Trenz Electronic GmbH - TE0723-03-07S-1C Datasheet

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Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of Embedded - Microcontroller,

Details	
Product Status	Obsolete
Module/Board Type	MCU, FPGA
Core Processor	ARM Cortex-A9
Co-Processor	Zynq-7000 (Z-7007S)
Speed	766MHz
Flash Size	16MB
RAM Size	512MB
Connector Type	B2B
Size / Dimension	-
Operating Temperature	0°C ~ 70°C
Purchase URL	https://www.e-xfl.com/product-detail/trenz-electronic/te0723-03-07s-1c

Overview

The Trenz Electronic TE0803 is an industrial-grade MPSoC module integrating a Xilinx Zynq UltraScale+ with up to 8 GByte 64-Bit width DDR4 SDRAM, and max. 512 MByte SPI Boot 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 connections.

All this in a compact 5.2 x 7.6 cm form factor, at the most competitive price.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

Extended device life cycle

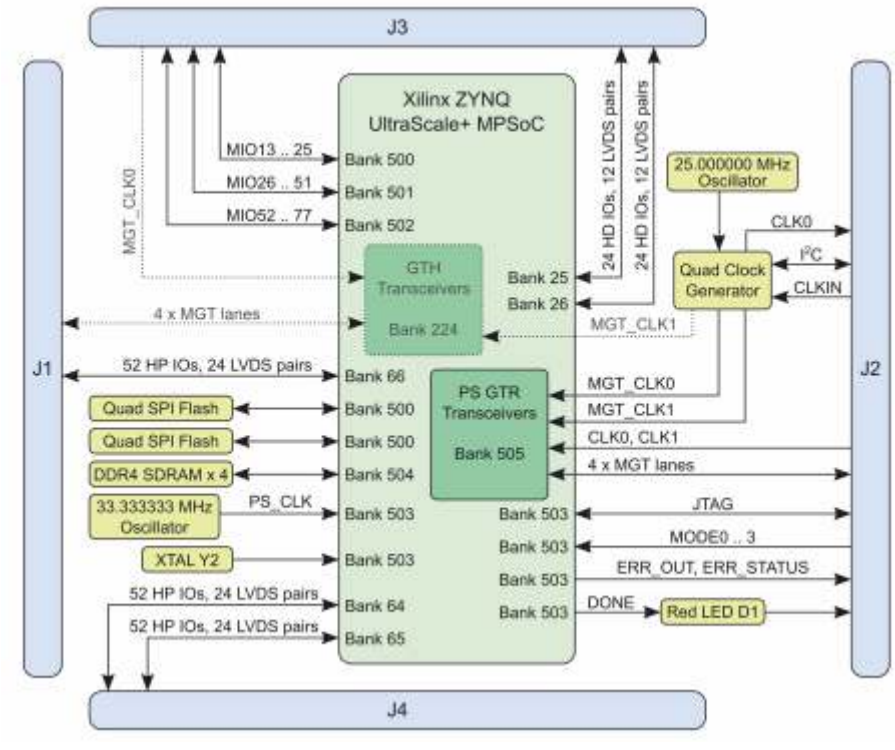
Rugged for industrial applications

XILINX ALL PROGRAMMABLE™

ZYNQ UltraSCALE+

Key Features (preliminary)

- Xilinx Zynq UltraScale+ MPSoC 784 pin package (ZU3EG, optional ZU5EV)
- Memory:
  - 64-Bit DDR4 - 8 GByte max
  - SPI Boot Flash dual parallel - 512 MByte max
- B2B connectors:
  Plug-on module with 4 x 160-pin connectors
  - 65 x MIO, 156 I/O's x HP (3 banks)
  - Serial transceiver: PS GTR 4, PL GT 4 (ZU4, ZU5 only)
  - GT Reference clock input
  - PLL for GT Clocks (optional external reference)
- Size: 52 x 76 mm
- All power supplies on board.
- Other assembly options for cost or performance optimization plus high volume prices available on request.



TEB0911 Series
Xilinx Zynq UltraScale+, 6 FMC Solts, Gigabit Ethernet

Key Features

- Zynq UltraScale+ MPSoC - 1156 Package ZU9 (ZU6, ZU9, ZU15 Possible as assembly option)
- 64-Bit DDR4 SODIMM (PS connected)
- PS-GTR
  - M2 PCIe SSD (internal, 1-Lane)
  - 2 x USB3 Host (from 4 port internal HUB)
  - 2 Lane DisplayPort output - Monitor
- RJ45 GbE Ethernet PS connected, 88E1512 PHY
- 4 x FMC-HPC connector front
  - 4 GTH
  - 1 GT Clock
  - 68+4 HP or HD I/O
- FMC-HPC connector Back
  - 4 GTH
  - 1 GT Clock
  - 12 I/O
- FMC-HPC connector Back
  - 1 GTH
  - 1 GT Clock
  - 12 I/O
- 2 x SFP+ connected to 2 PL GTH,
- 1 x SFP+ connected to PL GTH
- Power: 24V

Overview

The Trenz Electronic TEB0911 "UltraRack+" is a high performance Zynq UltraScale+ MPSoC board with 6 FMC slots and Gigabit Ethernet.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

XILINX ALL PROGRAMMABLE™

ZYNQ® UltraSCALE+

TE0808 UltraSOM+ Series
Xilinx Zynq UltraScale+, DDR4, Flash, 20 x Transceiver

5.2 x 7.6 form factor

Overview

The Trenz Electronic TE0808 is an industrial-grade MPSoC module integrating a Xilinx Zynq UltraScale+, max. 8 GByte DDR4 SDRAM with 64-Bit width, max. 512 MByte Flash memory for configuration and operation, 20 Gigabit transceivers, 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 connections.

All this in a compact 5.2 x 7.6 cm form factor, at the most competitive price.

All modules produced by Trenz Electronic are developed and manufactured in Germany

Key Features

- SoC: ZYNQ UltraScale+ ZU9EG 900 pin package
- Memory
  - 4 x 512 MByte 64-Bit DDR4 (8 GByte max.)
  - 2 x 32 MByte SPI Boot Flash dual parallel (512 MByte max.)
- User I/O
  - 65 x MIO, 48 x HD (all), 156 x HP (3 banks)
  - Serial transceiver: GTR 4 (all) + GTH 16 (all)
  - GT clocks, I2C
  - PLL clock inputs and outputs
- Size: 52 x 76 mm
- 3 mm mounting holes for skyline heat spreader
- B2B connectors: 4 x 160 pin
- Si5345 - 10 output PLL
- All power supplies on board, single 3.3V Power required
  - 14 on-board DC/DC regulators and 13 LDO's
  - LP, FP, PL separately controlled power domains
- Support for all boot modes (except NAND) and scenarios
- Support for any combination of PS connected peripherals

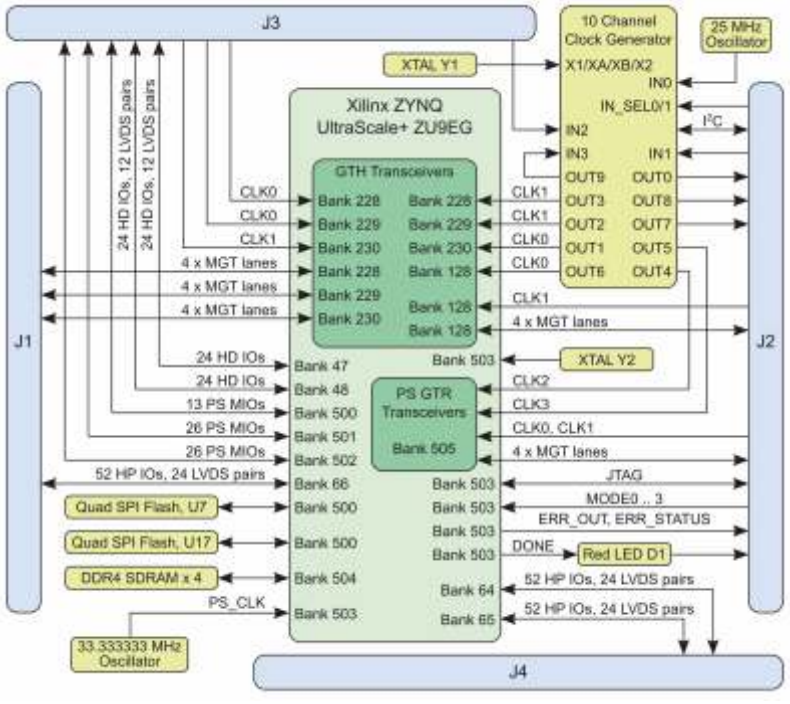
Other assembly options for cost or performance optimization plus high volume prices available on request.

