MINERVA
GD9805A SlimSAS 8i to U.3 Dual port Adapter

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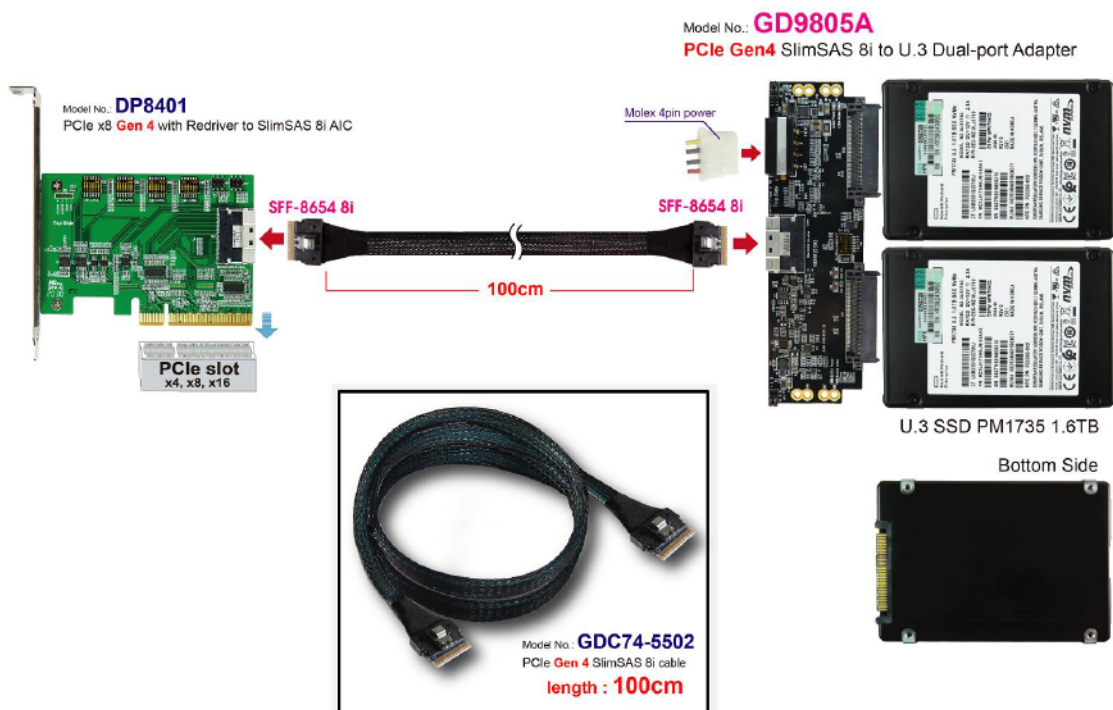# GD9805A Rev1.0 Converter Card

1. Overview

This adapter has built-in SlimSAS(SFF-8654) 8i connector and U.3 connector dual port which can be inserted into two U.2 NVMe SSDs. It is designed for use by supporting PCIe Gen 4 x8, x16 bifurcation AIC and SFF-9402 pinout PCIe Switch RAID Card.

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 Maleto Male, 100cm Cable
Adapter: GD9805A SlimSAS(SFF-8654) 8i to U.3 dual port adapter
OS :   Microsoft **Windows 10 64bit OS**

2.2   Test target: GD9805A & SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB x2

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2.3   Install Hardware

First inserts the U.3 SSD into the GD9805A U.3 connector dual port and connect 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 U.3 NVMe SSDs, formatted to NTFS Mode. Don't install any program.

