MINERVA

PCIe 4.0 MCIO 74P to SlimSAS 8i, 100cm cable

Performance & Burn In Test Rev 1.0

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SFF-TA-1016 to SFF-8654 8i, 100cm cable

1. Overview

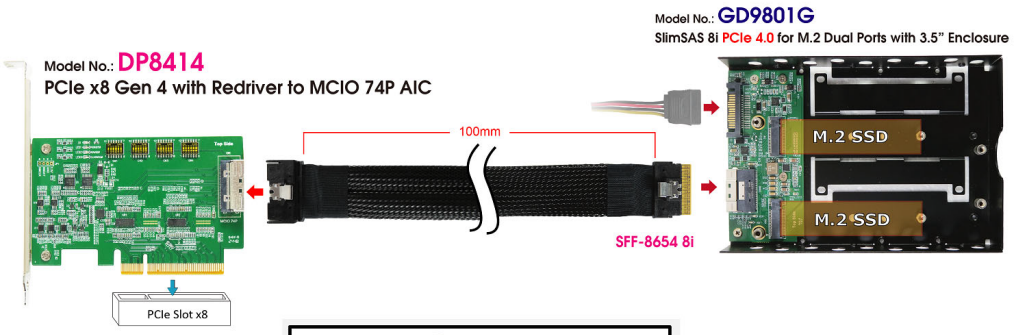
This riser card is built-in PCIe 4.0 ReDriver controller and with MCIO 74P connector. It is designed for use by PCIe x8 to configure two x4 bifurcations. The controller Channel insertion loss is **13 dB at 8 GHz.**

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 Gen4 bulit-in ReDriver to MCIO 74P AIC
Cable:	PCIe 4.0 MCIO 74P to SlimSAS(SFF-8654) 8i, 100cm Cable
Adapter:	GD9801G SlimSAS(SFF-8654) 8i to M.2 dual port adapter
OS :	Microsoft **Windows 10 64bit OS**

2.2 Test target: DP8414, GD9801G adapter with GIGABYTE M.2 1TB x2pcs



2.3 Install Hardware

First inserts the M.2 SSD into the GD9801G M.2 connector, then with copper nuts, and screws to fix SSDs. (Please refer to the Installation Notes). To connect the GD9801G adapter to the DP8414 AIC card (PCIe x8 Gen 4 with ReDriver to mcio 74P) using the **GDC47-7504, 100cm Cable**, and Plugs DP8414 AIC into ASUS **PRIME X570-PRO**.

2.4 BIOS & Windows 10 OS environment setup

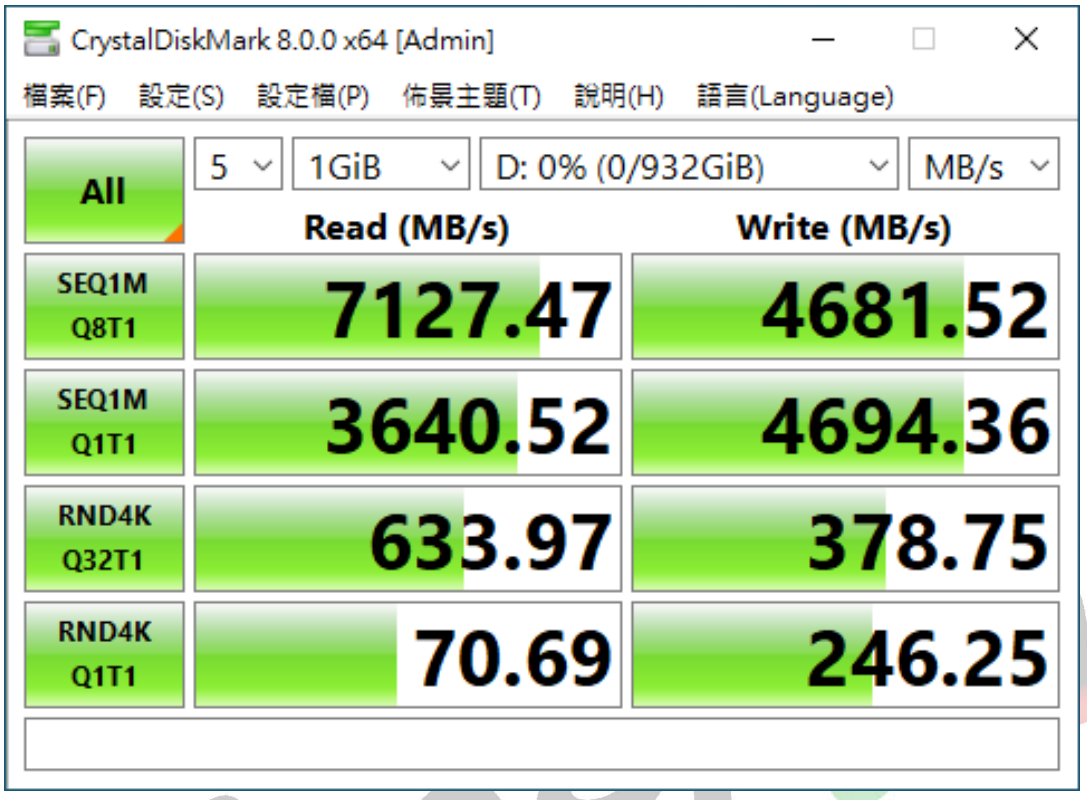
2.4.1 Primary SATA NVMe SSD install Windows 10 OS.

