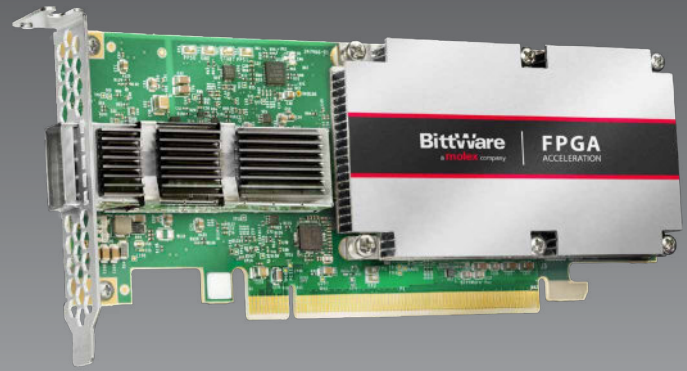




IA-420F PCIe FPGA Card



Agilex™ FPGA card with PCIe Gen4 x16

200Gbps with up to 16GBytes DDR4 SDRAM

BittWare's IA-420F is an Intel® 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 (1x 200G), DDR4 SDRAM, PCIe Gen4 x16, and a GPIO port for diverse applications. The card also supports Intel oneAPI™, which enables an abstracted development flow for dramatically simplified code re-use across multiple architectures.



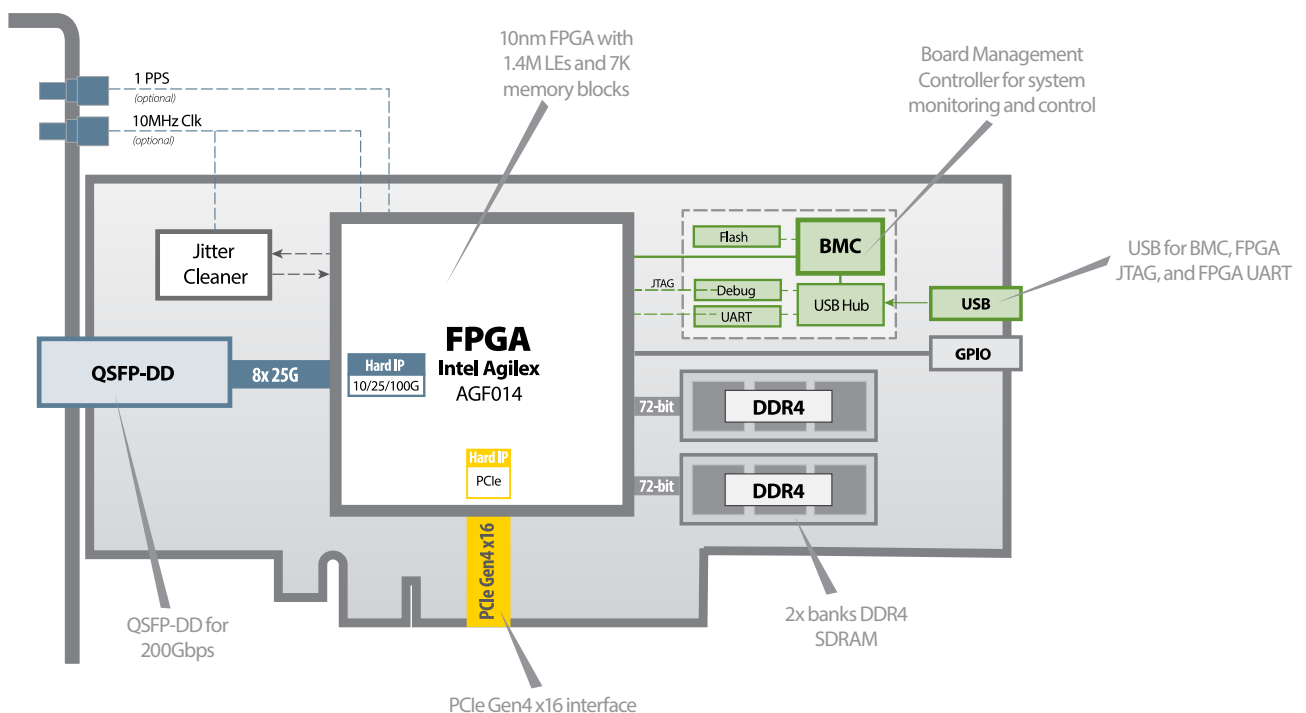
The IA-420F supports Intel's OneAPI open standards-based unified programming model

key features

QSFP-DD
for 200G

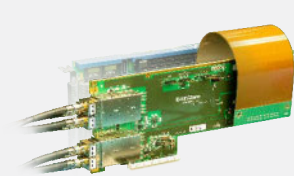
**Intel
OneAPI**
support

Intel Agilex™ FPGA
with up to **1.4M**
Logic Elements



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.



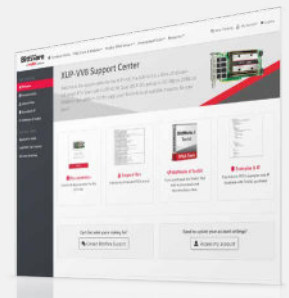
Server Integration

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



Application Optimization

Ask about our services to help you port, optimize, and benchmark your application.



Service and Support

BittWare Developer Site provides online documentation and issue tracking.

Board Specifications

FPGA	<ul style="list-style-type: none">Intel Agilex AGF014Core speed grade -2: I/O speed grade -2Contact BittWare for other Agilex FPGA options
On-board Flash	<ul style="list-style-type: none">2Gbit Flash memory for booting FPGA
External memory	<ul style="list-style-type: none">2x banks on-board DDR4, up to 8GB each
Host interface	<ul style="list-style-type: none">x16 Gen4 interface direct to FPGA, connected to PCIe hard IP
QSFP-DD cages	<ul style="list-style-type: none">QSFP-DD cage on front panel connected directly to FPGA via 8 transceiversUser programmable low jitter clocking supporting 10/25/40/100GbEJitter cleaner for network recovered clocking
GPIO	<ul style="list-style-type: none">4x GPIO expansion connector
External clocking	<ul style="list-style-type: none">1 PPS and 10MHz ref clk front panel inputs (optional)
USB	<ul style="list-style-type: none">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 and ICES approvals

Form factor

- Low profile (half-height, half-length) PCIe slot card
- Size: 167.7 mm x 68.9 mm

Development Tools

System development

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

Application development

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

Rev 2021.11.12 | November 2021

© BittWare 2021

Agilex is a registered trademark of Intel Corp. All other products are the trademarks or registered trademarks of their respective holders.



BittWare
a **molex** company

International Distributors



Sky Blue Microsystems GmbH
Geisenhausenerstr. 18
81379 Munich, Germany
+49 89 780 2970, info@skyblue.de
www.skyblue.de



In Great Britain:
Zerif Technologies Ltd.
Winnington House, 2 Woodberry Grove
Finchley, London N12 0DR
+44 115 855 7883, info@zerif.co.uk
www.zerif.co.uk