



MINERVA

PE0803 PCIe 8 Lanes to MiniSAS HD 8X Converter Card

Performance & Burn In Test Rev 1.0

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PE0803 Rev2.0 Converter Card

1. Overview

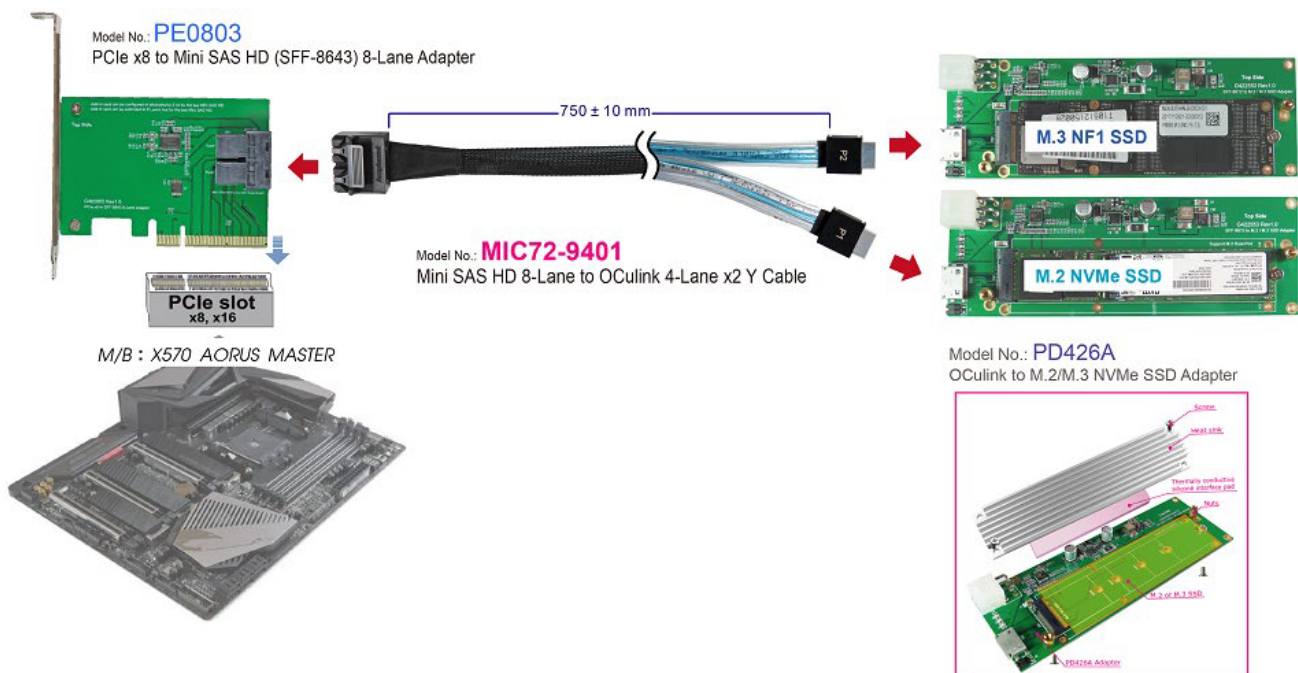
This riser card has built-in SFF-8643 8X connector. It is designed for use by PCIe x8 to configure two x4 bifurcations.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : GIGABYTE **X570 AORUS MASTER**
CPU : AMD **Ryzen 7, 3700X 8-Core**
Memory : Kingston **KVR26N19D8/16, DDR4-2666MHz, 32GB**(16GB DIMM*2)
ATX Power : COOLER MASTER G750M, **750W ATX**, 12V V2.2 Power Supply
Adapter: PE0803 PCIe x8 to MINI SAS HD 8X Storage Adapter
Cable: SFF-8643(MINI SAS HD) 8-Lane to SFF-8611 4i x2 Y-Cable
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: PE0803 adapter and M.2 & M.3 NF1 NVMe SSD



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2.3 Install Hardware

First inserts PE0803 riser card into GABYTE **X570 AORUS MASTER** PCIe x16 Slot and, using the MIC72-9401 Cable to connect PD426 adapter. Plug M.2 & M.3 NF1 NVMe SSD.