Extended device life cycle

Rugged for industrial applications

XILINX ALL PROGRAMMABLE™

ZYNQ UltraSCALE+



www.trenz-electronic.de/te0808

TEC0330 Virtex-7 PCIe FMC Carrier

Overview

Trenz Electronic TEC0330 is an 8 lanes PCIe GEN2 Card integrating a high performance Xilinx Virtex-7 330T FPGA with 32 MByte Flash memory for configuration and operation, DDR3 SODIMM Socket and full FMC HPC connector for FPGA Mezzanine Cards.

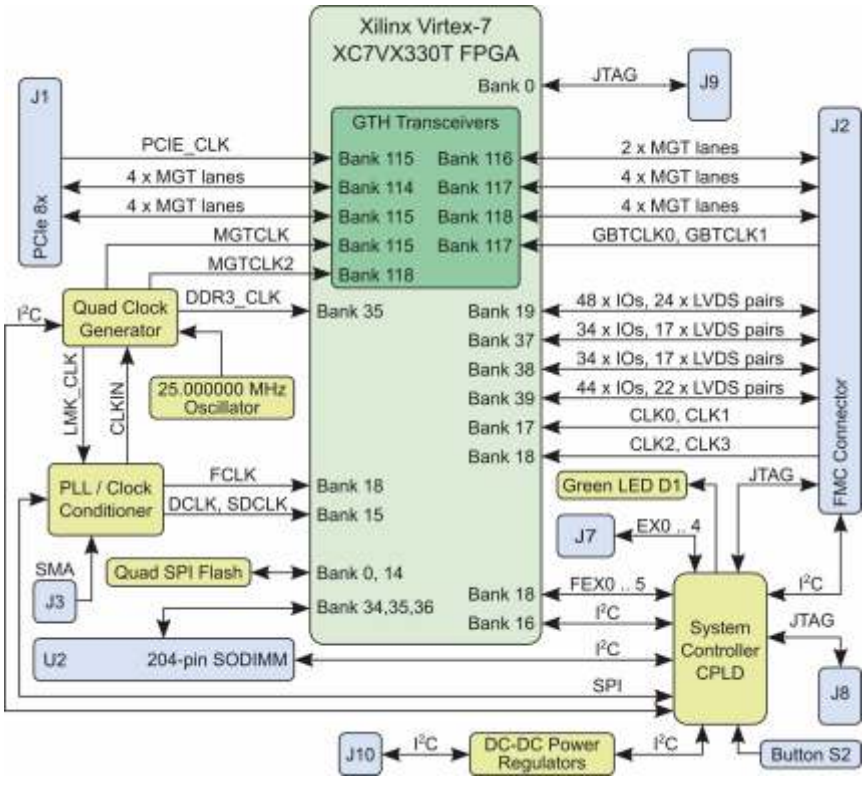
All modules produced by Trenz Electronic are developed and manufactured in Germany.

XILINX ALL PROGRAMMABLE™ VIRTEX 7

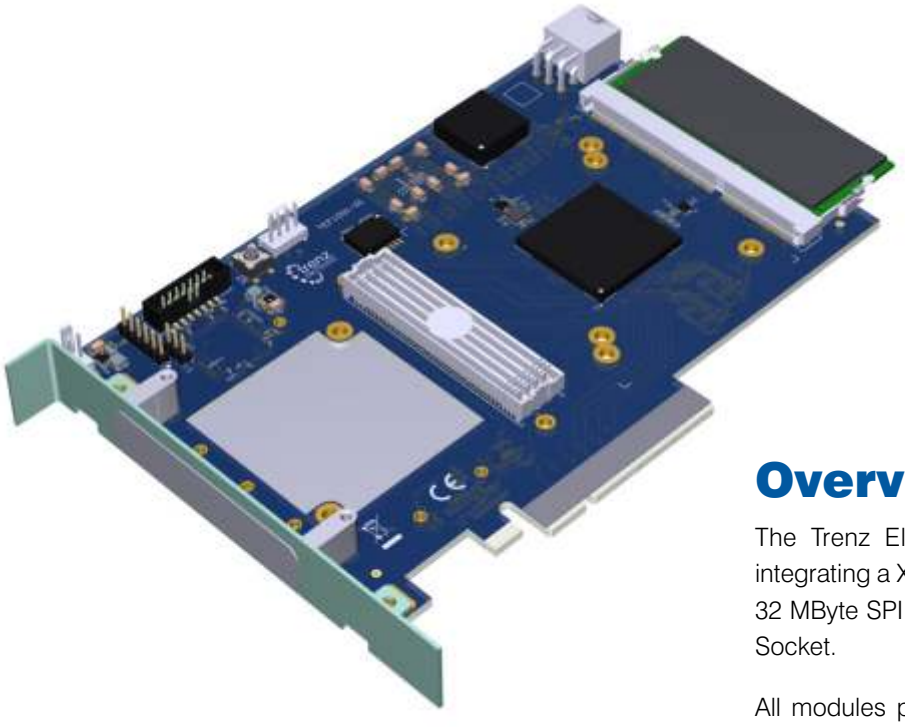
Key Features

- FMC HPC
- 8 lane PCIe Gen 2 capable
- Xilinx Virtex-7 XC7VX330T-2FFG1157C
- DDR3 SODIMM Socket
- 32 MByte SPI Flash
- LMK04828B Clock Synthesizer
- External Clock Input

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



TEF1001 Series
PCIe FMC Carrier, Xilinx Kintex-7, SPI Flash, 4 lane PCIe



Overview

The Trenz Electronic TEF1001 is a PCIe FMC Carrier integrating a Xilinx Kintex-7 FPGA (K160T, K325T or K410T), 32 MByte SPI Flash, an 4 lane PCIe and a DDR3 SODIMM Socket.

