



MINERVA

DP8401 PCIe x8 Gen 4 with ReDriver to SlimSAS 8i A.I.C

Performance & Burn In Test Rev 1.0

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DP8401 Add-in Card

1. Overview

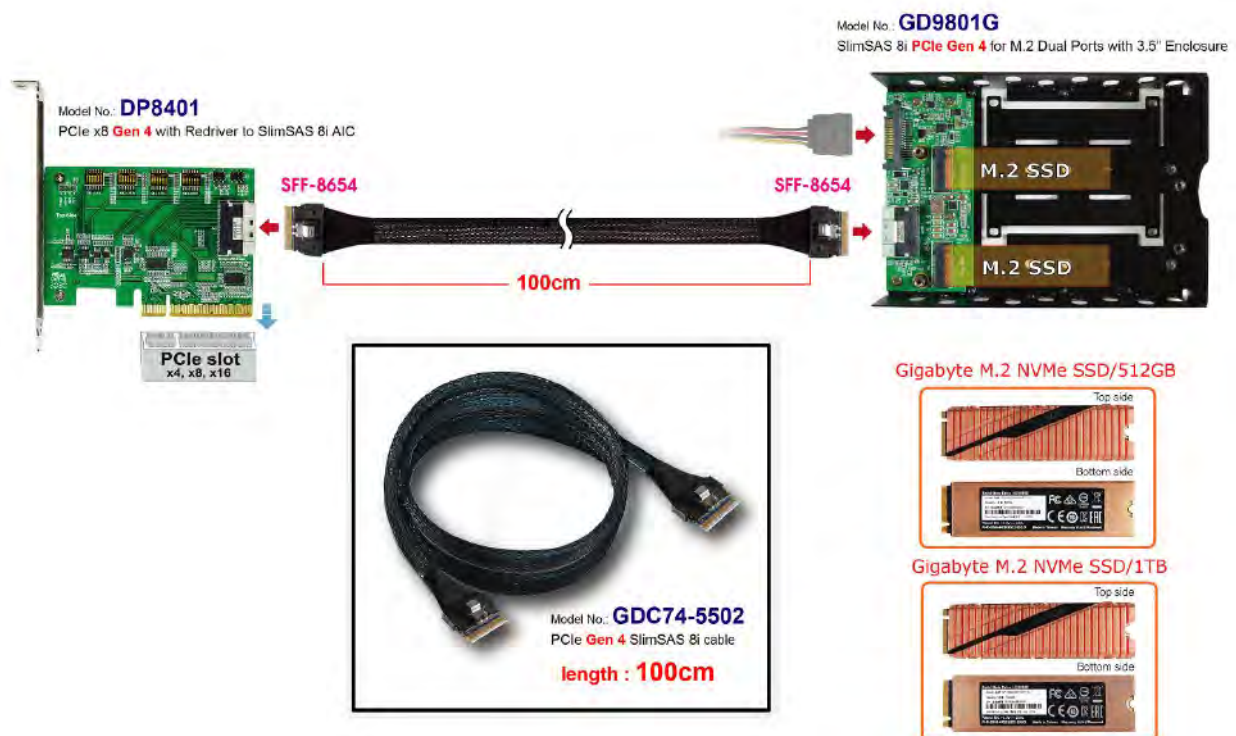
This riser card has built-in SlimSAS(SFF-8654) 8i connector. It is designed for use by PCIe x8 to configure two x4 bifurcations or can extend PCIe x8 channel reach. The ReDriver may support CTLE boosts up to **13 dB at 8 GHz**.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : 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
Add in Card: DP8401 PCIe x8 to SlimSAS(SFF-8654) 8i AIC
Cable: PCIe Gen 4 SlimSAS(SFF-8654) 8i to SlimSAS(SFF-8654) 8i Cable
Adapter: GD9801G SlimSAS(SFF-8654) 8i to M.2 dual ports adapter
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: DP8401, GD9801G adapter with GIGABYTE M.2 **1TB** & M.2 **500GB** NVMe SSD



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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 DP8401 AIC card (PCIe x8 Gen 4 to SFF-8654 8i) using the **GDC74-5502 Cable**, and Plugs DP8401 AIC into GIGABYTE **X570 AORUS MASTER**.

