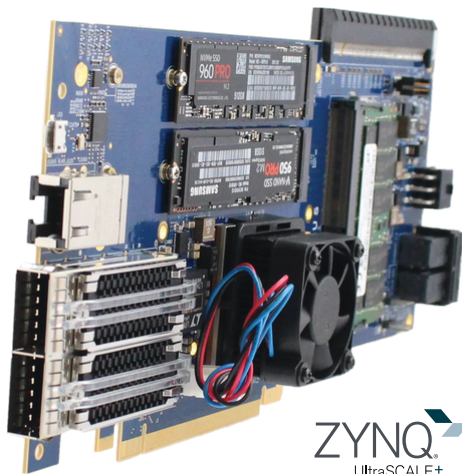# SIDEWINDER-100

PCIe NVMe Storage Controller

Fidus – With more than 20 years of experience, we have learned how to transform ideas, visions and concepts into exceptional products. That's because we are experienced at taking complex problems and delivering solutions against dynamic environments and tight deadlines.
We apply our industry experience, and leverage the expertise of our people to make sure your product performs to your expectations before it goes out the door.
No exceptions.

SIMPLY FASTER

Fidus created Sidewinder to accelerate networking and storage applications using a Zynq® UltraScale+™ MPSoC. The platform leverages NVMe Over Fabrics technology to eliminate the latency associated with SCSI and SAS protocol translations. This results in significant reductions in transaction times and thus enabling impressive gains latency.

While the Sidewinder was designed for storage acceleration, it can also be leveraged as a powerful platform for developing applications that require heterogenous processing, FPGA-based acceleration, and benefits from high-bandwidth and low-latency storage.
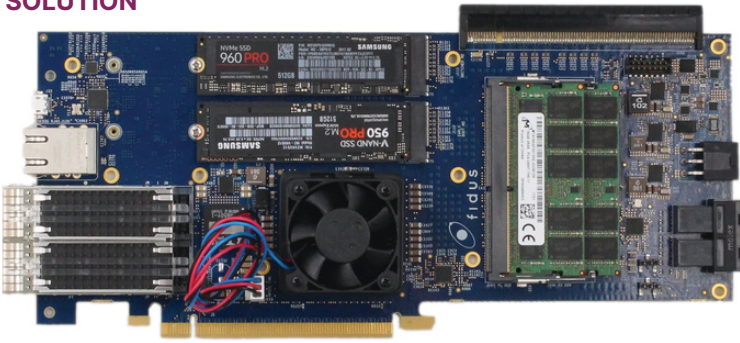
APPLICATIONS

- **NVMEoF, NVMF It.** Leveraging NVMe drivetechnology and NVMe Over Fabrics IP, Sidewinder can decimate the latency associated with accessing mass storage devices (e.g. SSD).
- **Accelerate It.** Whether accelerating financial transactions or data center workload algorithms, Sidewinder's Zynq UltraScale+ can be optimally partitioned to accept ,crunch, and return, both data and decisions, faster than ever before.
- **Cluster It**. Make things super-fast. Implement a number of Sidewinders as one big cluster, create massive storage arrays, leverage parallelism for workload acceleration.
- **Learn It.** Sidewinder is a great tool for universities and colleges to explore with their students. Not only does the Zynq US+ contain all of the converged resources that students will be tackling in the future, it also provides a high-bandwidth platform for interfacing to a PC.
- **Develop It.** Maybe you don't own a data center, and you're not concerned about mass storage; put Sidewinder on a desktop and enjoy all of the benefits of having a Zynq UltraScale+ system at your fingertips.
- **Customize It**. Not exactly what you need? Fidus Systems can customize Sidewinder to meet your needs. We have in-house experts in hardware, FPGA, software, signal integrity, and PCB layout.

FEATURES

- A powerfulXilinx® Zynq® US+ ZU19EG All Programmable™ MPSoC
- A lightningfast PCIe Gen4 x8/Gen3 x16 Host interface 200Gbps network access via dual QSFP cages
- Two (2) M.2 interfaces to support onboardSSDs
- A pair of 8643 connectors enablingaccess to large off board NVMe SSDs
- Onboard DDR4, two 16GB SO-DIMMs, 72-bitwith ECC @ 2400MT/s*
- A PCIe x8 Gen3/4Expansion Interface

SOLUTION

1. Zynq US+ ZU19EG
2. PCIe Host Connector Gen3/4
3. 100Gbps QSFP Cages
4. M.2 Connectors
5. 8643 connectors
6. DDR4 (PS 16GB, PL 16GB)
7. PCIe Expansion Connector Gen3/4
8. 10/100/1000BaseT Port
9. Micro USB, dual UART port
10. ATX Power Input

Notes

- Sidewinder ships with two dual rank 16GByte SO-DIMM modules. Due to the dual rank architecture of the memory, DDR4 speed is limited, as follows: PS max = 1866MT/s and PL=2133MT/s. Higher throughput can be achieved with single rank SO-DIMMs.
- Sidewinder is depicted above with two M.2 drives installed. M.2 drives are not provided with Sidewinder.

SPECIFICATIONS

Environment	Power	Dimensions	Technologies
Operating/Storage Temp: 0 to 40°C/-20°C to +45°C Airflow: 500LFM minimum Humidity: 10% to 90% non-condensing	PCIe slot and ATX power required Less than 75 W at power-up, 148W maximum dissipation	PCIe ¾ length add-in card form factor 254mm x 111.15mm (LxW)	NVM Express Over Fabrics via ROCEV2/iWARP PCIe Gen3/4 CAPI Compatible RoHS Compliant / CE Certified (tbd)

Sales and Support

For additional information, questions or request for quotation visit: **sidewinder.fidus.com**

Customize your Sidewinder

Speak with our Design Services Group on how to accelerate your custom design: **design@fidus.com**

Part Number: 10243-01-SW100-003
Description: Sidewinder-100 PCIe Platform
Package Contents: Sidewinder-100, PCIe add-in card (1)

Part Number: 1029x-01-LBTEST-001
Description: Sidewinder-100 Loopback Kit
Contents: PCIe Power an Loopback Adapter (1), PCIe Expansion Port Loopback (1), M.2 Loopback (2), 8643 Loopback Cable (1)

20+
years experience
Collaborating with smart teams is what fuels us every day.

3,000+
successful projects
Your unique challenges are our obsession.

400+
customers
Extending your team with our expertise brings designs to market faster.

95%
repeat customers
Customers love to work with us, again and again.

ABOUT FIDUS

Fidus Systems, founded in 2001, specializes in leading-edge electronic product development with offices in Ottawa and Waterloo, Ontario, and San Jose, California. Our hardware, software, FPGA, verification, wireless, mechanical and signal integrity teams work to innovate, design and deliver next-generation products for customers in emerging technology markets. Fueled by 20+ years' experience and creativity, along with our collaborative and process driven approach, we turn complex challenges into well-designed solutions. And with over 400 customers and 3000+ completed projects, we have the expertise to be a seamless extension of your team, providing a clear focus and commitment to getting designs and prototypes to market faster. Once you start working with us, you'll trust us like one of your own. Our hallmark is transparency. Our guiding principle is first time right.

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