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

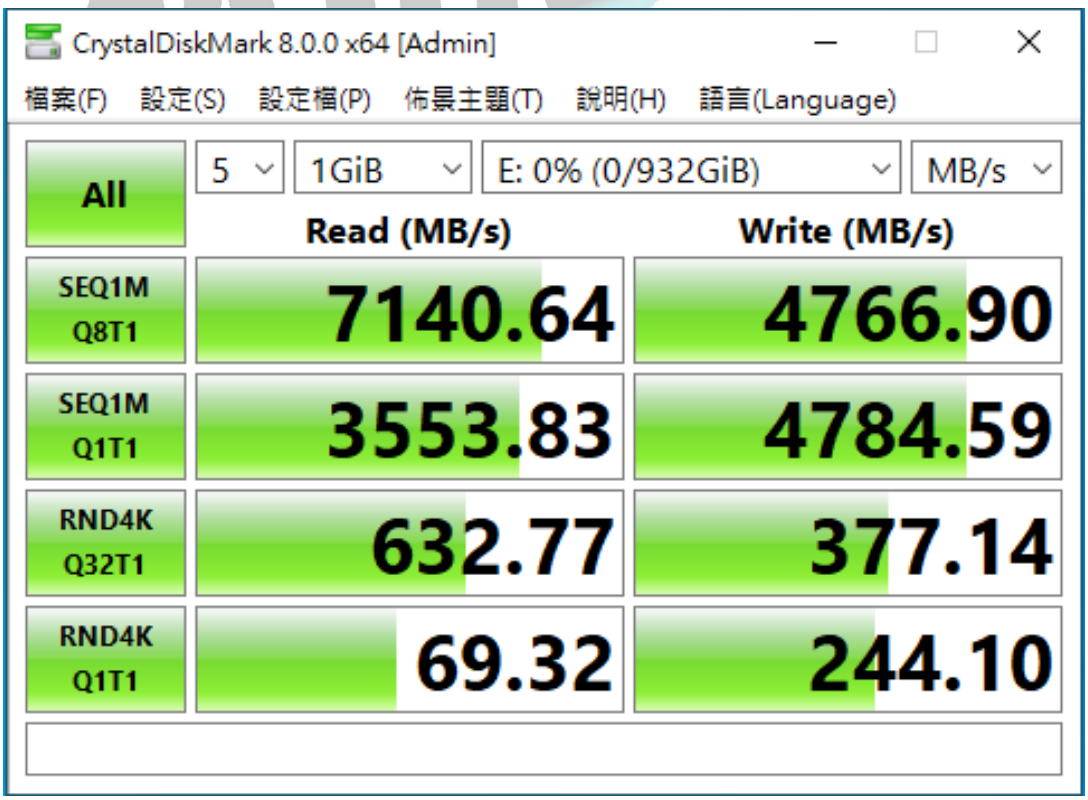
2.5 CrystalDiskMark 8.0.0 x64 performance test

