



MINERVA

PD893A OCulink(SFF-8612)8i to M.2/M.3 Dual ports converter

Performance & Burn In Test Rev 1.0

Table of Contents

1. Overview

2. Performance Measurement Tools and Results

2.1 Test Platform

2.2 Test target and M.3 NF1 & M.2 NVMe SSD

2.3 Install Hardware

2.4 BIOS & Windows 10 OS environment setup

2.5 CrystalDiskMark 6.02 x64 performance test

2.6 AS SSD Benchmark 2.0.6 performance test

2.7 ATTO Disk Benchamrk 3.05 performance test

2.8 AnvilBenchmark_V110_B337 Benchmark performance test

3. Burn In Tests and Results

3.1 BurnInTestv8.1 Pro burn in test

4. Summary

PD893A Rev1.0 Converter Card

1. Overview

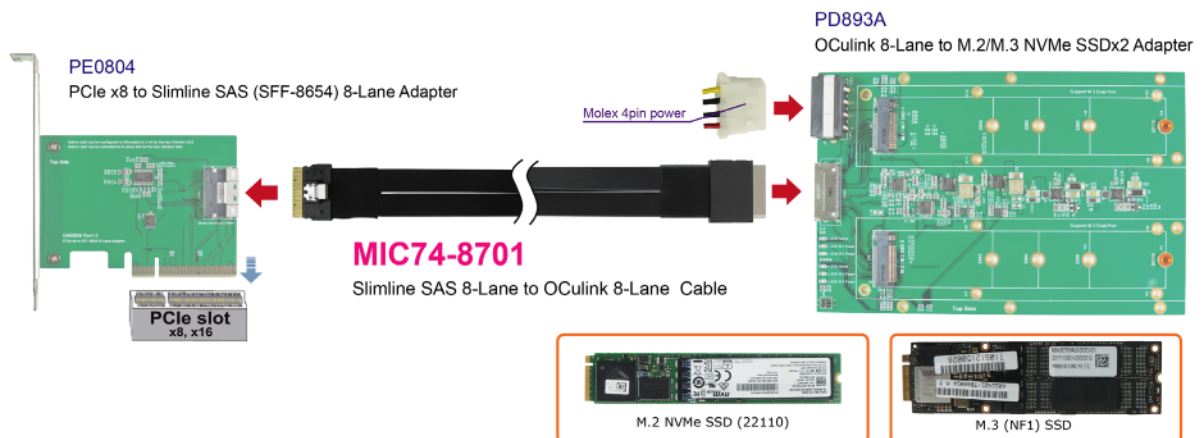
This adapter has built-in OCulink(SFF-8612 8i) connector and M.2 M-key connector dual ports, which can be inserted into M.2 or M.3 NVMe SSD. It is designed for use by supporting PCIe Gen 3 x8, x16 bifurcation AIC and SFF-9402 pinout PCIe Switch RAID Card.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : GIGABYTE **X570 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: PE0804 PCIe x8 to Slimline SAS 8i Adapter
Cable: SFF-8654(Slimline SAS 8i) to SFF-8611(OCulink 8i) Cable
Adapter: PD893A SFF-8612 8i to M.2/M.3 Adapter dual ports
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: PD893A adapter and M.3 NF1 **4TB** & M.2 **960GB** NVMe SSD



PD893A Rev1.0 Converter Card

2.3 Install Hardware

First inserts the M.3 and M.2 SSD into the PD893A riser card M.2 connector, then with copper nuts, and screws to fix SSDs. (Please refer to the Installation Notes). To connect the PD893A adapter to the PCIe to SFF-8654 8i AIC card using the **MIC74-8701 Cable**, and Plugs PE0804 AIC into GIGABYTE **X570 AORUS MASTER**.

