

Phison Showcases Pioneering Storage Solutions and High-Speed Transmission at Computex2023



Phison Showcases Full Range of Storage Solutions and High-Speed Transmission at Computex2023

[Phison Electronics \(8299 TT\)](#), a global leader in NAND controllers and storage solutions, will [showcase its high-speed transmission and storage solutions](#) at the annual Taipei International Computer Show (COMPUTEX) in Taiwan. At COMPUTEX, Phison will illuminate the future of intelligent storage. The show kicks off on Tuesday, May 30 through Friday, June 2.

Building upon its globally acclaimed [flagship PCIe 5.0 SSD PS5026-E26 storage solution](#), Phison Electronics will unveil its latest offering at COMPUTEX. The new addition is the PCIe 5.0 DRAM-less SSD controller PS5031-E31T, featuring a 7nm process that ensures low power consumption. With an impressive maximum read/write performance of 10.5GB/s, it represents a PCIe 5.0 SSD storage solution that excels in performance and power efficiency. In addition, Phison will introduce the next-generation PCIe 4.0 DRAM-less SSD controller PS5027-E27T, engineered with a 12nm process and offering a remarkable maximum read/write speed of 7400/6400 MB/s. It is anticipated that the PCIe 5.0 PS5031-E31T and PCIe 4.0 PS5027-E27T SSD storage solutions will comprehensively meet the diverse needs of PC OEM partners and customers.

PHISON

PS5031-E31T

Cruising into the Gen5 Horizon

- PCIe Gen5x4
- TSMC 7nm process
- DRAM-less
- 4-channel with 16CEs
- Capacity up to 8TB
- 3D TLC / QLC supported
- ARM Cortex R5 CPU
- Phison 7th Gen LDPC + RAID ECC, 4K code word
- AES256 / TCG Opal / Pyrite
- Form Factor : M.2 2280

*Based solely on controller capability.

| Sequential Performance | | Random Performance | |
|------------------------|-------------------|--------------------|-------------------|
| Read 10,800 MB/s | Write 10,800 MB/s | Read 1,500K IOPS | Write 1,500K IOPS |

PHISON

PS5027-E27T

Ride Along into the High-speed Lane

- PCIe Gen4x4
- TSMC 12nm process
- DRAM-less
- 4-channel with 16CEs
- Capacity up to 8TB
- 3D TLC / QLC supported
- Single CPU Architecture
- Phison 5th Gen LDPC + RAID ECC
- AES256 / TCG Opal / Pyrite
- Form Factor : M.2 2280

*Based solely on controller capability.

| Sequential Performance | | Random Performance | |
|------------------------|------------------|--------------------|-------------------|
| Read 7,400 MB/s | Write 6,700 MB/s | Read 1,200K IOPS | Write 1,200K IOPS |

Phison will also demonstrate the company’s suite of enterprise SSD storage solutions, designed to accommodate the intensive data associated with the rise of AI servers and cloud services. These include the [PCIe 4.0 SSD X1](#) and P1 storage solutions, which support Dual-port and Single-port, respectively, and offer a maximum capacity of 32TB. Additionally, Phison will present the PCIe 5.0 PS5026-E26DC and [PCIe 4.0 PS5018-E18DC](#) storage solutions in the new E1.S form factor. These offerings are designed to assist enterprises, data centers, cloud services, and AI servers in overcoming various challenges in enterprise storage applications.

PHISON

EPW5970-X1 / EPW0970-P1

Built for the Apex, Tailored to Your Needs

- PCIe Gen4x4
- TSMC 12nm process
- DDR4
- 16-channel
- Capacity up to 32TB
- 3D TLC supported
- Dual-port (X1) / Single-port (P1)
- Support NVMe-MI
- Power Loss Protection
- 256 Namespaces
- Up to 3 DWPD
- MTBF : 2.5 million hours
- Form Factor : U.3 / U.2

** Based solely on controller capability.

| Sequential Performance | | Random Performance | |
|------------------------|------------------|--------------------|-----------------|
| Read 7,400 MB/s | Write 6,900 MB/s | Read 1,750K IOPS | Write 470K IOPS |

