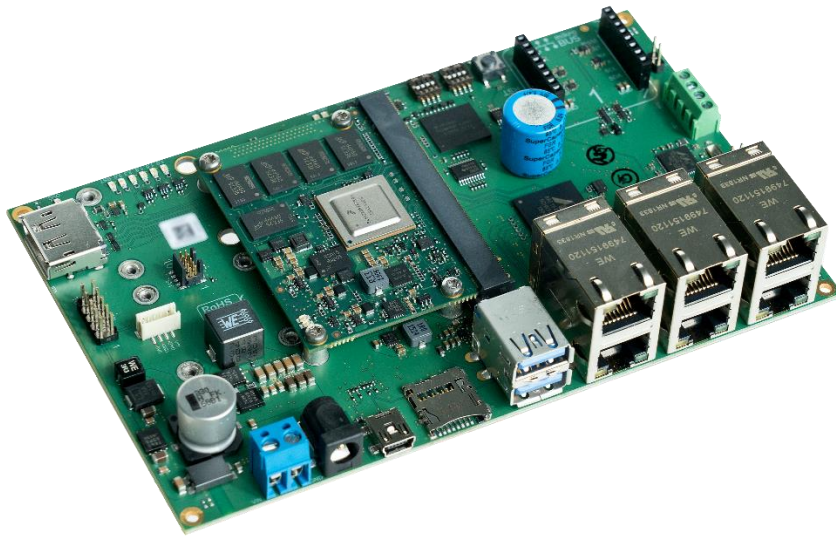


# miriac™ SBC-LS1028A-TSN

## Single Board Computer

### Product Description



**Fig 1: miriac™ SBC-LS1028A Single Board Computer**

#### Disclaimer

This preliminary datasheet is based on preproduction information by NXP and MicroSys and information herein is subject to change without notice.

#### Introduction

The **miriac™** SBC-LS1028A-TSN platform is the combination of a miriac MPX-LS1028A System on Module and the carrier board CRX07.

The LS1028A module is based on NXP's Layerscape LS1028A industrial application processor that includes a TSN-enabled Ethernet switch and Ethernet controllers to support converged IT and OT networks. Two powerful 64-bit ARM®v8 cores support real-time processing for industrial control, as well as virtual machines for edge computing in the IoT. The integrated GPU and LCD controller enable Human Machine Interface (HMI) systems with next-generation interfaces. Integrated Trust Architecture with cryptographic offload provides a trusted platform with encrypted communications for secure applications and services.

The miriac SBC-LS1028A-TSN platform combines a rich I/O infrastructure, high compute power, high speed communication interfaces with the upcoming requirement of secure real time communication over Ethernet based on TSN (Time Sensitive Networking) on a small

board footprint. The integrated graphic interface complements the system functionality for versatile applications.

The development kit offers a perfect means to implement rugged designs with the aim to withstand extreme and harsh environments. Typical applications are found in automotive, industrial automation, medical, railways & transportation, construction and defense market segments.

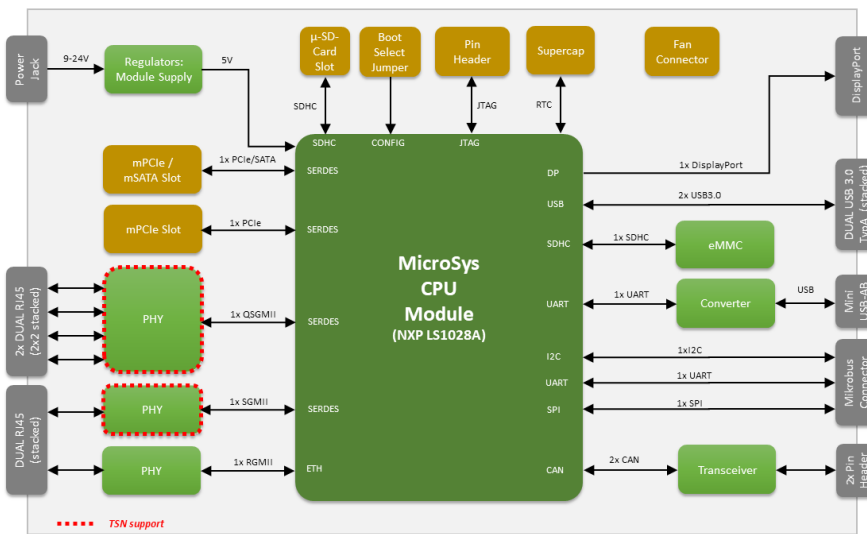
The new MPX-LS1028A SoM is connected to the carrier board via a standard edge connector (MXM2.0 socket). Its dimensions are 62.11mm x 45mm.

The flexible miriac MPX module carrier concept in combination with the provided board support packages of operating systems, is an excellent platform for rapid prototyping.

**Feature Summary**

- The board size is 160mm x 100 mm
- NXP QorIQ LS1028A CPU: two Arm® Cortex® A72 32/64-bit cores at up to 1.5 GHz core frequency
- Up to 4GB 32 Bit DDR4 ECC RAM at 1600 MT/s
- Up to 256MB Serial NOR Flash & up to 4GB Serial NAND Flash
- IEEE Std. 1588 support
- One Ethernet Port 10/100/1000 Base-T (on RJ45 connector)
- Five Ethernet Ports 10/100/1000 Base-T with TSN support (on RJ45 connectors)
- Two CAN-FD interfaces (on pin headers)
- One mini-PCI-Express card slot & one mini-PCI-Express / mini-SATA card slot
- DisplayPort
- Micro SD Card slot (configurable as boot device)
- 8 GB eMMC (configurable as boot device)
- Two USB3.0 ports
- USB2.0 console interface on UART0 port
- mikroBUS interface
- Two separate JTAG interfaces (on standard ARM-20, ARM-10 connectors)
- GPIO, Power and Status LEDs
- Watchdog
- Supercap for RTC Backup
- Reset button
- Boot mode DIP switch
- 9-24V DC input supply voltage range
- FAN connector (12V / 5V)

**Graphic 1: miriac SBC-LS1028A-TSN Block Diagram**



Software-Support: Linux, planned: RTOS: Microware OS-9, others on request

Order #	Order text	Status
857601	miriac SBC-LS1028A Single Board Computer, incl. order# 857001 (MPX-LS1028A SoM, 1,3GHz, 4GB DDR4 (64Bit), ECC, up to 256MB NOS Flash) on Carrier Board	available
857602	miriac SBC-LS1028A Development Kit for MPX-LS1028A SoM, incl. order# 857001 (MPX LS1028A SoM,1,3GHz, 4GB DDR4 (64Bit), ECC, up to 256MB NOS Flash), Carrier Board, Linux BSP, accessories	build on request

You are interested in a different variant? You are very welcome to contact us!

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