MINERVA

DP8413 PCIe x8 Gen 4 with ReDriver to SlimSAS 4 i Dual port

Performance & Burn In Test   Rev 1.0

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DP8413 Add-in Card

1. Overview

This Add-on Card has built-in SlimSAS 4i(SFF-8654) dual port connector. It is designed for be used by PCIe x8 link width to configure two x4 bifurcations which could be extended PCIe 4.0 signals. The ReDriver on board may support CTLE to boost up to **13 dB at 8 GHz.**

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B :	ASUS **PRIME X570-PRO**
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:	DP8413 PCIe x8 with ReDriver to SlimSAS 4i(SFF-8654) AIC
Cable:	PCIe Gen 4 SlimSAS 4i(SFF-8654) to U.2, 100cm Cable
Cable:	PCIe Gen 4 SlimSAS 4i(SFF-8654) to U.2, 50cm Cable
OS :	Microsoft **Windows 10 64bit OS**

2.2 Test target: DP8413, SAMSUNG NVMe SSD/ 4TB
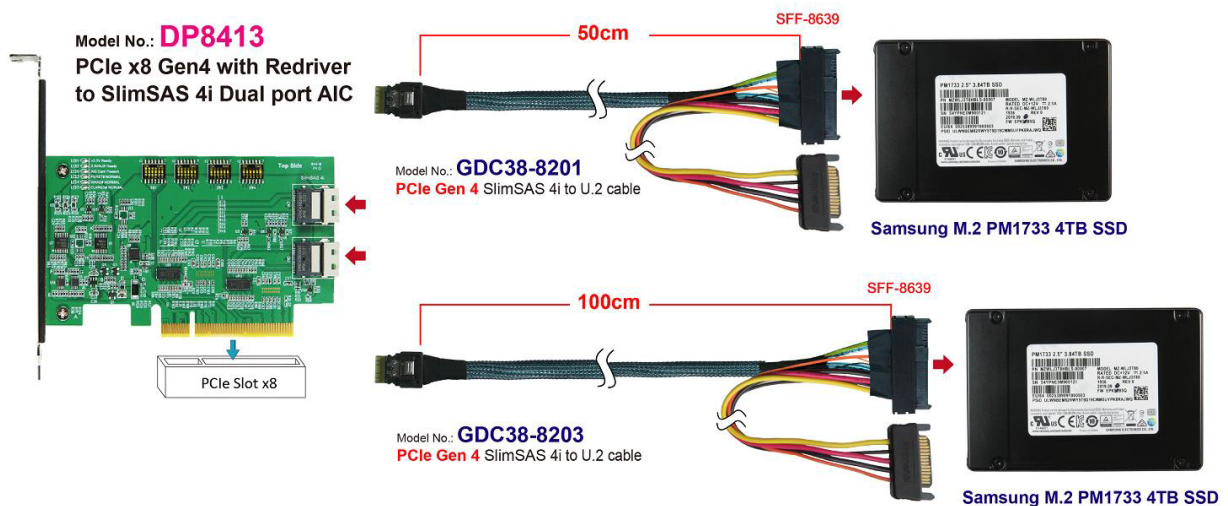
DP8413 Add-in Card

2.3   Install Hardware

First inserts the U.2 SSD into the GDC38-8203 cable's SFF-8639 connector and connects to the DP8413 AIC card (PCIe x8 Gen 4 to SFF-8654 4i x2). The DP8413 AIC plugs into ASUS **PRIME X570-PRO**.

