MINERVA

PCIe x16 Gen4 with ReDriver to MCIO 74P dual port AIC

Performance & Burn In Test Rev 1.0

PS: The test is used MCIO 74P to SFF-8654 8i , 50cm cable

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PCIe x16 Gen4 with ReDriver to SFF-TA-1016 74P dual port

1. Overview

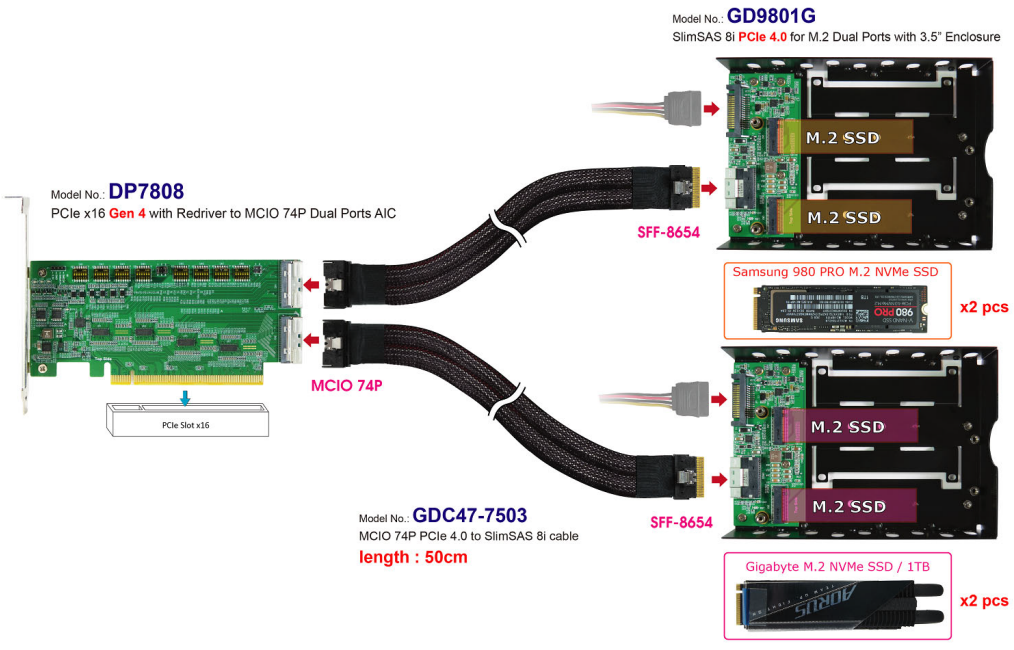
This riser card is built-in ReDriver controller and with MCIO 74P dual port connector. It is designed to extend PCIe x16 channel signals and may provide PCIe bifurcation. The ReDriver may support CTLE boosts up to **13 dB at 8 GHz.**

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:	DP7808 PCIe x16 Gen4 with ReDriver to MCIO 74P dual port AIC
Cable:	PCIe 4.0 MCIO 74P to SlimSAS(SFF-8654) 8i, **50cm** Cable x2pcs
Adapter:	GD9801G SlimSAS(SFF-8654) 8i PCIe 4.0 to M.2 adapter dual port
OS :	Microsoft **Windows 10 64bit OS**

2.2 Test target: DP7808, GD9801G adapter with GIGABYTE M.2 1TB SSD X2pcs, Samsung M.2 1TB SSD 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). Using the **GDC47-7403 Cable** to connect the GD9801G adapter to the DP7808 AIC and plug into **ASUS PRIME X570-PRO**.

