

PHISON

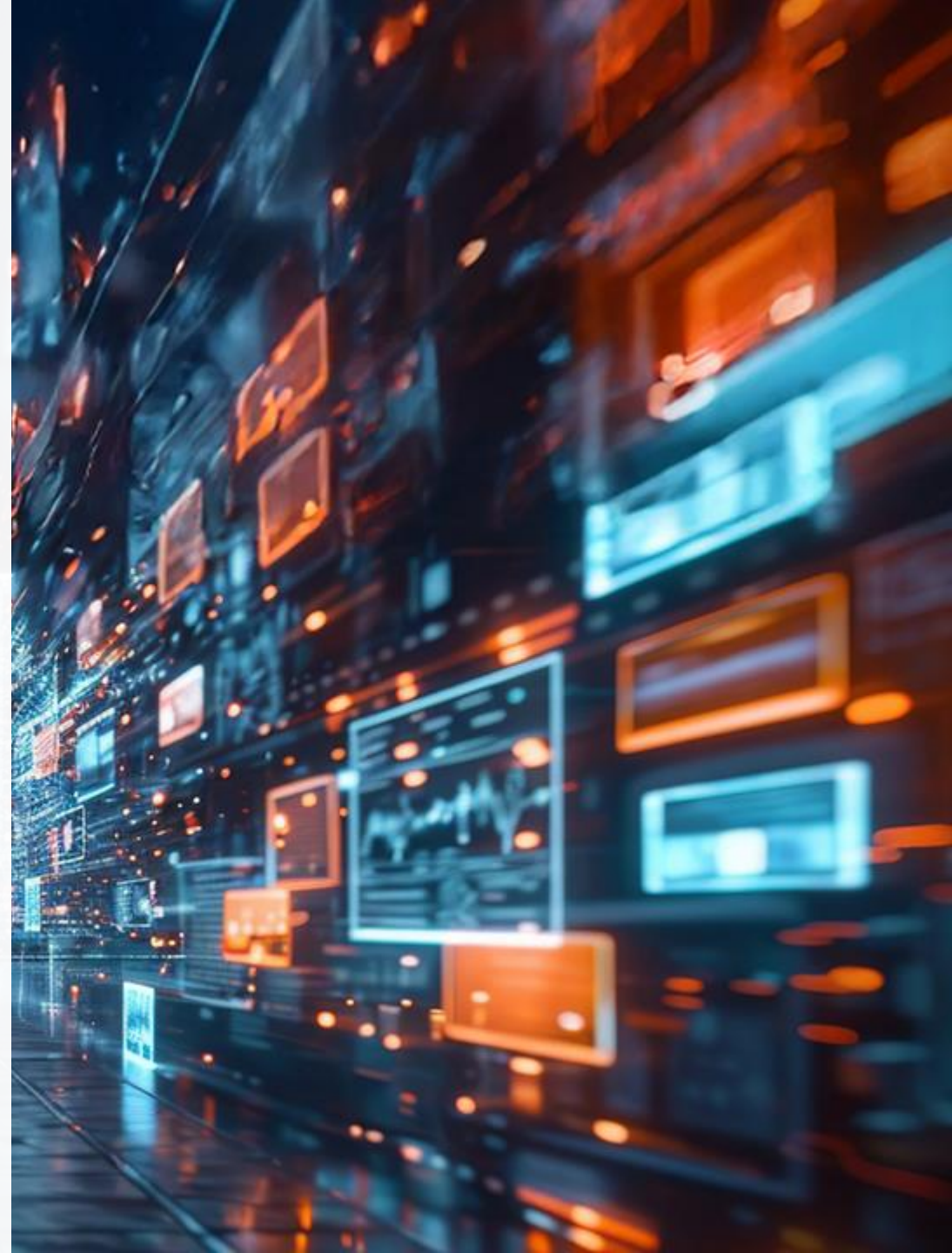


COMPUTEX
TAIPEI

Computex 2025

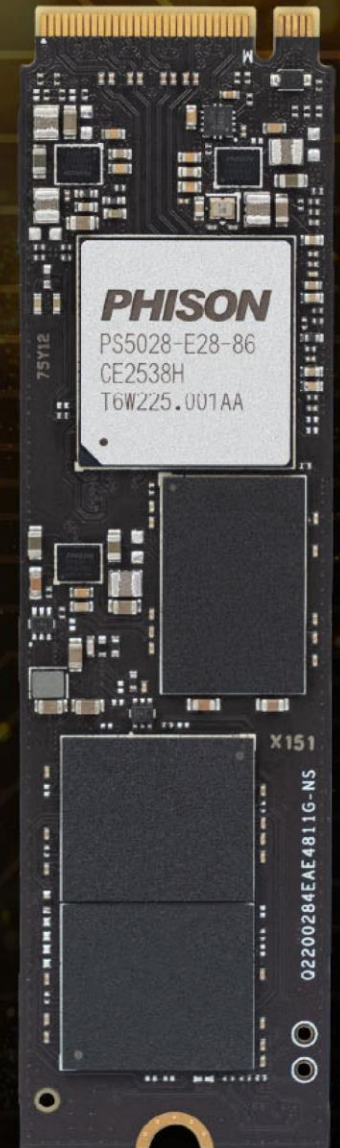
Media Update

May 2025

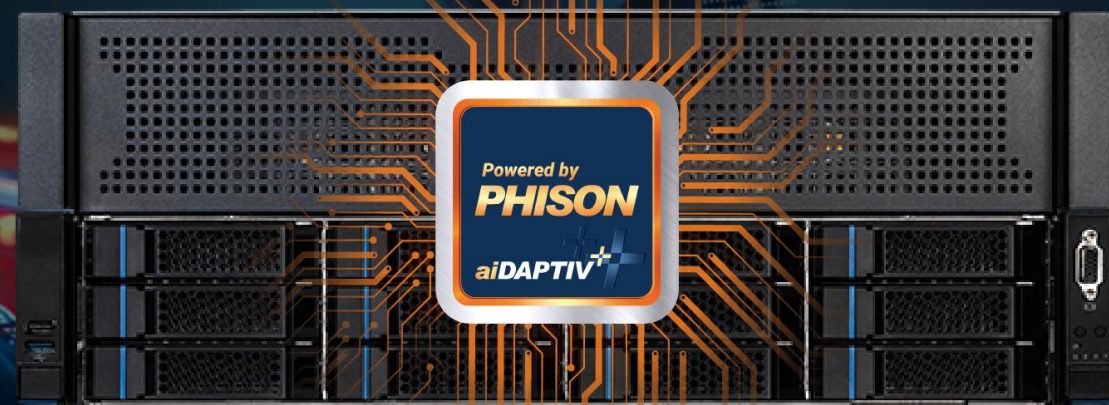


Phison Unveils World's First SSD with Built-in AI Computing, Wins COMPUTEX 2025 Gold Award

PHISON



Phison's **aiDAPTIV⁺** Solution Wins Category Award at COMPUTEX 2025 Best Choice Awards



PHISON

Latest Awards and Media Recognitions



European Hardware Awards 2025 – Finalists Announced

April 14, 2025

More than 100 of the most respected technology editors and reviewers in the world are now casting their votes in the 11th annual European Hardware Awards. The result? A definitive list of the best hardware currently available, as chosen by experts who live and breathe PC technology.

Phison enabled 5 of 8 finalists for EHA “Best SSD” award



Tom's Hardware Innovation Awards 2025: Surprise and Delight

By Avram Piltch | Contributions from Anj Bryant, Sarah Jacobsson Purewal, Les Pounder, Matt Safford, Paul Alcorn, Brandon Hill, Jarred Walton, Andrew E. Freedman published April 30, 2025

Corsair EX400U, powered by Phison U21 USB controller, wins TH Innovation Awards 2025

tom'sHARDWARE

Best SSDs 2025: From blazing-fast M.2 NVMe down to budget SATA

