MINERVA

U.3 Male to U.3 Female for PCIe 4.0, 16GT/s adapter

Performance & Burn In Test Rev. 1. 0

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1. Overview

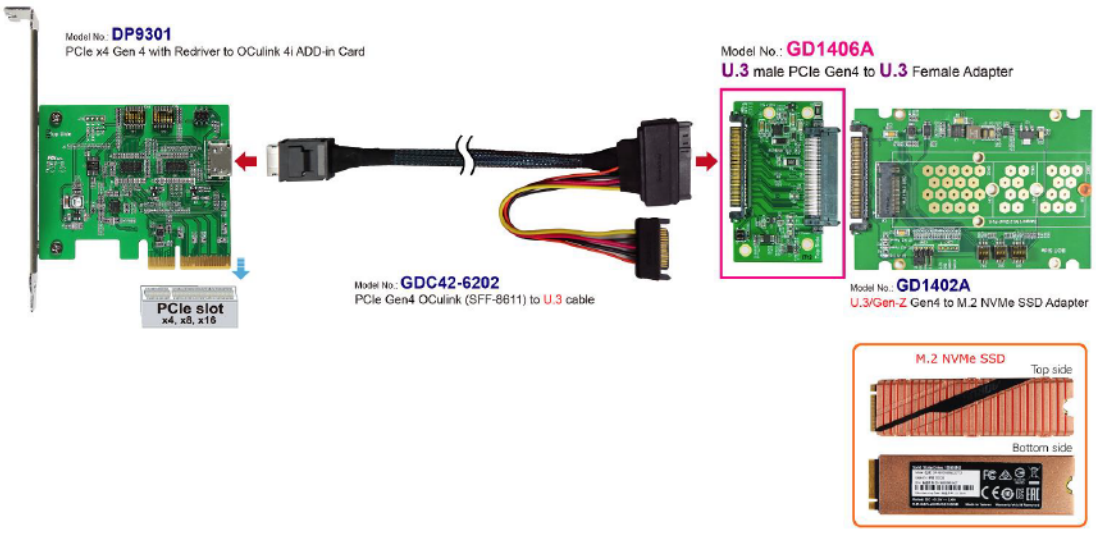
The GD1406A adapter supports PCIe Gen 4, 16GT/s high-speed transmission, and provides U.3 Male to U.3 Female conversion.

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:	DP9401 PCIe x4 to OCulink 4i Add-In Card
Adapter:	GD1406A U.3 Male to U.3 Female Adapter
Adapter:	GD1402A U.3 to M.2 NVMe Storage Adapter
Cable:	SFF-8612 4i to U.3(SFF-8639) Cable
OS :	Microsoft **Windows 10 64bit OS**

2.2 Test target: GD1406A adapter, GD1402A adapte and M.2 NVMe **500GB** SSD



2.3 Install Hardware

Inserts GD1402A adapter(with M.2 NVMe SSD) into GD1406A converter's U.3 female connector. Connects GD1406A to DP9301(PCIe x4 Gen 4 to OCulink 4i) AIC, then using SFF-8612 to U.3(SFF-8639) cable, plugs DP9301 adapter into **PCIe slot of** GIGABYTE **X570 AORUS MASTER.**