2.4 BIOS & Windows 10 OS environment setup

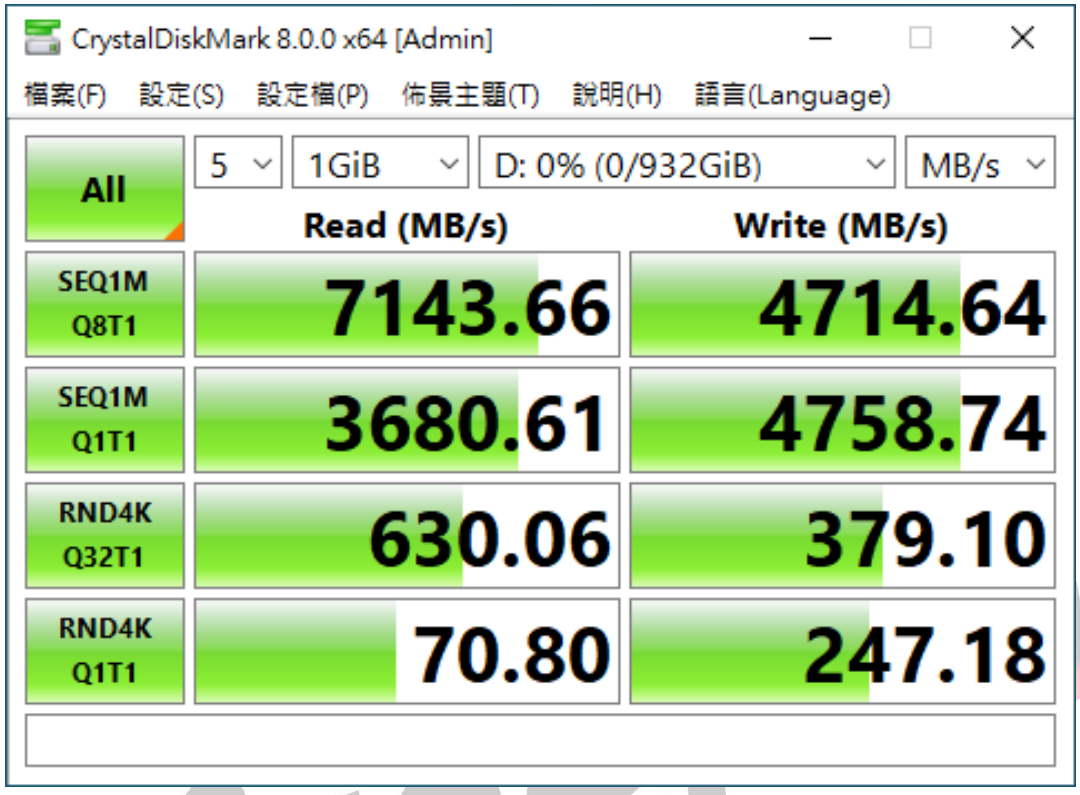
2.4.1 Primary SATA NVMe SSD install Windows 10 OS.

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

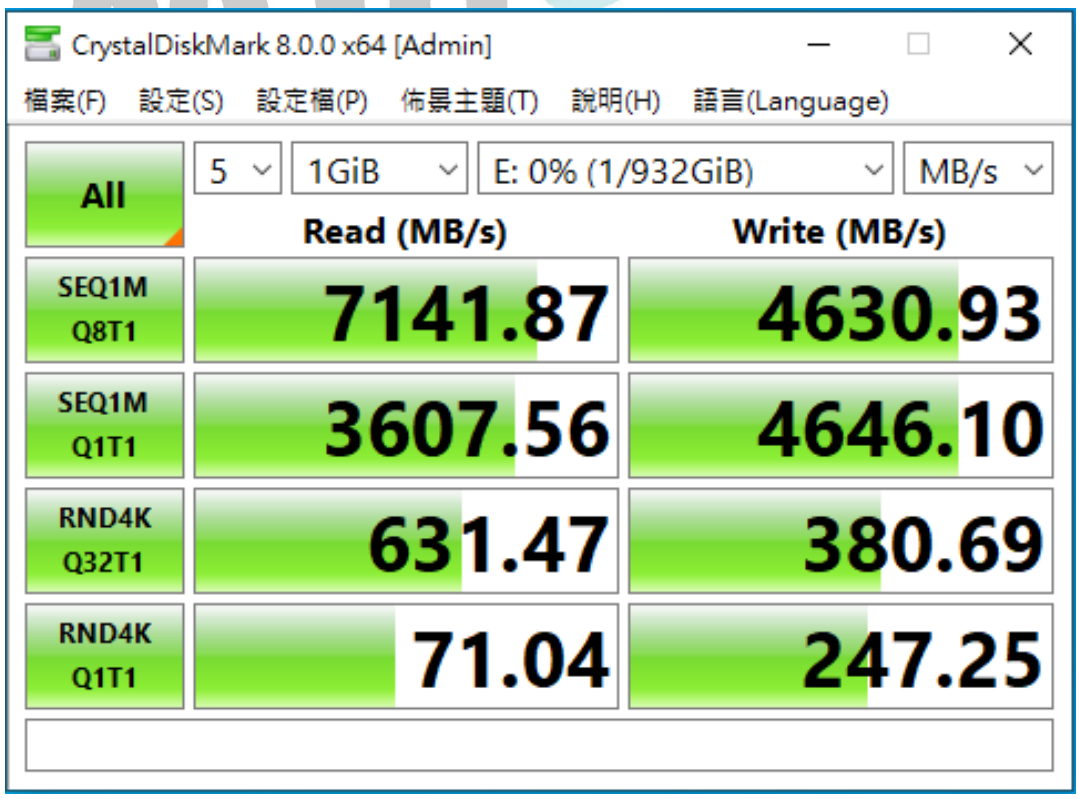
2.5 CrystalDiskMark 8.0.0 x64 performance test