Best-picks By Paul Alcorn, Jarred Walton | Contributions from Shane Downing published April 5, 2025

13 Phison-powered solutions made Tom's Hardware's list of Best SSDs



The Best Internal SSDs for 2025

Boost your data capacity and speed up your storage: Here's everything you need to know to buy the right internal SSD, plus our top picks across all the M.2 and 2.5-inch drives PC Labs has tested.

By Tony Hoffman & John Burek

Updated March 24, 2025



Phison E26/E25/E21T solutions selected as PCMag's choice of The Best Internal SSDs for 2025

- Crucial T705: E26
- PNY XLR8 CS3150: E26
- Crucial T500: E25
- Crucial P3: E21T

Sources:

1. <https://www.eha.digital/2025/04/14/european-hardware-awards-2025-finalists-announced/>
2. <https://www.tomshardware.com/pc-components/toms-hardware-innovation-awards-2025>
3. <https://www.tomshardware.com/reviews/best-ssds.3891.html>
4. <https://www.pcmag.com/picks/the-best-internal-ssds>

PHISON

Quick Facts About Phison

25 years
Experience

\$1.8B
2024 Revenue

80%+
R&D Exp. / OPEX

4,000+
headcount
75% R&D

20%+
Global Client SSD Controller
Market Share

Business Focus
Client | Embedded | Enterprise
Automotive | Gaming | Design Service
Power IC | Signal IC

