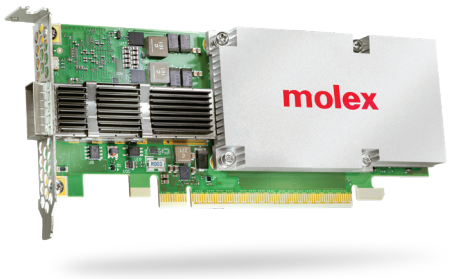
PRODUCT OVERVIEW SHEET

BittWare IA-420f PCIe Card ›

The BittWare IA-420f is an Altera Agilex™-based FPGA card designed to deliver next generation performance for data center, networking and edge compute workloads.

The NIC-sized card provides a balance of I/O and memory using the Agilex chip's unique tiling architecture with a QSFP-DD (1× 200G), DDR4 SDRAM, PCIe Gen4 x16, and a GPIO port for diverse applications.



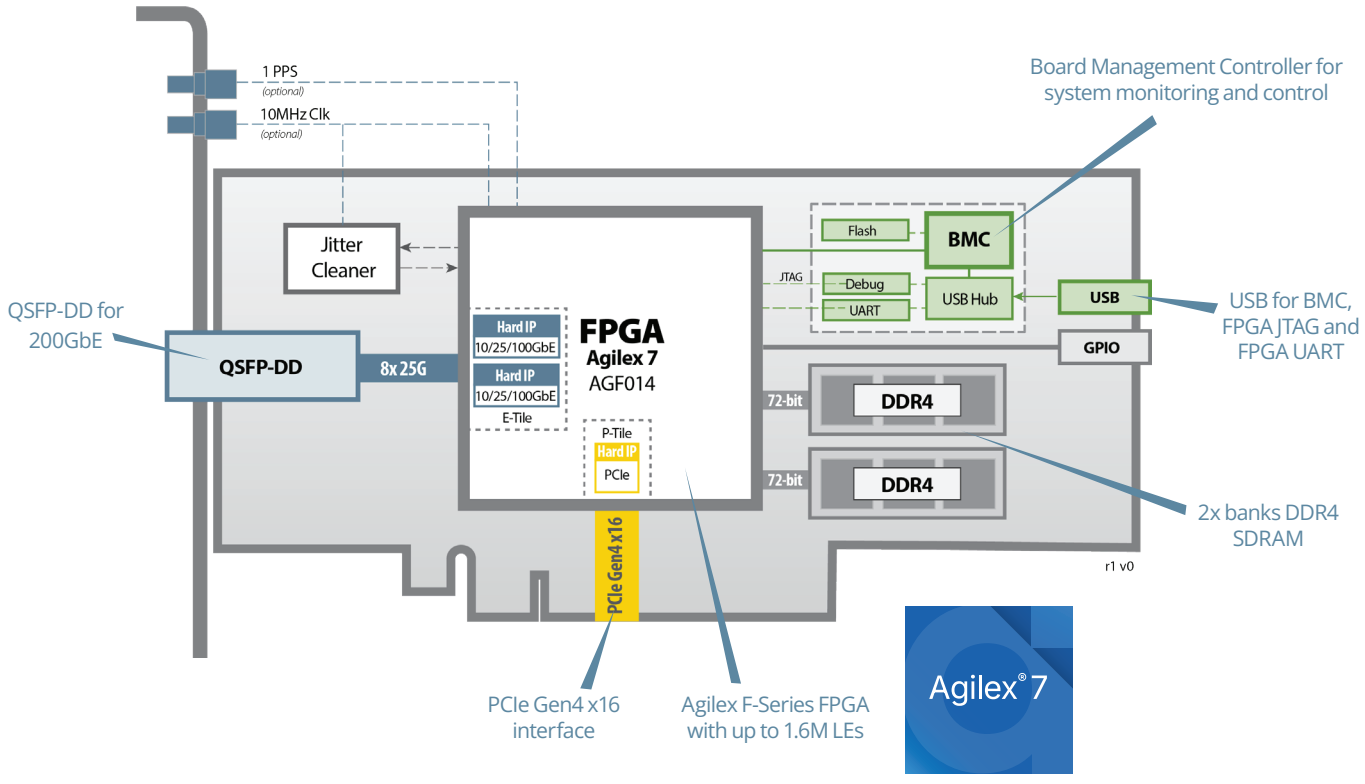
FEATURES AND ADVANTAGES

1x 200G via QSFP-DD
Ideal for network-intensive applications

PCIe Gen4 x16
High-speed, low-latency host interface

Altera Agilex F-Series FPGA
Powerful FPGA resources with 1.4m LEs

Single width
Ideal for networking, data center and edge computing



PRODUCT OVERVIEW SHEET

BittWare IA-420f PCIe Card ›

BOARD SPECIFICATIONS

FPGA
- Altera Agilex 7 F-Series: AGF014
- Core speed grade -2: I/O speed grade -2
- Contact us for other Agilex FPGA options

On-board Flash
- 2Gbit Flash memory for booting FPGA

External memory
- 2x banks on-board DDR4, 8GB per bank, 16GB total

Host interface
- x16 Gen4 interface direct to FPGA, connected to PCIe hard IP

QSFP-DD cages
- QSFP-DD cage on front panel connected directly to FPGA via 8 transceivers
- User programmable low jitter clocking supporting 10/25/40/100GbE
- Jitter cleaner for network recovered clocking

GPIO
- 4x GPIO expansion connector

External clocking
- 1 PPS and 10MHz ref clk front panel inputs (optional)

USB
- USB access to BMC, USB-JTAG, USB-UART

Board Management Controller
- Voltage, current, temperature monitoring
- Power sequencing and reset
- Field upgrades
- FPGA configuration and control
- Clock configuration
- Low bandwidth BMC-FPGA comms with SPI link
- USB 2.0
- PLDM support
- Voltage overrides

Cooling
- Standard: single-slot passive heatsink

Electrical
- On-board power derived from PCIe slot
- Power dissipation is application dependent
- Max power consumption 75W

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
- Low profile (half-height, half-length) PCIe slot card
- Size: 68.90mm x 167.65mm (2.713in x 6.600in)

SALES PART NUMBERS

IA-420F-0015	Low-profile FPGA card: Agilex F-Series, 200G, PCIe Gen4 x16, 16GB DDR4
IA-420F-0016	FHHL FPGA card: Agilex F-Series, 200G, PCIe Gen4 x16, 16GB DDR4

Looking for a different configuration? Ask us about other configuration options.

DEVELOPMENT TOOLS

System development
BittWare SDK including libraries and board monitoring utilities

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

SAFETY & COMPLIANCE
- FCC (USA) 47CFR15.107 / 47CFR15.109
- CE (Europe) EN55032:2015 + A11:2020 / EN55035:2017 + A1:2021 / EN61000-3-2:2019 +A1:2021 / EN610003-3:2013 + A1:2019
- UKCA (United Kingdom) BS EN55032:2015 + A11:2020 / BS EN55035:2017 + A1:2021 / BS EN61000-3-2:2019 + A1:2021 / BS EN610003-3:2013 + A1:2019
- ICES (Canada) ICES-003 Issue 7
- CE (Europe) EN IEC 62368-1:2020 + A11:2020
- UKCA (United Kingdom) BS EN IEC 62368-1:2020 + A11:2020
- CB Scheme Certificate No. DK-139414-UL
- RoHS compliant to the 2011/65/EU + 2015/863 directive

altera solution acceleration partner Select

To learn more, visit **bittware-molex.com**

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