



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

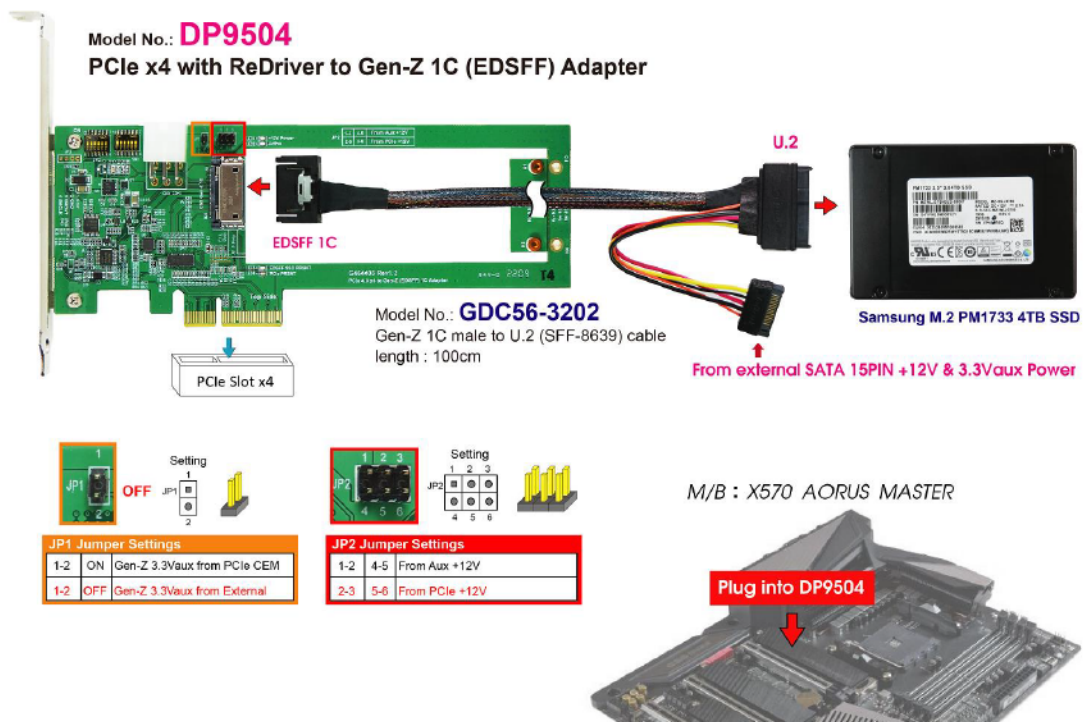
The Host Bus Adapter may provide PCIe x4 Gen4, 16GT/s high-speed signals extension with ReDriver controller to Gen-Z 1C (EDSFF).

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 to U.2(SFF-8639) PCIe Gen 4, 100cm Cable
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: DP9504 & **Samsung U.2 PM1733 / 4TB NVMe SSD**



DP9504 Rev1.2 Host Bus Adapter

2.3 Install Hardware

Inserts U.2 NVMe SSD into Gen-Z 1C cable, and connects cable to DP9504 AIC. The DP9504 plugs into PCIe x16 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.