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

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



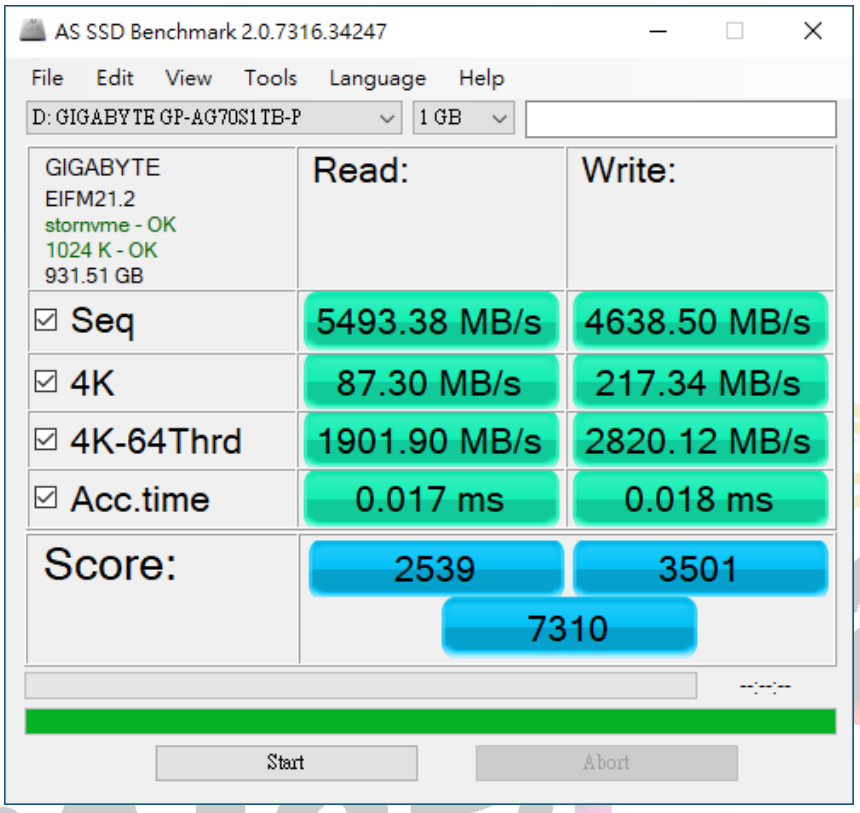
2.5.2 **M.2 NVMe GIGABYTE / 1TB** in **Drive E:** performance as below:



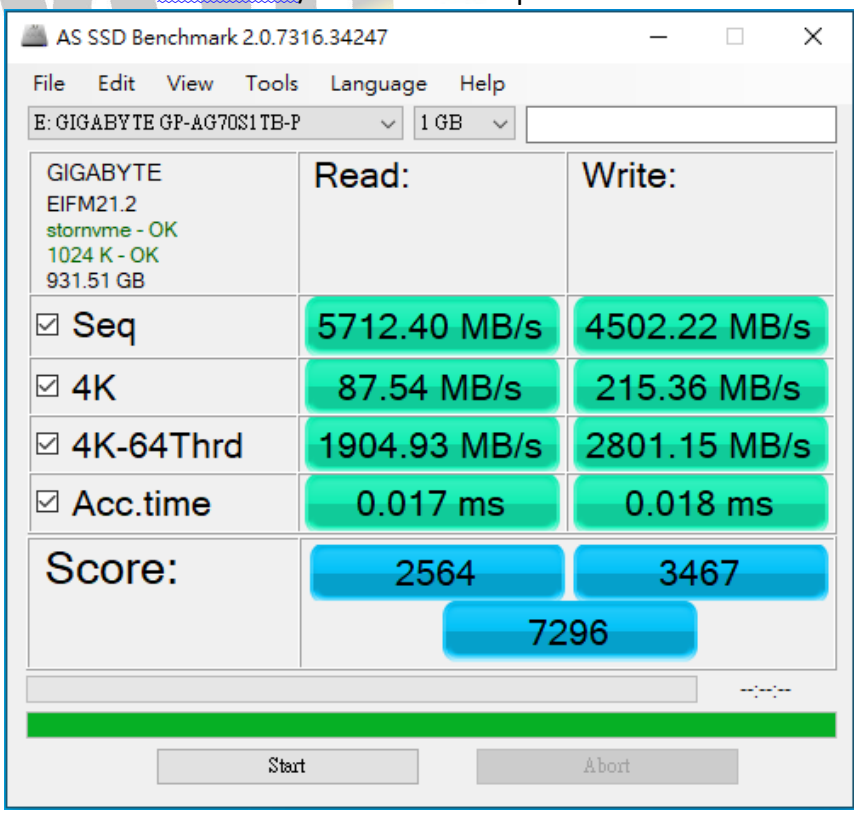
2.6 AS SSD Benchmark 2.0 performance test

