

BittWare
a moxley company

520C
PCIe FPGA Board



Stratix 10 FPGA Board with DDR4

Introducing ground-breaking single precision floating point performance of up to 10 TFLOPS, the 520C is a PCIe board featuring an Intel Stratix 10 FPGA, along with four banks of DDR4 external memory.

The 520C is an FPGA co-processor designed to deliver ultimate performance per watt for compute-intensive datacenter applications.

Both traditional HDL and higher abstraction C, C++ and OpenCL-based tool flows are supported. Deliverables include an optimized board support package (BSP) for the Intel OpenCL SDK.

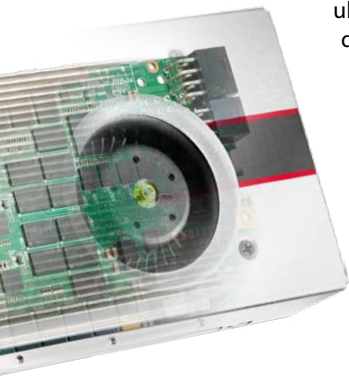
Tool Flow Flexibility for Software- or Hardware-Based Development



- OpenCL support for software-orientated customers
- Abstraction for faster development
- Push-button flow for FPGA executable, driver, and API
- Add optimized HDL IP cores to OpenCL designs as libraries



- Traditional VHDL/Verilog support for hardware-orientated customers
- Hand-code for ultimate performance
- High-Level Synthesis (HLS) available for rapid development
- FPGA card designed to support standard Intel IP cores for Stratix 10

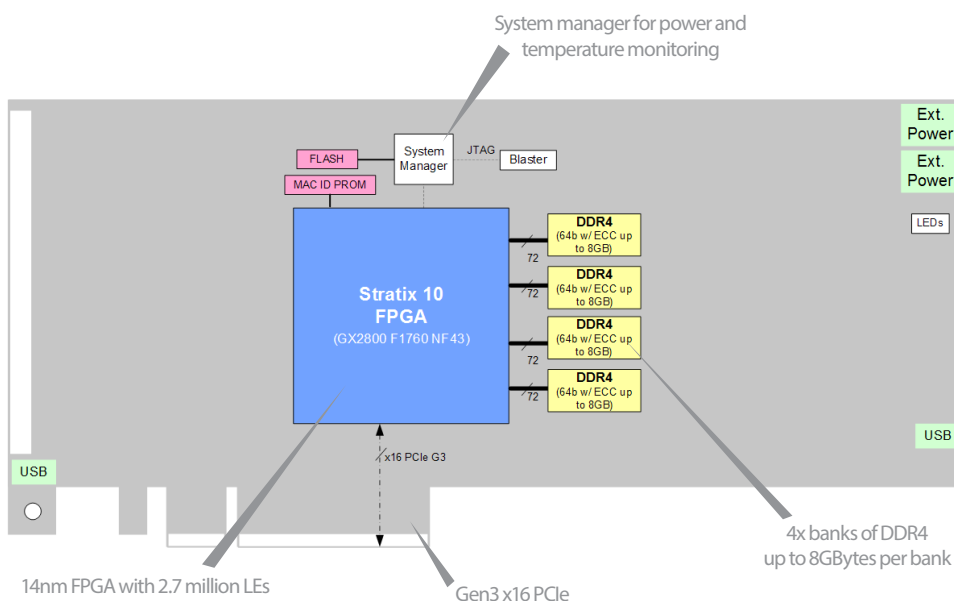


key features

Intel Stratix 10
GX 2800

up to **32Gbytes**
DDR4

OpenCL
BSP



Key Applications

Designed to address a range of compute-intensive and latency-critical applications:

- Machine learning
- Gene sequencing
- Oil and Gas
- Video transcoding

USB for FPGA
JTAG, and FPGA
UART

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.



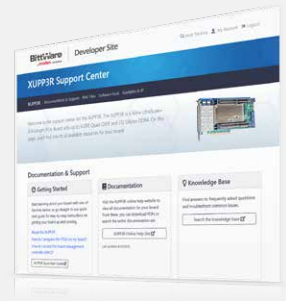
Server Integration

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 Stratix 10 GX <ul style="list-style-type: none"> GX2800 in an F1760 NF43 package Core speed grade -2: I/O speed grade -2 Contact BittWare for other Stratix 10 GX options |
| On-board Flash | <ul style="list-style-type: none"> 2Gbit Flash memory for booting FPGA |
| External memory | <ul style="list-style-type: none"> Four banks of DDR4 SDRAM x 72 bits 8GB per bank (32GB total / 64GB version also available) Transfer Rate: 2400 MT/s |
| Host interface | <ul style="list-style-type: none"> x16 Gen3 interface direct to FPGA, connected to PCIe hard IP |
| PCIe backplate | <ul style="list-style-type: none"> USB for programming, debug and monitoring User programmable tri-color LEDs |
| System manager | <ul style="list-style-type: none"> On-board Intel USB Blaster Power and temperature monitoring Fault condition reporting to FPGA |
| Cooling | <ul style="list-style-type: none"> Standard: double-width active heatsink (embedded fan) Optional: double-width passive heatsink |
| Electrical | <ul style="list-style-type: none"> On-board power derived from 12V PCIe slot & two AUX connectors (one 8-pin, one 6-pin) Power dissipation is application dependent Typical max power consumption 225W |
| 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

| | |
|-------------------------|--|
| FPGA development | BIST - Built-In Self-Test for CentOS 7 provided with source code (pinout, gateway, PCIe driver & host test application) |
| Application development | Supported design flows - Intel FPGA OpenCL SDK, Intel High-Level Systemis (C/C++) & Quartus Prime Pro (HDL, Verilog, VHDL, etc.) |

Deliverables

- 520C FPGA board
- USB cable (front panel access)
- Built-In Self-Test (BIST)
- OpenCL HPC Board Support Package (BSP)
- 1-year access to online Developer Site
- 1-year hardware warranty

To learn more, visit www.BittWare.com

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FPGA Design Solutions Network
Platinum

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