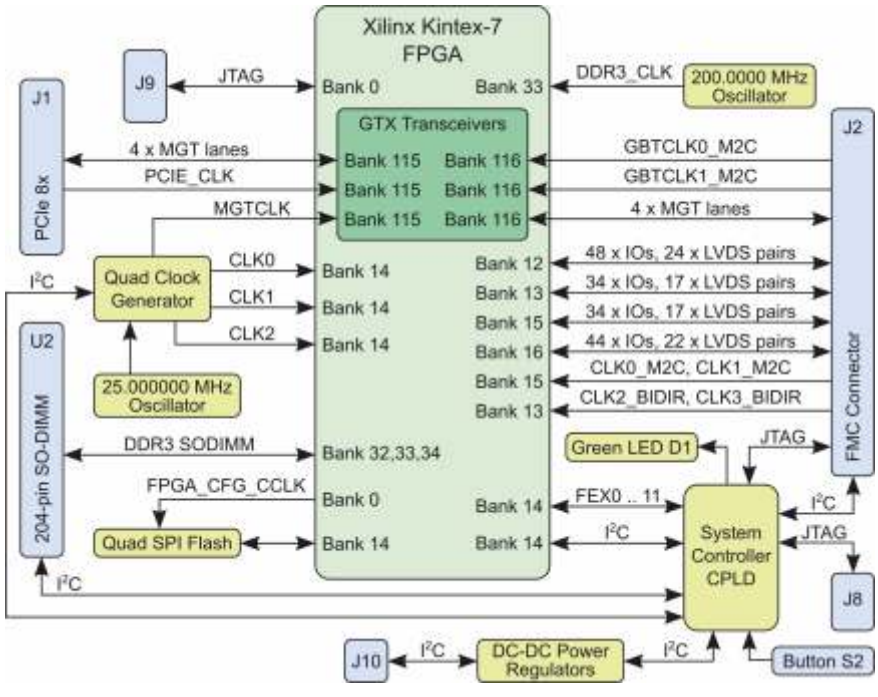
All modules produced by Trenz Electronic are developed and manufactured in Germany.

XILINX ALL PROGRAMMABLE™ KINTEX 7™

Key Features

- One Vita 57.1 FMC HPC Slot
- 4 lane PCIe Gen 2
- Xilinx Kintex-7 XC7K160T-2FBG676I
- DDR3 SODIMM Socket
- 32 MByte SPI Flash
- Programmable clock generator Si5338
- 200 MHz Low-Jitter LVDS oscillator
- High performance DC-DC converters

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



TE0745 Series
Xilinx Zynq, 1 GByte DDR3, 32 MByte Flash, 1 GBit Ethernet

5.2 x 7.6 form factor

Overview

The Trenz Electronic TE0745 is an industrial-grade SoC module integrating a Xilinx Zynq-7 (Z-7030, Z-7035, Z-7045), 1 GByte 32-Bit wide DDR3/L, 32 MByte SPI 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.

All this on a tiny footprint, smaller than a credit card, at the most competitive price.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

Extended device life cycle

Rugged for industrial applications

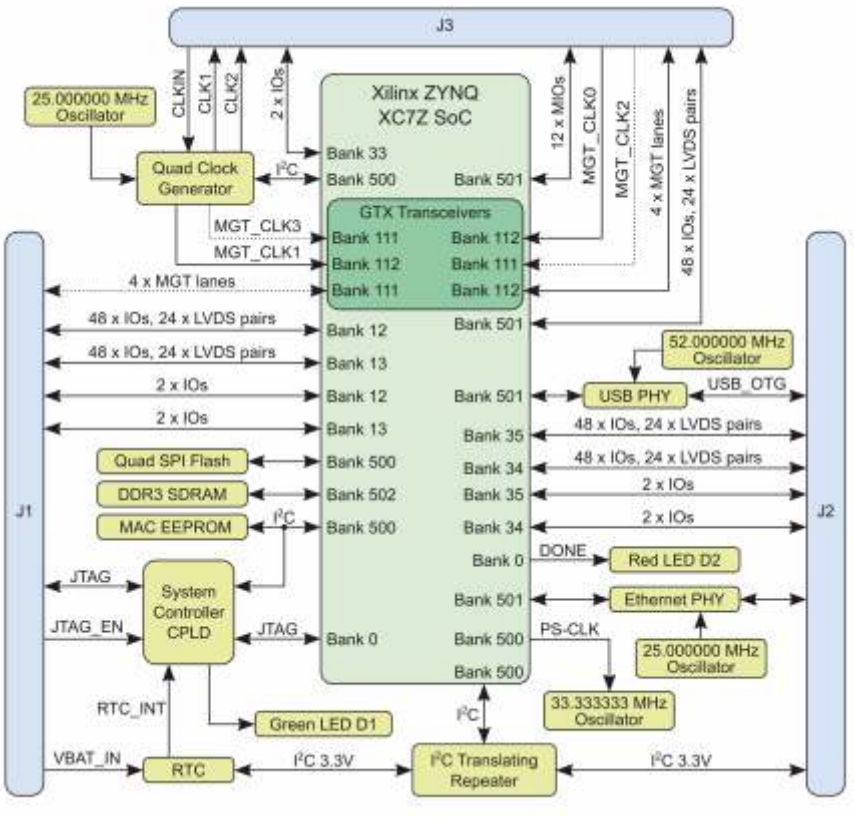
XILINX ALL PROGRAMMABLE™

ZYNQ™

Key Features

- Xilinx Zynq 7030/7035/7045
- Rugged for shock and high vibration
- 1 GByte 32-Bit wide DDR3/L
- 32 MByte SPI Flash
- Dimensions: 5.2 x 7.6 cm
- B2B Connectors with 3 x 160 pin
  - 250 I/O's, all HR and HP I/O
  - 1 GBit Ethernet PHY,
  - USB 2.0 OTG PHY
  - 8 x GTX (7030: 4 GT)
  - 2 GT Reference Clock inputs (7030: 1 REFC
  - Reference clock input for PLL (optional)
  - 2 x PLL outputs
  - I2C
  - 6 MIO
- Real Time Clock
- MAC Address EEPROM
- Evenly spread supply pins for good signal integrity

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



TE0729 Series

Xilinx Zynq, 1x Gig ETH, 512 MByte DDR3, 2x 100MBit ETH, 4 GByte eMMC, 3.3V Only

5.2 form X factor 7.6

Overview

The Trenz Electronic TE0729 is an industrial-grade SoC module integrating a Xilinx Zynq-7020 with a Gigabit Ethernet transceiver, 2 x 100 MBit Ethernet, 512 MByte 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.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

Extended device life cycle

Rugged for industrial applications

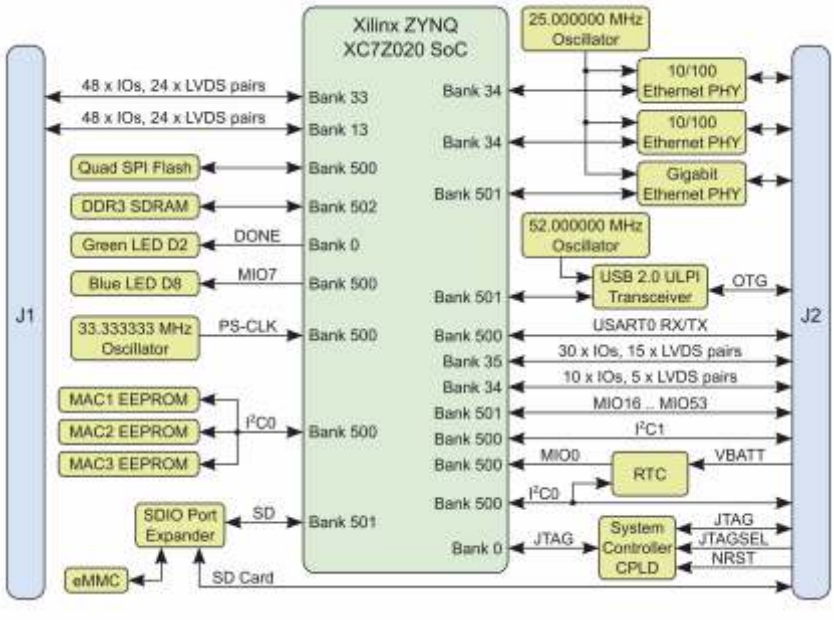
XILINX ALL PROGRAMMABLE™

ZYNQ™

Key Features

- Zynq XC7Z020-2CLG484I
- Rugged for shock and high vibration
- 2 x ARM Cortex-A9
- 1 x 10/100/1000 Mbps Ethernet transceiver PHY
- 2 x 10/100 Mbps Ethernet transceiver PHYs
- 3 x MAC-Address EEPROMs
- 16-Bit wide 512 MByte DDR3 SDRAM
- 32 MByte QSPI-Flash-Memory
- 4 GByte e-NAND-Flash-Memory (embedded eMMC Memory)
- USB 2.0 high-speed ULPI transceiver
- Plug-on module with 2 x 120-pin high-speed hermaphroditic strips
- 136 FPGA I/O's (58 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
  - 1.5 A x 2.5 V power rail
- System management
- eFUSE bit-stream encryption
- AES bit-stream encryption
- Temperature compensated RTC (real-time clock)
- User LED
- Evenly spread supply pins for good signal integrity
- 3 mm mounting holes for Skyline heat spreader
- Cooling Solution available

