



MINERVA

DP9402 PCIe x4 Gen4 16GT/s for SlimSAS 4i(SFF-8654) AIC

Performance & Burn In Test Rev. 1. 0

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4. Summary

DP9402 Add-in Card

1. Overview

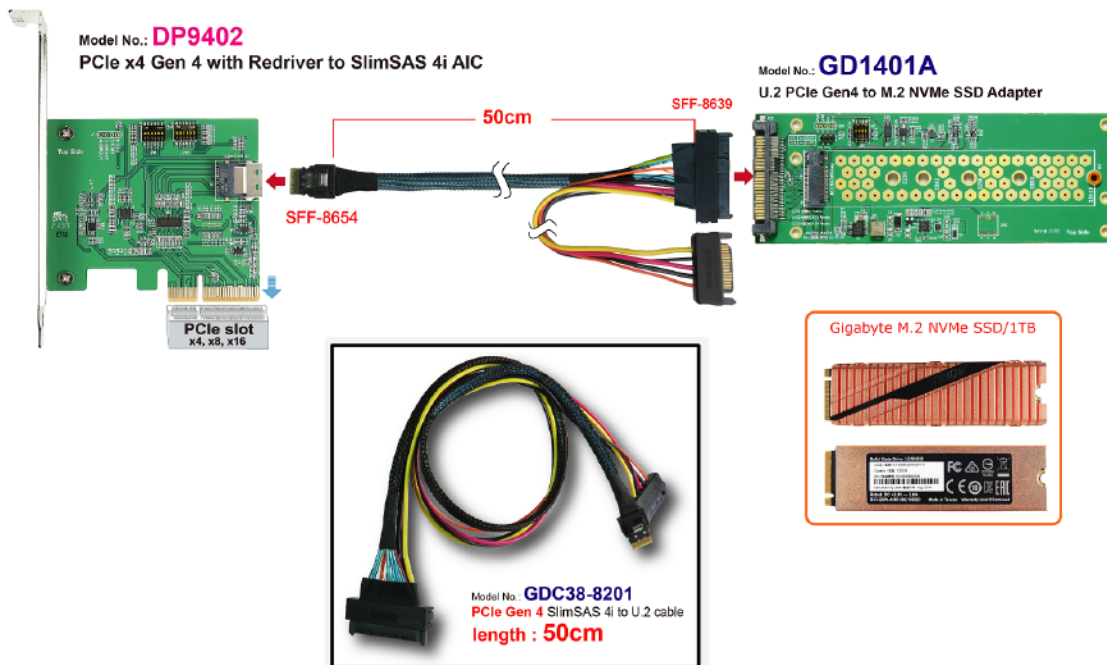
This add-in card built-in ReDriver provides PCIe x4 Gen4, 16GT/s high-speed signals extension to SlimSAS 4i(SFF-8654).

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
AIC: DP9402 PCIe x4 Gen 4 with Redriver to SlimSAS 4i Add-in Card
Adapter: GD1401A U.2 PCIe Gen 4 to M.2 NVMe SSD Adapter
Cable: SlimSAS 4i PCIe Gen4 to U.2(SFF-8639), **50cm** Cable
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: DP9402 AIC, GD1401A adapter & Gigabyte M.2 NVMe 1TB SSD



DP9402 Add-in Card

2.3 Install Hardware

Inserts M.2 NVMe SSD into GD1401A adapter converter's M.2 M-key connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connects GD1401A converter to DP9402 ADD-in Card (PCIe x4 Gen4 with Redriver to SlimSAS 4i), using SlimSAS 4i (SFF-8654) to U.2(SFF-8639) cable and plugs DP9402 into GIGABYTE **X570 AORUS MASTER**

