



# MINERVA

DP8503 PCIe x 8 Gen 4 with ReDriver for Gen Z 1 C dual port AIC

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## Performance & Burn In Test Rev. 1. 0

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# DP8503Rev1.0 Host Bus Adapter

## 1. Overview

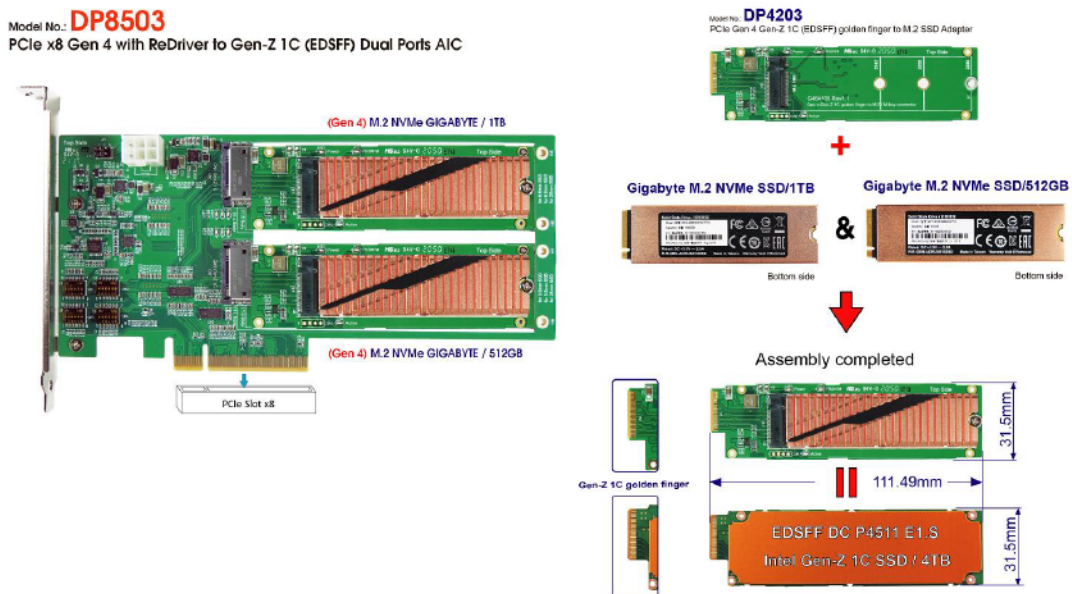
The Host Bus Adapter may provide PCIe x8 Gen4, 16GT/s high-speed signals, it can be bifurcated into two x4 for Gen-Z 1C (EDSFF) dual port.

## 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: DP8503 PCIe x8 Gen 4 with Redriver to Gen-Z 1C dual port ADD-in Card
- Adapter: DP4203 Gen-Z 1C to M.2 M-key
- OS : Microsoft **Windows 10 64bit OS**

### 2.2 Test target: DP9504, DP4203, **Gigabyte 1TB NVMe SSD & 512GB NVMe SSD**



### 2.3 Install Hardware

Inserts M.2 NVMe SSD into DP4203 adapter, and plugs DP4203 to DP8503 AIC. The DP8503 AIC plugs into 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 **Gigabyte M.2 NVMe SSD/ 1TB** performance as below:

	Read (MB/s)	Write (MB/s)
SEQ1M Q8T1	5008.09	4288.08
SEQ1M Q1T1	3054.44	4170.55
RND4K Q32T1	653.95	404.69
RND4K Q1T1	58.33	194.12

2.5.2 **Gigabyte M.2 NVMe SSD/ 512GB** performance as below:

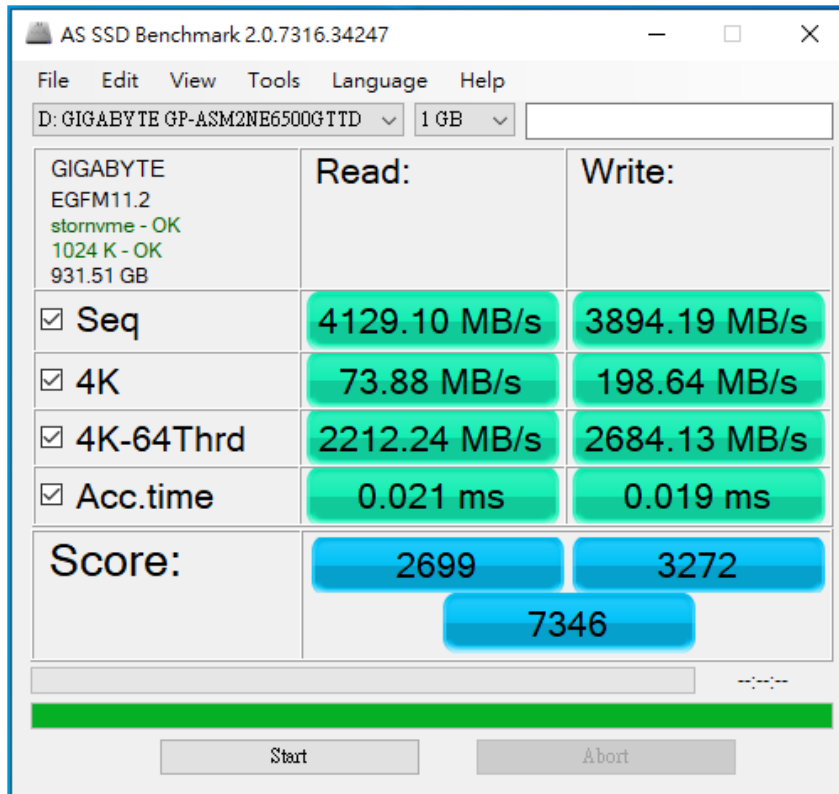
	Read (MB/s)	Write (MB/s)
SEQ1M Q8T1	5005.87	2541.83
SEQ1M Q1T1	2897.54	2541.74
RND4K Q32T1	610.78	553.49
RND4K Q1T1	59.26	185.22

## DP8503Rev1.0 Host Bus Adapter

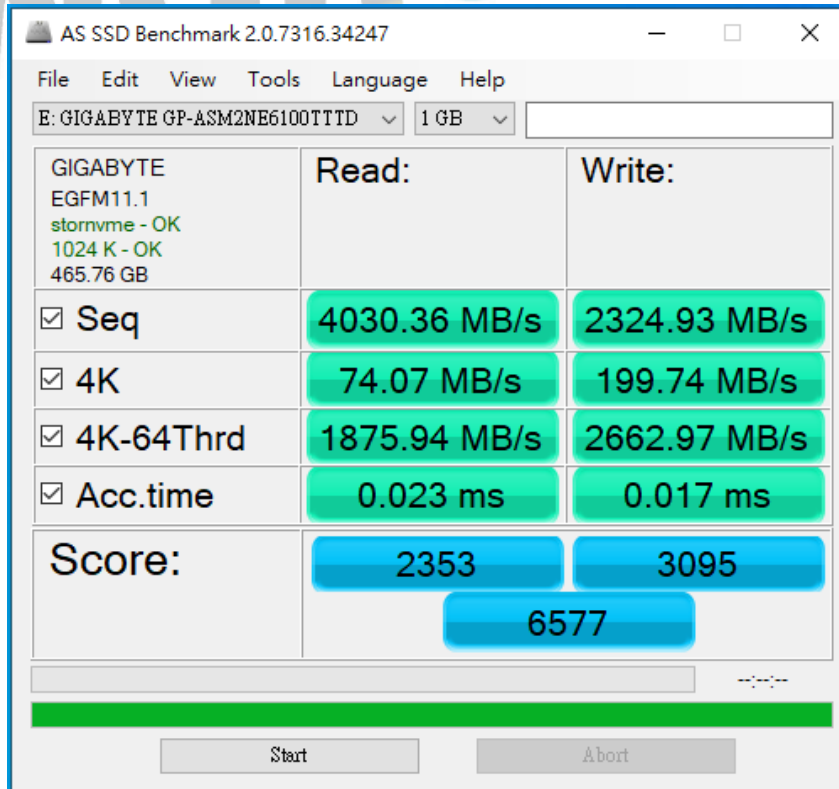
### 2.6 AS SSD Benchmark 2.0.7 performance test

