Performance & Burn In Test Rev. 1. 0

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EP8174 Rev1.0 Host Bus Adapter

1. Overview

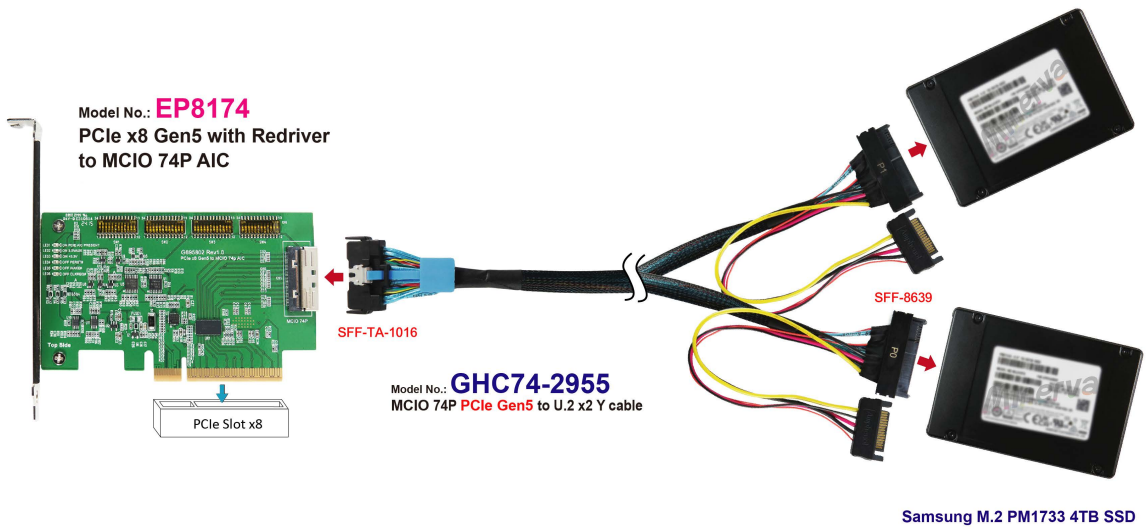
The Host Bus Adapter may provide PCIe x8 Gen 5, 32GT/s high-speed signals extension, bulit-in ReDriver controller to provides equalization up to **22 dB at 16 GHz** to MCIO 74P.

2. Tools and Results of Performance Measurement

2.1 Test Platform:

M/B :	GIGABYTE **X670E AORUS MASTER**
CPU :	AMD **Ryzen 5, 7600X 6-Core**
Memory :	Kingston **KF556C36BBEK2**, **DDR5-5600MT/s**, **64GB**(32GB DIMM*2)
ATX Power :	Apexgaming AN-550, **550W ATX**, 12V V2.2 Power Supply
AIC:	EP8174 PCIe x8 Gen 5 with Redriver to MCIO 74P ADD-in Card
Cable:	PCIe 5.0 MCIO 74P to U.2(SFF-8639) dual port, **50cm** Cable
OS :	Microsoft **Windows 11 64bit OS**

2.2 Test target: EP8174 & Samsung **U.2 PM1783** / **15.36TB NVMe SSD**



2.3 Install Hardware

Inserts U.2 NVMe SSD into MCIO 74P to U.2 dual port cable, and connects cable to EP8174 AIC. The EP8174 plugs into PCIe x16 Slot of GIGABYTE **X670E AORUS MASTER**

