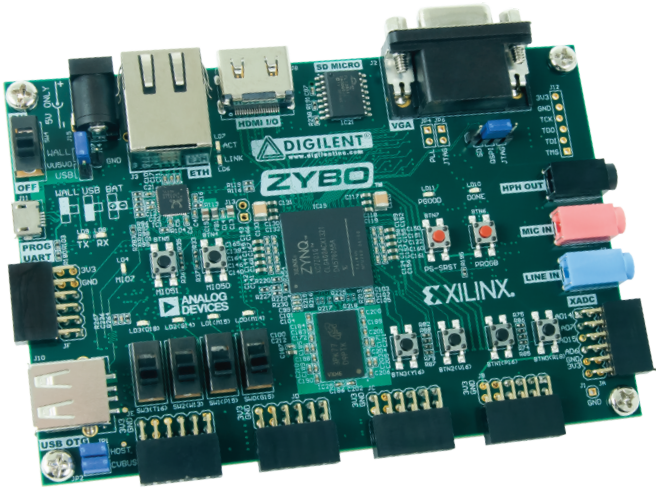
ZYBO™

ZYNQ-7000 AP SoC at just the right size.



FPGA TECHNOLOGIES PROVIDED BY

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The ZYBO (Zynq Board) is a feature-rich, ready-to-use, entry-level embedded software and digital circuit development platform built around the smallest member of the Xilinx Zynq-7000 family, the Z-7010. The Z-7010 is based on the Xilinx All Programmable System-on-Chip (AP SoC) architecture, which tightly integrates a dual-core ARM Cortex-A9 processor with Xilinx 7-series Field Programmable Gate Array (FPGA) logic. When coupled with the rich set of multimedia and connectivity peripherals available on the ZYBO, the Zynq Z-7010 can host a whole system design. The on-board memories, video and audio I/O, dual-role USB, Ethernet and SD slot will have your design up-and-ready with no additional hardware needed. Additionally, six Pmod connectors are available to put any design on an easy growth path.

The ZYBO provides an ultra-low cost alternative to the ZedBoard for designers that don't require the high-density I/O of the FMC connector, but still wish to leverage the massive processing power and extensibility of the Zynq AP SoC architecture.

The ZYBO is compatible with Xilinx's new high-performance Vivado Design Suite as well as the ISE/EDK toolset. These toolsets meld FPGA logic design with embedded ARM software development into an easy to use, intuitive design flow. They can be used for designing systems of any complexity, from a complete operating system running multiple server applications in tandem, down to a simple bare-metal program that controls some LEDs. For systems that require an operating system, Digilent provides an out-of-the-box Linux solution specifically targeted to run on the ZYBO, complete with documentation describing how best to mold it to suite your purposes. These Xilinx tools and Linux solution are all available to use at no additional cost with the ZYBO.

The Z-7010 features include:

- 650Mhz dual-core Cortex-A9 processor
- DDR3 memory controller with 8 DMA channels
- High-bandwith peripheral controllers:
  1G Ethernet, USB 2.0, SDIO
- Low-bandwidth peripheral controller: SPI, UART, I2C
- Reprogrammable logic equivalent to Artix-7 FPGA
  - 28K logic cells
  - 240KB Block RAM
  - 80 DSP slices
  - On-chip dual channel, 12-bit, 1 MSPS A/D converter

The ZYBO offers the following ports & peripherals:

- ZYNQ XC7Z2010-1CLG400C
- 512MB x32 DDR3 w/ 1050Mbps bandwidth
- Dual-role (Source/Sink) HDMI port
- 16-bits per pixel VGA output port
- Trimode (1Gbit/100Mbit/10Mbit) Ethernet PHY
- MicroSD slot (supports Linux file system)
- OTG USB 2.0 PHY (supports host and device)
- External EEPROM
- Audio codec with headphone out, mic and line in jacks
- 128Mb Serial Flash w/ QSPI interface
- On-board JTAG programming & UART to USB converter
- GPIO: 6 pushbuttons, 4 slide switches, 5 LEDs
- Six Pmod connectors
  (1 processor-dedicated, 1 dual analog/digital)

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