MINERVA

DP8811 PCIe x8 Gen4 with Redriver to SFF-8673 1x2,4X A.I.C.

Performance & Burn In Test   Rev 1.0

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DP8811 Add-in Card

1. Overview

This riser card has built-in SFF-8673 1x2, 4X (internal Mini SAS HD) connector. It is designed for use by PCIe x8 to be bifurcated two x4 link width or can extend PCIe x8 channel reach. The ReDriver may support CTLE boosts up to **13 dB at 8 GHz.**

2. Tools and Results of Performance Measurement

2.1 Test Platform
M/B :   GIGABYTE **X570S 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
Add in Card: DP8811 PCIe x8 with ReDriver to SFF-8673 1x2, 4X AIC
Cable: PCIe 4.0 Internal Mini SAS HD 1x1, 4X to U.2, **50cm** Cable x2pcs
OS :   Microsoft **Windows 10 64bit OS**

2.2 Test target: DP8811 & U.2 NVMe SSD
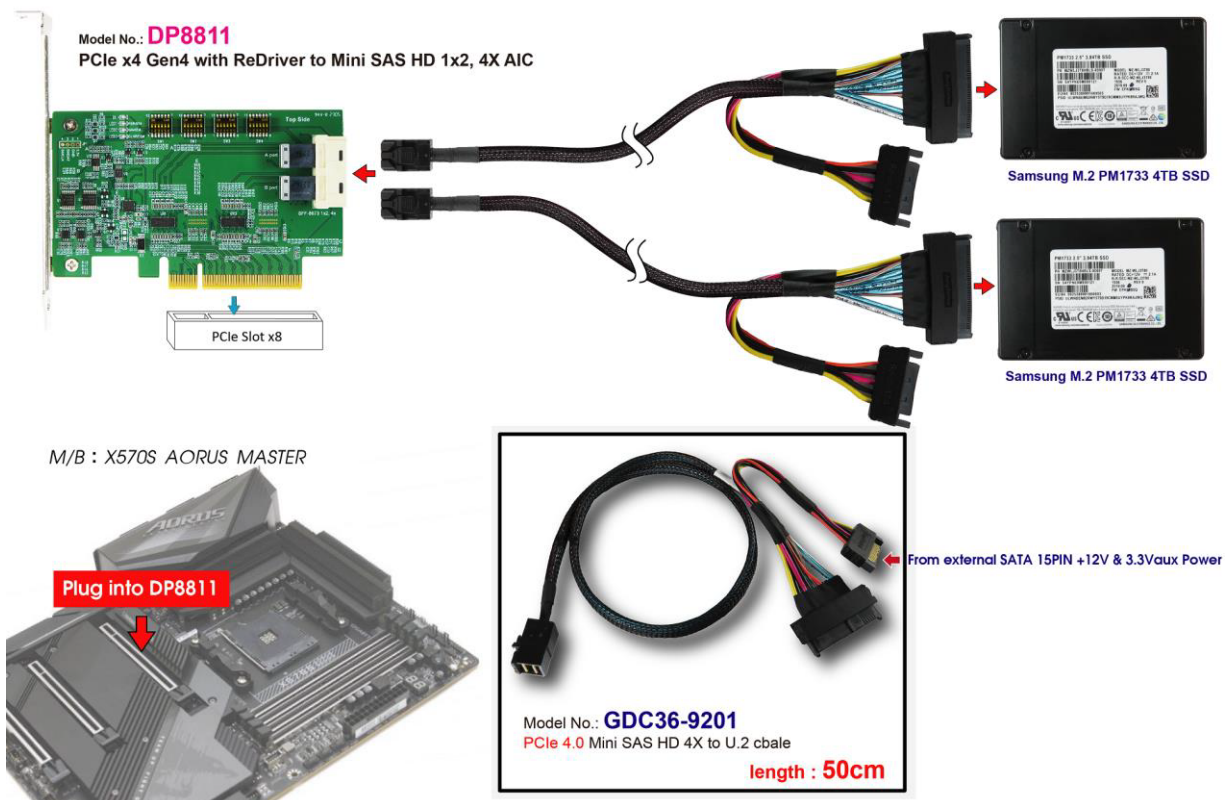
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2.3 Install Hardware

First inserts the U.2 SSD into the SFF-8673 1x1, 4X to U.2, 100cm Cable and then the cable connects to DP8711 AIC, Plugs DP8811 AIC into PCIe x16 slot of GIGABYTE **X570S AORUS MASTER**.