Phison Serves the World's Largest Storage OEMs

NAND flash makers
are Phison customers and suppliers

KIOXIA

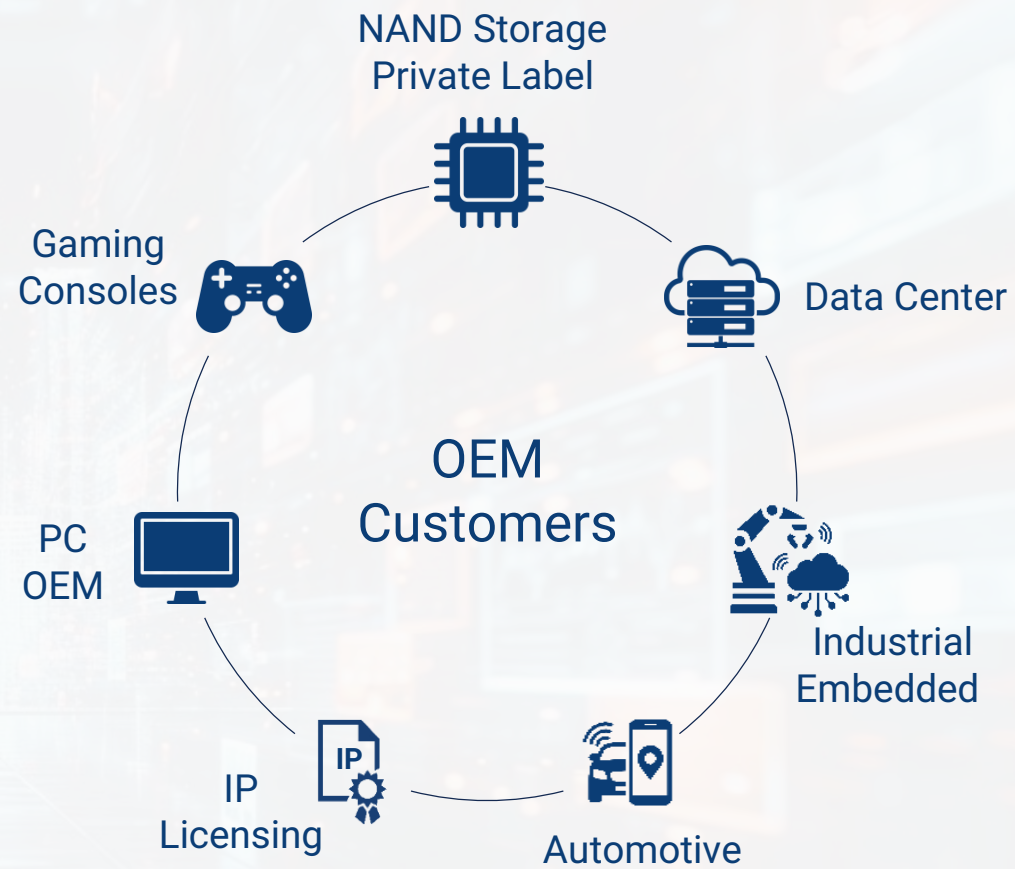
micron

SANDISK

SAMSUNG

SOLIDIGM

SK hynix



PHISON

PHISON
Computex 2025

PHISON
25
Years



PASCARI

PHISON |  **LONESTAR**

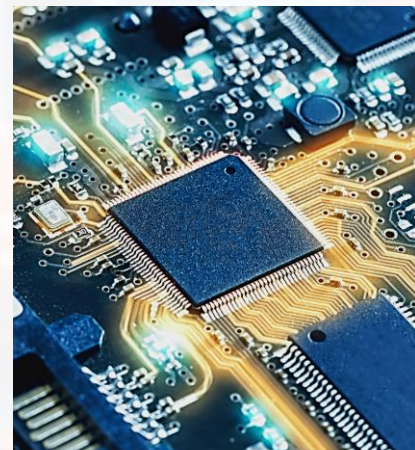


E28
2025 Flagship Client
PCIe Gen5 Solution



aiDAPTIV⁺

- ✓ Affordable
- ✓ Private
- ✓ Smarter AI





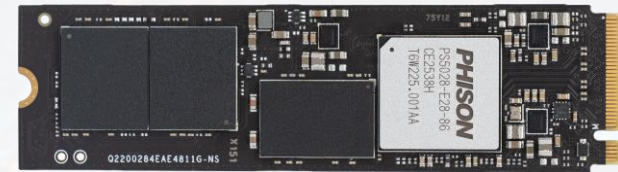
Client SSD

PS5028-E28

The Weapon of Choice for Serious Gaming and Productivity

- PCIe Gen5x4
- TSMC 6nm process
- LPDDR4
- 8-channel with 32 CEs
- Capacity up to 32TB
- 3D TLC supported
- Quad-CPU architecture
- Phison 8th Gen LDPC & RAID ECC
- AES-256 / TCG Opal / Pyrite
- Form Factor: M.2 2280

M.2 2280



Sequential Performance*

Read: Up to 14,800 MB/s

Write: Up to 14,000 MB/s

Random Performance*

Read: Up to 2,600K IOPS

Write: Up to 3,000K IOPS

* Performance may vary with different configurations and power limitation.

