Welcome to E-XFL.COM

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	Active
Module/Board Type	MCU, FPGA
Core Processor	ARM Cortex-A9
Co-Processor	Zynq-7000 (Z-7010)
Speed	12MHz
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

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

5.2 form X factor 7.6

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

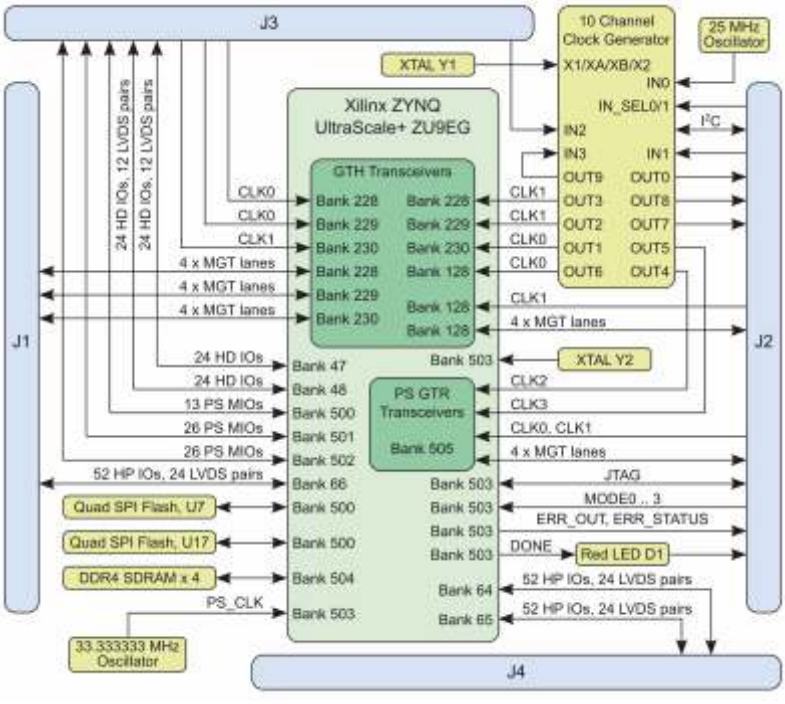
Other assembly options for cost or performance optimization plus high volume prices available on request.

Extended device life cycle

Rugged for industrial applications

XILINX ALL PROGRAMMABLE™

ZYNQ UltraSCALE+



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.

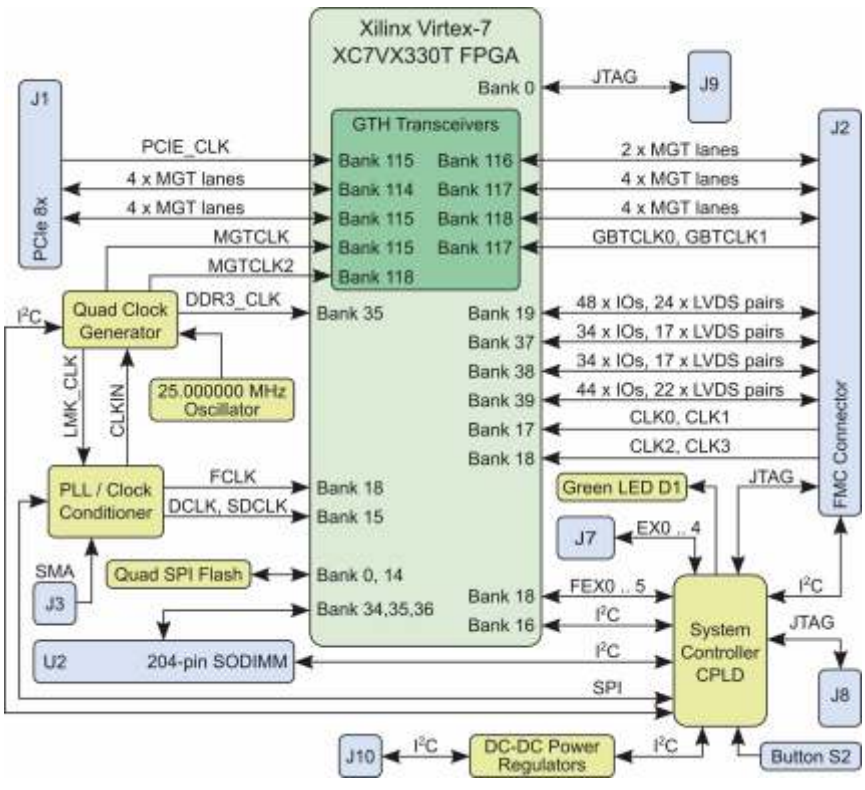
All modules produced by Trenz Electronic are developed and manufactured in Germany.