2.4 BIOS & Windows 10 OS environment setup

2.4.1   Primary SATA NVMe SSD install Windows 10 OS.

2.4.2   Two U.2 NVMe SSDs, formatted to NTFS Mode. Don't install any program.
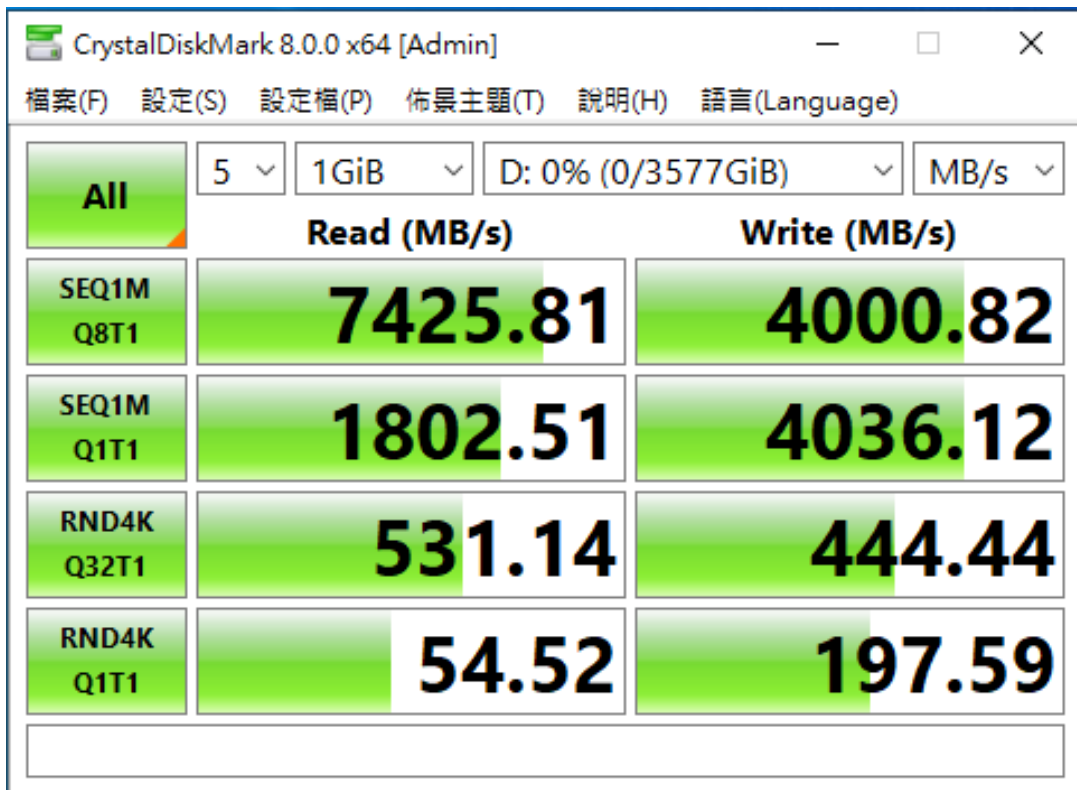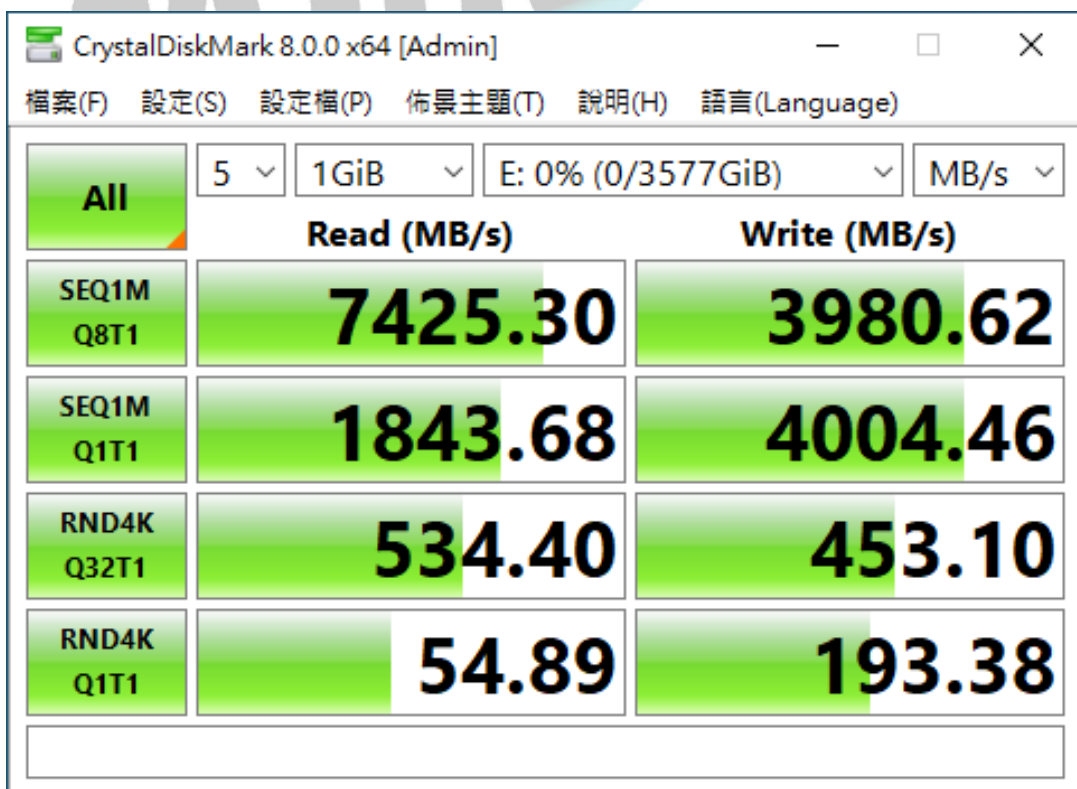
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2.5 CrystalDiskMark 8.0.0 x64 performance test
    ※Benchmark (Sequential Read & Write / default = 1MB)
    2.5.1   **Samsung PM1733 U.2 SSD /4TB** in **Drive D:** performance as below:

CrystalDiskMark 8.0.0 x64 [Admin]		
5 ∨	1GiB ∨	D: 0% (0/3577GiB) ∨	MB/s ∨
All	**Read (MB/s)**	**Write (MB/s)**
SEQ1M Q8T1	7425.81	4000.82
SEQ1M Q1T1	1802.51	4036.12
RND4K Q32T1	531.14	444.44
RND4K Q1T1	54.52	197.59

2.5.2   **Samsung PM1733 U.2 SSD /4TB** in **Drive E:** performance as below:

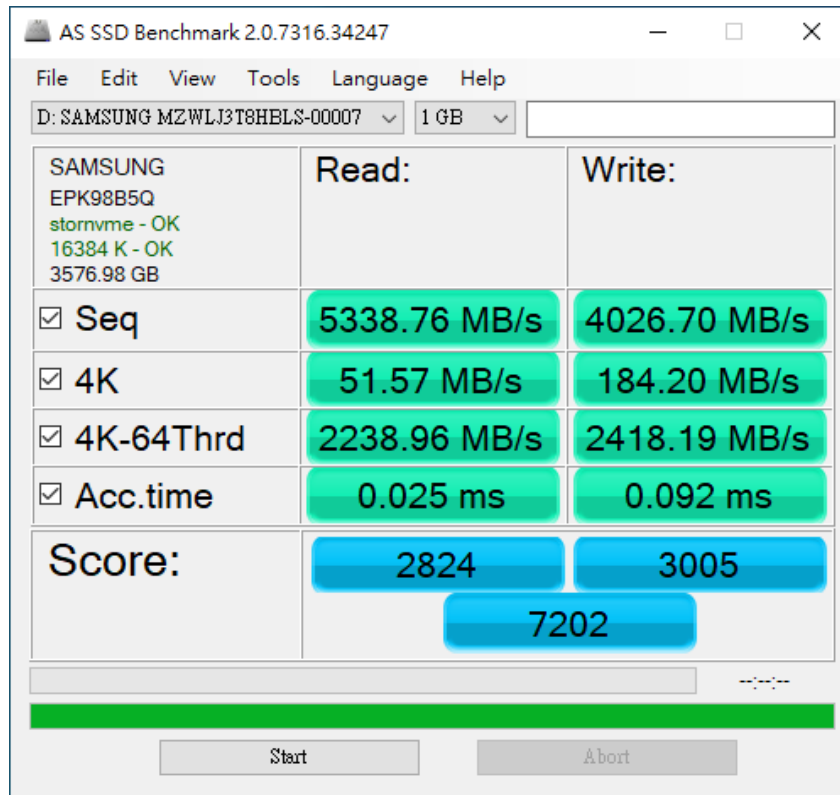| CrystalDiskMark 8.0.0 x64 [Admin]		
5 ∨	1GiB ∨	E: 0% (0/3577GiB) ∨	MB/s ∨
All	**Read (MB/s)**	**Write (MB/s)**
SEQ1M Q8T1	7425.30	3980.62
SEQ1M Q1T1	1843.68	4004.46
RND4K Q32T1	534.40	453.10
RND4K Q1T1	54.89	193.38

