



MINERVA

U.2 Male to U.2 Female for PCIe 4.0, 16GT/s adapter

Performance & Burn In Test Rev. 1.0

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4. Summary

GD1406A Converter Card

1. Overview

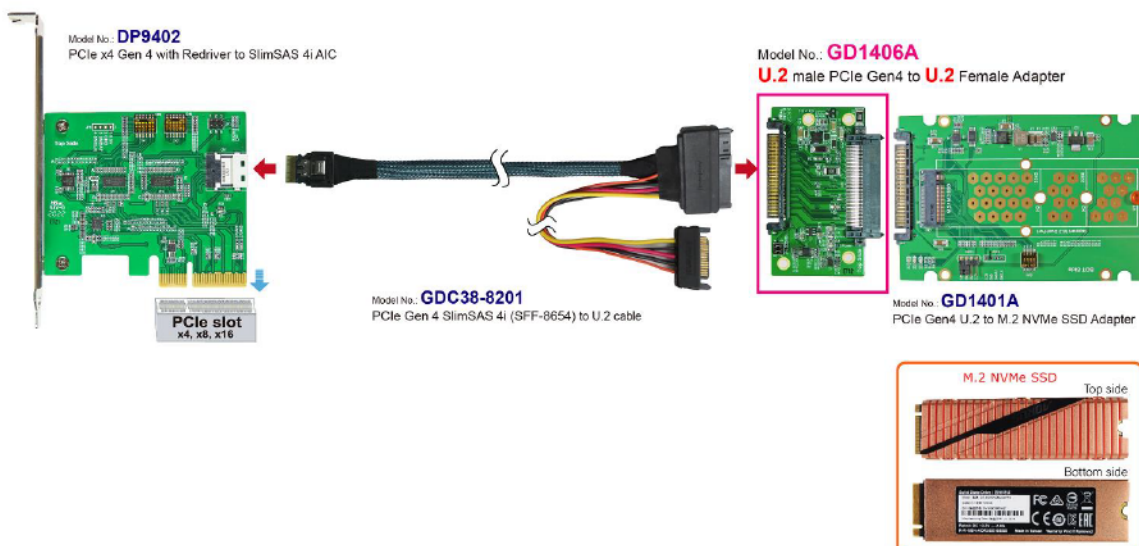
The GD1406A adapter supports PCIe Gen 4, 16GT/s high-speed transmission, and provides U.2 Male to U.2 Female conversion.

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 to SlimSAS 4i Add-In Card
Adapter: GD1406A U.2 Male to U.2 Female Adapter
Adapter: GD1401A U.2 to M.2 NVMe Storage Adapter
Cable: SFF-8654 4i to U.2(SFF-8639) Cable
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: GD1406A adapter, GD1401A adapter and **M.2 NVMe 500GB SSD**



GD1406A Converter Card

2.3 Install Hardware

Inserts GD1401A adapter(with M.2 NVMe SSD) into GD1406A converter's U.2 female connector. Connects GD1406A to DP9402 AIC(PCIe x4 Gen 4 to SlimSAS 4i), then using SFF-8654 to U.2(SFF-8639) cable, plugs DP9402 adapter into **PCIe slot of 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.