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.



www.trenz-electronic.de/tec0330

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

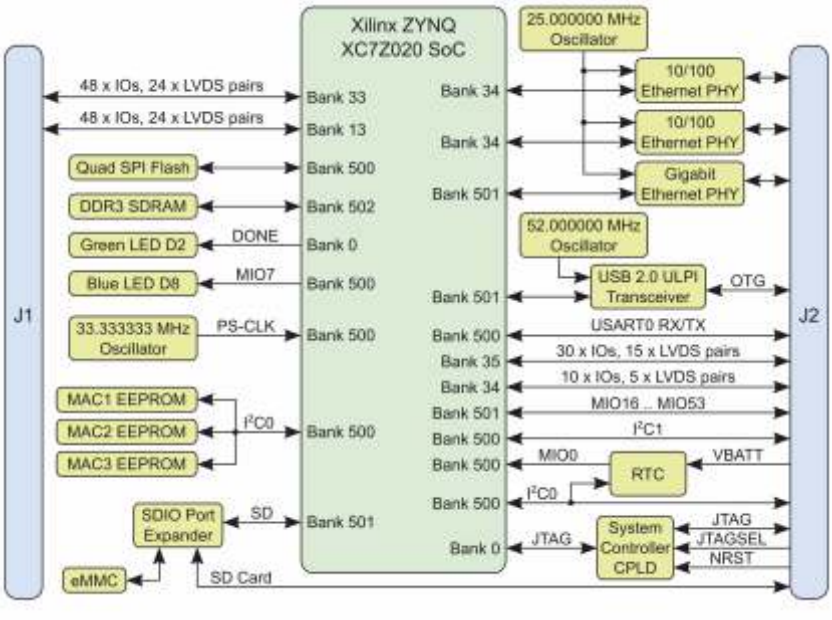
XILINX ALL PROGRAMMABLE™

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

TE0715 Series

Xilinx Zynq, Cortex-A9, DDR3, Flash, GBit Ethernet, 4 x Transceiver

Overview

Trenz Electronic TE0715 are industrial-grade SoC modules integrating a Xilinx Zynq-7000 SoC, a gigabit Ethernet transceiver (physical layer), 1 gigabyte DDR3 SDRAM with 32-Bit width, 32 megabyte Flash memory for configuration and operation, 4 transceivers, a USB ULPI transceiver, and powerful switch-mode power supplies for all onboard 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

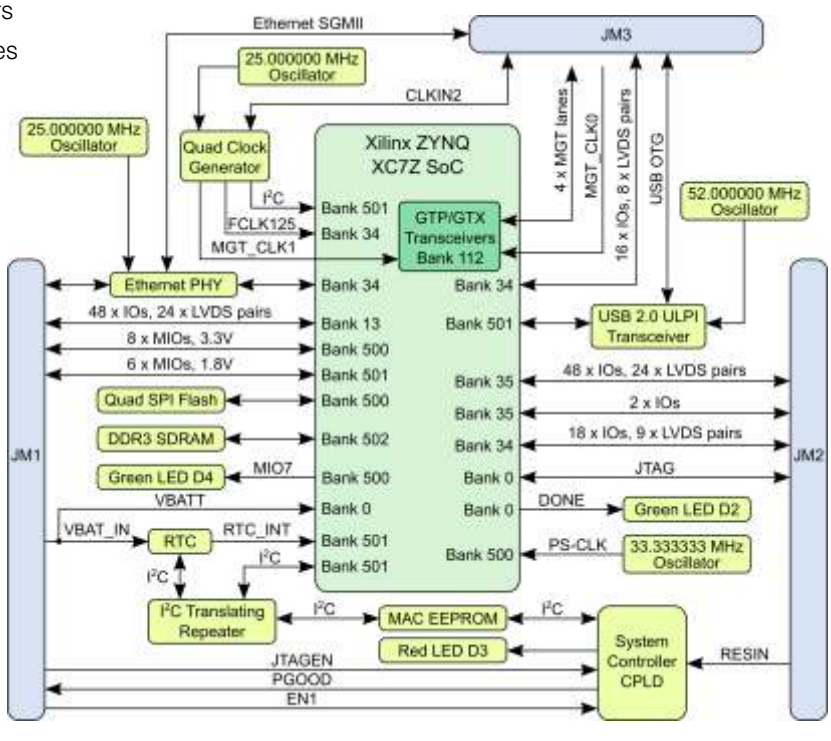
XILINX ALL PROGRAMMABLE™

ZYNQ™

Key Features

- Industrial-grade Xilinx Zynq-7000 (Z-7015, Z-7030) SoM , supported by the free Xilinx Vivado WebPACK tool
- Rugged for shock and high vibration
- ARM dual-core Cortex-A9
- 10/100/1000 tri-speed gigabit Ethernet transceiver (PHY) with SGMII
  - MAC Address EEPROM
- 32-Bit-wide 1 GByte DDR3 SDRAM
- 32 MByte QSPI Flash memory (with XiP support)
- Programmable clock generator
  - Transceiver clock (default 125 MHz)
- Plug-on module with 2 × 100-pin and 1 × 60-pin high-speed hermaphroditic strips
- 132 FPGA I/O's (65 LVDS pairs possible) and 14 PS-MIO available on board-to-board connectors
- 4 GTP/GTX (high-performance transceiver) lanes GTP/GTX (high-performance transceiver) clock input
- USB 2.0 high-speed ULPI transceiver
- 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
- 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