2.4 BIOS & Windows 10 OS environment setup

2.4.1 Primary M.2 SATA SSD install Windows 10 OS.

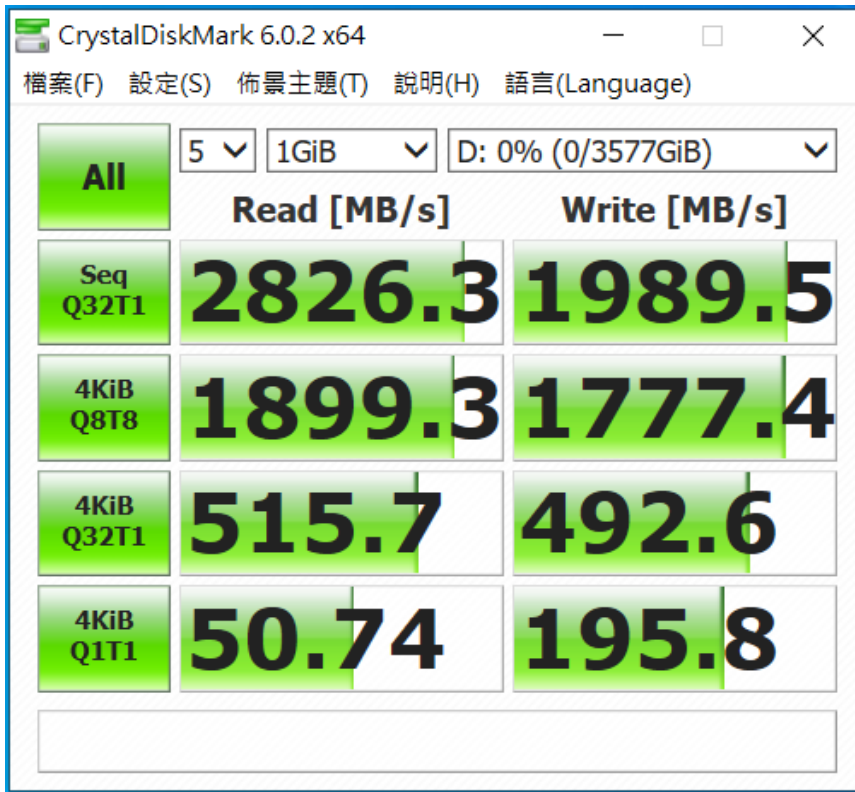
2.4.2 M.2 and M.3 NVMe SSD, formatted to NTFS Mode. Don't install any program.



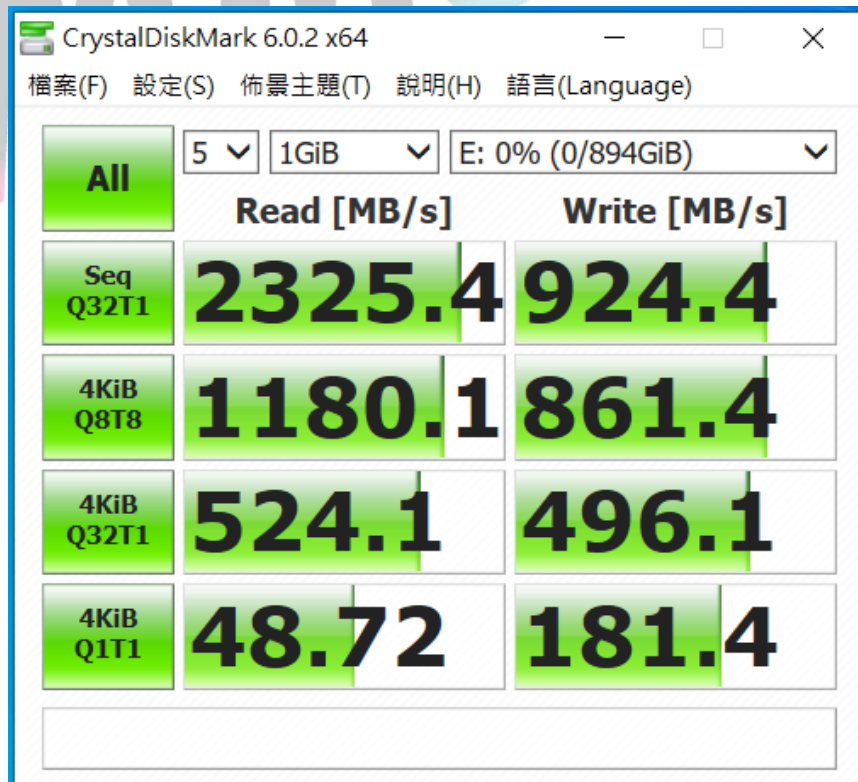
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2.5 CrystalDiskMark 6.0.2 x64 performance test
※Benchmark (Sequential **Read & Write** / default = **1MB**)