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CrystalDiskMark 8.0.0 x64 performance test
※ Benchmark (Sequential Read & Write / default = 1MB)

2.5.1   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB in **Drive D:** performance as below:

CrystalDiskMark 8.0.0 x64 [Admin]		
檔案(F) 設定(S) 設定檔(P) 佈景主題(T) 說明(H) 語言(Language)		
All	5	1GiB	E: 0% (0/1490GiB)	MB/s	R70%/W30%		
	Read (MB/s)	**Write (MB/s)**	**Mix (MB/s)**
SEQ1M Q8T1	7456.42	2621.35	3970.39
SEQ1M Q1T1	2776.80	2626.00	2246.35
RND4K Q32T1	553.28	502.66	542.49
RND4K Q1T1	51.64	186.55	64.19

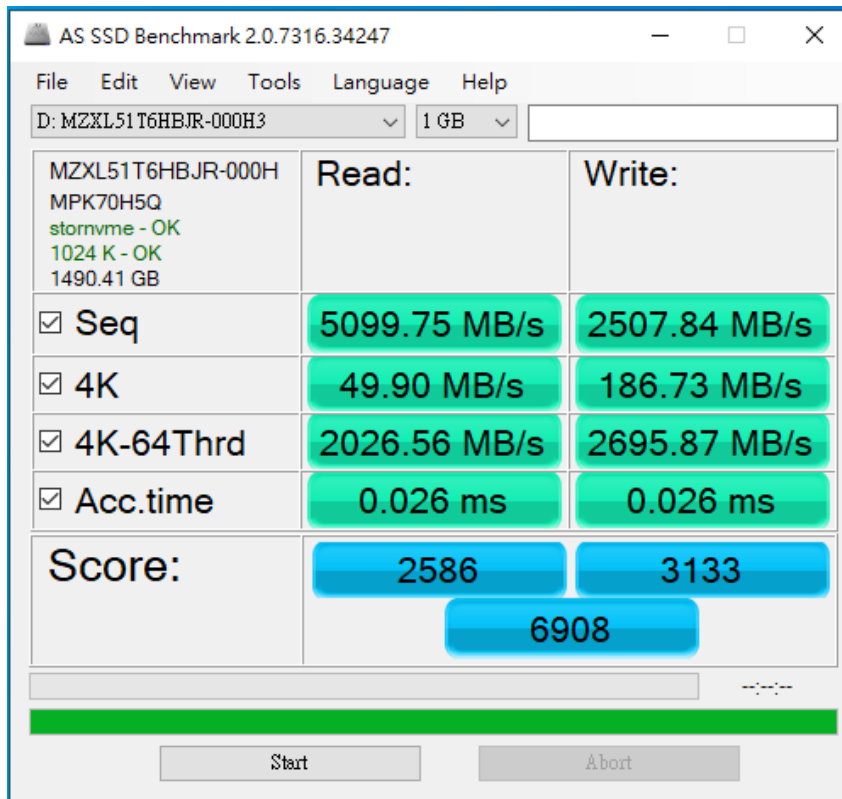2.5.2   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB in **Drive E:** performance as below:

| CrystalDiskMark 8.0.0 x64 [Admin]		
檔案(F) 設定(S) 設定檔(P) 佈景主題(T) 說明(H) 語言(Language)		
All	5	1GiB	E: 0% (0/1490GiB)	MB/s	R70%/W30%		
	Read (MB/s)	**Write (MB/s)**	**Mix (MB/s)**
SEQ1M Q8T1	7459.86	2613.57	3997.45
SEQ1M Q1T1	2726.67	2613.43	2208.72
RND4K Q32T1	553.10	497.76	540.78
RND4K Q1T1	50.96	186.08	65.40

