



MINERVA

DP9504 PCIe x4 Gen 4 with ReDriver for Gen-Z 1C AIC

Performance & Burn In Test Rev. 1. 0

Table of Contents

1. Overview
2. Performance Measurement Tools and Results
 - 2.1 Test Platform
 - 2.2 Test target and U.2 NVMe SSD
 - 2.3 Install Hardware
 - 2.4 BIOS & Windows 10 OS environment setup
 - 2.5 CrystalDiskMark 8.0 x64 performance test
 - 2.6 AS SSD Benchmark 2.0.7 performance test
 - 2.7 ATTO Disk Benchamrk 4.0.1 performance test
 - 2.8 AnvilBenchmark_V110_B337 Benchmark performance test
3. Burn In Tests and Results
 - 3.1 BurnInTest v8.1 Pro burn in test
4. Summary

DP9504 Rev1.2 Host Bus Adapter

1. Overview

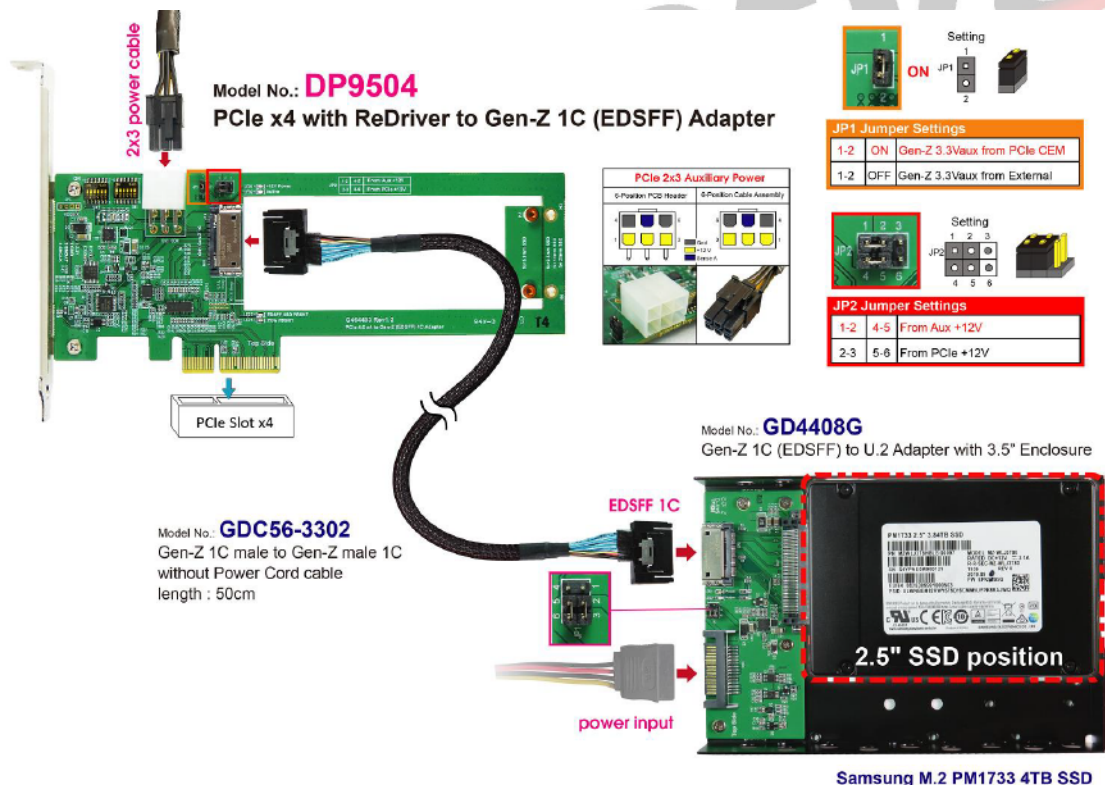
The Host Bus Adapter may provide PCIe x4 Gen4, 16GT/s high-speed signals extension with ReDriver controller to Gen-Z 1C (EDSFF).

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
Cable: Gen-Z 1C Male to Male **without** Power Cord Cable, **50cm**
Adapter: GD4408G Gen-Z 1C to U.2 adapter
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: DP9504, GD4408G & Samsung U.2 4TB NVMe SSD



DP9504 Rev1.2 Host Bus Adapter

2.3 Install Hardware

The U.2 NVMe SSD Inserts into GD4408G adapter and connects GD4408G adapter to the DP9504 AIC, using Gen-Z 1C male to male **without Power Cord cable**. 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.

