MINERVA

DP6401 M.2 PCIe 4.0 for SlimSAS 4i(SFF-8654) Adapter

Performance & Burn In Test   Rev. 1. 1

## Table of Contents

DP6401　Adapter

1. Overview

This adapter may provide PCIe Gen4, 16GT/s high-speed signal extension to SlimSAS 4i.

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:　　　　DP6401 M.2 PCIe Gen 4 with Redriver to SlimSAS 4i

Adapter:　　GD1401A U.2 PCIe Gen 4 to M.2 NVMe SSD 2.5" Adapter

Cable:　　　SFF-8654 4i PCIe Gen4 to U.2(SFF-8639) Cable

OS :　　　　Microsoft **Windows 10 64bit OS**

2.2 Test target: DP6401 Adapter, GD1401A Adapter and **Samsung 980 PRO 1TB NVMe SSD**
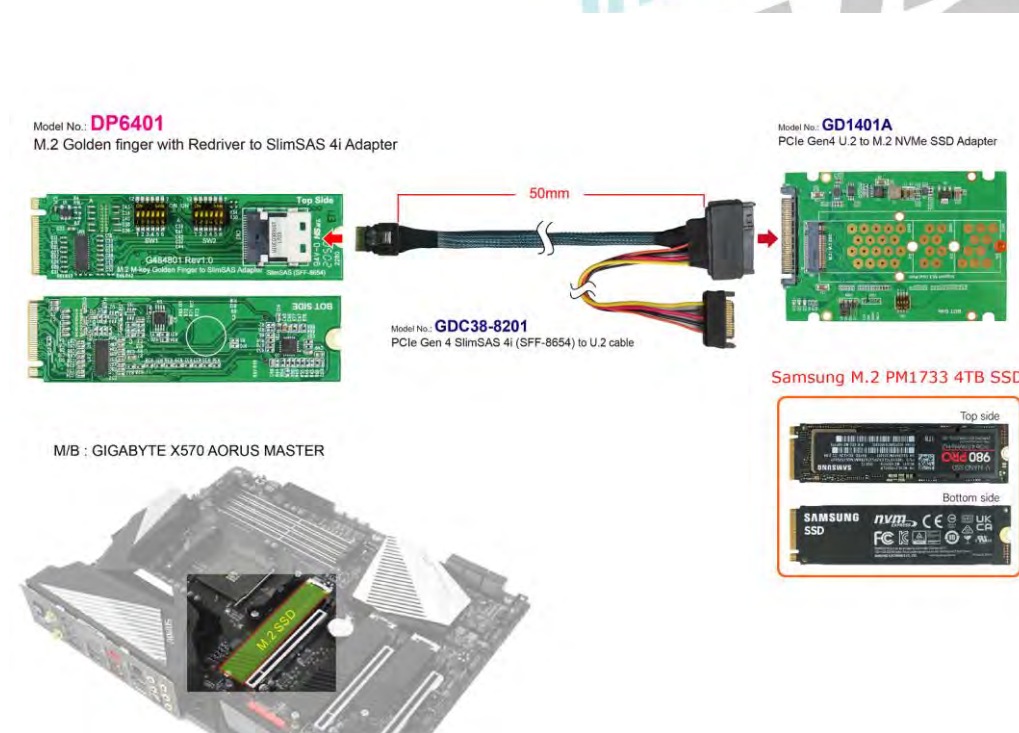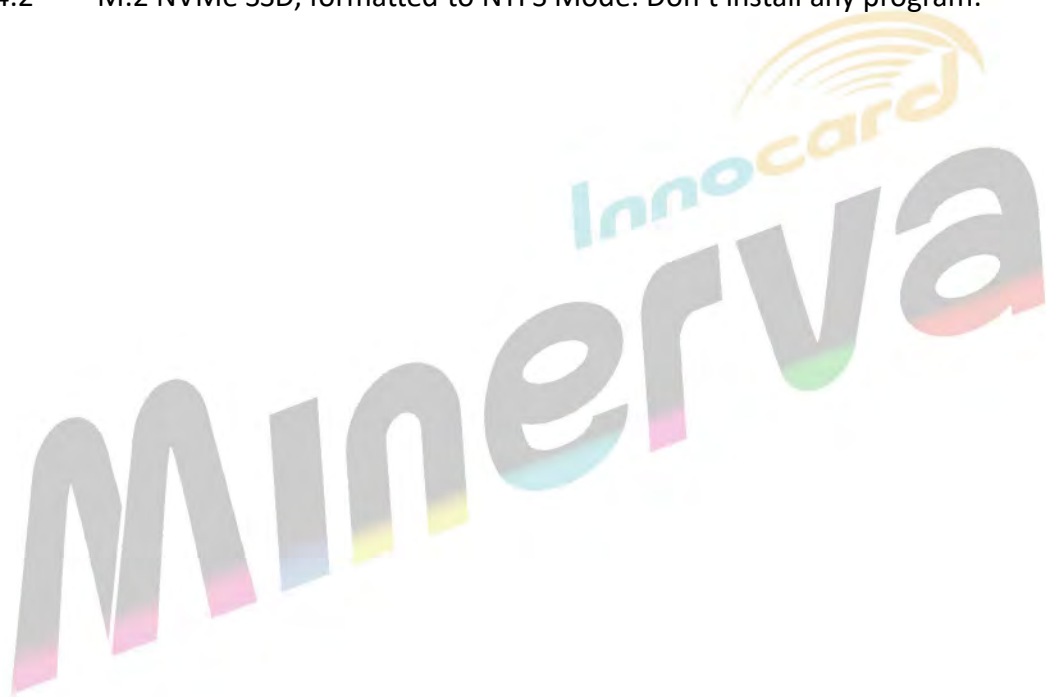
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2.3 Install Hardware