2.6   AS SSD Benchmark 2.0 performance test

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

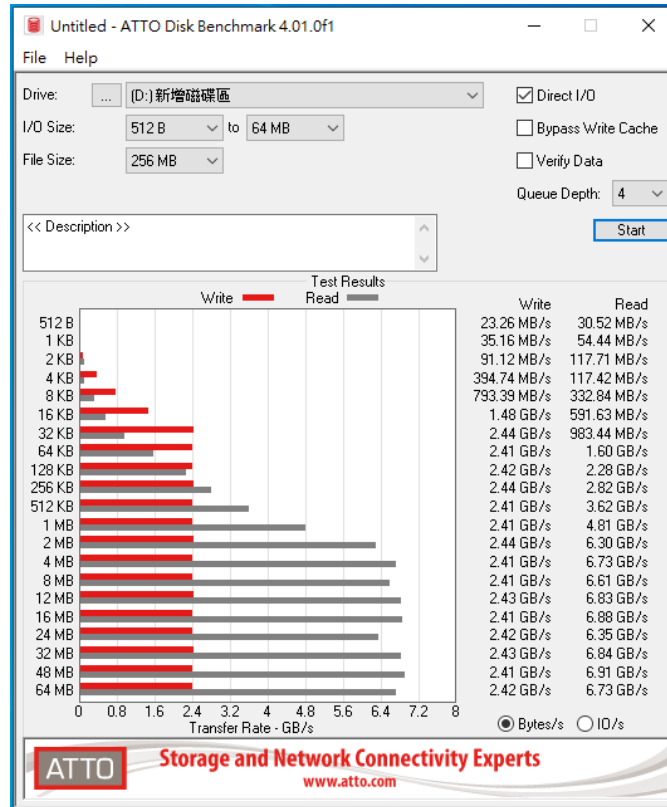2.6.1   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB in **Drive D:** performance as below:

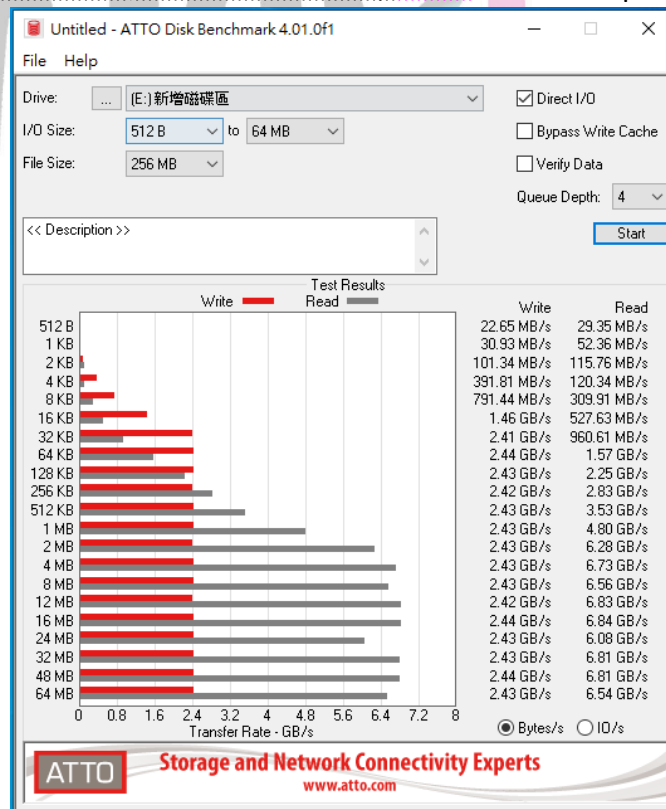2.6.2   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB in **Drive E:** performance as below:
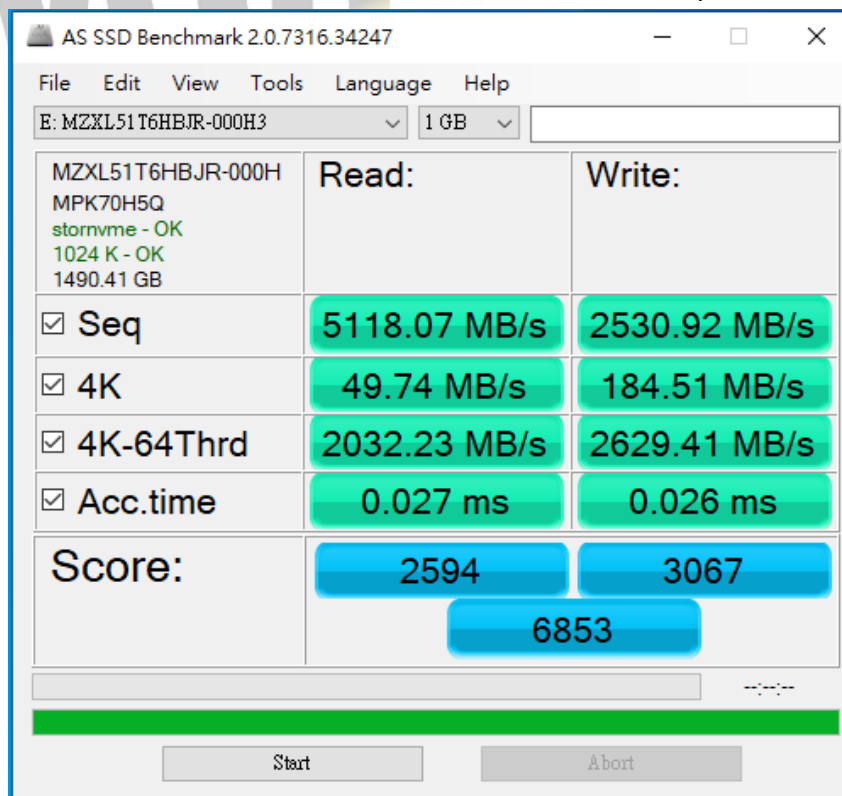
2.7   ATTO Disk Benchamrk 4.01 performance test

