MINERVA

PCIe x8 Gen 4 with ReDriver to MCIO 74P AIC

Performance & Burn In Test Rev 1.0

PS: The test is used MCIO 74P to SFF-8654 4i, 100cm Y-cable

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PCIe x8 Gen 4 with ReDriver to SFF-TA-1016 74P

1. Overview

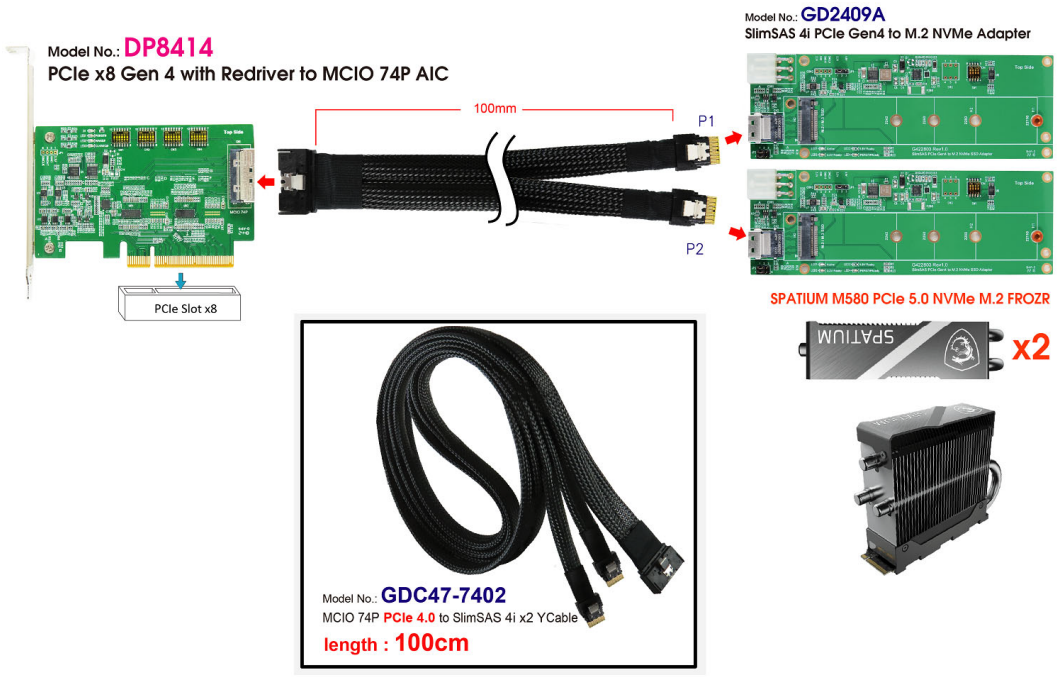
This riser card is built-in ReDriver controller with MCIO 74P connector. It is designed for use by PCIe x8 to configure two x4 bifurcations or can extend PCIe x8 channel reach. The ReDriver may support CTLE boosts up to **13 dB at 8 GHz.**

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B :	**ASUS PRIME X570-PRO**
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
Add in Card:	DP8414 PCIe x8 Gen 4 to MCIO 74P AIC
Cable:	PCIe 4.0 MCIO 74P to SlimSAS(SFF-8654) 4ix2, **100cm** Y-Cable
Adapter:	GD2409A SlimSAS(SFF-8654) 4i PCIe 4.0 to M.2 adapter x2
OS :	Microsoft **Windows 10 64bit OS**

2.2 Test target: DP8414, GD2409A adapter x2 with GIGABYTE M.2 1TB SSD X2



2.3 Install Hardware

First inserts the M.2 SSD into the GD2409A M.2 connector, then with copper nuts, and screws to fix SSDs. (Please refer to the Installation Notes). Using the **GDC47-7402 Cable** to connect the GD2409A adapter to the DP8414 AIC card (PCIe x8 Gen 4 to MCIO 74P) and Plugs DP8414 AIC into **ASUS PRIME X570-PRO**.