2.4 BIOS & Windows 10 OS environment setup

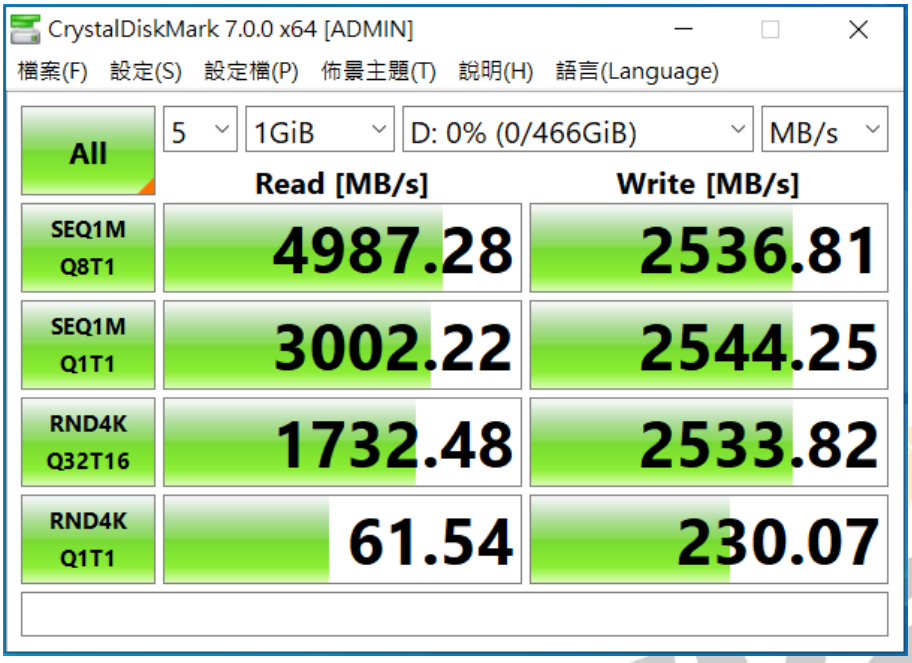
2.4.1 Primary SATA SSD installed Windows 10 OS.

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

2.5 CrystalDiskMark 7.0.0 x64 performance test

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

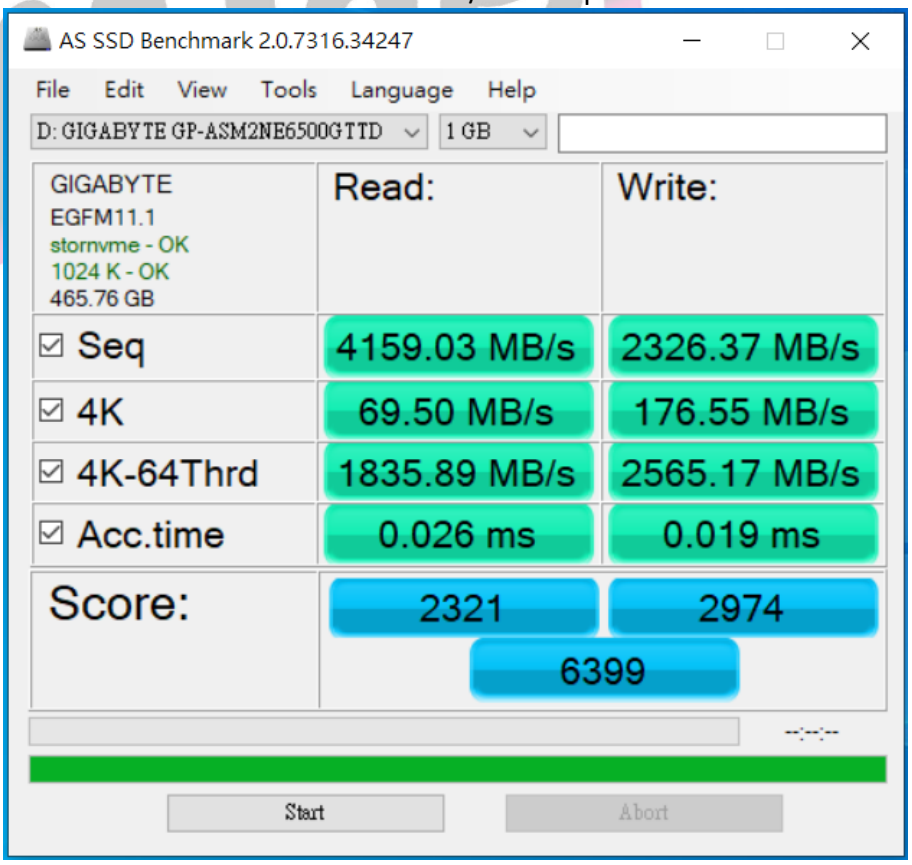
2.5.1 GIGABYTE **M.2 PCIe Gen 4 NVMe**/ **500GB** performance as below:



2.6 AS SSD Benchmark 2.0.7 performance test

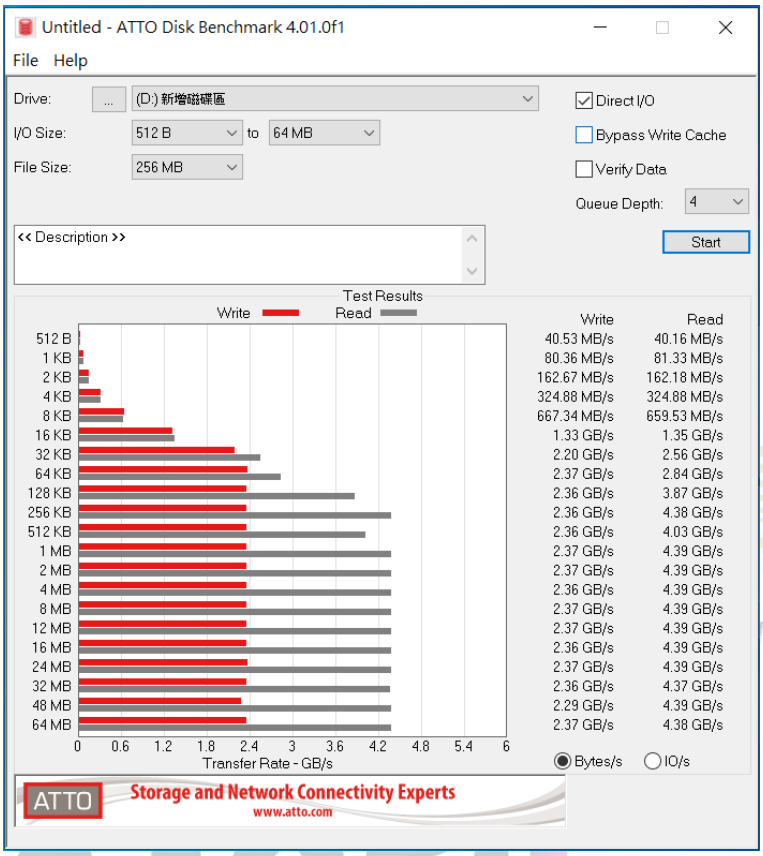
※ Benchmark (Read & Write by MB/s, default block size = 16MB)