2.4 BIOS & Windows 10 OS environment setup

2.4.1 Primary NVMe SSD install Windows 10 OS.

2.4.2 M.3 and M.2 NVMe SSD , formatted to NTFS Mode. Don't install any program.

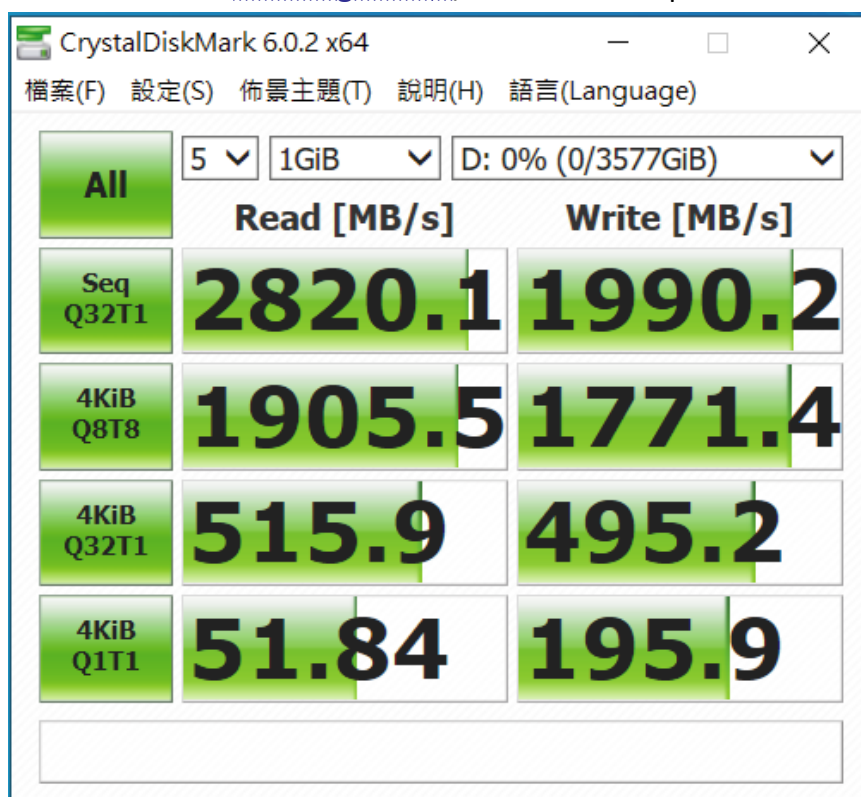


PD893A Rev1.0 Converter Card

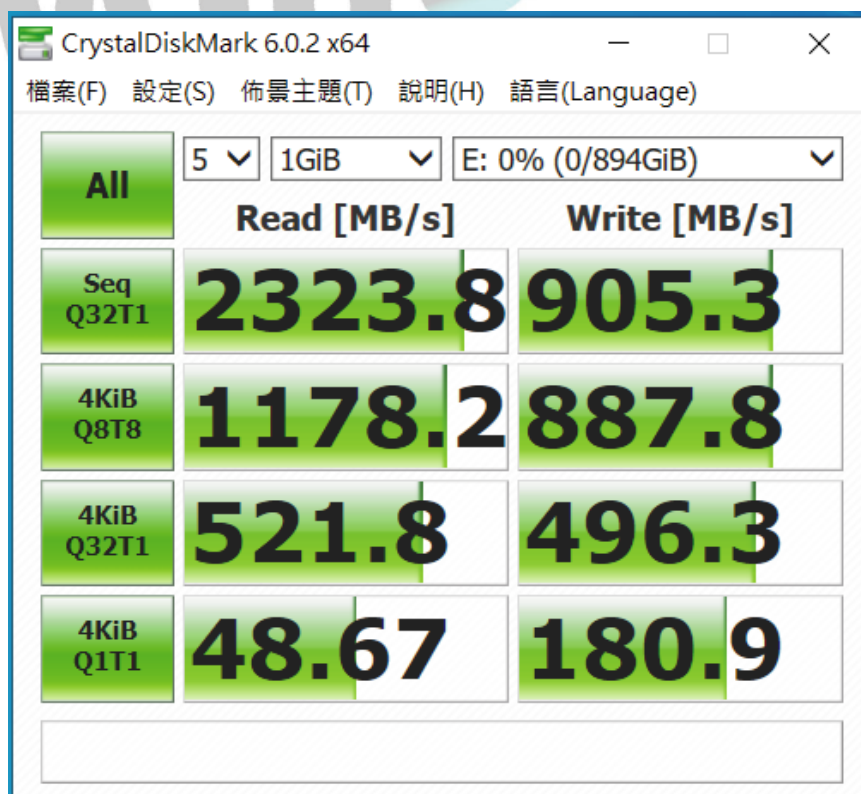
2.5 CrystalDiskMark 6.0.2 x64 performance test

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

2.5.1 **M.3 NF1 NVMe Samsung PM983/4TB** in **Drive D:** performance as below:



2.5.2 **M.2 NVMe Liteon/960GB** in **Drive E:** performance as below:

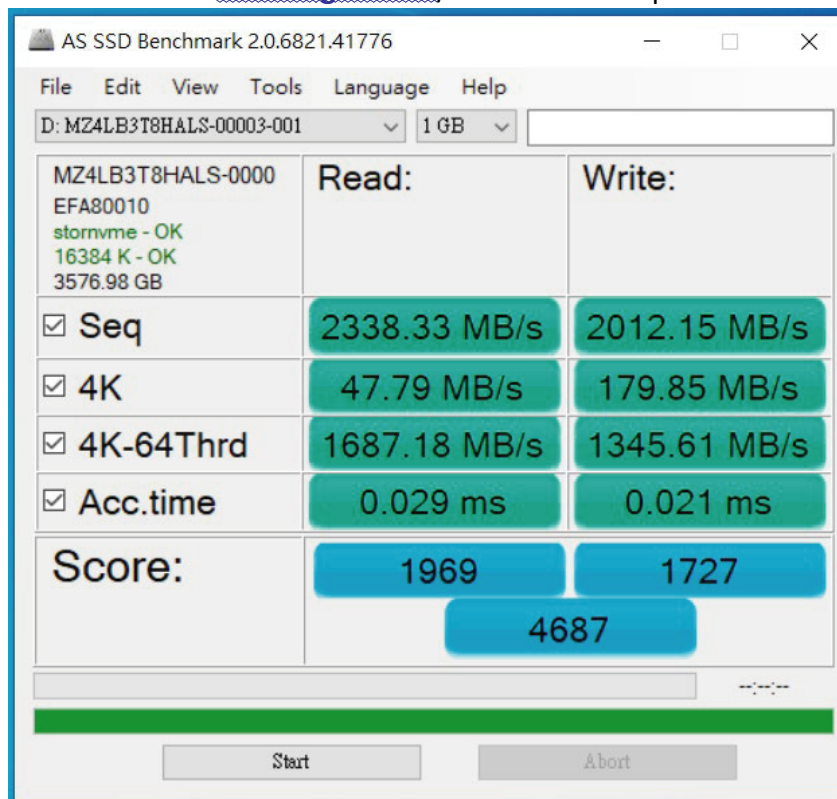


PD893A Rev1.0 Converter Card

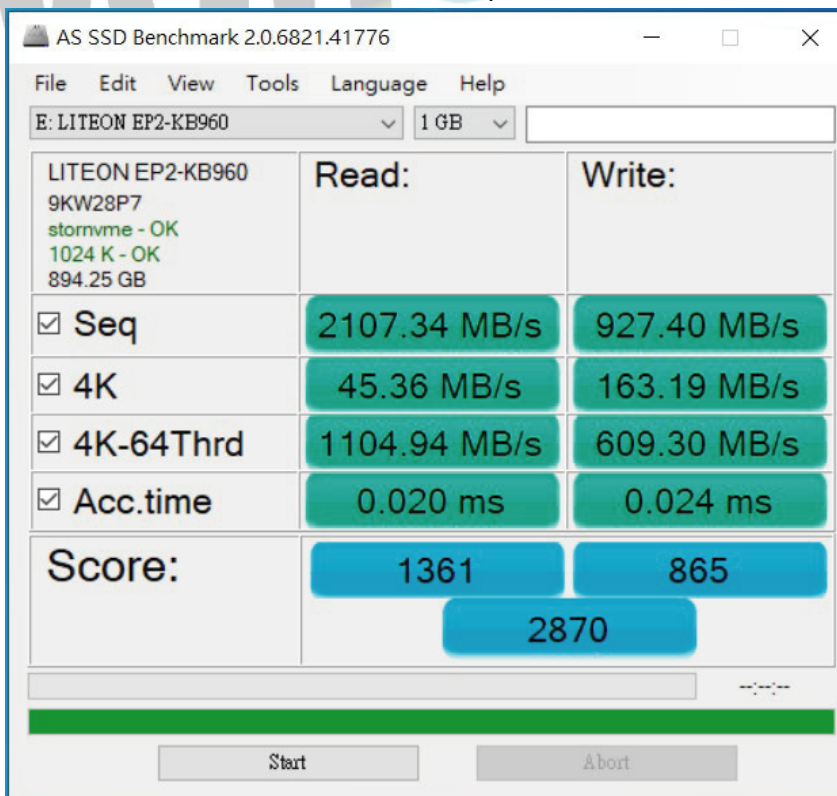
2.6 AS SSD Benchmark 1.9 performance test