2.4 BIOS & Windows 10 OS environment setup

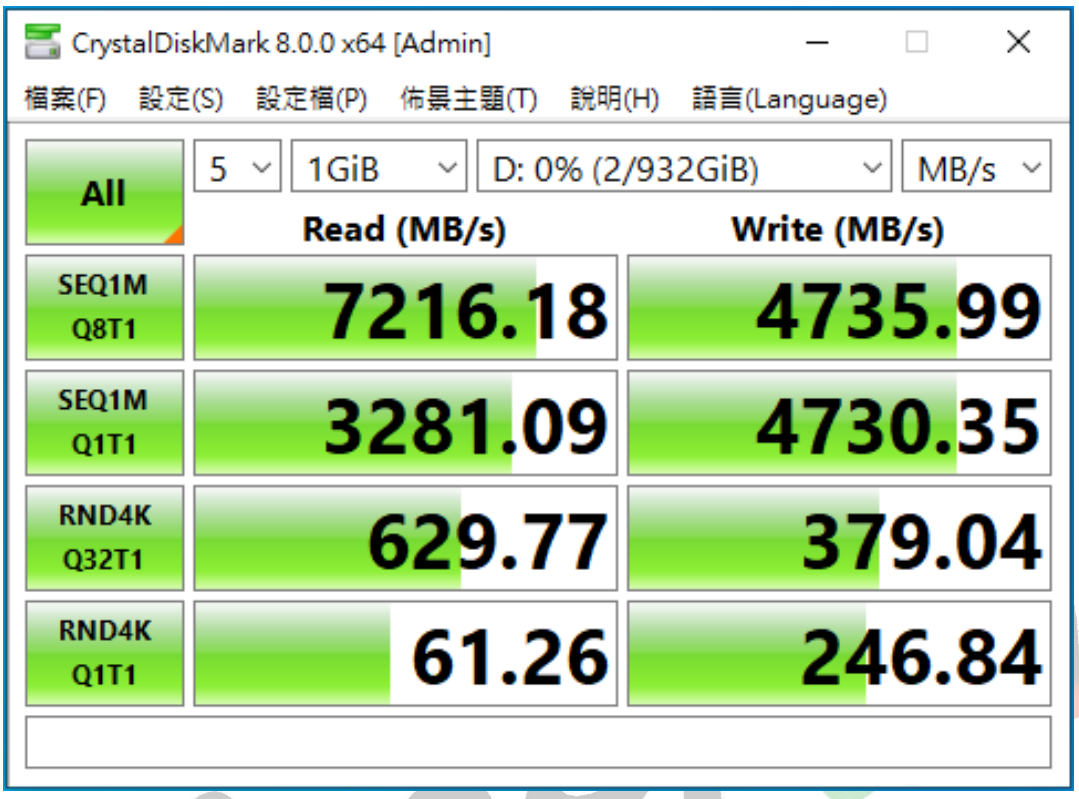
2.4.1 Primary SATA NVMe SSD install Windows 10 OS.

