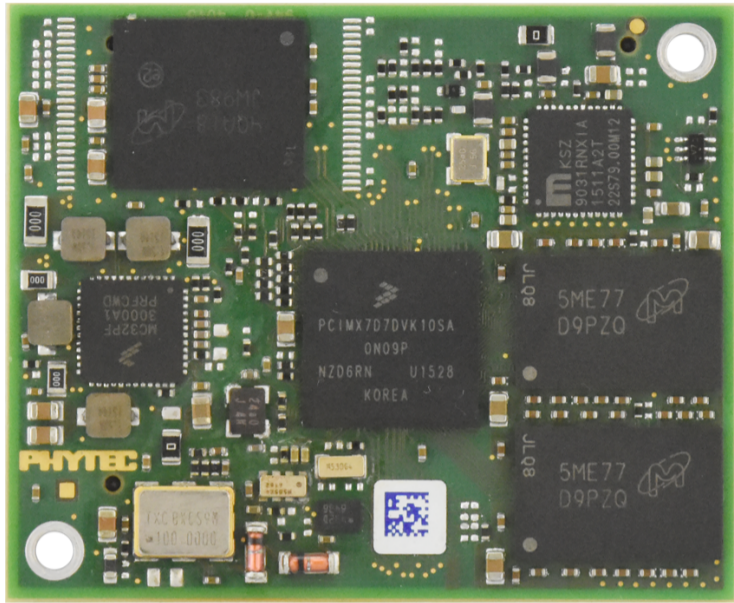# phyCORE® i.MX7 System on Module



phyCORE-i.MX7 SOM

## Full-Featured & Flexible.

*phyCORE-i.MX7 Product Highlights:*

// Heterogeneous Multicore Processing

// Real-Time Performance

// Power-efficient

// Advanced System Integrity and Security

// Extensive Peripheral Set

// Tiny Form Factor: 41 x 50 mm

// Linux/Yocto Project Support

## Perfect combination of high-performance processing and power efficiency.

With the demand for more innovation, advanced features, and shorter product life-cycles, there is increasing pressure on original equipment manufacturers (OEMs) to reduce cost and time-to-market. PHYTEC SOMs are designed to accelerate product development cycles, while providing cutting-edge technologies to successfully address these ever-evolving challenges.

The phyCORE-i.MX7 System on Module (SOM) supports next-generation NXP i.MX 7 single and dual-core applications processors. The i.MX 7 from NXP offers high performance processing at ultra-low power and is the first device on the market utilizing both the ARM® Cortex®-A7 and Cortex-M4 cores.

Within a compact form factor, the phyCORE-i.MX7 SOM offers a scalable set of on-board memory with additional peripheral and I/O features routed to high-density connectors. As a drop-in solution, the phyCORE-i.MX7 can be deployed in a wide range of embedded applications including IoT, industrial human machine interface (HMI), portable test and measurement, and more.

PHYTEC has a strategic commitment and decades of experience providing high-quality, high-reliability, and long product life-cycle solutions to OEMs ranging across all vertical markets.