2.4   BIOS & Windows 10 OS environment setup

2.4.1   Primary SATA NVMe SSD install Windows 10 OS.
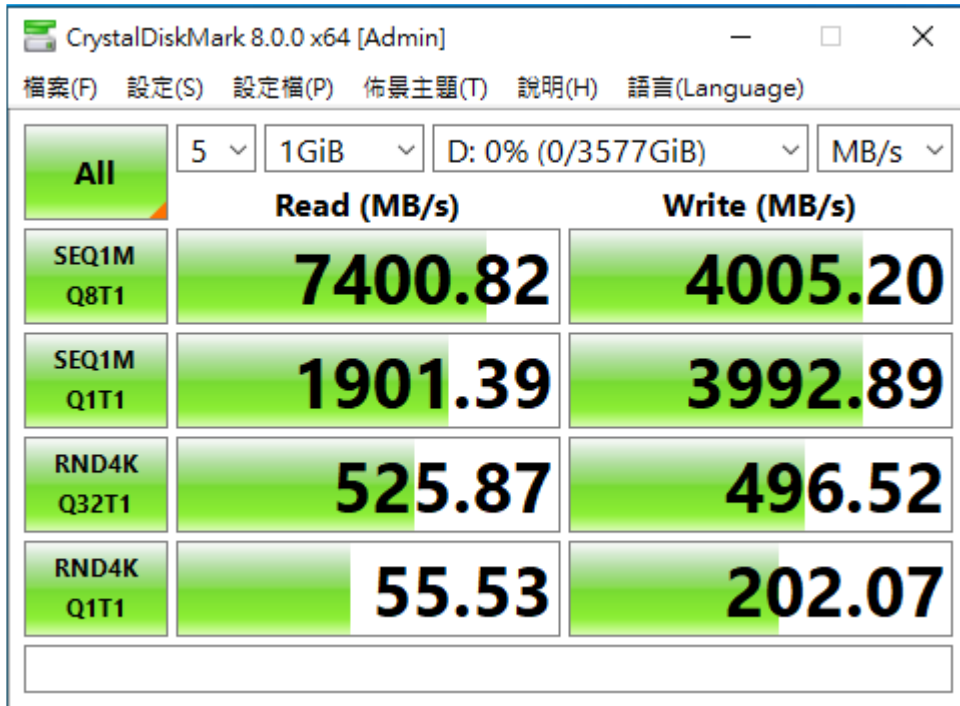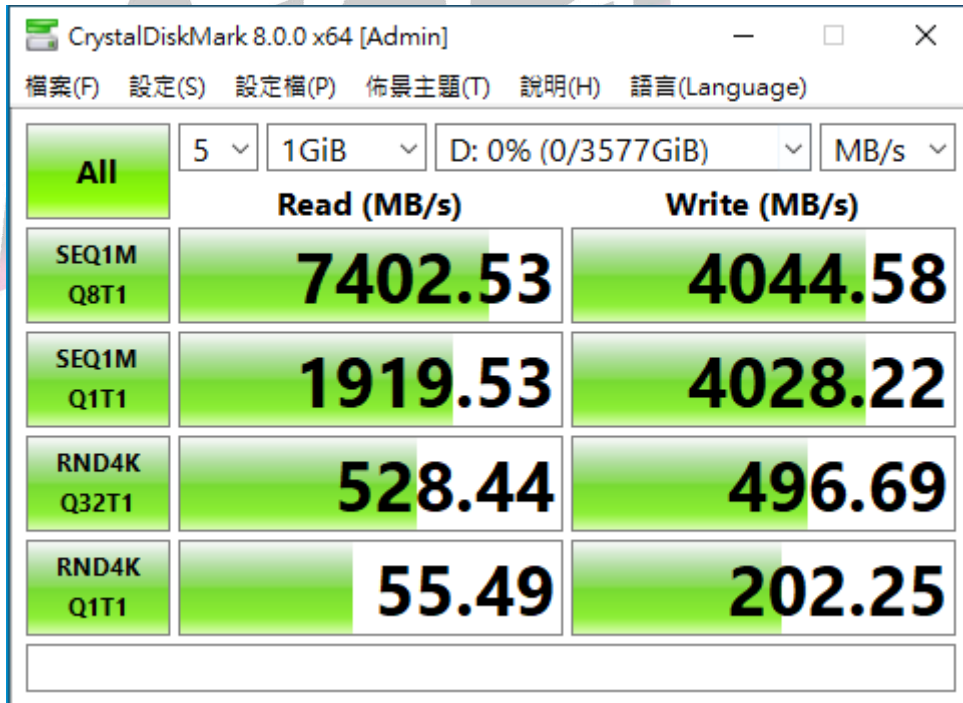2.4.2   U.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.

