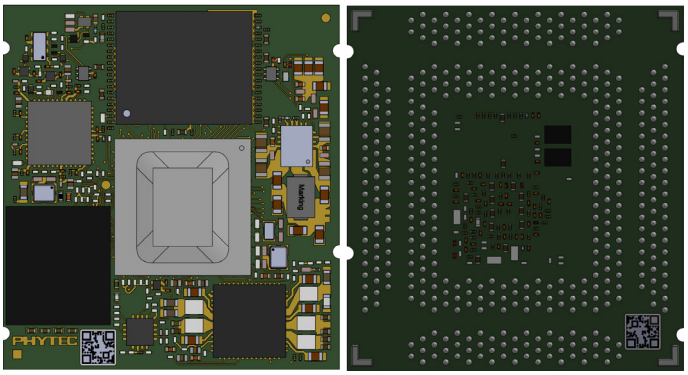
phyFLEX®-i.MX 952 FPSC

Cost-effective Multimedia and Vision Systems

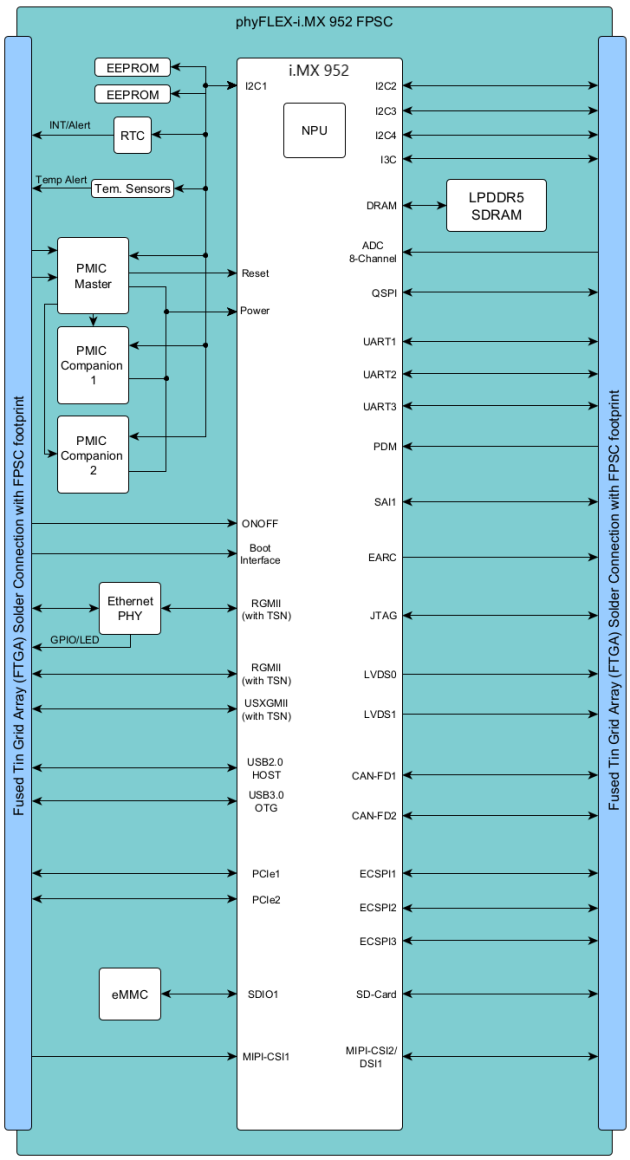
The phyFLEX®-i.MX 952 FPSC is a compact FPSC soldering module that can be equipped with either the NXP i.MX 937 or the NXP i.MX 952. Both processors offer up to four Arm® Cortex™-A55 cores with a clock speed of up to 1,7 GHz, LP-DDR5 memory interface, and an Arm®. The i.MX 952 expands the range of applications with more powerful graphics, video, and image processing capabilities, such as an integrated ISP and 4K video processing.

The NXP i.MX 952 provides access to higher graphics and computing performance, as well as additional video and image processing capabilities, without requiring a complete redesign of the underlying hardware concept. Other phyFLEX® Gamma modules can also be used with processors from other manufacturers, following the same principle.

The phyFLEX®-i.MX 952 FPSC is scalable and pin-compatible with FPSC-Gamma based products like the phyFLEX®-i.MX 8M Plus FPSC.



FPSC



i.MX 952 Processor

- Quad Core Arm® Cortex™-A55 with up to 2,0 GHz
- Thanks to FPSC, pin-compatible with other in our phyFLEX® FPSC range of products
- Easy soldering using FTGA soldering technology
- Up to 3 displays simultaneously (1x 4-lane MIPI DSI, 1x 8-lane or 2x 4-lane LVDS)
- eIQ Neutron NPU with 0.5 TOP/s
- Integrated Image Signaling Processor for processing high-resolution camera data

Module Features

- Easy soldering using FTGA soldering technology
- Sophisticated energy management
- Fully TSN-capable Ethernet
- Selectable IO voltage between 1,8 V or 3,3 V.
- All processor interfaces are available on the SOM connection