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.

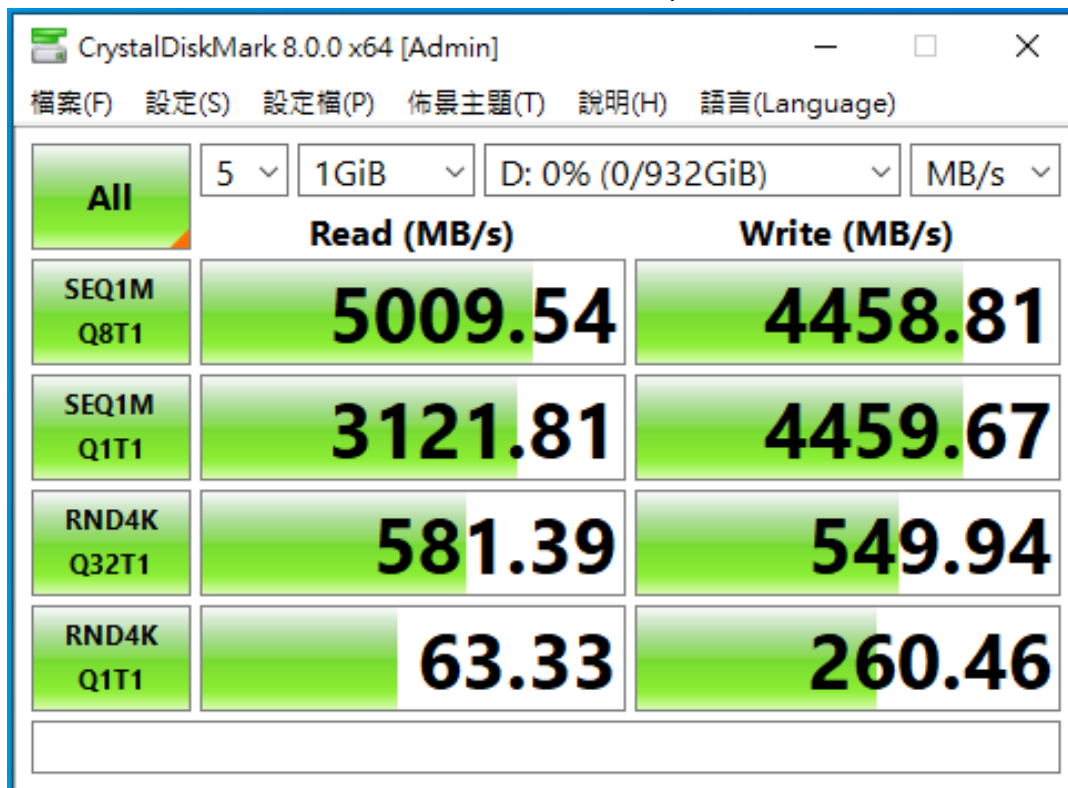


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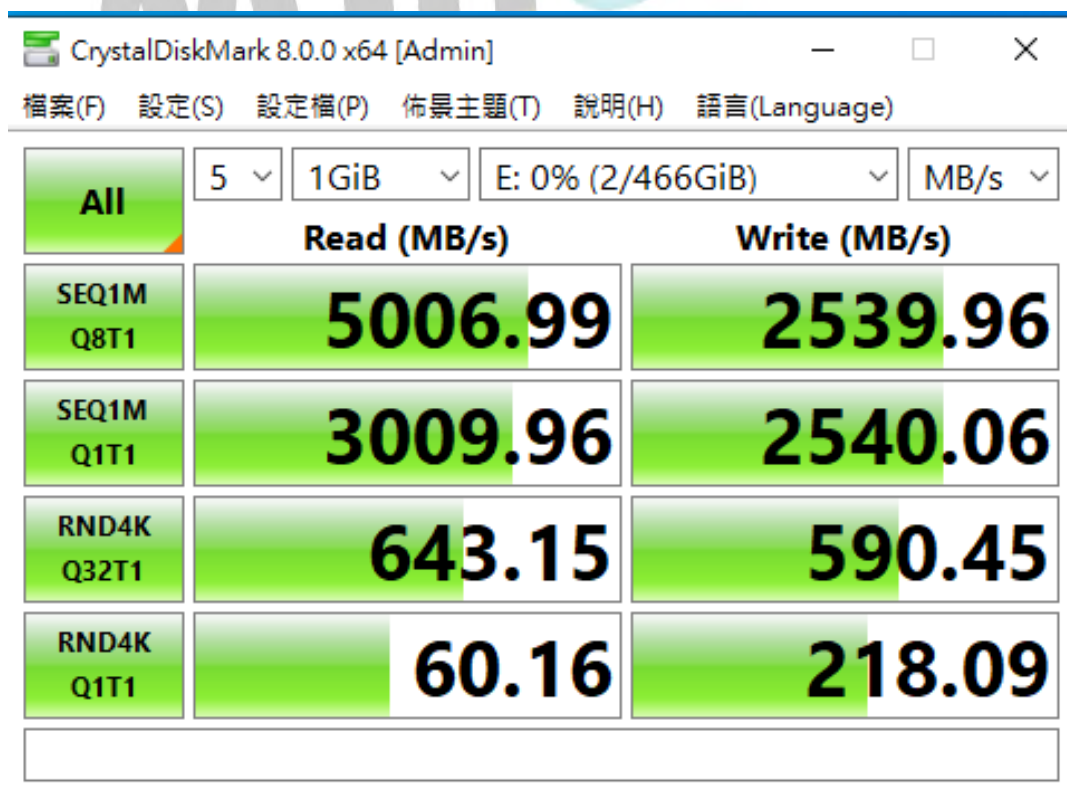
2.5 CrystalDiskMark 8.0.0 x64 performance test

※ 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 / 500B in Drive E: performance as below:

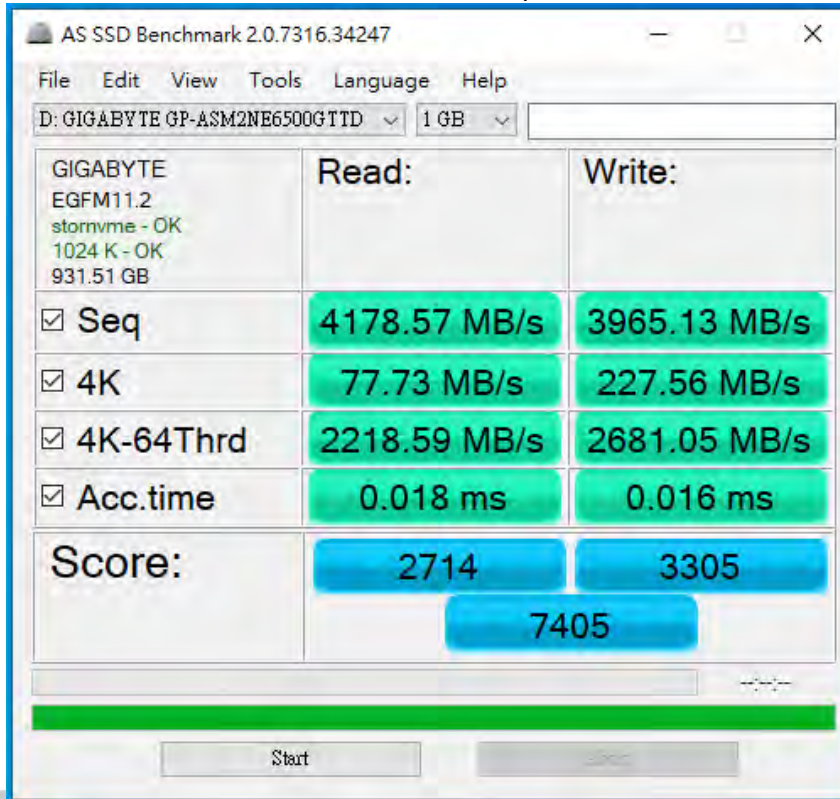


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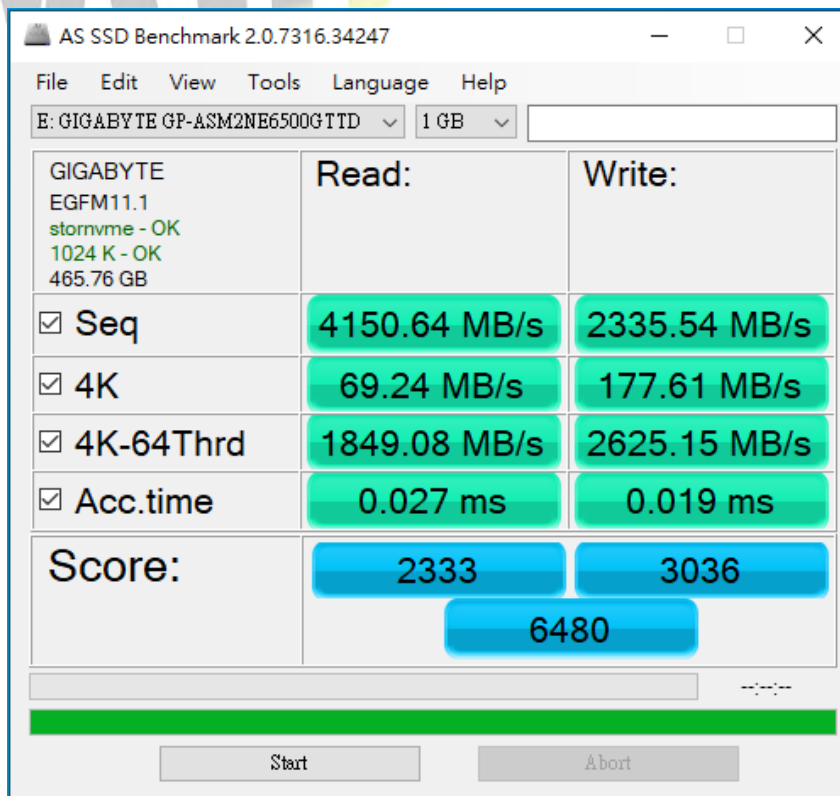
2.6 AS SSD Benchmark 2.0 performance test

