



MINERVA

PS0401 / Rev1.1 Converter Card

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 Used M.2 NGFF SSD

2.3 Install Hardware

2.4 BIOS & Windows 8.1 OS environment setup

2.5 CrystalDiskMark 3.0.1 x64 performance test

2.6 AS SSD Benchmark 1.7 performance test

2.7 ATTO Disk Benchamrk 2.47 performance test

2.8 AnvilBenchmark_V110_B337 Benchmark performance test

3. Burn In Tests and Results

3.1 BurnInTestv7.1 Pro burn in test

4. Summary

PS0401/Rev1.1 Converter Card

1. Overview

PS0401 adapter, providing M.2 M-key connector can be M.2 (PCI-e I/F) SSD converted into PCI-e 4 Lanes, 2 Lanes standard interface to use, and can be M.2 (SATA I / F) SSD into a SATA III / 7-pin standard interface.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : ASRock **Z97 Extreme 6**
CPU : Intel **i5-4426**, 3.2GHz/ 6M Cache/ LGA1150
Memory : Kingston **KVR16N11S8/4**, DDR3-1600MHz, 8G(4GB DIMM*2)
ATX Power : FSP RAIDER 550, **550W ATX**, 12V V2.2 Power Supply
Graphic : Z97 Chipsets built-in **HD Graphics 4600**
OS : Microsoft **Windows 8.1 64bit OS**

2.2 Test target: PS0401 adapter and M.2 (PCI-e I/F)SSD or M.2(SATA I/F) SSD



PS0401 Adapter



PCI-e 4 Lane Samsung 128GB SSD(MZHPU128HCGM)



PCI-e 2 Lane Plextor 128GB SSD (PX-AG128M6e)



SATA III LITE-ON 128GB SSD(LGT-128M6G)

2.3 Install Hardware

Insert M.2 SSD into PS0401 converter's M.2 M-key connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect PS0401 converter to **PCI-e slot or SATA III Port of ASRock Z97 Extreme 6**.

2.4 BIOS & Windows 8.1 OS environment setup

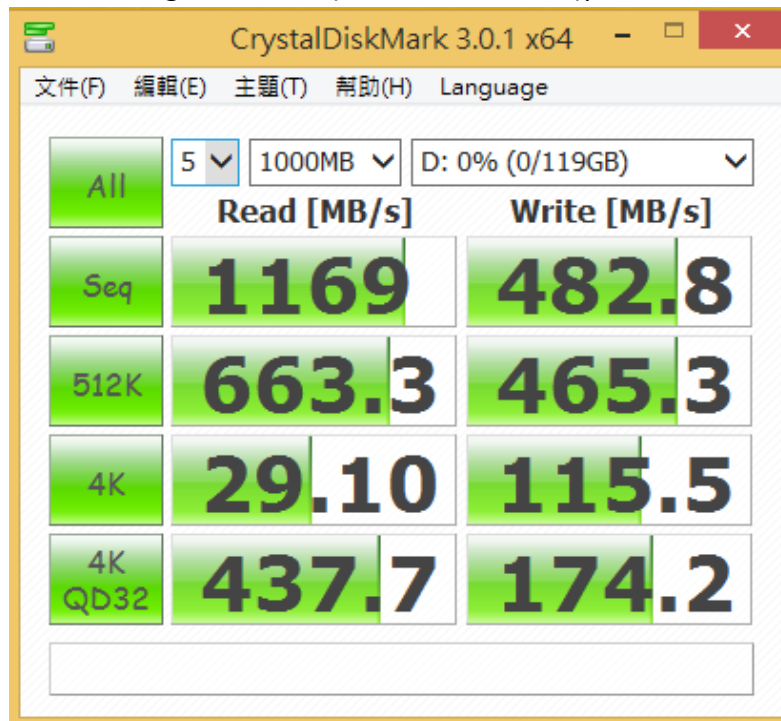
2.4.1 In Windows 8.1, formatted SSD to NTFS Mode. Don't install any program.

