**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


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