OVERVIEW

Product Name: USB104 A7: Artix-7 FPGA Development Board in PC/104 Form Factor

Product Subtitle: Brings power and versatility to your PC/104 stackable PC

Product Description: USB104 A7 brings power and versatility to your PC/104 stackable PC. The board measures 95.89 mm x 90. and provides the standard mounting holes with standoffs included. The USB104 A7 features the industrial temperature rated Xilinx Artix-7 XC7A100T. Artix®-7 devices provide the highest performance-per-watt fabric making the USB104 A7 ideal for size, weight, and power (SWaP) constrained projects. I/O is provided with on-board LEDs and push-buttons, and, of course, three 12-pin Pmod ports. A SYZYGY-compatible Zmod port is available as well, allowing for high-speed signal acquisition and generation. An onboard USB hub and controller conveniently interfaces the USB104 A7 with JTAG, UART, and a parallel data interface (DPTI) through a single connection. The DPTI data transfer interface provides host-to-FPGA data transfer and is easily managed with Digilent's Adept 2 application. This ease of use and high-speed data transfer is especially useful for deployed systems.

Key Search Terms: PC/104, Advantech, Xilinx, FPGA, Artix 7, Industrial temperature rated Artix 7, XC7A100T-1CSG324I, Adept, Intel, x86 processor, military, industrial automation, Embedded, telecommunications,

Video Link: N/A

Datasheet: https://reference.digilentinc.com/reference/programmable-logic/usb104a7/reference-manual

Demo / Project Links:

1. Memory Interface Generator File Archive
2. USB104A7 ZmodADC Demo
3. USB104A7 ZmodDAC Demo
4. USB104 A7 Out-of-Box Demo (GitHub)

Features

- Xilinx Industrial Temperature Rated Artix-7 FPGA (XC7A100T-1CSG324I)
- 512 MB Micron DDR3 with 16-bit bus @ 800 or 667 MT/s depending on configurable voltage
- 16 MB Spansion Quad-SPI Flash
- USB-JTAG Programming circuitry
- USB-UART bridge
- Adept DPTI/DSPI data transfer interface for high speed host to FPGA data transfer
- Onboard USB hub eliminates the need for multiple USB cable connections
- One standard SYZYGY port (Zmod)
- Three standard Pmod ports
- PCB adheres to PC/104 form factor and includes the standard mounting holes
- Powered from a 5V external DC adapter attached to barrel jack or from USB header
- Automatic switching between USB and external power, with external receiving preference
- NCP380 load switch limits USB current to 2 amps and reduces in-rush current

Product Image

Image Links:

- https://flic.kr/p/2iBuN2F (Oblique)
- https://flic.kr/p/2iBtomL (Top)
- https://flic.kr/p/2iBqJXD (Bottom)

3 Target Applications

- Military & Defense
- Industrial Automation
- Transportation/Automotive
- Embedded OEM
- Telecommunications

Related Products

- Zmod ADC (410-396)
- Zmod DAC (410-397)
- All Pmods