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

2.6.1 **M.3 NF1 NVMe Samsung PM983/4TB** in **Drive D:** performance as below:



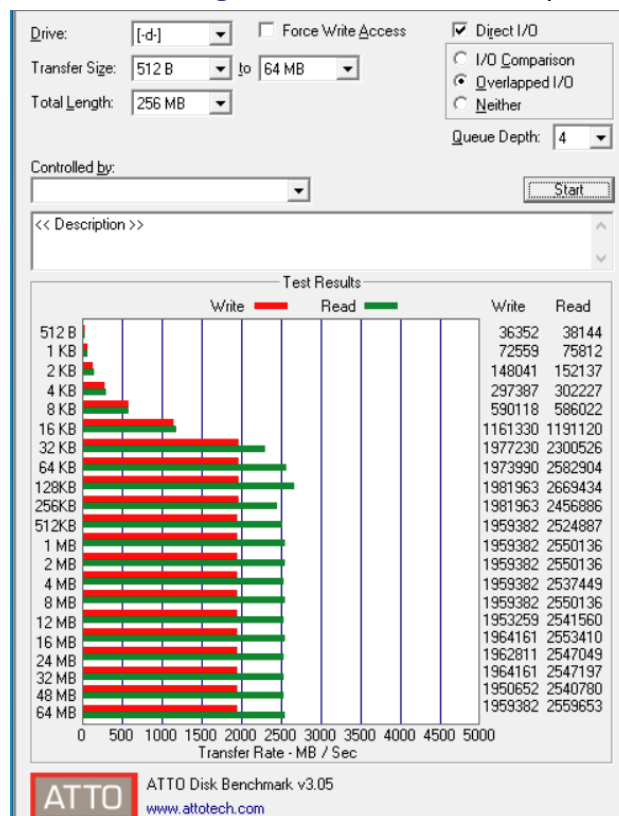
2.6.2 **M.2 NVMe Liteon/960GB** in **Drive E:** performance as below:



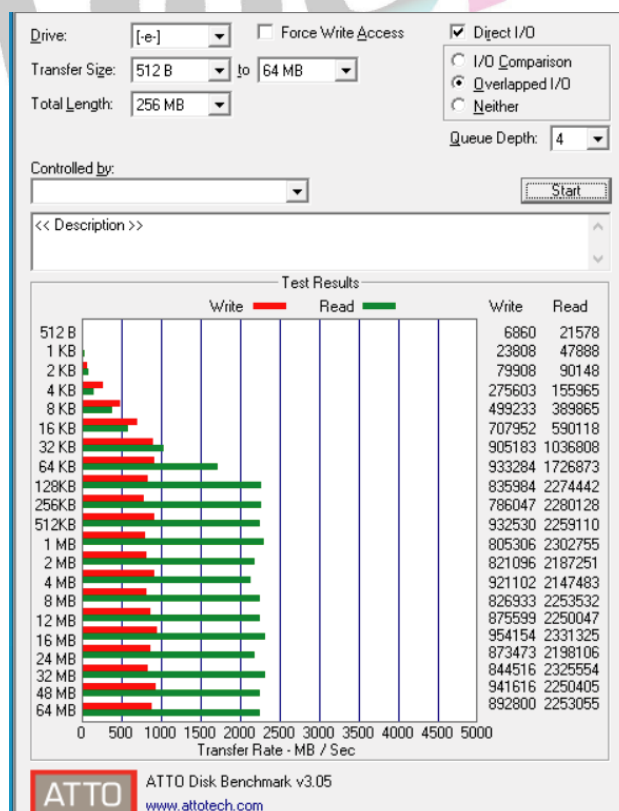
PD893A Rev1.0 Converter Card

2.7 ATTO Disk Benchmark 3.05 performance test

2.7.1 **M.3 NF1 NVMe Samsung PM983/4TB** in Drive D: performance as below:



2.7.2 **M.2 NVMe Liteon/960GB** in Drive E: performance as below:



PD893A Rev1.0 Converter Card

2.8 AnvilBenchmark_V110_B337

2.8.1 M.3 NF1 NVMe Samsung PM983/4TB in Drive D: performance as below:



2.8.2 M.2 NVMe Liteon/960GB in Drive E: performance as below:

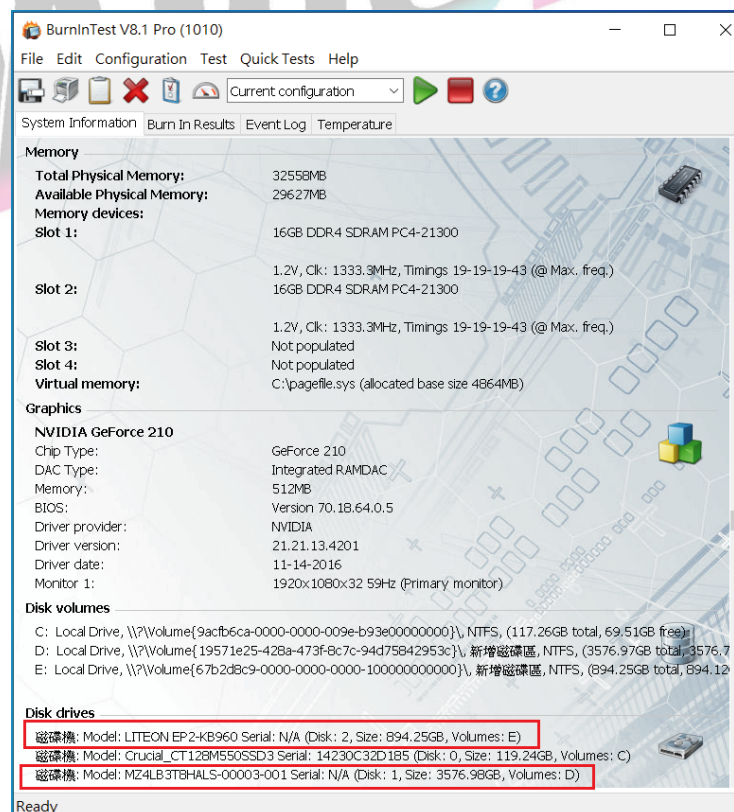
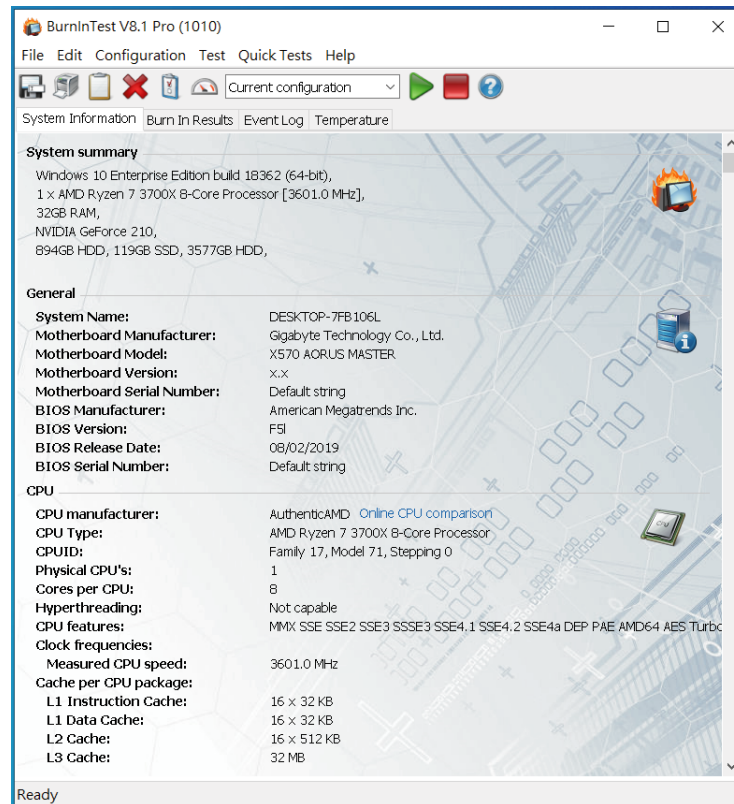