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



www.trenz-electronic.de/te0729

TE0782 Series

Xilinx Zynq, 2 × Cortex-A9, DDR3, Flash, 2 × GBit Ethernet, 2 × USB, 16 × Transceiver

8.5 form X factor 8.5

Overview

The Trenz Electronic TE0782 are industrial-grade SoC modules integrating a Xilinx Zynq-7 XC7Z035, XC7Z045 or XC7Z100, 1 GByte DDR3 SDRAM, 4 GByte eMMC, 16 GTX high-performance transceiver lanes, 32 MByte QSPI 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. All this in a 8.5 x 8.5 cm form factor at the most competitive price.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

Extended device life cycle

Rugged for industrial applications

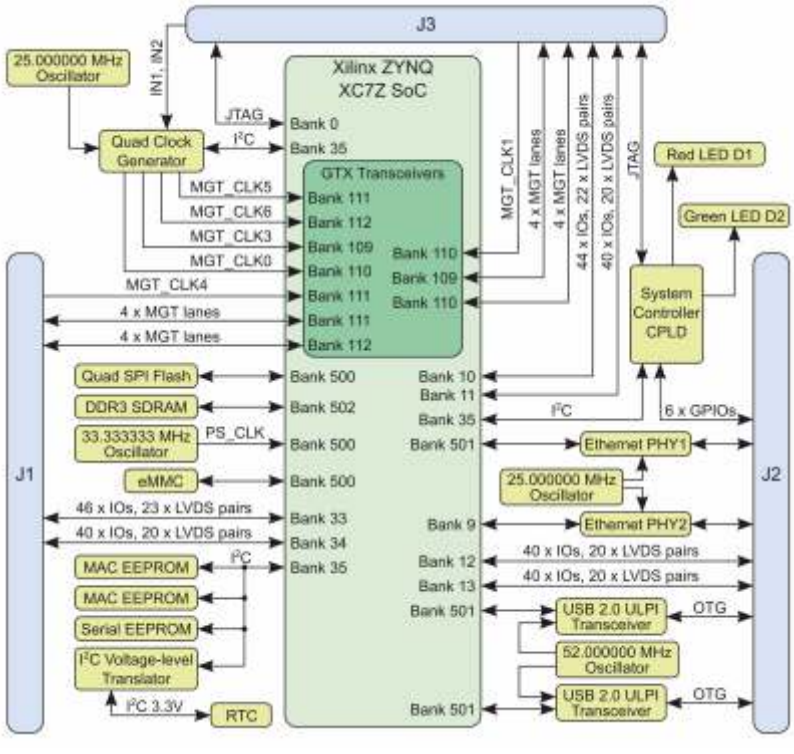
XILINX ALL PROGRAMMABLE™

ZYNQ™

Key Features

- Industrial-grade Xilinx Zynq-7 XC7Z035, XC7Z045 or XC7Z100 SOM
- Rugged for shock and high vibration
- Dual ARM Cortex-A9 MPCore
- Real Time Clock
- 2 x Hi-Speed USB2.0 ULPI Transceiver PHY
- 2 x Gigabit Ethernet Transceiver PHY
- 2 x Ethernet MAC Address EEPROM
- 1 GByte DDR3 SDRAM
- 32 MByte QSPI Flash memory
- 4 GByte eMMC (optional up to 64 GByte)
- Optional 2 x 8 MByte HyperRAM (max 2 x 32 MByte HyperRAM)
- Si5338 PLL for GTX clocking
- Plug-on module with 3 x 160-pin high-speed strips
- 16 GTX high-performance tranceiver lanes , GTX high-performance
- Transceiver clock input
- 254 FPGA I/O's (125 LVDS pairs possible) available on board-to-board connectors
- On-board high-efficiency DC-DC converters
- System management and power sequencing
- eFUSE bit-stream encryption
- AES bit-stream encryption
- Evenly spread supply pins for good signal integrity

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



www.trenz-electronic.de/te0782

TE0741 Series

Xilinx Kintex-7 T, Flash, 8 × Transceiver

Overview

Trenz Electronic TE0741 are industrial-grade FPGA modules integrating a Xilinx Kintex-7 T FPGA, 32 MByte Flash memory for configuration and operation, 8 transceivers, 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. All modules in 4 x 5 cm form factor are mechanically compatible.
All this on a tiny footprint, smaller than a credit card, at the most competitive price.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

Extended device life cycle

Rugged for industrial applications

Key Features

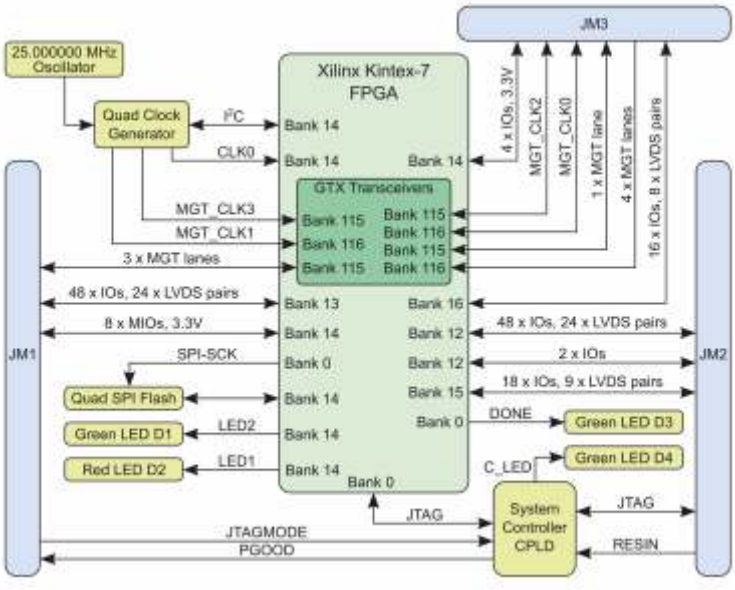
- Industrial-grade Xilinx Kintex-7 (70T, 160T, 325T and 410T) SoM
- Rugged for shock and high vibration
- 32 MByte QSPI Flash memory (with XiP support)
- Programmable clock generator
  - 2 x Transceiver clock (default 125 MHz)
  - Fabric clock (default 200 MHz)
- Plug-on module with 2 × 100-pin and 1 × 60-pin high-speed hermaphroditic strips
- 144 FPGA I/O's (65 LVDS pairs possible) available on board-to-board connectors
- 8 GTX (high-performance transceiver) lanes
  - GTX (high-performance transceiver) clock input
- On-board high-efficiency DC-DC converters
  - 20.0 A x 1.0 V power rail
  - 1.5 A x 1.8 V power rail
- System management and power sequencing
- eFUSE bit-stream encryption
- AES bit-stream encryption
- User LEDs
- Evenly spread supply pins for good signal integrity

Recommended Software:

- Kintex-7 XC7K**70T**-2CF, Kintex-7 XC7K**160T**-2CF: Xilinx Vivado Webpack (free license)

- Kintex-7 XC7K**325T**-2CF, Kintex-7 XC7K**410T**-2CF: Xilinx Vivado Design Suite

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



TE0710 Series

Xilinx Artix-7 T, DDR3, Flash, 2 × 100 MBit Ethernet

Overview

Trenz Electronic TE0710 are industrial-grade FPGA modules integrating a Xilinx Artix-7 T FPGA, two MBit Ethernet transceivers (physical layer), 512 Mbyte DDR3 SDRAM with 8-Bit width, 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 stackingstrips.

