



## SoC Module with Xilinx Zynq Z-7014S Single-core, 1 GByte DDR3

Order number: TE0720-03-14S-1C



### Product information "SoC Module with Xilinx Zynq Z-7014S Single-core, 1 GByte DDR3"

The Trenz Electronic TE0720-03-14S-1C is a SoC module integrating a Xilinx Zynq Z-7014S, a gigabit Ethernet transceiver, 1 GByte DDR3 SDRAM, 32 MByte Flash memory for configuration and operation, and powerful switch-mode power supplies for all on-board voltages. A large number of configurable I/O's is provided via rugged high-speed stacking strips.

This device contains a single-core ARM Cortex-A9 processor and represents the lowest cost entry point to the scalable Zynq-7000 platform.

All this on a tiny footprint, smaller than a credit card, at the most competitive price. Modules in 4 x 5 cm form factor are fully mechanically and largely electrically compatible among each other.

All parts are at least commercial temperature range of 0°C to +70°C. The module operating temperature range depends on customer design and cooling solution. Please contact us for options.

## Key Features

- Xilinx Zynq XC7Z014S-1CLG484C
- Rugged for high shock and vibration
- Single-Core ARM Cortex-A9 MPCore up to 766MHz
- 10/100/1000 tri-speed gigabit Ethernet transceiver (PHY) with SGMII
  - SGMII accessible on a board-to-board connector
  - MAC Address EEPROM
- USB 2.0 high speed ULPI transceiver
- 1 GByte (2 x 4 GBit) 32-Bit-wide DDR3 SDRAM
- 32 MByte QSPI Flash memory
- 4 GByte e.MMC (up to 32 GByte)
- Plug-on module with 2 x 100-pin and 1 x 60-pin high-speed hermaphroditic strips
- 152 FPGA I/O's (75 LVDS pairs possible) and 14 MIO's available on board-to-board connectors
- On-board high-efficiency DC-DC converters
  - 4.0 A x 1.0 V power rail
  - 1.5 A x 1.5 V power rail
  - 1.5 A x 1.8 V power rail
- Temperature compensated real-time clock (RTC)
- 3 user LEDs
- System management and power sequencing
- eFUSE bit-stream encryption
- AES bit-stream encryption
- Valid MAC Address and 2K serial EEPROM
- SHA-256 authentication chip with unique serial number
- Evenly-spread supply pins for good signal integrity

Other assembly options for cost or performance optimization plus high volume prices available on request.

Depending on the customer design, additional cooling might be required.

## Recommended Software

Vivado HL WebPACK Edition (free version) <https://www.xilinx.com/products/design-tools/vivado/vivado-webpack.html>

The Vivado Design Suite HL WebPACK Edition is the FREE version of the design suite. Vivado HL WebPACK delivers instant access to some basic Vivado features and functionality at no cost.

All Xilinx Vivado Versions <http://www.xilinx.com/Vivado>

## Development Support

There are different base boards available for this module.

Latest documentation, design support files and reference designs with source files are available for download free of charge.

## Package Content

- 1x TE0720-03-14S-1C Trenz Electronic 4 x 5 cm Micromodule
- 4x bolts and screws