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

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

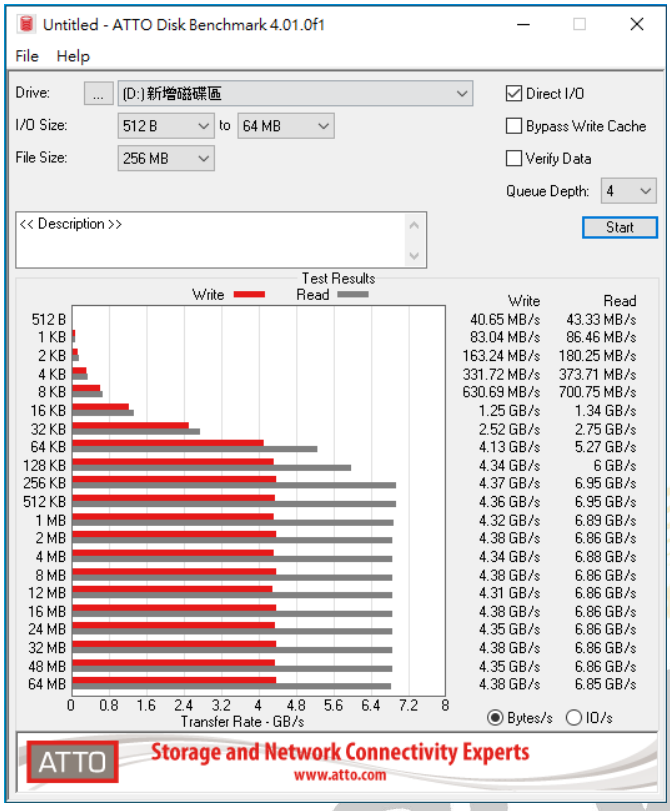


2.6.2 M.2 NVMe GIGABYTE / 1TB in **Drive E:** performance as below:

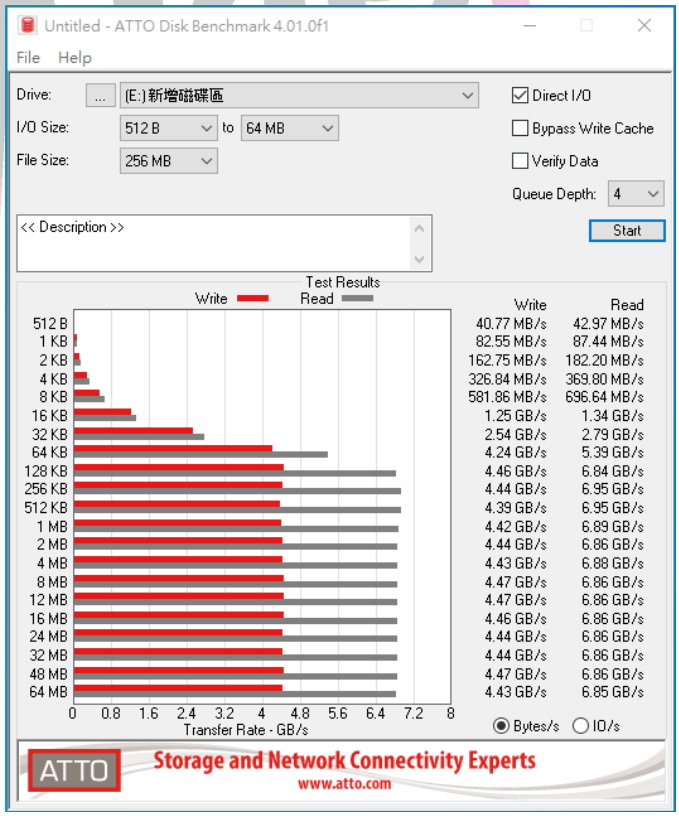


2.7 ATTO Disk Benchamrk 4.01 performance test

