



MINERVA

DP7105 PCIe x16 Gen4 + ReDriver to SFF-8673(1x2,4X)dual port

Performance & Burn In Test Rev 1.0

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1. Overview

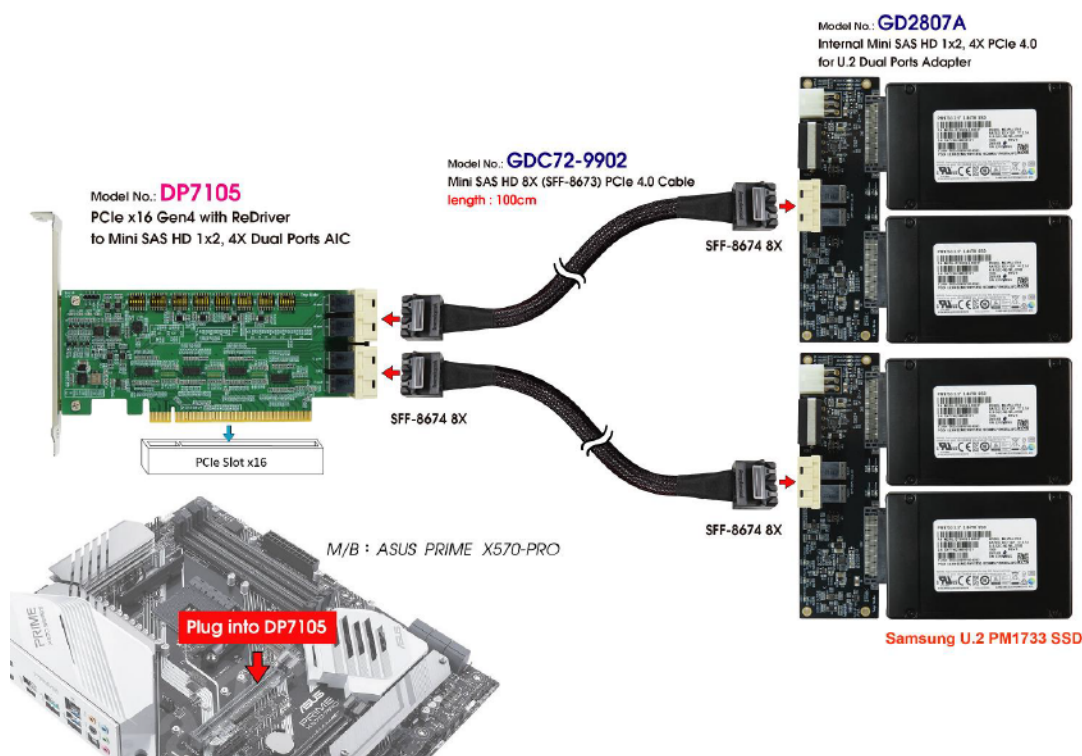
The DP7105 AIC has built-in ReDriver and is with MiniSAS HD(SFF-8673) dual port connector. It is designed for use by PCIe x16 to be bifurcated four x4 link width or can extend PCIe x16 signals channel reach. The PCIe 4.0 ReDriver may support CTLE boosts up to **13 dB**.

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: DP7105 PCIe x16 to MiniSAS HD(SFF-8673) dual port AIC
Cable: PCIe 4.0 SFF-8673 8X, 100cm Cable
Adapter: GD2807A MiniSAS HD(SFF-8673) to U.2 dual ports adapter
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: DP7105, GD2807A adapter with SAMSUNG U.2 4TB



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2.3 Install Hardware

First inserts the U.2 SSD into the GD2807A U.2 connector and connects the GD2807A adapter to the DP7105 AIC card (PCIe x16 Gen 4 to SFF-8673 dual port), using the **GDC72-9902 Cable**, and Plugs DP7105 AIC 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 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 / **4TB** in **Drive D:** performance as below:

The screenshot shows the CrystalDiskMark 8.0.0 x64 [Admin] window. The drive selected is D: (0/3577GiB). The test results are as follows:

	Read (MB/s)	Write (MB/s)
SEQ1M Q8T1	7418.20	3719.49
SEQ1M Q1T1	1964.86	3794.20
RND4K Q32T1	533.99	535.83
RND4K Q1T1	53.39	37.41