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



www.trenz-electronic.de/te0715

TE0723 Series

Xilinx Zynq, 2x ARM Cortex A9, DDR3L Memory, USB OTG, On-board USB JTAG and UART

Overview

The Trenz Electronic TE0723 is a Arduino compatible FPGA module integrating a Xilinx Zynq-7010, 512 MByte DDR3L, and 16 MByte SPI Flash Memory for configuration and operation.
The "ArduZynq" is the lowest cost, Linux ready solution to use the latest FPGA: the Xilinx 7 series. Use it as a FPGA development platform, or run Linux on the Cortex A9 cores.

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

Extended device life cycle

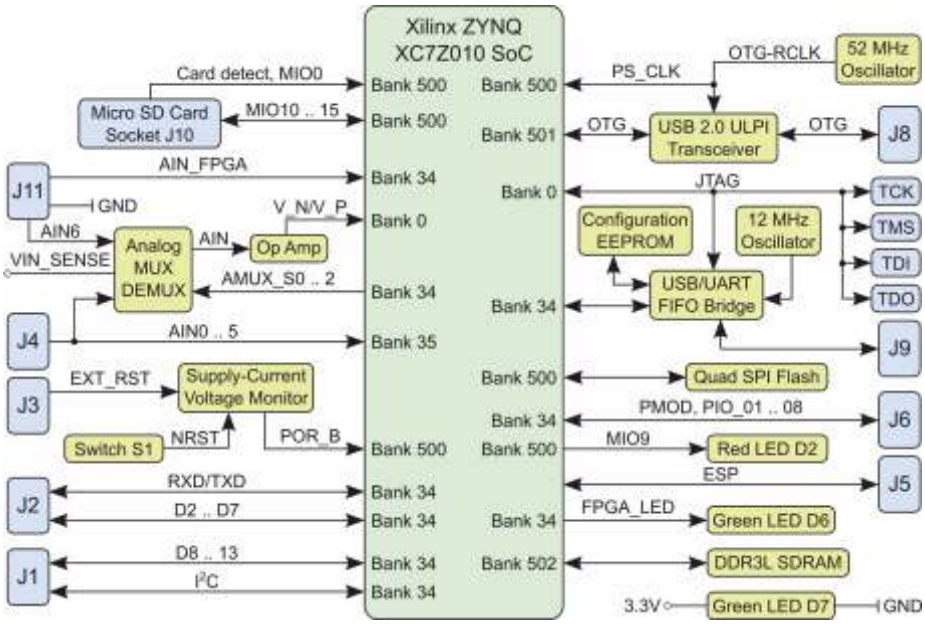
"Ideal for Maker" Make:

XILINX ALL PROGRAMMABLE™ ZYNQ™

Key Features

- Xilinx XC7Z010-1CLG225C
- Form Factor: Arduino Shield
- Dual ARM Cortex-A9
- Up to 512 MByte DDR3L
- 16 MByte SPI Flash memory
- 12 MHz MEMS Oscillator low power consumption
- Hi-Speed USB2.0 ULPI Transceiver
- 23 FPGA I/O's available on board-to-board connectors
- MicroSD Card socket
- Micro USB OTG
- RGB LED (PL I/O connected)
- "Done" LED (inverted polarity)
- On-board USB JTAG and UART
- CERN Open Hardware Licence 1.2

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



www.trenz-electronic.de/te0723

TE0722 Series

Xilinx Zynq, Dual Core ARM A9+, 16 MByte SPI Flash, DIP40 Form Factor

1.8 form X factor 5.1

Overview

The DIPFORTy1 "Soft Propeller" is based on the Xilinx Zynq-7000, a System on Chip which contains a FPGA and a Dual Core ARM A9+ processor with enough logic gates to become a Propeller. The board also has 16 MByte of Flash used for configuration and everything fits on a Propeller-compatible DIP 40 pinout.
DIPFORTy1 "Soft-Propeller" is the lowest cost Zynq based module ever made and the first Zynq module that can use existing bases and project boards (Parallax Propeller chip compatibility). All this in a compact 1.8 x 5.1 cm form factor, at the most competitive price.

