



# PHYTEC

## phyCORE®-i.MX 6UL/ULL Arm® Cortex®-A7

The phyCORE-i.MX 6UL/ULL System on Module (SoM) is based on NXP's i.MX 6UL/ULL processors, providing high computing power with low energy consumption. At just 36 mm x 36 mm in size, with full Linux implementation and a power consumption of less than 50 mW in idle mode, this device is ideal for high-performance and energy-efficient applications, including HMI, IoT, and other connected devices.

Due to its cost-optimized bill of material and single-sided assembly, the solderable phyCORE-i.MX 6UL/ULL module is inexpensive and ideal for industrial use and cost-effective high-volume production.

Pin compatibility with the phyCORE-i.MX 91/93 and phyCORE-STM32MP13x enables the development of scalable applications in terms of price/performance ratio.



### i.MX 6 UL/ULL Processor

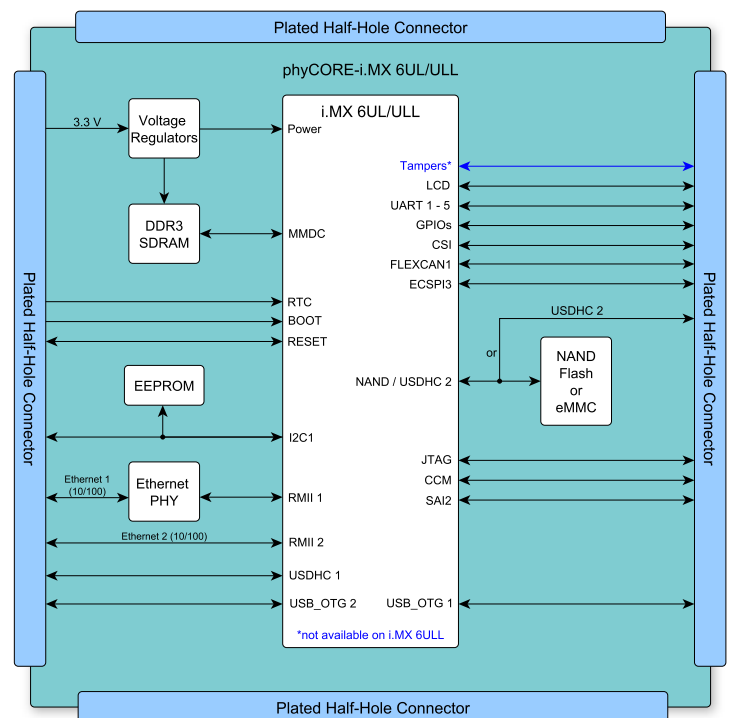
- Cost-efficient Low-Power NXP i.MX 6UL, Cortex-A7 supports up to 696 MHz frequency or i.MX 6ULL, Cortex-A7 with up to 900 MHz
- DVFS Power Management
- Arm® NEON™ MPE Multimedia Processing Engine for 2D image processing
- Extended Hardware encryption technology
  - ARM TrustZone, SNVS, SRTC
  - Supports Digital Rights Management (DRM)
  - Encryption, secure boot, encryption software downloads
  - Tamper, WDT, temperature monitoring

### Module Features

- 128 MB up to 2 GB SLC-NAND Flash or 4 GB up to 128 GB eMMC
- Maximum 2 GB DDR3
- On-Board Ethernet-PHY, Voltage converter circuit
- Full support signal processor
- 159-pin DSC layout supports Dual LAN, Dual USB, Dual CAN, parallel LCD and camera, ISO7816 standard SIM card interface
- Compact form factor: 36 mm x 36 mm
- Available on reel or tray for optimized assembly

### Your Advantages

- Production-ready Linux® BSP
- Reference design for FCC / CE certification
- Global Technical Support
- Full schematic review of your carrier board design
- Product Life-Cycle Management program