2.7.1   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB in **Drive D:** performance as below:

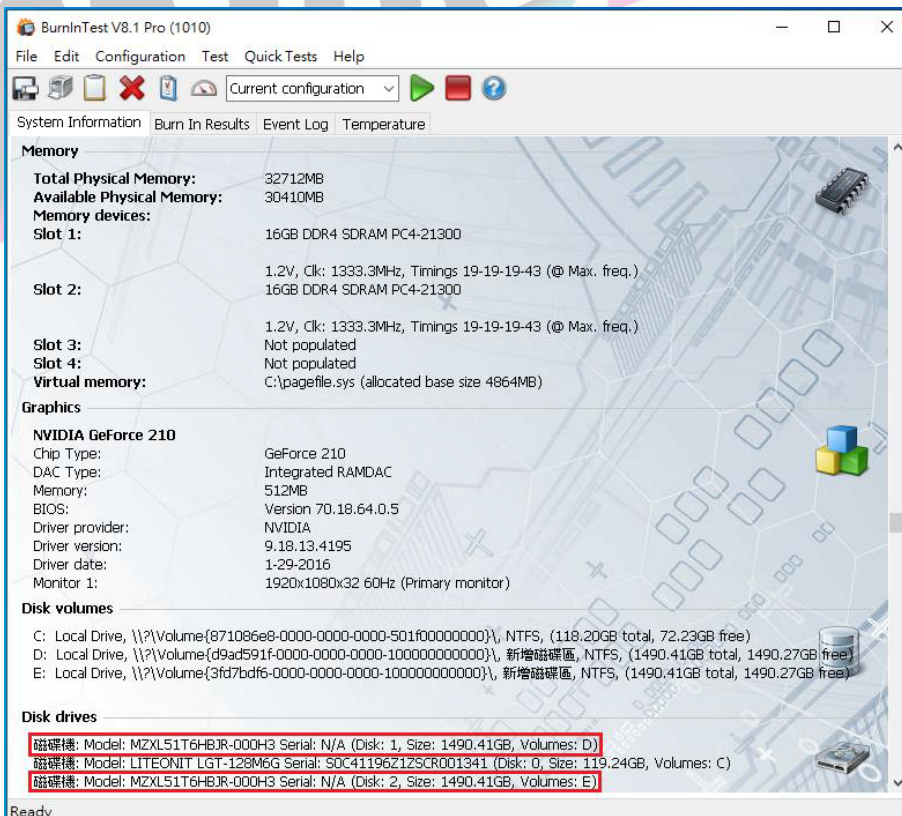2.7.2   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB **in Drive E:** performance as below:

2.8   AnvilBenchmark_V110_B337

2.8.1   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB in **Drive D:** performance as below:

2.8.2   SAMSUNG PM1735 U.3 NVMe SSD/ 1.6TB in **Drive E:** performance as below:
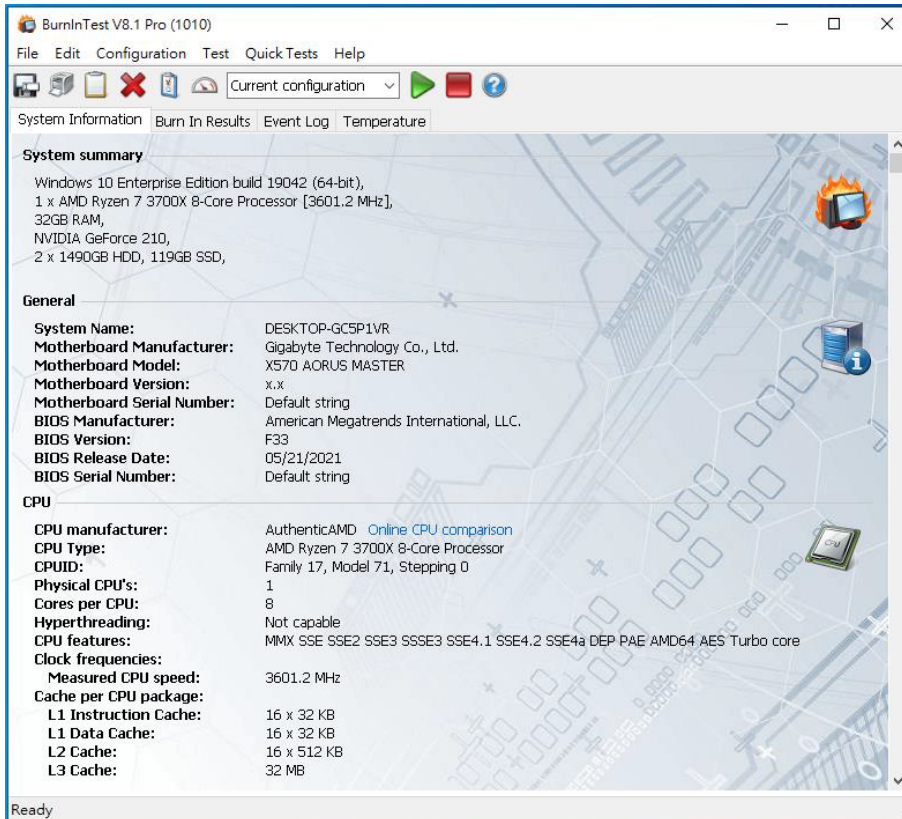
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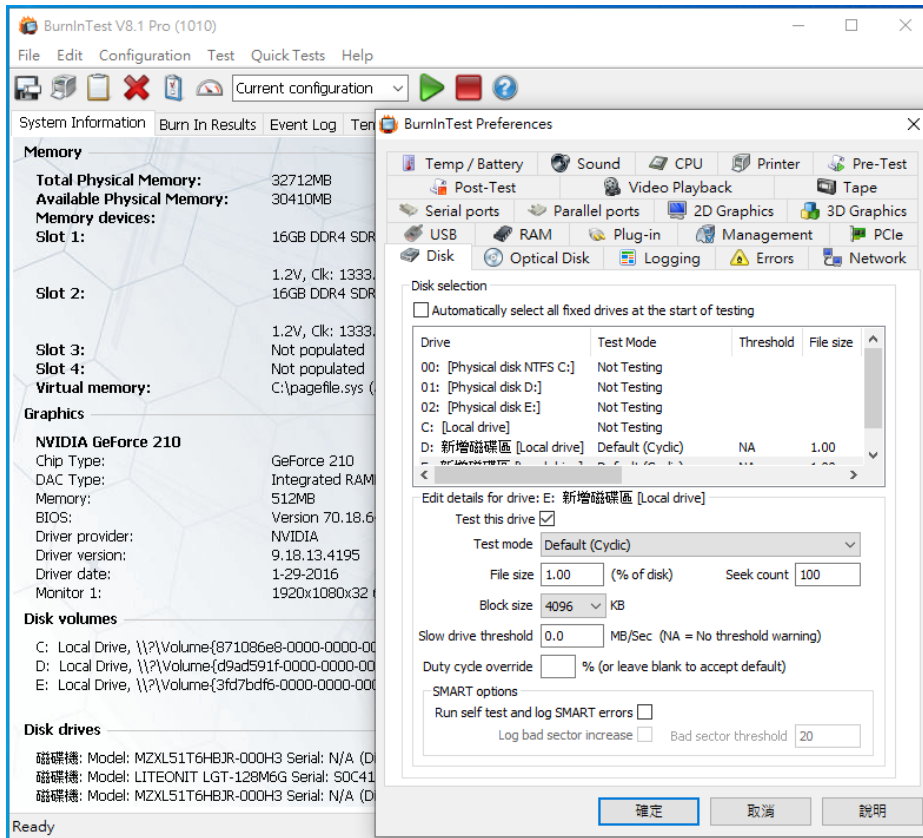
3. Burn In Tests and Results

