



# MINERVA

GD1401A U.2 PCIe 4.0 for M.2 NVMe SSD Adapter

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## Performance & Burn In Test Rev. 1. 0

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# GD1401A Converter Card

## 1. Overview

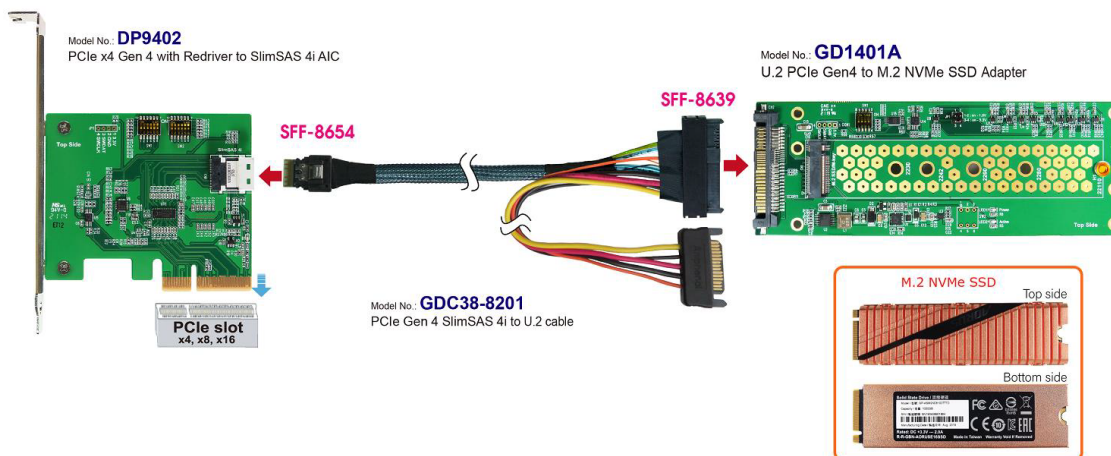
GD1401A Adapter, providing M.2 M-key connector can be M.2 NVMe SSD converted into U.2 PCIe Gen 4 16GT/s 4 Lanes interface.

## 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: PD9402Rev1.1 PCIe x4 Gen 4 with Redriver to SlimSAS 4i ADD-in Card
- Adapter: GD1401A U.2 PCIe Gen 4 to M.2 NVMe SSD 2.5" Adapter
- Cable: SFF-8654 to U.2(SFF-8639) PCIe Gen 4 Cable, **50cm**
- OS : Microsoft **Windows 10 64bit OS**

### 2.2 Test target: GD1401A Adapter, PD9402Rev1.1 AIC & **Gigabyte 1TB NVMe SSD**



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### 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 PD9402 adapter(PCIe x4 Gen 4 with Redriver to OCulink 4i ADD-in Card), Using SFF-8611 4i to U.2(SFF-8639) cable and plugs PD9301 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.