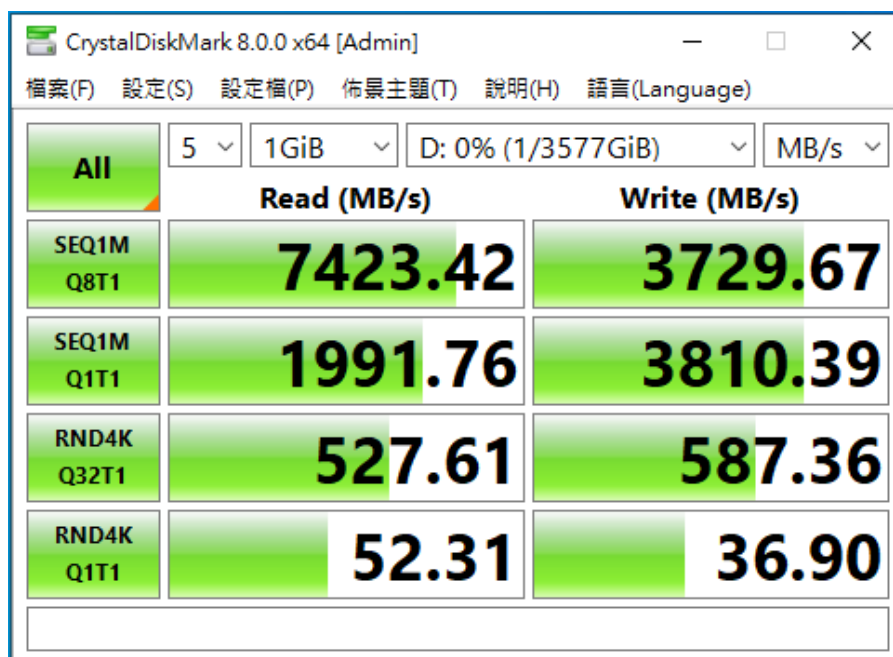


DP9504 Rev1.2 Host Bus Adapter

2.5 CrystalDiskMark 8.0 x64 performance test

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

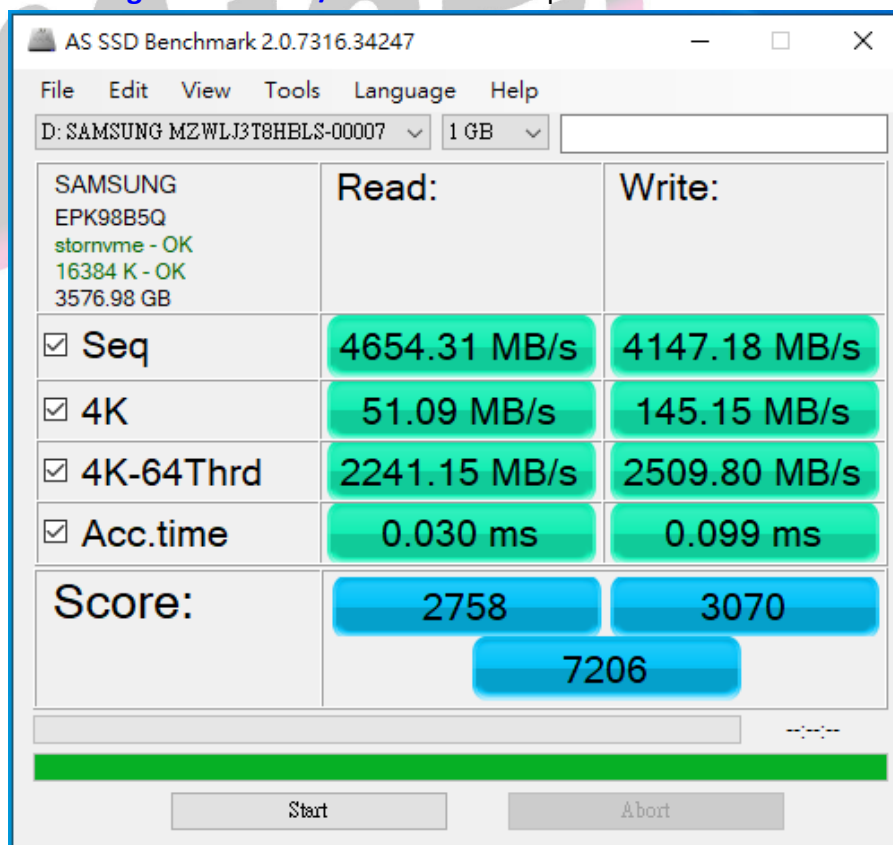
2.5.1 Samsung U.2 PM1733 / 4TB NVMe SSD performance as below:



