

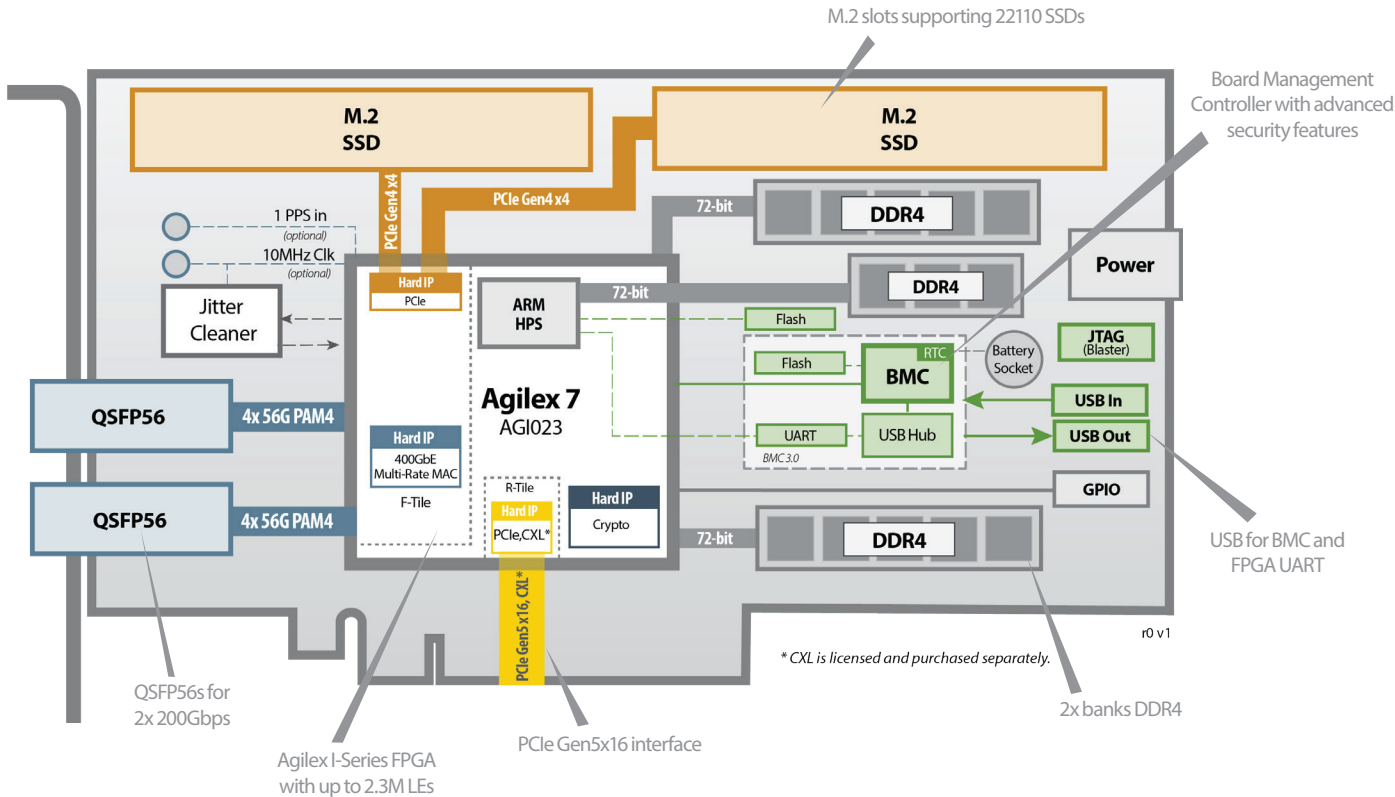
Agilex™ FPGA card with PCIe Gen5 x16

BittWare's IA-720i is an Altera Agilex™ 7 I-series FPGA card designed for building SmartNICs or other accelerators requiring a powerful FPGA in a single-slot form factor. The standard-height, 3/4-length card provides a balance of I/O and memory using the Agilex chip's unique tiling architecture with two QSFP56s, DDR4 SDRAM, and PCIe Gen5 x16 with CXL support for a variety of applications. The card features two M.2 slots supporting enterprise SSDs for data storage.