2.5   CrystalDiskMark 8.0.0 x64 performance test

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

2.5.1   SAMSUNG U.2 NVMe SSD/ 4TB performance with 100cm cable as below:

2.5.2   SAMSUNG U.2 NVMe SSD/ 4TB performance with 50cm cable as below:
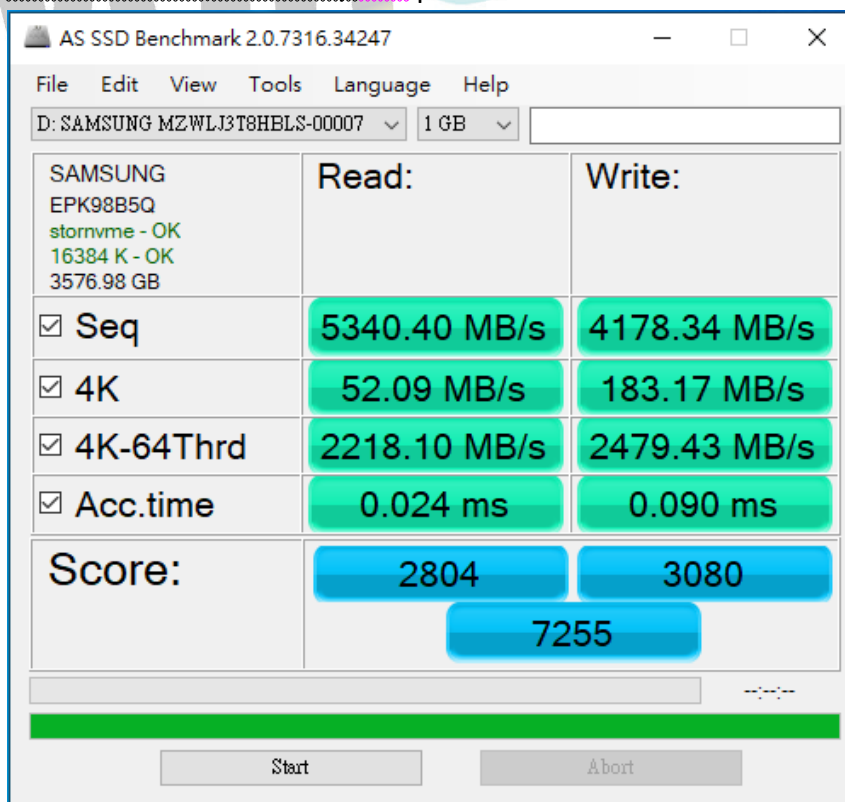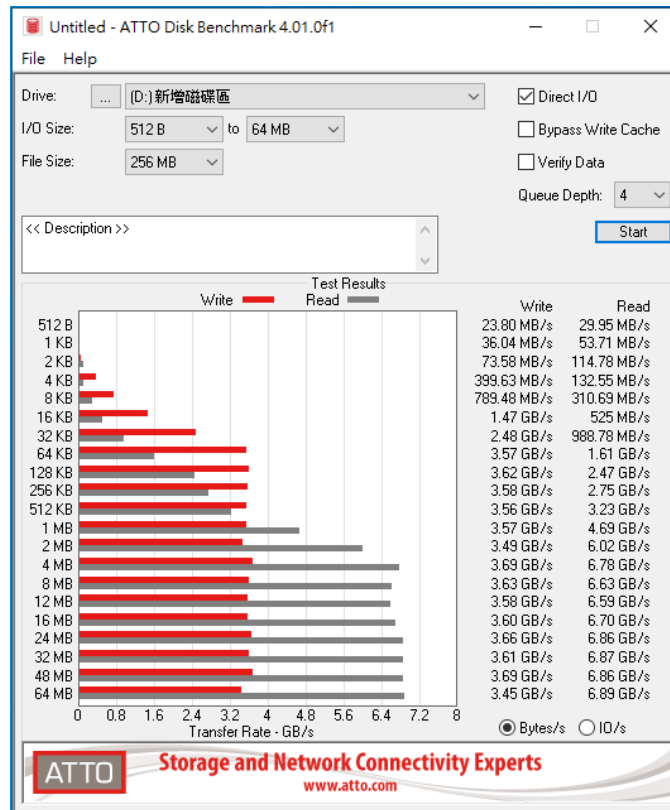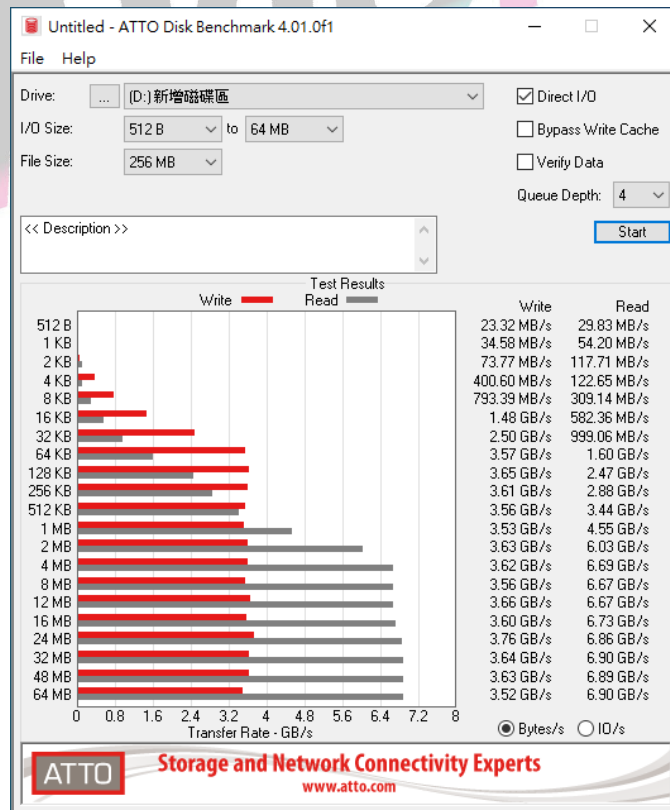
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2.6 AS SSD Benchmark 2.0 performance test