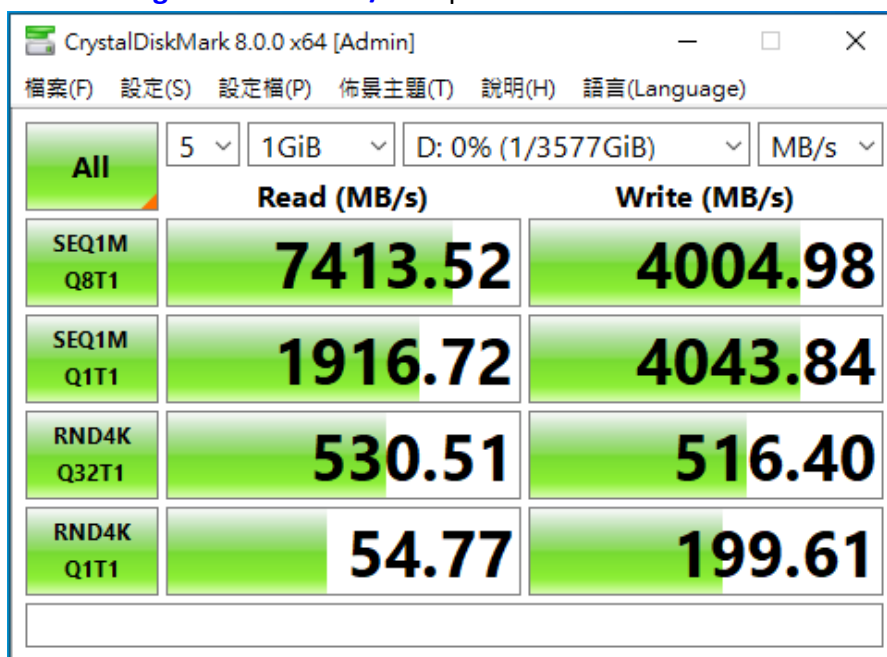


DP9504 Rev1.2 Host Bus Adapter

2.5 CrystalDiskMark 8.0 x64 performance test

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

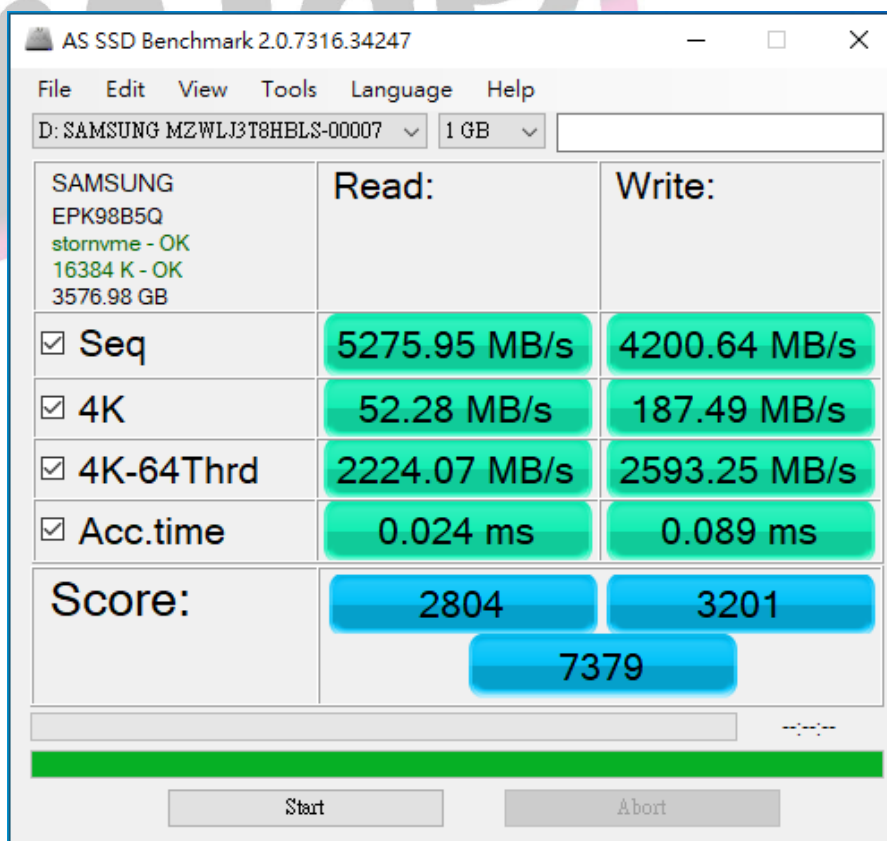
2.5.1 **Samsung U.2 NVMe SSD/ 4TB** performance as below:



2.6 AS SSD Benchmark 2.0.7 performance test

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

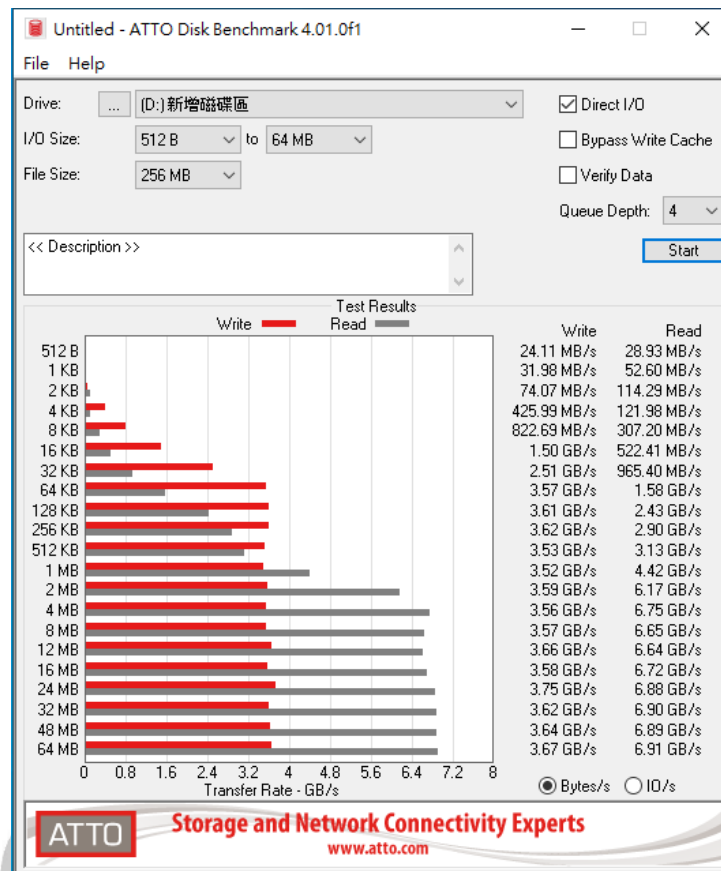
2.6.1 **Samsung U.2 NVMe SSD/ 4TB** performance as below:



DP9504 Rev1.2 Host Bus Adapter

2.7 ATTO Disk Benchmark 4.01 performance test

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



2.8 AnvilBenchmark_V110_B337

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

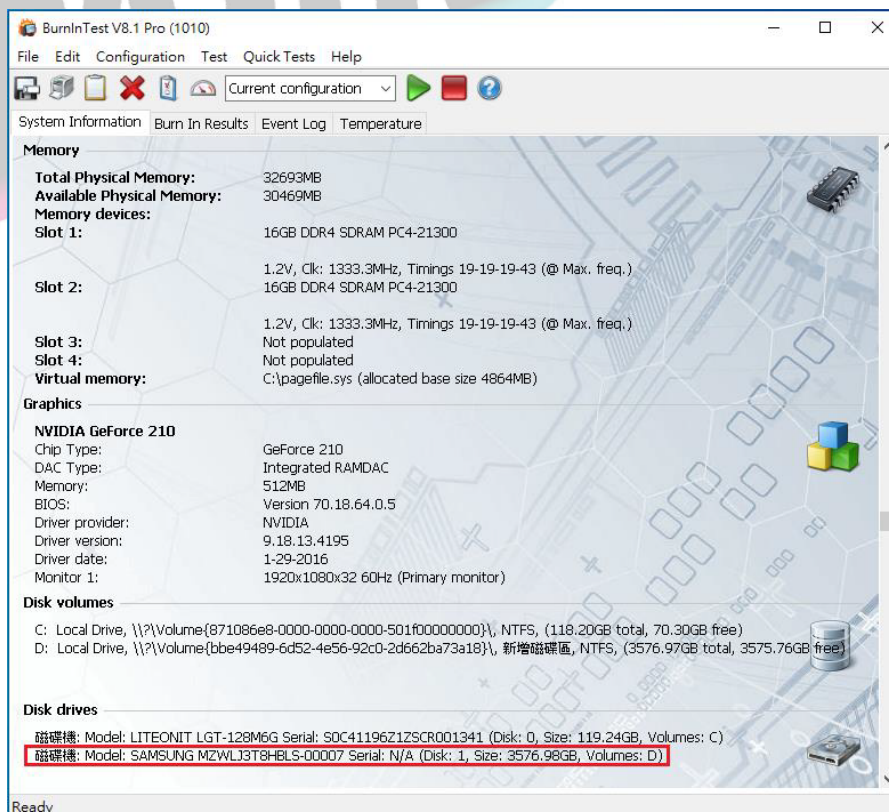
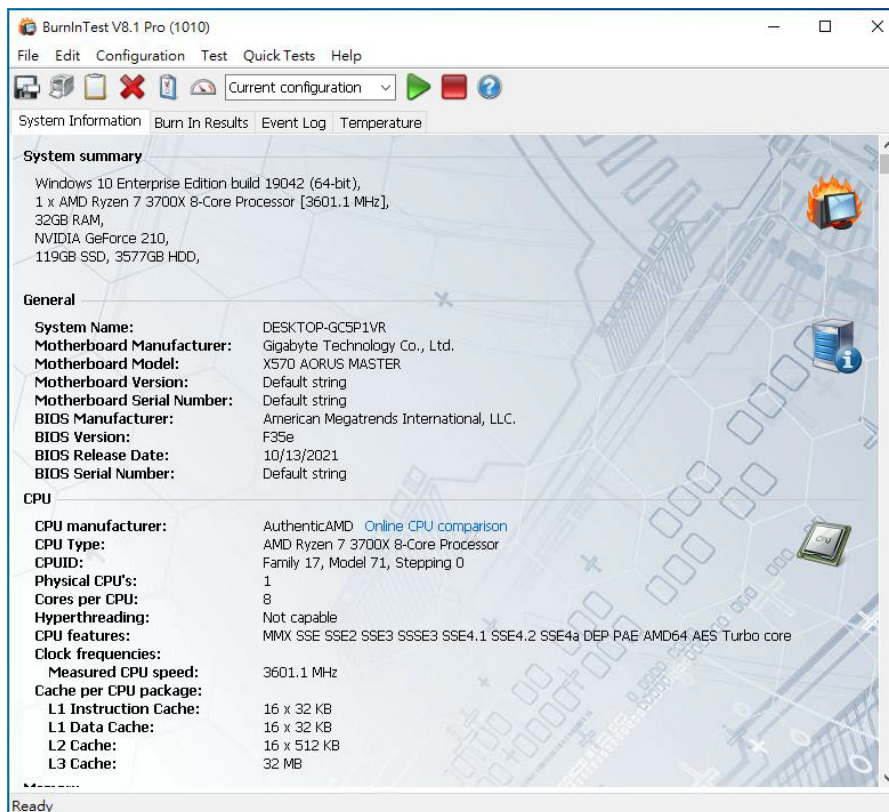