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 DP6401 adapter(M.2 **PCIe Gen4 with Redriver to SlimSAS 4i**), Using SFF-8654 4i to U.2(SFF-8639) cable and plugs DP6401 into M.2 M-key of **GIGABYTE X570 AORUS MASTER**

2.4 BIOS & Windows 10 OS environment setup

2.4.1   Primary SATA SSD installed Windows 10 OS.

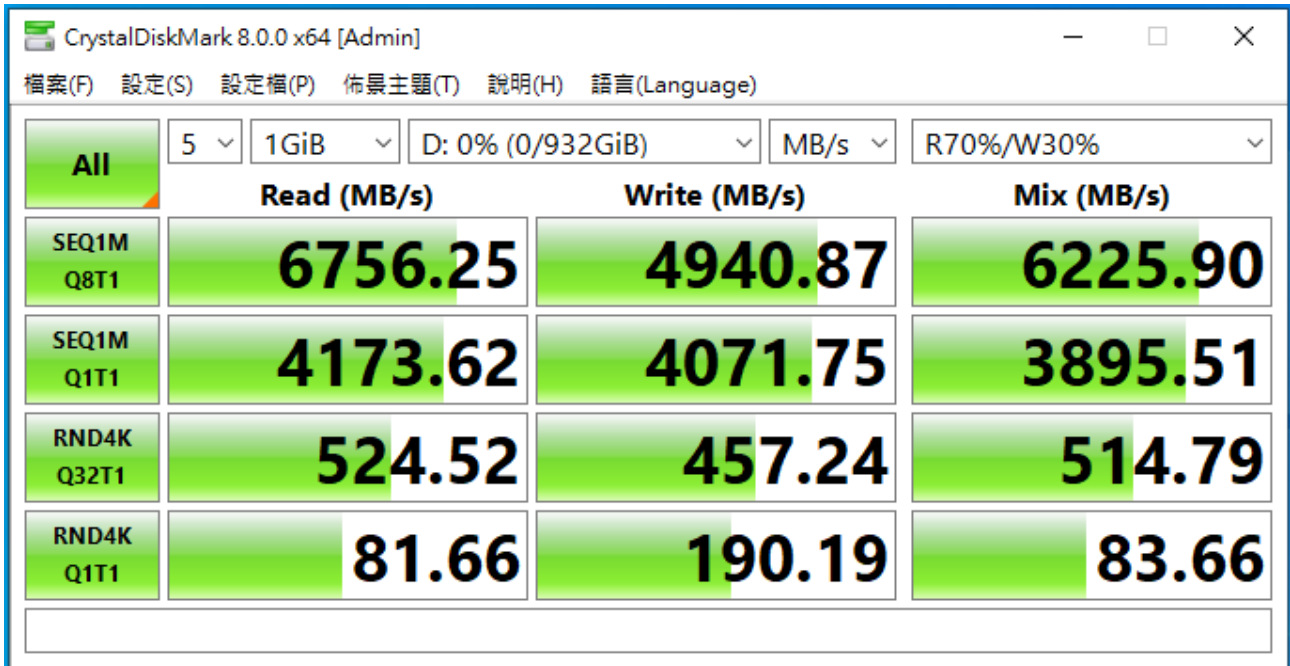2.4.2   M.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.