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

2.6.1 Gigabyte M.2 NVMe SSD/ 1TB performance as below:



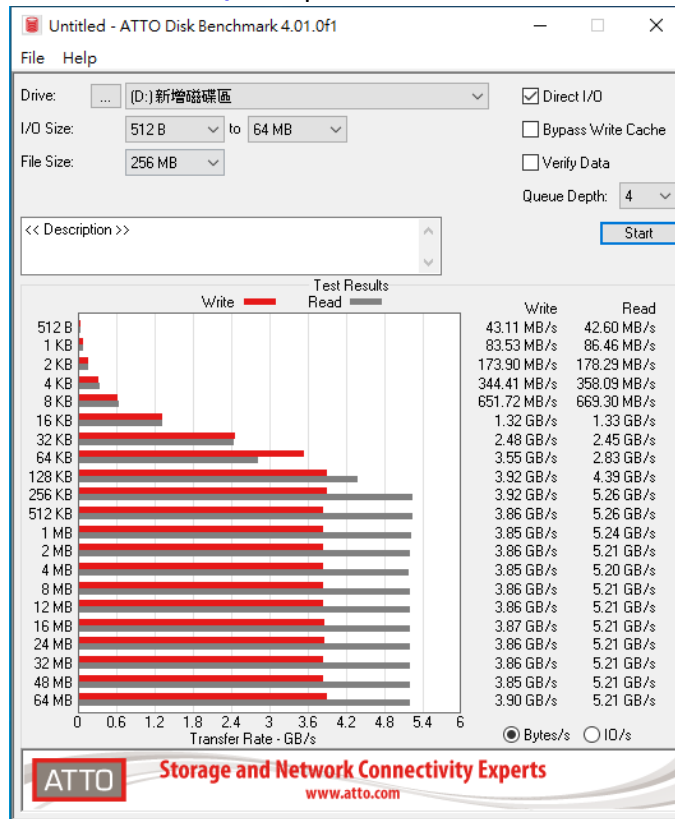
2.6.2 Gigabyte M.2 NVMe SSD/ 512GB performance as below:



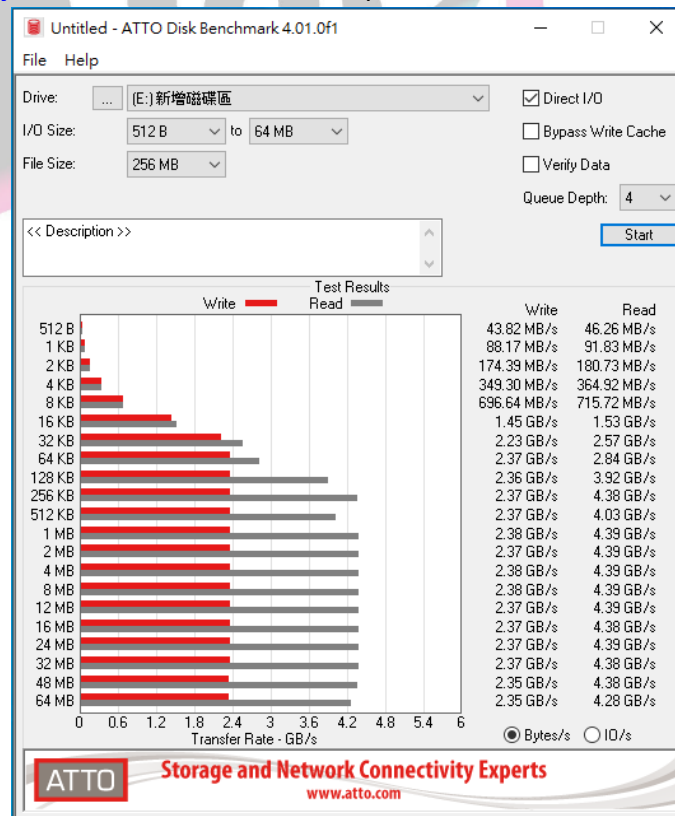
# DP8503Rev1.0 Host Bus Adapter

## 2.7 ATTO Disk Benchmark 4.01 performance test

### 2.7.1 Gigabyte M.2 NVMe SSD/ 1TB performance as below:



### 2.7.2 Gigabyte M.2 NVMe SSD/ 512GB performance as below:



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## 2.8 AnvilBenchmark\_V110\_B337