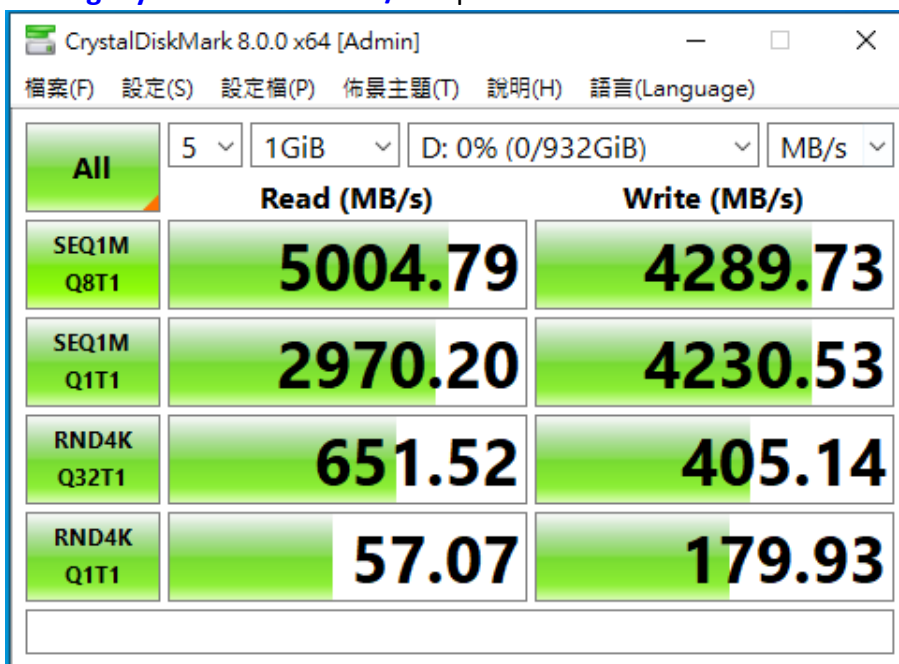


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## 2.5 CrystalDiskMark 8.0 x64 performance test

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

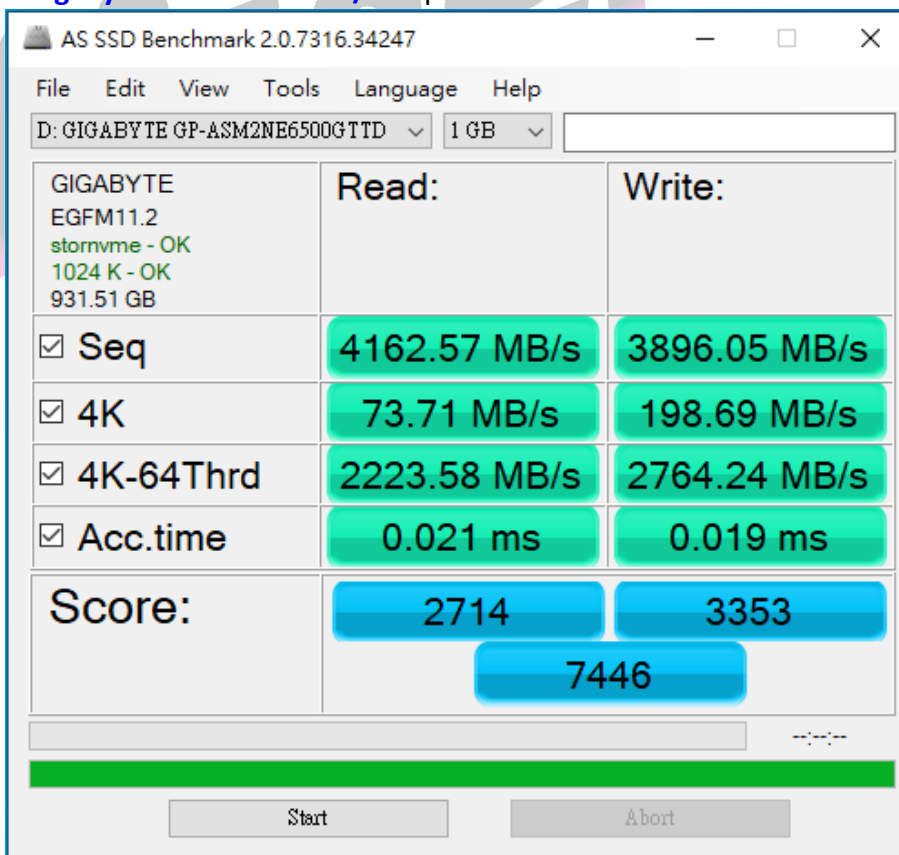
2.5.1 Gigabyte M.2 NVMe SSD/1TB performance as below:



## 2.6 AS SSD Benchmark 2.0.7 performance test

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

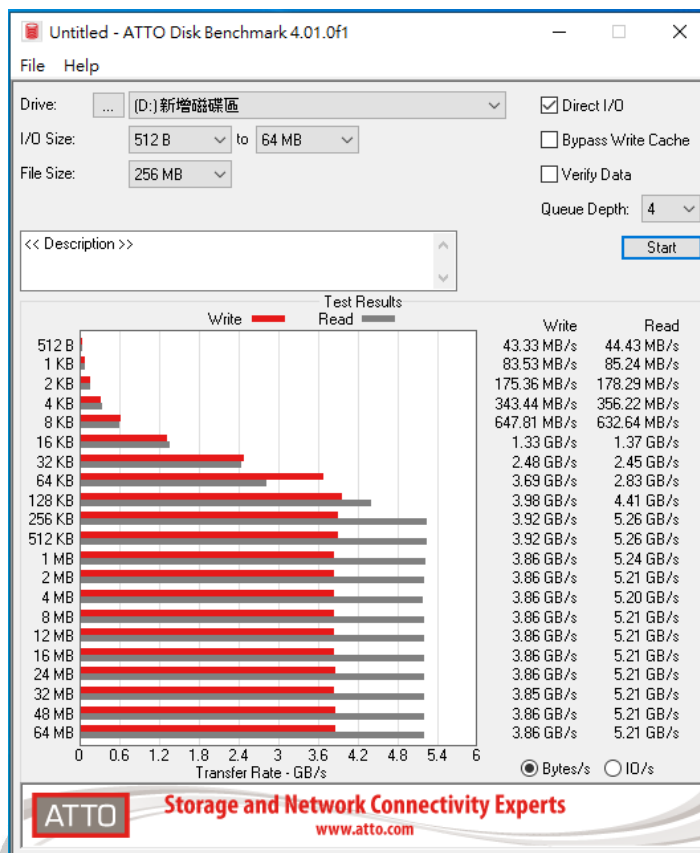
2.6.1 Gigabyte M.2 NVMe SSD/1TB performance as below:



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## 2.7 ATTO Disk Benchmark 4.01 performance test

