



phyCORE[®]-AM62x

Arm[®] Cortex[®]-A53/M4F

Especially designed for Industrial HMI, robot control, medical devices or building automation.

The phyCORE-AM62x is a scalable System on Module designed to be deployed in a wide variety of embedded applications such as industrial HMI, PLC/CNC/robot control, medical devices, building automation and more. Measuring in at 43 mm x 32 mm, it is one of Phytect's smallest SoMs to date. The compact form factor, available with board-to-board connectors as well as a direct solder variant, has an extensive 240-pin interconnect supporting common protocols such as Ethernet, CAN, UART, I²C, SPI but also rich multimedia with dual display, MIPI CSI-2 camera and audio.



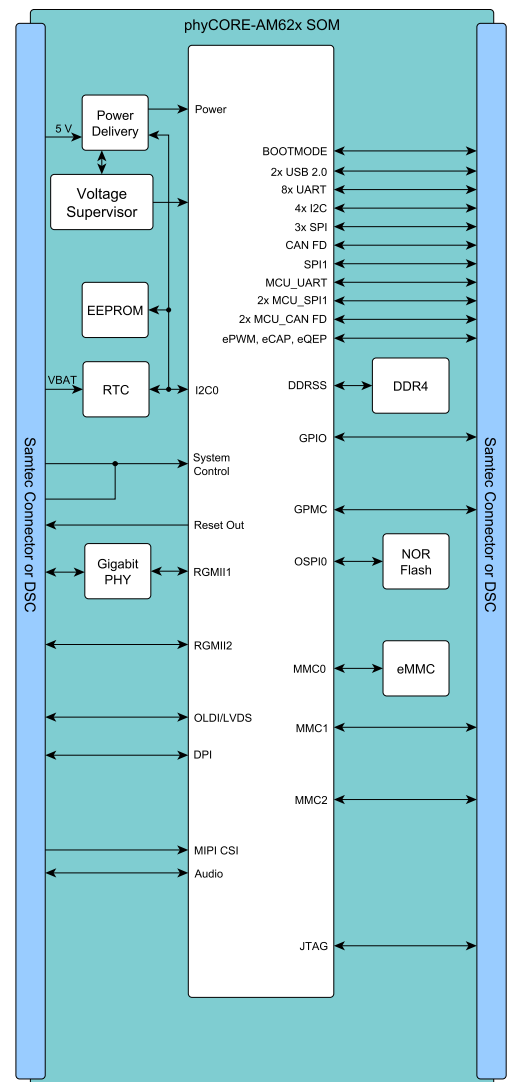
Pluggable



Solderable

Highlights

- Single-, dual- or quad-core Arm[®] Cortex[®]-A53 (up to 1.4 GHz)
- 1x isolated Cortex[®]-M4F MCU (up to 400 MHz) for general purpose, safety and critical tasks
- Dual display support with 24-bit RGB parallel interface and OLDI/LVDS-4 lane x2, up to 200 MHz pixel clock for 2K display resolution
- GPU support, up to 8 GFLOPS, for better graphics performance
- Camera interface (1x MIPI CSI-2 v1.3)
- Programmable Real Time Unit (PRU) support
- Two Gigabit Ethernet interfaces (1x via on-board PHY, 1x as RGMII)
- General purpose interfaces such as 8x UART, 4x SPI, 5x I²C, 2x USB 2.0, 3x CAN FD, 3x SDIO, 3x McASP for audio
- Dedicated central system controller for security, power and resource planning
- Low power saving modes (e.g.: Deep Sleep, Standby, MCU only), enabling battery powered applications
- With Samtec connectors or as solder module