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

2.6.1 SAMSUNG U.2 NVMe SSD/ **4TB** performance with 100cm cable as below:
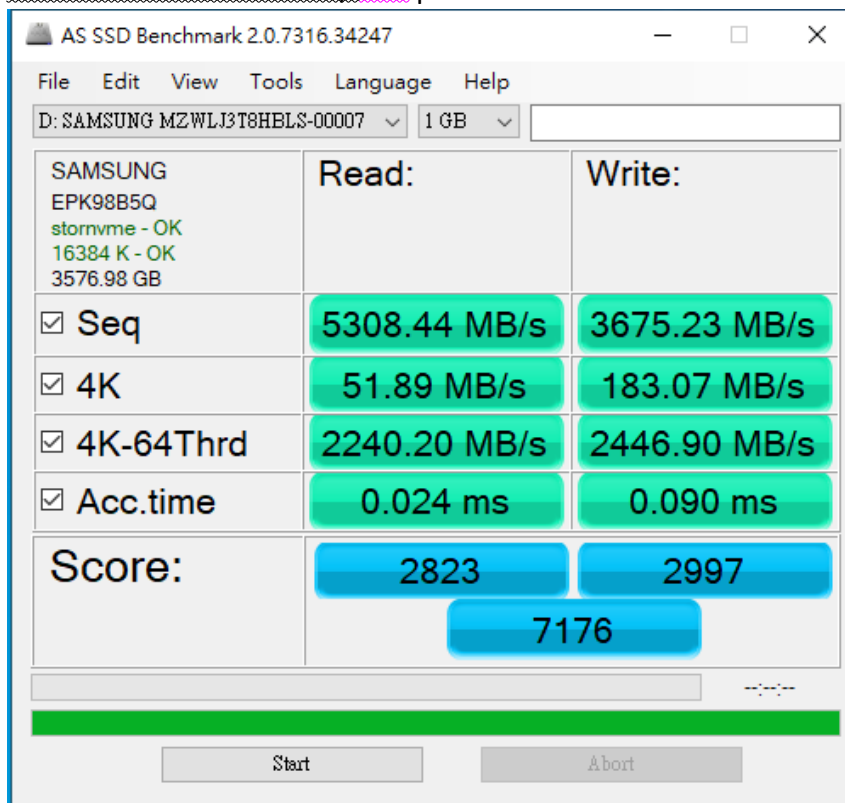
2.6.2 SAMSUNG U.2 NVMe SSD/ **4TB** performance with 50cm cable as below:

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2.7　ATTO Disk Benchamrk 4.01 performance test