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

The screenshot shows the CrystalDiskMark 8.0.0 x64 [Admin] window. The drive selected is E: (0/3577GiB). The test results are as follows:

	Read (MB/s)	Write (MB/s)
SEQ1M Q8T1	7403.22	3708.74
SEQ1M Q1T1	1873.64	3757.80
RND4K Q32T1	530.51	532.49
RND4K Q1T1	53.83	37.28

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2.5.3 SAMSUNG PM1733 U.2 / 4TB in Drive F: performance as below:

	Read (MB/s)	Write (MB/s)
SEQ1M Q8T1	7398.29	3937.60
SEQ1M Q1T1	1950.03	4010.52
RND4K Q32T1	534.56	400.01
RND4K Q1T1	56.02	201.10

2.5.4 SAMSUNG PM1733 U.2 / 4TB in Drive G: performance as below:

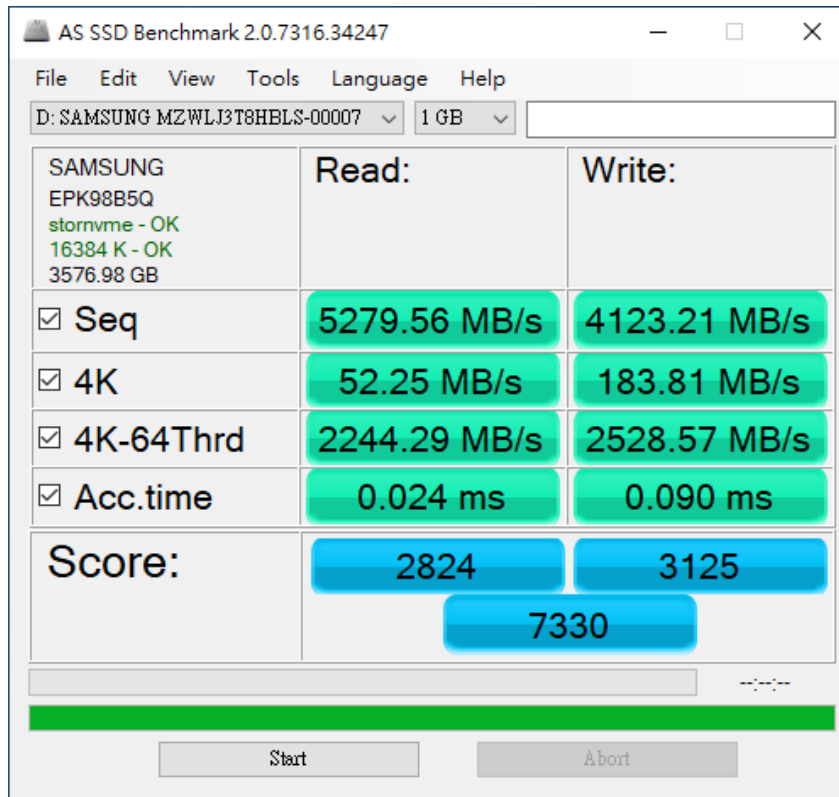
	Read (MB/s)	Write (MB/s)
SEQ1M Q8T1	7403.26	3955.32
SEQ1M Q1T1	1823.67	4030.58
RND4K Q32T1	533.98	395.28
RND4K Q1T1	55.23	199.39