Your Advantages

- Ready adapted Linux operating system
- Only one device design for different performance configurations
- Product Lifecycle Management program
- Global Technical Support

https://www.phytec.eu/en/produkte/system-on-modules/phyflex-imx-937/952-fpsc/

Technical Data

Module Configuration

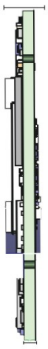
Processor	NXP i.MX 952
Core(s)	Quad-core Arm® Cortex™-A55
Additional Core(s)	1x Arm® Cortex™-M33, 1x Arm® Cortex™-M7
Clock frequency	up to 1.7 GHz (A55), 333 MHz (M33), 800 MHz (M7)
Video Processing	4Kp60 H.265/4 decode, 4Kp30 H.264 encode
GPU	Arm Mali-G310 3D GPU OpenCL/GL/Vulkan (64 GFLOPS)
Image signal processor	ISP (RGB-IR) 500 MPx/s
AI/ML	eIQ Neutron NPU mit 0.5 TOP/s
Crypto	EdgeLock accelerator (V2X), PQC
HW Security	Arm TrustZone, Secure boot, EdgeLock secure enclave, SNVS, SRTC
Functional safety	Hardware Integrity: IEC61508 (SIL2)
EXT. MEMORY	
eMMC	64 GB
LPDDR5	8 GB
EEPROM	4 kB up to 32 kB (1x User EEPROM, 1x Factory EEPROM)
PHYSICAL PROPERTIES	
Dimensions	40 mm x 37 mm
Weight	tbd.
Operating temperature	-40 °C to +85 °C
Humidity	95 % RH non condensing
Operating voltage	5.0 V
Power consumption typ.	tbd.
PCB connection	Fused Tin Grid Array (FTGA) with FPSC-Gamma 1.1 footprint (1.27 mm pitch)
SOFTWARE	
Operating system	Linux (Yocto based)

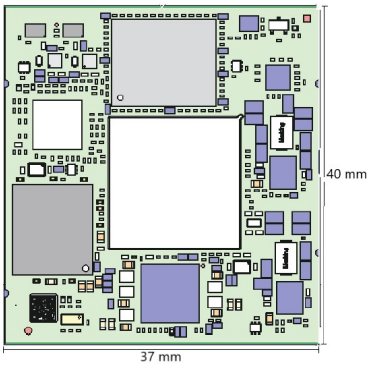
Module Interfaces

Ethernet	2x GbE (1x on-board PHY / 1x RGMII) (with TSN support)
USB	2x USB 2.0(dual-role)
UART	3x (up to 8x)
CAN	3x CAN FD
PCIe	1x Gen3 1 Lane
I²C	5x (up to 8x)
I³C	up to 1x
SPI	3x + 1x QSPI (up to 8x)
MMC/SD/SDIO	2x
ePWM	2x (up to 3x)
Display	1/2x LVDS 8/4-lane (up to 1080p or 1920x1200 or 2x720p), 1x MIPI DSI D-PHY 1.2 (4kp30 or 3840 x 1440p60)
Camera	1x MIPI-CSI-2 (1x4 or 2x2-lane)
Audio	1x SAI (2-lanes), I2S, SDPIF
ADC	up to 8 (12-bit)
Debugging	JTAG
RTC	1x i.MX 952 internal on-chip, 1x 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.

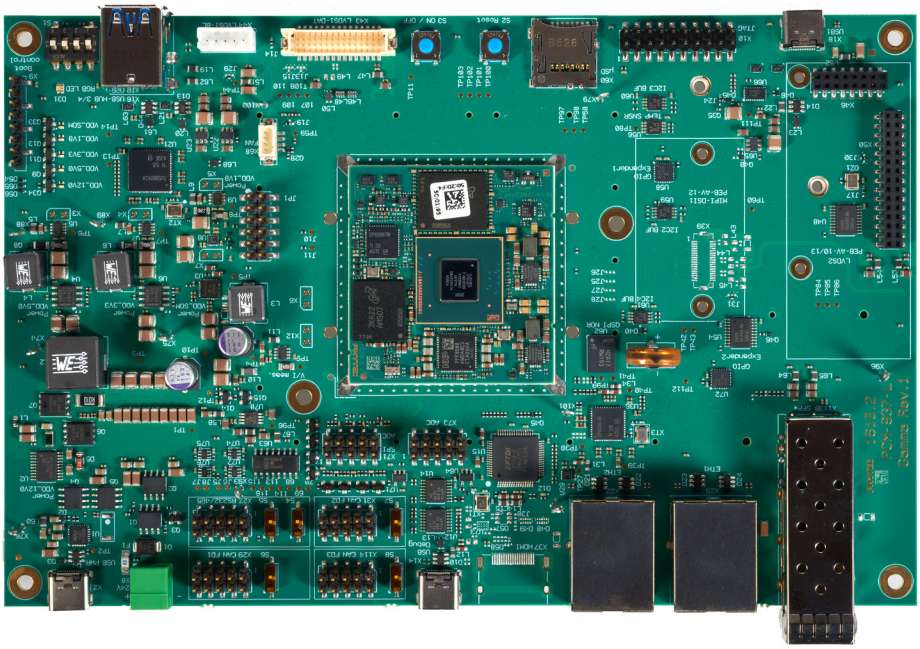
Blue font indicates the maximum number or additional interfaces when pin compatibility according to the FPSC standard is NOT required





Libra Development Board FPSC

Versatile Development Platform for FPSC Modules



INTERFACES	
Ethernet	2x 1 GbE (all RJ45) (TSN support)
USB	1x USB 2.0 (Type-A), 1x USB 2.0 (Type-C)
Serial	1x RS-232 or RS-485, 2x CAN FD (3x pin header 2x5)
Display	1x LVDS
Debugging	JTAG (Expansion sockets) 1x USB 2.0 Debug (Type-C)
Various	I²C, SPI, GPIO, ADC (Expansion connectors)
MISCELLANEOUS	
MMC/SD/SDIO	microSD Card Slot
User Control	3x LED, 1x RGB LED, 2x button
Dimensions	230 mm x 140 mm
Supply Voltage	24 V or USB-C