### 2.8.1 Gigabyte M.2 NVMe SSD/ 1TB performance as below:



### 2.8.2 Gigabyte M.2 NVMe SSD/ 512GB performance as below:

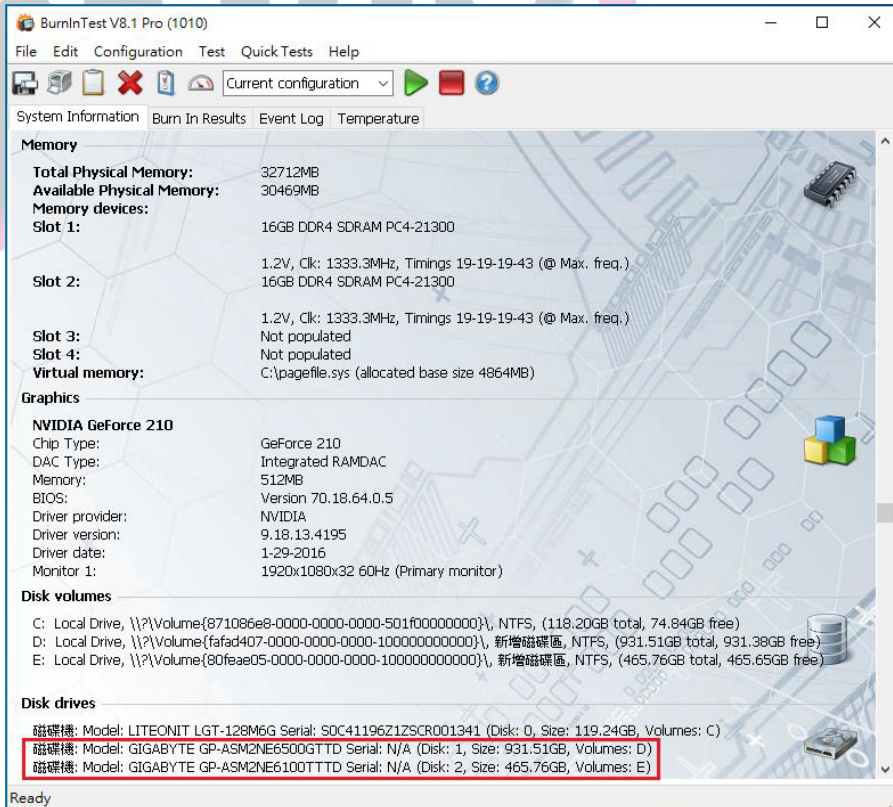
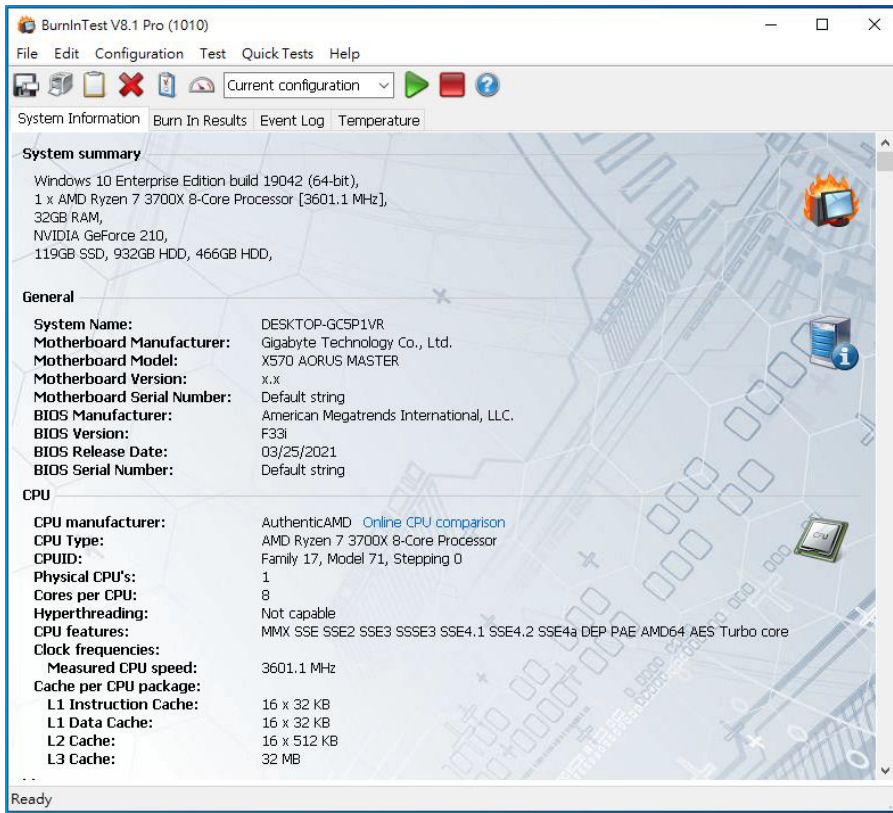