All modules in 4 x 5 cm form factor are mechanically compatible.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

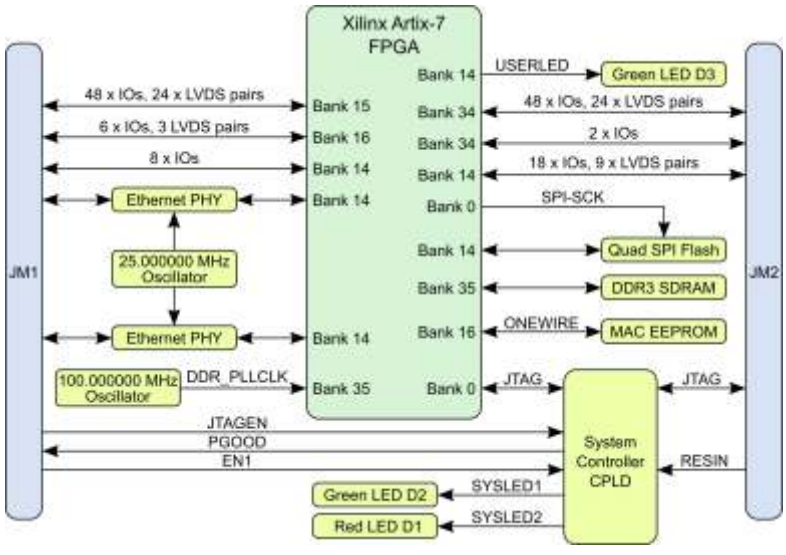
Key Features

- Industrial-grade Xilinx Artix-7 (15T to 100T) SoM, supported by the free Xilinx Vivado WebPACK tool
- Rugged for shock and high vibration
- 512 MByte DDR3 SDRAM
- Dual 100 MBit Ethernet PHY
- MAC Address EEPROM
- 32 MByte QSPI Flash memory (with XiP support)
- 100 MHz programmable MEMS oscillator
- Plug-on module with 2 × 100-pin high-speed hermaphroditic strips
- 112 FPGA I/O's (51 differential pairs) available on board-to-board connectors
- On-board high-efficiency DC-DC converters
  - 4.0 A x 1.0 V power rail
  - 1.0 A x 1.8 V power rail
  - 1.0 A x 1.5 V power rail
- System management and power sequencing
- eFUSE bit-stream encryption
- AES bit-stream encryption
- User LED
- Evenly spread supply pins for good signal integrity

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

Extended device life cycle

Rugged for industrial applications



TE0714 Series

Xilinx Artix-7, 16 MByte Flash, 4 x GTP Transceiver

Overview

The Trenz Electronic TE0714 is an industrial-grade FPGA module integrating a Xilinx Artix-7 (A15T, A35T, A50T), 16 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.

All this on a tiny footprint, smaller than a credit card, at the most competitive price.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

Extended device life cycle

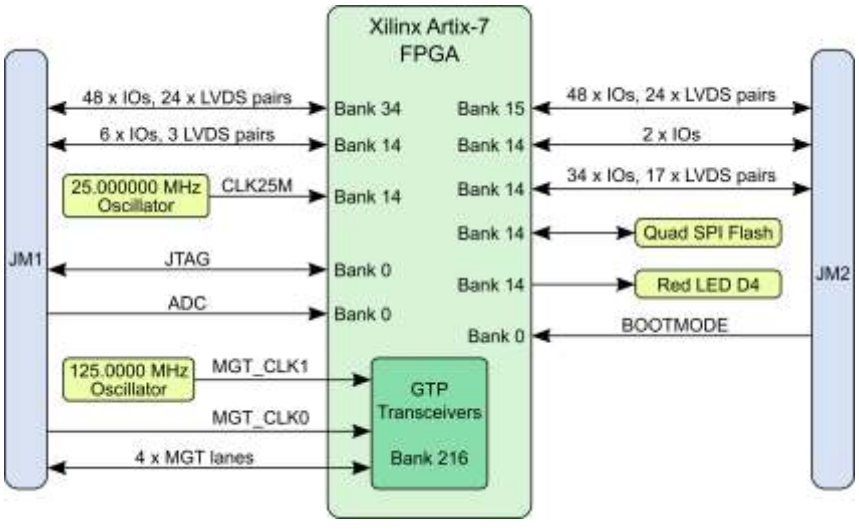
Rugged for industrial applications

XILINX ARTIX 7

Key Features

- Xilinx Artix-7 (A15T, A35T, A50T)
- Rugged for shock and high vibration
- 16 MByte QSPI Flash memory
- Dimensions: 4 x 3 cm
- Differential MEMS Oscillator for GT Clocking
- MEMS Oscillator for PL Clocks (option)
- Plug-on module with 2 × 100-pin high-speed hermaphroditic strips
  - 144 FPGA I/O's (max 68 differential)
  - XADC Analog Input
  - 4 GTP (high-performance transceiver) lanes
  - GT Reference Clock input
  - Optimized I/O and power pins for good signal integrity
- On-board high-efficiency DC-DC converters
- eFUSE bit-stream encryption (AES)
- One user LED

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



TE0725 Series

Xilinx Artix-7, 32 MByte Flash, 87 IO's, 2x 50 Pin Headers 2.54 mm Pitch

Overview

The Trenz Electronic TE0725 is a low cost small-sized FPGA module integrating a Xilinx Artix-7 (15T - 100T) and 32 MByte Flash memory for configuration and operation. The 2 x 50 pin header with a 2.54 mm standard pitch fits perfect on a breadboard.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

XILINX ALL PROGRAMMABLE. ARTIX 7

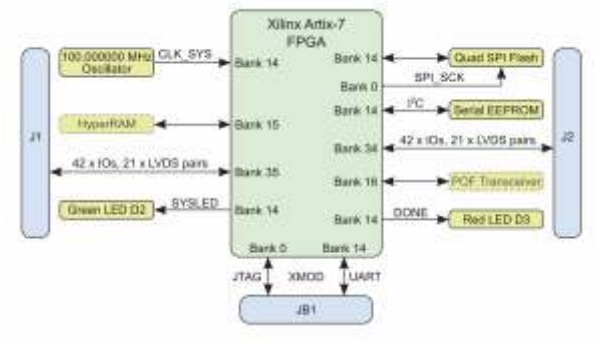
Extended device life cycle

Rugged for industrial applications

Key Features

- Xilinx Artix-7 15T up to 100T
- commercial temperature grade (industrial on request)
- 32 MByte Flash memory
- 2 x 50 pin headers with 2.54 mm pitch, ideal for breadboard use
- 87 IO's (42 + 42 + 3)
- 100 MHz system clock
- I2C EEProm
- 3.3V single supply with on board voltage regulators
- Size 73 x 35 mm
- JTAG connector
- 2 LEDs
- optional HyperRAM (8 to 32 MByte)
- optional Fiber Optic module

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



TE0725LP

Xmod Form-Factor, FT2232H, Lattice XO2-256 CPLD, 4 Position DIP Switch

Overview

The Trenz Electronic TE0725LP-01-100-2C is a low cost small-sized FPGA module integrating a Xilinx Artix-7 (15T - 100T) and 32 MByte Flash memory for configuration and operation. The 2 x 50 pin headers with a 2.54 mm standard pitch are perfect for bread-board or low cost dual layer PCB.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

