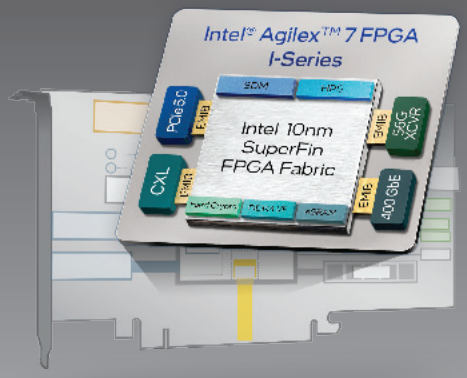
BittWare a molex company

IA-720i

PCIe FPGA Card



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 for a variety of applications. The card features two M.2 slots supporting enterprise SSDs for data storage.

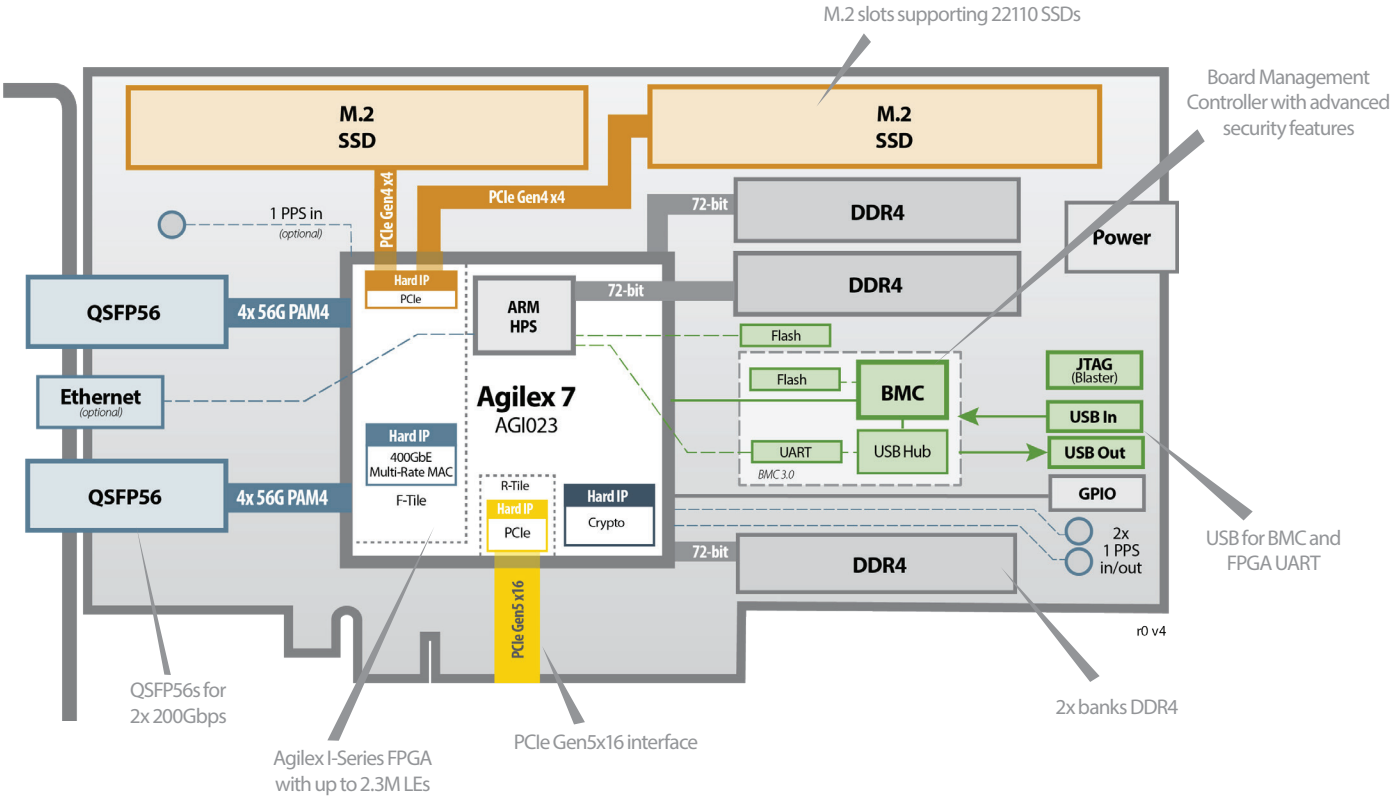
intel AGILEX 7

key features

2x SSDs
22110 M2s

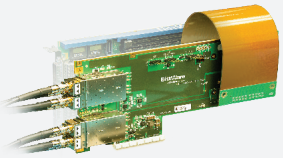
PCIe Gen5

Single Width



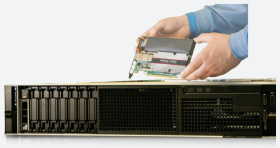
Additional Services

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



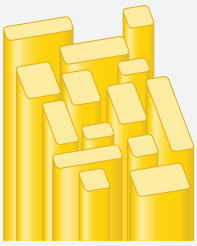
Customization

Additional specification options or accessory boards to meet your exact needs.



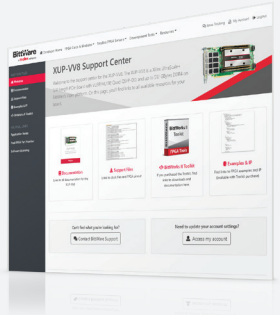
Server Integration

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	• Altera Agilex 7 I-Series: AGI023
	  • Core speed grade -1: I/O speed grade -1
	  • FPGA includes ARM HPS
	  • Hard crypto blocks

ARM HPS	• Dedicated 72-bit DDR4 • Dedicated Flash memory for booting ARM • Ethernet access via front-panel RJ45 (optional)
On-board Flash	• 2Gbit Flash memory for booting FPGA
External memory	• 2x 72-bit DDR4 banks (discrete components), up to 16GB each (32GB total)
Host interface	• x16 Gen5 interface direct to FPGA, connected to PCIe hard IP
M.2 SSD Slots	• 2x slots for NVMe PCIe M.2 22110 SSDs
QSFP56 cages	• 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	• 4x GPIO
External clocking	• 2x 1 PPS in/out (in-board) • 1x 1PPS in (in-board)
USB	• 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

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 libraries and board monitoring utilities
Application development	Supported design flows - Intel High-Level Synthesis (C/C++) and Quartus Prime Pro (HDL, Verilog, VHDL, etc.)

To learn more, visit **www.BittWare.com**

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