2.5.1 **Samsung M.3 NF1 NVMe / 4TB** performance as below:



2.5.2 **LITEON M.2 NVMe / 960GB** performance as below:

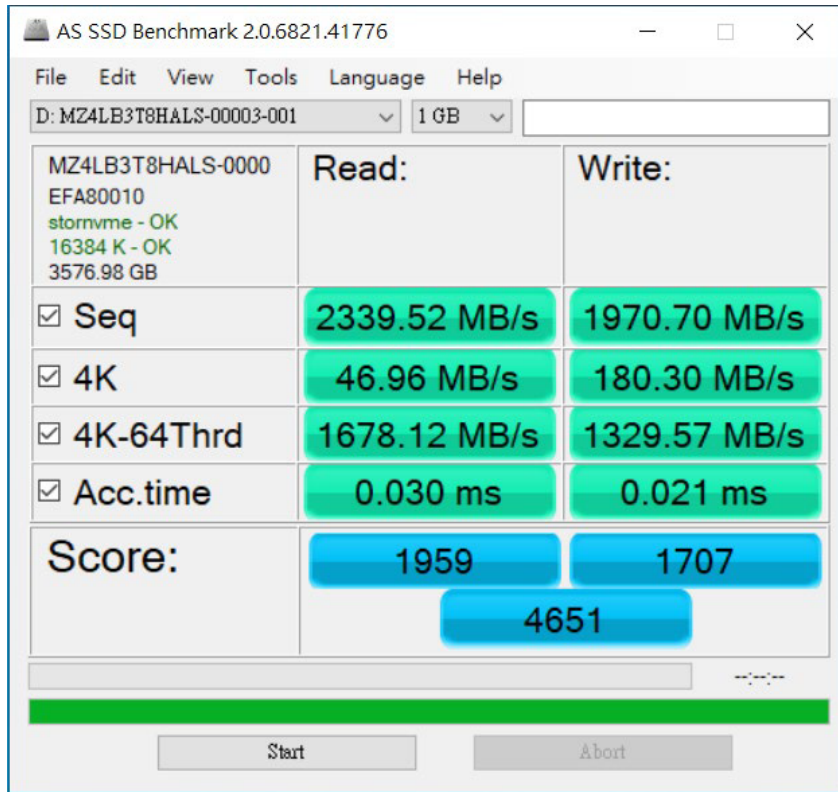


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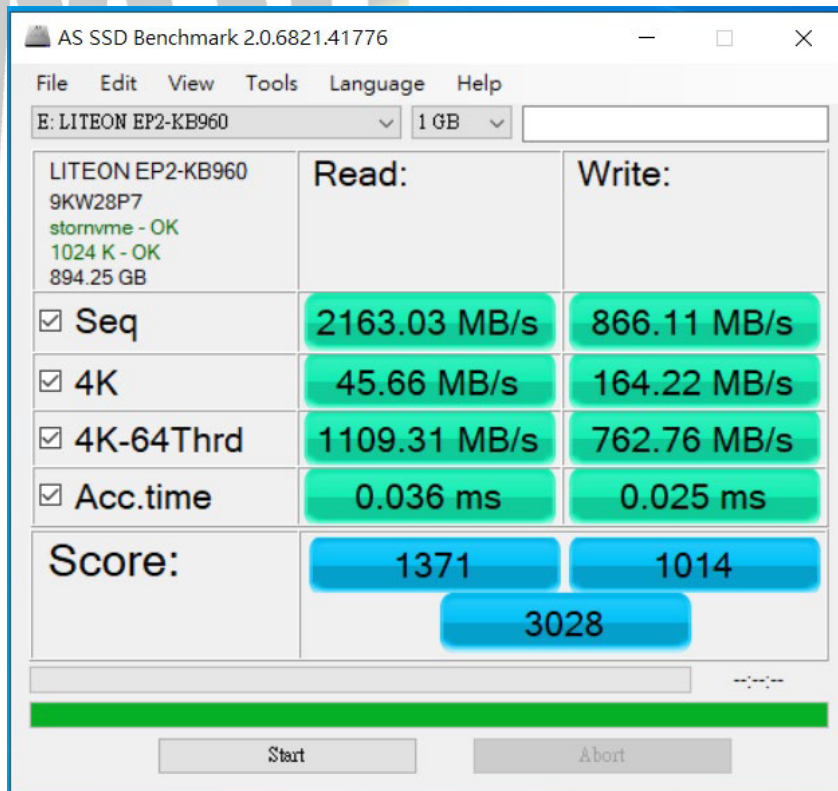
