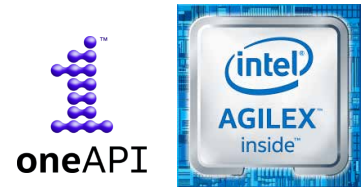


Agilex™ FPGA card with QSFP-DD and MCIO

4x 100GbE with up to 384GBytes DDR4 SDRAM

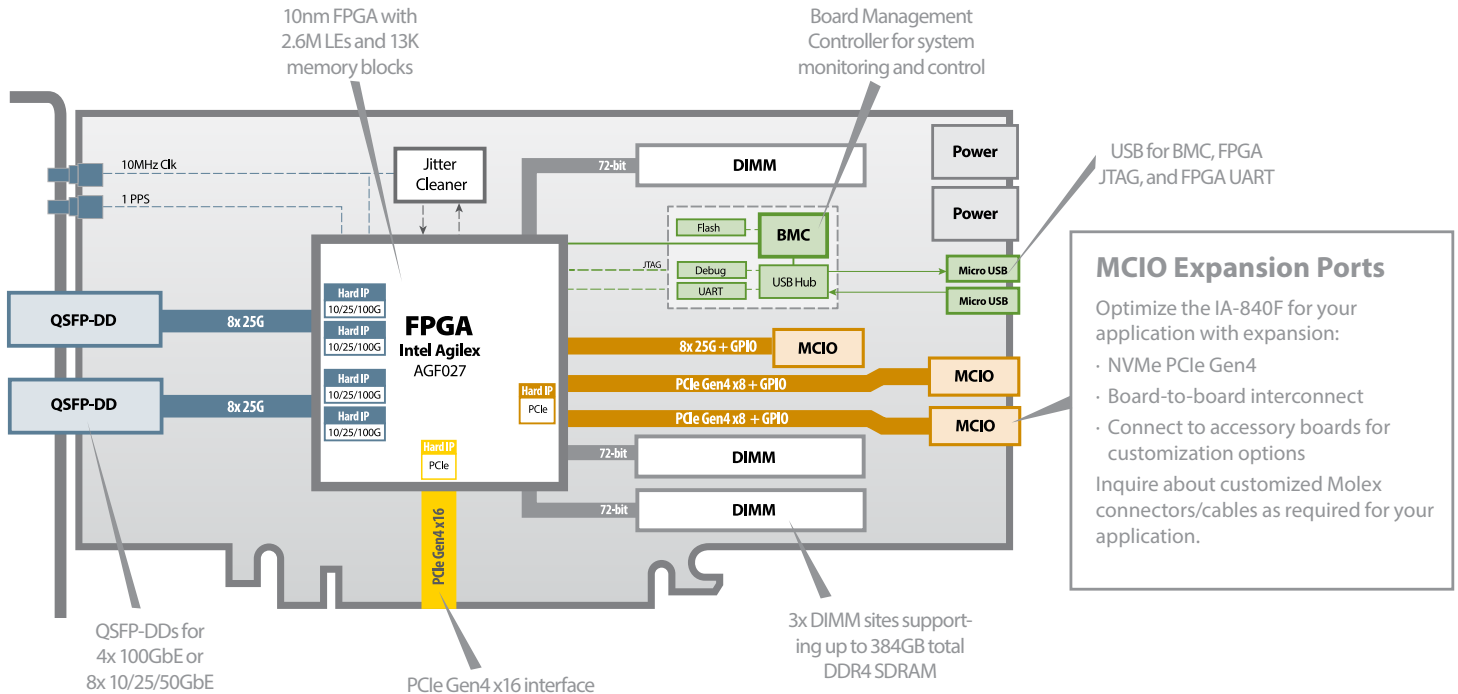
BittWare's IA-840F is an Intel® Agilex™-based FPGA card designed to deliver up to 40% higher performance for data center, networking and edge compute workloads. BittWare maximized I/O features on the card using the Agilex chip's unique tiling architecture with dual QSFP-DDs (4x 100G), PCIe Gen4 x16, and three MCIO expansion ports 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-840F supports Intel's OneAPI open standards-based unified programming model

key features

- QSFP-DDs** for 4x 100G or 16x 10/25G
- Intel OneAPI** support
- Intel Agilex™ FPGA** with up to **2.6M** 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.



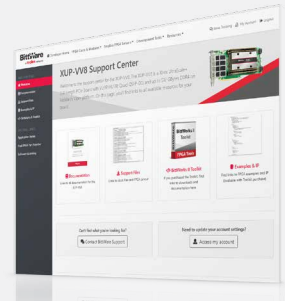
Server Integration

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 <ul style="list-style-type: none"> AGF027 in an R2581A package Core speed grade -2: I/O speed grade -2 Contact 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"> 3x 288-pin DIMM slots, each supporting up to 128GB DDR4 SDRAM modules (up to 384GB total) Designed-in support for other DIMM modules such as QDR SRAM and Optane. Contact BittWare for details.
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"> 2 QSFP-DD cages on front panel connected directly to FPGA via 16 transceivers User programmable low jitter clocking supporting 10/25/40/100GbE Each QSFP-DD can be independently clocked Jitter cleaner for network recovered clocking Multi-rate hard MAC+FEC for 10/25/100GbE
MCIO	<ul style="list-style-type: none"> 2x edge connectors supporting 8x 16G plus GPIO sidebands; supports 4x Gen4 x4 PCIe root complexes, 2x Gen4 x8 endpoints, or 1x Gen4 x16 root complex or endpoint 1x inner connector supporting 8x 25G plus GPIO sidebands
External clocking	<ul style="list-style-type: none"> 1 PPS and 10MHz ref clk front panel inputs
USB Micro	<ul style="list-style-type: none"> USB access to BMC, USB-JTAG, USB-UART

Board Management Controller	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Standard: double-width passive heatsink Optional: double-width active heatsink (with fan) Optional: double-width liquid cooling
Electrical	<ul style="list-style-type: none"> On-board power derived from 12V PCIe slot & two AUX connectors Power dissipation is application dependent Typical max power consumption TBD
Environmental	<ul style="list-style-type: none"> Operating temperature: 5°C to 35°C
Quality	<ul style="list-style-type: none"> Manufactured to ISO9001:2015 IPC-A-610-Class III RoHS compliant CE, FCC & ICES approvals
Form factor	<ul style="list-style-type: none"> Standard-height PCIe dual-slot board 4.376 x 10.5 inches (111 x 266.7 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++) & Quartus Prime Pro (HDL, Verilog, VHDL, etc.)



To learn more, visit www.BittWare.com

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BittWare
a **molex** company