key features

- 2x SSDs
22110 M2s
- PCIe Gen5
with support for
CXL
- Single
Width



Additional Services

Take advantage of BittWare's range of design, integration, and support options



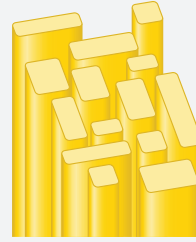
Customization

[Additional specification options](#) or [accessory boards](#) to meet your exact needs.



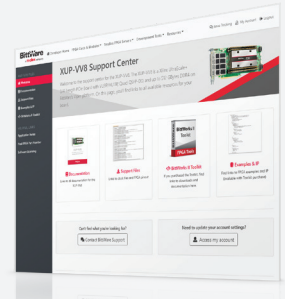
Server Integration

Available pre-integrated in our [TeraBox servers](#) in a range of configurations.



IP and Solutions

Our portfolio of IP and solutions reduce risk for development and deployment.



Service and Support

BittWare Developer Site provides online documentation and issue tracking.

Board Specifications

FPGA	<ul style="list-style-type: none"> Altera Agilex 7 I-Series: AGI023 Core speed grade -1: I/O speed grade -1 for CXL (CXL IP is licensed and purchased separately) FPGA includes ARM HPS Hard crypto blocks
ARM HPS	<ul style="list-style-type: none"> Dedicated 72-bit DDR4 Dedicated Flash memory for booting ARM
On-board Flash	<ul style="list-style-type: none"> 2Gbit Flash memory for booting FPGA
External memory	<ul style="list-style-type: none"> 2x 72-bit DDR4 banks, up to 32GB each (64GB total)
Host interface	<ul style="list-style-type: none"> x16 Gen5 interface direct to FPGA, connected to PCIe hard IP CXL support (CXL IP is licensed and purchased separately)
M.2 SSD Slots	<ul style="list-style-type: none"> 2x slots for NVMe PCIe M.2 22110 SSDs
QSFP56 cages	<ul style="list-style-type: none"> QSFP56 cages supporting a total of 2x 200/100/50/25/10GbE Multi-rate hard MAC supports all combinations Jitter cleaner for network recovered clocking
GPIO	<ul style="list-style-type: none"> 4x GPIO
External clocking	<ul style="list-style-type: none"> 1 PPS and 10MHz ref clk inputs (in-board)
USB	<ul style="list-style-type: none"> USB access to BMC, USB-UART

Board Management Controller

- Power sequencing and reset
- Voltage, current, temperature monitoring
 - Protection shut-down
- Clock configuration
- Low bandwidth BMC-FPGA comms with SPI link
- USB 2.0
- PLDM support
- Card-level security
 - BMC Root of Trust
 - BMC and FPGA secure boot
 - BMC and FPGA secure upgrade
 - Key management
- RTC with battery backup

Cooling

- Standard: single-width passive heatsink

Electrical

- On-board power derived from PCIe slot and external power connector
- Power dissipation is application dependent
- Max power consumption 150W

Environmental

- Operating temperature: 5°C to 35°C

Quality

- Manufactured to IPC-A-610 Class 2
- RoHS compliant
- CE, FCC, UKCA & ICES approvals

Form factor

- Standard-height, 3/4-length, single-slot PCIe card
- Size: 111.15mm x 254.00mm (4.376in x 10.000in)

Development Tools

System development

BittWare SDK including PCIe driver, libraries, and board monitoring utilities

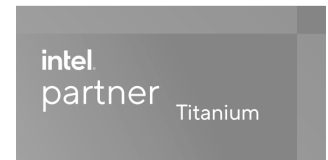
Application development

Supported design flows - Intel High-Level Synthesis (C/C++) and Quartus Prime Pro (HDL, Verilog, VHDL, etc.)

International Distributor



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r0 v2 | last revised 2024.04.22

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