PS0401/Rev1.1 Converter Card

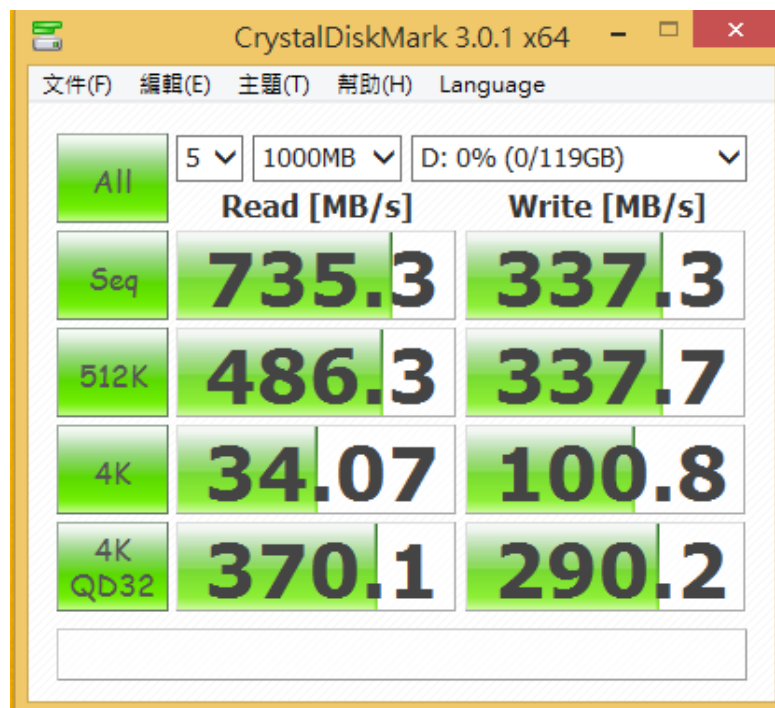
2.5 CrystalDiskMark 3.0.1 x64 performance test

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

2.5.1 Used Samsung 128GB SSD(**MZHPU128HCGM**)performance as below:

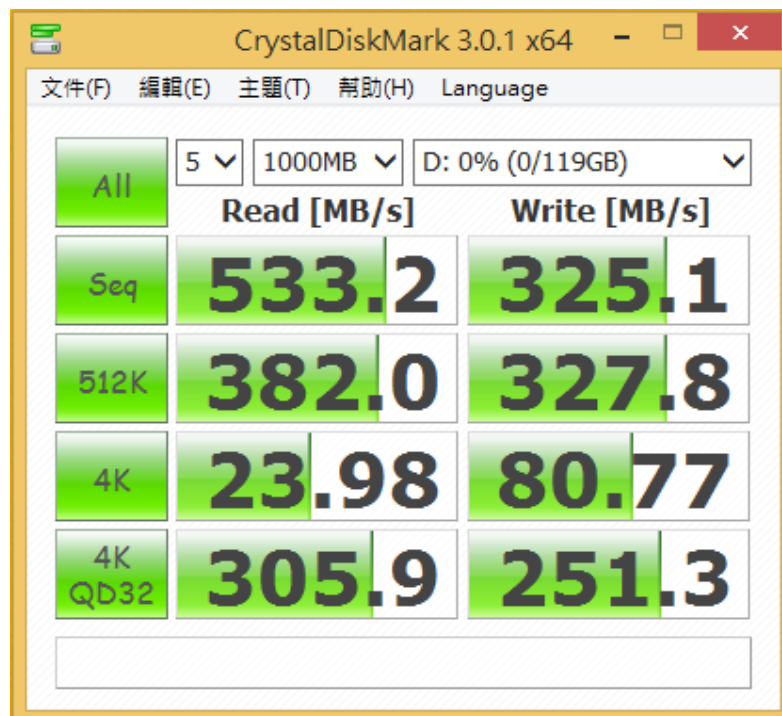


2.5.2 Used Plextor 128GB(**PX-AG128M6e**)performance as below:



PS0401/Rev1.1 Converter Card

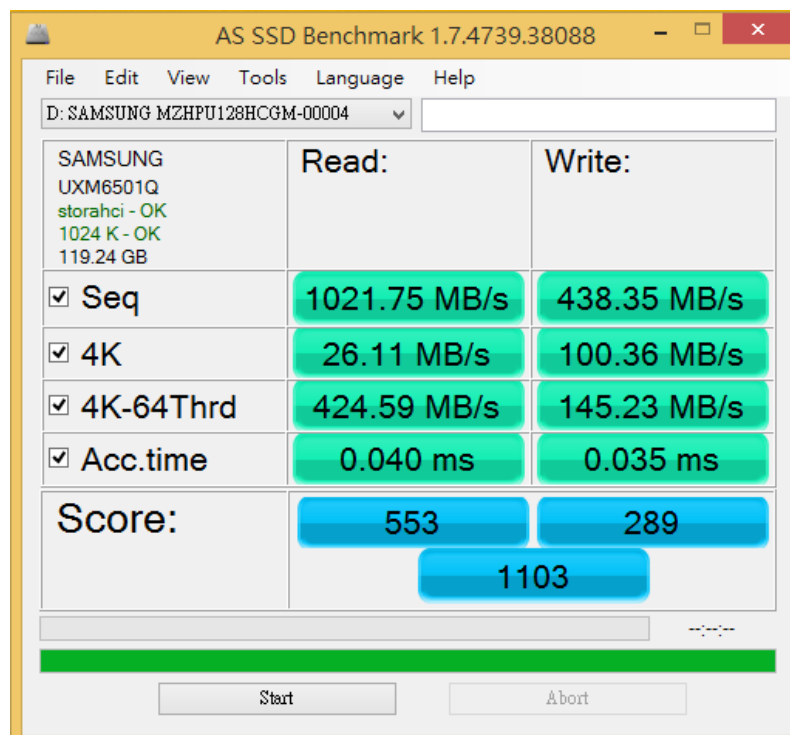
2.5.3 Used LITE-ON 128GB([LGT-128M6G](#))performance as below:



2.6 AS SSD Benchmark 1.7 performance test

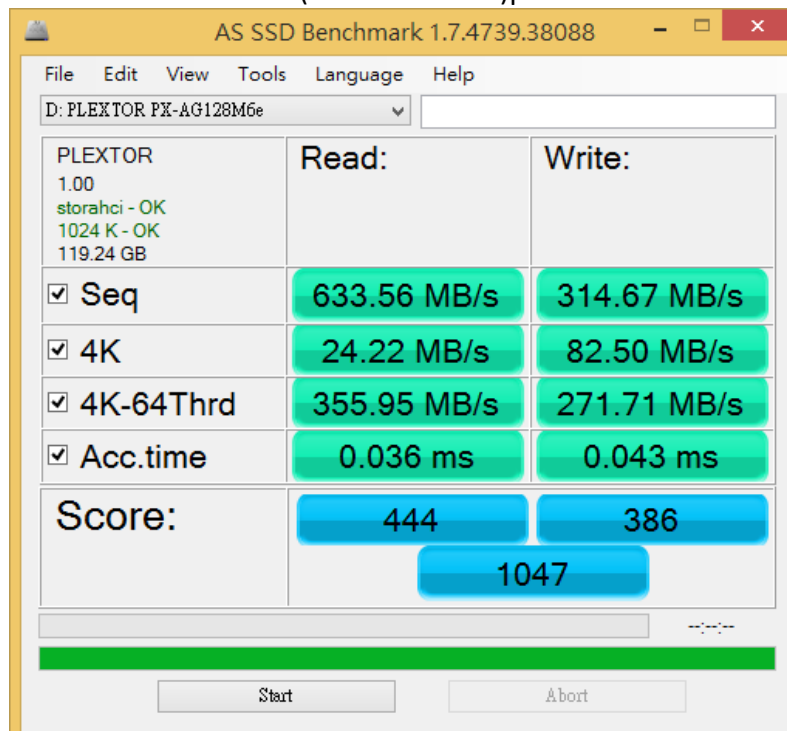
※Benchmark (Read & Write by MB/s, default block size = 16MB)