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

Extended device life cycle

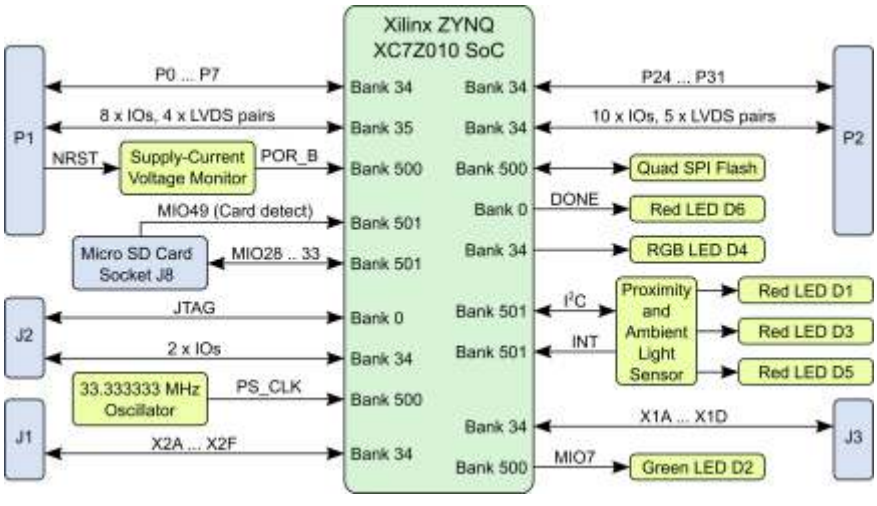
"Ideal for Maker" Make:

XILINX ALL PROGRAMMABLE™ ZYNQ™

Key Features

- Xilinx Zynq-7: XC7Z010-CLG225
  - 16 MByte SPI Flash (primary boot)
  - 33.333 MHz Clock (MEMS Oscillator)
- Dual Core ARM A9+
- DIP40 form factor
  - 2 x 20 holes for socket pins or pin-header
  - Size: 18 x 51 mm
- Total user accessible PL I/O: 46 (+3 Input only)
  - DIP40 header pins: 34 I/O
  - XMOD J1: 6 I/O
  - XMOD J2: JTAG + 2 I/O (or 3 input + 2 I/O)
  - XMOD J3: 4 I/O
- 3.3V single supply
- RGB LED (PL I/O connected)
- "Done" LED (inverted polarity)
- User LED (ARM CPU MIO GPIO)
- MicroSD Card socket (MIO, ZYNQ secondary boot media)
- Sil1143 Proximity and ambient light sensor

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



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

XILINX ALL PROGRAMMABLE™ KINTEX 7™

Key Features

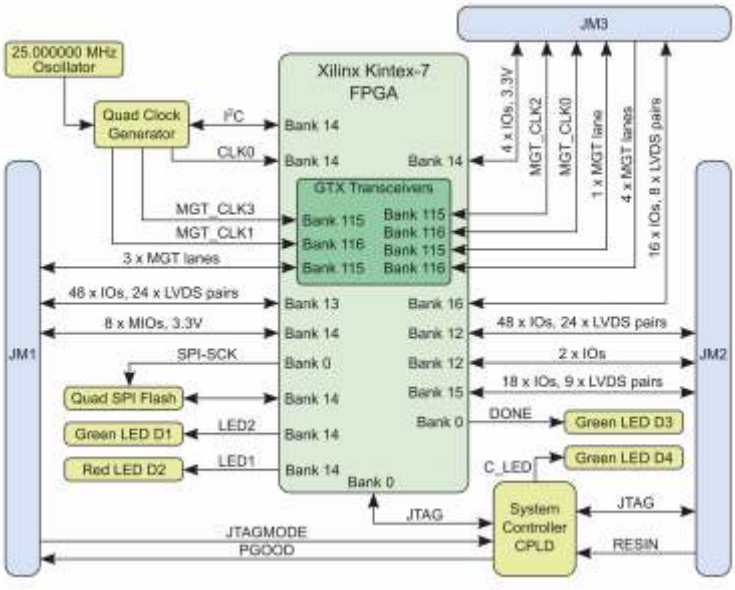
- Industrial-grade Xilinx Kintex-7 (70T, 160T, 325T and 410T) SoM
- Rugged for shock and high vibration
- 32 MByte QSPI Flash memory (with XiP support)
- Programmable clock generator
  - 2 x Transceiver clock (default 125 MHz)
  - Fabric clock (default 200 MHz)
- Plug-on module with 2 × 100-pin and 1 × 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.



TE0711 Series

Xilinx Artix-7 T, Flash, USB, high pin count, low cost

Overview

Trenz Electronic TE0711 are industrial-grade FPGA modules integrating a Xilinx Artix-7 T FPGA, 32 MByte Flash memory for configuration and operation, and powerful switch-mode power supplies for all on-
number of board voltages.A large 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.

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
- 32 MByte QSPI Flash memory (with XiP support)
- 100 MHz programmable MEMS oscillator
- Plug-on module with 2 × 100-pin and 1 × 60-pin high-speed hermaphroditic strips
- 178 FPGA I/O's (84 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
- System management and power sequencing
- eFUSE bit-stream encryption
- AES bit-stream encryption
- 3 user LEDs
- FTDI USB to UART/FIFO bridge
- Evenly-spread supply pins for good signal integrity

