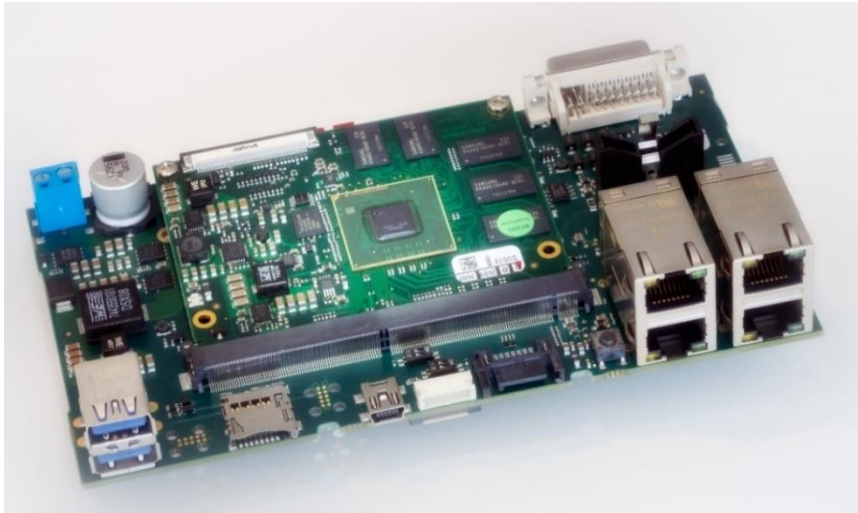# miriac® SBC-T1042
Single Board Computer
Product Description

Introduction

The **miriac™** SBC-T1042 Single Board Computer is a member of a family of NXP QorIQ™ T104x series based complete system solutions by MicroSys. NXP´s T1040/20 and T1042/22 CPUs are the midrange class of the more powerful T2081 pin compatible CPU device.

MicroSys introduces a new miriac™ System on Module MPX-2 definition applied in the new SBC series. It is the successor of the proven MPX SoM specification that was introduced in 2000. It addresses the support of NXP´s QorIQ Layerscape (ARM) Architecture and Power Architecture (PowerPC) on the same module form factor. The SoMs integrate a standard MXM Edge Connector (like SMARC) to link to carrier boards. It offers up to 16 high speed channels (SMARC-2:4) and by that a flexible and high performance I/O infrastructure at attractive price levels.

The development kit offers a fast 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 flexible miriac MPX module carrier concept in combination with the provided board support packages of operating systems, is an excellent platform for rapid prototyping. Those designs are quickly serial production ready. Software development environments are an integral part of the product. Middleware to address market specific requirements like field bus solutions (e.g. EtherCAT or Profinet) embedded graphics (e.g. XiBase9, Qt) or SPS environments like IEC 61131-3 conform programming can be provided on request.

Key system features

The SBC-T1042 offers an excellent combination of protocol and interface support based on the T1042 CPU that holds four e5500 cores running at 1.2 - 1.4GHz. The system supports up to 4 GB ECC DDR4 RAM, up to 512 MB NAND Flash memory and four 1GbE ports (incl. IEEE Std 1588™ precision time protocol for network synchronization over Ethernet). Furthermore it holds one UART (TTL), two USB 2.0 interfaces, an additional USB-UART port for debug purposes. 2 miniPCIe interfaces are available and by two optional PCIe slots (1x edge card and 1x extension connector) additional external hardware might be integrated.

One graphic interface (DVI-I) is offered and access to external data media is provided by a SATA and a microSD Card connector.

