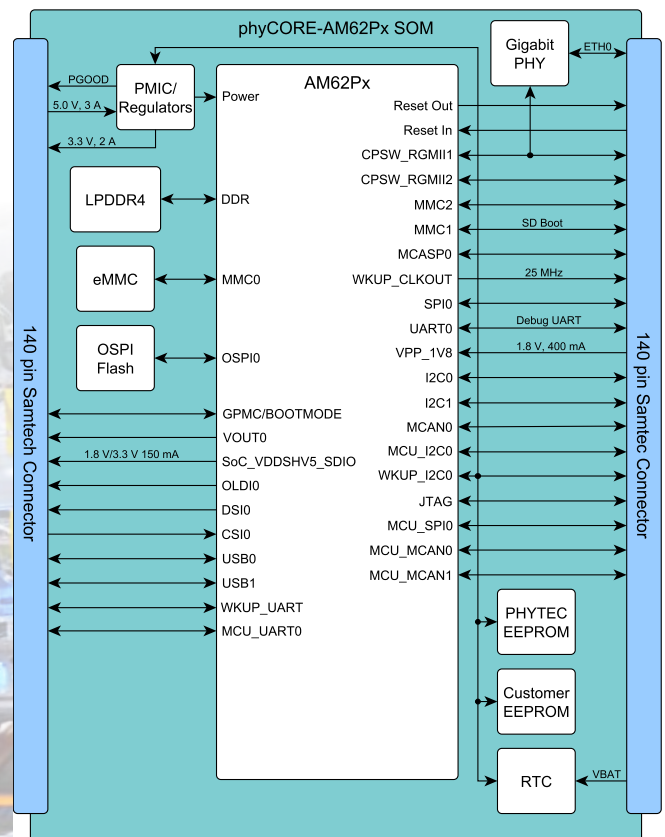
- Scalable performance with 4x Arm Cortex-A53 (1.25 GHz)
- 2x isolatable Arm Cortex-R5F for functional safety tasks
- Designed for high-performance embedded 3D display applications
- Wide range of industrial interfaces (e.g. 2x Ethernet, 2x USB2.0, up to 4x CAN FD)
- Advanced hardware security with Secure boot, Trusted Execution Environment (TEE) and Arm TrustZone[®]

Module Features

- Up to 256 GB TLC eMMC and up to 8 GB LPDDR4 RAM
- On-board Ethernet PHY and voltage conversion
- Low power consumption
- With Samtec connectors or as a solder module with FPSC-Gamma 1.1 footprint allowing scalable applications with other FPSC SoMs (e.g. phyCORE-AM62Lx)
- Dimensions 35 mm x 50 mm , low profile

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-am62px

Technical Data

Module Configuration

SOC	
Processor	TI AM62Px
Core(s)	up to 4x Arm® Cortex®-A53
Additional core(s)	2x Arm® Cortex®-R5F
Clock frequency	up to 1.4 GHz (A53), up to 800 MHz (R5F)
L2 Cache	512 kB shared with ECC
GPU	IMG BXS-4-64 - Vulkan 1.2, OpenGL ES 3.2, OpenCL 1.2 EP,
Video processing	H.256/HEVC, H.264/AVC Codec (up to 8bit 4k@60fps Vision Pre-processing Accelerator (VPAC))
Cryptogr. acceleration	AES 128-256, SHA2 224-512, DRBG, PKA
HW Security	Secure boot, Arm TrustZone®, ext. firewall, secure watchdog/timer/IPC, dedicated security cntlr., etc.
Functional Safety	Hardware Integrity: SIL 2 targeted Systematic capability: up to SIL 3 targeted