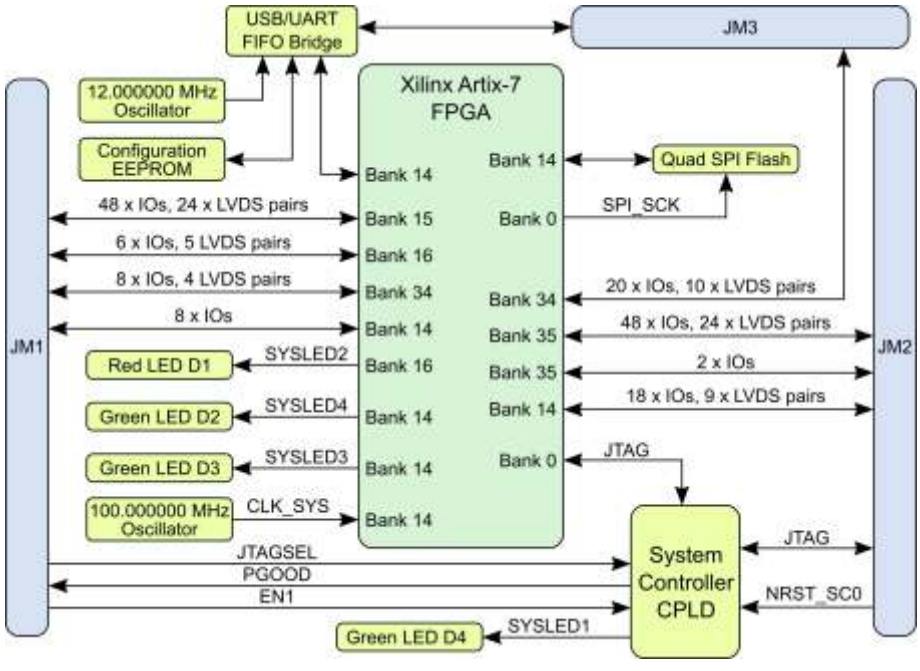
Other assembly options for cost or performance optimization plus high volume prices available on request.

Extended device life cycle

Rugged for industrial applications

XILINX ALL PROGRAMMABLE™

ARTIX 7™



www.trenz-electronic.de/te0711

TE0712 Series

Xilinx Artix-7 T, DDR3, Flash, 100 MBit Ethernet, 4 x Transceiver, High pin count

Overview

Trenz Electronic TE0712 are industrial-grade FPGA modules integrating a Xilinx Artix-7 T FPGA, a Megabit Ethernet transceiver (physical layer), 1 Gigabyte DDR3 SDRAM with 32-Bit width, 32 Megabyte 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 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.

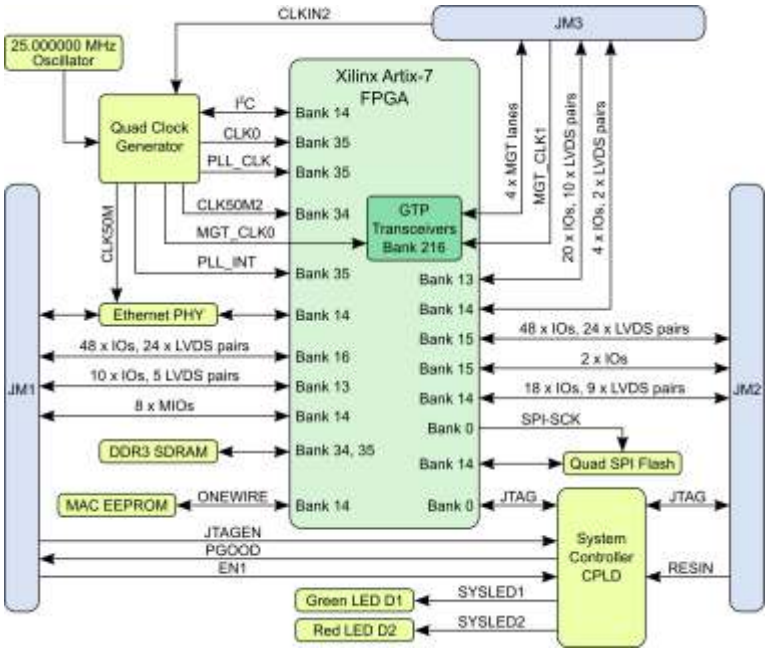
Extended device life cycle

Rugged for industrial applications

Key Features

- Industrial-grade Xilinx Artix-7 (15T to 200T) SoM, supported by the free Xilinx Vivado WebPACK tool
- Rugged for shock and high vibration
- 1 GByte DDR3 SDRAM
- 100 MBit Ethernet PHY
  - MAC Address EEPROM
- 32 MByte QSPI Flash memory (with XiP support)
- Programmable clock generator
  - 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
- 158 FPGA I/O's (78 differential pairs) available on board-to-board connectors
- 4 GTP (high-performance transceiver) lanes
  - GTP (high-performance transceiver) clock input
- On-board high-efficiency DC-DC converters
  - 12 A x 1.0 V power rail
  - 1.5 A x 1.8 V power rail
  - 1.5 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.



www.trenz-electronic.de/te0712

TE0713 Series

Xilinx Artix-7 T, DDR3L, USB 3.0, 4 GTP lanes

Overview

The Trenz Electronic TE0713 is an industrial-grade FPGA module integrating a Xilinx Artix-7 FPGA, USB 3.0 to FIFO bridge, 1 GByte of DDR3L SDRAM, 32 MByte Flash memory for configuration and operation, and powerful switching-mode power supplies for all on-board voltages. Numerous configurable I/O's are provided via rugged high-speed strips. Modules in 4 x 5 cm form factor are fully mechanically and largely electrically compatible among them. 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.