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

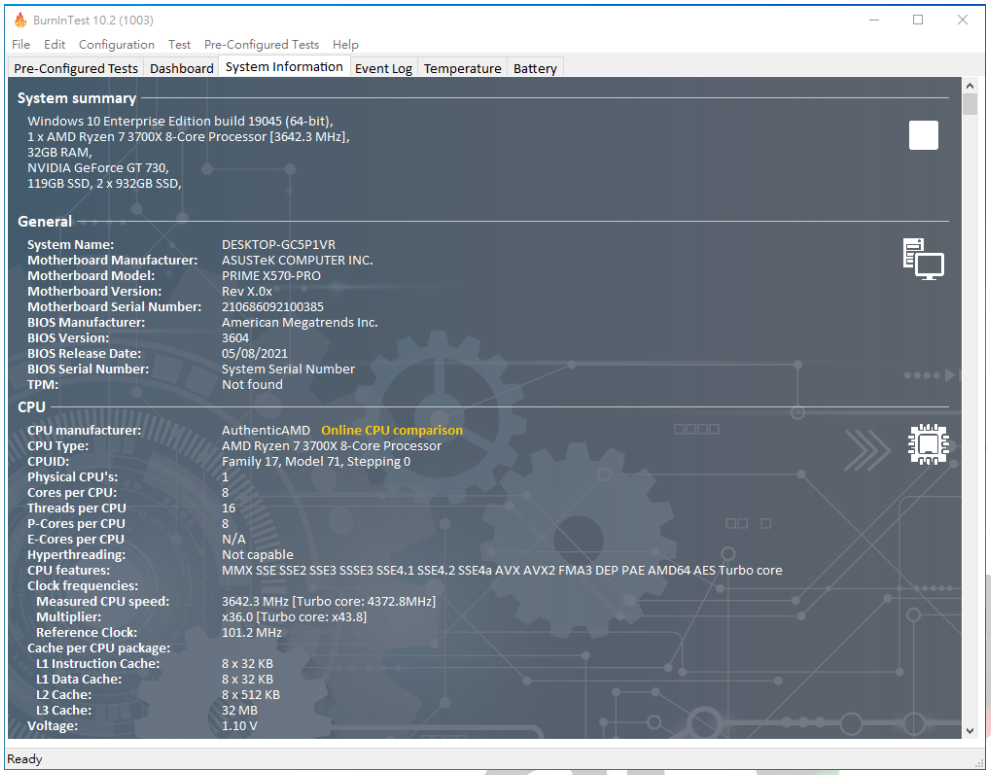
2.8.1 M.2 NVMe GIGABYTE / 1TB in **Drive D:** performance as below:

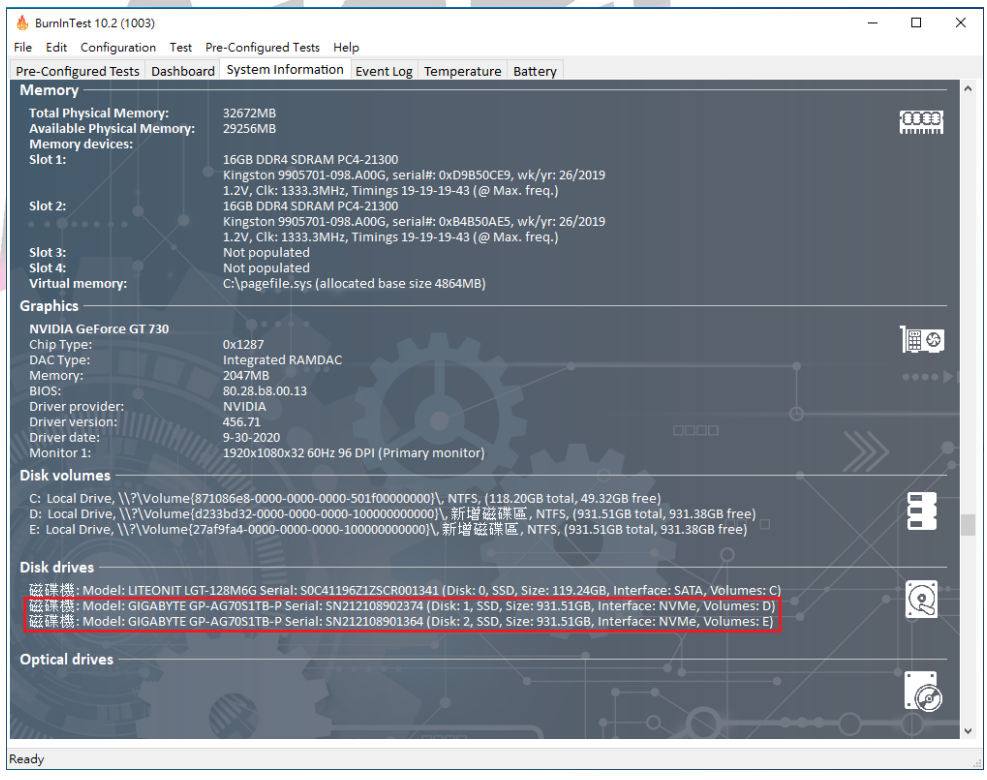
2.8.2 M.2 NVMe GIGABYTE / 1TB **in Drive E:** performance as below:

3. Burn In Tests and Results

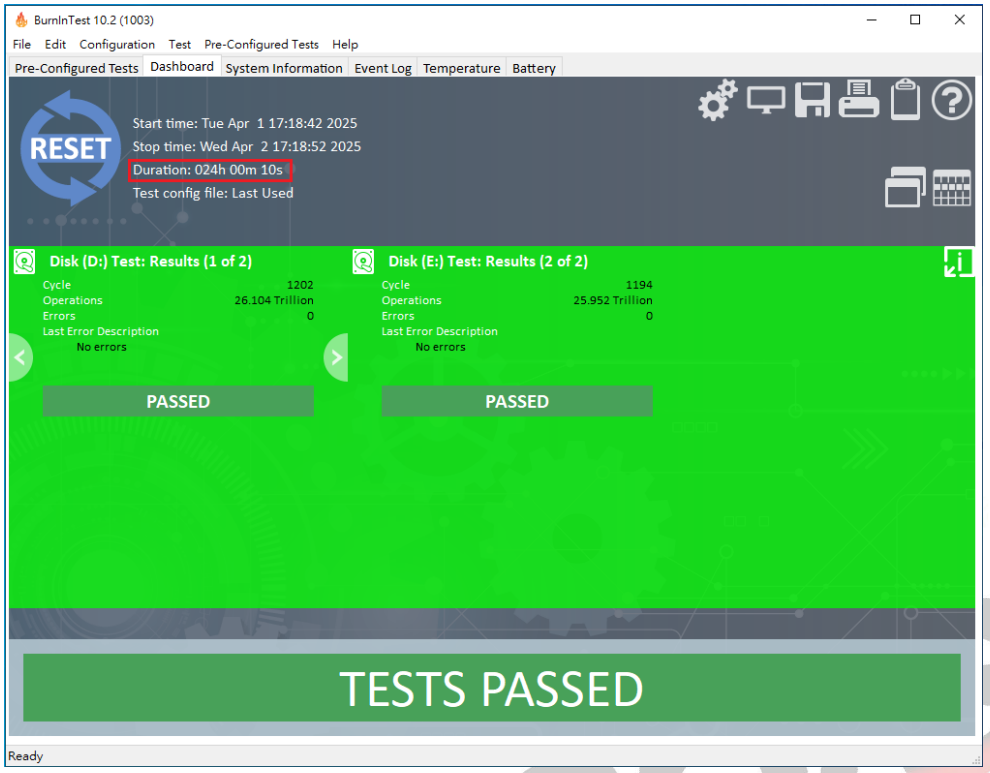
3.1 BurnInTest v10.2 Pro

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 Gen 4 / 4 Lane Interface, I/O speed, max. to 64Gbps.
4.2 GD9801G adapter I/O performance is based on NVMe SSD.
4.3 DP8414 AIC I/O performance is based on NVMe SSD.
4.4 MCIO 74P to SlimSAS 8i, 100cm cable I/O performance is based on NVMe SSD.