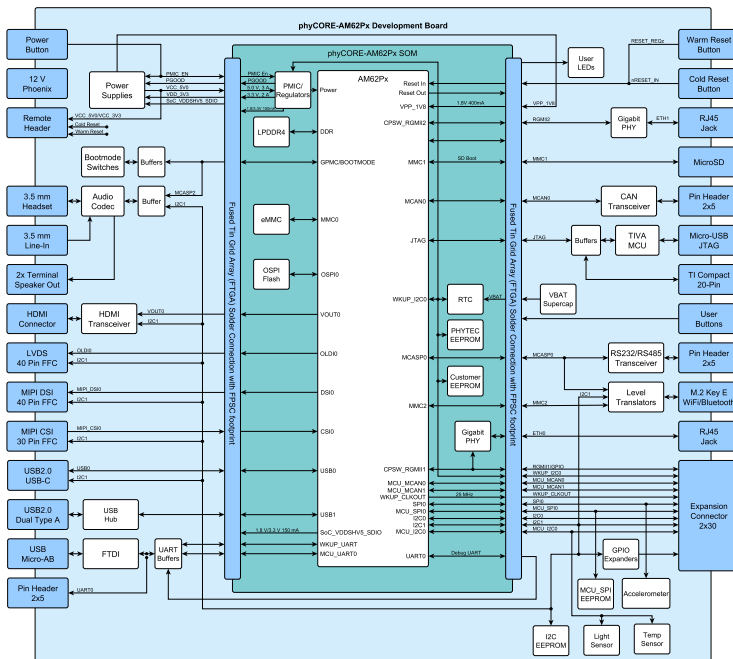
MEMORY	
eMMC	32 GB up to 256 GB
LPDDR4	2 GB up to 8 GB maximal
NOR Flash	64 MB up to 4 GB (Octal SPI/Dual SPI Flash)
EEPROM	4 kB up to 32 KB

PHYSICAL PROPERTIES	
Dimensions	35 mm x 50 mm
Weight	tbd.
Operating temperature	-40 °C to +85 °C
Humidity	95 % rF non condensing
Operating voltage	5.0 V
Power consumption typ.	tbd.
PCB connection	2x 140 pin Samtec, 0.5 mm pitch or FPSC-Gamma 1.1 (FTGA, 1.27 mm pitch)

SOFTWARE	
Operating system	Linux (Yocto based)

phyCORE-AM62Px Development Board

Versatile development platform

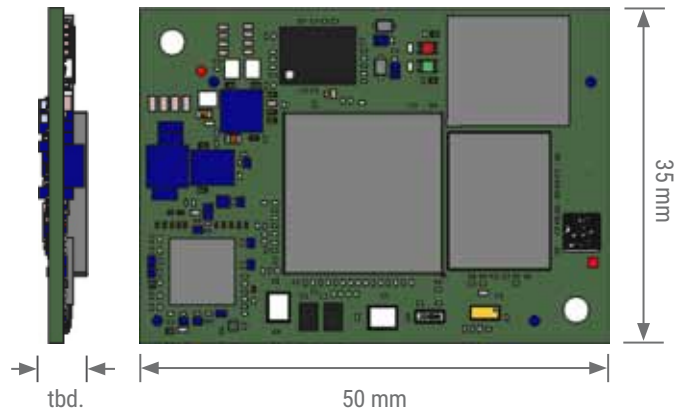


Module Interfaces

MAXIMUM INTERFACES*,**	
Ethernet	2x GbE (1x on-board PHY or RGMII/ 1x RGMII. all TSN)
USB	2x 2.0 Dual Role
UART	up to 9
CAN	up to 4 CAN FD
I²C	up to 6
SPI	up to 5 (+1x QSPI)
ePWM, eCAP, eQEP	up to 3 each
Timer	up to 14
MMC/SD/SDIO	up to 2
GPMC	1x (16-bit)
Display	Trpl. displ. sup. OLDI(LVDS) (1x OLDI-DL, 1x or 2x OLDI-SL), MIPi DSI (4-lanes) or DPI (24-bit)
Audio	up to 3 McASP
Camera	MIPi CSI-2 v1.3
Debugging	JTAG
RTC	on-board

* 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.



INTERFACES

Ethernet	2x 10/100/1000BASE-T (TSN support)
USB	2x USB 2.0 OTG (Type-A) 1x USB 2.0 host (Type-C)
Serial	1x RS-232/RS-485 (pin header 2x5), 1x CAN FD (pin header 2x5)
Display	1x OLDI(LVDS) (2x 4-lane), HDMI, MIPi DSI
Camera	MIPi CSI-2 (phyCAM-M Con.)
Audio	Mikrophone/Headset (3.5 mm jack socket), Line Out, Speaker
Wireless	M.2 Connector for Wi-Fi/BT
Debugging	JTAG (pin header), XDS110 (Micro-AB)
Various	I²C, SPI, GPIO, McASP (Expansion sockets)

MISCELLANEOUS

MMC/SD/SDIO	microSD Card Slot
User Control	2x LED, 5x button
Dimensions	160 mm x 200 mm