MINERVA

EP7102 M.2 PCIe 5.0 with ReDriver for MCIO 38P

Performance & Burn In Test Rev. 1. 0

PS: Using MCIO 38P PCIe 5.0 to U.2, 50cm cable

Table of Contents

EP7102Rev1.0 Host Bus Adapter

1. Overview

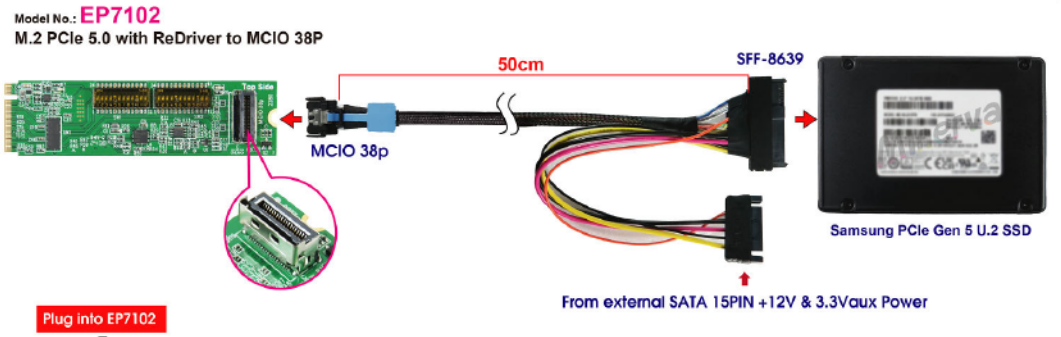
The Host Bus Adapter may provide PCIe x4 Gen 5, 32GT/s high-speed signals extension, bulit-in ReDriver controller to provides equalization up to **24 dB at 16 GHz** to MCIO 38P.

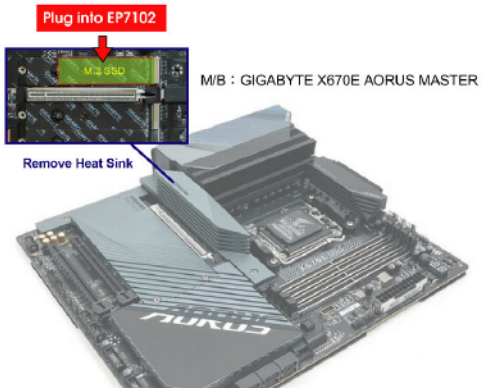
2. Tools and Results of Performance Measurement

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:	EP7102 M.2 PCIe 5.0 with Redriver to MCIO 38P adapter
Cable:	MCIO 38P to U.2(SFF-8639) PCIe 5.0, **50cm** Cable
OS :	Microsoft **Windows 11 64bit OS**

2.2 Test target: EP4101 & Samsung **U.2 PM1783** / **15.36TB NVMe SSD**





2.3 Install Hardware

Inserts U.2 NVMe SSD into MCIO 38P cable, and connects cable to EP7102 AIC. The EP7102 plugs into M.2 PCIe Gen5 connector of GIGABYTE **X670E AORUS MASTER**

2.4 BIOS & Windows 11 OS environment setup

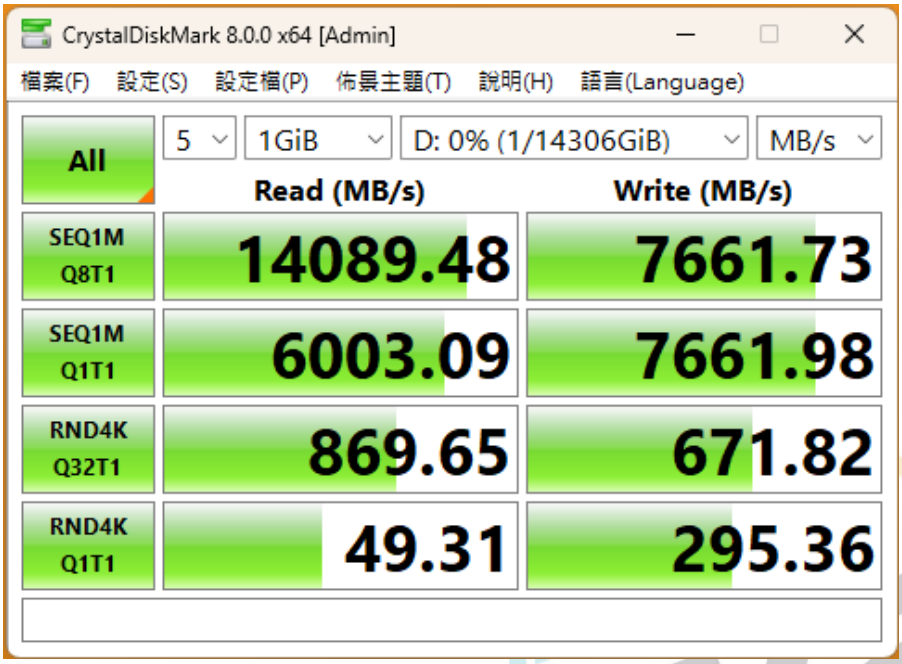
2.4.1 Primary SATA SSD installed Windows 10 OS.