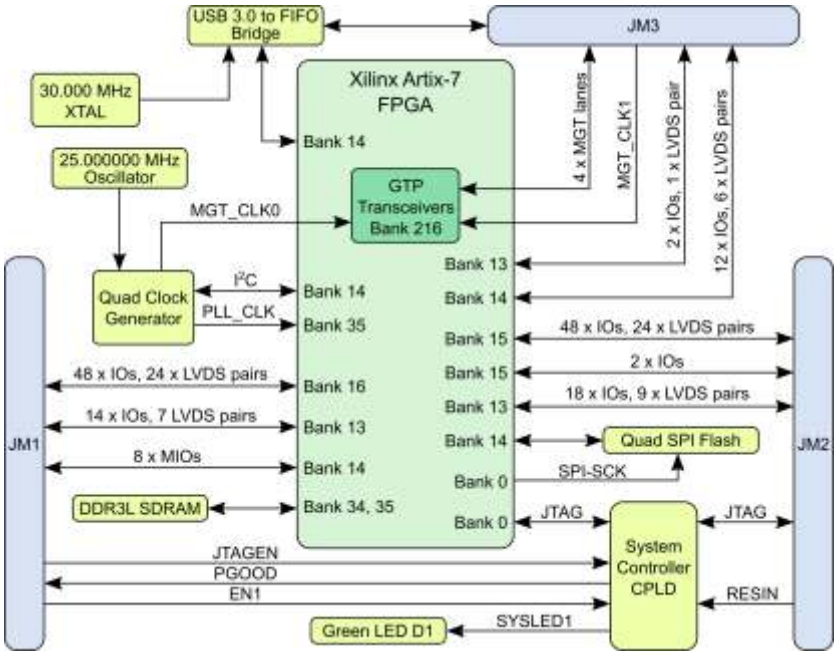
Extended device life cycle

Rugged for industrial applications

Key Features

- Xilinx Artix-7 (15T to 200T) SoM
- Both industrial and commercial temperature ranges available
- Rugged for high shock and high vibration resistance
- 1 GByte DDR3L 32-bit SDRAM
- 32 MByte QSPI Flash memory (with XiP support)
- USB 3.0 to FIFO interface bridge
- Programmable clock quad generator
  - GTP transceiver clock (default 125 MHz)
  - Fabric clock (default 200 MHz)
- Plug-on module with 2 x 100-pin and 1 x 60-pin high-speed hermaphroditic strips
- 152 FPGA I/O's (75 differential pairs) available via B2B connectors
- 4 GTP (multi Gigabit transceiver) lanes
- External clock input for GTP transceivers via B2B connector
- On-board high-efficiency DC-DC converters
- System management and power sequencing
- eFUSE bit-stream encryption
- AES bit-stream encryption
- User configurable LED
- 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/te0713