PHISON

PS5031-E31T

Ready to Fit Gen5 Speed and Efficiency

- PCIe Gen5x4
- TSMC 7nm process
- DRAM-less
- 4-channel with 16 CEs
- Capacity up to 4TB
- 3D TLC supported
- ARM Cortex R5 CPU
- Phison 7th Gen LDPC & RAID ECC
- AES-256 / TCG Opal / Pyrite
- Form Factor: M.2 2280 / M.2 2242 / M.2 2230



M.2 2230



M.2 2242



M.2 2280

Sequential Performance*

Read: Up to 10,300 MB/s

Write: Up to 8,600 MB/s

Random Performance*

Read: Up to 1,300K IOPS

Write: Up to 1,500K IOPS

* Performance may vary with different configurations and power limitation.



USB

PS2251-21 (U21)

World's First Native USB4 Controller



- Designed for the USB4 interface
- 40Gb/s bandwidth
- 1st available direct USB-to-NAND solution on USB4 Gen3x2
- DRAM-less design for cost efficiency
- 4-channel with 16 CEs
- Capacity up to 32TB*
- 3D TLC / QLC supported
- TSMC 12nm process
- Phison 4K LDPC & RAID ECC
- AES-256 supported
- Form Factor: External SSD (U32C)

Sequential Performance

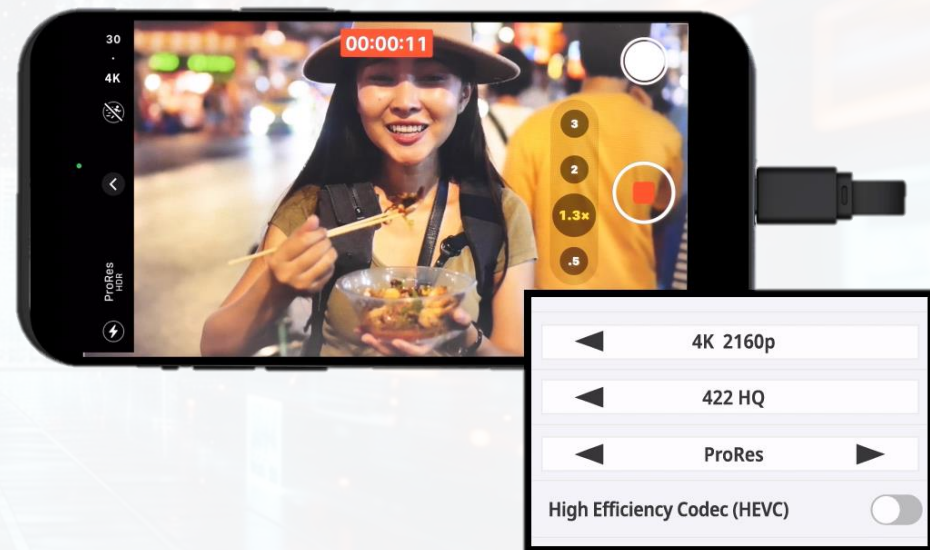
Read: Up to 4 GB/s

Write: Up to 4 GB/s

* HW Max Capability

iOS ProRes Live Storing

超高解析 即錄即存



[illegible]

UFS

PS8363 UFS 4.1

Breaking 4 GB/s for Future Flagships

- UFS 4.1 supported
- TSMC 12nm process
- 2-channel up to 3600MT/s
- Maximum 8 CEs (total)
- Phison 8th Gen 4KB LDPC, CRC, Turbo RAID ECC
- Capacity up to 1TB
- 3D TLC / QLC supported



