



LXF90K0

SWaP optimized sensor processing platform

The LXF90K0 is a compact standalone Adaptable compute acceleration platform based on the ZYNQ Ultrascale+ Multiprocessor system on chip (MPSOC). Depending on the customer application it is possible to choose between four different ZYNQ US+ devices (XCZU2, ZCZU3, XCZU4 or XCZU5) in the same 784 pin package.

Powerful Compute Units

Using this device makes this platform a powerful application processing unit based on a Quad-core ARM Cortex-A53 combined with a real time processing unit built around the Dual-core ARM Cortex-R5. Furthermore, there is the option for an ARM Mali-400 MP2 graphics processing unit and an on-chip H.264/H.265 CODEC1. All this processing power is combined with a Programmable logic section of up to 256K logic cells, 1248 DSP slices and 25Mbits memory.

Large Memory

The processing system is connected to a 2400 Mb/s DDR4 memory bank that is 64 bits wide and offers a total memory density of 4GB. This memory is complemented with several FLASH storage options based on onboard QSPI FLASH, SD card storage, upto 64GB onboard FLASH drive and an M.2 expansion slot (2280).

System IO

External interfaces to the Processing system comprise of a

- Dual 1G Ethernet port
- Mini DisplayPort
- Type A USB2.0 port
- Dual UART over USB port
- Single SMA for GPIO

Adaptable Logic

The Programmable logic connects to an FMC (VITA 57.1) site that allows flexible IO expansion through a wide range of Commercial off the shelf FMC products. These can add for example Analog IO, Digital IO, RF IO or Video IO functionality to the LXF90K0 platform. In addition, the programmable logic has two GPIOs that connect to an MMCX connector and two six pin PMOD interfaces. The PMOD interfaces can be used to connect low frequency, low I/O pin count peripheral modules to the processor system or the programmable logic.

Typical Applications

- Electronic Warfare
- Multi channel digital receivers
- Satellite communication
- Industrial Vision
- Edge Artificial Intelligence

Key Features:

- Small form factor (160x100 mm)
- ZYNQ Ultrascale+ MPSOC
- 4GB DDR4 SDRAM
- SSD (upto 64 GB)
- FPGA Mezzanine (HPC)
- Power DC 20-28V or 12V
- Advanced power monitoring support
- Advanced power saving support
- Ready for industrial application



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Specifications

Xilinx ZYNQ Ultrascale+ MPSOC

- Quad-core ARM Cortex-A53
- Dual-core ARM Cortex-R5
- Mali-400 MP2 1
- H.264/H.265 CODEC1

Onboard memory

- 4GB DDR4 SDRAM
- SSD (up-to 64 GB)
- 64MB QSPI

Expansion options

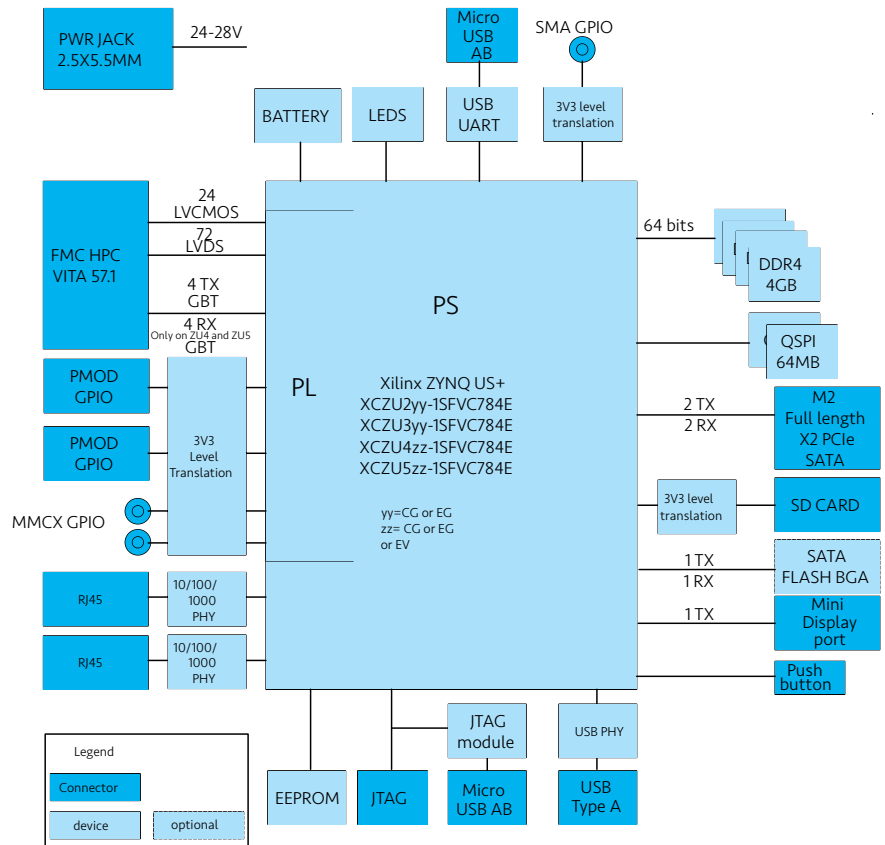
- FPGA Mezzanine (HPC)
 - Analog Input and Output
 - Sensor IO
- 2 times PMOD GPIO
- M.2 PCIe SSD support

System I/O

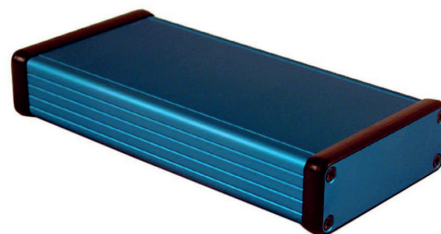
- LVTTTL GPIO on SMA and MMCX
- Dual 1G low latency Ethernet
- USB JTAG
- MiniDisplay Port
- USB
- Micro SD Card
- Reset button
- User LEDs
- USB UART

SWaP features

- Advanced power monitoring support
- Advanced power saving support
- Ready for industrial application
- Small form factor (160x100 mm)
- Rechargeable battery for encryption
- Rugged power connector



Compatible with LXS20K0



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