2.6 AS SSD Benchmark 2.0.7 performance test

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

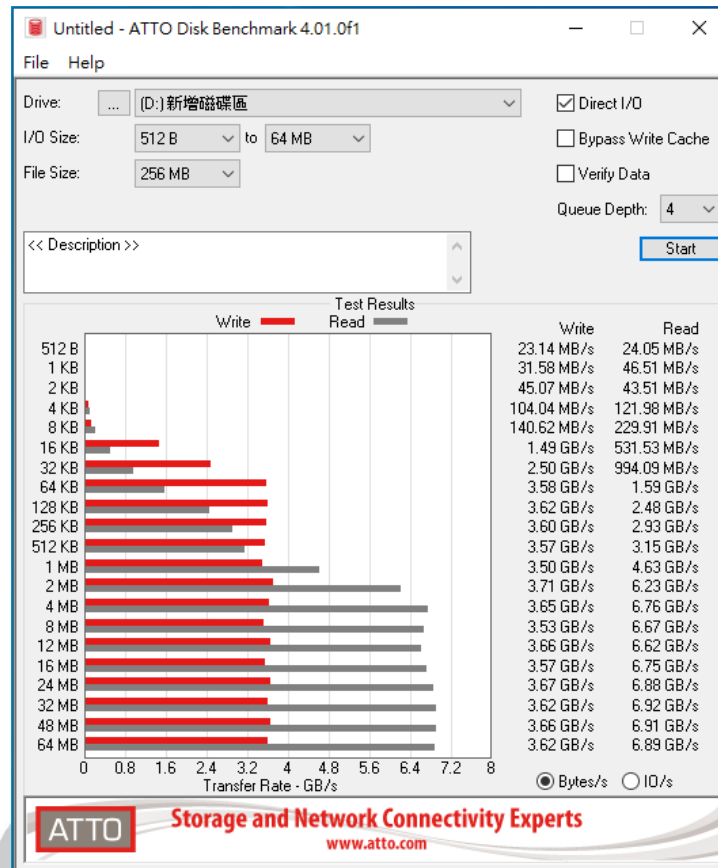
2.6.1 Samsung U.2 PM1733 / 4TB NVMe SSD performance as below:



DP9504 Rev1.2 Host Bus Adapter

2.7 ATTO Disk Benchmark 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:

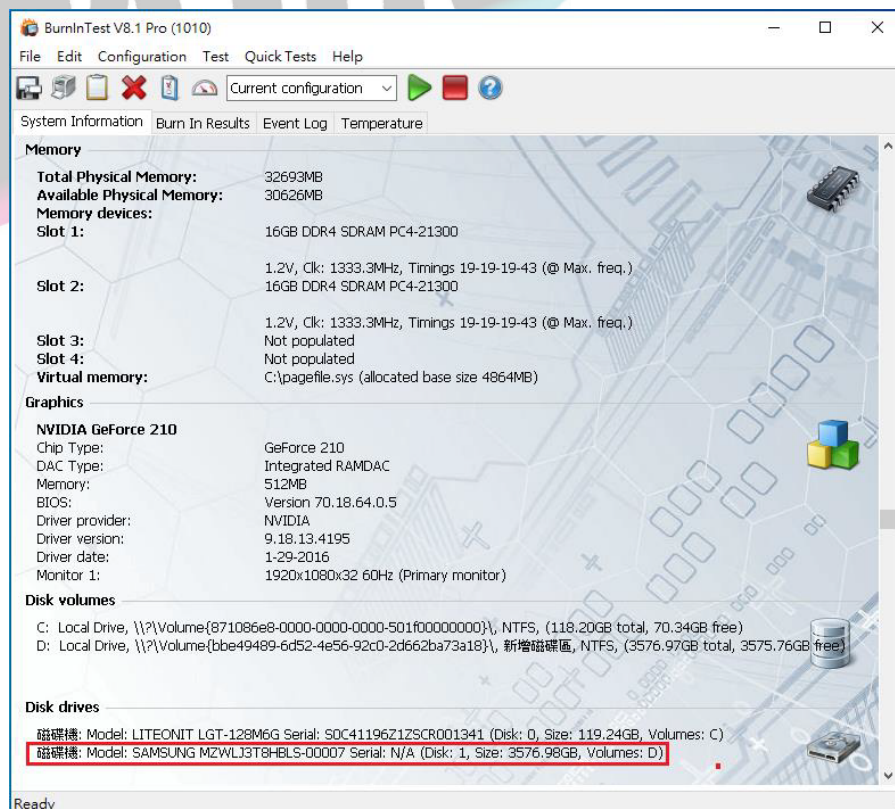
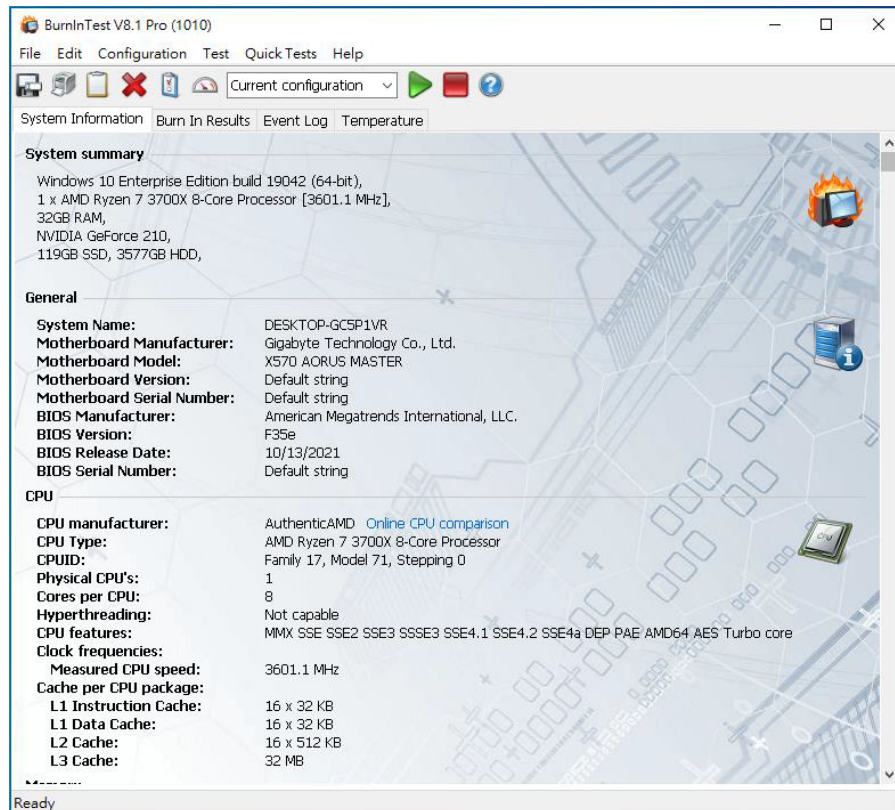