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2.6 AS SSD Benchmark 2.0 performance test

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

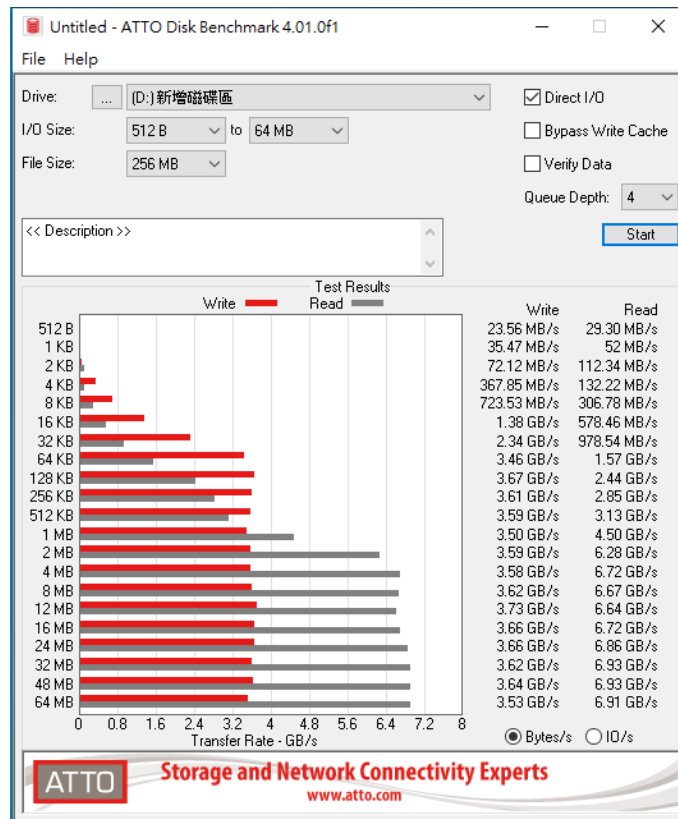2.6.1 **Samsung PM1733 U.2 SSD /4TB** in **Drive D:** performance as below:

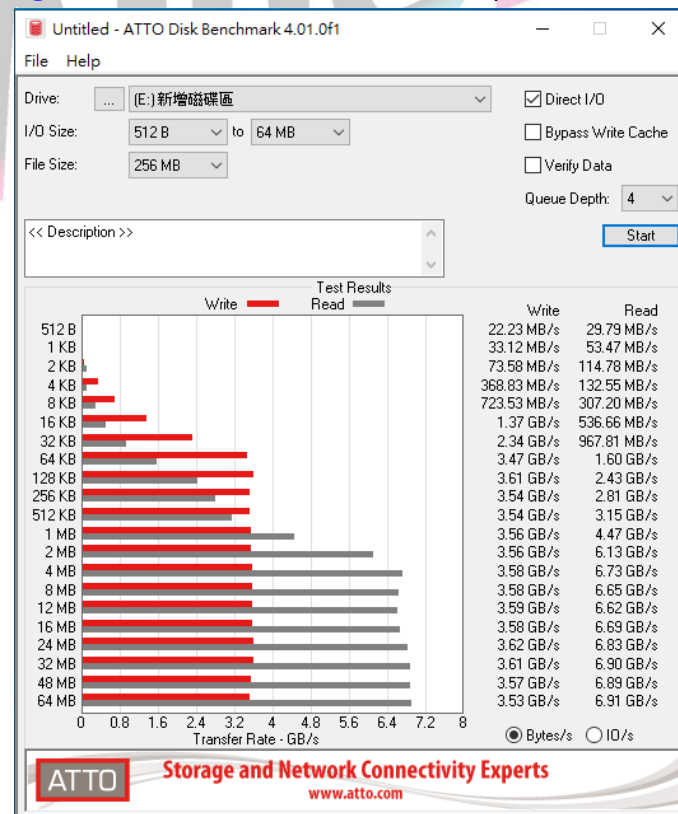2.6.2 **Samsung PM1733 U.2 SSD /4TB** in **Drive E:** performance as below:
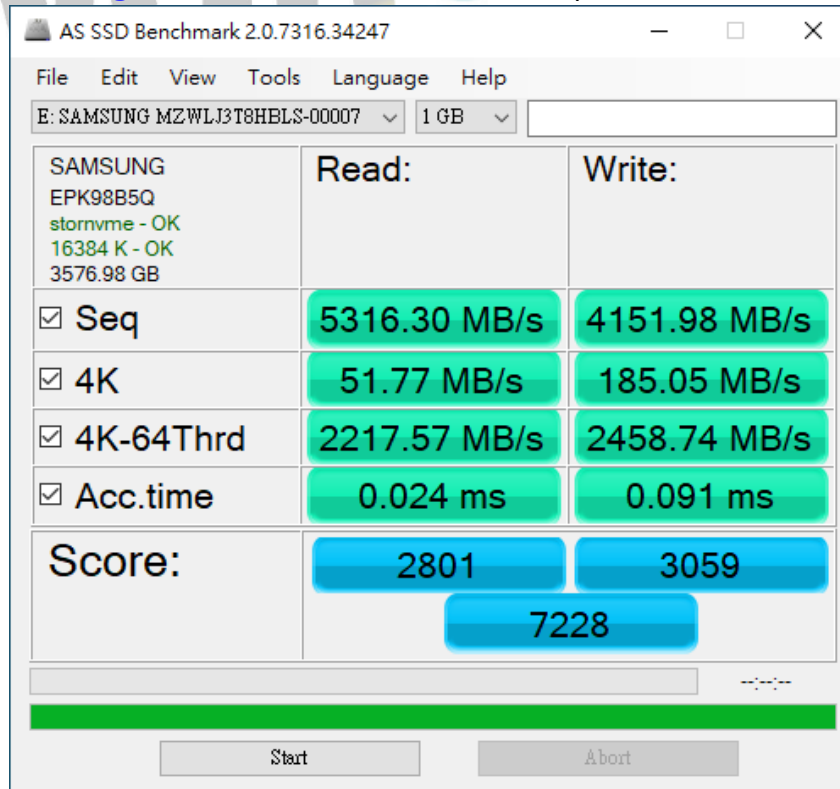
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2.7 <u>ATTO Disk Benchamrk 4.01 performance test</u>

    2.7.1   **Samsung PM1733 U.2 SSD** /**4TB** in **Drive D:** performance as below:

    2.7.2   **Samsung PM1733 U.2 SSD** /**4TB** in **Drive E:** performance as below:

2.8 AnvilBenchmark_V110_B337

2.8.1 Samsung PM1733 U.2 SSD /4TB in Drive D: performance as below:

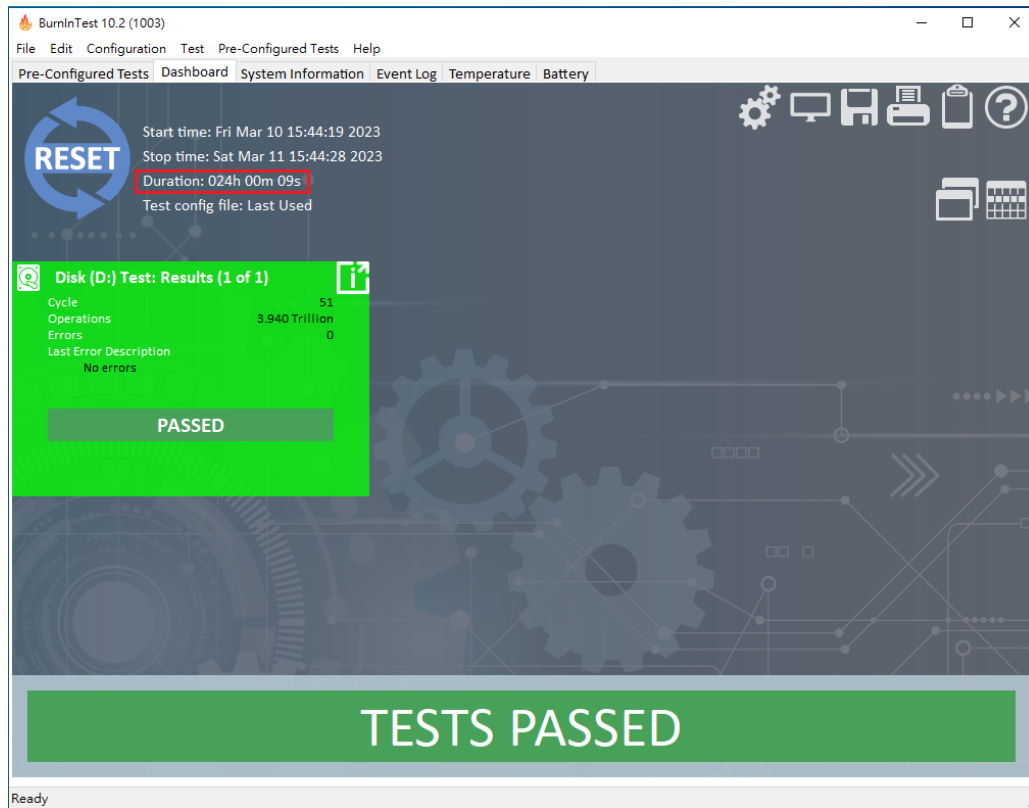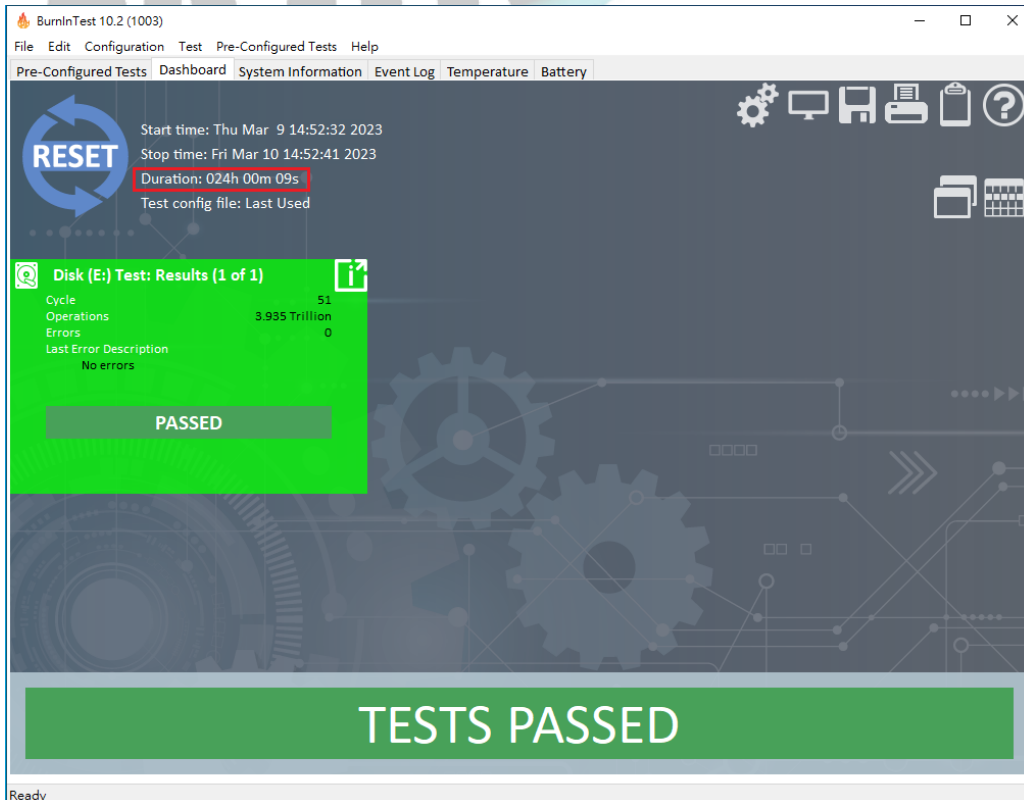### 2.8.2 Samsung PM1733 U.2 SSD /4TB in Drive E: performance as below:

3. Burn In Tests and Results

3.1 BurnInTest v10.2 Pro

3.1.1 24-hour Burn-in test PASSED for Drive D:

3.1.2 24-hour Burn-in test PASSED for Drive E:

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4. Summary

4.1 The U.2 NVMe SSD is PCIe 4.0 Interface, I/O speed, max. to 64Gbps.

4.2 The DP8811 AIC I/O performance is based on U.2 NVMe SSD.