2.4.2 Two M.2 NVMe SSDs, formatted to NTFS Mode. Don't install any program.

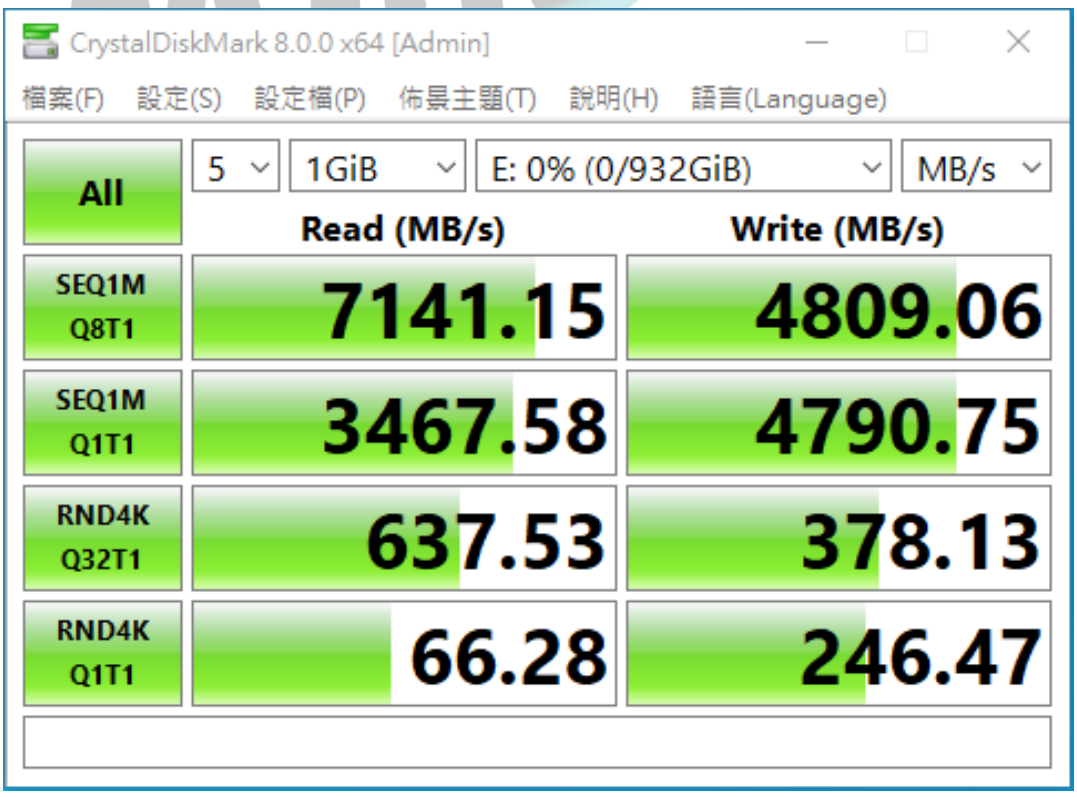
2.5 CrystalDiskMark 8.0.0 x64 performance test

※Benchmark (Sequential Read & Write / default = 1MB)

2.5.1 **M.2 NVMe Gigabyte / 1TB** in **Drive D:** performance as below:



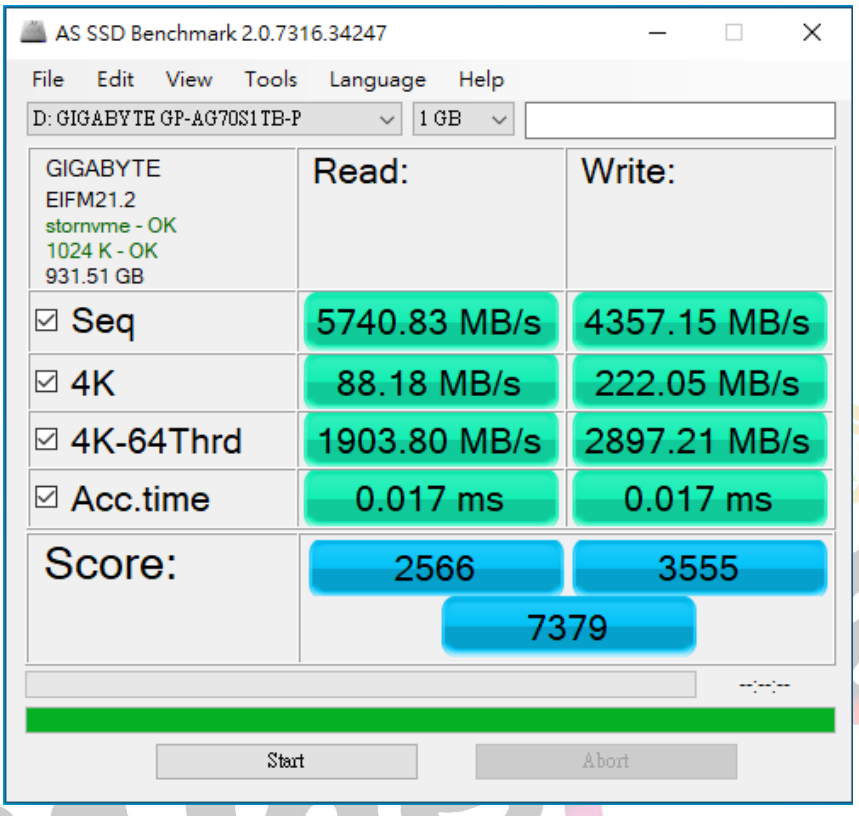
2.5.2 **M.2 NVMe Gigabyte / 1TB** in **Drive E:** performance as below:



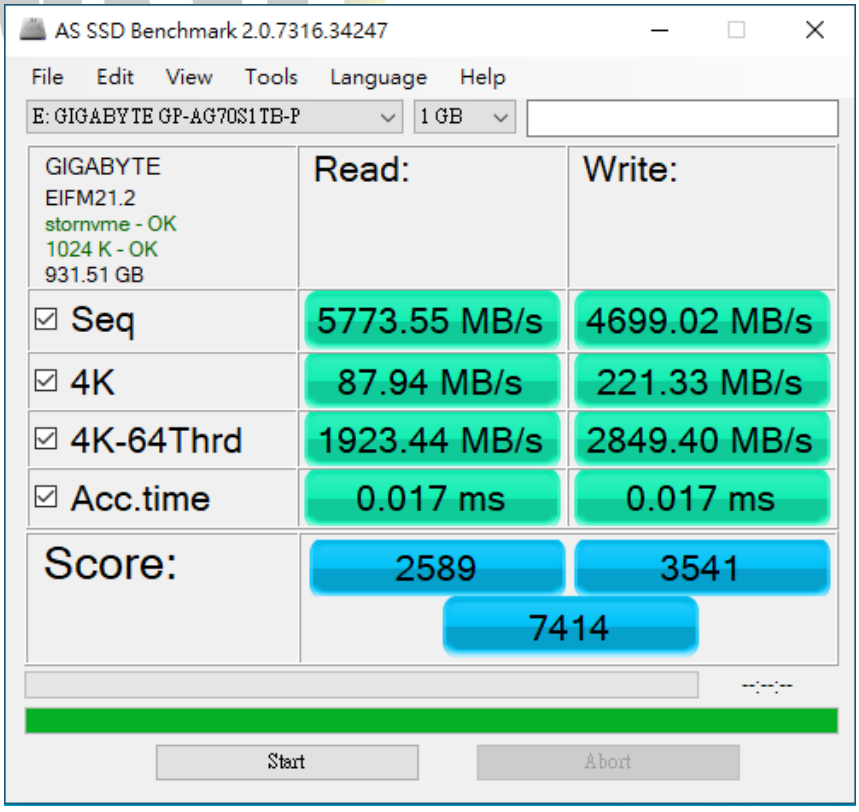
2.6 AS SSD Benchmark 2.0 performance test