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

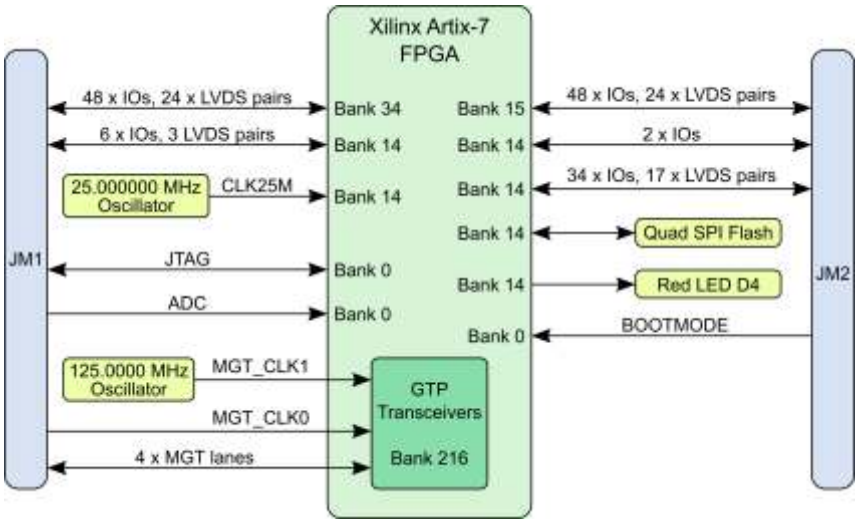
Rugged for industrial applications

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

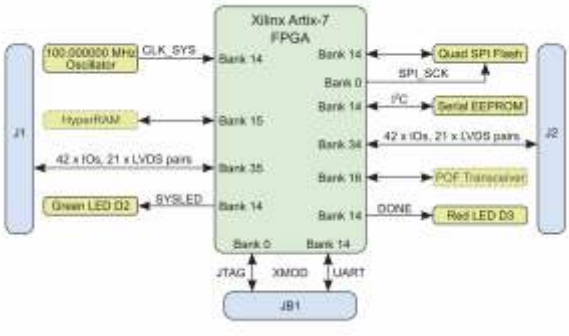
Extended device life cycle

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

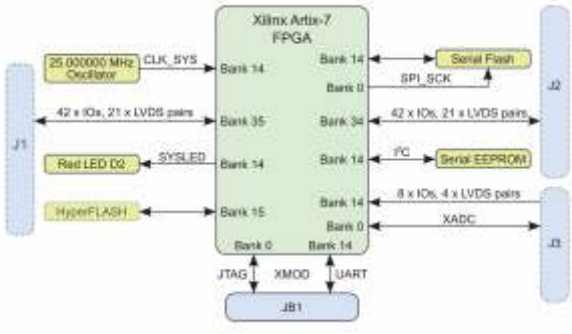
Extended device life cycle

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.



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

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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United Kingdom.

Phone: +44 (0) 1494 793 167

Email: enquiries@sundance.com

Xilinx development boards and kits provide an out-of-the box design solution to accelerate development time and time-to-market. Xilinx offers kits complete with evaluation boards, the Vivado Design Suite tools, IP cores, reference designs and FPGA Mezzanine Card (FMC) support – so application development begins immediately out of the box.

The Vivado Design Suite delivers a SoC-strength, IP-centric and system-centric, next generation development environment that has been built from the ground up to address the productivity bottlenecks in system-level integration and implementation.

Xilinx Zynq UltraScale+ MPSoC ZCU102 Evaluation Kit

The ZCU102 Evaluation Kit enables designers to jumpstart designs for Automotive, Industrial, Video and Communications applications. This kit features a Zynq UltraScale+™ MPSoC device with a quad-core ARM® Cortex-A53, dual-core Cortex-R5 real-time processors, and a Mali-400 MP2 graphics processing unit based on Xilinx's 16nm FinFET+ programmable logic fabric. The ZCU102 supports all major peripherals and interfaces enabling development for a wide range of applications.

Key Features & Benefits

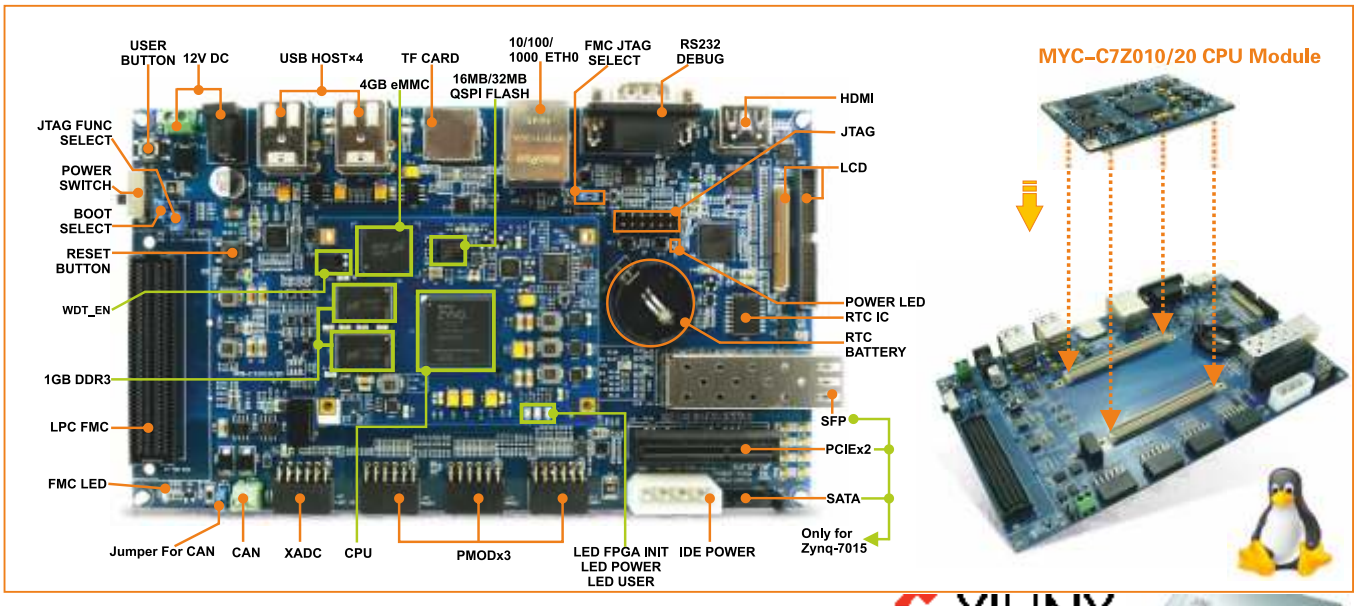
- Optimized for quick application prototyping with Zynq Ultrascale+ MPSoC
- DDR4 SODIMM – 4GB 64-bit w/ ECC attached to Processor Subsystem (PS)
- DDR4 Component – 512MB 16-bit attached to Programmable Logic (PL)
- PCIe Root Port Gen2x4, USB3, Display Port & SATA
- 4x SFP+ cages for Ethernet
- 2x FPGA Mezzanine Card (FMC) interfaces for I/O expansion including 16 x 16.3 Gb/s GTH transceivers and 64 user defined differential I/O signals

This is just one example of our wide variety of Boards and Kits from Xilinx. Please have a look in our online shop for a wider selection or ask for a quote at sales@trenz.biz.

