MINERVA

GD4480A/G Gen-Z 1C PCIe Gen 4 to U.2 (SFF-8639) Adapter

Notice: **Use without no Power Cord cable connection**

Performance & Burn In Test   Rev. 1. 0

Table of Contents

GD4480A/G Gen-Z 1C PCIe Gen 4 to U.2 (SFF-8639) Adapter

1. Overview

This adapter supports PCIe Gen 4, 16GT / s high-speed transmission, and provides U.2 NVMe SSD to Gen-Z 1C conversion. It can put 2.5" SSD into 3.5" standard H.D.D. caddy.

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: DP9504 PCIe x4 Gen 4 with Redriver to Gen-Z 1C ADD-in Card
Adapter: Gen-Z 1C PCIe Gen 4 to U.2(SFF-8639) Adapter
Cable: Gen-Z 1C Male to Gen-Z 1C Male **without Power cord**, 50cm Cable
OS :   Microsoft **Windows 10 64bit OS**

2.2 Test target: DP9504 AIC, GD4408A/G Adapter & **Samsung U.2 PM1733** / **4TB NVMe SSD**
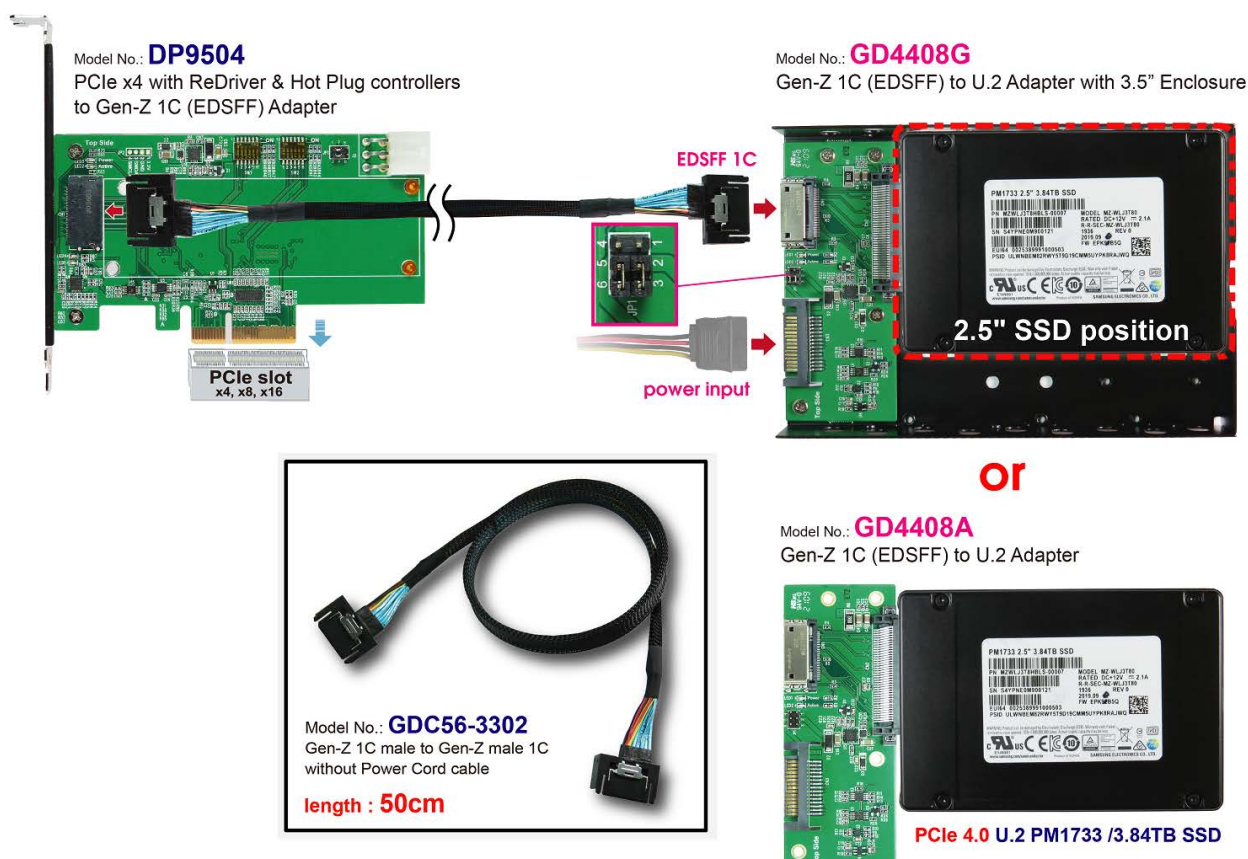
2.3   Install Hardware