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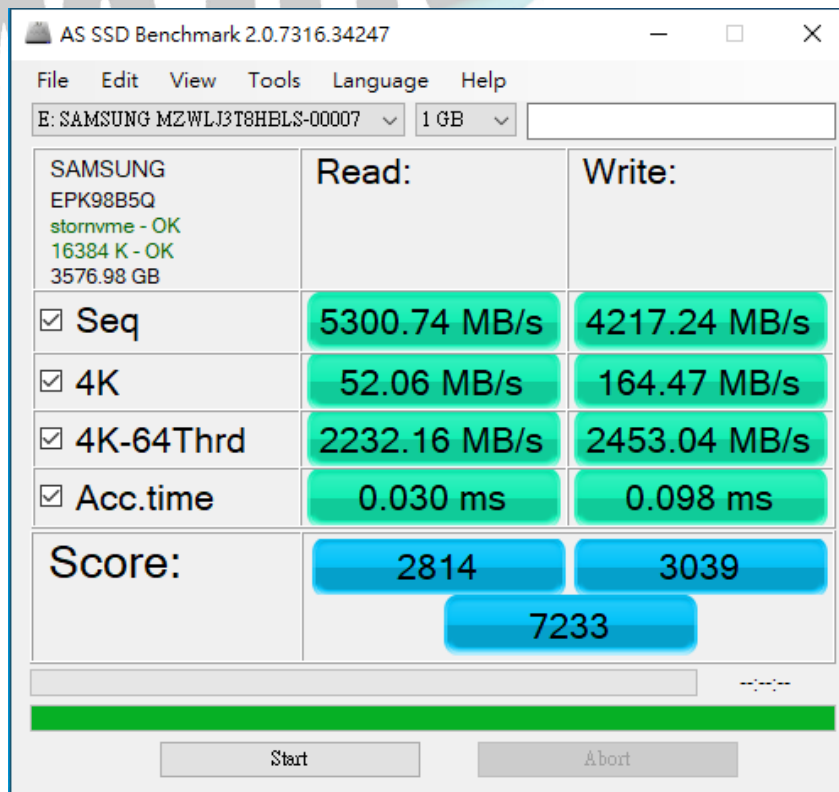
2.6 AS SSD Benchmark 2.0 performance test