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)

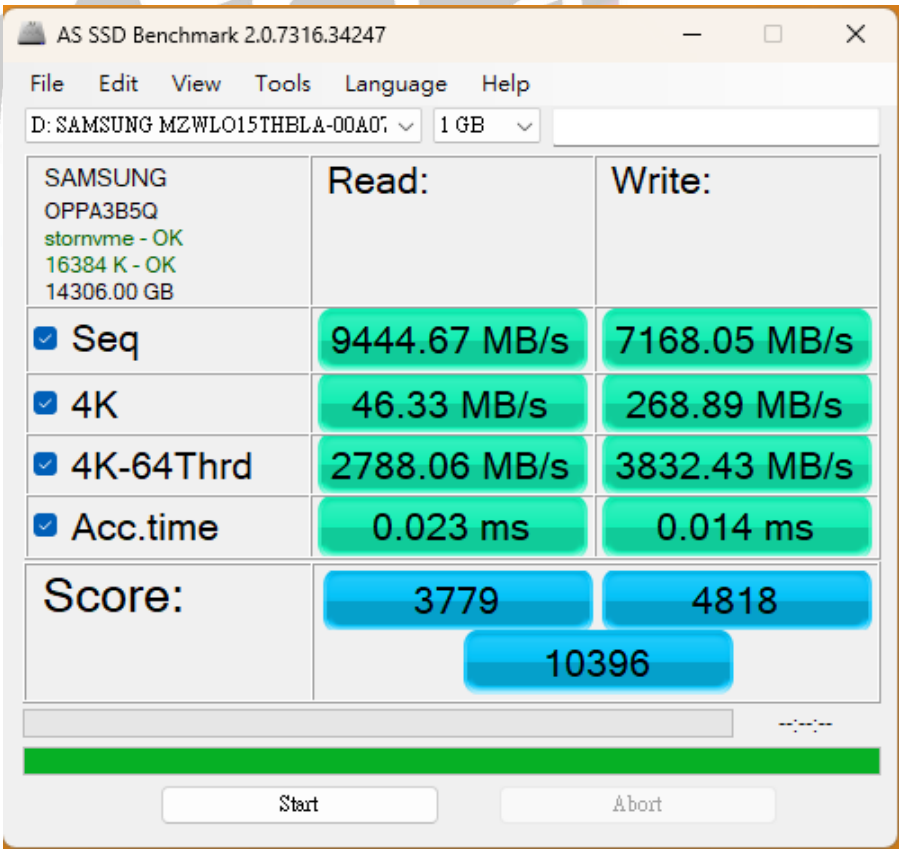
2.5.1 **Samsung U.2 PM1783 / 15.36TB NVMe SSD** performance as below:



2.6 AS SSD Benchmark 2.0.7 performance test

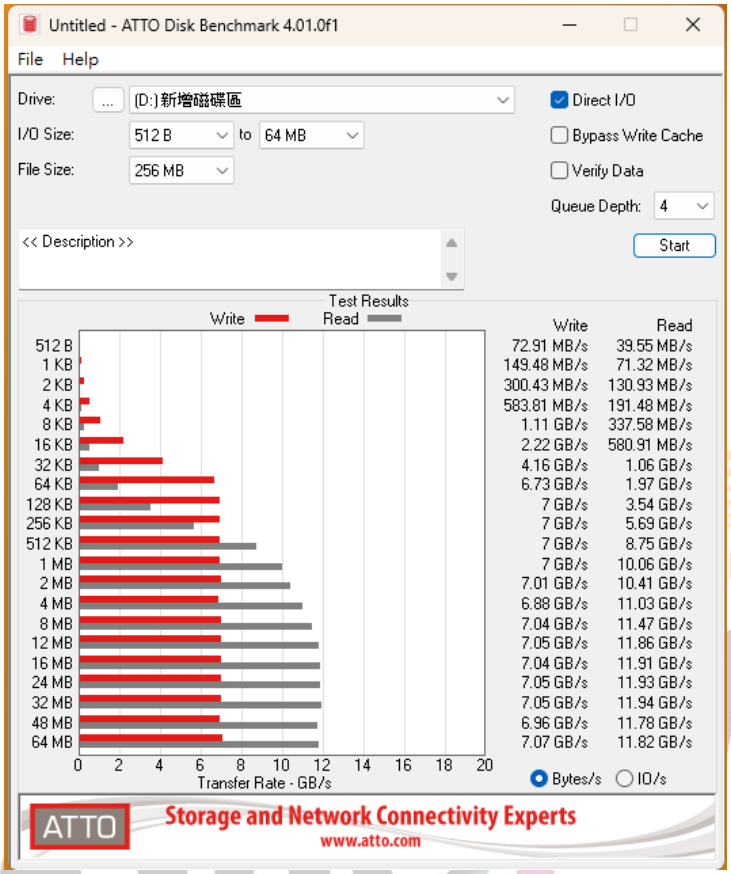
※Benchmark (Read & Write by MB/s, default block size = 16MB)