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

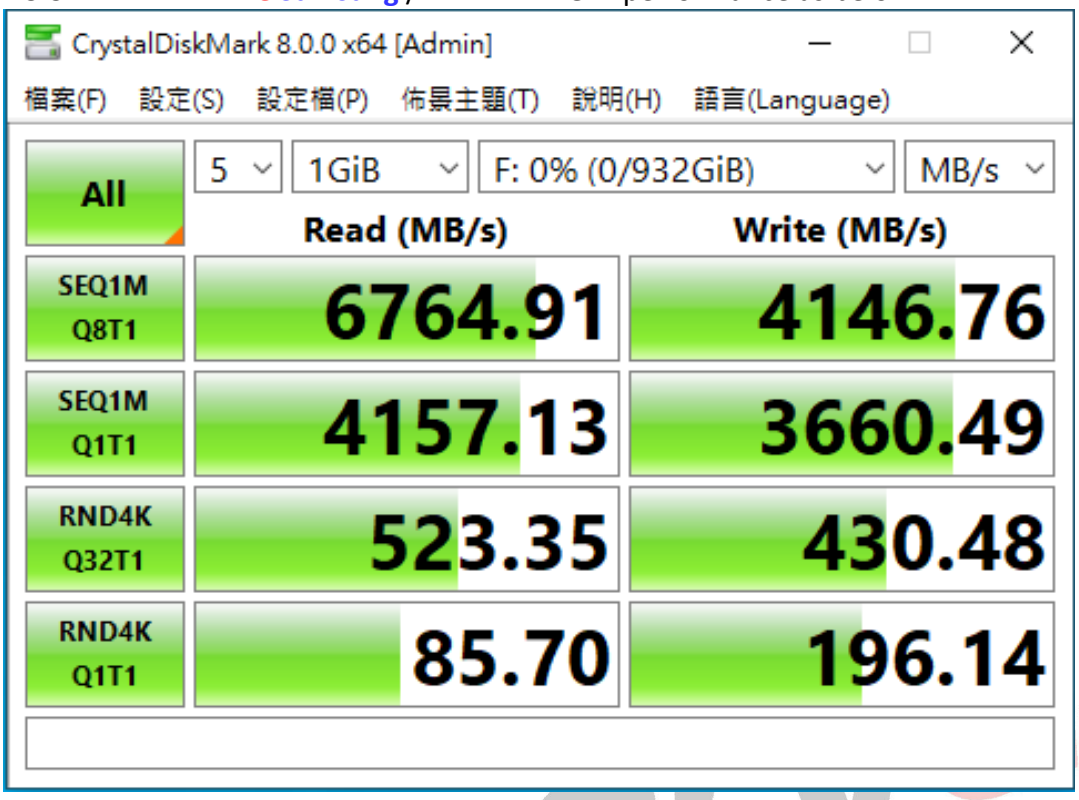
2.5.1 M.2 NVMe Gigabyte / 1TB in **Drive D:** performance as below:



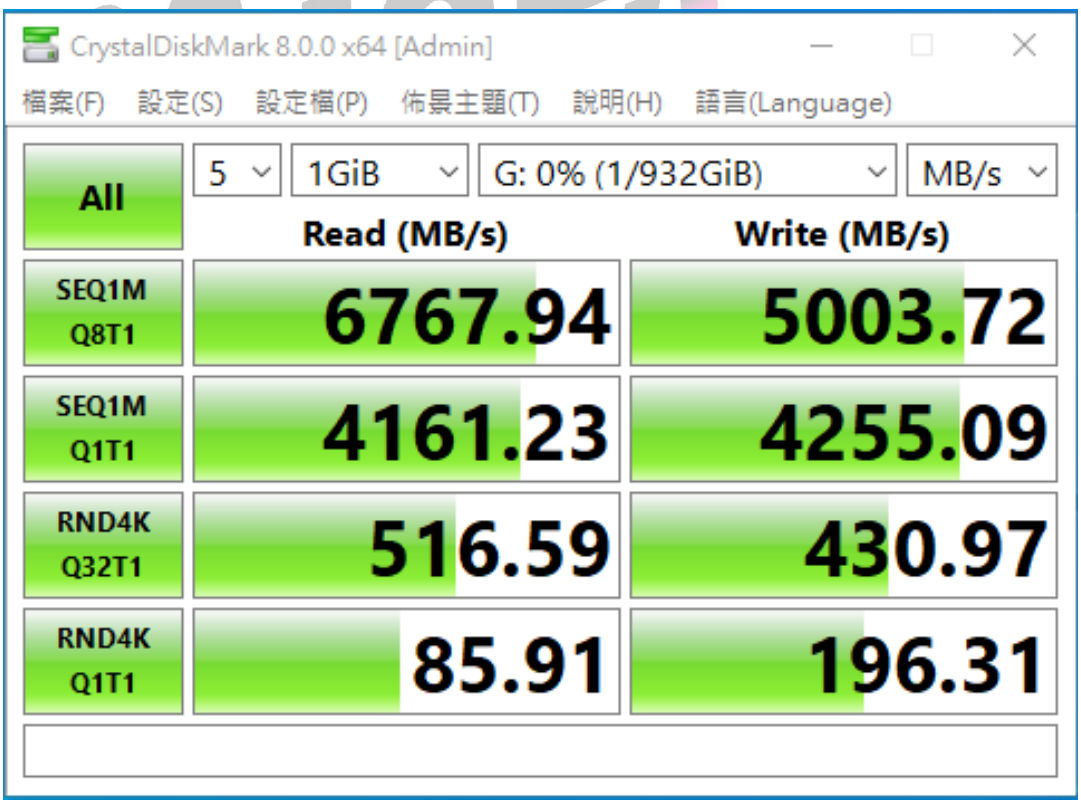
2.5.2 M.2 NVMe Gigabyte / 1TB in **Drive E:** performance as below:



2.5.3 **M.2 NVMe Samsung / 1TB** in **Drive F:** performance as below:



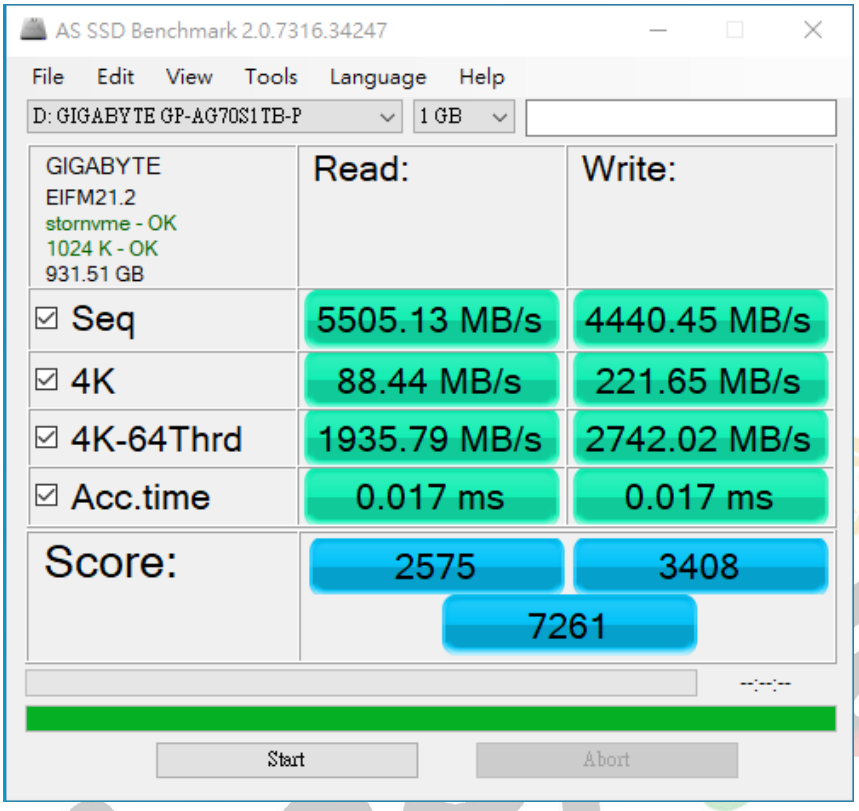
2.5.4 **M.2 NVMe Samsung / 1TB** in **Drive G:** performance as below:



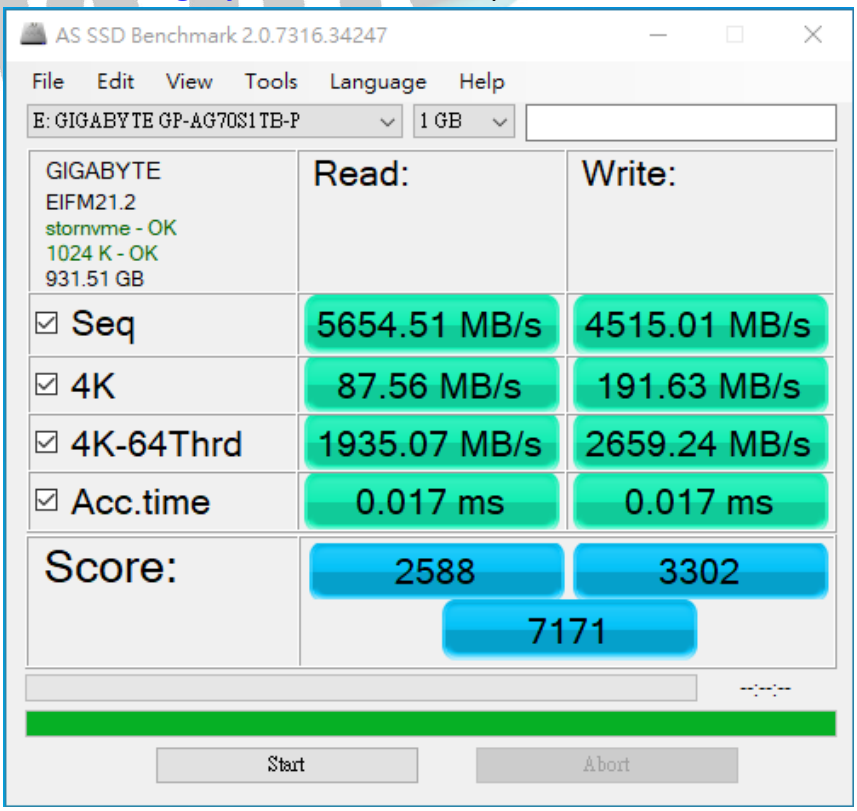
2.6 AS SSD Benchmark 2.0 performance test