DP9504 Rev1.2 Host Bus Adapter

3. Burn In Tests and Results

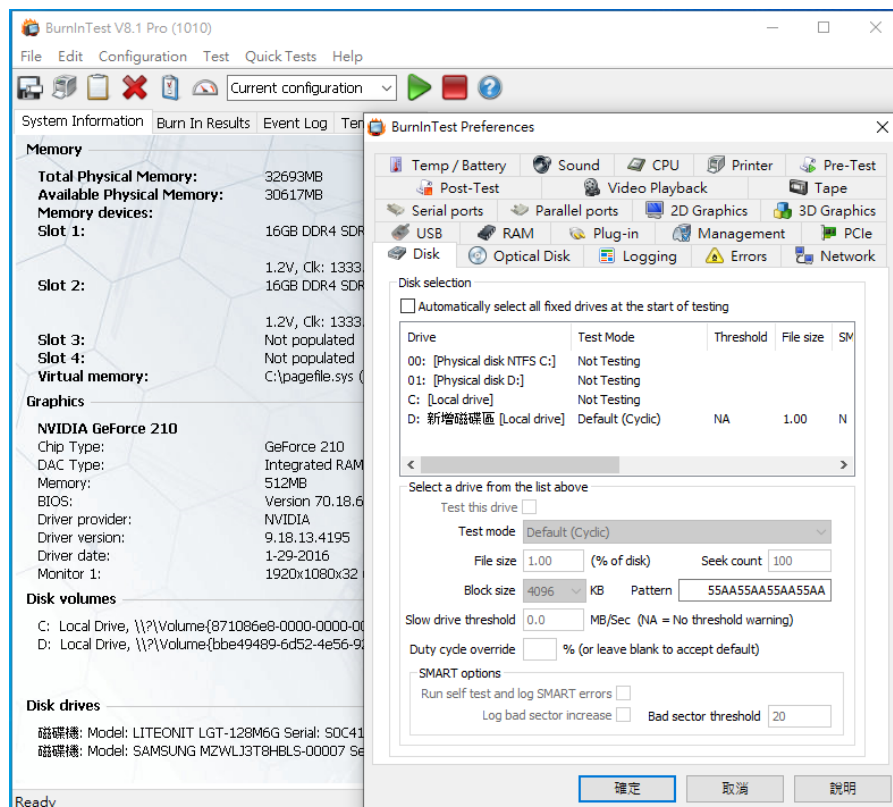
3.1 BurnInTest v8.1 Pro for Samsung U.2 PM1733 / 4TB NVMe SSD

3.1.1 System Information as below:

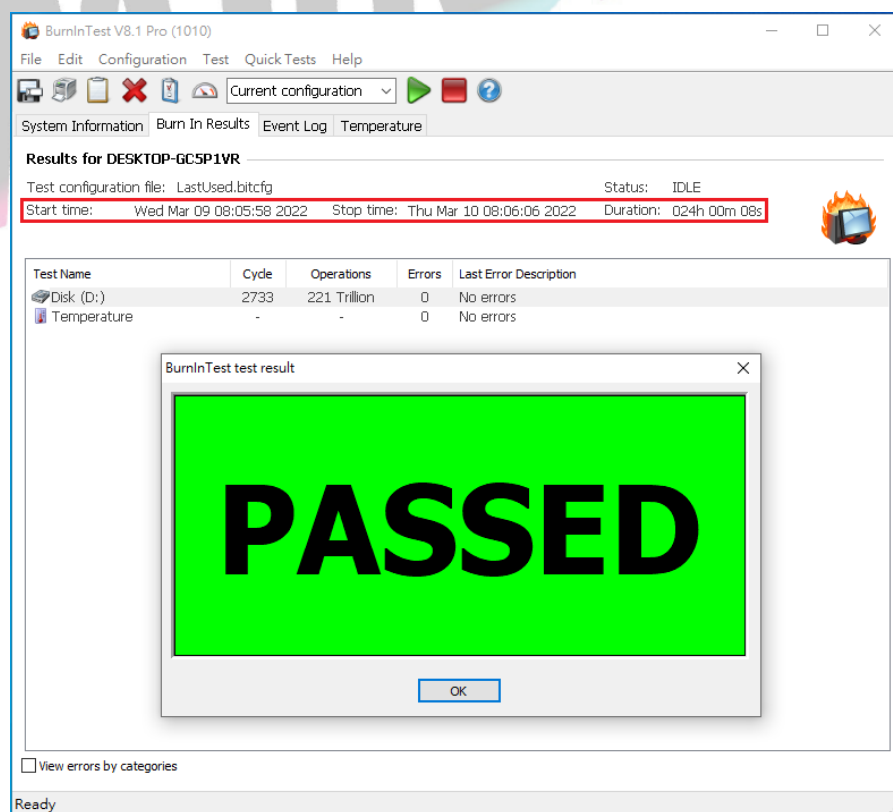


DP9504 Rev1.2 Host Bus Adapter

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