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

2.6.1 M.2 NVMe Gigabyte / 1TB in **Drive D:** performance as below:

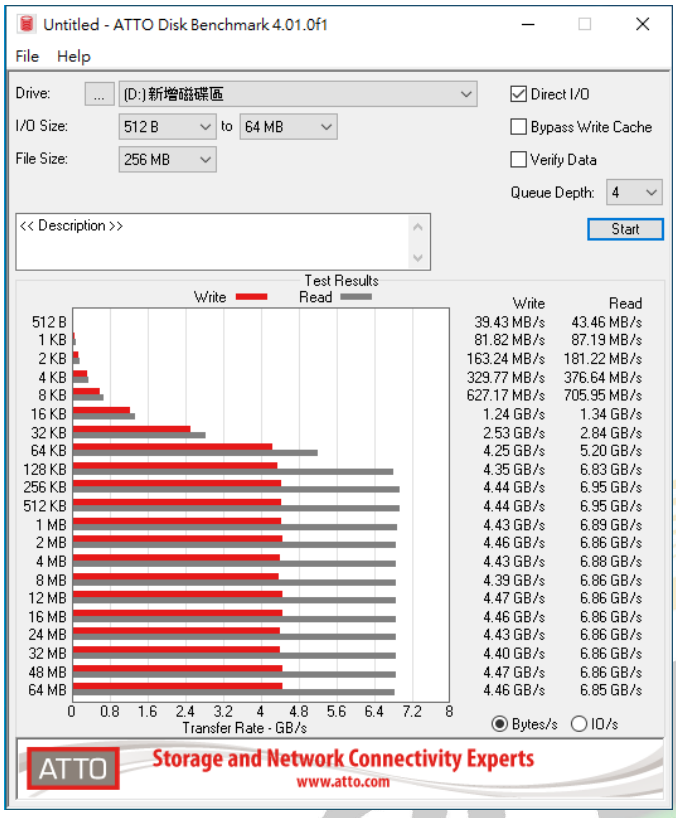


2.6.2 M.2 NVMe Gigabyte / 1TB in **Drive E:** performance as below:

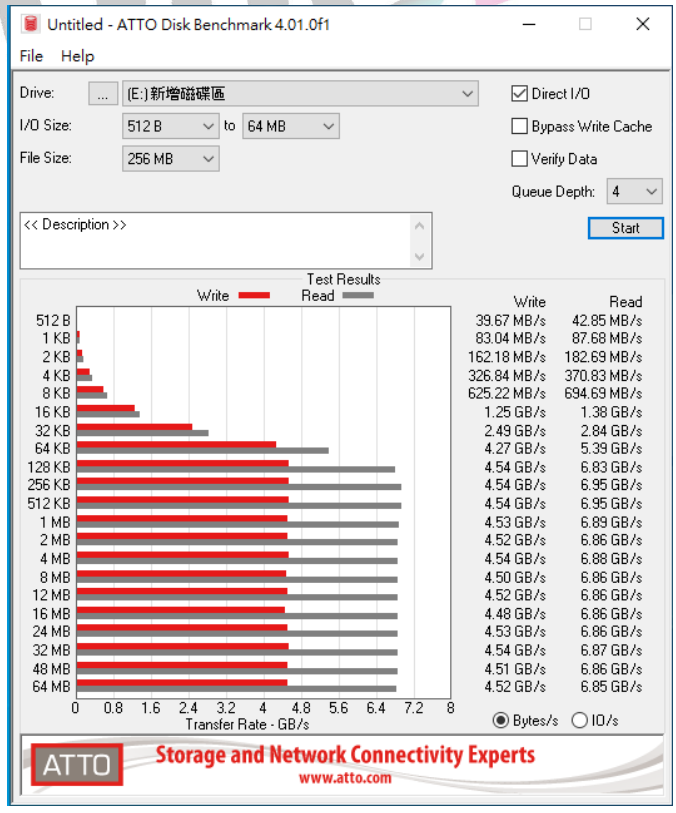


2.7 ATTO Disk Benchamrk 4.01 performance test