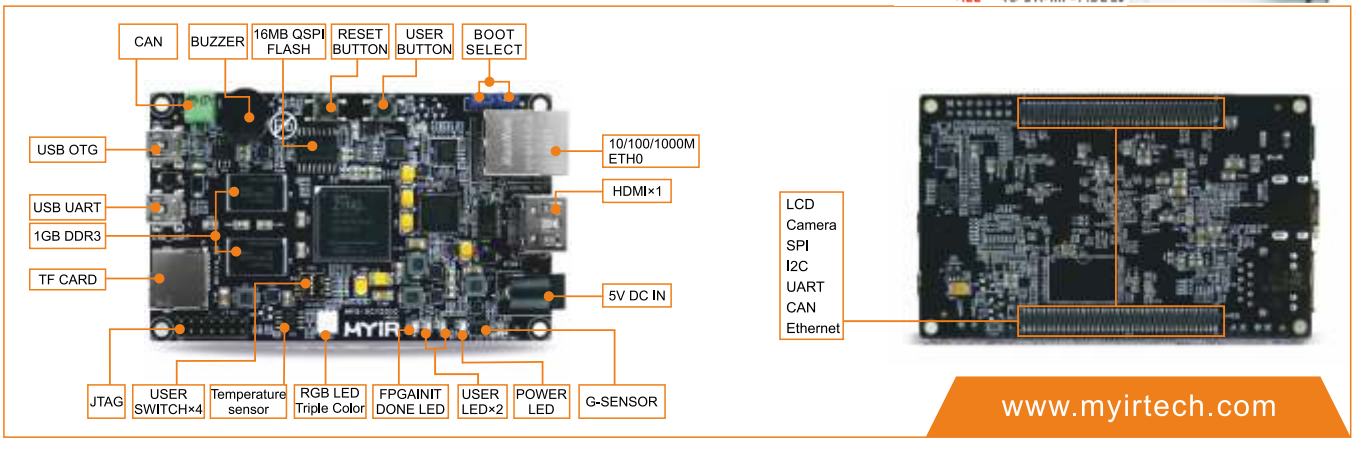
MYIR Tech Limited is a global provider of ARM hardware and software tools, design solutions for embedded applications.

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.

cronologic GmbH & Co. KG

cronologic offers a family of high-resolution high-throughput PCIe analog-to-digital converters (ADCs)

All models share these characteristics:

- 4 analog input channels
- Additional digital trigger and/or gating inputs
- PCIe x4 or x8 half-size boards
- Gross DMA-bandwidth of 1 Gbyte/s or 2 Gbyte/s
- Arbitrary board combinations can be synchronized
- LEMO 00 series input connectors (adapter cabels to SMA connector available)
- The DC-offset can be shiftet to make optimal use of the ADC range for either positiv or negative pulses

	Ndigo5G-10			Ndigo5G-8			Ndigo250M-14	Violet250M-14	Violet125M-14	unit
PCIe lanes	4			4			8	8	8	-
PCIe Bandwidth	800			800			1400	1400	1400	MB/s
Analog channels	4	2	1	4	2	1	4	4	4	-
Max. Sampling Rate	1250	2500	5000	1250	2500	5000	250	250	125	Msps
Max. Bandwidth	1000			1000			120 or 700	120 or 700	60 or 450	MHz
Max. individual sample length	26	26	26	26			32	hours	hours	µs
THD	58	58	58	58			73	73	86	dBc
SNR	51	50	50	45			64	64	74	dBc
SFDR incl.	61	60	60	58			74	74	86	dBc
SFDR excl.	74	64	63	57			76	76	TBD	dBc
SINAD	50	48	48	45			64	64	72	dBc
ENOB	8.0	7.7	7.7	7.2			10.3	10.3	11.0	-
Input type and coupling	AC single ended			AC single ended			DC single ended	DC single ended	DC single ended	-

Ndigo Series

It has been designed to aquire trains of pulses at high repetition rates. Employing an onboard zero supression, the pulse data is recorded with pre- and post-cursors, omitting the data inbetween to reduce the requirements on bandwidth and pulse processing or averaging. There is no deadtime between samples as long as the sustained rate is lower than the available PCIe bandwidth. The first available instances of this series provide 5 Gsps at 10-bit resolutuion and 250 Msps at 14-bit resolution.

These boards are ideally suited for applications like

- Mass Spectrometry
- Photon Counting
- Lidar
- NMR

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