2.4 BIOS & Windows 11 OS environment setup

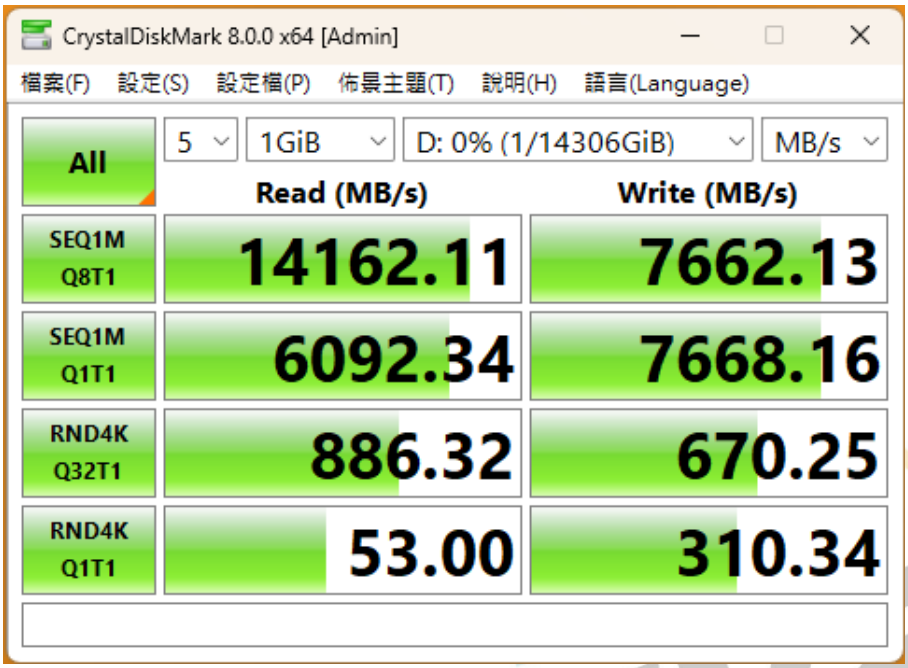
2.4.1 Primary SATA SSD installed Windows 10 OS.

2.4.2 U.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.

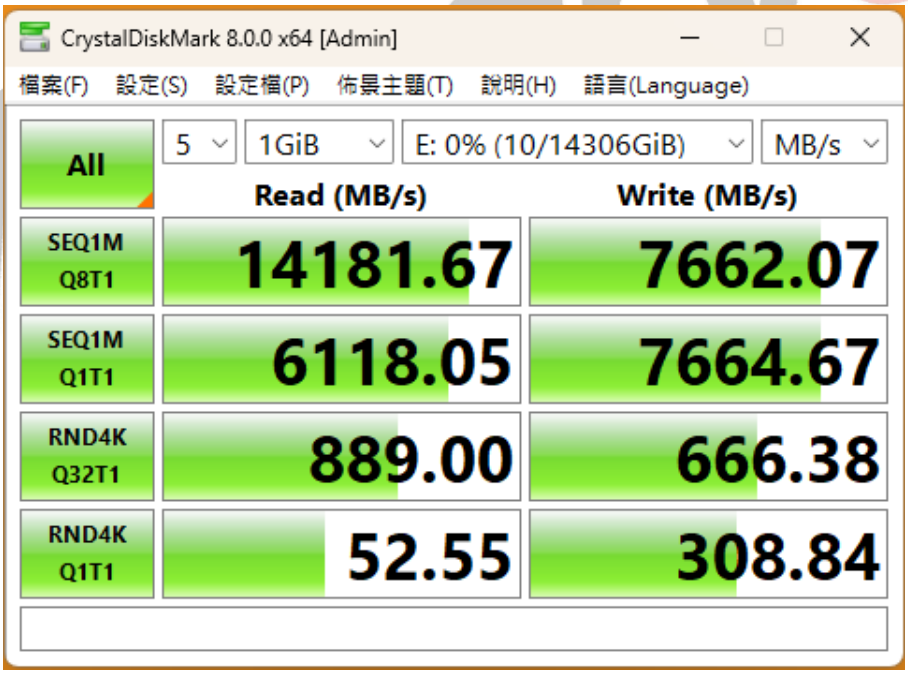
2.5 CrystalDiskMark 8.0 x64 performance test

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

2.5.1 **Samsung U.2 PM1783 / 15.36TB NVMe SSD** performance in Drive D: as below:



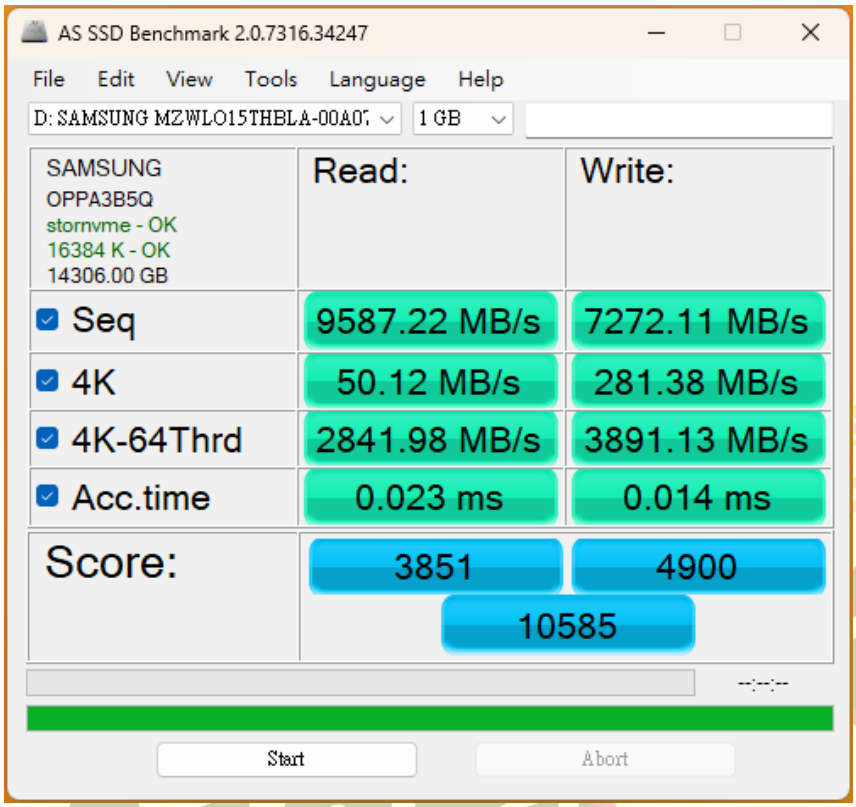
2.5.1 **Samsung U.2 PM1783 / 15.36TB NVMe SSD** performance in Drive E: as below:



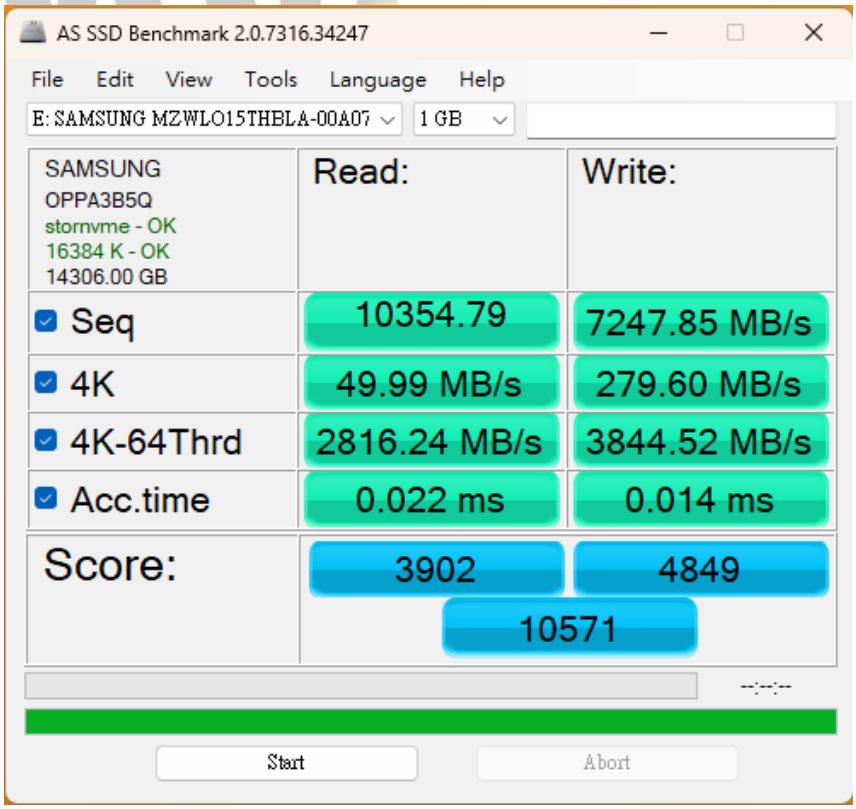
2.6 AS SSD Benchmark 2.0.7 performance test