Sequential Performance

Read: 4,300 MB/s

Write: 4,100 MB/s

Random Performance

Read: 610K IOPS

Write: 850K IOPS

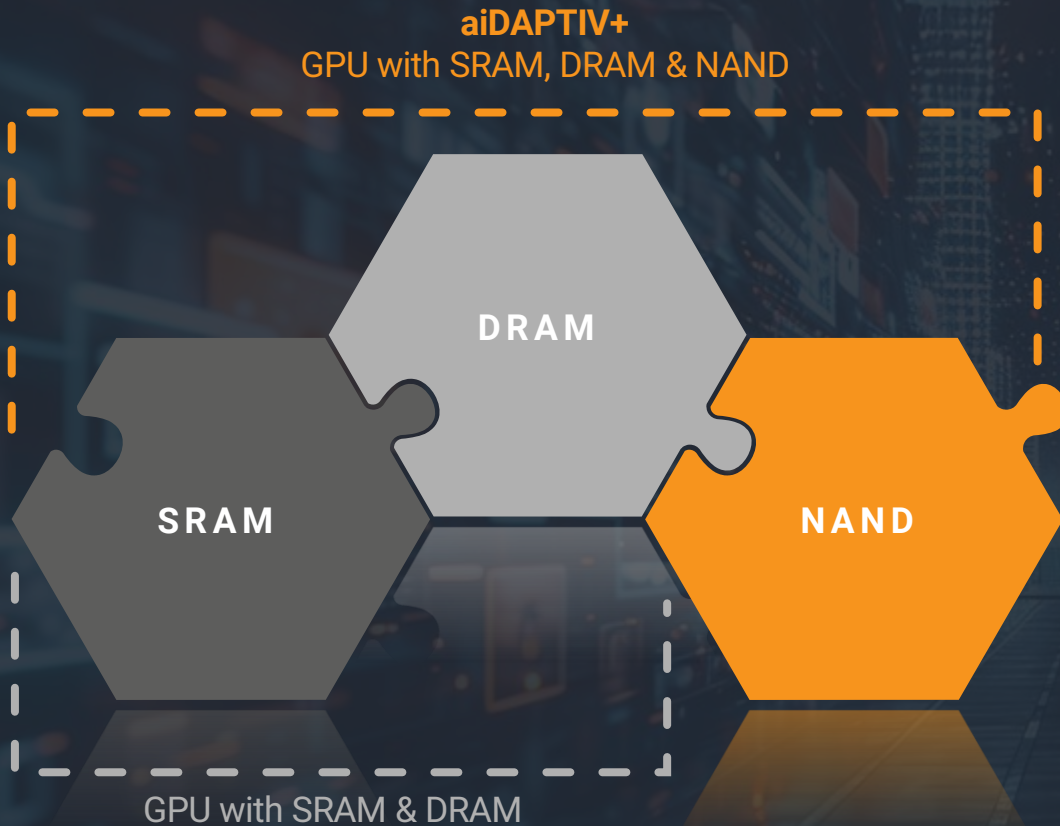
PHISON



aiDAPTIV⁺



Accelerating the Adoption of On-premises Generative AI



- Extend DRAM with NAND Flash
- Drastically lower the cost of machine
- Enable different GPU solution to handle larger model on fine-tuning
- Accelerate widespread adoption of fine-tuning
- Unlock the performance for inference

aiDAPTIV⁺

Unlocking the Full Potential of Fine-tuning and Inference



Post-Training

- ✦ Maximize memory capacity to handle larger model
- ✦ Offload the optimizer states to the SSD to enhance parallel computing
- ✦ Ensure performance and reliability with proprietary middleware

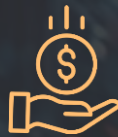
Inference

- ✦ Offload the KVCache to the SSD
- ✦ Reuse KVCache to reduce inference time
- ✦ Extend memory with NAND Flash to support longer context length

Phison aiDAPTIV+ combines NAND flash and innovation to deliver efficient, cost-effective AI solutions