　　2.7.1　　SAMSUNG U.2 NVMe SSD/ 4TB performance with 100cm cable as below:

　　2.7.2　　SAMSUNG U.2 NVMe SSD/ 4TB performance with 50cm cable as below:

2.8   AnvilBenchmark_V110_B337

2.8.1   SAMSUNG U.2 NVMe SSD/ **4TB** performance with 100cm cable as below:

2.8.2   SAMSUNG U.2 NVMe SSD/ **4TB** performance with 50cm cable as below:

3. Burn In Tests and Results

3.1 BurnInTest v8.1 Pro

3.1.1 **system information** as below:
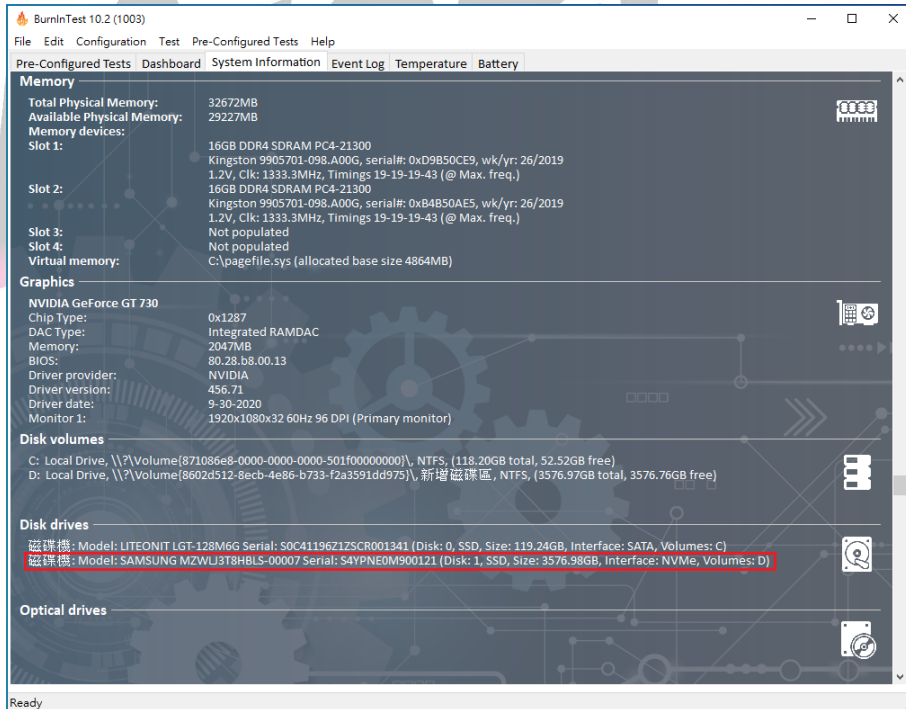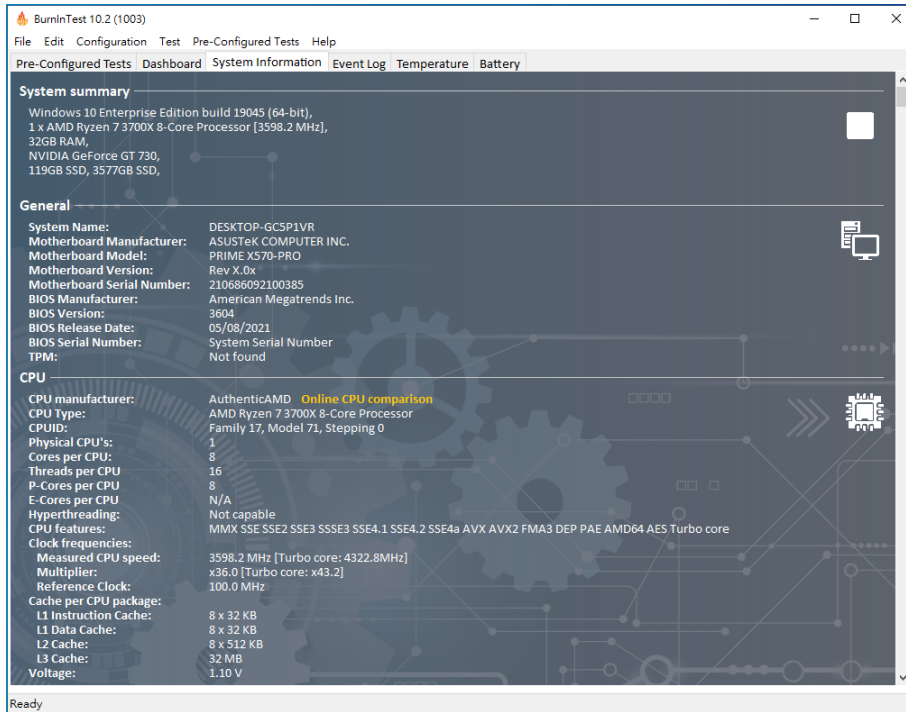
3.1.3 24-hour Burn-in test PASSED
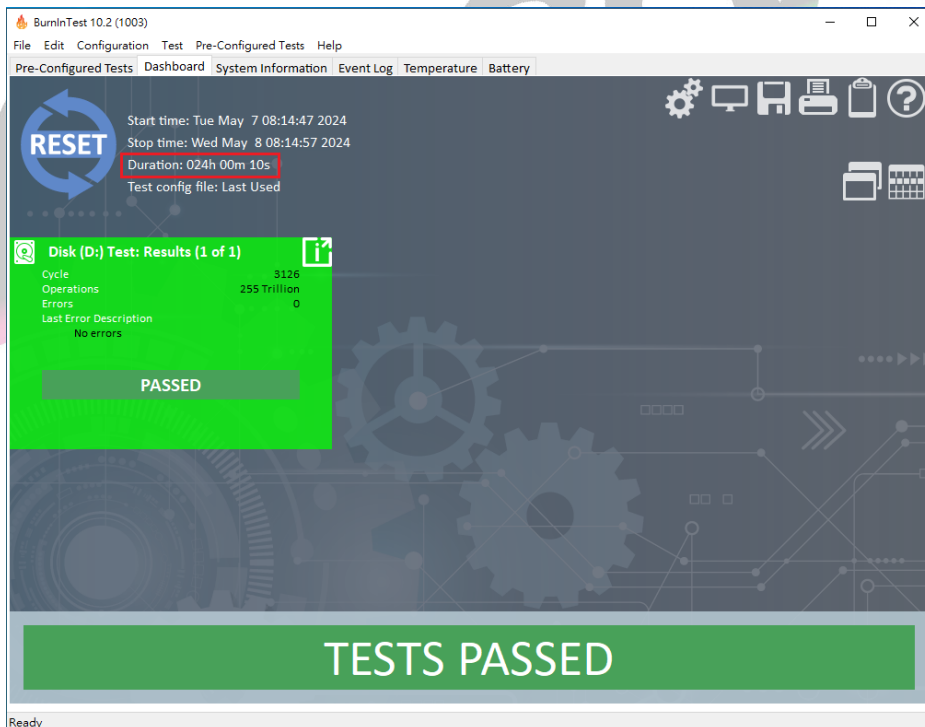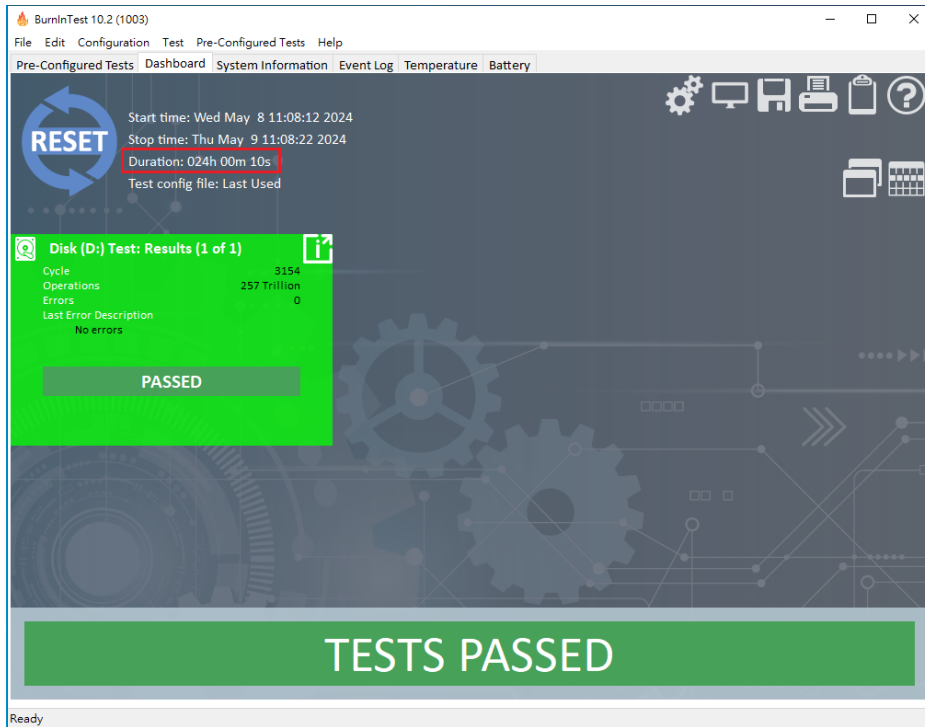
4. Summary

4.1   DP8413 AIC is PCIe x8 Gen 4 with SlimSAS 4i dual port

4.2   U.2 NVMe SSD is PCIe 4.0 / 4 Lane Interface, I/O speed, max. to 64Gbps.

4.3   DP8413 AIC I/O performance is based on U.2 NVMe SSD.