2.4 BIOS & Windows 10 OS environment setup

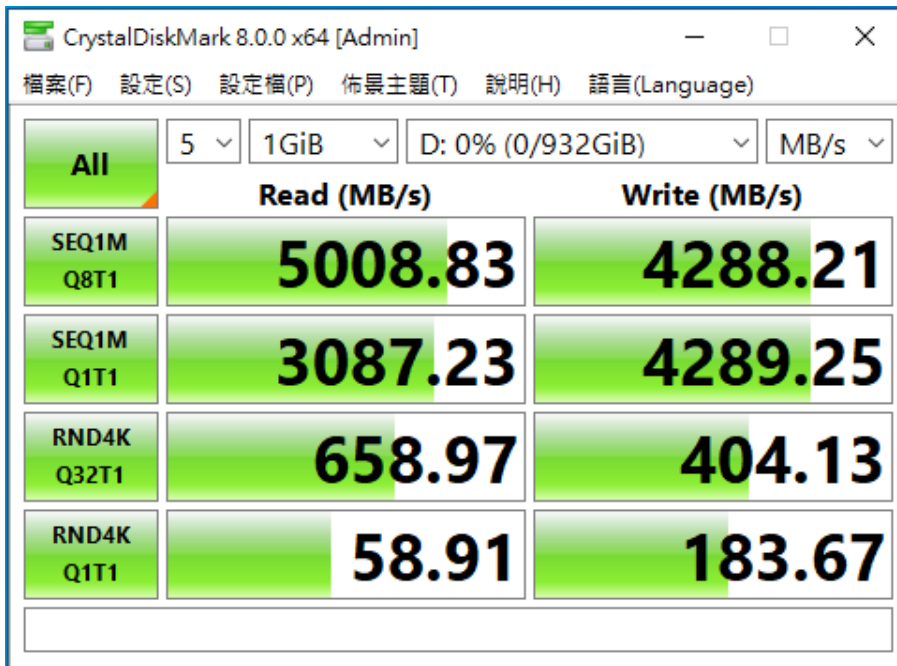
- 2.4.1 Primary SATA SSD installed Windows 10 OS.
- 2.4.2 M.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.



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2.5 CrystalDiskMark 8.0 x64 performance test

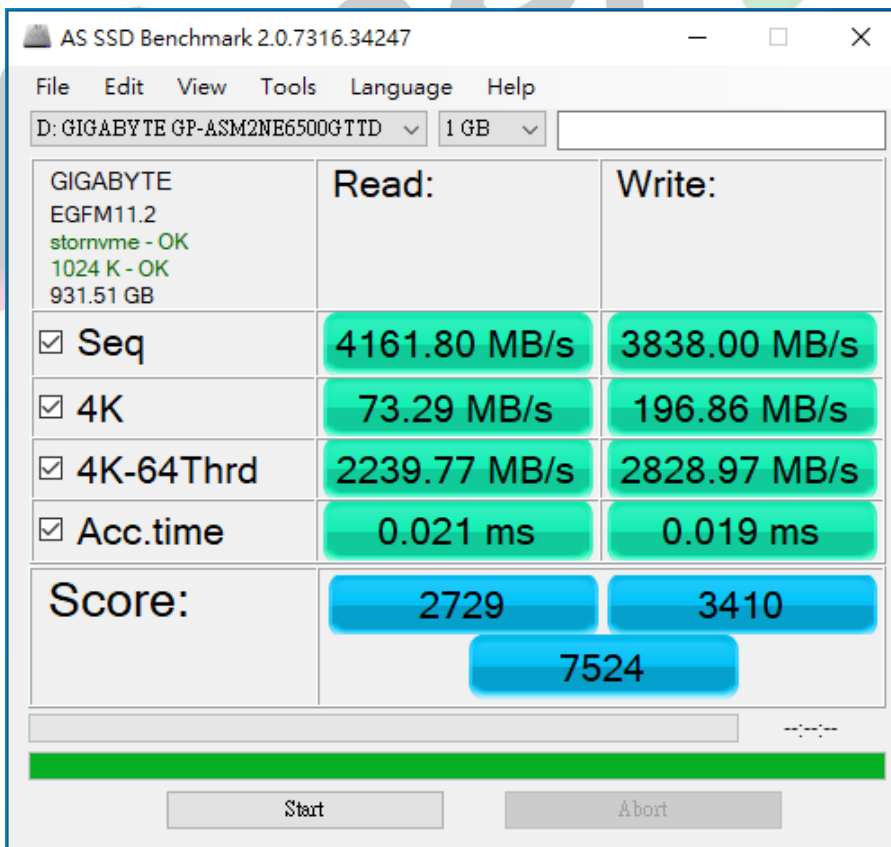
※Benchmark (Sequential **Read & Write** / default = **1MB**)