Affordable On-Site LLM Training and Enhanced Inferencing



Fits Your
Budget



Simple to Use
and Deploy



Keeps Data in
Your Control



2025 Best Choice Award
Category Award



2025 Taiwan Excellence
Silver Award



2024 FMS Best of Show
Most Innovative AI Application

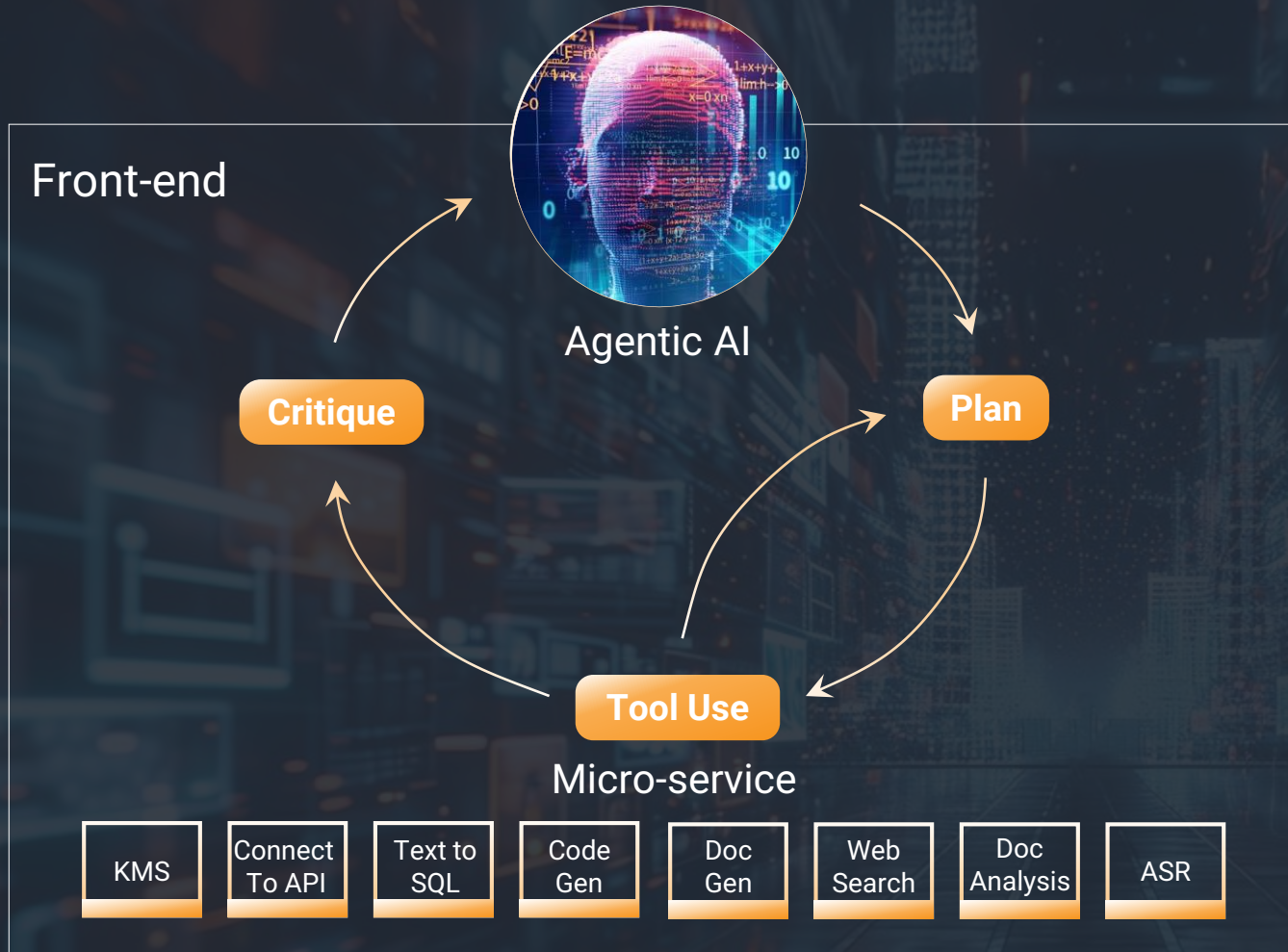


2024 IT Matters Awards
Phison's Patented AI Solution

PHISON

aiDAPTIVGPT

aiDAPTIVPro Suite



LLMOps

- ▶ aiDAPTIVGuru (Dataset Gen)
- ▶ Finetune (aiDAPTIVLink)
- ▶ Benchmark
 - ▶ Model AWQ
 - ▶ Model Inference (vLLM)
 - ▶ Performance Monitor

Back-end

Account Management

Data Management

LDAP

RAG

Tool Management

Log

Dify

Grafana



AITPC Solution

Specification

CPU	Intel® Core i5-14500
GPU	AMD Radeon™ RX 9070 XT (16GB)*1
System Memory	DDR5 4800 64GB
OS Disk	PASCARI SATA 1920GB
aiDAPTIVCache	AI100E 320GB*1
LLM Model Size for Domain Training	<=13B
Power Spec.(Avg.)	750W
Supported Models	Llama, Whisper, Mistral, Vicuna, CodeLlama...





Workstation Solution

Specification

CPU	Intel® Xeon® w5-3425/12C
GPU	NVIDIA RTX 4000 Ada*4
System Memory	DDR5 4800 512GB
OS Disk	PASCARI SATA 3840GB
aiDAPTIVCache	AI100E 2TB*2
LLM Model Size for Domain Training	<100B
Power Spec.(Avg.)	1500W
Supported Models	Llama, Whisper, Mistral, Vicuna, CodeLlama, Falcon...





Server Solution

Specification

CPU	Intel® Xeon® Silver 4410Y*2
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GPU	NVIDIA RTX A6000*8
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System Memory	DDR5 4800 1024GB
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OS Disk	PASCARI SATA 7680GB
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aiDAPTIVCache	AI100E 2TB*4
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LLM Model Size for Domain Training	<200B
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Power Spec.(Avg.)	3000W
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Supported Models	Llama, Whisper, Mistral, Vicuna, CodeLlama, Falcon...
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AI-Series

Endurance-enabled
Training and Fine-tuning



	AI100E	AI150EJ	AI200Z	AI250Z
Capacity	320GB - 2TB	80GB - 320GB	2TB - 8TB	1TB - 4TB
Interface	PCIe Gen4x4	PCIe Gen4x4	PCIe Gen5x4	PCIe Gen5x4
Form Factor	M.2 2280 U.2 15mm E1.S 9.5mm	M.2 2280	U.2 15mm	M.2 2280 U.2 15mm E1.S 9.5mm
DWPD	100	100	100	100