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



## 2.8 AnvilBenchmark\_V110\_B337

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

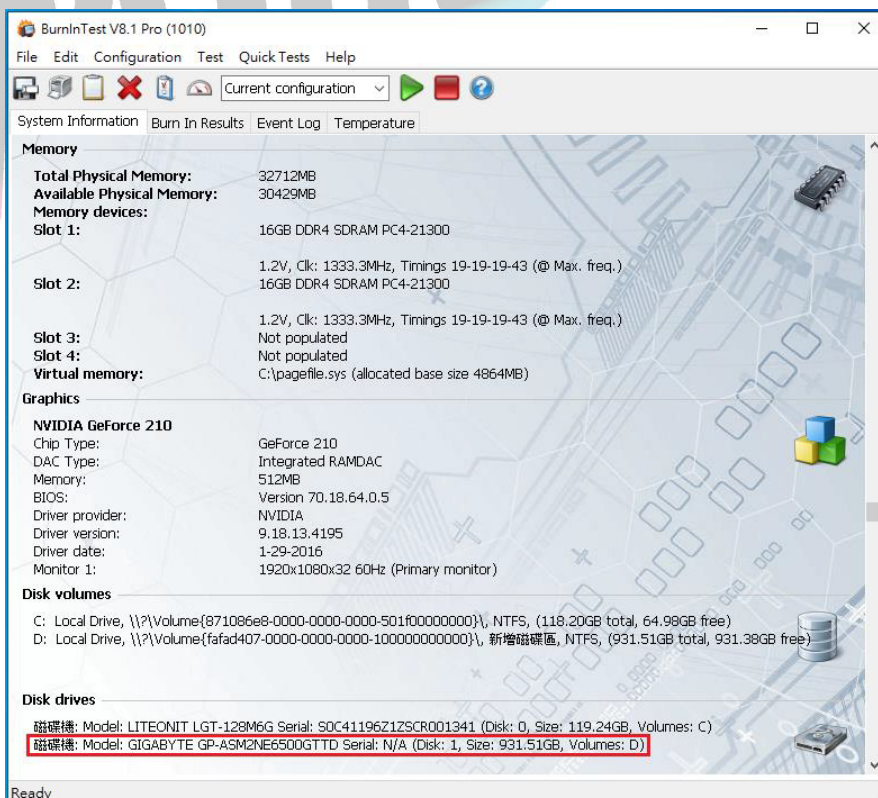
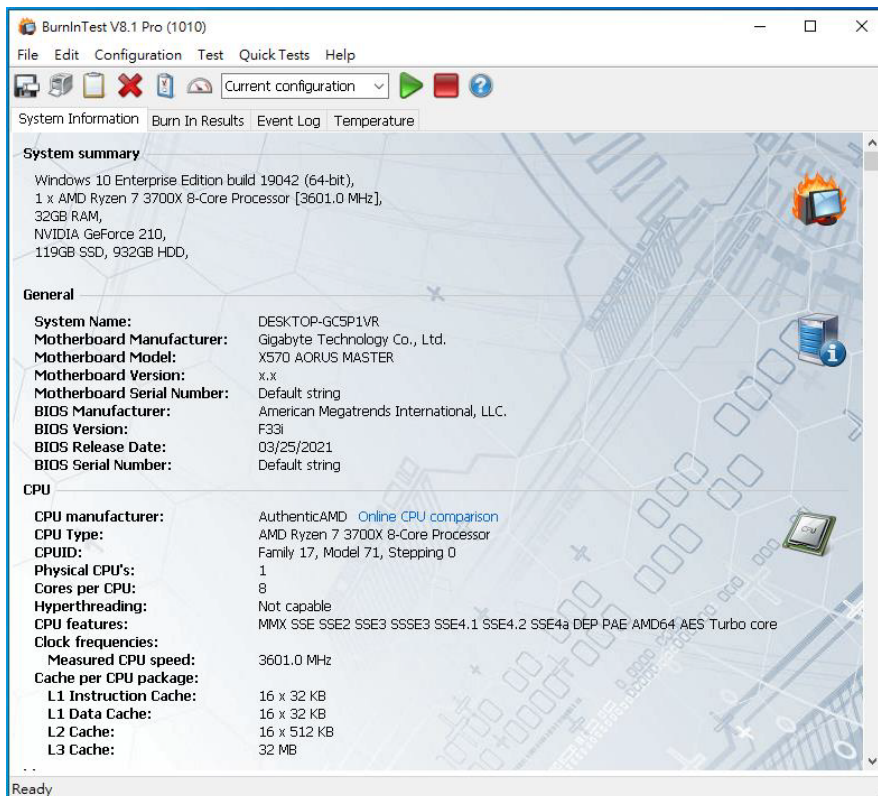


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## 3. Burn In Tests and Results