# DP8503Rev1.0 Host Bus Adapter

## 3. Burn In Tests and Results

### 3.1 BurnInTest v8.1 Pro for Gigabyte M.2 NVMe SSD/ 1TB & 512GB

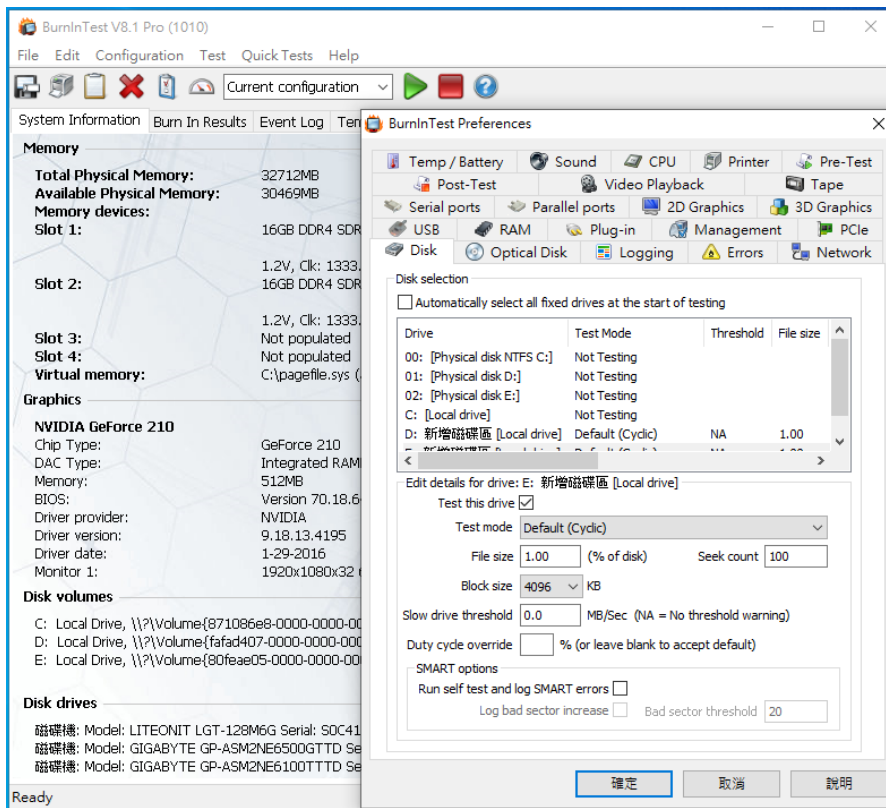
#### 3.1.1 System Information as below:



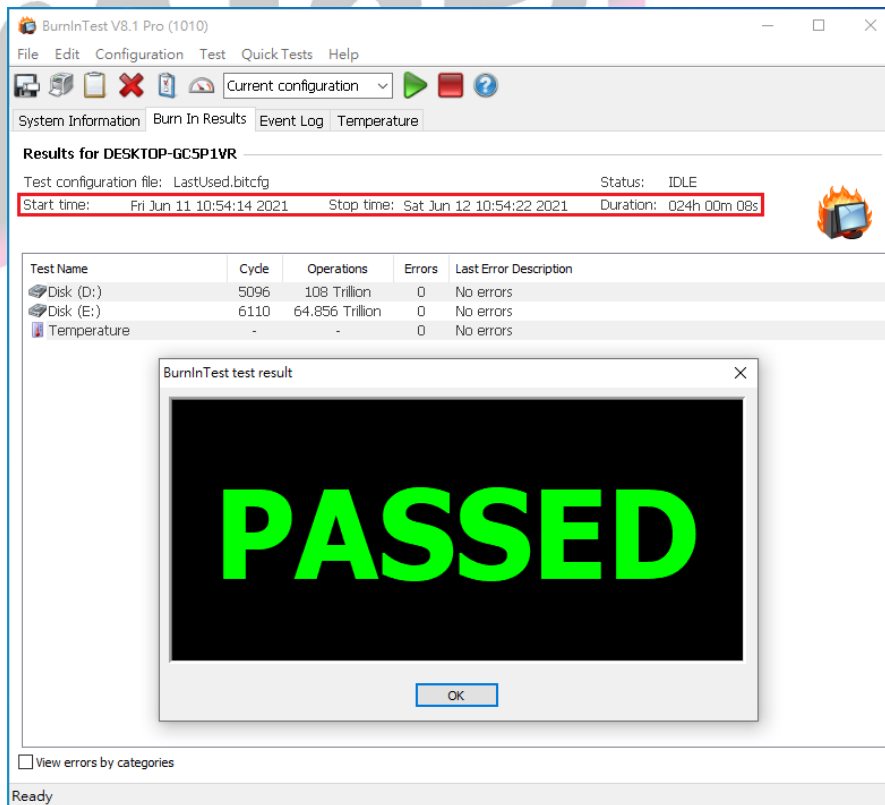


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## 3.1.2 Disk test mode( 10 ways cycle test)



## 3.1.3 24-hour Burn-in test PASSED



### 4. Summary

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

4.2 DP8503 Host Bus Adapter I/O performance is based on M.2 NVMe SSD.

4.3 DP4203 Host Bus Adapter I/O performance is based on M.2 NVMe SSD.