www.phytec.eu/en/phycore-am62x

Technical Data

Module Configuration

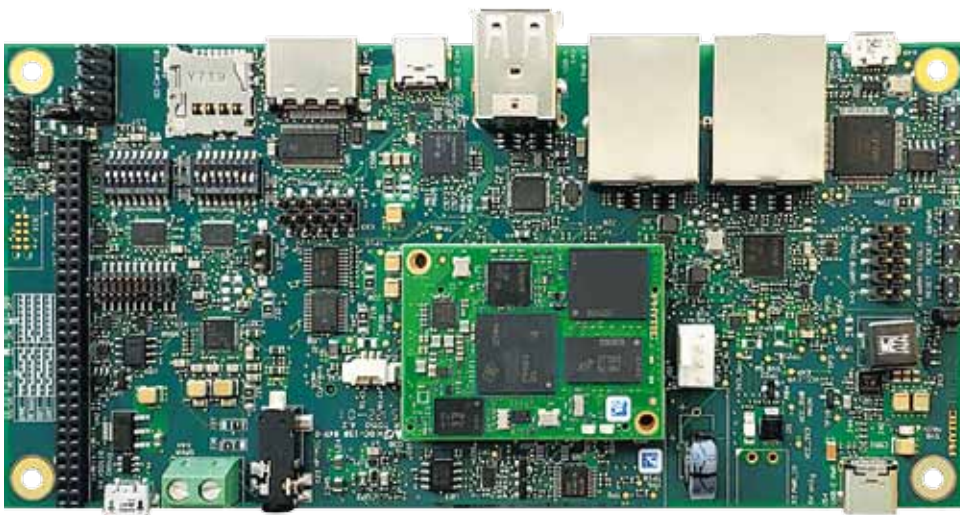
SOC	
Processor	TI AM623 / TI AM625
Core	up to 4x Arm® Cortex®-A53
Coprocessor	Arm® Cortex®-M4F
Clock frequency	up to 1.4 GHz (A53), up to 400 MHz (M4F)
L2 Cache	512 kB with ECC
GPU	3D GPU - OpenGL 3.x/2.0/1.1, Vulkan 1.2
HW Security	AES, SHA-2, DRBG, PKA, isol. DMA + IPC System
EXT. MEMORY	
eMMC	16 GB up to 128 GB
DDR4	2 GB default / 4 GB maximal
NOR Flash	64 MB up to 256 MB (Octal SPI/Dual SPI Flash)
EEPROM	4 kB up to 32 KB
PHYSICAL PROPERTIES	
Dimensions	43 mm x 32 mm x 7.6 mm (plug-in module) 40 mm x 40 mm (solder module)
Weight	tbd.
Operating temperature	-40 °C to +85 °C
Humidity	95 % rF non condensing
Operating voltage	5.0 V
Power consumption typ.	tbd.
Connector	2x 120 pin Samtec, 0.5 mm pitch or 270-Pin, 0,8 mm pitch solder con. (half-hole)
SOFTWARE	
Operating system	Linux (Yocto based)
Real-time operating system	freeRTOS

Ordering Information

Module	PCM-071 (plug-in module), PCL-071 (solder module)
Carrier board / SBC	PB-07124 (phyBOARD®- Lyra)
Development Kit	KPB-07124

phyBOARD®-Lyra

Development platform or powerful, industry-compatible single board computer

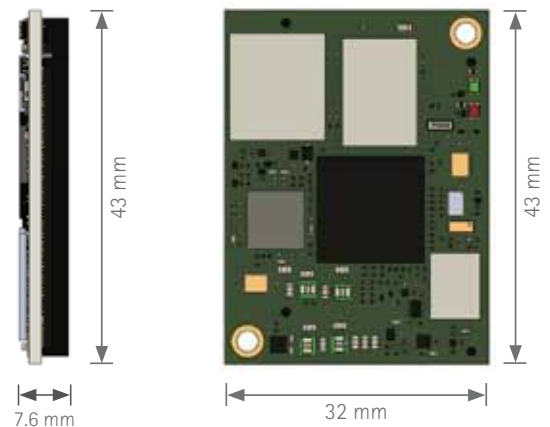


Module Interfaces

MAXIMUM INTERFACES*,**	
Ethernet	2x Gigabit (1x on-board PHY/ 1x RGMII)
USB	2x 2.0 Dual Role
UART	up to 10
CAN	3x CAN FD
I²C	up to 6
SPI	up to 4
MMC/SD/SDIO	up to 2
PWM	up to 4
GPMC	yes
Display	24-bit RGB parallel, OLDI/LVDS (4 lanes 2x)
Audio	3x 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 (pin header 2x5), 1x CAN FD (+2x as TTL signals)
Display	1x OLDI/LVDS (2x 4-lane, 60-pin FFG/FPC Con.), HDMI
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 77.6 mm