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

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



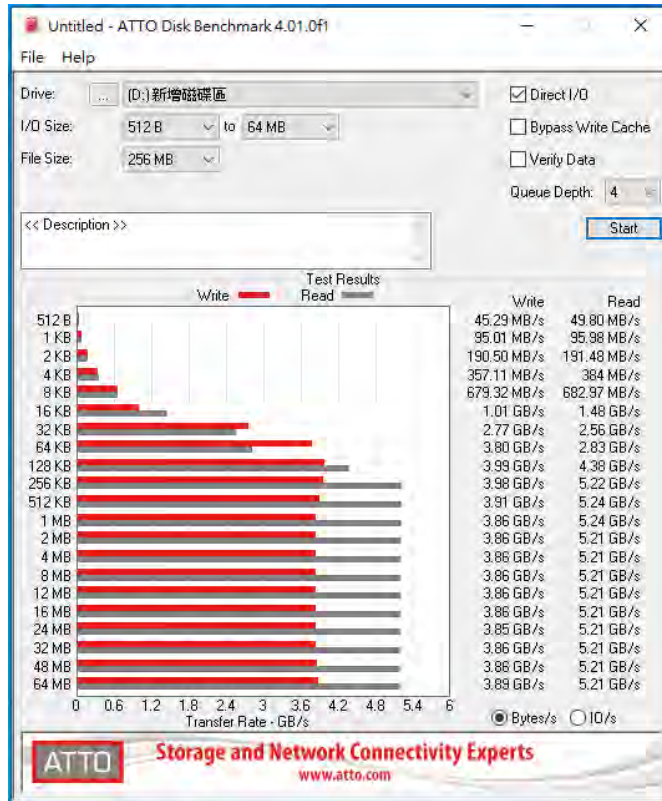
2.6.2 **M.2 NVMe GIGABYTE / 500B** in Drive E: performance as below:



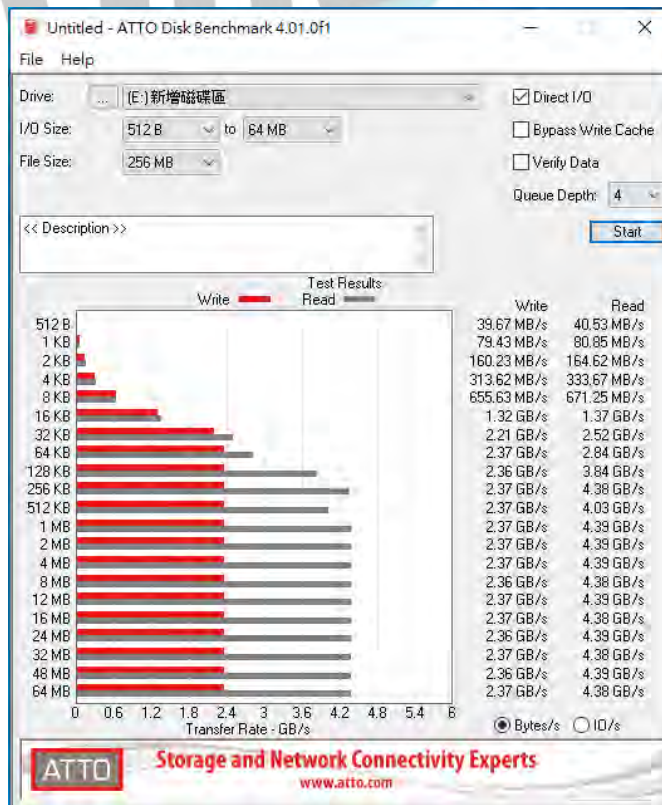
DP8401 Add-in Card

2.7 ATTO Disk Benchmark 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 / 500B in Drive E: performance as below:



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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 / 500B in Drive E: performance as below:

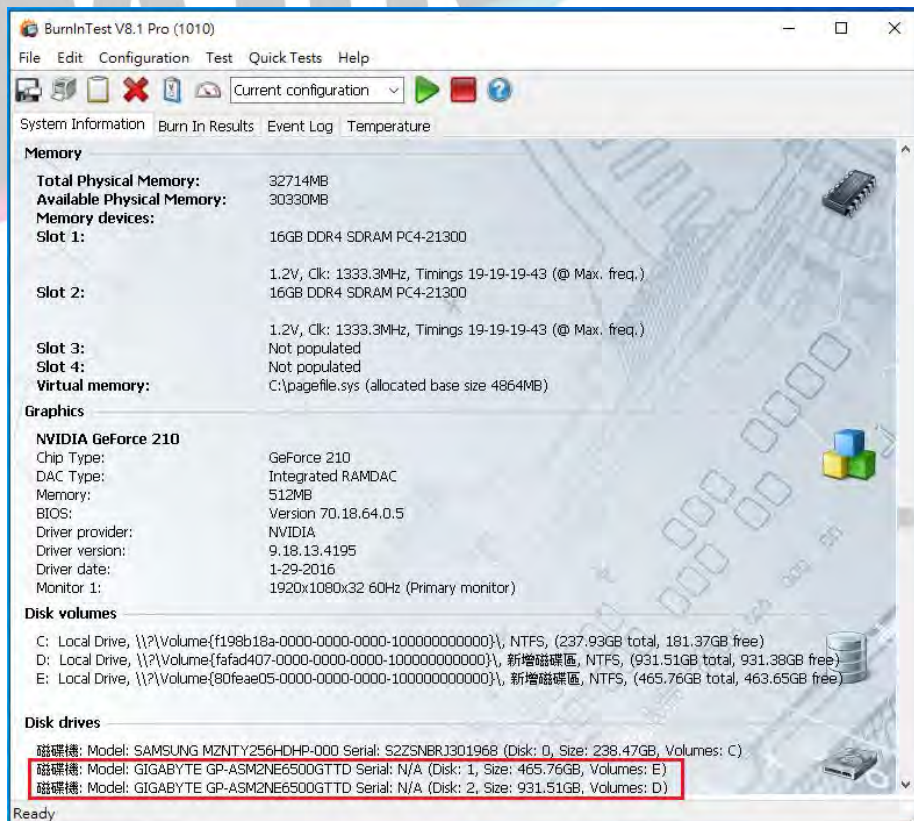
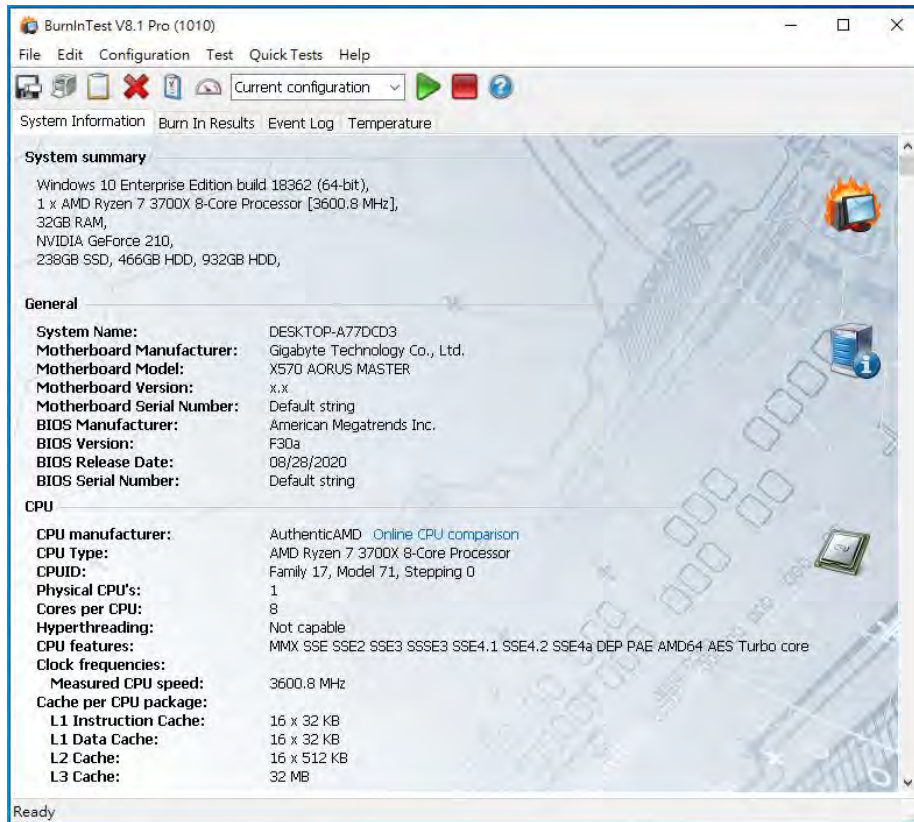


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3. Burn In Tests and Results