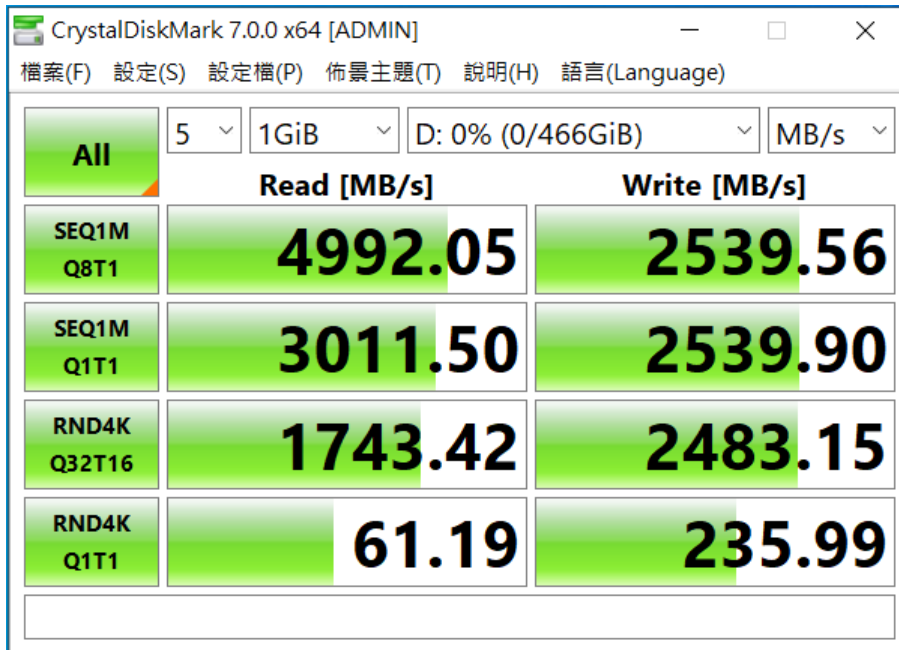


GD1406A Converter Card

2.5 CrystalDiskMark 7.0.0 x64 performance test

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

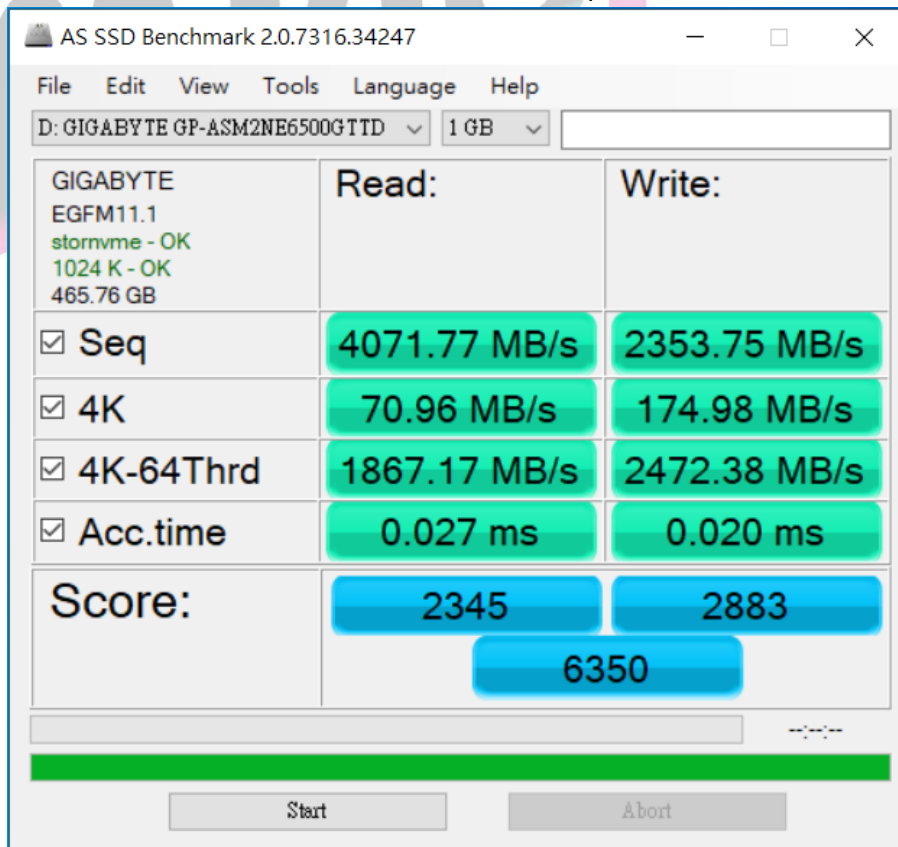
2.5.1 GIGABYTE M.2 PCIe Gen 4 NVMe/ 500GB performance as below:



2.6 AS SSD Benchmark 2.0.7 performance test

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

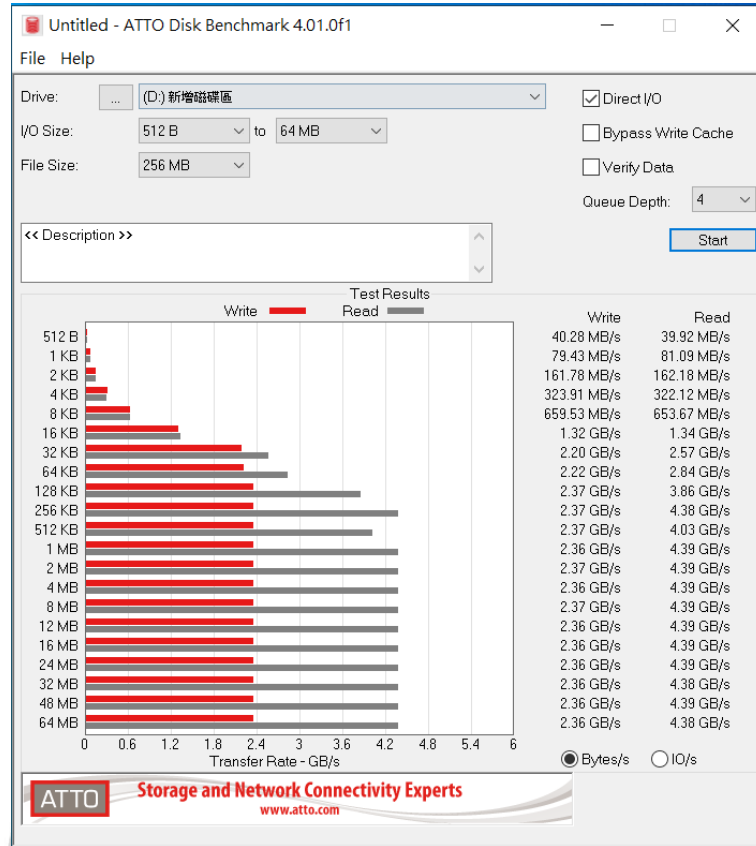
2.6.1 GIGABYTE M.2 PCIe Gen 4 NVMe/ 500GB performance as below:



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2.7 ATTO Disk Benchamrk 4.0.1 performance test

2.7.1 GIGABYTE M.2 PCIe Gen 4 NVMe/ 500GB performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 GIGABYTE M.2 PCIe Gen 4 NVMe/ 500GB performance as below:

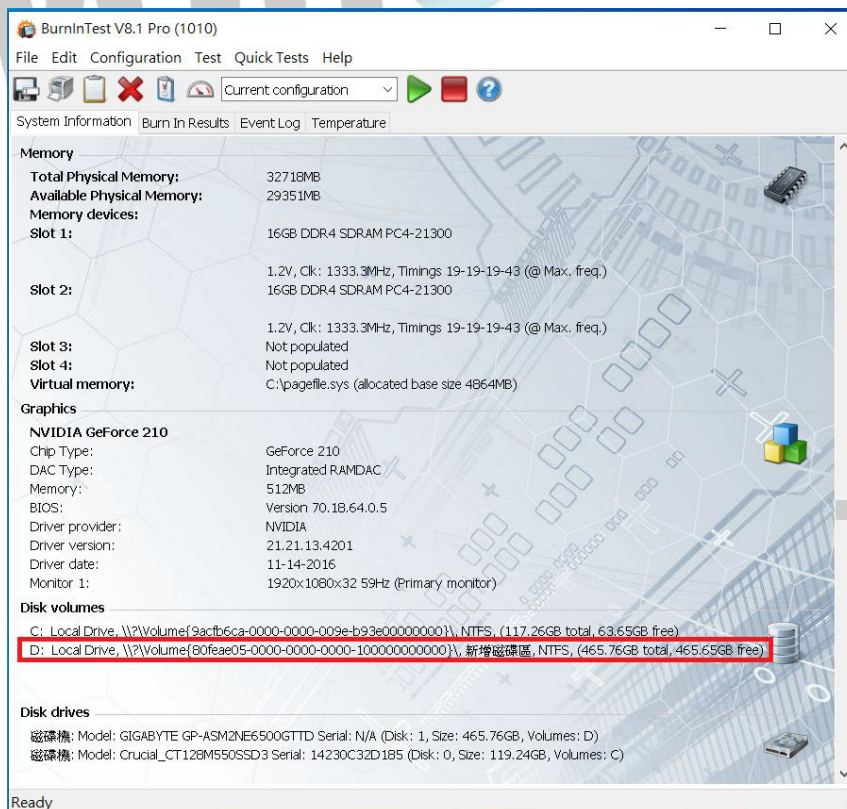
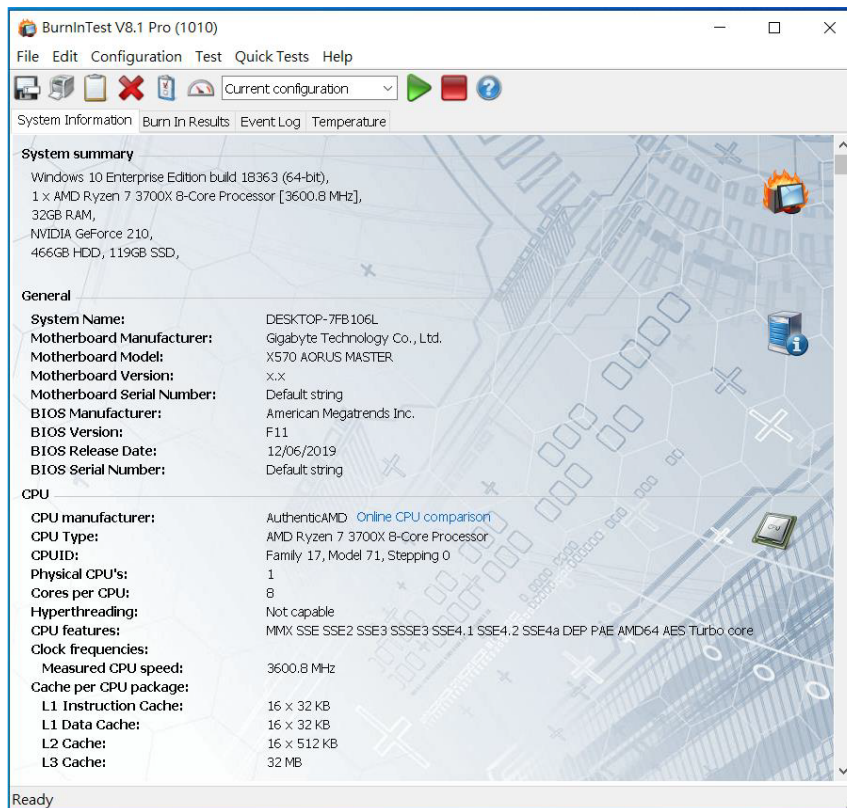


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3. Burn In Tests and Results