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

2.6.1 SAMSUNG PM1733 U.2 / 4TB in Drive D: performance as below:

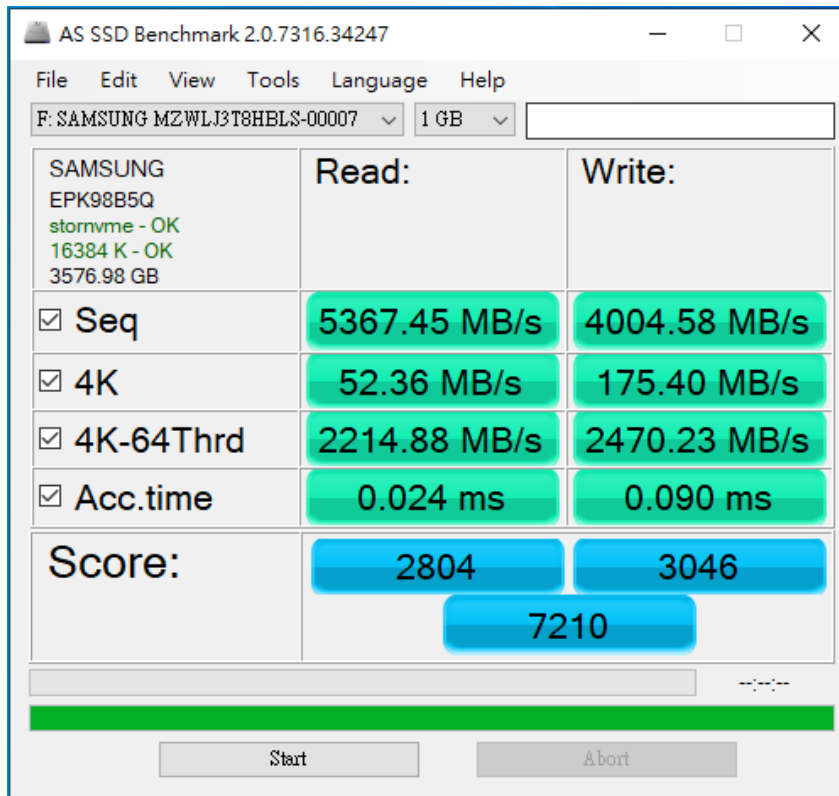


2.6.2 SAMSUNG PM1733 U.2 / 4TB in Drive E: performance as below:

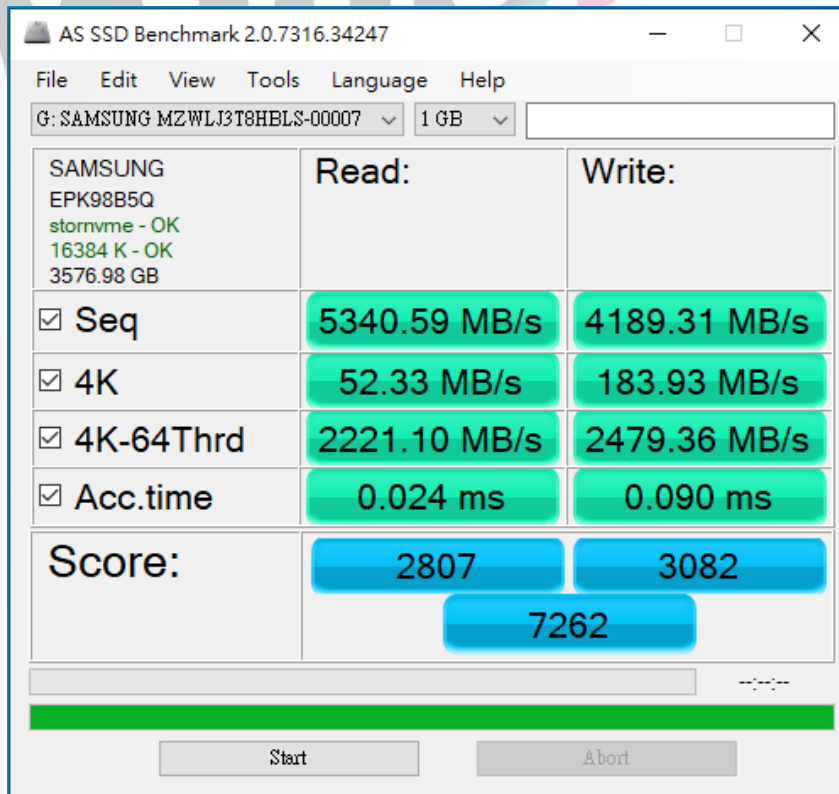


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2.6.3 SAMSUNG PM1733 U.2./ 4TB in Drive F: performance as below:



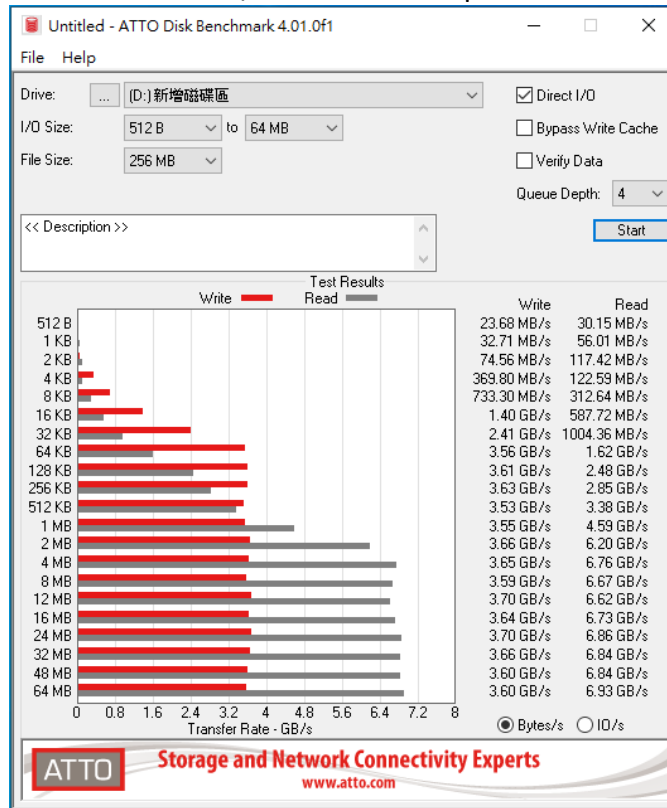
2.6.4 SAMSUNG PM1733 U.2./ 4TB in Drive G: performance as below:



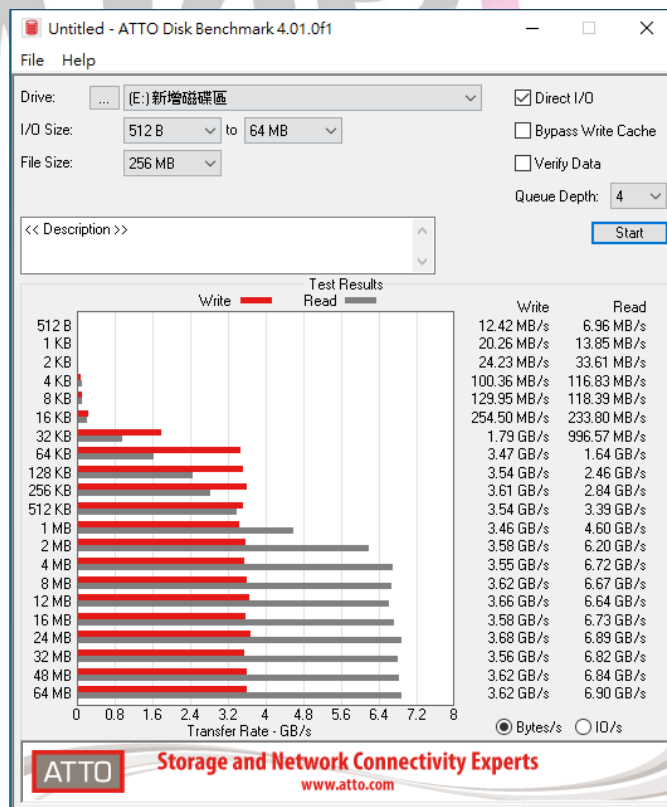
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2.7 ATTO Disk Benchmark 4.01 performance test

