MINERVA

EP4903 M.2 PCIe 5.0 with ReDriver for ARF6-16

Performance & Burn In Test Rev. 1. 0

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4. **Summary**

EP4903 Host Bus Adapter

1. Overview

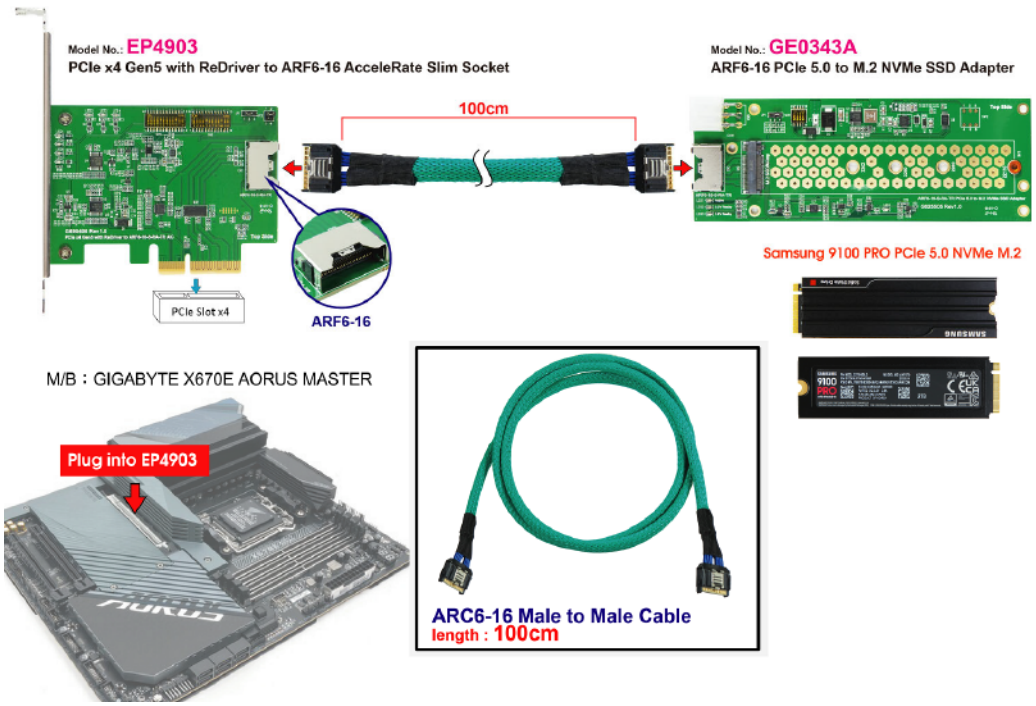
The Host Bus Adapter may provide PCIe x4 Gen 5, 32GT/s high-speed signals extension, bulit-in ReDriver controller to provide equalization up to **24 dB at 16 GHz** to ARF6-16.
GE0343A Adapter, providing M.2 M-key connector can be M.2 NVMe SSD converted into ARF6-16 PCIe 5.0, 16GT/s 4-Lane interface.

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:	EP4903 PCIe x4 Gen 5 with Redriver to ARF6-16 AIC
Cable:	S2CEDA ARC6-16 Male to Male PCIe 5.0, **100cm** Cable
Adapter:	GE0343A ARF6-16 to M.2 with Hot Plug Power protection adapter
OS :	Microsoft **Windows 11 64bit OS**

2.2 Test target: EP4903 AIC, GE0343A Adapter & Samsung 9100 pro **2TB** PCIe 5.0 M.2 SSD



2.3 Install Hardware

Inserts M.2 NVMe SSD into GE0343A adapter converter's M.2 M-key connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connects GE0343A converter to EP4903 AIC(PCIe x4 Gen 5 with Redriver to ARF6-16 AIC), Using ARC6-16 Male to Male, 100cm cable and plugs EP4903 into PCIe x16 Slot of GIGABYTE **X670E AORUS MASTER**