2.6 AS SSD Benchmark 2.0.6 performance test

✂Benchmark (Read & Write by MB/s, default block size = 16MB)

2.6.1 **Samsung M.3 NF1 NVMe /4TB** performance as below:



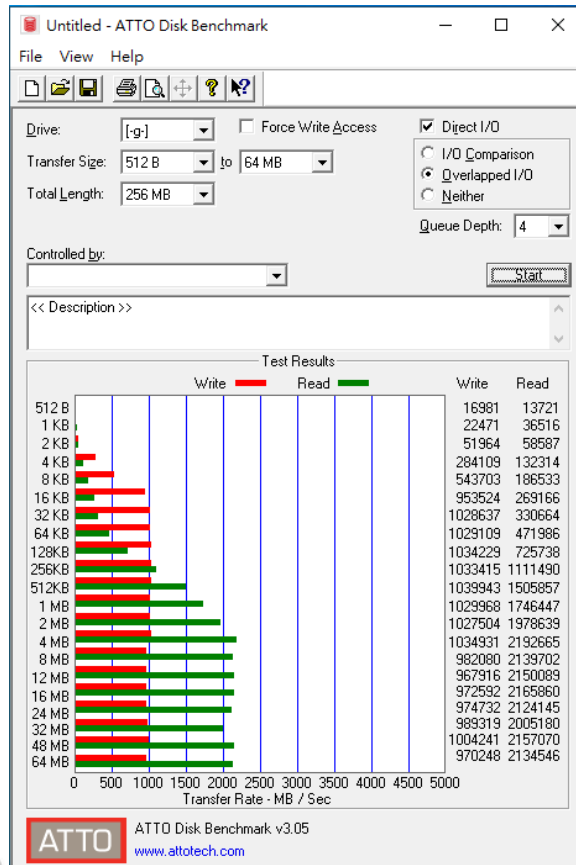
2.6.2 **LITEON M.2 NVMe / 960GB** performance as below:



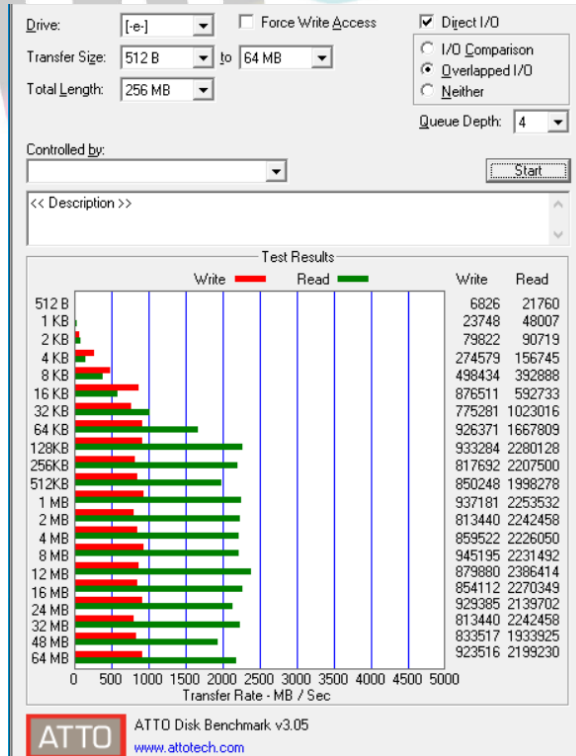
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2.7 ATTO Disk Benchmark 3.0.5 performance test

2.7.1 **Samsung M.3 NF1 NVMe /4TB** performance as below:



2.7.2 **LITEON M.2 NVMe / 960GB** performance as below:



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2.8 AnvilBenchmark_V110_B337

2.8.1 **Samsung M.3 NF1 NVMe** /4TB performance as below:



2.8.2 **LITEON M.2 NVMe** / 960GB performance as below:

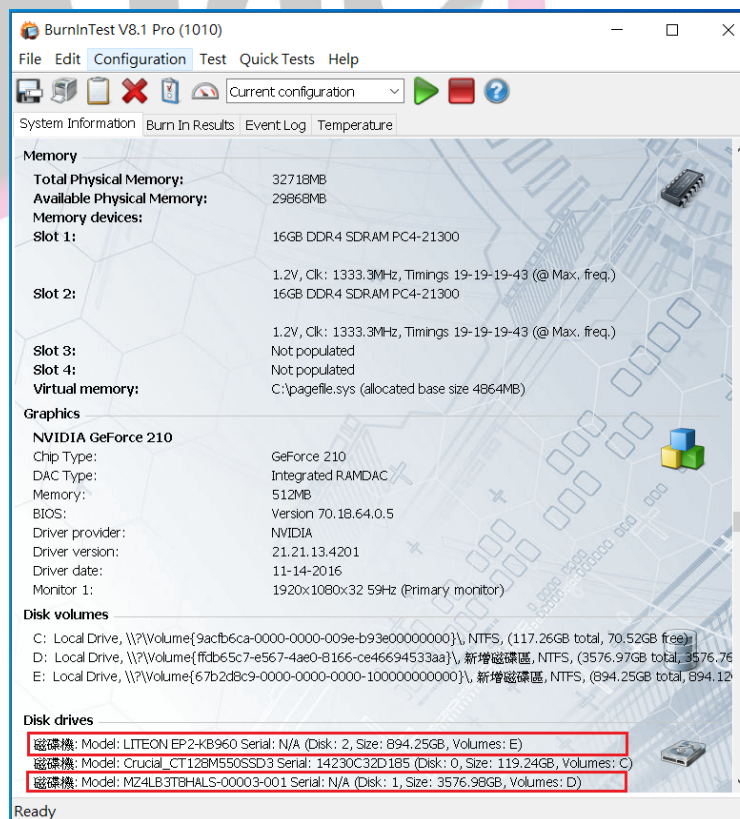


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3. Burn In Tests and Results