2.6 AS SSD Benchmark 2.0.7 performance test

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

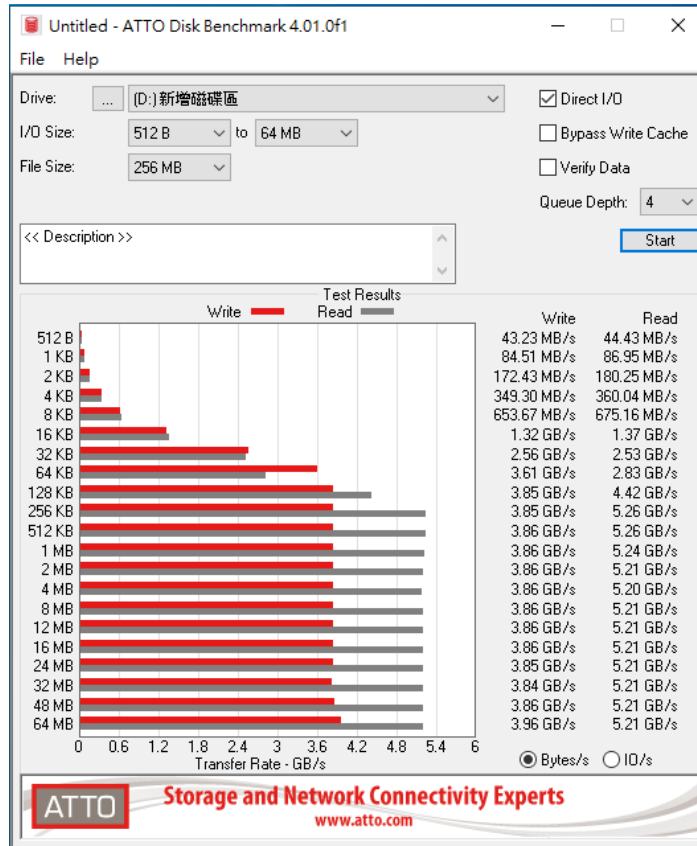
2.6.1 **Gigabyte M.2 NVMe 1TB SSD** performance as below:



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2.7 ATTO Disk Benchmark 4.01 performance test

2.7.1 Gigabyte M.2 NVMe 1TB SSD performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 Gigabyte M.2 NVMe 1TB SSD performance as below:

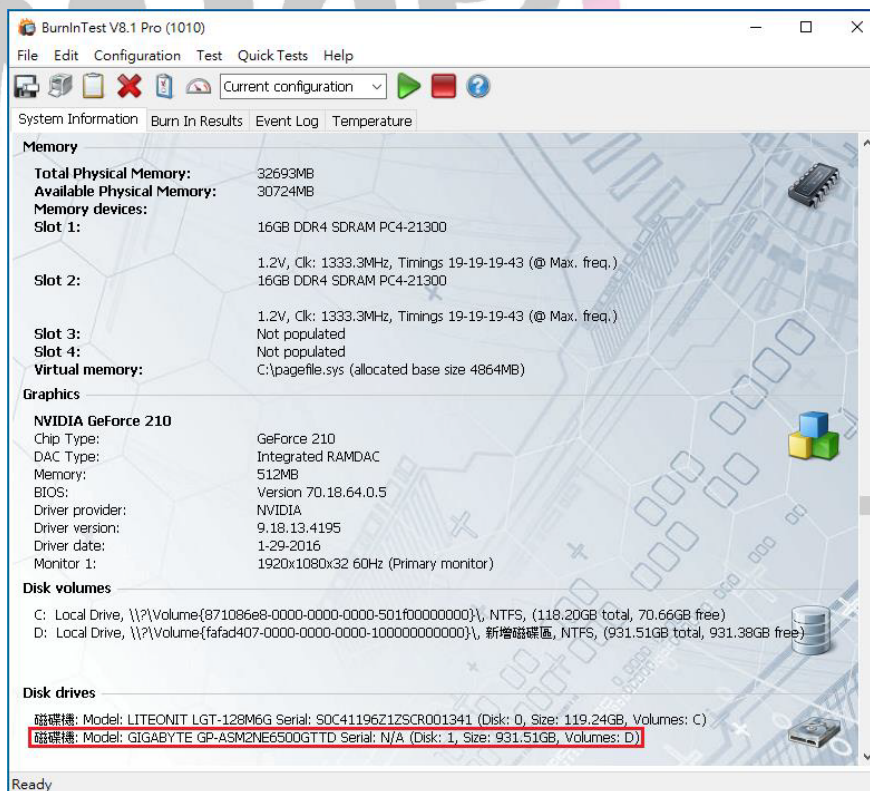
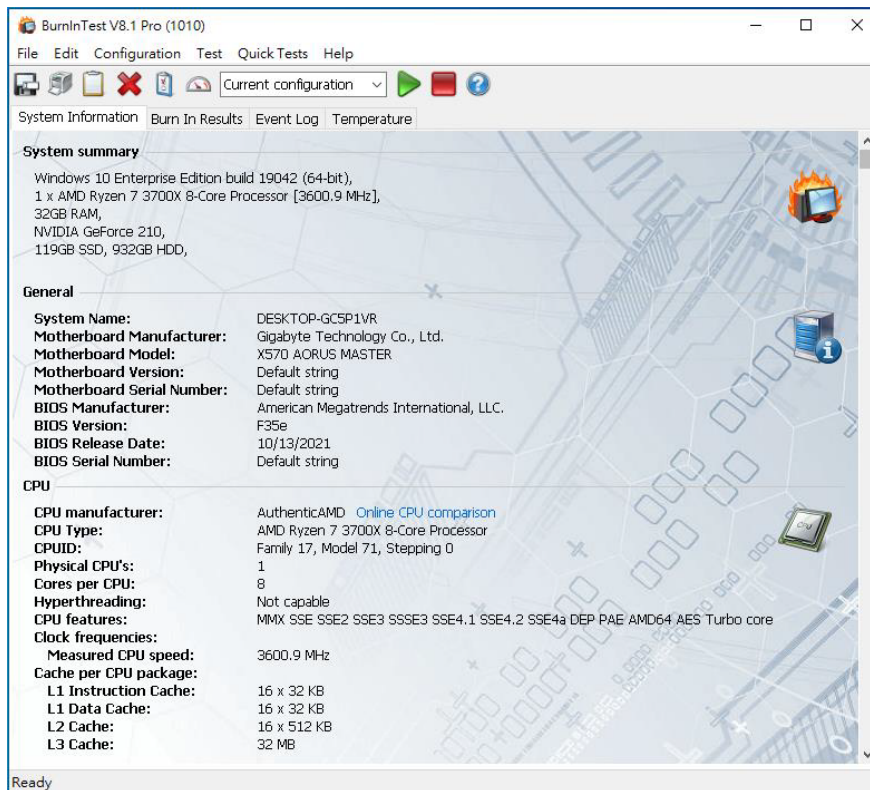


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3. Burn In Tests and Results