2.4 BIOS & Windows 10 OS environment setup

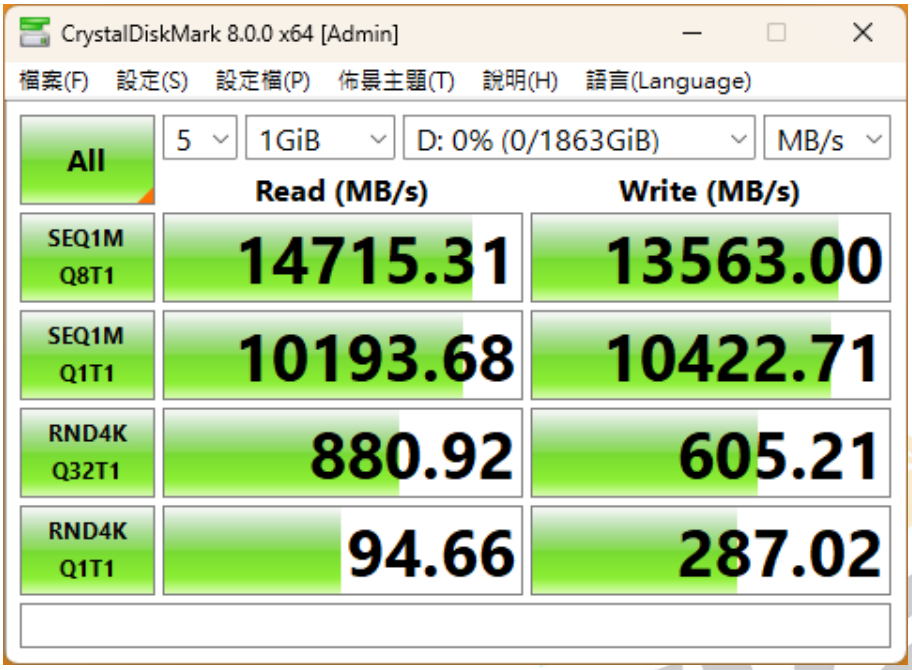
2.4.1 Primary SATA SSD installed Windows 11 OS.

2.4.2 M.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)

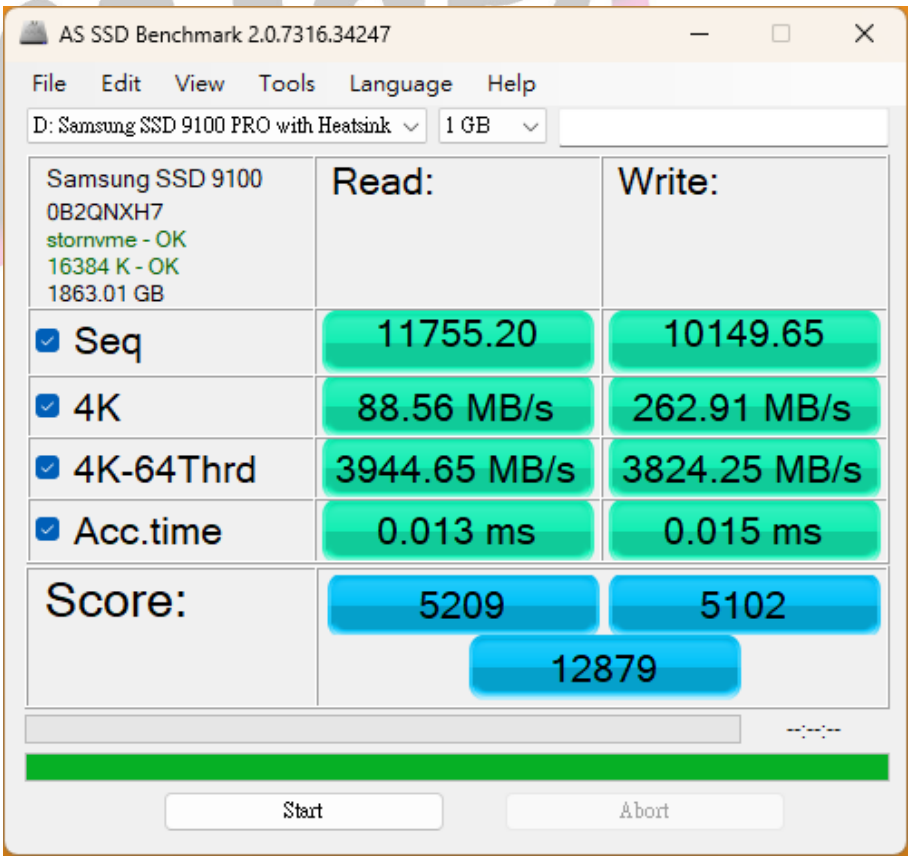
2.5.1 **Samsung M.2 NVMe SSD/ 2TB** performance as below:



2.6 AS SSD Benchmark 2.0.7 performance test

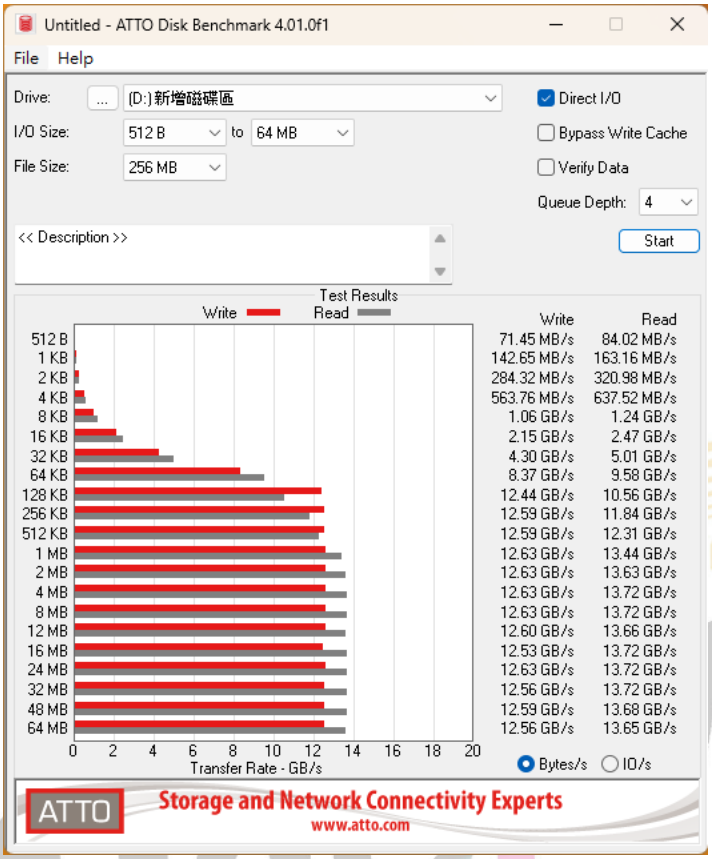
※Benchmark (Read & Write by MB/s, default block size = 16MB)

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



2.7 ATTO Disk Benchamrk 4.01 performance test

2.7.1 **Samsung M.2 NVMe SSD/ 2TB** performance as below:



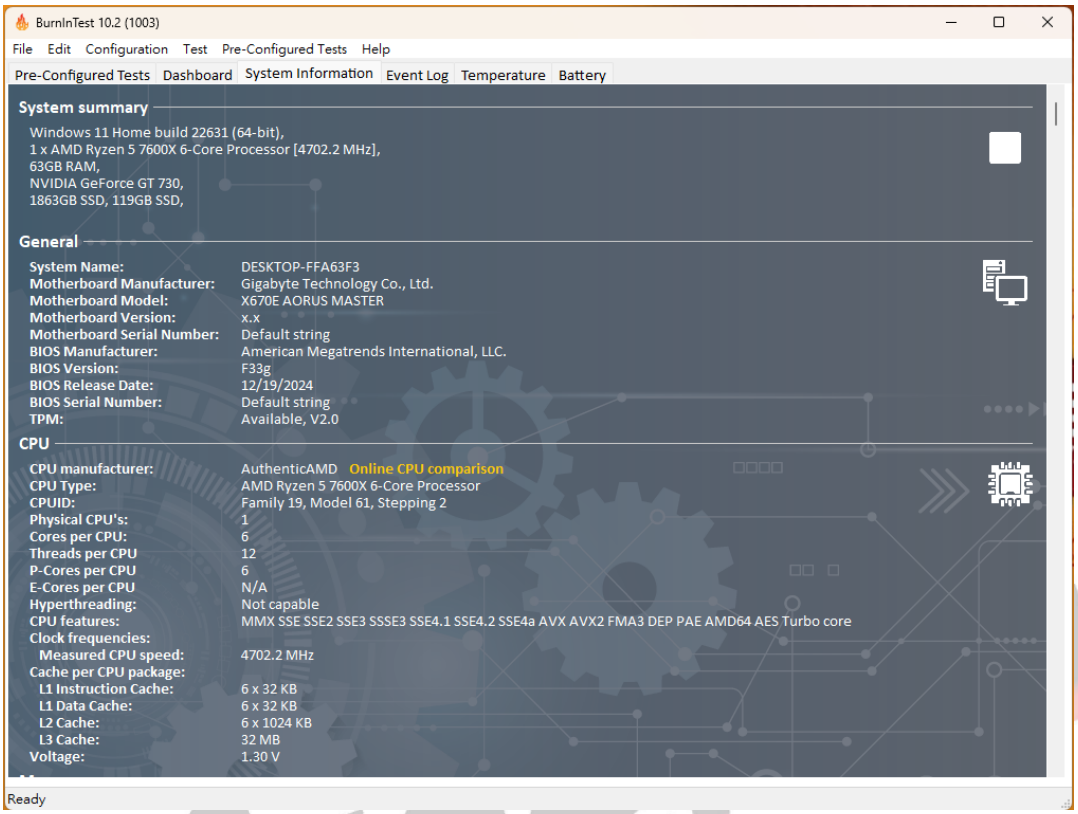
2.8 AnvilBenchmark_V110_B337

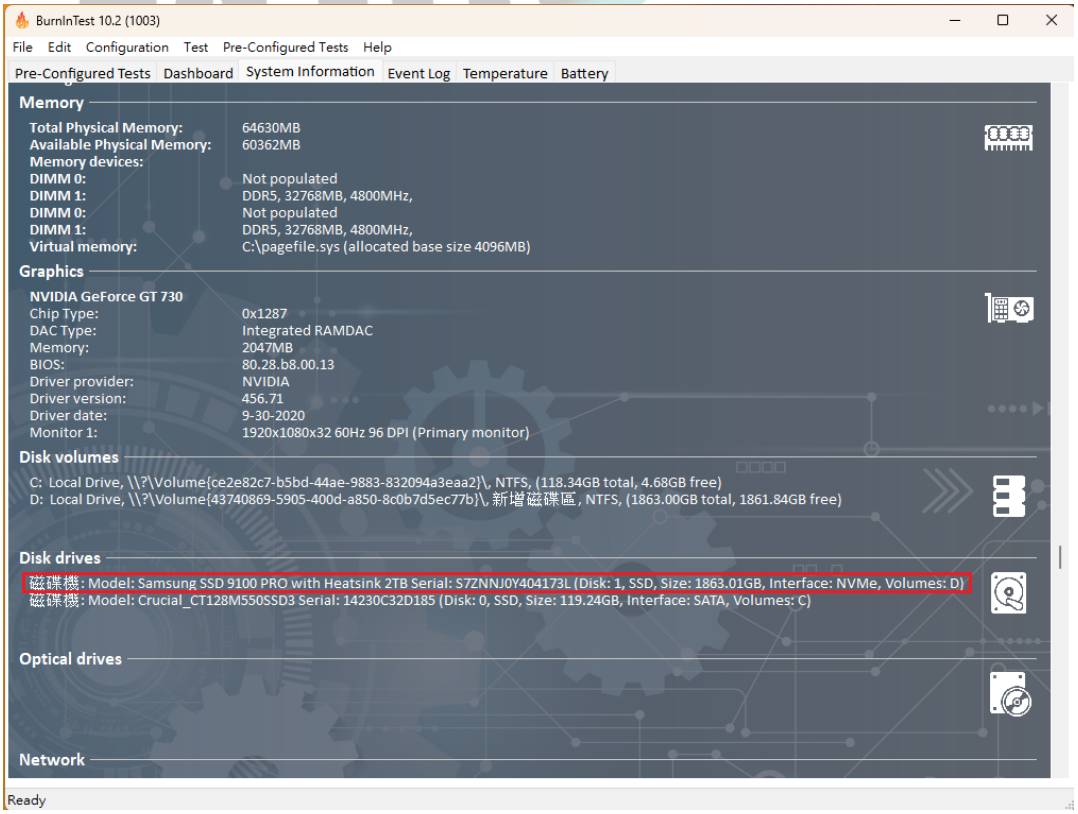
2.8.1 **Samsung M.2 NVMe SSD/ 2TB** performance as below:

3. Burn In Tests and Results

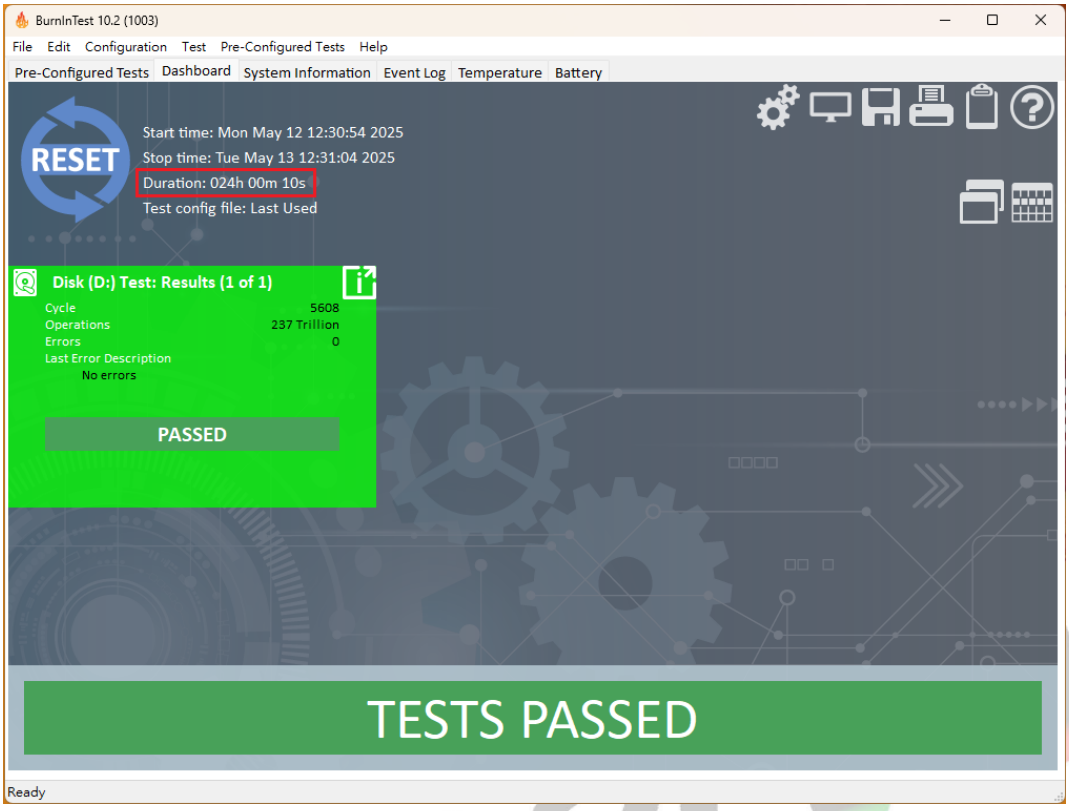
3.1 BurnInTest v10 Pro for Samsung M.2 NVMe SSD/ 2TB

3.1.1 System Information as below:





3.1.2 24-hour Burn-in test PASSED



4. Summary

4.1 M.2 NVMe SSD is PCIe 5.0, 32GT/s, 4 Lanes Interface, I/O speed, max. to 128Gbps.

4.2 EP4903 AIC I/O performance is based on M.2 NVMe SSD.

4.3 GE0343A adapter I/O performance is based on M.2 NVMe SSD.