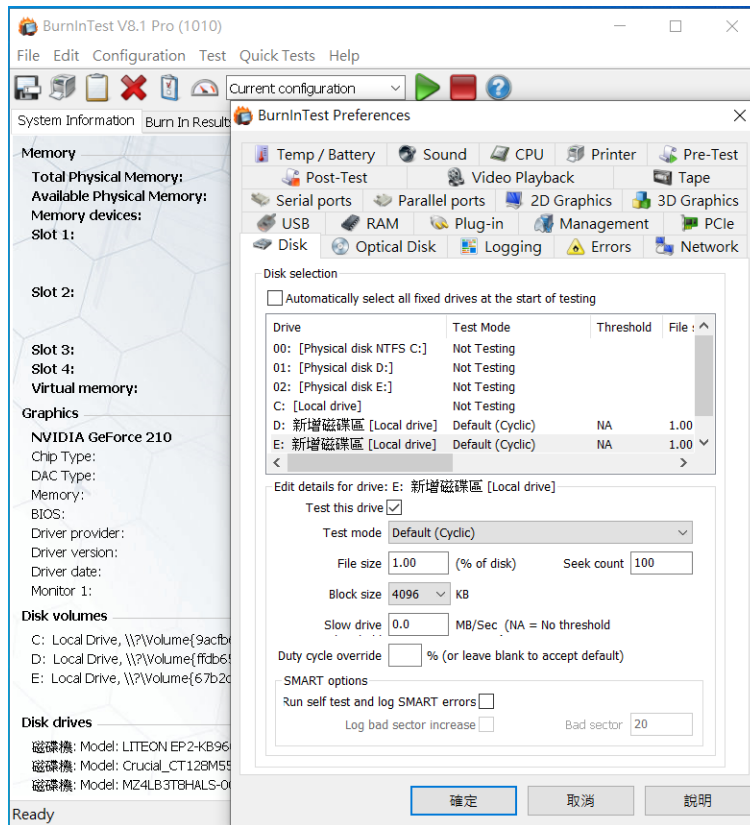
3.1 BurnInTest v8.1 Pro

3.1.1 system information as below:

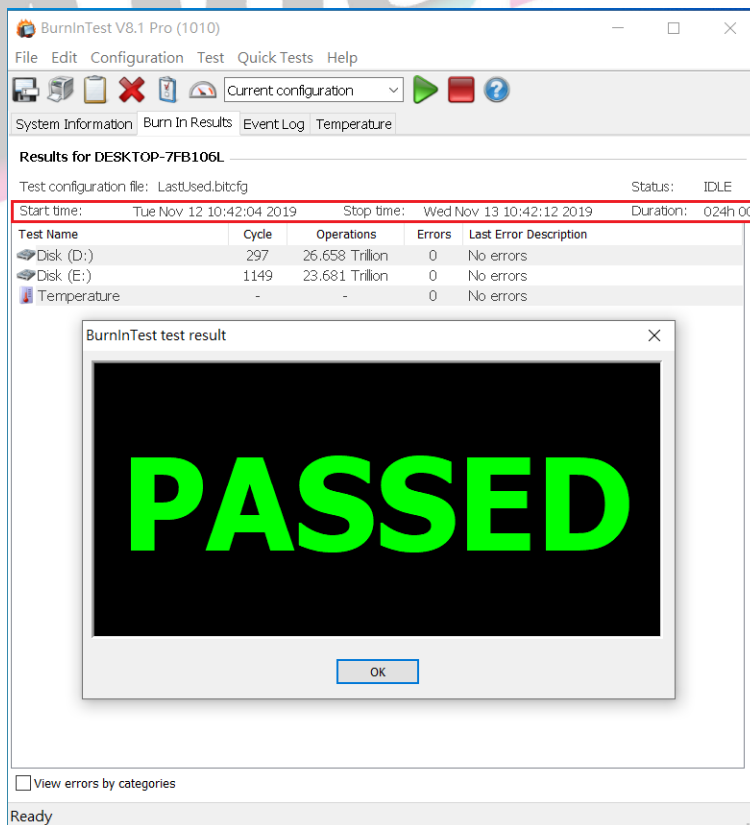


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3.1.2 Disk test mode (10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



4. Summary

- 4.1 M.2 & M.3 NF1 NVMe SSD is PCI-e Gen 3 / 4 Lane Interface, I/O speed, max. to 32Gbps.
- 4.2 PE0803 adapter I/O performance is based on M.2 & M.3 SSD.