## System on Module advantages:

### EASIER
Building a new embedded device from the ground up is an enormous challenge and risk. Embedded development can be made much easier by leveraging existing solutions.
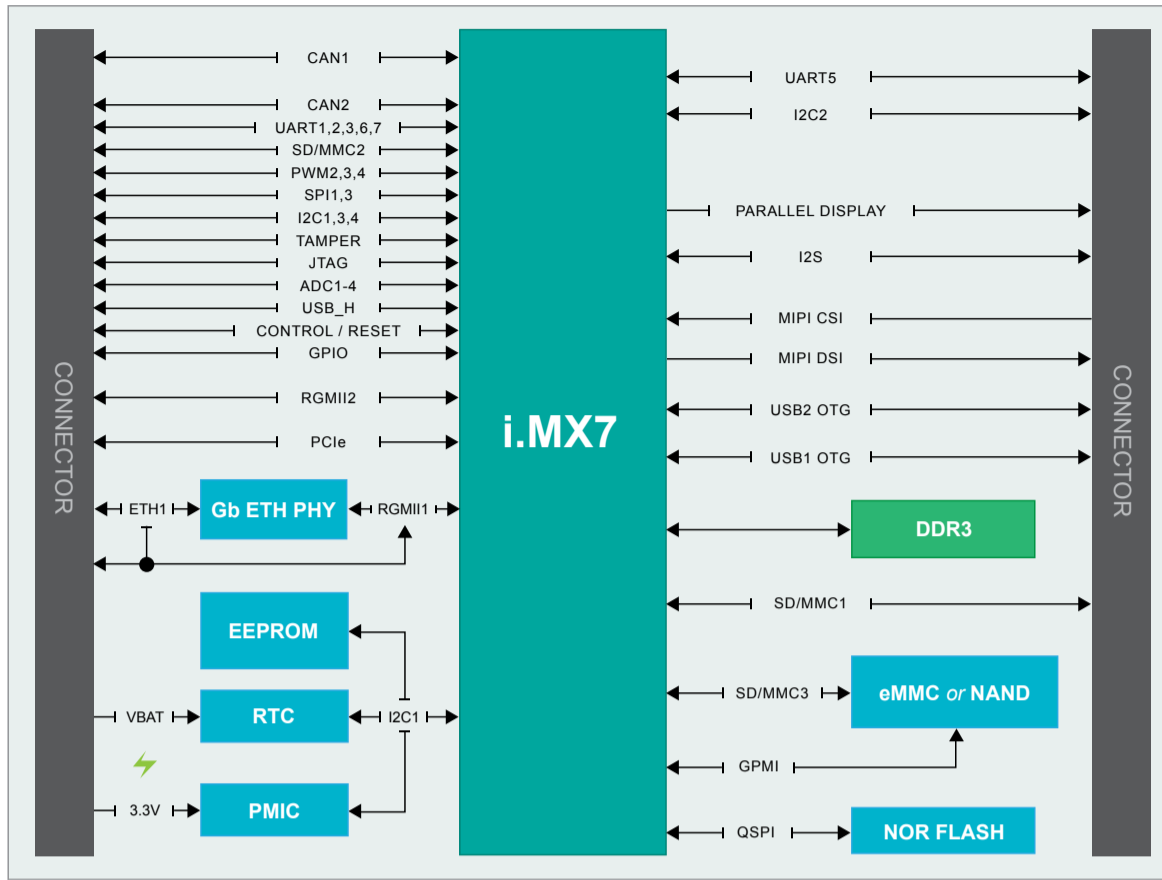
### FASTER
Deploy a production-ready SOM and BSP and eliminate 6-12 months from your deve opment timeline.
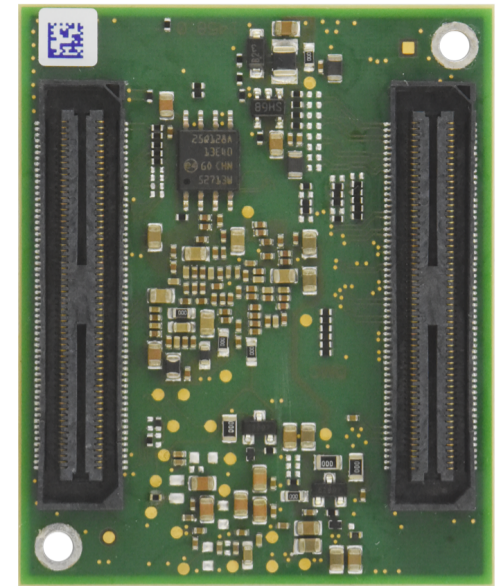
### CHEAPER
Save substantial non-recurring engineering costs by eliminating specification, parts selection, schematic, layout, validation, and Operating System porting efforts. Use an off-shelf SOM and BSP instead.

PHYTEC

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# phyCORE® - i.MX7 System on Module



phyCORE-i.MX7 SOM BLOCK DIAGRAM



phyCORE-i.MX7 BOTTOM VIEW

## SOM FEATURES / Part No. PCM-061:

### Processor
- NXP i.MX 7Solo/7Dual
- Single/Dual ARM® Cortex®-A7
- ARM® Cortex®-M4
- NEON™ MPE, SMART DMA
- Full security with tamper detection

### Memory
- Up to 2 GB DDR3
- Up to 8 GB NAND or 32 GB eMMC
- QSPI NOR
- EEPROM

### Expansion
- 3x HS-MMC/SD/SDIO
- PCIe Gen 2

### Serial
- 7x UART, 4x I2C, 3x I2S, 4x eCSPI, 2x CAN

### USB/Network
- 2x USB 2.0 OTG
- USB 2.0 Host HSIC
- 2x Gigabit Ethernet (1 PHY on SOM)

### Multimedia / Display
- 24-bit TTL LCD
- MIPI DSI (2 lane)
- MIPI CSI (2 lane)

### Misc
- ADC, RTC, PWM, GPIO, Keyboard, JTAG

### Mechanical
- 41 x 50 mm
- 0.5 mm pitch connectors (240 pins)

### Supply
- 3.3V

### Temperature
- 0 to 95°C or -20 to 105°C

### Software
- Linux   BSP
- FreeRTOS BSP
- Yocto Project Support

### Availability
- Available Now

## SERVICES

Product developers with aggressive timelines or limited resources can employ PHYTEC's full range of design services, which include systems integration support with printed circuit board and software design services, Linux and Android expertise, and in-house manufacturing facilities.