NXP's QorIQ technology is a perfect fit for any application requiring very high performance but low power on a small form factor system. The system is production ready, if it fits the target environment. Conduction cooling can be implemented, if needed.
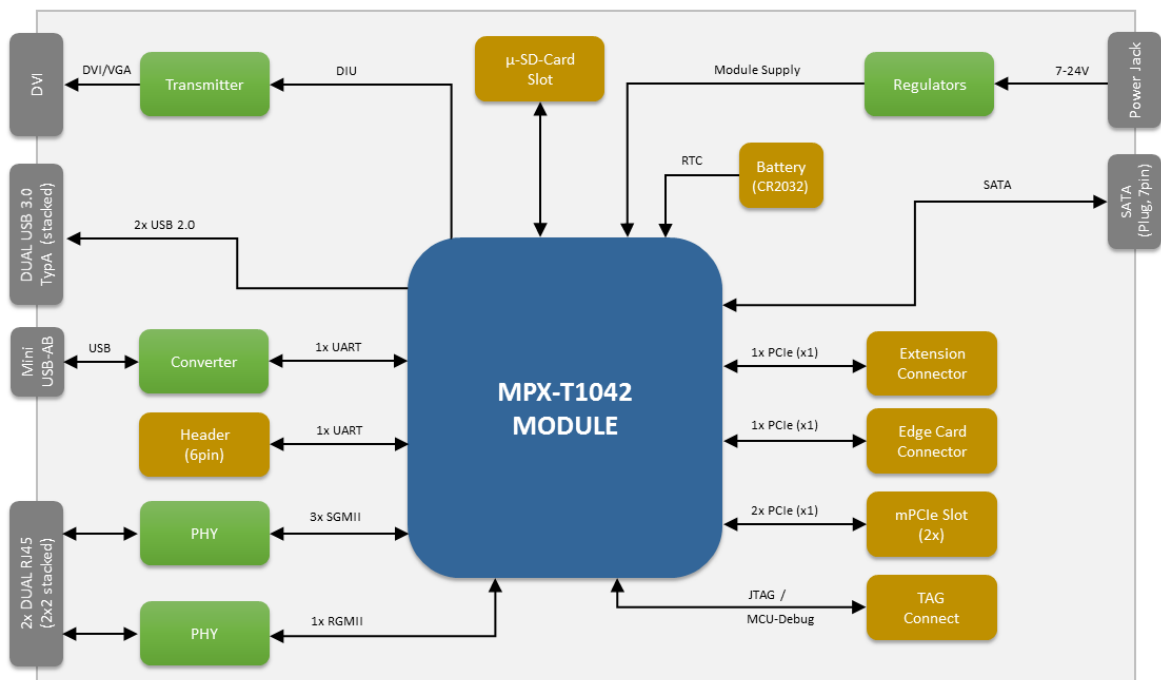
Versions for extended temperature -40°C to +85°C or rugged environments are available on request.

The SBCs are an easy means to check out system variants and guarantee a fast turnaround into series production.

Feature Summary

- NXP QorIQ T1042 CPU, 4 e5500 cores @1.2-1.4GHz
- up to 4 GB soldered ECC DDR4 RAM
- up to 512 MB NAND flash memory
- four 10/100/1000 Mbps Ethernet ports with IEEE® 1588 support
- 1 x DVI-I
- 2 x USB 2.0
- 1 x USB to UART (debugging)
- 1 x UART (TTL)
- 2 x miniPCIe (x1)
- optional: 1 PCIe via edge card connector & 1 PCIe via extension connector
- 1 x SATA
- 1 x microSD Card slot
- 1 x JTAG
- 1 x CR2032 battery (for RTC)
- Single +7 - +24 V power input
- Dev Kit for immediate start up, e.g. power supply, cables (optional)
- Board Support Packages for various operating systems (optional)

Graphic 1:   miriac SBC-T1042 Block Diagram

SBC-T1042: Version 1.1.0 – 2016-04-25

Software-Support: Linux, Microware OS-9; VxWorks, MicroC/OS-II, QNX or others on request

Order #	Order text	Status
854301	miriac SBC-T1042 Single Board Computer T1042@1.2GHz, 2GB DDR4 RAM, 512 MB Flash memory	available
854310	miriac SBC-T1042 Development Kit, includes order # 854301, Linux BSP, accessories	available

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

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