2.6.1 **Samsung U.2 PM1783 / 15.36TB NVMe SSD** performance as below:



2.7 ATTO Disk Benchamrk 4.01 performance test

2.7.1 Samsung U.2 PM1783 / 15.36TB NVMe SSD performance as below:



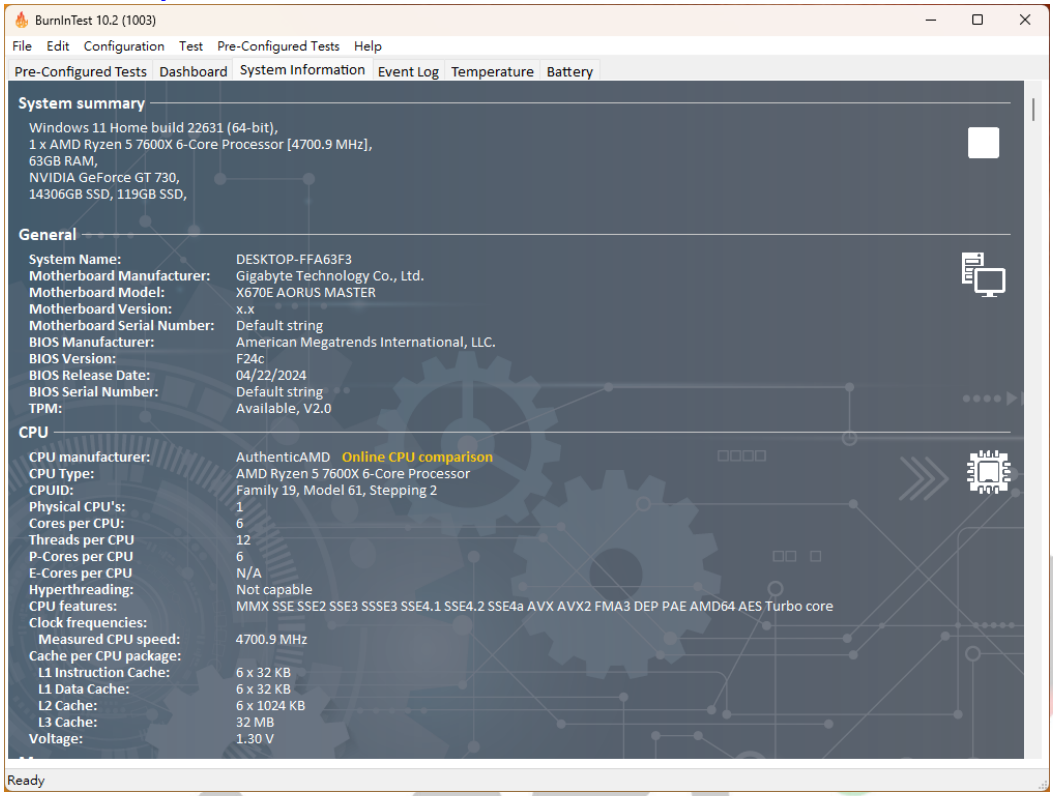
2.8 AnvilBenchmark_V110_B337

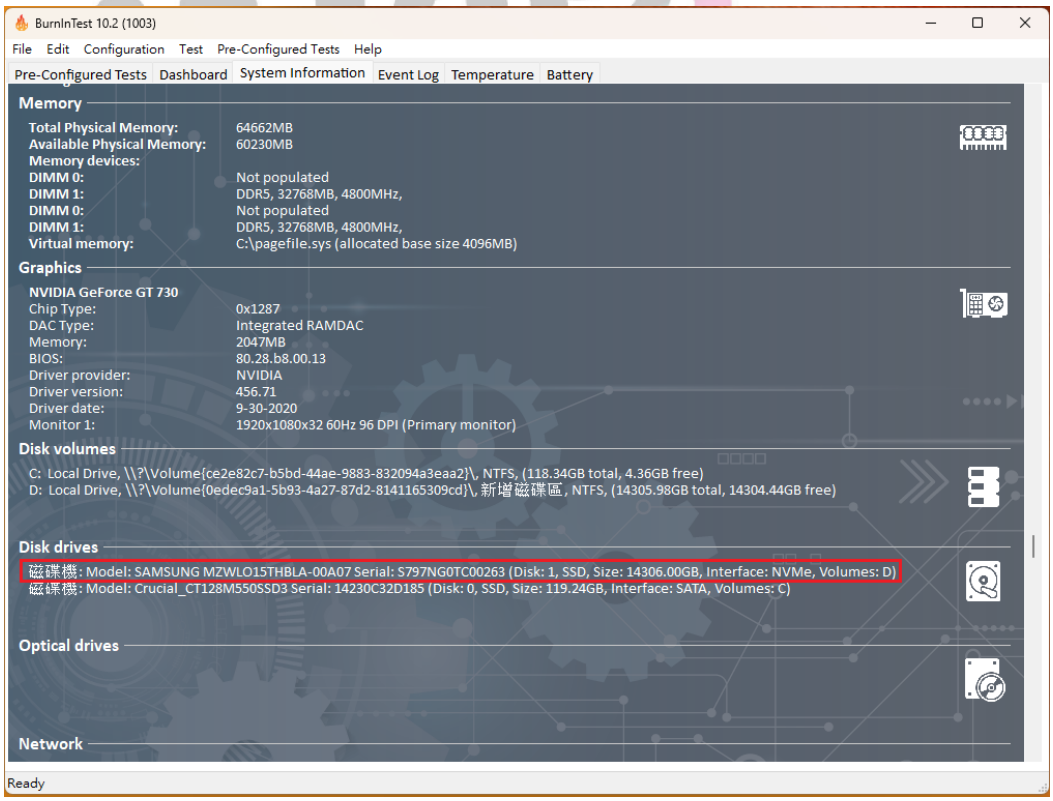
2.8.1 Samsung U.2 PM1783 / 15.36TB NVMe SSD performance as below:

3. Burn In Tests and Results

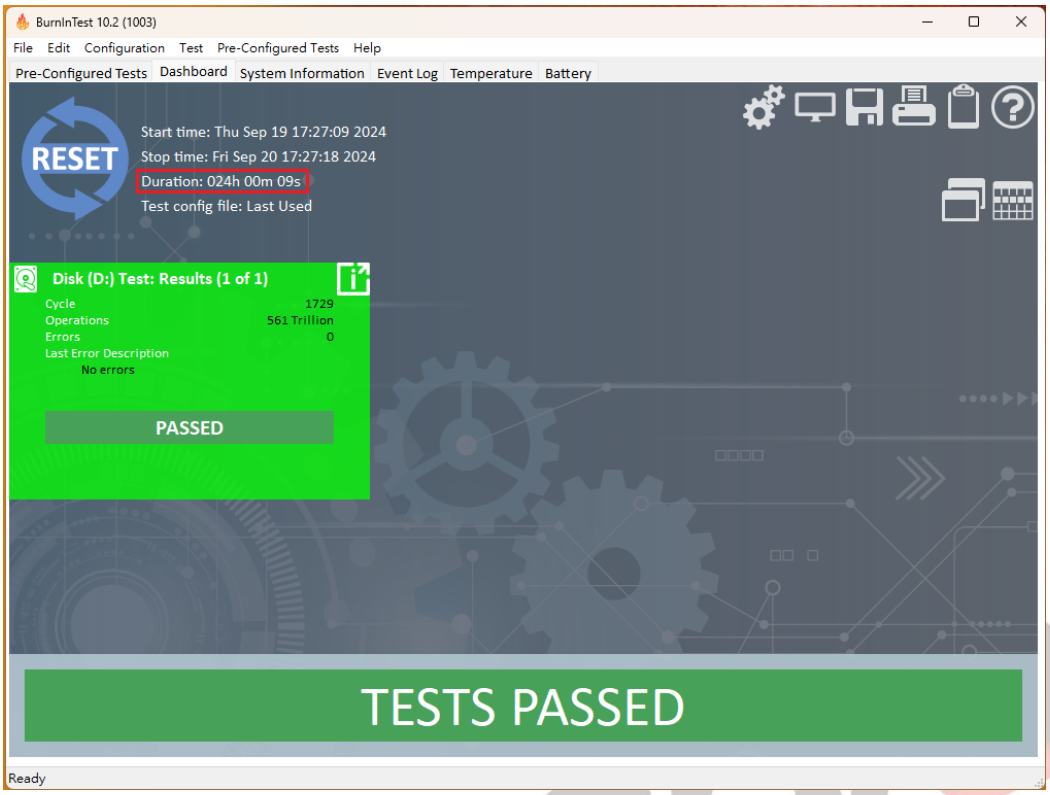
3.1 BurnInTest v10.2 Pro for Samsung U.2 PM1783 / 15.36TB NVMe SSD

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 5.0, 32GT/s , 4 Lanes Interface, I/O speed, max. to 128Gbps.

4.2 EP7102 Host Bus Adapter I/O performance is based on U.2 NVMe SSD.