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

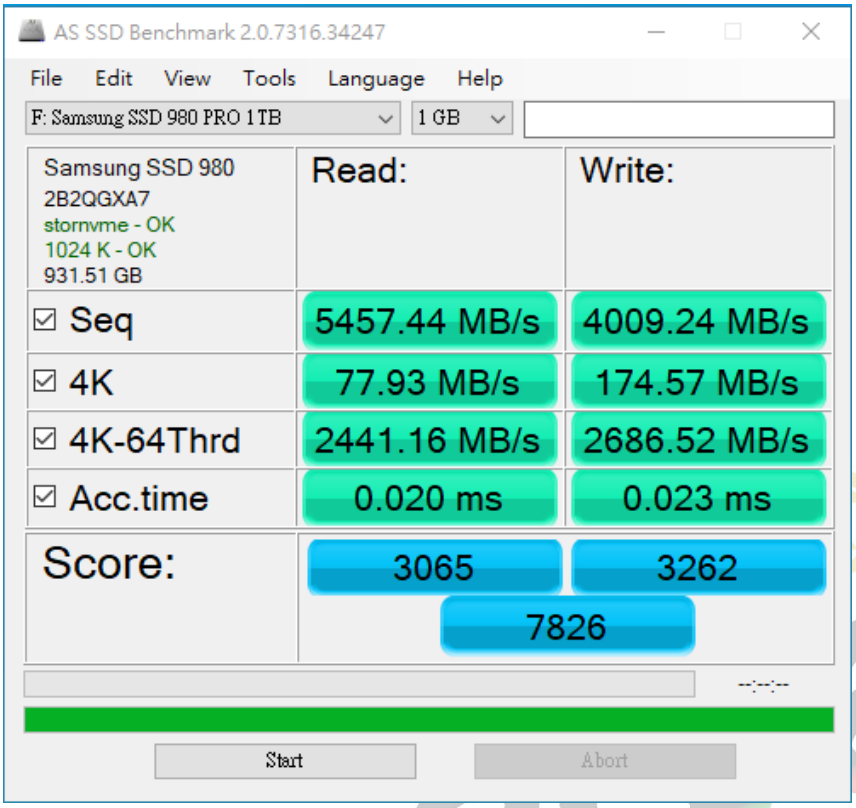
2.6.1 M.2 NVMe Gigabyte / 1TB in **Drive D:** performance as below:



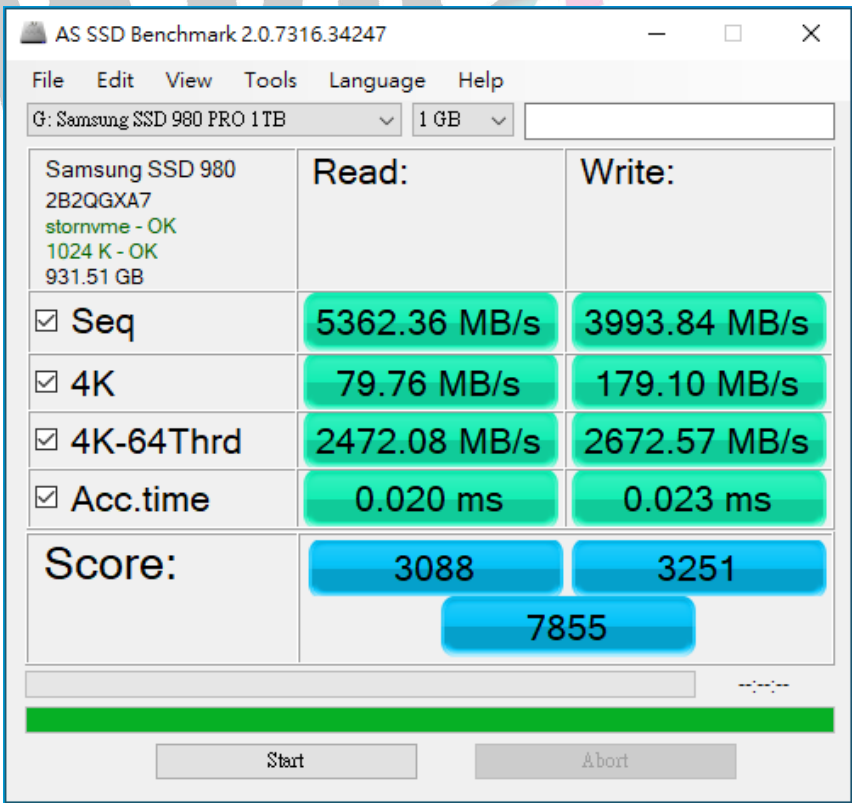
2.6.2 M.2 NVMe Gigabyte / 1TB in **Drive E:** performance as below:



2.6.3 **M.2 NVMe Samsung / 1TB** in **Drive F:** performance as below:

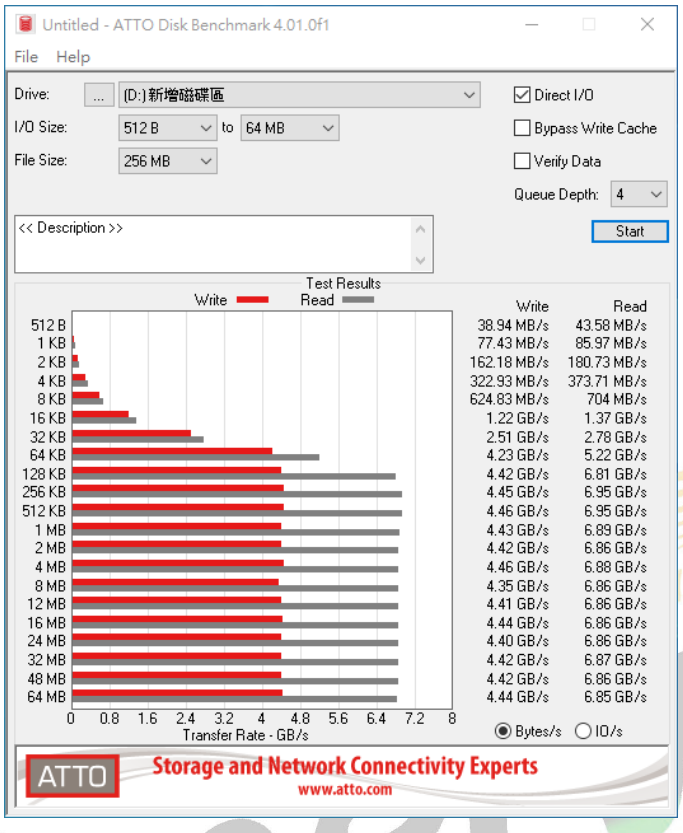


2.6.4 **M.2 NVMe Samsung / 1TB** in **Drive G:** performance as below:

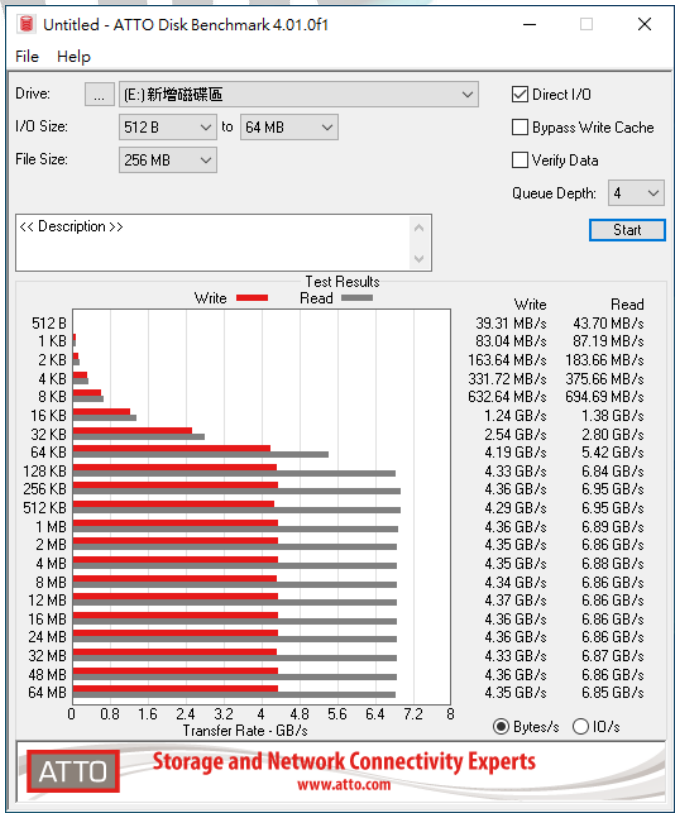


2.7 ATTO Disk Benchamrk 4.01 performance test

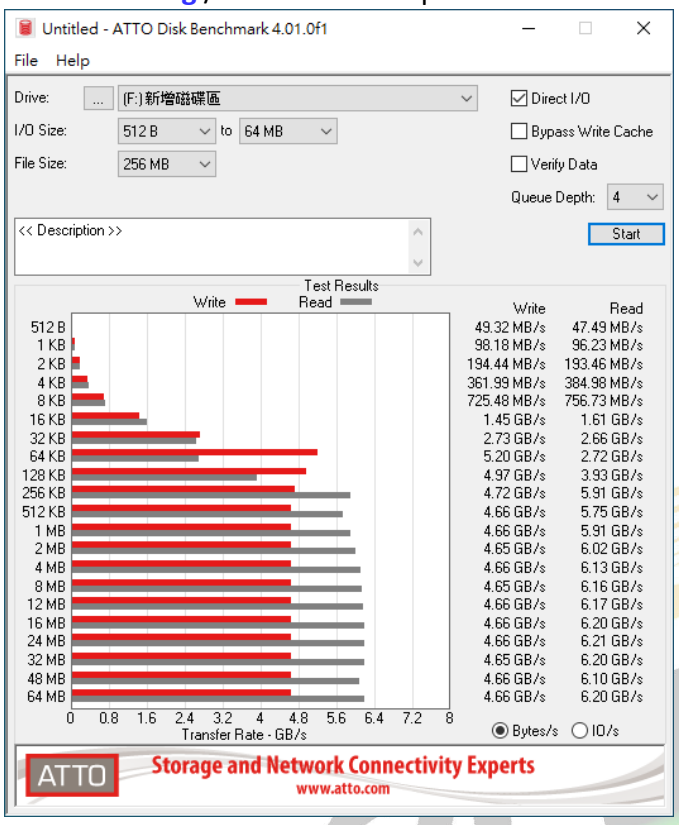
2.7.1 M.2 NVMe Gigabyte / 1TB in **Drive D:** performance as below:



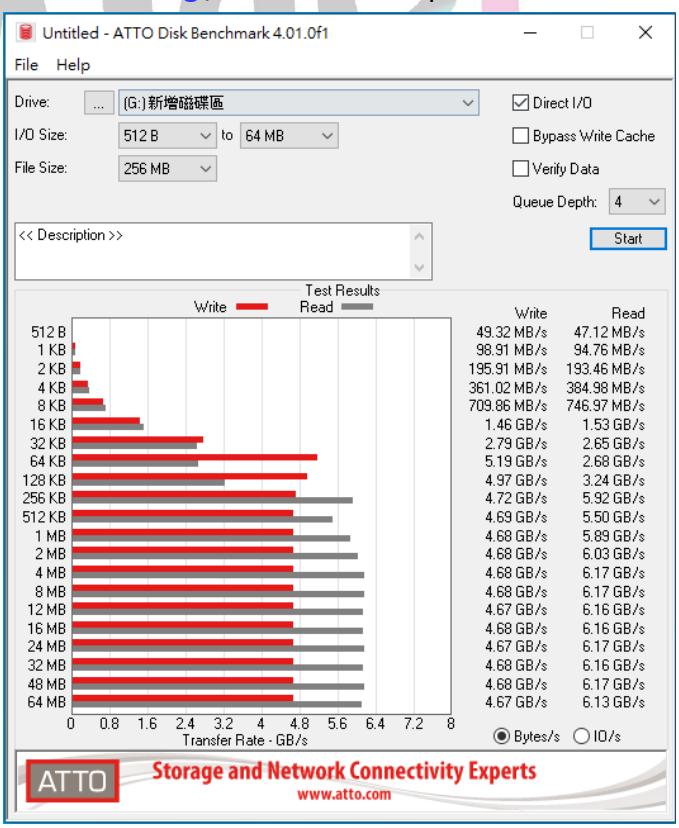
2.7.2 M.2 NVMe Gigabyte / 1TB in **Drive E:** performance as below:



2.7.3 **M.2 NVMe Samsung / 1TB** in **Drive F:** performance as below:



2.7.4 **M.2 NVMe Samsung / 1TB** in **Drive G:** 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:

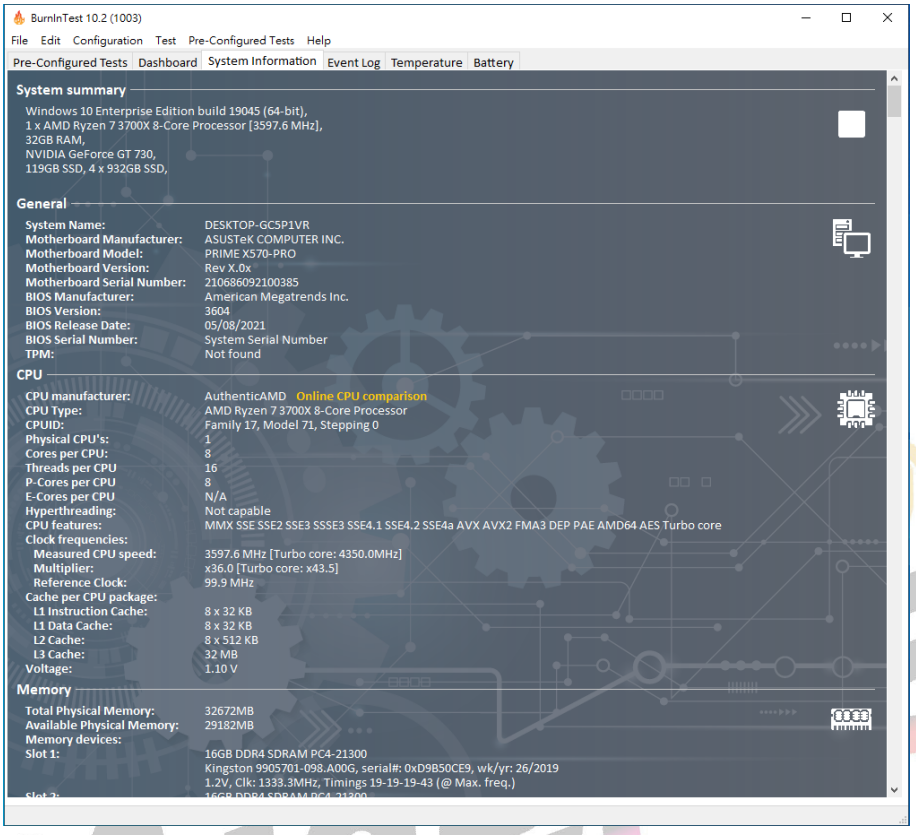
2.8.3 **M.2 NVMe Samsung / 1TB in Drive F:** performance as below:

2.8.4 **M.2 NVMe Samsung / 1TB in Drive G:** performance as below:

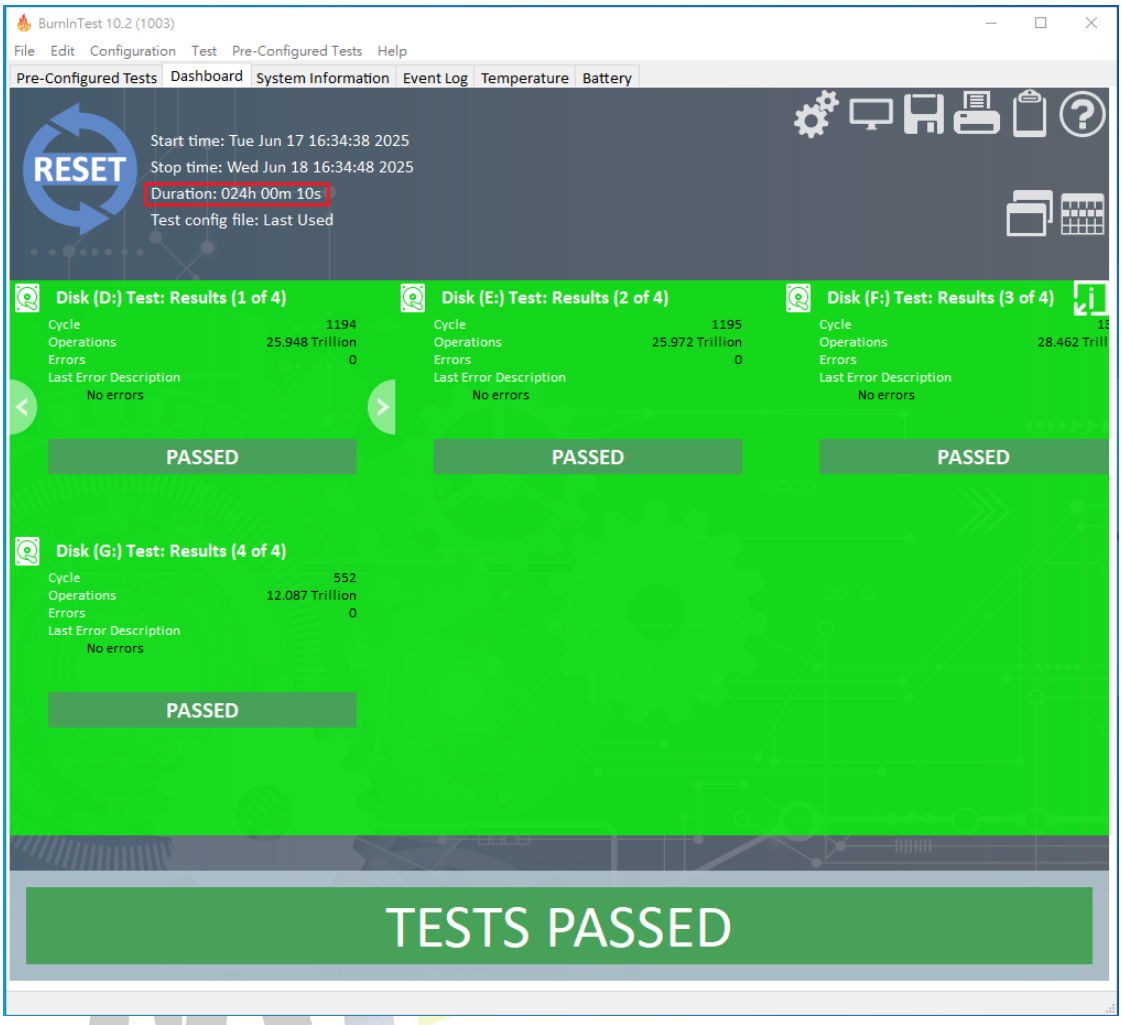
3. Burn In Tests and Results

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 DP7808 AIC, I/O performance is based on M.2 NVMe SSD.