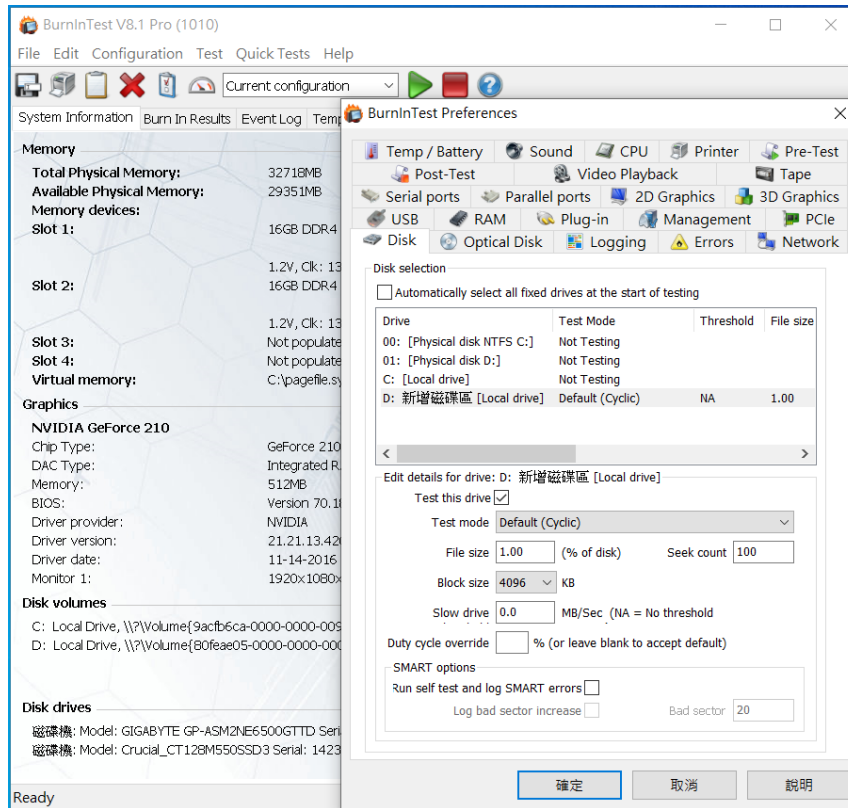
3.1 BurnInTest v8.1 Pro for GIGABYTE M.2 Gen4(GP-ASM2NE6100TTD)/ 500GB SSD

3.1.1 system information as below:

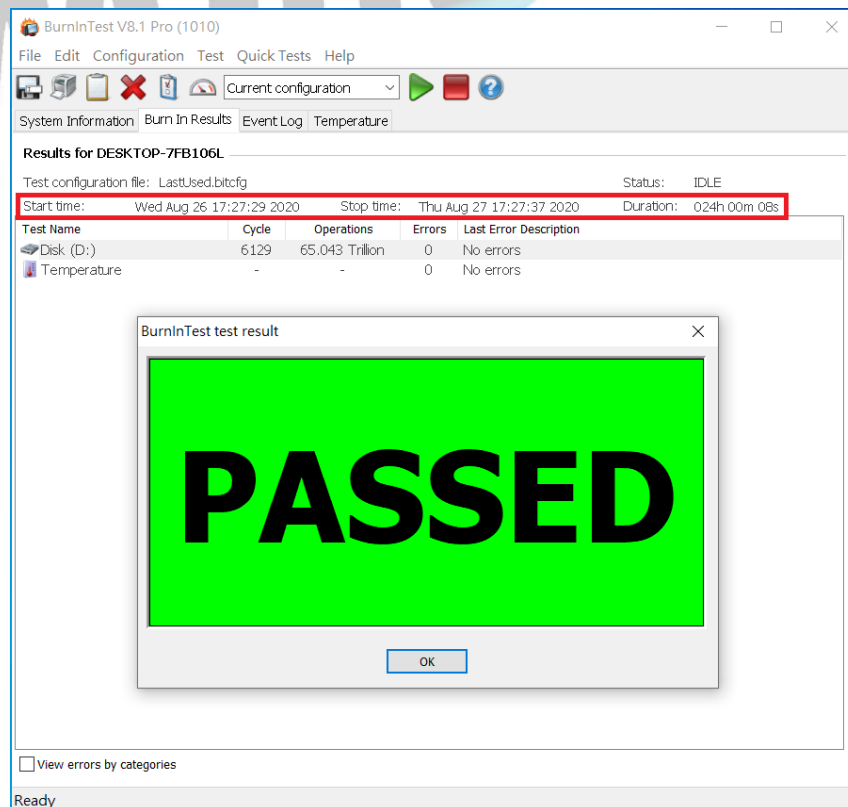


GD1406A Converter Card

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 SSD is PCIe Gen 4 / 4 Lanes Interface, I/O speed, max. to 64Gbps.
- 4.2 GD1406A adapter I/O performance is based on M.2 NVMe PCIe Gen 4 / 4 Lanes SSD.