PHISON

PS5018-E18DC Solution

Lace Up the Boots for Your Server Game

- PCIe Gen4x4
- TSMC 12nm process
- DDR4
- 8-channel with 32CEs
- Capacity up to 3.84TB
- 3D TLC supported
- 32-bit ARM Cortex R5 (Triple CPUs)
- Phison 4th Gen LDPC + RAID ECC
- TCG Opal 2.0
- Power Loss Data Protection
- Multi Namespace
- Form Factor : M.2 / E1.S (with pFail)



* Based solely on controller capability

Sequential Performance



Random Performance



PHISON

PS5026-E26DC Solution

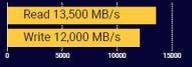
Cloud-y with A Chance to Future

- PCIe Gen5x4
- TSMC 12nm process
- LPDDR4
- 8-channel with 32CEs
- Capacity up to 8TB
- 3D TLC supported
- 32-bit ARM Cortex R5 Dual-CPU cores
- Phison 5th Gen LDPC + RAID ECC
- TCG Opal 2.0
- Power Loss Data Protection
- Multi Namespace
- DWPD = 1
- Form Factor : E1.S (with pFail)



* Based solely on controller capability

Sequential Performance



Random Performance



“Technology is advancing at a tenfold pace and countries worldwide are increasing their investments in the semiconductor field after experiencing chip shortages,” said K.S. Pua, Phison's CEO. “Technological innovation has become one of the most important topics globally. Storage and high-speed data transmission play a crucial role in all technological innovations. Leveraging the success of [being the first in the world to receive PCI-SIG certification for the PCIe 5.0 PS7101 Redriver IC](#), Phison has introduced the next generation of PCIe 5.0 Redriver ICs: the PS7102 (8-Channel) and PS7103 (16-Lane). These new solutions are specifically designed to assist global customers in overcoming signal attenuation issues in high-speed applications.”

PHISON

PS7102

Overcoming the Gen5 Hurdle

- PCIe Gen5
- I²C mode support
- 8-Channel
- 4 Level I/O for EQ and GAIN setting to reduce pin count
- Max EQ Boosting 28.5dB
- Output linear range 1200mVppd
- Ultra low latency 70ps
- EQ setting support 2 dimension frequency
- Package type : FCLGA
- EQ auto-tuning tool
- Available for sample now
- Targeting IPC / servers / cables




PHITUNE Software tool can automatically set different gain parameters in the Redriver for the customer's development environment.

PHISON

PS7103

Overcoming the Gen5 Hurdle

- PCIe Gen5
- I²C mode support
- 16-Lane
- 4 Level I/O for EQ and GAIN setting to reduce pin count
- Max EQ Boosting 28.5dB
- Output linear range 1200mVppd
- Ultra low latency 70ps
- EQ setting support 2 dimension frequency
- Package type : FCCSP
- Integrated AC coupling capacitors
- EQ auto-tuning tool
- Available for sample now
- Targeting IPC / servers / cables



Pua further adds, “The rise of generative AI such as ChatGPT will positively impact the demand for AI servers and storage by becoming ubiquitous in various NAND storage applications, including mobile voice recognition, computer-assisted software, industrial automation, and autonomous driving systems. All of these applications are closely related

to NAND storage products. In response to these emerging demands, Phison has introduced NAND storage solutions that cater to various applications, including the PS8361 controller, Phison's first UFS 4.0-compliant controller suitable for high-end mobile devices; the next-generation industrial-grade PCIe 4.0 SSD storage solution PS5021-E21TI that can withstand harsh environments; the high-end PCIe 4.0 PS5021-E21TI MPT5 BGA SSD; and UFS 3.1 PS8317 MUM7 storage solutions that comply with AEC-Q100 automotive standards. These offerings provide comprehensive support for customers in creating value-added NAND storage solutions, and contribute to Phison's future growth.

More than 1,000 global brands are expected to exhibit, focusing on six major themes: high performance, computing, artificial intelligence applications, next-gen connectivity, hyperreality, innovations and startups, and sustainability.