3.1 BurnInTest v8.1 Pro

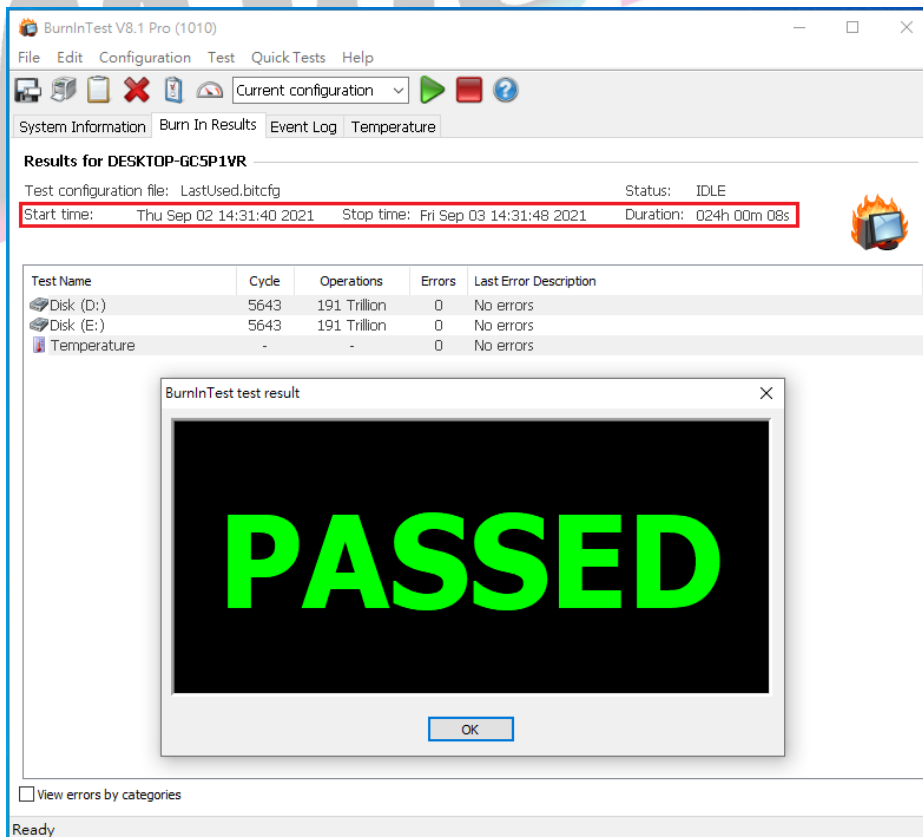#### 3.1.1 system information as below:

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3.1.2 Disk test mode(10 ways cycle test)

3.1.3 24-hour Burn-in test PASSED

4. Summary

4.1   U.3 NVMe SSD is PCIe Gen 4 / 4 Lane Interface, I/O speed, max. to 64Gbps.

4.2   GD9805A adapter I/O performance is based on U.3 NVMe SSD.