

# PHYTEC



## phyCORE<sup>®</sup>-STM32MP1

Ramp up your M4 application with A7 Linux Power

The phyCORE-STM32MP1 module brings secure boot, multiprotocol gigabit industrial communication, a 3D graphic processing unit (Vivante<sup>®</sup> - OpenGL<sup>®</sup> ES 2.0), functional safety features and a Cortex-M4 MCU sub system allowing full reuse of STM32 Cube firmware to the phyCORE family. The phyCORE-STM32MP1 SOM is ideal for industrial communication systems, factory automation, edge computing, motor control and applications where high reliability is needed.



### STM32MP15x processor

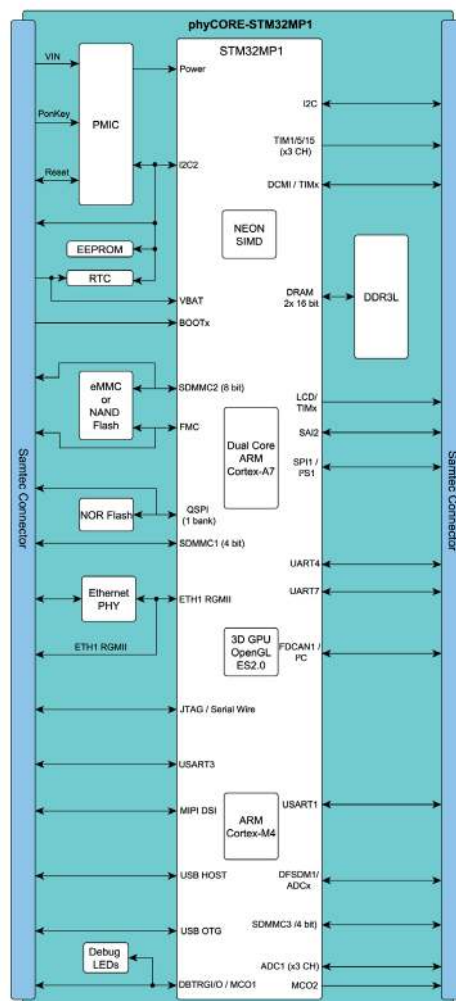
- Dual-core ARM Cortex-A7 CPU and ARM Cortex-M4 MCU subsystem
- 3D graphic processing unit (Vivante - OpenGL ES 2.0)
- Extended Hardware encryption technology and Secure Boot

### Features

- Up to 1 GB DDR3LP RAM 32 Bit
- Up to 128 GB eMMC
- Quad SPI NOR
- EEPROM
- Gb Ethernet
- Up to 2x FDCAN, 1x TTCAN
- USB 2.0 FS OTG dual role and host
- MIPI DSI-2 or Parallel Display or HDMI
- Parallel Camera
- Audio
- ADC, DAC, DFSDM
- JTAG / Serial-wire

### Product Integration

- Global Technical Support
- Production-ready Linux BSP
- FCC / CE product reference design
- Carrier Board Full Schematic Review
- Pin Mux Configuration tools
- System Architecture Consulting



## SOM Memory

Memory	Standard	Maximum*
DDR3LP	1 GB	1 GB
eMMC	8 GB	128 GB
NOR Flash	16 MB	16 MB
EEPROM	4 kB	32 kB

\* Please contact us for additional standard SOMs

## SOM Interfaces

Interfaces	Standard	Maximum*
U(S)ART	2 (USART)	7 (3x UART + 4x USART)
FDCAN	1	2
SPI (I <sup>2</sup> S)	1	4 (3)
I <sup>2</sup> C	4	6
MMC/SDIO	2	3 (1 for eMMC)
Ethernet	1	1
USB	2	2
Audio (SAI)	1	3
Parallel Display	1x 18-bit	1x 18-bit
MIPI-DSI	1x 2 data lanes	1x 2 data lanes
Parallel Camera	1x 8-14 bit	1x 8-14 bit
ADC	2	2
DAC	2	2
DFSDM	1 (8 ch./6 filters)	1 (8 ch./6 filters)
JTAG	1	1

\* The processor interface functions can be used multiple times through PINMUX. However, not all interfaces will be available at the same time.

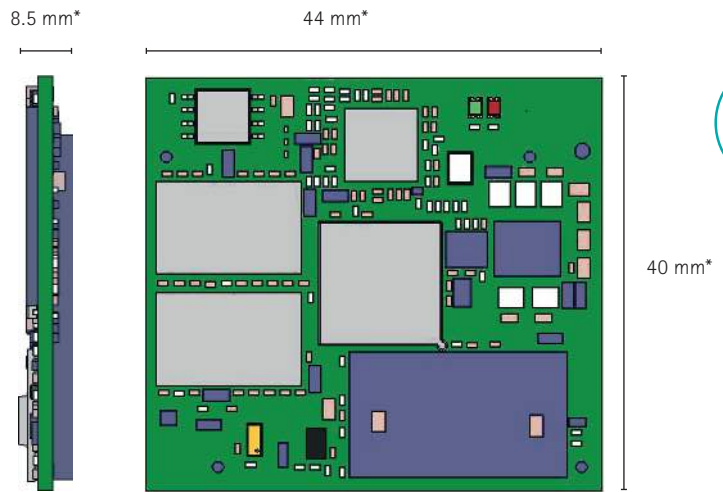
## Carrier Board

### CB Interfaces

- Gb Ethernet, USB OTG & Host, FDCAN, RS 232 / RS-485, JTAG
- Micro SD slot
- Stereo headphone, stereo line, mono speaker, MEMS microphones
- MIPI DSI-2 or Parallel Display or HDMI
- Parallel camera interface (phyCAM-P)
- Arduino Connector
- Raspberry Pi HAT Connector
- STM Motor Control Connector
- PEB Expansion Connector
- PHYTEC A/V Connector

## Ordering information

contact@phytec.de | contact@phytec.eu



## Physical Data

Dimensions*	40 x 44 mm
Weight	12 g
Operating Temperature	-40°C to +85°C
Power Supply	VCC 5 V
Connector*	2x 120 pins Samtec Connector, BGA optional

\* This information refers to the preproduction product. Specifications and information herein might be subject to change for the series product.