2.6.1 Used Samsung 128GB SSD([MZHPU128HCGM](#))performance as below:

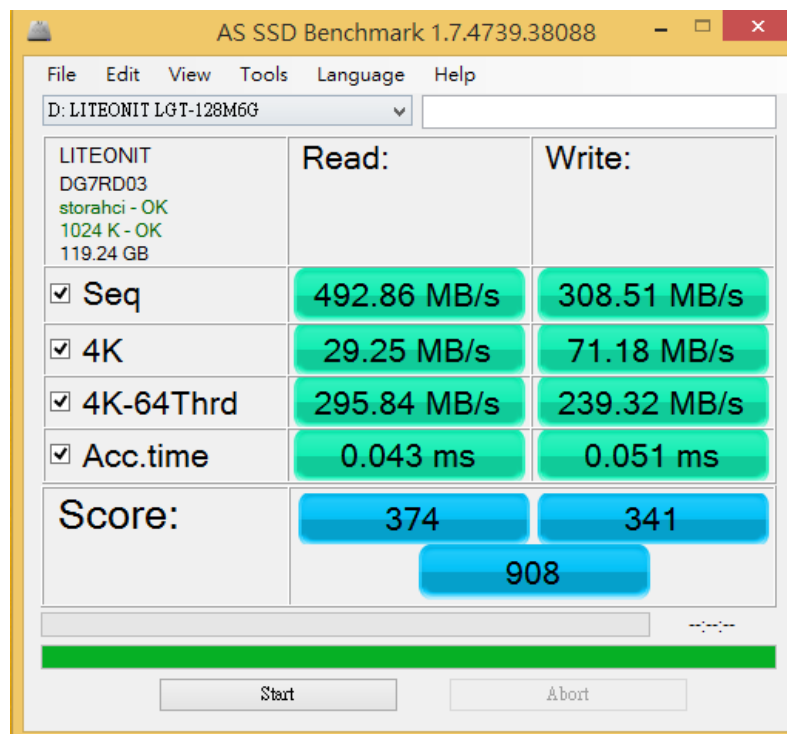


PS0401/Rev1.1 Converter Card

2.6.2 Used Plextor 128GB([PX-AG128M6e](#))performance as below:



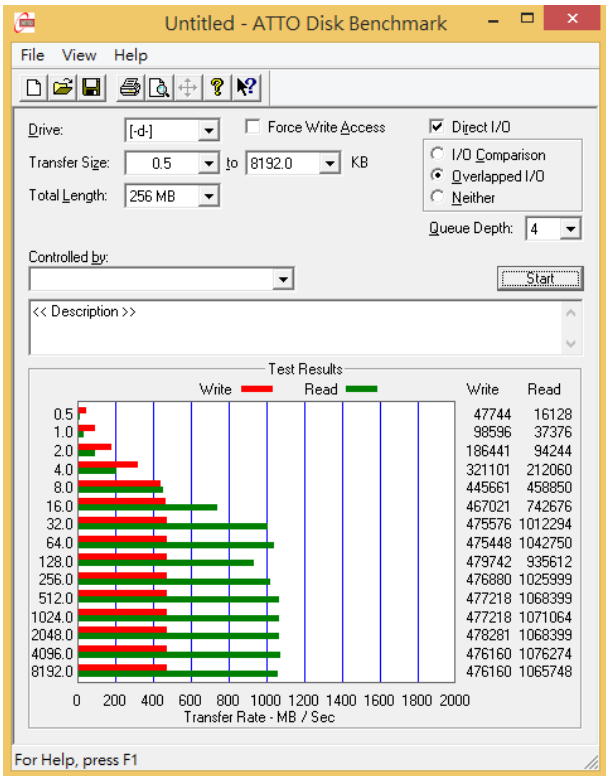
2.6.3 Used LITE-ON 128GB([LGT-128M6G](#))performance as below:



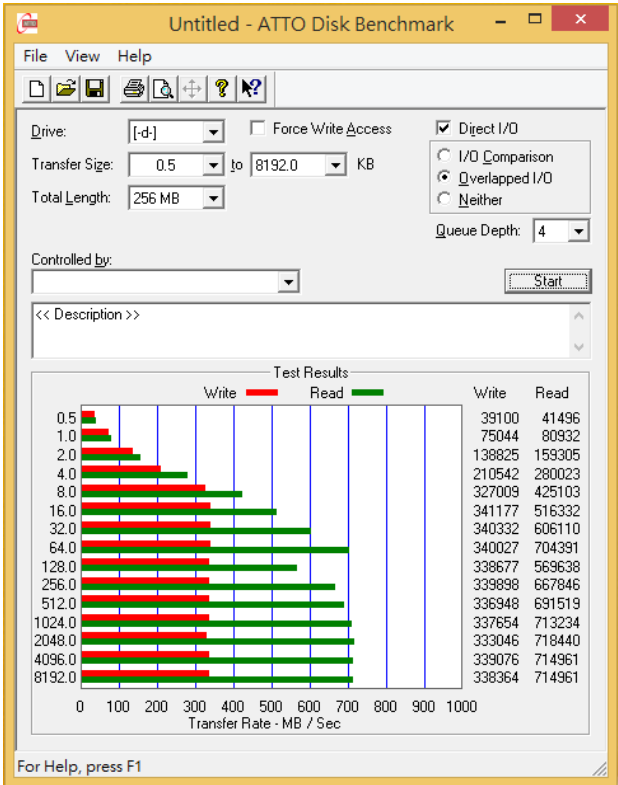
PS0401/Rev1.1 Converter Card

2.7 ATTO Disk Benchmark 2.47 performance test

2.7.1 Used Samsung 128GB SSD(MZHPU128HCGM)performance as below:

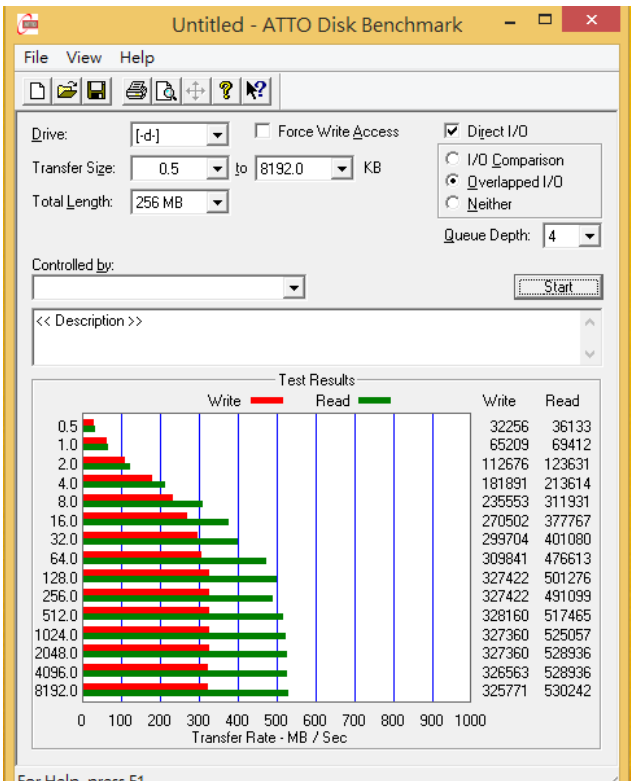


2.7.2 Used Plextor 128GB(PX-AG128M6e)performance as below:



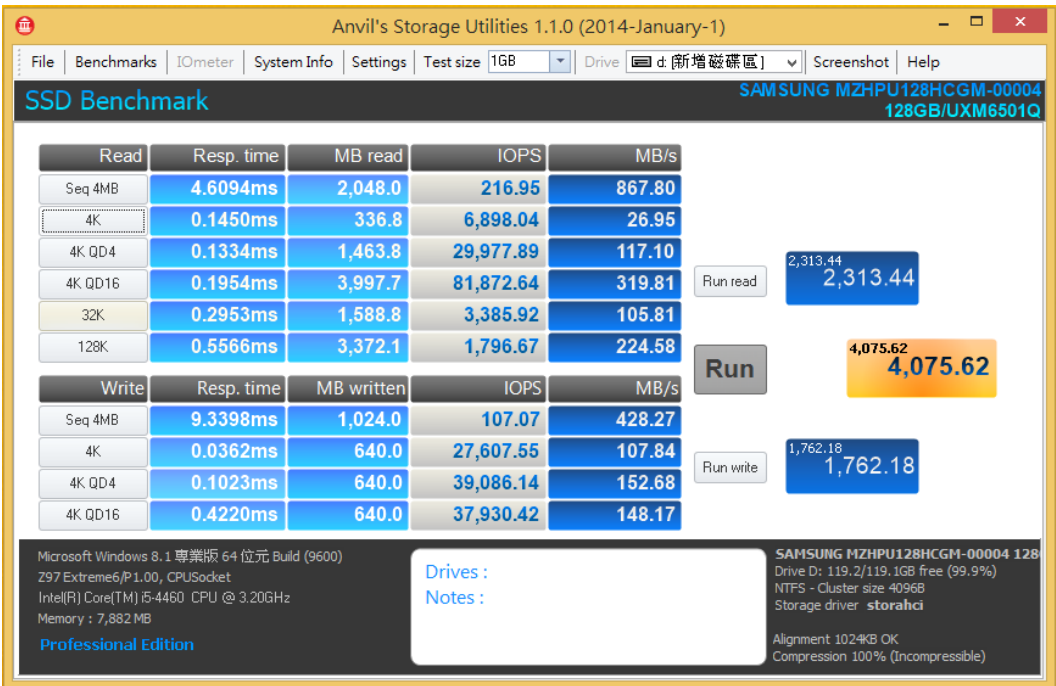
PS0401/Rev1.1 Converter Card