## Module Configuration | phyCORE-i.MX 6UL/ULL (PCL-063)

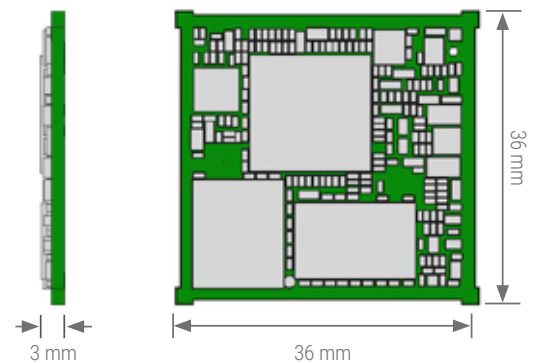
Configuration Order Code	Module Options	Kit Configuration PCL-063-23900Cl.Ax	... with eMMC PCL-063-20920Cl.Ax	Standard with i.MX 6UL-G2 PCL-063-23400Cl.Ax
<b>Processor</b>	i.MX 6UL G1-G3 / 6ULL Y1-Y2	i.MX 6ULL-Y2	i.MX 6ULL-Y2	i.MX 6UL-G2
<b>Cores</b>	ARM® Cortex®-A7	ARM® Cortex®-A7	ARM® Cortex®-A7	ARM® Cortex®-A7
<b>Frequency</b>	528 MHz up to 900 MHz	792 MHz	792 MHz	696 MHz
<b>Safety features</b>	CAAM or DCP (AES, 3DES with DPA/SHA), tamper monitor, TRNG, Assurance Boot (HAB), Public Key, etc.	DCP: AES-128/SHA-256, tamper, TRNG, Assurance Boot, etc.	DCP: AES-128/SHA-256, tamper, TRNG, Assurance Boot, etc.	CAAM: AES-256/SHA-512/3DES with DPA, tamper, TRNG, Assurance Boot, Publ. Key, etc.
<b>eFuse</b>	512-bit / 1024-bit / 1536-bit / 2048-bit	512-bit	512-bit	1536-bit
<b>2D Graphics Acceleration</b>	optional 2D	yes	yes	yes
<b>SLC-NAND flash</b>	128 MB up to 2 GB	512 MB	-	512 MB
<b>eMMC</b>	4 GB up to 128 GB	-	8 GB	-
<b>DDR3 RAM</b>	128 MB up to 2 GB	512 MB	512 MB	512 MB
<b>EEPROM</b>	4 KB	4 KB	4 KB	4 KB
<b>Ethernet</b>	2x 10/100 Mbit/s (1x on-board PHY, 1x RMII)	2x 10/100 Mbit/s (1x on-board PHY, 1x RMII)	2x 10/100 Mbit/s (1x on-board PHY, 1x RMII)	2x 10/100 Mbit/s (1x on-board PHY, 1x RMII)
<b>Temperature</b>	0 °C to +70 °C or -40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
<b>BSP</b>	Linux	Linux	Linux	Linux

\* Please contact us for other configurations

## Module Interfaces

Interfaces	Standard	Maximum*
<b>UART</b>	3	8
<b>CAN</b>	1	2
<b>SPI</b>	1	4
<b>I<sup>2</sup>C</b>	1	4
<b>MMC/SDIO</b>	2	2
<b>Ethernet</b>	2	2
<b>USB</b>	2	2
<b>EIM</b>	1	1
<b>PWM</b>	1	8
<b>ADC (up to 10 channels)</b>	1	2
<b>LCD Parallel (up to 24-bit)</b>	1	1
<b>Audio (I<sup>2</sup>S/SAI)</b>	1	3
<b>Camera Parallel</b>	1	1
<b>Keypad</b>	0	1
<b>SIM</b>	0	2
<b>JTAG</b>	1	1

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



## Physical Data

<b>Dimensions</b>	36 mm x 36 mm x 3 mm
<b>Weight</b>	approx. 6.2 g
<b>Operating temperature</b>	0 °C to +70 °C, -40 °C to +85 °C
<b>Power supply</b>	VCC 3.3 V ±5%
<b>PCB connection</b>	159 solder pads, 1 mm pitch

## Ordering Information Kits

## Part number

<b>KPB-02013-001</b>	phyBOARD-Segin Full Featured Kit
<b>KPB-02013-Video-L01</b>	phyBOARD-Segin Imaging Kit



[www.phytec.eu/en/phycore-imx-6-ul-ull](http://www.phytec.eu/en/phycore-imx-6-ul-ull)