2.7.1 M.2 NVMe Gigabyte / 1TB in **Drive D:** performance as below:



2.7.2 M.2 NVMe Gigabyte / 1TB in **Drive E:** performance as below:



2.8 AnvilBenchmark_V110_B337

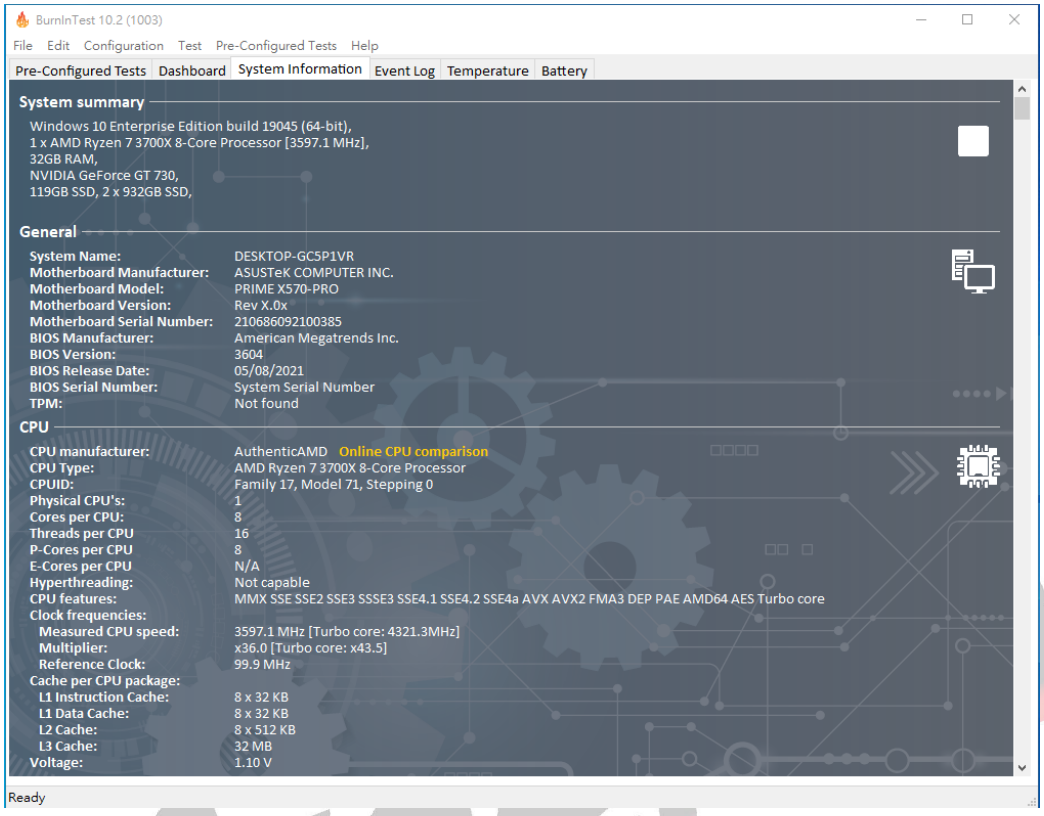
2.8.1 M.2 NVMe Gigabyte / 1TB in **Drive D:** performance as below:

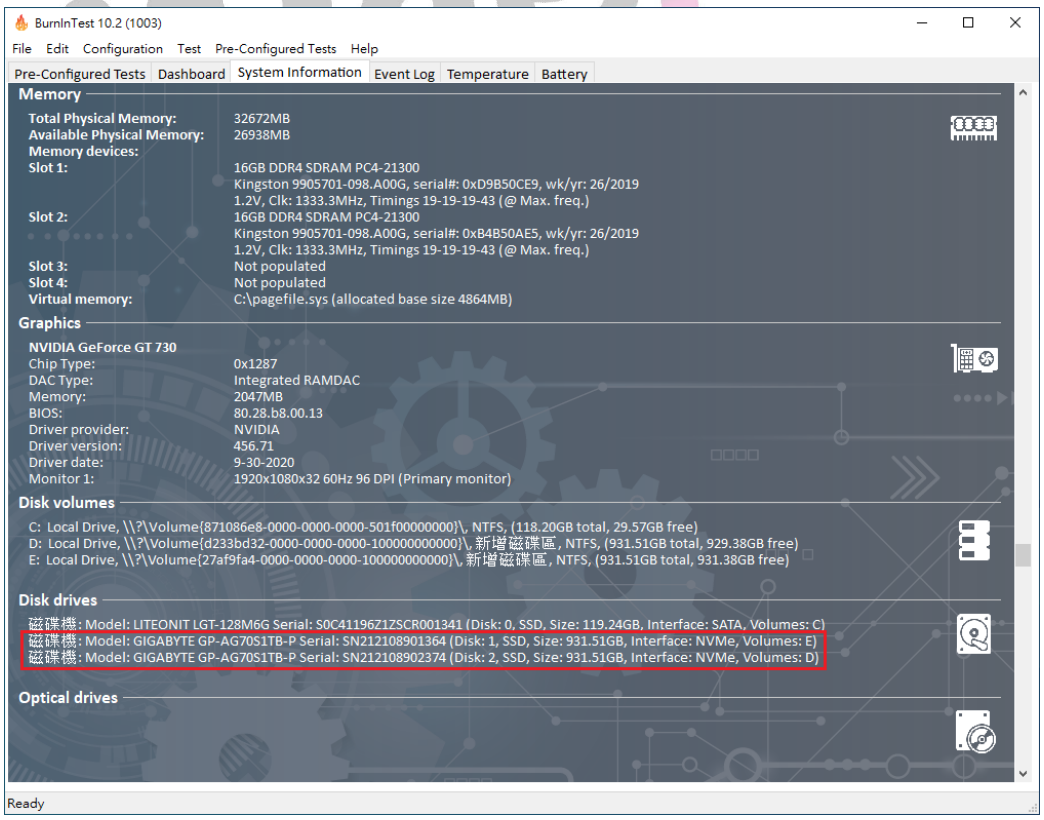
2.8.2 M.2 NVMe Gigabyte / 1TB in **Drive E:** performance as below:

3. Burn In Tests and Results

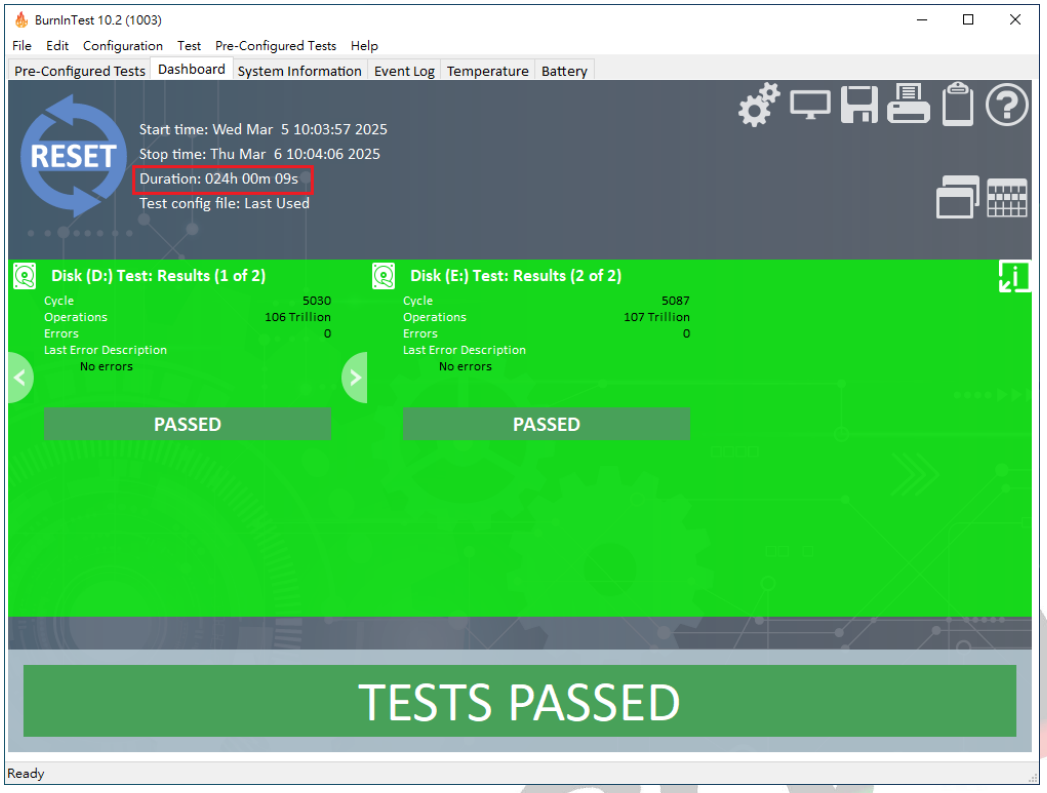
3.1 BurnInTest v10.2 Pro

3.1.1 System information as below:





3.1.2 24-hour Burn-in test PASSED



4. Summary

4.1 M.2 NVMe SSD is PCIe Gen4 / 4 Lane Interface, I/O speed, max. to 64Gbps.

4.2 DP8414 cable, I/O performance is based on M.2 NVMe SSD.