XILINX ALL PROGRAMMABLE. ARTIX 7

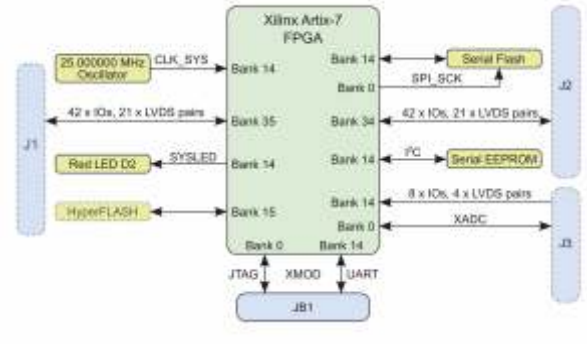
Extended device life cycle

Rugged for industrial applications

Key Features

- Xilinx Artix-7 XC7A100T
- commercial temperature grade (industrial on request)
- 32 MByte Flash memory
- 2 x 50 pin headers with 2.54 mm pitch, ideal for breadboard use
- 3.3 V or optional 1.8 V single supply with on board voltage regulators
- 95 I/O's (42 + 42 + 3 + 8)
- 25 MHz system clock (100 MHz can be customized on request)
- I2C EEPROM
- JTAG/UART connector
- One user LED
- 7.3 x 3.5 cm form factor
- Optional HyperRAM (8 - 32 MByte) or HyperFlash

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



Overview

Xmod-USB-X is a universal USB adapter with 2 channels based on FTDI FT2232H USB2 HS Interface chip.

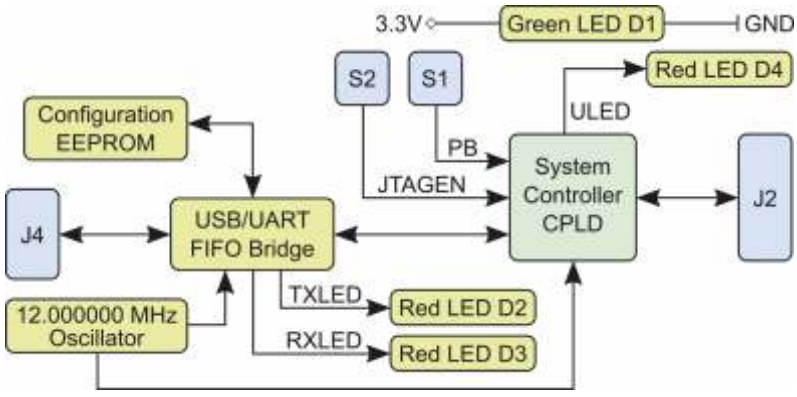
In the consigned default configu-ration Port A is JTAG and Port B is a serial interface. FT2232H port A and B are connected to small on-board programmable CPLD to allow flexible application specific remappings of FT2232H functions into 8 user I/O pins of single Xmod 12 x 8 Module.

Minimum PCB area on base board to support JTAG function 5 x 10 mm (does not include mounting hole space).
TE0790 is compatible with Xilinx Tools in contrast to the TE0790-01L, that can be used flexibly.

All modules produced by Trenz Electronic are developed and manufactured in Germany.

Key Features

- Xmod form-factor
  - Supported base slots: 6 x 2, 8 x 4, 10 x 6, 12 x 8, 5 x 2, 5 x 3
  - Size: 20 x 25 mm
  - M3 mounting hole
- FT2232H
  - Channel B RX/TX LED's (on top, not visible from front)
  - Mini-USB connector (more rugged then micro-USB)
  - 93C56 EEPROM
- Lattice XO2-256 CPLD
  - On board programmable using Lattice tools
  - 8 universal I/O pins
  - VCCIO either 3.3 V or user supplied (1.8 to 3.3V)
  - Red user LED (front visible)
  - 12 MHz clock from on-board Oscillator
- LDO for optional USB power
- Green Power-on LED (front visible)
- User button (front accesible)
- 4 position DIP switch
  - Choose CPLD program mode
  - FTDI EEPROM disable (not implemented in PCB REV 1)
  - Use VIO same as VCC
  - Use VCC from USB



TE Carrier Boards
built for Trenz Electronic micromodules with 4 x 5 cm form factor

The Trenz Electronic Carrier Boards are base-boards for 4 x 5 SoMs, which exposes the modules B2B-connector-pins to accessible connectors and provides a whole range of on-board components to test and evaluate Trenz Electronic 4 x 5 SoMs.

TE0701

- Overvoltage-, undervoltage- and reversed- supply-voltage-protection
- Barrel jack for 12 V power supply
- Carrier Board System-Controller CPLD
- Mini CameraLink connector
- RJ45 Gigabit Ethernet MagJack
- FPGA Mezzanine Card (FMC) connector
- USB JTAG- and UART interface with Mini-USB connector
- HDMI transmitter with HDMI connector
- 8 x user LED's, 2 x user push buttons, 2 x DIP switch
- PMOD connectors, Micro SD card socket and Micro-USB interface

TE0703

- 2 x VG96 backplane connectors (mounting holes and solder pads)
- SDIO port expander with voltage-level translation
- Micro SD card socket
- 4 x user LED's, 1 x user-push button, 2 x user configurable DIP switches
- Mini USB connector (USB JTAG and UART interface)
- RJ45 Gigabit Ethernet socket with 4 integrated LED's.
- USB host connector
- Barrel jack for 5 V power supply input
- DC-DC step-down converter for 3.3 V power supply
- USB JTAG and UART interface

TE0705

TE0705 is a "downgraded" version of TE0701. As little as possible has been changed in functionality except the functionality that was removed.

Changes from TE0701

- PMOD connectors changed to IDC headers
- HDMI removed
- CL connector removed
- USB connector position changed
- 5 pin header support added on both USB interfaces
- 12 V DC power input connector changed to different type
- FMC connector removed and replaced by two dual row 100 mil pin headers

TE0706

- VG96 backplane connector and 50-pin IDC male connector socket
- SDIO port expander with voltage-level translation
- Micro SD card socket and a USB type A connector
- 1 x user push button, user configurable DIP switch
- 1 x RJ45 Gigabit Ethernet MagJack
- 1 x Ethernet PHY
- Barrel jack for 5 V power supply input
- DC-DC step- down converter for 3.3 V power supply
- JTAG pins on 12-pin header
- 3 x VCCIO selection jumper

TEBA0841

Mainly for the use with TE0841 and TE0741 modules.

- XMOD (TE0790) pin header
- SFP connector
- Micro USB
- 1 x pin header 16 pol. (JTAG, MGT-CLK, boot mode, RST, IOs)
- 1 x pin header 10 pol. (SD IOs)
- 2 x pin headers 50 pol. (FPGA bank IOs and power)
- 1 x pin header for FPGA bank power VCCIOA and 1 x for VCCIOD
- LDO voltage regulator 3.3 V to 2.5 V
- 2 x user LED's (Red/Green)

www.trenz-electronic.de/te-baseboards

TE Carrier Boards
custom built for specific Trenz Electronic micromodules

Following Trenz Electronic Carrier Boards are custom-built base boards for specific Trenz Electronic SoMs, which exposes the module's B2B-connector-pins to accessible connectors and provides a whole range of on-board components to test and evaluate Trenz Electronic SoMs.