PD893A Rev1.0 Converter Card

3. Burn In Tests and Results

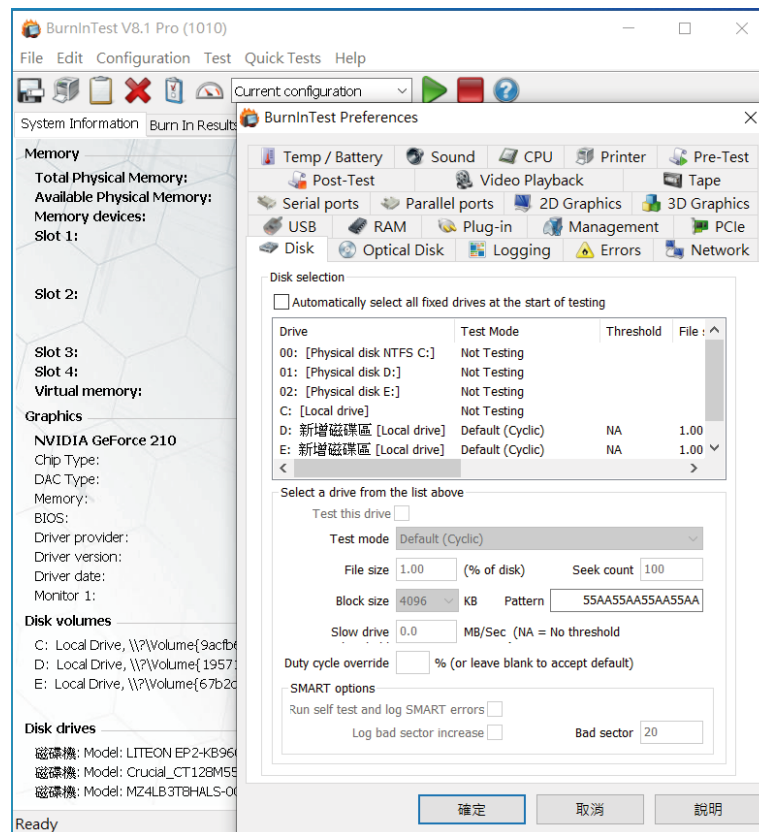
3.1 BurnInTest v8.1 Pro

3.1.1 system information as below:

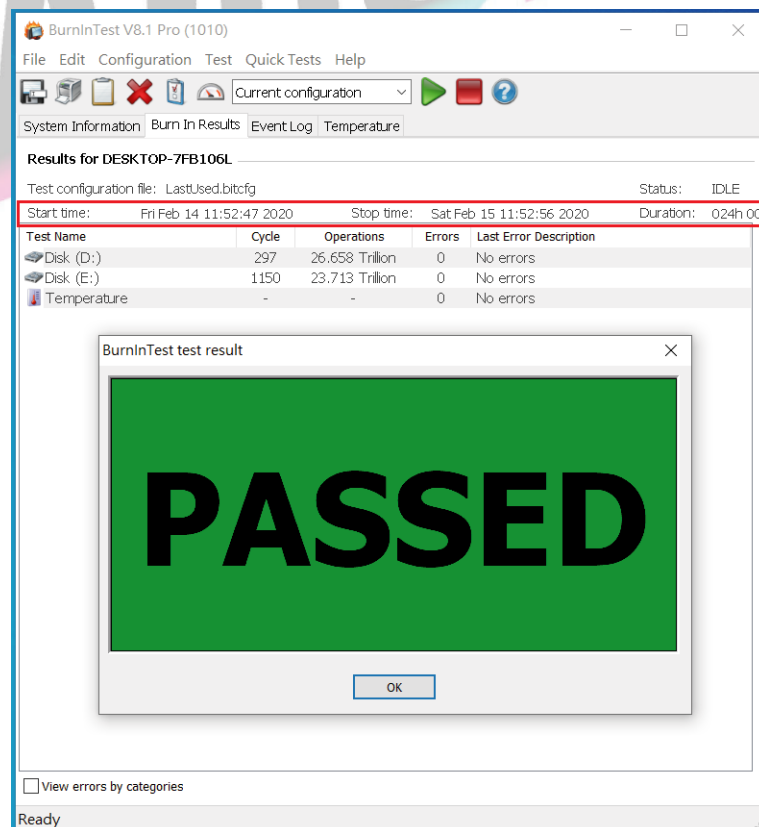


PD893A Rev1.0 Converter Card

3.1.2 Disk test mode(10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



4. Summary

- 4.1 M.3 and M.2 NVMe SSD is PCI-e Gen 3 / 4 Lane Interface, I/O speed, max. to 32Gbps.
- 4.2 PD893A adapter I/O performance is based on NVMe SSD.