Inserts U.2 NVMe SSD into GD4408G adapter, and connects cable to DP9504 AIC. The DP9504 plugs 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   U.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.
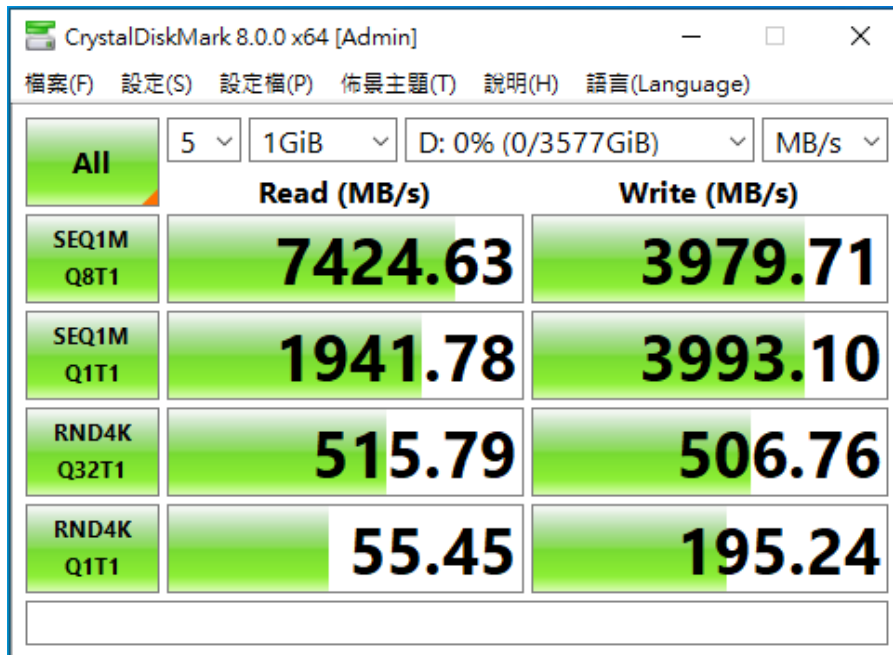
GD4480A/G Gen-Z 1C PCIe Gen 4 to U.2 (SFF-8639) Adapter

2.5 CrystalDiskMark 8.0 x64 performance test

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

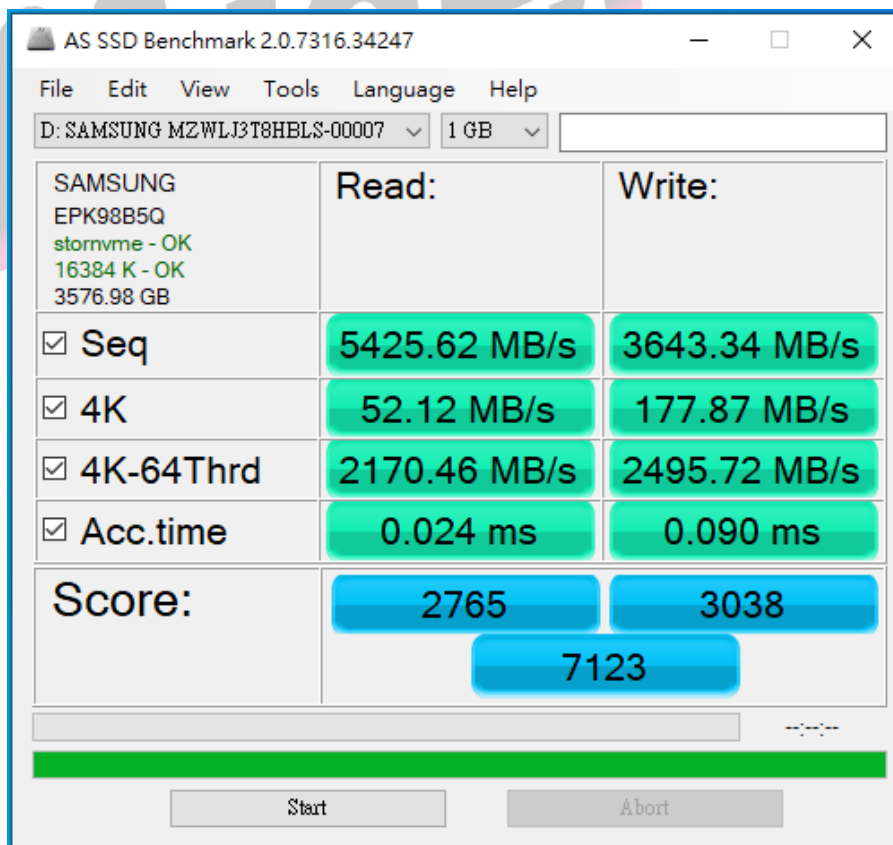2.5.1 **Samsung U.2 PM1733 / 4TB NVMe SSD** performance as below:

CrystalDiskMark 8.0.0 x64 [Admin]	Read (MB/s)	Write (MB/s)
5 ∨ 1GiB ∨ D: 0% (0/3577GiB) ∨ MB/s ∨		
SEQ1M Q8T1	7424.63	3979.71
SEQ1M Q1T1	1941.78	3993.10
RND4K Q32T1	515.79	506.76
RND4K Q1T1	55.45	195.24

2.6 AS SSD Benchmark 2.0.7 performance test

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

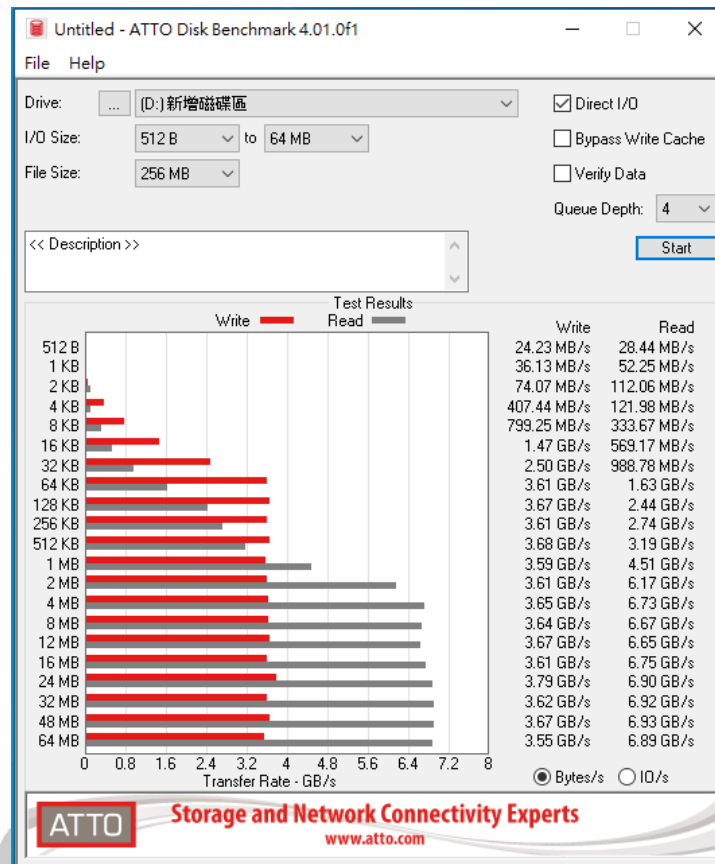2.6.1 **Samsung U.2 PM1733 / 4TB NVMe SSD** performance as below:

AS SSD Benchmark 2.0.7316.34247	Read:	Write:
D: SAMSUNG MZWLJ3T8HBLS-00007 1 GB		
SAMSUNG EPK98B5Q stornvme - OK 16384 K - OK 3576.98 GB		
☑ Seq	5425.62 MB/s	3643.34 MB/s
☑ 4K	52.12 MB/s	177.87 MB/s
☑ 4K-64Thrd	2170.46 MB/s	2495.72 MB/s
☑ Acc.time	0.024 ms	0.090 ms
Score:	2765	3038
	7123	

2.7   ATTO Disk Benchamrk 4.01 performance test

   2.7.1   **Samsung U.2 PM1733 / 4TB NVMe SSD** performance as below:

2.8   AnvilBenchmark_V110_B337

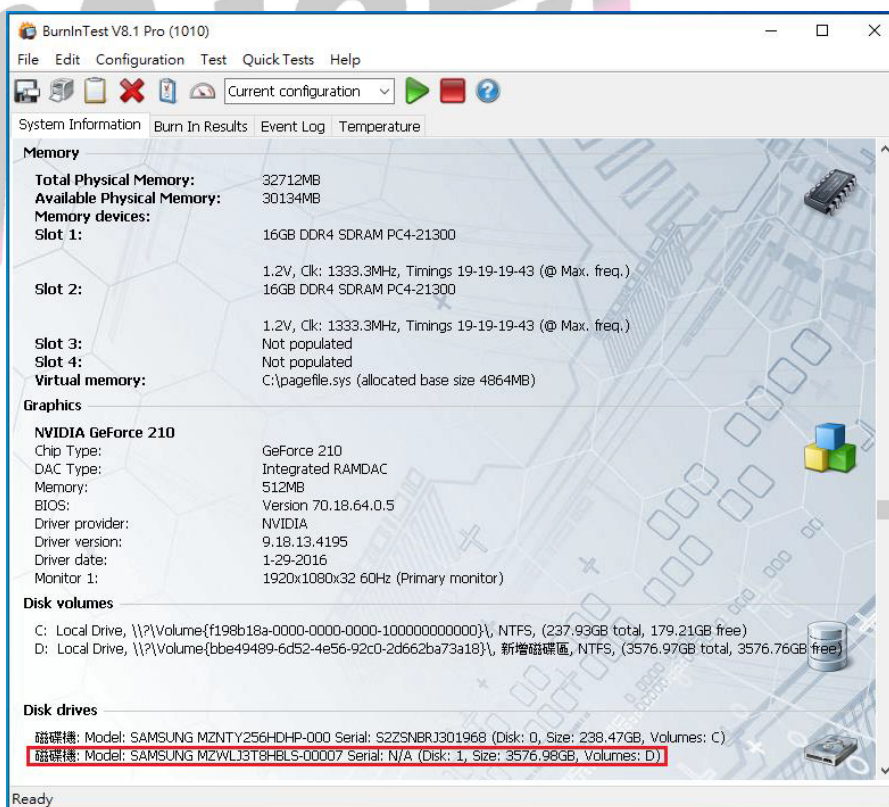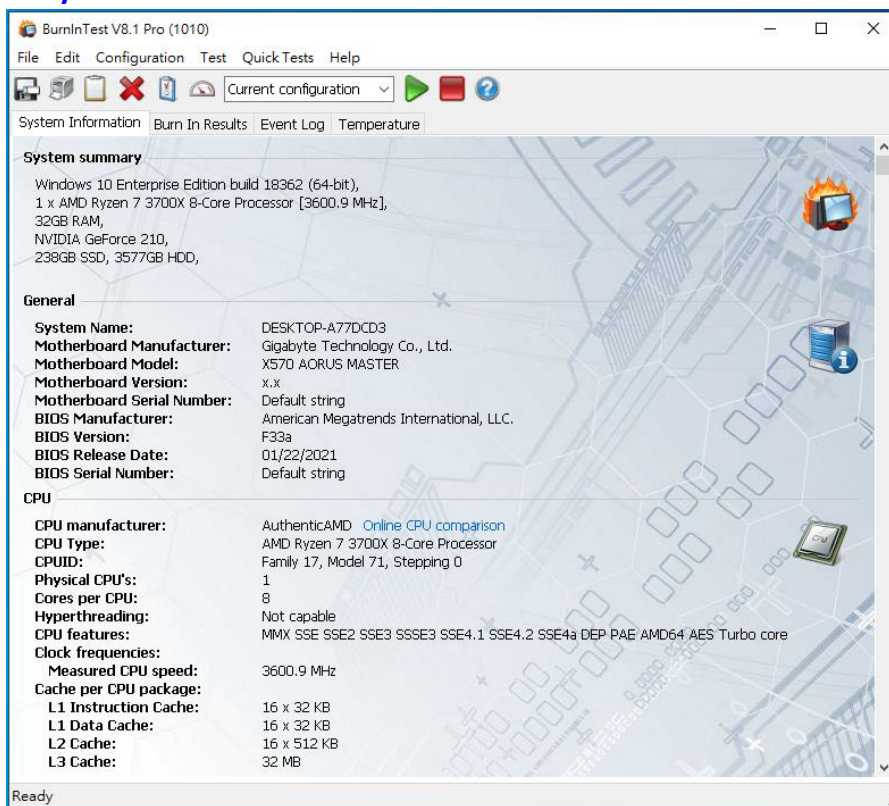   2.8.1   **Samsung U.2 PM1733 / 4TB NVMe SSD** performance as below:

3. Burn In Tests and Results

3.1   BurnInTest v8.1 Pro for Samsung U.2 PM1733 / 4TB NVMe SSD
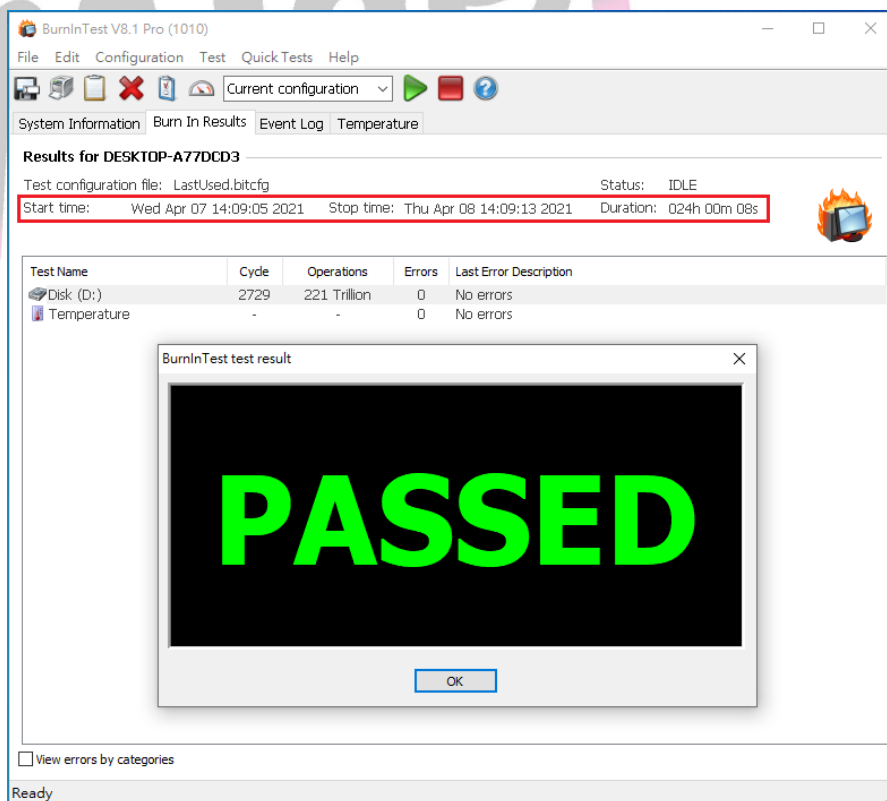
3.1.1   System Information as below:

3.1.2　　Disk test mode(10 ways cycle test)
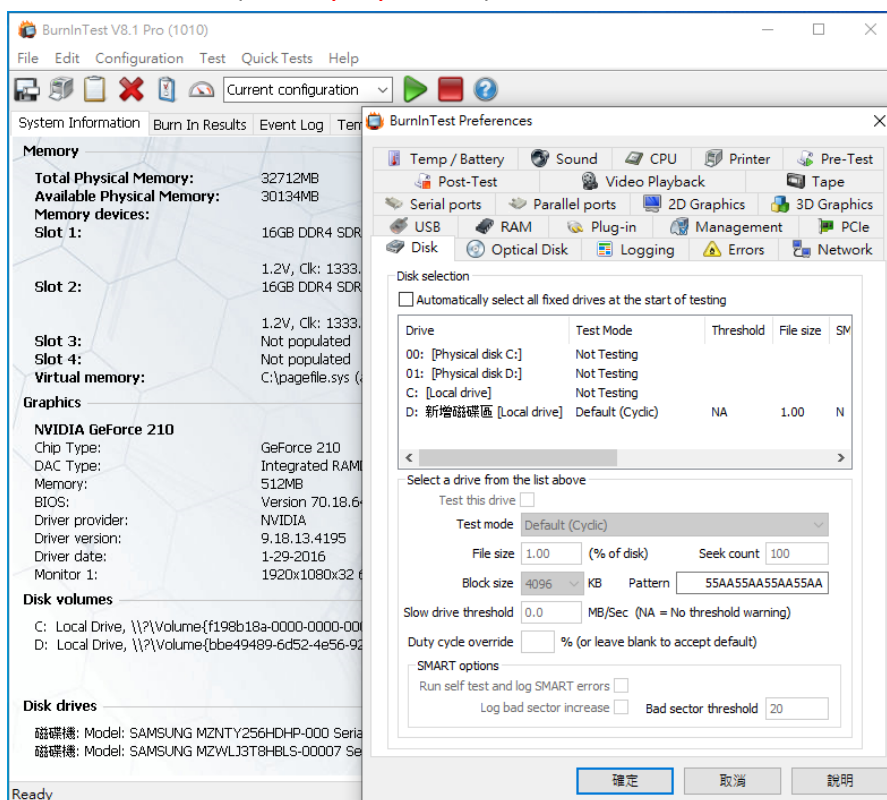
3.1.3　　24-hour Burn-in test PASSED

4. Summary

4.1   U.2 NVMe SSD is PCIe Gen 4, 16GT/s , 4 Lanes Interface, I/O speed, max. to 64Gbps.

4.2   GD4408A/G Adapter I/O performance is based on U.2 NVMe SSD.