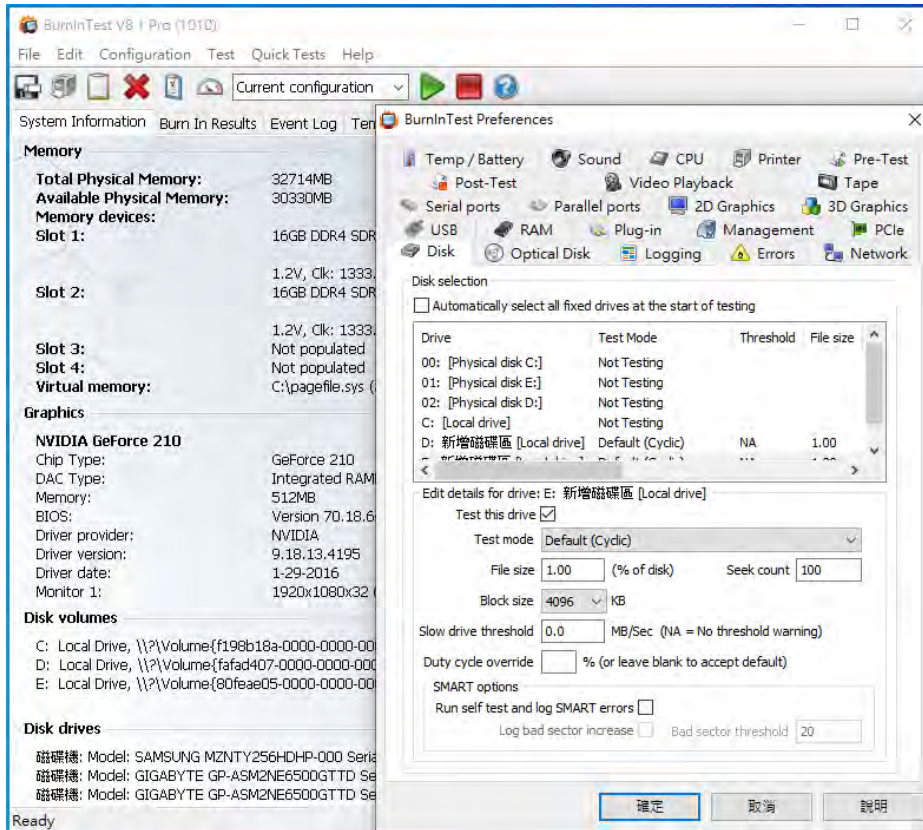
3.1 BurnInTest v8.1 Pro

3.1.1 **system information** as below:

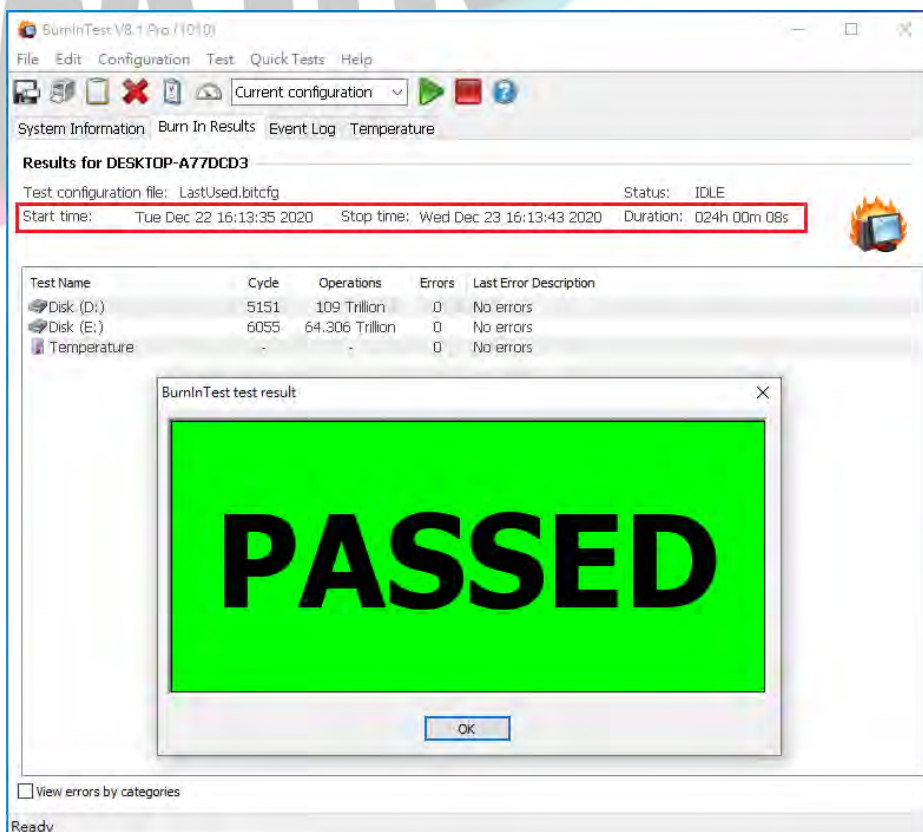


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3.1.2 Disk test mode (10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



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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.