2.7.3 Used LITE-ON 128GB(LGT-128M6G)performance as below:



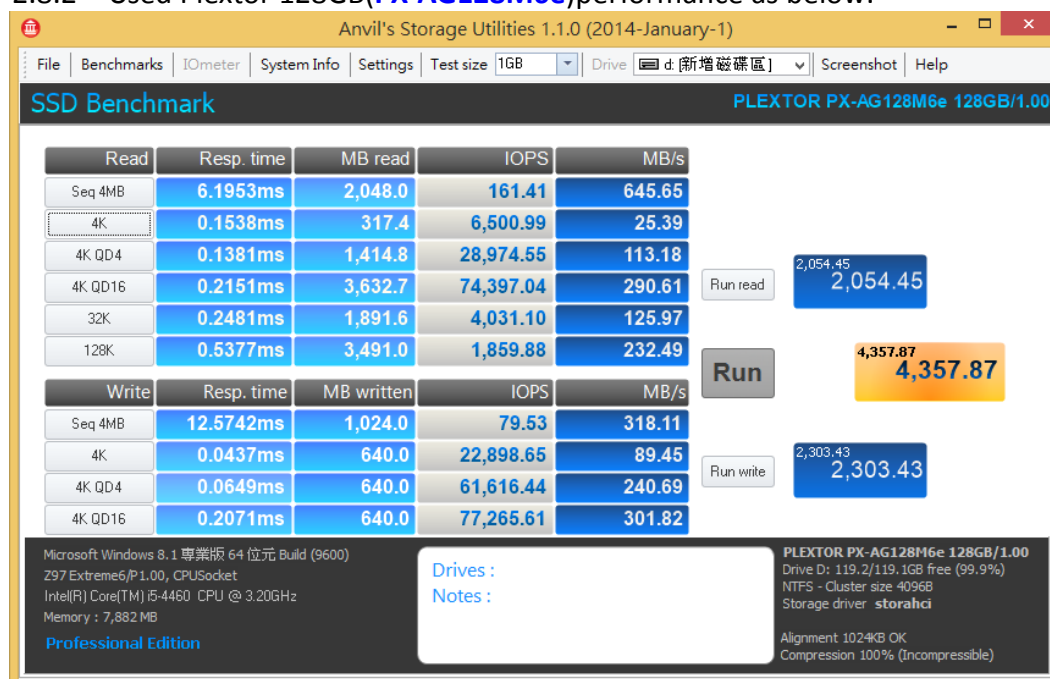
2.8 AnvilBenchmark_V110_B337

2.8.1 Used Samsung 128GB SSD(MZHPU128HCGM)performance as below:

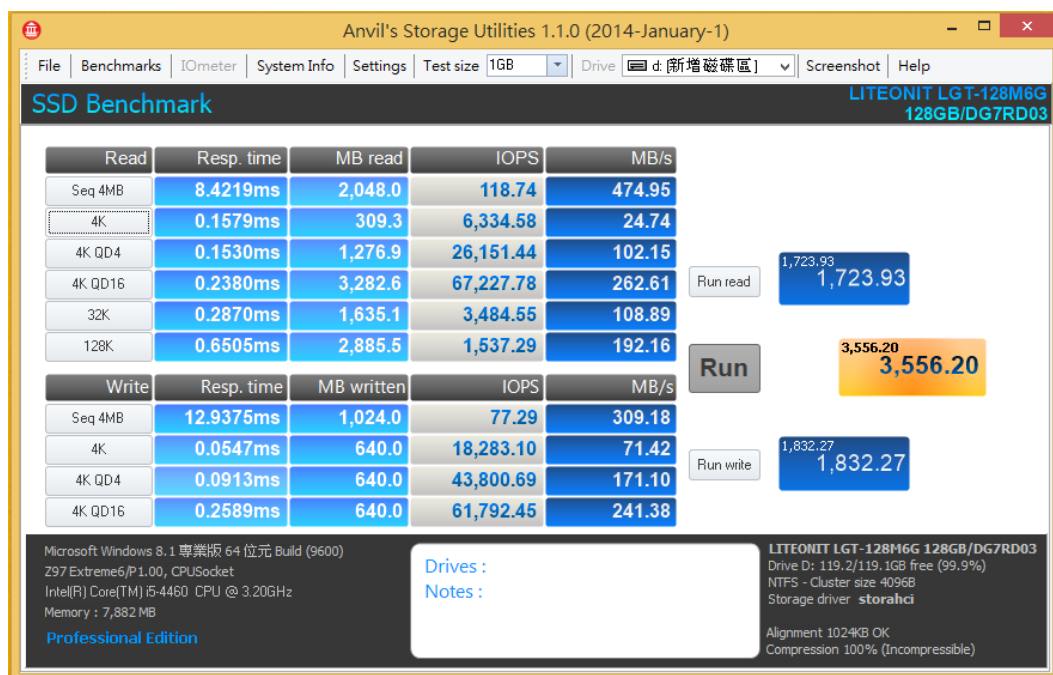


PS0401/Rev1.1 Converter Card

2.8.2 Used Plextor 128GB(PX-AG128M6e)performance as below:



2.8.3 Used Plextor 128GB(PX-AG128M6e)performance as below:

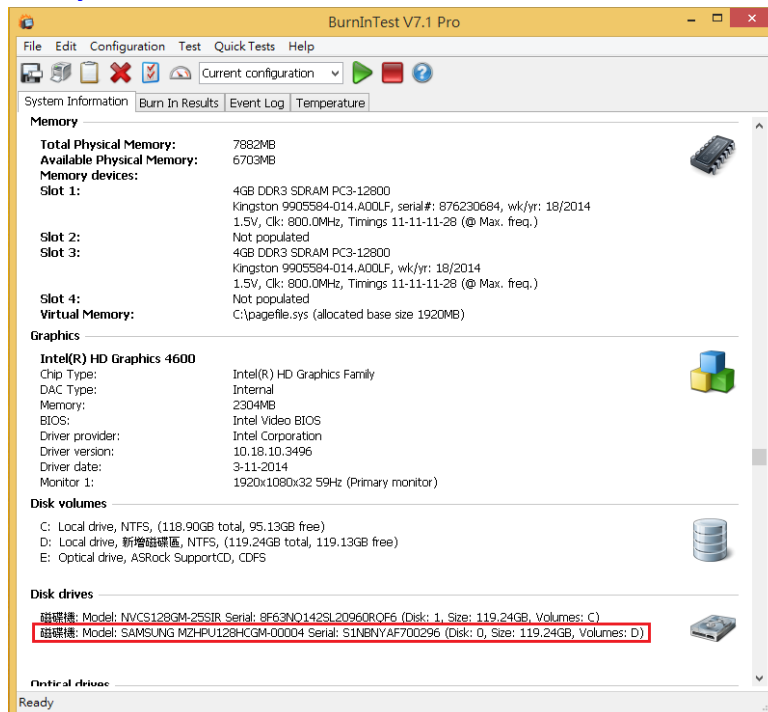


PS0401/Rev1.1 Converter Card

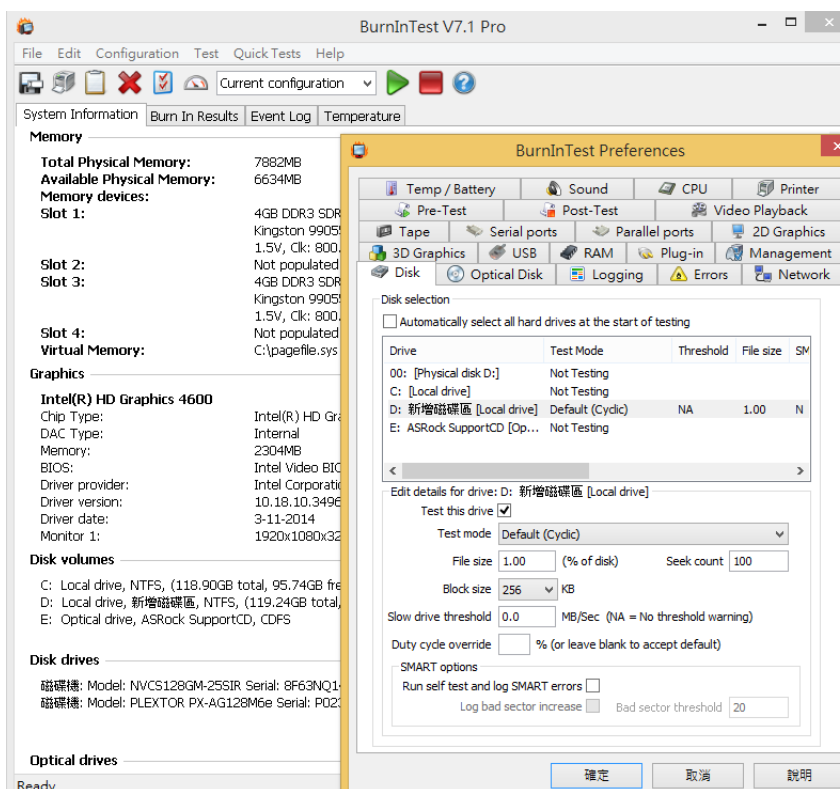
3. Burn In Tests and Results

3.1 BurnInTest v7.1 Pro for Samsung 128GB SSD(MZHPU128HCGM)

3.1.1 system information as below:

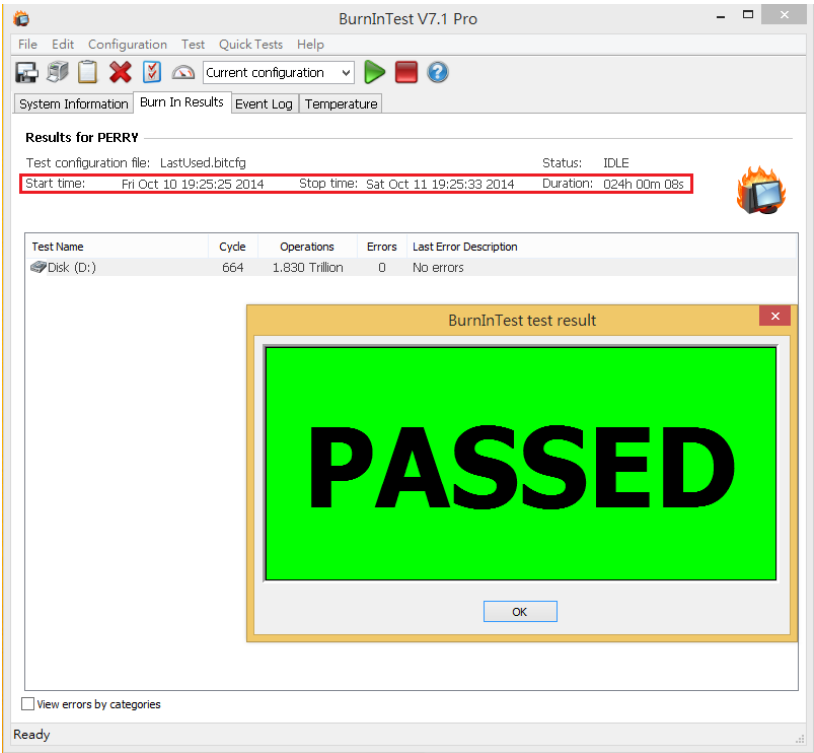


3.1.2 show Disk test mode(10 ways cycle test)