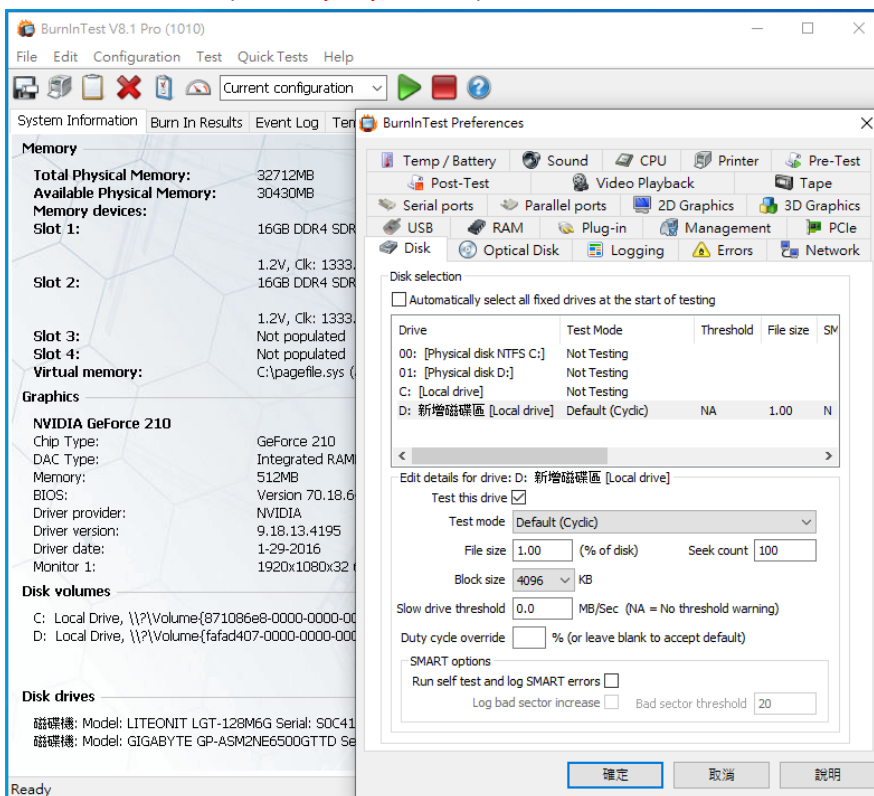
### 3.1 BurnInTest v8.1 Pro for Gigabyte M.2 NVMe SSD/1TB

#### 3.1.1 System Information as below:

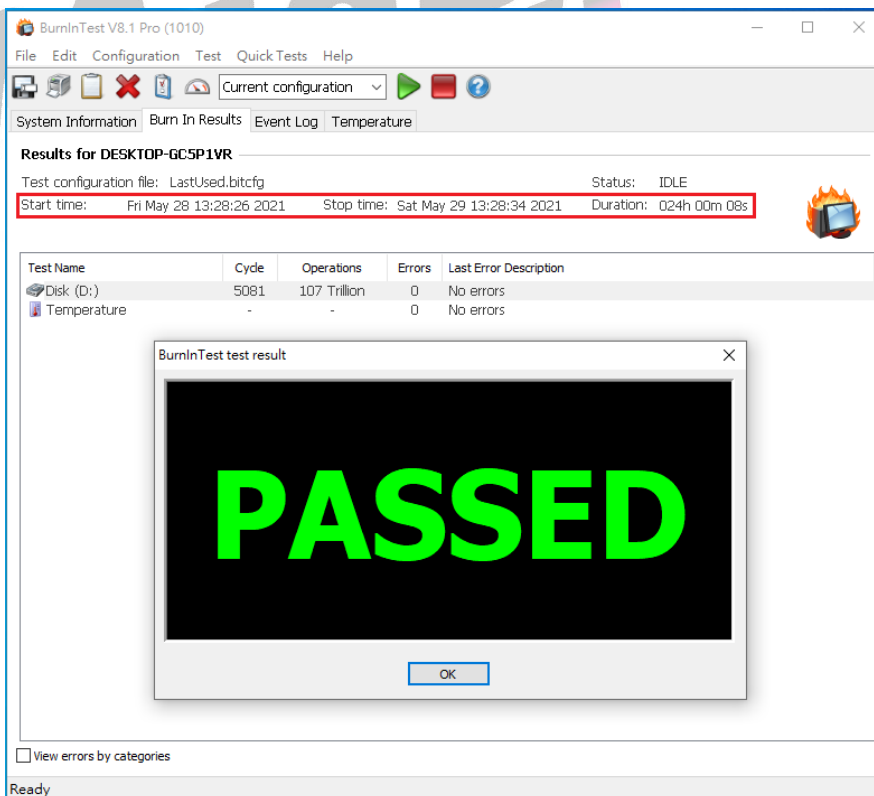


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## 3.1.2 Disk test mode( 10 ways cycle test)



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