2.7.1 SAMSUNG PM1733 U.2 / 4TB in Drive D: performance as below:

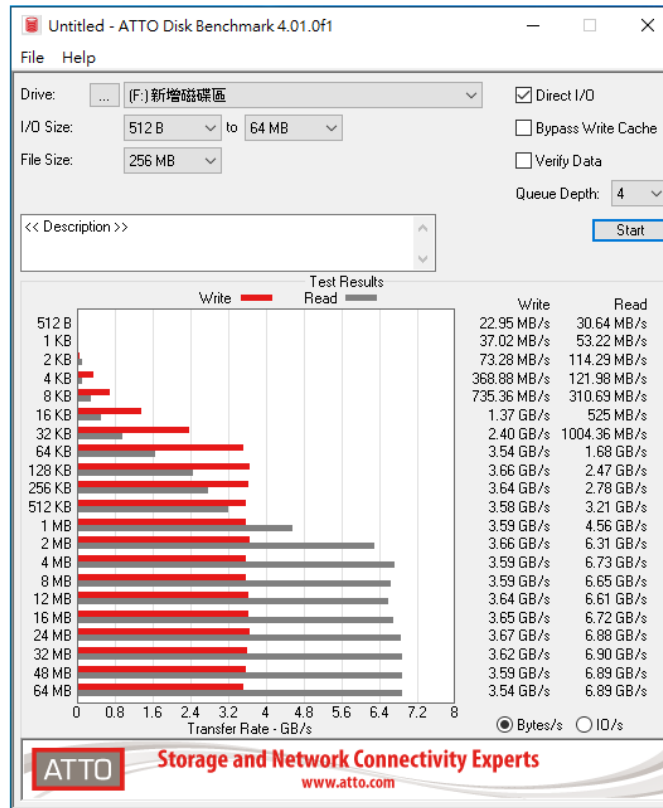


2.7.2 SAMSUNG PM1733 U.2 / 4TB in Drive E: performance as below:

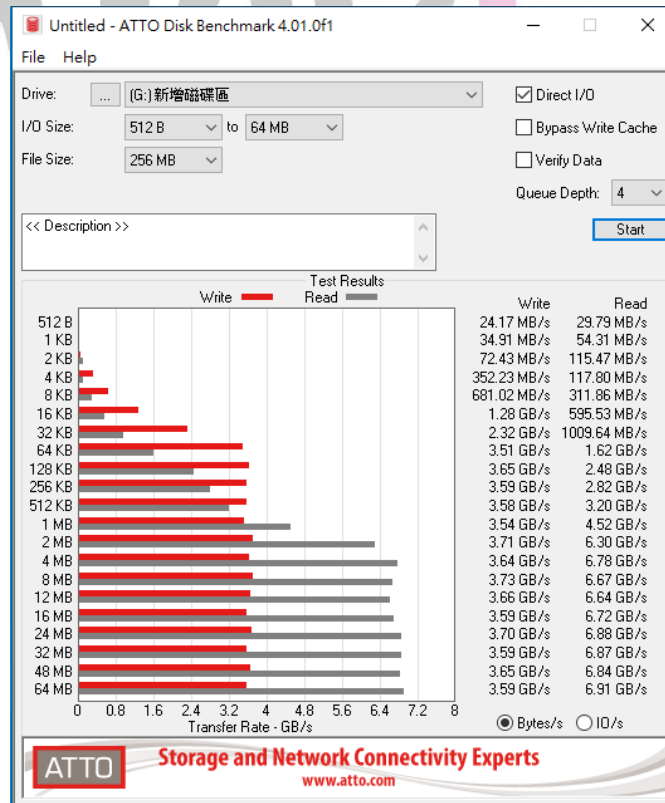


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2.7.3 SAMSUNG PM1733 U.2 / 4TB in Drive F: performance as below:



2.7.4 SAMSUNG PM1733 U.2 / 4TB in Drive G: performance as below:



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2.8 AnvilBenchmark_V110_B337

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



2.8.2 SAMSUNG PM1733 U.2 / 4TB in Drive E: performance as below:



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2.8.3 SAMSUNG PM1733 U.2 / 4TB in Drive F: performance as below:



2.8.4 SAMSUNG PM1733 U.2 / 4TB in Drive G: performance as below:

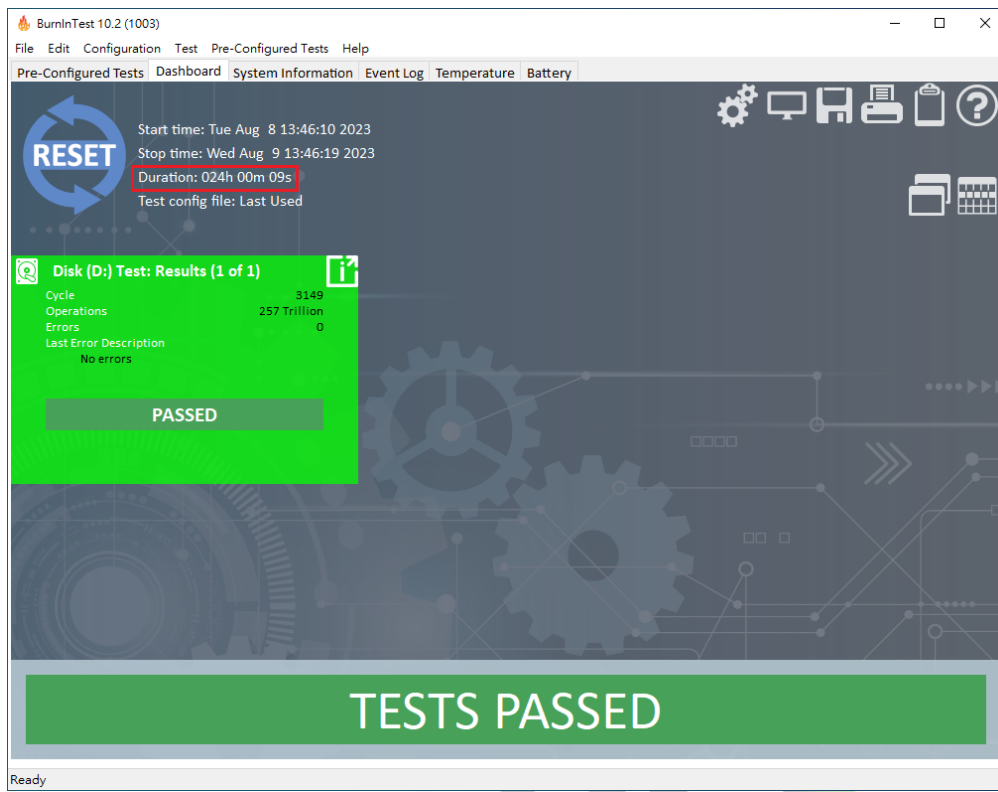


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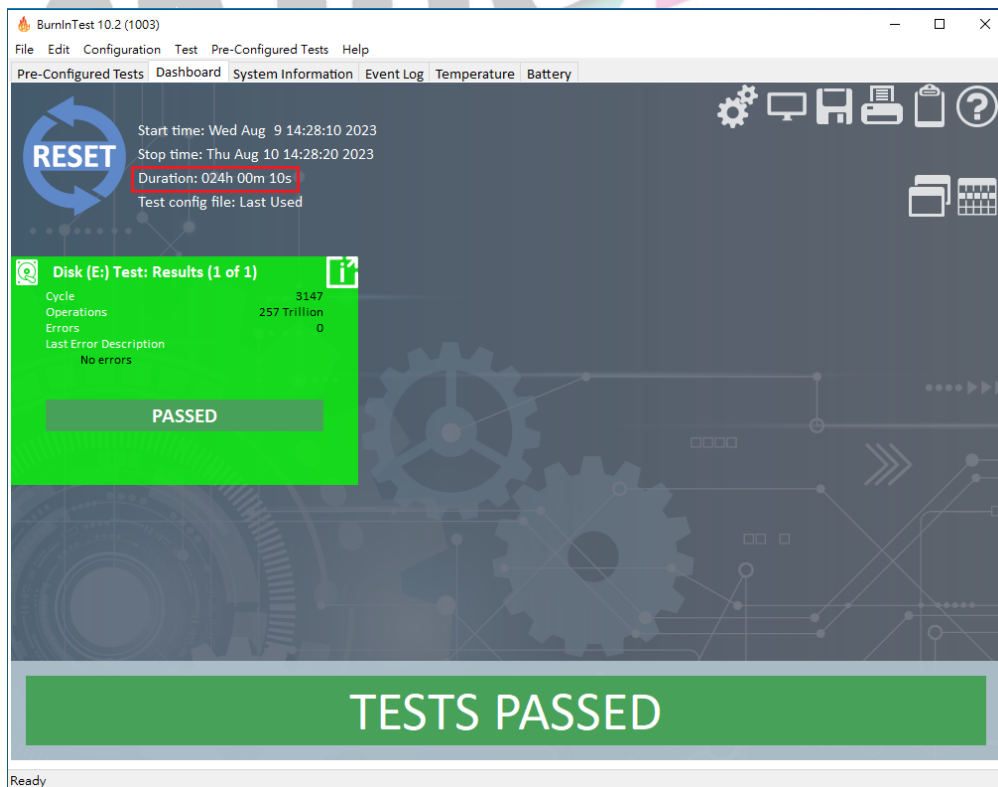
3. Burn In Tests and Results