DP9504 Rev1.2 Host Bus Adapter

3. Burn In Tests and Results

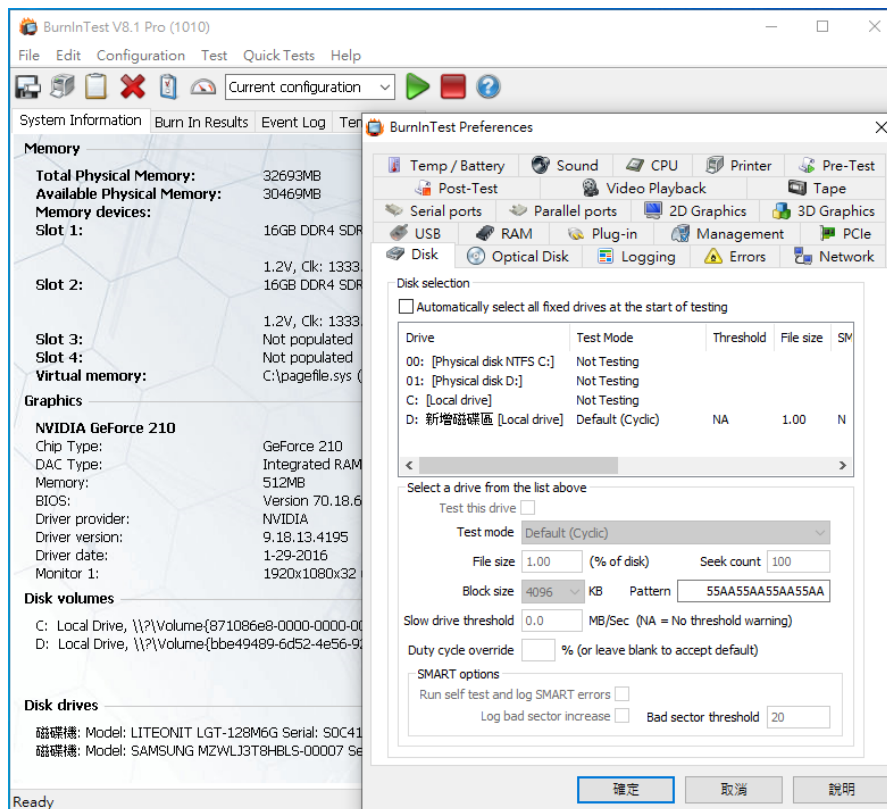
3.1 BurnInTest v8.1 Pro for Samsung U.2 NVMe SSD/ 4TB

3.1.1 System Information as below:

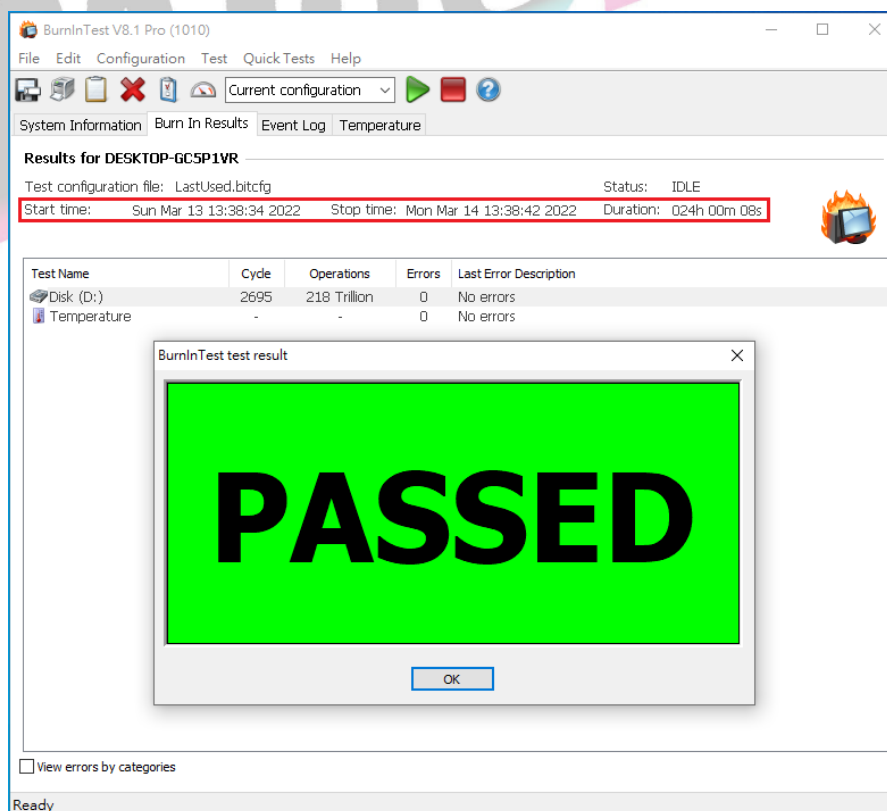


DP9504 Rev1.2 Host Bus Adapter

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, I/O speed, max. to 64Gbps.
- 4.2 DP9504 Host Bus Adapter I/O performance is based on U.2 NVMe SSD.