TEBF0808

- Mini-ITX form factor
- ATX power supply connector (Important 12 V only supply required)
- optional 12 V standard power plug
- USB 3.0 with USB 3.0 HUB
- Gigabit Ethernet RJ45
- MicroSD Card (bootable) and eMMC (bootable)
- PCIe slot - one PCIe lane (16 Lane connector)
- Displayport Single Lane
- One SATA Connector
- Dual SFP+
- FMC HPC slot (1.8 V max VCCIO)
- Fan connectors, PC enclosure, FMC fan
- Intel front panel- and HDA audio-connector
- CAN FD transceiver (10 pin IDC connector)
- 20 pins ARM JTAG connector (PS JTAG0)
- One Samtec FireFly (4 GT lanes bidir)
- One Samtec FireFly connector for reverse loopback

TEB0728

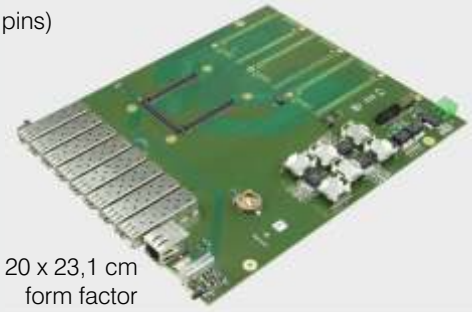
- Trenz TE0728 module socket (3 x Samtec SEM connectors 80 pins)
- 2 x RJ45 Ethernet
- SD card slot
- Power supply with DC jack
- 3 x user LED's (red/yellow/green)
- User push button

TEB0729

- Trenz TE0729 module socket (2 x Samtec BTE/BSE connectors 120 pins)
- 5 V board supply via DC jack
- 3 x RJ45 Ethernet
- 1 x MicroUSB and 1 x SD card connector
- 1 x 128K I2C CMOS Serial EEPROM
- 1 x 2K I2C Serial EEPROM
- XMOD (TE0790) pin header
- 2 x pin header FPGA bank power supply
- 1 x VBat pin header and 2 x VG96 pin header
- 1 x user push button, 1 x LED (red), user switch FPGA boot mode

TEB0745

- Trenz TE0745 module socket (3 x Samtec ST5 connectors 160 pins)
- 24 V power supply over ARKZ950/2 connecting terminal
- XMOD (TE0790) Pin Header (JTAG / UART)
- 1 x EMI Network Filter
- microSD connector
- RJ45 Ethernet connector
- USB Host connector
- 8 x SFP connector
- 6 x pin header 50 pol. (FPGA bank I/O's and power)
- 6 x pin header 12 pol. (FPGA bank I/O's and power)



20 x 23,1 cm
form factor

TEBA0714

- Trenz TE0714 module socket (2 x Samtec LSHM connectors 100 pins)
- XMOD (TE0790) pin header
- 1 x pin header 16 pol. (JTAG, MGT-CLK, boot mode, XADC, I/O's)
- 1 x pin header 10 pol. (I/O's)
- SFP connector
- LDO voltage regulator 3.3 V to 2.5 V
- 2 x user LED's (red/green) and 1 x LED (red)
- 2 x pin headers 50 pol. (FPGA bank I/O's and power)
- 1 x pin header for FPGA bank power VCCIO34 (1.8 VOUT, 2.5 V, 3.3 VOUT)
- 1 x pin header for FPGA bank power V_CFG (1.8 VOUT, 2.5 V, 3.3 VOUT)

Module series comparison table

	TE0710	TE0711	TE0712	TE713	TE0714	TE0715	GigaZee TE0720
Device family	ARTIX-7	ARTIX-7	ARTIX-7	ARTIX-7	ARTIX-7	ZYNQ	ZYNQ
Device list	35T 50T 75T 100T	35T 50T 75T 100T	35T 50T 75T 100T 200T	15T - 200T	15T 35T 50T	Z-7015 Z-7030	Z-7020
Form factor/size	4 X 5	4 X 5	4 X 5	4 X 5	4 X 3	4 X 5	4 X 5
Connectors	2 × Samtec LSHM	3 × Samtec LSHM	3 × Samtec LSHM	3 x Samtec LSHM	2 x Samtec LSHM	3 × Samtec LSHM	3 x Samtec LSHM
Programmable logic family	Artix-7	Artix-7	Artix-7	Artix-7	Artix -7	Z-7015: Artix-7 Z-7030: Kintex-7	Artix-7
Processing system	MicroBlaze	MicroBlaze	MicroBlaze	MicroBlaze	MicroBlaze	2 x Cortex A9	2 x Cortex A9
SDRAM capacity [MByte] max	512 DDR3	-	1024 DDR3	1024 DDR3L	-	1024 DDR3	1024 DDR3
Flash [MByte]	32	32	32	32	16	32	32
EEPROM	-	FTDI User EEPROM	MAC	-	-	MAC	MAC
eMMC	-	-	-	-	-	-	4 - 64 GByte
Ethernet PHY	2 x 100 MBit	-	100 MBit	-	-	1 GBit	1 GBit
USB PHY	-	USB 2 UART/FIFO		USB 3.0	-	USB 2.0 OTG	USB 2.0 OTG
Total I/O	112	178	158	152	144	132 + 14 MIO	152 + 14 MIO
GBit transceivers	-	-	4 x GTP	4 x GTP	4 x GTP	Z-7015: 4 x GTP Z-7030: 4 x GTX	-
Other features	-	-	Programmable Clock Generator	Programmable Clock Generator	-	Programmable Clock Generator, RTC	RTC

oi710 - Quad 1.2GHz DAC

www.sundance.technology/oi710/

The oi710 a combination of a DAC module (SMT-FMC211) and the EMC²-DP. As such this system gives you four 1.25GHz DAC channels on a OneBank® PC/104 FPGA carrier card.

- Quad channel DAC (TI DAC3484)
- DAC control by Artix-7 FPGA (XC7A15T)
- 16-bit DDR3 local memory for DAC data
- I²C bus for control
- External clock and triggers

EMC²-DP stackable box

Coming soon!

Here's a preview of our stackable ruggedised case for the EMC²-DP. Currently in the R&D phase so please get in touch with any customisation requests!

oi816 - Octal 16BIT ADC

www.sundance.technology/oi816/

A combination of an eight channel ADC module (FMC168) and the EMC²-DP. This system gives you eight 16-bit ADC channels at 250MSPS on a OneBank® PC/104 FPGA carrier card.

- Eight-channel 16-bit 250MSPS A/D conversion
- Available as air cooled and conduction cooled
- VITA 57.1-2010 compliant
- Based on TI ADS42LB69
- Coaxial front panel inputs on SSMC connectors
- Single ended AC or DC coupled analogue input

- Flexible clock tree enables:
  - internal clock
  - internal clock locked to an external reference
  - external clock
  - external sync / 1PPS

Sundance Multiprocessor Technology Ltd.
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Chesham, HP5 1PS.
United Kingdom.

Phone: +44 (0) 1494 793 167

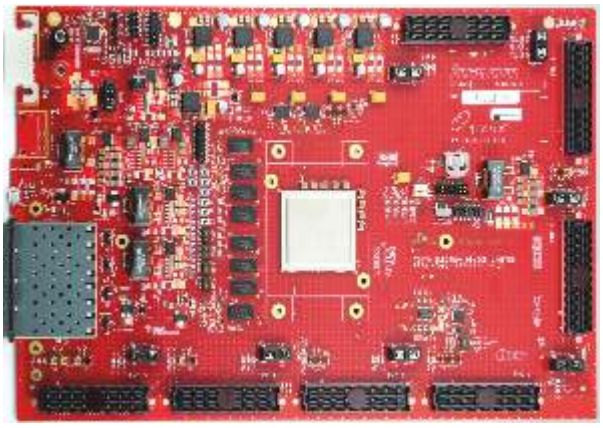
Email: enquiries@sundance.com

Since 1965, Tokyo Electron Device Limited (TED) has been focused on the semiconductor distribution business. Leveraging 40 years of industry experience, in 2004, TED began offering FPGA solutions under the “inrevium” brand name.
Today, inrevium offers FPGA platform solutions, market specific IP, technical support, and design services to customers worldwide. Inrevium's domain-specific expertise, market knowledge, and pre-qualified solutions, resulted in inrevium being adorned with the prestigious Xilinx Alliance Program Member designation.