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2.5 CrystalDiskMark 8.0 x64 performance test
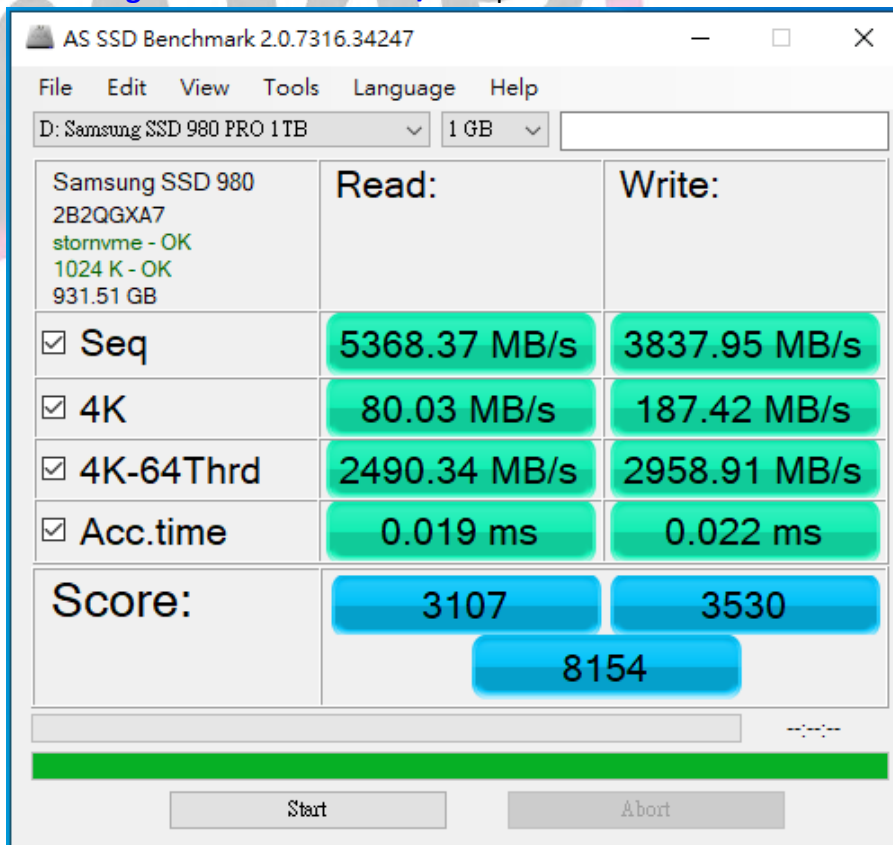　　　　※Benchmark (Sequential Read & Write / default = 1MB)
　　　　2.5.1　**Samsung 980 PRO NVMe SSD / 1TB** performance as below:

2.6 AS SSD Benchmark 2.0.7 performance test
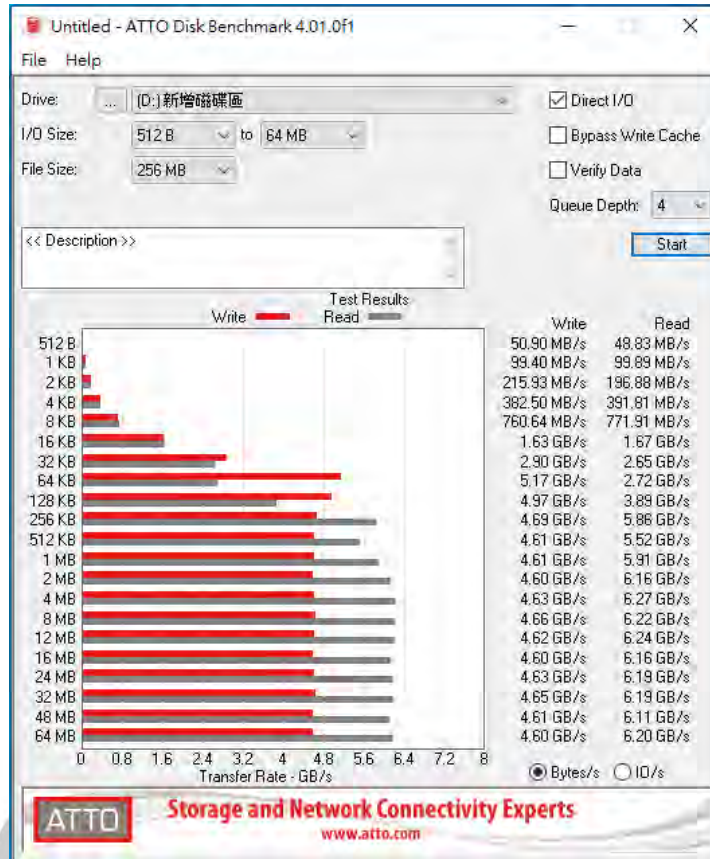　　　　※Benchmark (Read & Write by MB/s, default block size = 16MB)
　　　　2.6.1　**Samsung 980 PRO NVMe SSD / 1TB** performance as below:

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2.7   ATTO Disk Benchamrk 4.01 performance test

   2.7.1   **Samsung 980 PRO NVMe SSD / 1TB** performance as below:

2.8   AnvilBenchmark_V110_B337

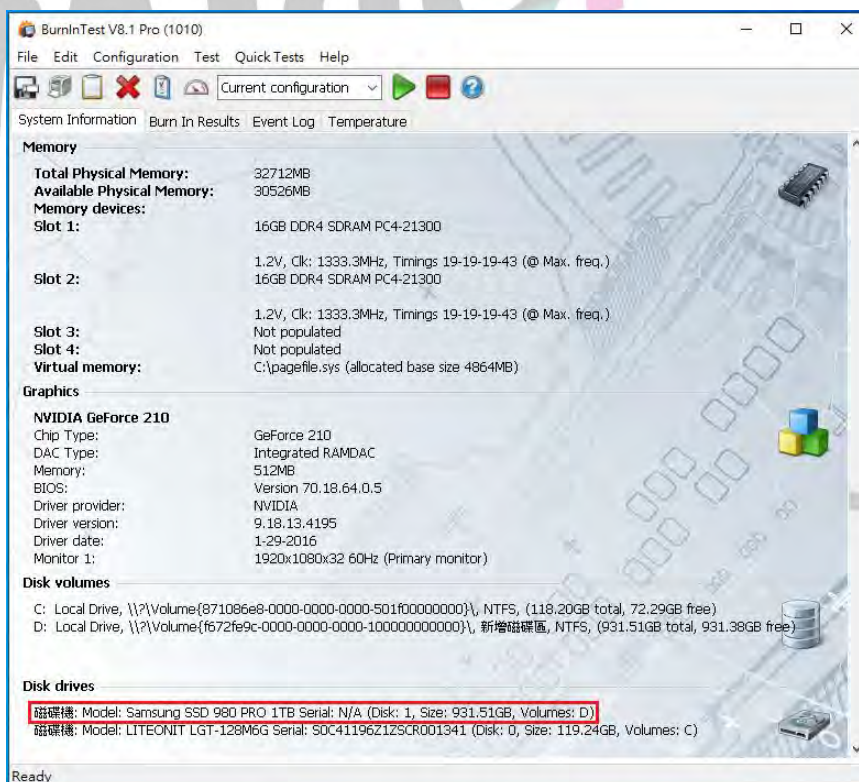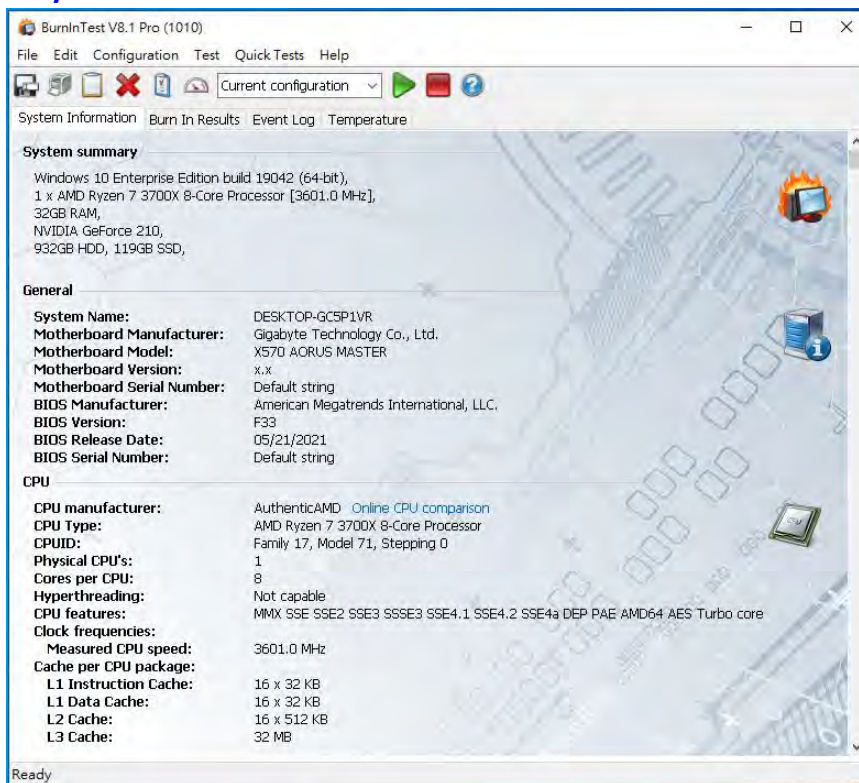   2.8.1   **Samsung 980 PRO NVMe SSD / 1TB** performance as below:
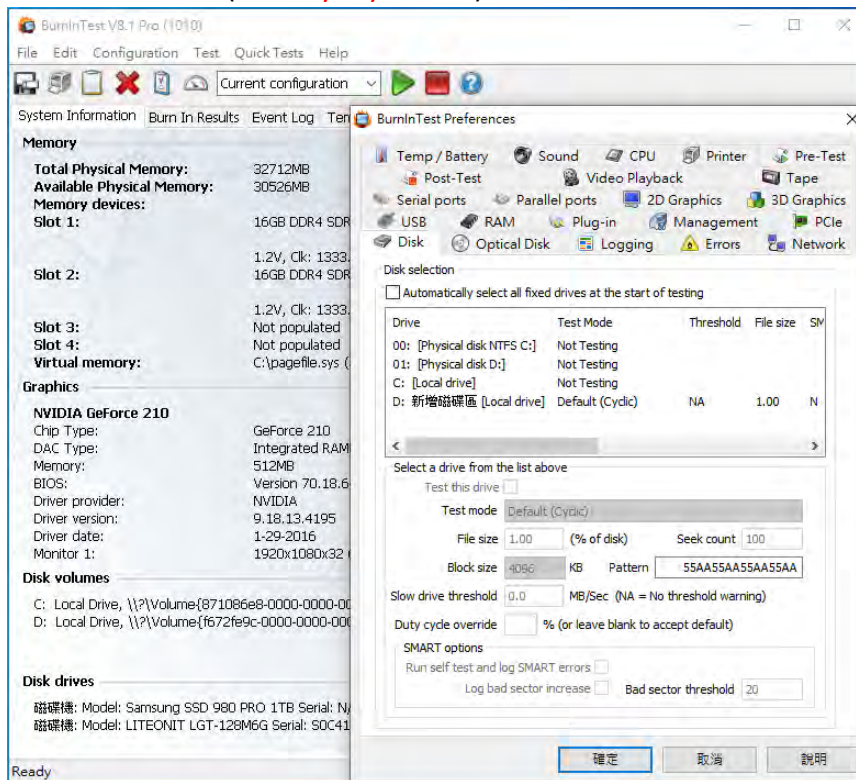
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3. Burn In Tests and Results
3.1   BurnInTest v8.1 Pro for Samsung 980 PRO NVMe SSD / 1TB
