

Nallatech 2505

Near-Storage FPGA Accelerator

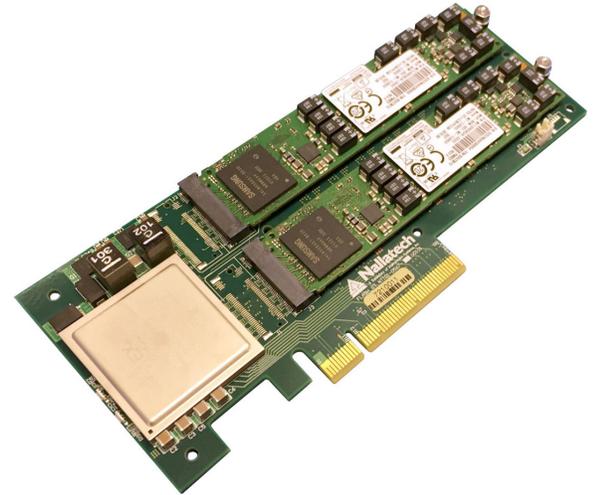


The 2505 is a high performance PCIe-based Flash SSD with localized FPGA acceleration capability.

- **8-lane PCIe Gen 3 card**
- **(1) Xilinx KU060 Ultrascale FPGA**
- **(2) 960GB or 1.92TB M.2 NVMe SSDs**
- **(1) bank of local DDR4 memory**

Designed to address datacentric and distributed compute algorithms

- **Database Acceleration**
- **Inline Compression**
- **Inline Encryption**
- **Checkpoint Restarting**
- **Burst Buffer Caching**



Fully Programmable, Inline Storage FPGA Accelerator with Multiple M.2 NVMe SSDs

SSD SPECIFICATIONS	1.92TB Version	3.84TB Version
Model	250S-2T	250S-4T
# of M.2 NVMe SSDs	2	2
Storage Capacity (TB)	1.92	3.84
Data Transfer Rate (128KB data size)		
- Sequential Read (GB/s)	3.6	4.0
- Sequential Write (GB/s)	1.86	2.4
Data I/O Speed (4KB data size, sustained)		
- Random Read (KIOPS)	700	860
- Random Write (KIOPS)	60	80
Latency (Sustained workload)		
- Random Read/Write (typical)	85/50us	85/50us
- Sequential Read/Write (typical)	15/15us	15/15us
Endurance DWPD Drive Writes Per Day (3 years)	1.3	1.3

Nallatech 2505

FPGA Accelerator Card

;;NEW PRODUCT

Form Factor

- » Single width PCI Express card
- » Half Height, Half Length (HHHL)
- » 2.713 x 6.6 inches

Host Interface

- » 8-lane PCI-Express Gen 3
- » Actual performance is host computer chipset and operating system dependent

Processing

- » Xilinx Ultrascale device in FFVA1156 package
- » Default configuration: KU060, speed grade 2

DDR4 SDRAM Memory

- » One bank of DDR4 SDRAM x 80 for FPGA fabric
- » 4GB @ 2400 MT/s

Application Development

Contact Sky Blue or Zerif

Electrical

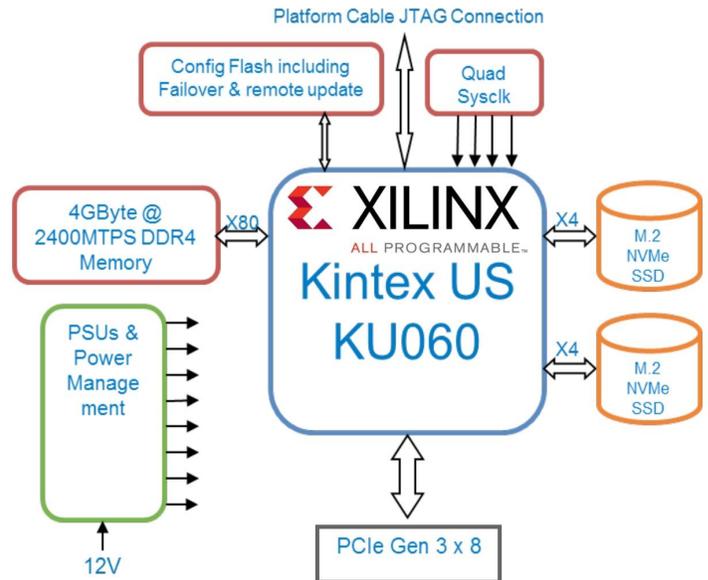
- » On-card power derived from 12V PCIe slot
- » FPGA power dissipation <25W

Quality

- » Manufactured to ISO9001:2000 IPC-A-610-Class III
- » RoHS compliant

Power Supply Monitoring & Reporting

- » Voltage monitoring
- » Temperature monitoring
- » Fault condition reporting to FPGA



Cooling

- » Standard: single-width passive heatsink
- » Optional: Active heatsink

Environmental

- » Cooling: Air convection
 - » Operating temperature: 0°C to 35°C
 - » Storage temperature: -20°C to 80°C
- Relative humidity: 45 to 95% (non-condensing)

Deliverables

- » 2505 FPGA card
- » 2 960GB or 1.92TB M.2 NVMe SSD Sticks
- » Built-In-Self-Test (BIST)
- » Full and half-height PCI brackets are available
- » 1 year access to online support lounge
- » 1 year hardware warranty

Customization: Technical specifications (e.g. FPGA type, size, external memory capacity etc.) can be modified to meet the exact needs of commercial customer applications as off-the-shelf product available to the general market.

Application optimization: Sky Blue and Zerif provides consultancy services assisting customers in the porting, optimization and benchmarking of applications executed on Nallatech FPGA accelerators.

International Distributors

sky blue
microsystems

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

ZERIF
TECHNOLOGIES LTD.
A SKY BLUE COMPANY, FOUNDED 1999

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