With design and development centers in Japan, China, and Canada, and a global network of sales offices, inrevium remains uniquely positioned to provide high-value design services. In addition to services, the development centers also create market-specific multi-million gate LSI devices, FPGA evaluation boards, FMC option cards, ASIC prototyping boards, drivers, firmware, and IP, to support a wide range of worldwide applications.

FPGA Evaluation Platforms

The inrevium Xilinx FPGA Evaluation Kits are special-purpose FPGA kits intended for use by design professionals, innovating and delivering stunning 3D, Organic Light Emitting Diode (OLED), Quad HD (4K2K resolution) and many other digital display technologies, as well as 3D TV broadcasting.



KINTEX UltraSCALE : 8K4K Image Evaluation Platform

FPGA Mezzanine Card (FMC) Standard

Developed by a consortium of companies ranging from FPGA vendors to end users, the FPGA Mezzanine Card is an ANSI standard that provides a standard Mezzanine Card form factor, connectors and modular interface to an FPGA located on a base board.

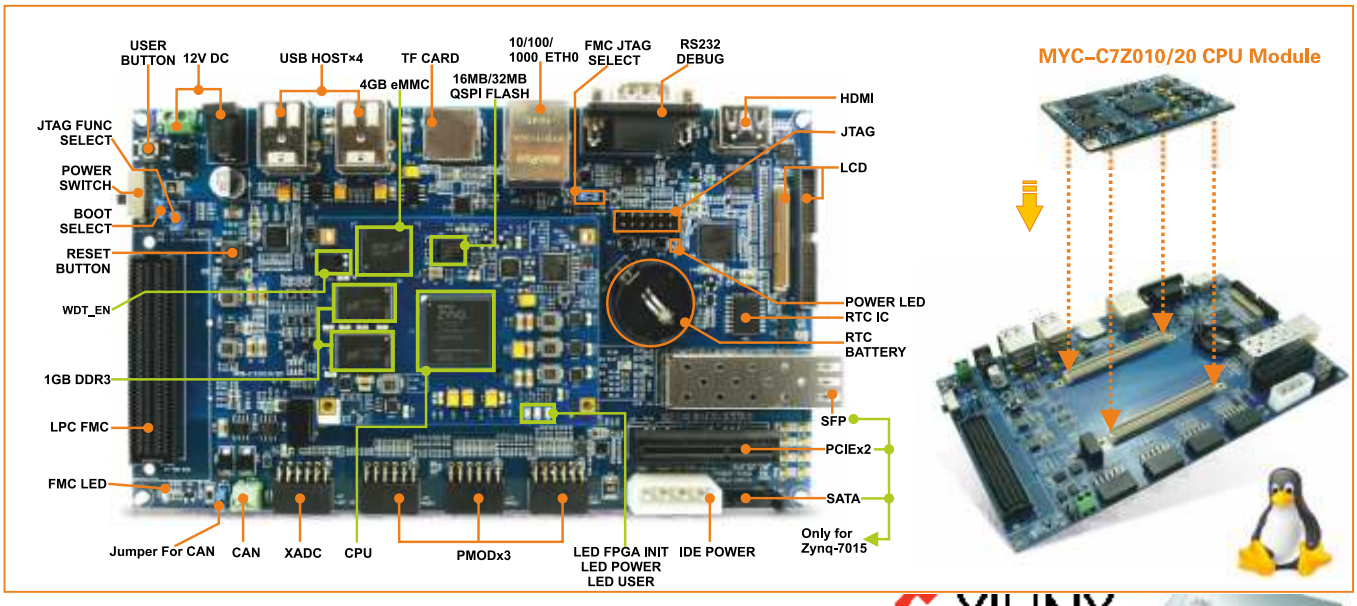
FMC is VITA 57 standard, provides a specification describing an I/O mezzanine module with connection to an FPGA or other device with reconfigurable I/O capability.

USB3.0 FMC Connectivity mezzanine card

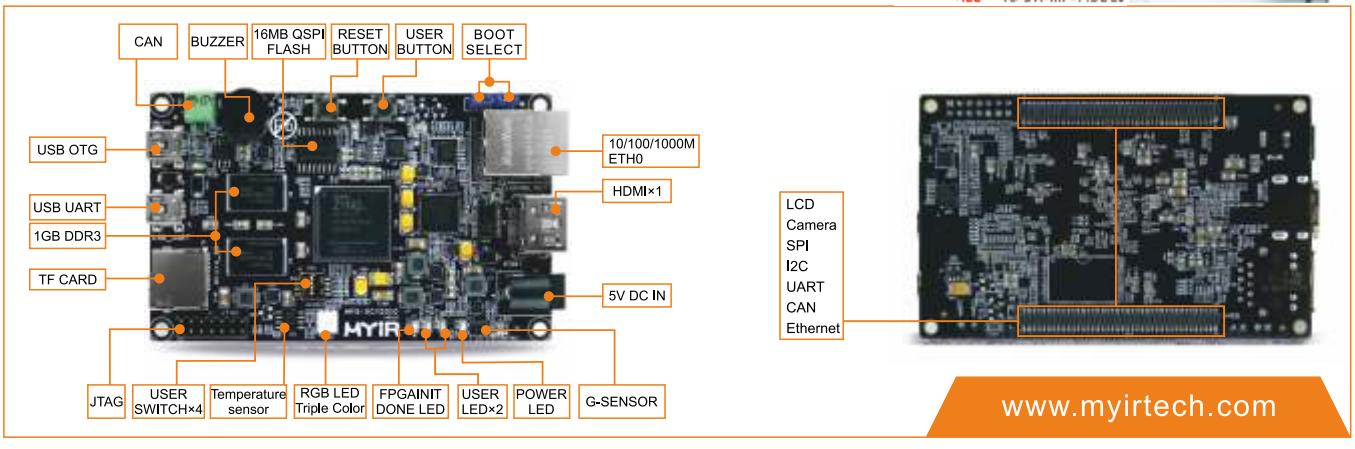
These are just selected examples of a wide variety of FPGA boards and FMC cards from inrevium.
Please have a look in our online shop or contact us at sales@trenz.biz
to get a quote for any available inrevium product.

MYIR Tech Limited is a global provider of ARM hardware and software tools, design solutions for embedded applications.
MYIR is an ARM Connected Community Member and work closely with ARM and many semiconductor vendors. They sell products ranging from board level products such as development boards, single board computers and CPU modules to help with your evaluation, prototype, and system integration or creating your own applications. Their products are used widely in industrial control, medical devices, consumer electronic, telecommunication systems, Human Machine Interface (HMI) and more other embedded applications. MYIR has an experienced team and provides custom services based on many processors (especially ARM processors) to help customers make your idea a reality.

MYD–C7Z010/20 Development Board



Z-turn Board



These are just selected examples of a variety of FPGA boards from MYIR. Please have a look in our online shop or contact us at sales@trenz.biz to get a quote for any available MYIR product.

Violet Series

It has been designed to continously stream samples data to host computer main memory at full rate. These boards are ideal for any applications that require unusally long samples at rates up to 250 Msps at a resolution of 14 bits.

Examles are:

- Software Defined RadioHigh Precision FFT Spectrum Analyzers

Time Tagger

Cronologic presents a new series of low cost, mid resolution time-to-digital converters.
Two new board are available featuring 500ps to 1ns single shot resolution at highest data bandwidths.
Time Taggers are ideally suitable in applications that do not require highest single shot timing resolution, but high data acquisition rates and lowest multiple hit deadtime. These include certain types of mass spectroscopy, time correlated single photon counting (TCSPC) and frequency counting applications.