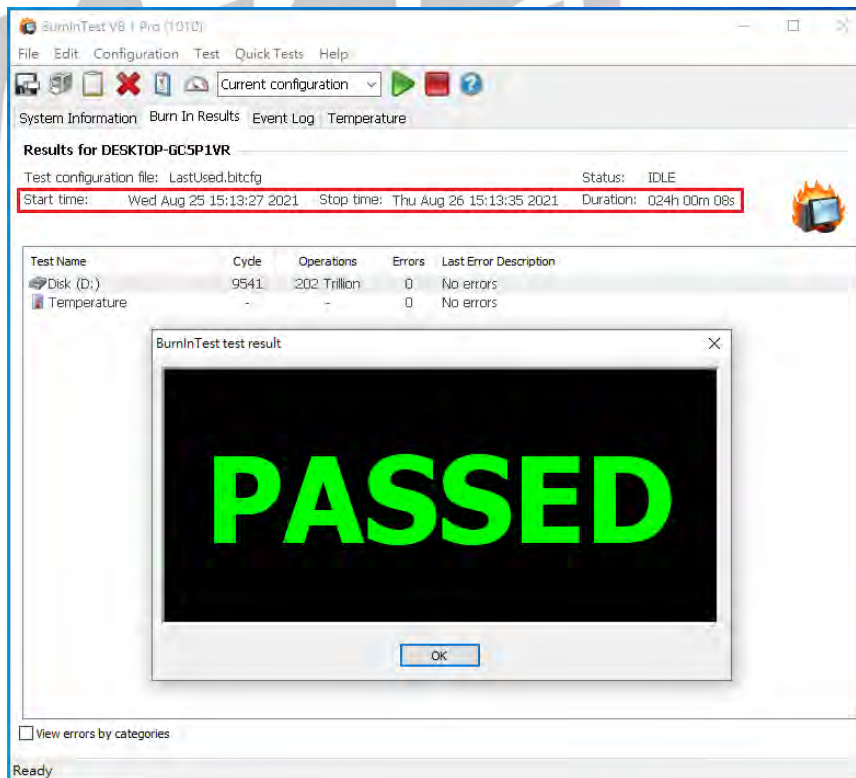#### 3.1.1   System Information as below:

3.1.2 Disk test mode(10 ways cycle test)

3.1.3 24-hour Burn-in test PASSED

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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   DP6401 adapter I/O performance is based on M.2 NVMe SSD.

4.3   GD1401A adapter I/O performance is based on M.2 NVMe SSD.