PHISON



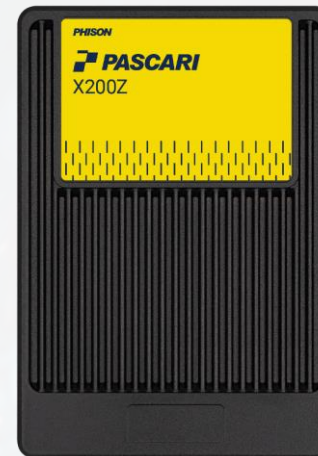
Enterprise SSD



X200Z High Endurance SSD

Write Intensive Application

- PCIe Gen5 2x2 (Dual port)
- NVMe 2.0
- Form Factor: U.2 15mm
- Capacity up to 3.2TB
- DWPD: 60
- MTBF: 2.5 million hours
- 3D TLC supported
- 128 Namespaces
- ISE supported
- NVMe-MI supported
- Power Loss Protection (PLP)



Sequential Performance

Read: Up to 14,800 MB/s

Write: Up to 9,500 MB/s

Random Performance

Read: Up to 3,100K IOPS

Write: Up to 950K IOPS



D205V Ultra High Capacity SSD

Data Center Storage Solution

- PCIe Gen5 1x4 (Single port) / 2x2 (Dual port)
- NVMe 2.0
- Form Factor: U.2 15mm / E3.S 1T / E3.L 1T
- Capacity up to 122.88TB
- DWPD: 0.3
- MTBF: 2.5 million hours
- 3D QLC supported
- 128 Namespaces
- ISE, TCG OPAL supported
- NVMe-MI supported
- Power Loss Protection (PLP)



Sequential Performance

Read: Up to 14,700 MB/s

Write: Up to 3,200 MB/s

Random Performance

Read: Up to 3,000K IOPS (4K)

Write: Up to 35K IOPS (16K)



D-Series

Definitive
Data Center Solutions



	D100P	D200P	D200E	D200V
Capacity	480GB – 3.84TB	1.92TB – 7.68TB	1.6TB – 6.4TB	30.72TB – 61.44TB
Interface	PCIe Gen4x4	PCIe Gen5x4	PCIe Gen5x4	PCIe Gen5 1x4, 2x2
Form Factor	M.2 2280/22110 E1.S 9.5mm U.2 15mm	E1.S 9.5/15 mm	E1.S 9.5/15mm	U.2 15mm E3.S 1T E3.L 1T
Seq. Read (MB/s) Seq. Write (MB/s)	6,800 2,000	14,000 8,500	14,000 8,500	14,700 (Est.) 3,000 (Est.)
Ran. Read (KIOPS) Ran. Write (KIOPS)	900 70	3,300 420	3,300 880	3,000 (4K) (Est.) 34 (16K) (Est.)
DWPD	1	1	3	0.3
Security	• AES-256 • TCG OPAL 2.0	• AES-256 • TCG OPAL 2.0	• AES-256 • TCG OPAL 2.0	• AES-256 • TCG OPAL 2.0
Features	• 64 Namespaces • NVMe-MI over SMBus • E2EDPP • PLP	• 128 Namespaces • NVMe-MI over SMBus • E2EDPP • PLP	• 128 Namespaces • NVMe-MI over SMBus • E2EDPP • PLP	• 128 Namespaces • NVMe-MI over SMBus • E2EDPP • PLP • Dual port



X-Series

Unmatched Random
Performance for Database
Acceleration



	X200P	X200E
Capacity	1.92TB – 30.72TB	1.6TB – 25.6TB
Interface	PCIe Gen5 1x4, 2x2	PCIe Gen5 1x4, 2x2
Form Factor	U.2 15mm / E3.S 1T	U.2 15mm / E3.S 1T
Seq. Read (MB/s) Seq. Write (MB/s)	14,800 8,700	14,800 8,700
Ran. Read (KIOPS) Ran. Write (KIOPS)	3,300 460	3,300 900
DWPD	1	3
Security	• AES-256 • TCG OPAL 2.0	• AES-256 • TCG OPAL 2.0
Features	• 128 Namespaces • NVMe-MI over SMBus • E2EDPP • PLP • Dual port	• 128 Namespaces • NVMe-MI over SMBus • E2EDPP • PLP • Dual port

Building Partner Success

Phison and Lonestar Data Holdings

Proven SSD reliability in extreme environments, including the ISS, Mars, and now the Moon.

Customized lunar-grade storage using Phison's IMAGIN+ services to withstand the challenges of space including radiation and temperature extremes.

Enables secure, off-planet data storage for resilience and future interplanetary data management.