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



2.7 ATTO Disk Benchamrk 4.0.1 performance test

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



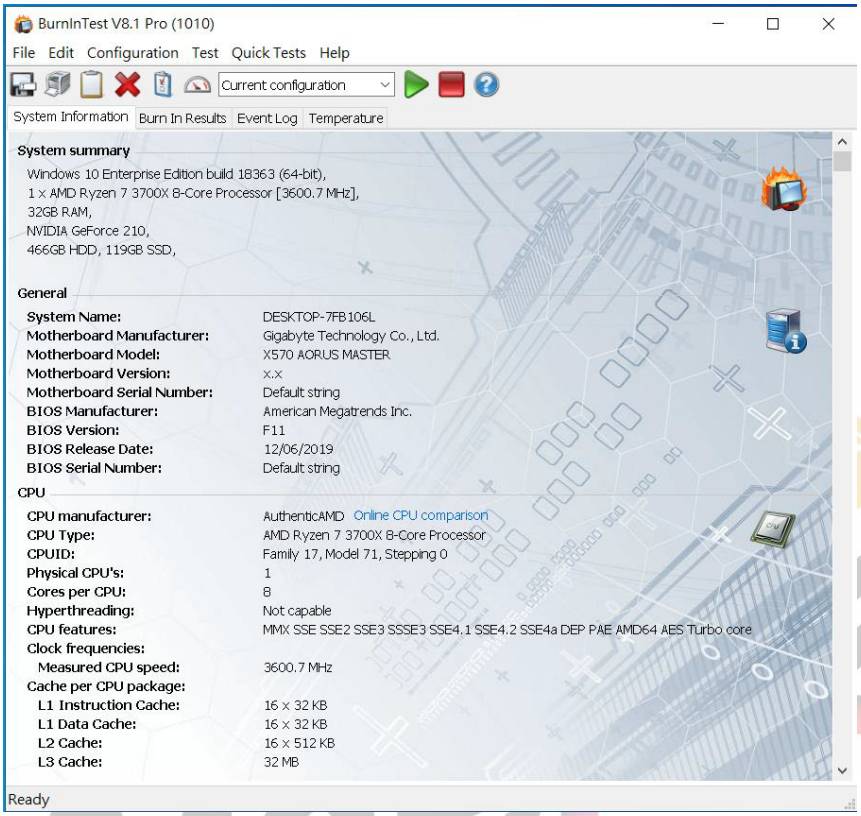
2.8 AnvilBenchmark_V110_B337

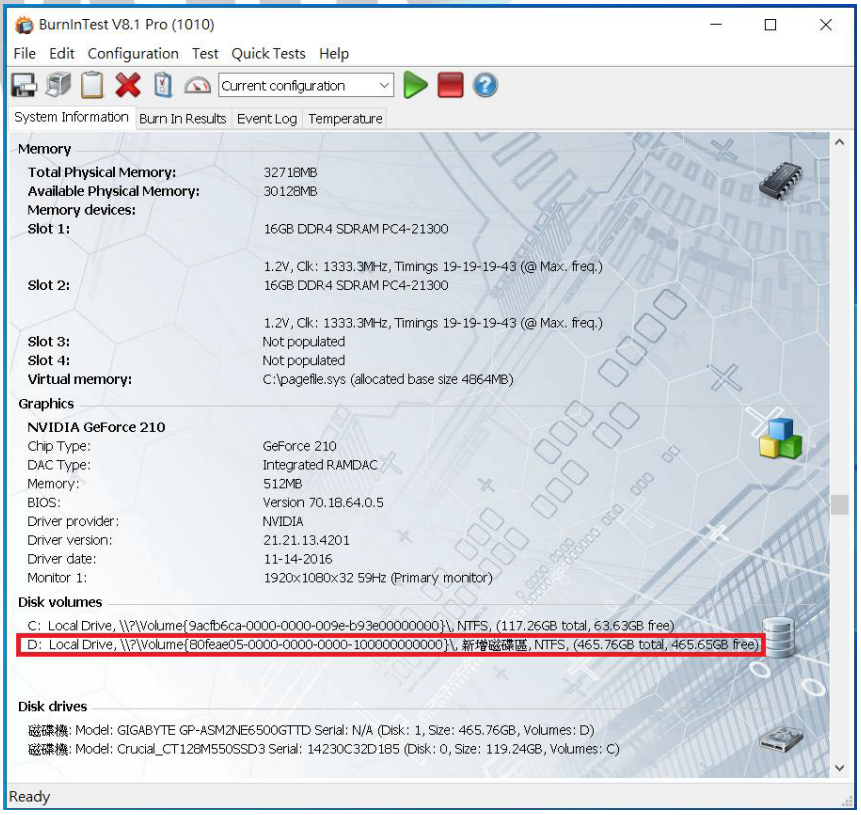
2.8.1 GIGABYTE **M.2 PCIe Gen 4 NVMe**/ **500GB** performance as below:

3. Burn In Tests and Results

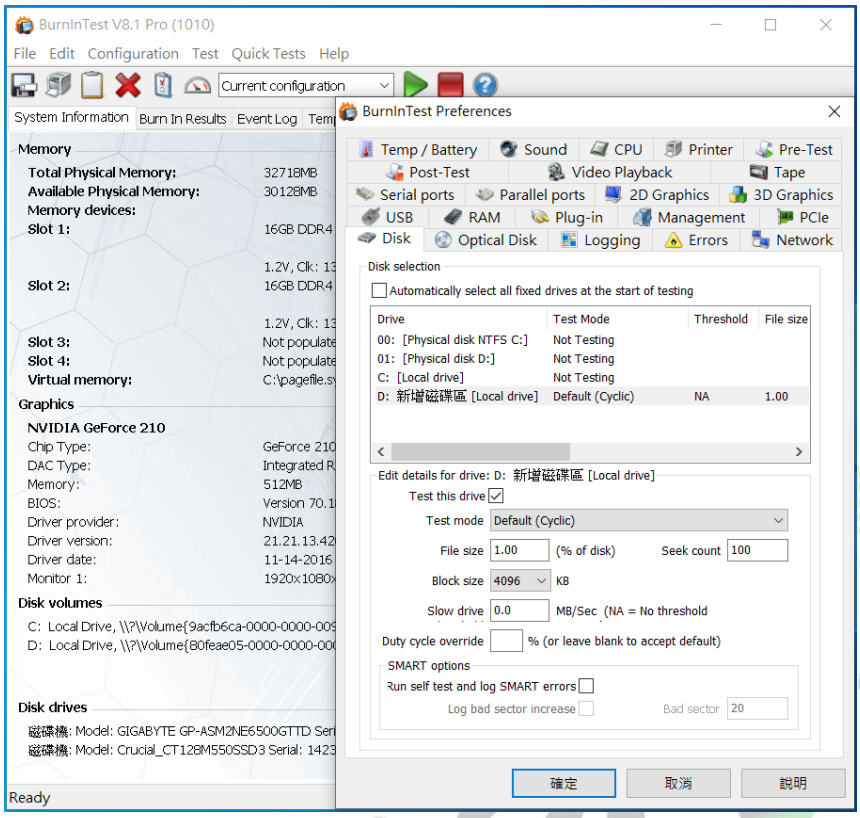
3.1 BurnInTest v8.1 Pro for GIGABYTE M.2 Gen4(GP-ASM2NE6100TTTD)/ 500GB SSD

3.1.1 system information as below:

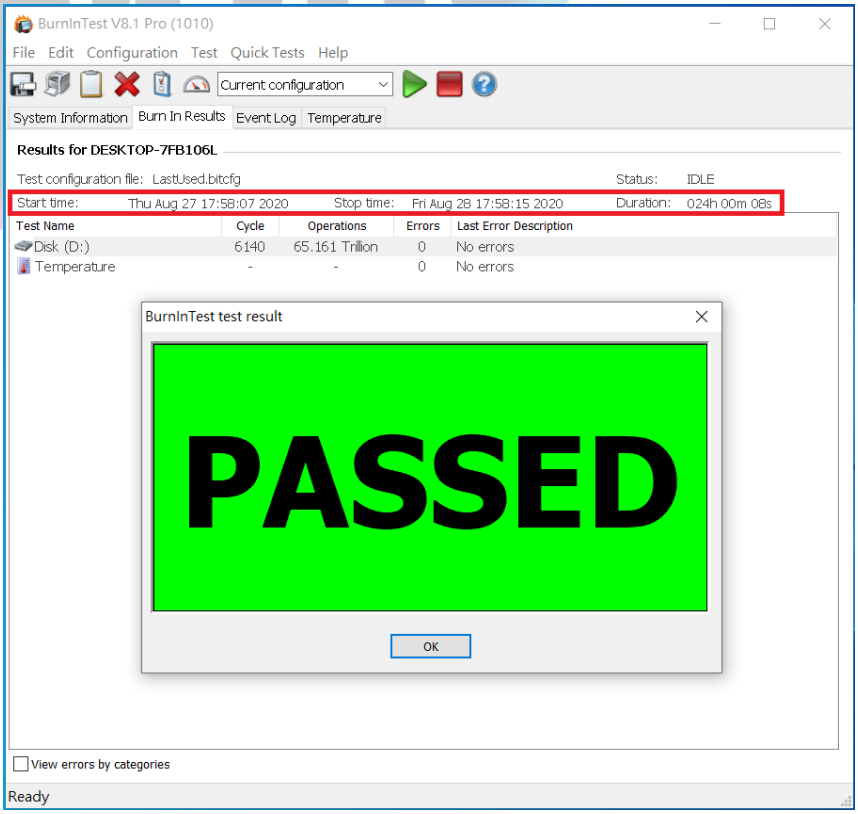




3.1.2 Disk test mode(10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



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.