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

2.6.1 Samsung U.2 PM1783 / 15.36TB NVMe SSD performance in Drive D: as below:

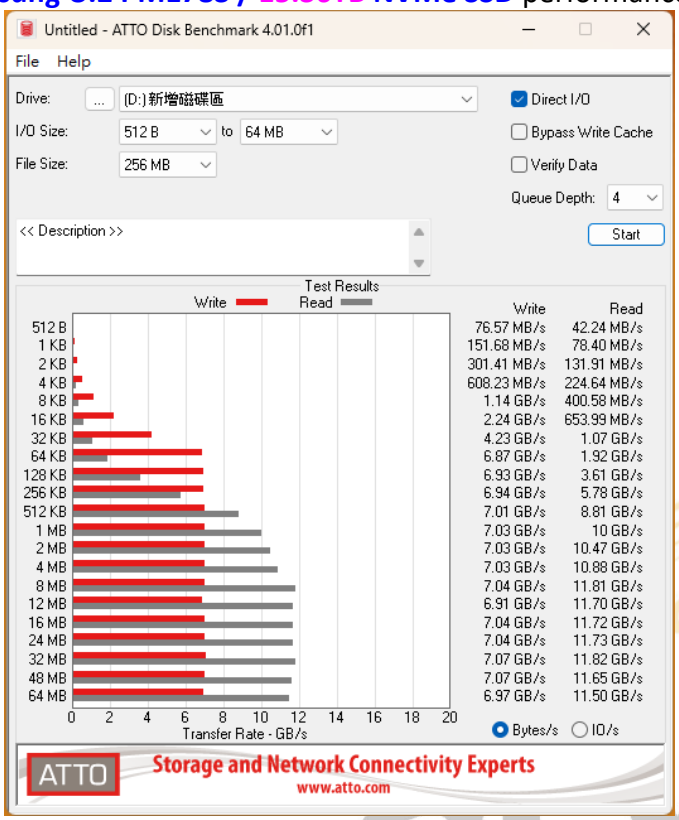


2.6.2 Samsung U.2 PM1783 / 15.36TB NVMe SSD performance in Drive E: as below:

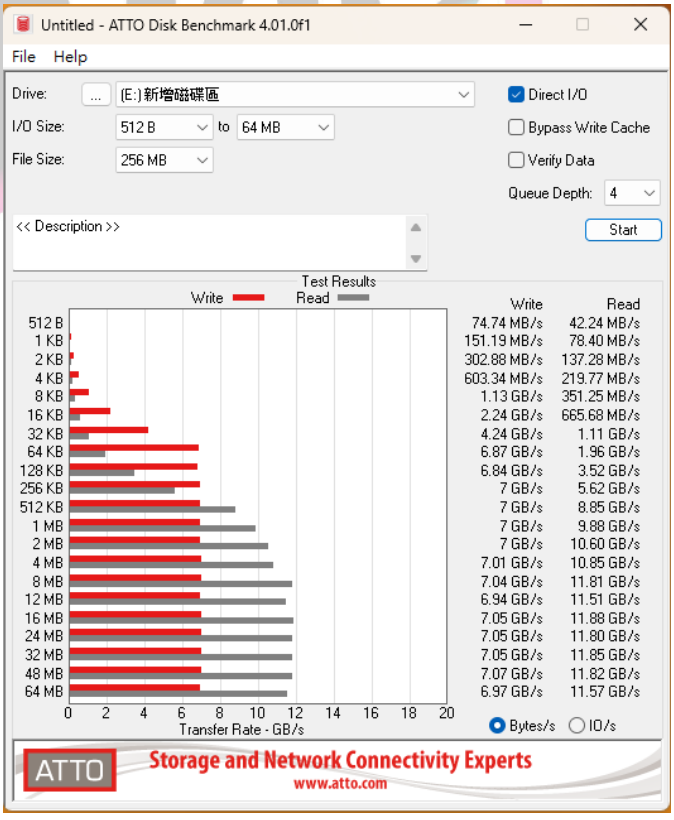


2.7 ATTO Disk Benchamrk 4.01 performance test

2.7.1 **Samsung U.2 PM1783 / 15.36TB NVMe SSD** performance in Drive D: as below:



2.7.2 **Samsung U.2 PM1783 / 15.36TB NVMe SSD** performance in Drive E: as below:



2.8 AnvilBenchmark_V110_B337

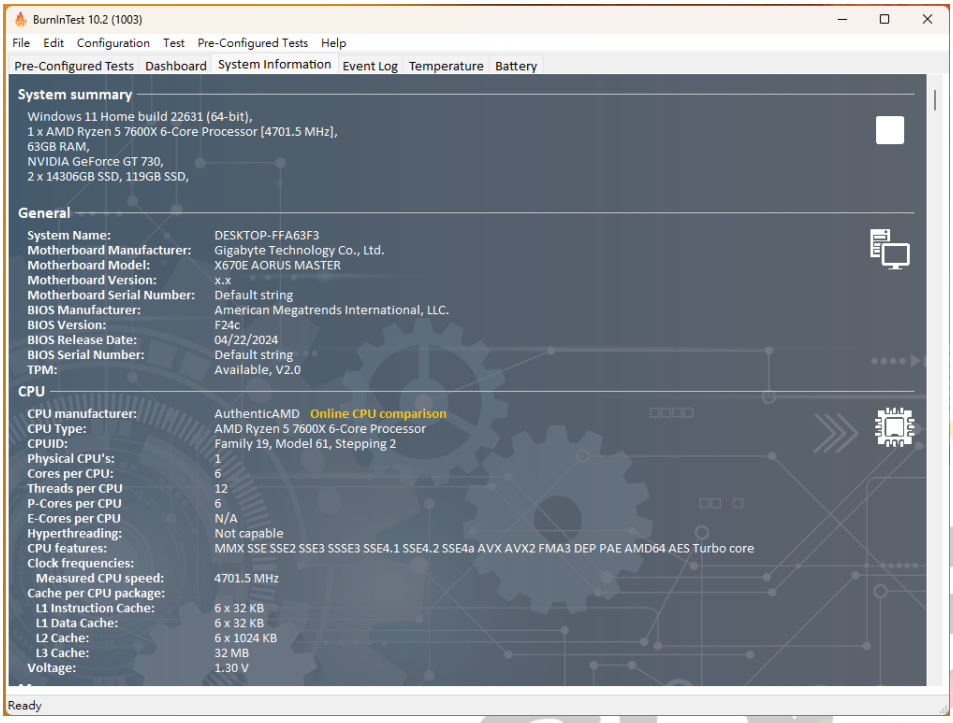
2.8.1 Samsung U.2 PM1783 / 15.36TB NVMe SSD performance in Drive D: as below:

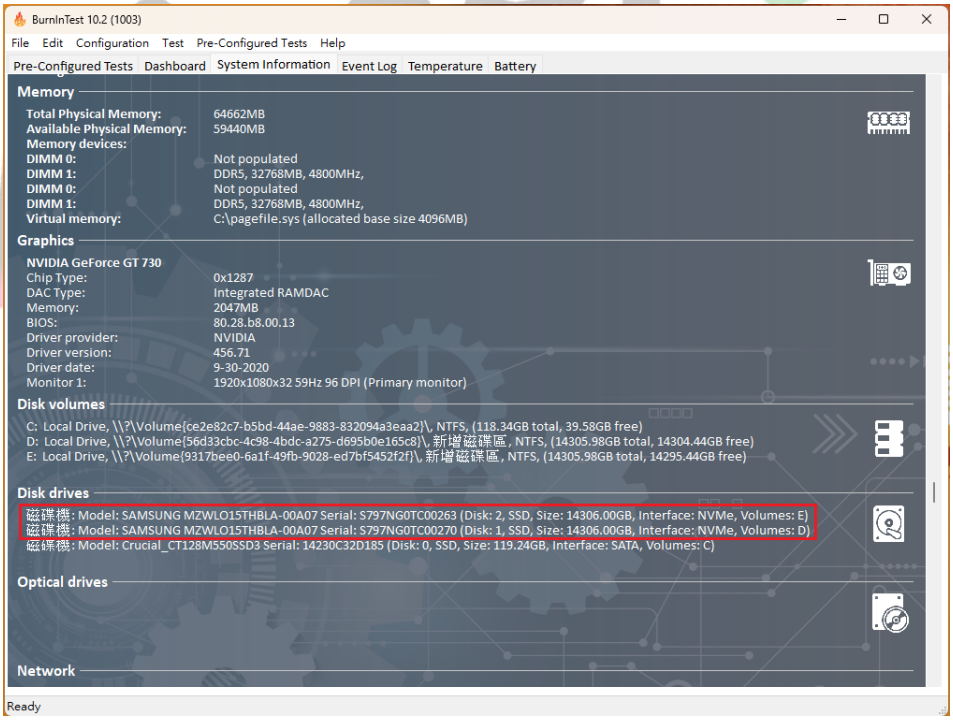
2.8.2 Samsung U.2 PM1783 / 15.36TB NVMe SSD performance in Drive E: as below:

3. Burn In Tests and Results

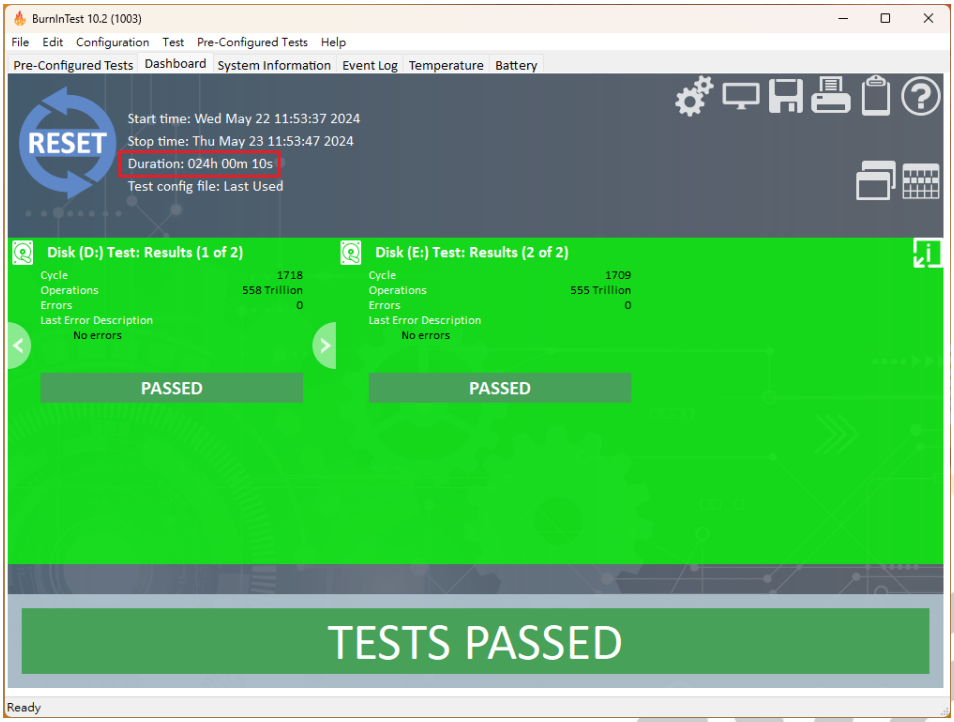
3.1 BurnInTest v10.2 Pro for Samsung U.2 PM1783 / 15.36TB NVMe SSD

3.1.1 System Information as below:





3.1.2 24-hour Burn-in test PASSED



4. Summary

4.1 U.2 NVMe SSD is PCIe Gen 5, 32GT/s , 4 Lanes Interface, I/O speed, max. to 128Gbps.

4.2 EP8174 Host Bus Adapter I/O performance is based on U.2 NVMe SSD.