PHISON |  **LONESTAR**
**Revolutionizing
Lunar Data
Management**



PHISON



High Speed Signal Conditioning

Phison's Advantages in High Speed Interface IC

**No.1
Market
Share**

PCIe Gen5
Redriver
> 50% Market share

**World's 1st
Launch to
Market**

PCIe Gen6
Redriver

**World's 1st
Approved**

CXL 2.0
PCIe Gen5
Retimer

**In-house
PCIe Gen6
PHY**

PCIe Gen6
Retimer

**Continued
Steady
Growth**

10Mu Total
Shipment
Redriver + Retimer
Combined

**Proprietary
PHiTUNE**

Fast EQ
Tuning
Analysis
50X reduction in
R&D efforts

**One-Stop
Shopping**

Redriver +
Retimer Portfolio
Flexibility in
design options

**Pin-to-Pin
Compatible**

With Leading
Industry Supplier
Enables multiple
source

Phison High Speed Interface IC Proven Record

200+

Design-ins

Phison Redriver

200+ Design-in Projects in Total. Including AI, Server, Workstation & PC customers

PASSED
100+ devices

Phison Retimer has passed PIC-SIG workshop #126

PS7201 qualified for

100+ different devices across PCIe generations

30+ platforms with validation on-going at tier-1 customer sites

AIC

ASUS®

ASRock®

ASRock
Rock

molex®

msi

FOXCONN

GIGABYTE™

DELTA

GIGA
COMPUTING

Inventec

Lenovo

Western Digital

Amphenol

Quanta Storage

SUPERMICR

wistron

ADVANTECH

PHISON

High Speed PCIe Gen6 Redriver

PHISON
PS7161
PCIe 6.0 Redriver

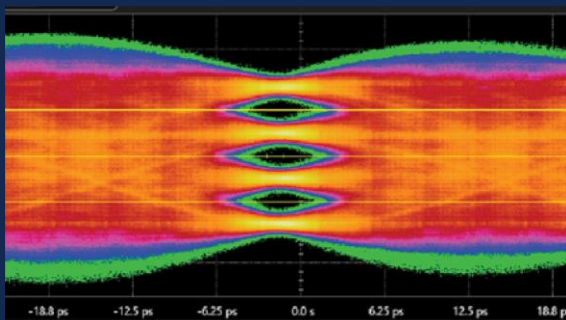
PS7161

- PCIe Gen6 4-channel
- FCLGA package

PHISON
PS7163
PCIe 6.0 Redriver

PS7163

- PCIe Gen6 16-lane
- FCCSP package
- I²C mode support
- 4 level I/O for EQ and GAIN setting to reduce pin count
- Max EQ boosting: 20dB
- Output linear range: 1500mV
- Ultra low latency: < 70ps
- EQ auto-tuning tool



PHiTUNE software tool can automatically set different gain parameters in the redriver for the customer's development environment.

High Speed PCIe Gen6 Retimer

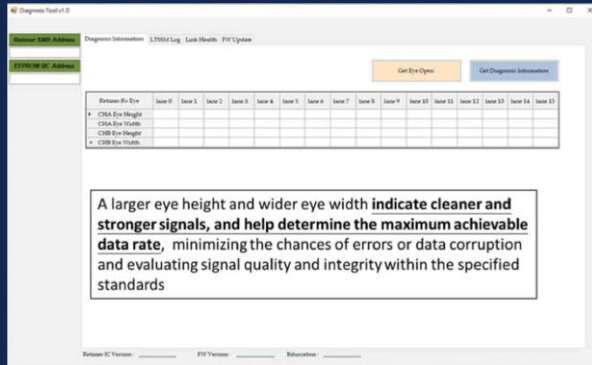
PHISON
PS7261
PCIe 6.0 Retimer

PS7261

PHISON
PS7262
PCIe 6.0 Retimer

PS7262

- PCIe Gen6 16-lane
- Compliant with CXL 3.0
- Support link bifurcation
- Extend reach by 32dB at 64 GT/s
- Compliant with Intel PCI Express 6.0 Retimer Features and Standard BGA Footprint
- Low latency mode: <10ns
- PCIe Gen6 8-lane
- Junction temperature: -10 to 110°C
- FCCSP package
- Integrated AC coupling capacitors
- Support SMBus configuration and external EEPROM configuration loading
- Diagnostic tool for debugging



The background of the image is a digital illustration of a futuristic city street at night. The street is lined with tall buildings, many of which have glowing digital screens or billboards on their facades. These screens display various abstract patterns, data visualizations, and some recognizable logos. The street itself is wet and reflective, mirroring the lights from the buildings and screens. In the distance, a prominent skyscraper with a pointed top, resembling the Chrysler Building, stands out against the dark sky. The overall color palette is dominated by deep blues and purples, with warm orange and yellow highlights from the digital lights and reflections. The perspective is looking down the center of the street, creating a sense of depth and forward motion.

PHISON

The Foundation that Accelerates Innovation™