If you would like to learn more, please click on the following links:

- Phison 2023 Computex: www.phison.com/computex2023
- Phison empowering the PCIe 5.0 ecosystem: www.phison.com/gen5-e26-ssd-partner-ecosystem
- Press Kit: www.phison.com/company/newsroom/event-press-kits/computex-2023

UFS 4.0 PS8361

Next-Gen UFS

- UFS 4.0 supported
- TSMC 12nm process
- 1 or 2ch, up to 3200 MT/s or 4ch, up to 1600 MT/s
- Maximum 8CEs (total)
- Phison 6th Gen LDPC + RAID ECC
- Capacity up to 1TB
- 3D TLC / QLC enabling
- Small package size 11 x 13mm
- MP schedule : 2Q24

| Sequential Performance | | Random Performance | |
|------------------------|------------------|--------------------|-----------------|
| Read 4,500 MB/s | Write 2,800 MB/s | Read 500K IOPS | Write 500K IOPS |

PS5021-E21TI

Diversity-driven In-field Upgrade

- PS5021-E21TI controller
- PCIe Gen4x4
- TSMC 12nm process
- DRAM-less
- 4-channel with 16CEs
- Capacity up to 2TB
- 3D TLC supported
- Single CPU architecture
- Phison 4th Gen LDPC + RAID ECC
- AES256 / TCG Opal / TCG Pyrite
- M.2 2280 / M.2 2230

| Sequential Performance | | Random Performance | |
|------------------------|------------------|--------------------|-----------------|
| Read 4,900 MB/s | Write 3,700 MB/s | Read 700K IOPS | Write 900K IOPS |

PHISON

MPT5 BGA SSD

Fueling the Automotive Future

- PS5021-E21T1 Controller
- PCIe Gen4x4 NVMe 1.4
- BGA SSD 1620
- DRAM-less
- 4-channel with 16CEs
- Capacity up to 1TB
- 3D TLC supported
- PHISON 4th Gen LDPC + RAID ECC
- AES256 / TCG Opal / Pyrite
- End-to-End Data Protection
- Host Memory Buffer (HMB) supported
- Thermal Monitoring
- Cross-Temperature Data Protection
- AEC-Q100 Grade3 (-40°C~85°C)
- AEC-Q100 Grade2 (-40°C~105°C)



Sequential Performance

Read 3,700 MB/s

Write 3,000 MB/s

Random Performance

Read 380K IOPS

Write 500K IOPS

PHISON

UFS MUM7 Series

Powering Intelligent Driving

- UFS 2.1/2.2/3.1
- 64/128/256/512GB
- Application :
 - ADAS
 - Cockpit
 - IVI Systems
 - Navigation Map
- Automotive supply longevity : 5+ years
- AEC-Q100 - Grade2 / Grade3
- Mainstream SoC Platform Qualified



Sequential Performance

Read Up to 1,550 MB/s

Write Up to 1,000 MB/s

Random Performance

Read 170K IOPS

Write 200K IOPS

[PHISON IR Distribution List Application Form]

If you would like to receive PHISON press release or announcement, please register our IR distribution application form from the link: [Phison IR Distribution List](#)

[PHISON's Quick Facts]

- Over 22 years experiences in NAND controller IC design and module integration.
- Over 3,800 employees globally, and more than 70% are engineers
- Nearly 2,000 memory-related patents globally.
- Target long-term revenue of NT\$100 billion through the 5+5 growth strategy
- The global market share of SSD controller exceeds 20%
- NT\$60.256B sales revenue in 2022.
- Confident that our [unique business model](#) can produce consistently strong cashflows and profits over the long-term amidst NAND memory market cycles.
- Strongly maintain long-term partnerships with our global NAND flash supply sources and with our downstream module customers.

[About PHISON]

Phison Electronics Corp. (TPEX:8299) is a global leader in NAND Flash controller IC and storage solutions. We provide a variety of services from controller design, system integration, IP licensing to total turnkey solutions, covering applications across SSD (PCIe/SATA/PATA), eMMC, UFS, SD and USB interfaces, reaching out to consumer, industrial and enterprise markets. As an active member of industry associations, Phison is on the Board of Directors for SDA, ONFI, UFSA and a contributor for JEDEC, PCI-SIG, MIPI, NVMe and IEEE-SA.

To know more about Phison, please visit [Phison Website](#) or [Phison Q&A](#) for details. Read more on our blog: www.phisonblog.com

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[Forward-looking Statements]

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