

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.



phyCORE®



Pin compatible



i.MX 6 UltraLite 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 792 MHz
- DVFS Power Management
- Extended Hardware encryption technology and Secure Boot

Direct Solder Connect

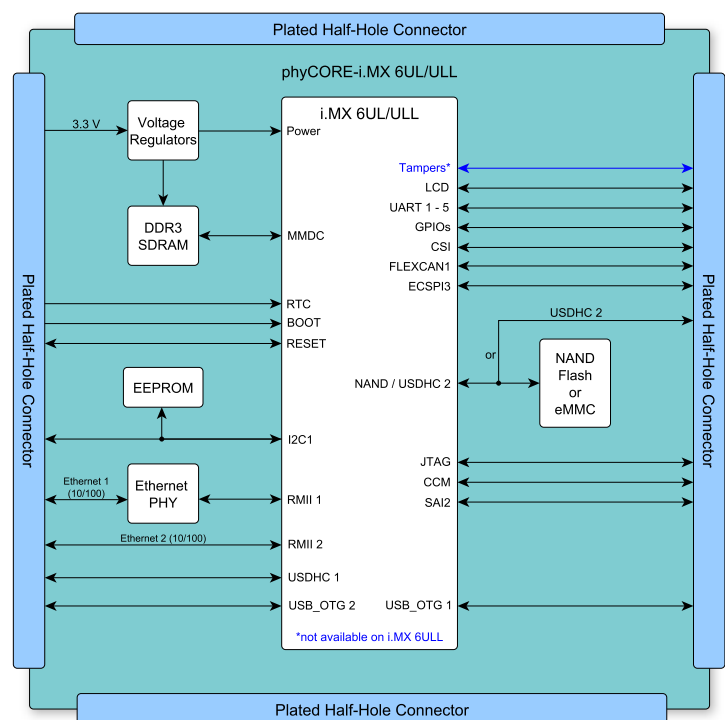
- Scaloped edge contacts further improving manufacturing cost
- Tape and Reel' or tray options available for optimized system assembly

Features

- Compact form factor: 36 mm x 36 mm
- 159-pin support Dual LAN, Dual USB, Dual CAN, parallel LCD and camera, ISO7816 standard SIM card interface
- SOM customization available at low production volumes

Product Integration

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



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

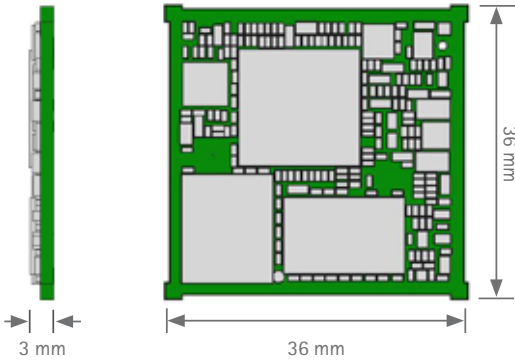
Configuration Order Code	Module Options	Kit Configuration PCL-063-23900Cl.Ax	... with eMMC PCL-063-20920Cl.Ax	Standard with i.MX 6UL-G2 PCL-063-23400Cl.Ax
Processor	i.MX 6UL G1-G3 / 6ULL Y1-Y2	i.MX 6ULL-Y2	i.MX 6ULL-Y2	i.MX 6UL-G2
Cores	ARM® Cortex®-A7	ARM® Cortex®-A7	ARM® Cortex®-A7	ARM® Cortex®-A7
Frequency	528 MHz up to 900 MHz	792 MHz	792 MHz	696 MHz
Safety Features	TRNG, Crypto Engine (AES with DPA, TDES/SHA/RSA), tamper monitor, Secure Boot	Basic	Basic	TRNG, Crypto Engine (AES / TDES / SHA), tamper monitor, Secure Boot
eFuse	512-bit / 1024-bit / 1536-bit / 2048-bit	512-bit	512-bit	1536-bit
2D Graphics Acceleration	optional 2D	yes	yes	yes
SLC-NAND FLASH	128 MB bis zu 2 GB	512 MB	-	512 MB
eMMC	4 GB bis zu 128 GB	-	8 GB	-
DDR3	128 MB bis zu 2 GB	512 MB	512 MB	512 MB
EEPROM	4 KB	4 KB	4 KB	4 KB
Ethernet PHY	10 / 100M-PHY	2x 10/100 Mbit/s	2x 10/100 Mbit/s	2x 10/100 Mbit/s
Temperature	0 °C to +70 °C / -40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
BSP	Linux	Linux	Linux	Linux

* Please contact us for additional standard SOMs

SOM Interfaces

Interfaces	Standard	Maximum*
UART	3	8
CAN	1	2
SPI	1	4
I²C	1	4
MMC/SDIO	2	2
Ethernet	2	2
USB	2	2
EIM	1	1
PWM	1	8
ADC (up to 10 channels)	1	2
LCD Parallel (up to 24-bit)	1	1
Audio (I²S/SAI)	1	3
Camera Parallel	1	1
Keypad	0	1
SIM	0	2
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.



Physical Data

Dimensions	36 mm x 36 mm x 3 mm
Weight	approx. 6.2 g
Operating Temperature	0 °C to +70 °C, -40 °C to +85 °C
Power Supply	VCC 3.3 V ±5%
Connector	159 solder pads, 1 mm pitch

Ordering Information Kits

Part number	
KPB-02013-001	phyBOARD-Segin Full Featured Kit
KPB-02013-Video-L01	phyBOARD-Segin Imaging Kit



www.phytec.eu/en/phycore-imx-6-ul-ull