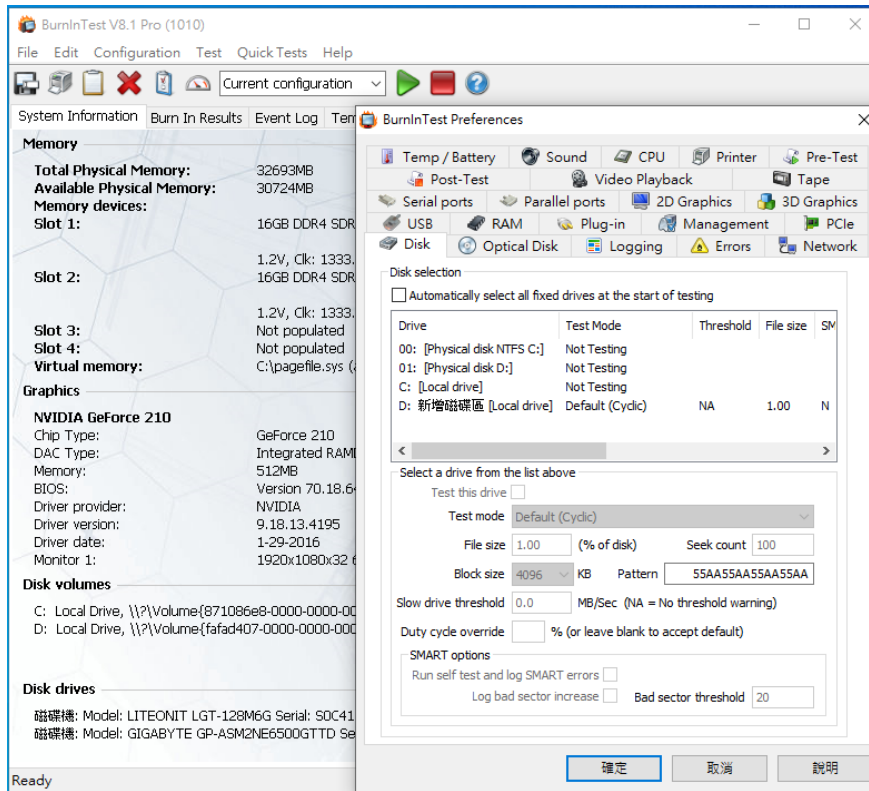
3.1 BurnInTest v8.1 Pro for Gigabyte M.2 NVMe 1TB SSD

3.1.1 System Information as below:

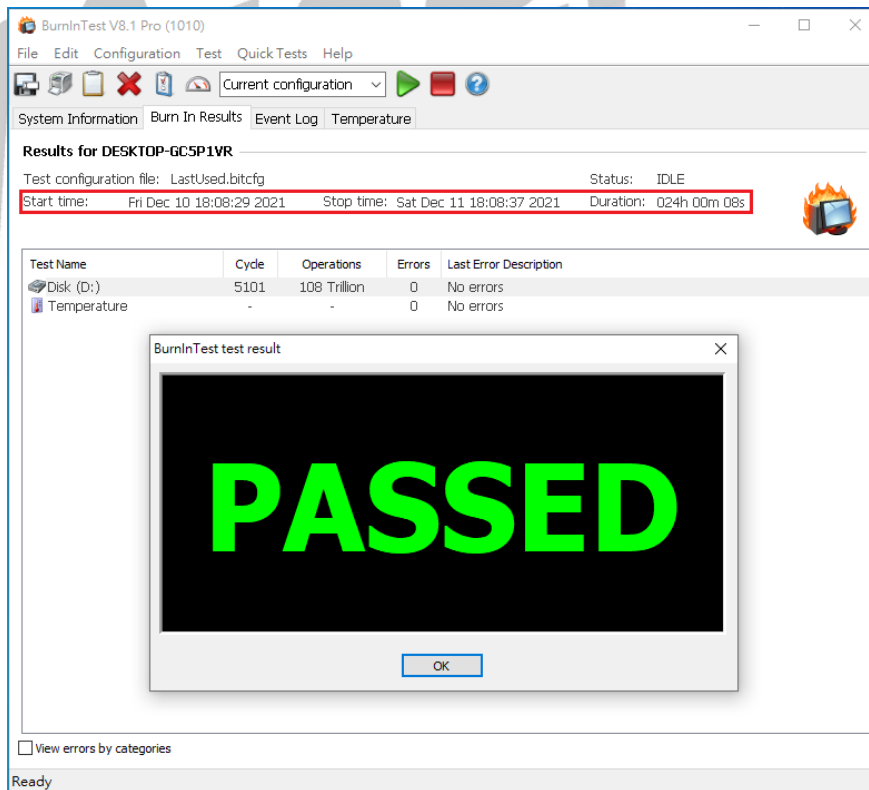


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3.1.2 Disk test mode(10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



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4. Summary

- 4.1 M.2 NVMe SSD is PCIe Gen4, 16GT/s , 4 Lanes Interface, I/O speed, max. to 64Gbps.
- 4.2 DP9402 AIC I/O performance is based on M.2 NVMe SSD.
- 4.3 GD1401A adapter I/O performance is based on M.2 NVMe SSD.