3.1 BurnInTest v10.2 Pro

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

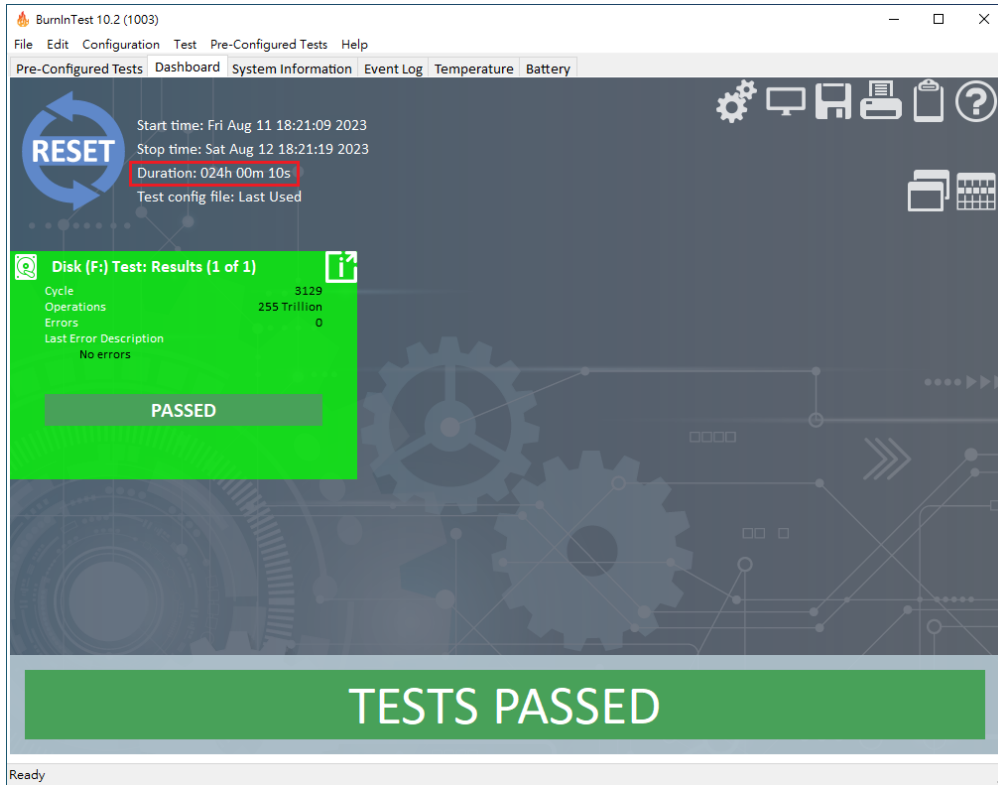


3.1.2 Drive E: 24-hour Burn-in test PASSED

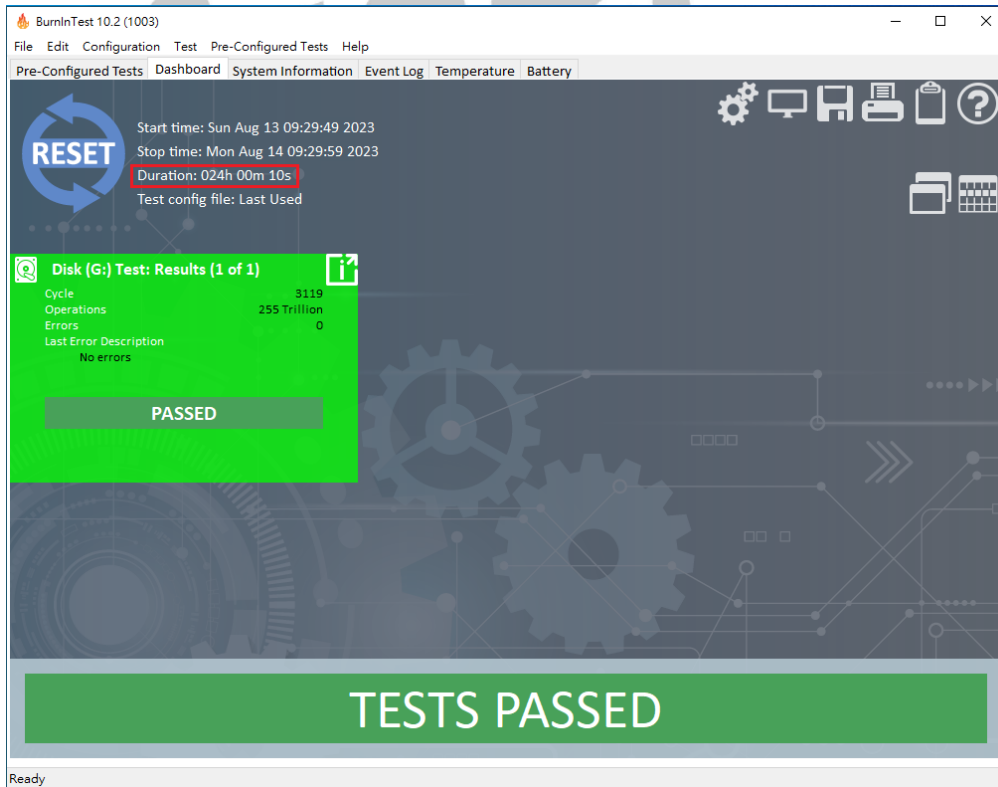


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3.1.3 Drive F: 24-hour Burn-in test PASSED



3.1.4 Drive G: 24-hour Burn-in test PASSED



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4. Summary

- 4.1 U.2 NVMe SSD is PCIe Gen 4 / 4 Lane Interface, I/O speed, max. to 64Gbps.
- 4.2 DP7105 AIC & GD2807A Adapter I/O performance is based on NVMe SSD.