PS0401/Rev1.1 Converter Card

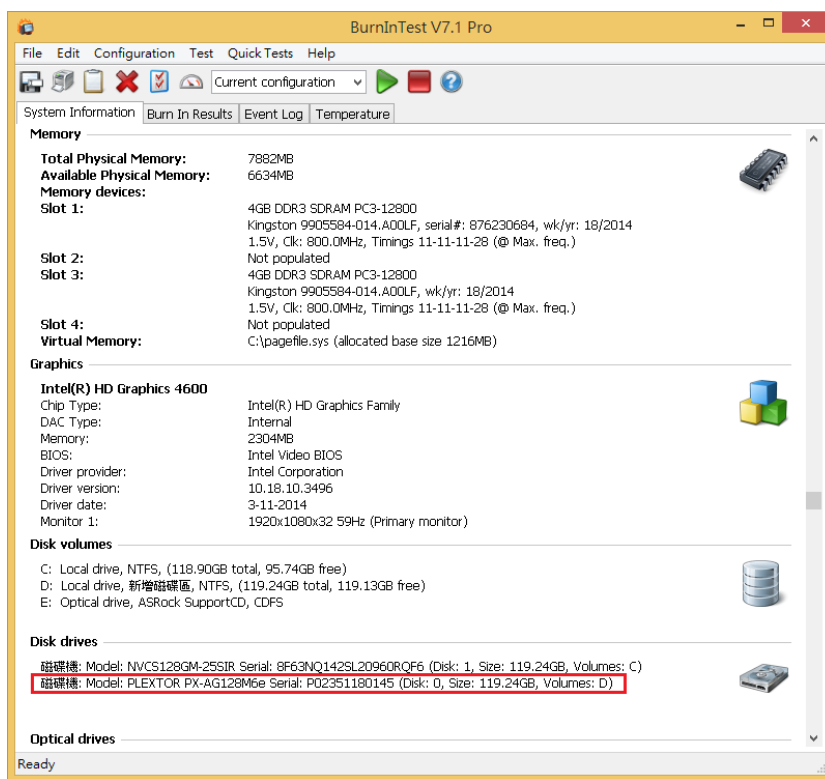
3.1.3 show 24-hour Burn-in test PASSED



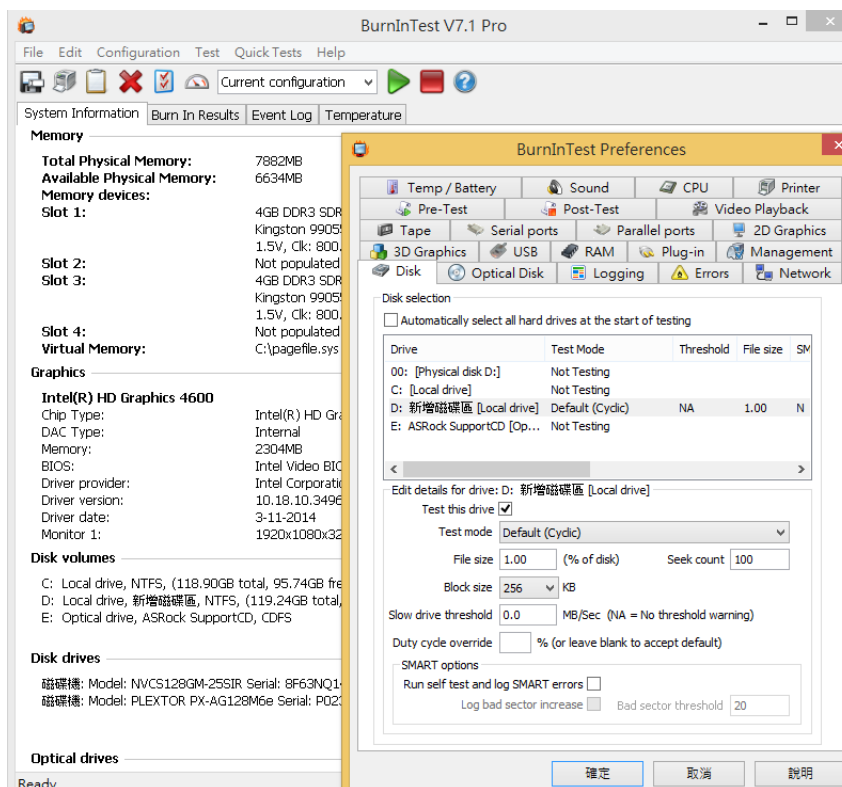
PS0401/Rev1.1 Converter Card

3.2 BurnInTest v7.1 Pro for Plextor 128GB(PX-AG128M6e)

3.2.1 system information as below:

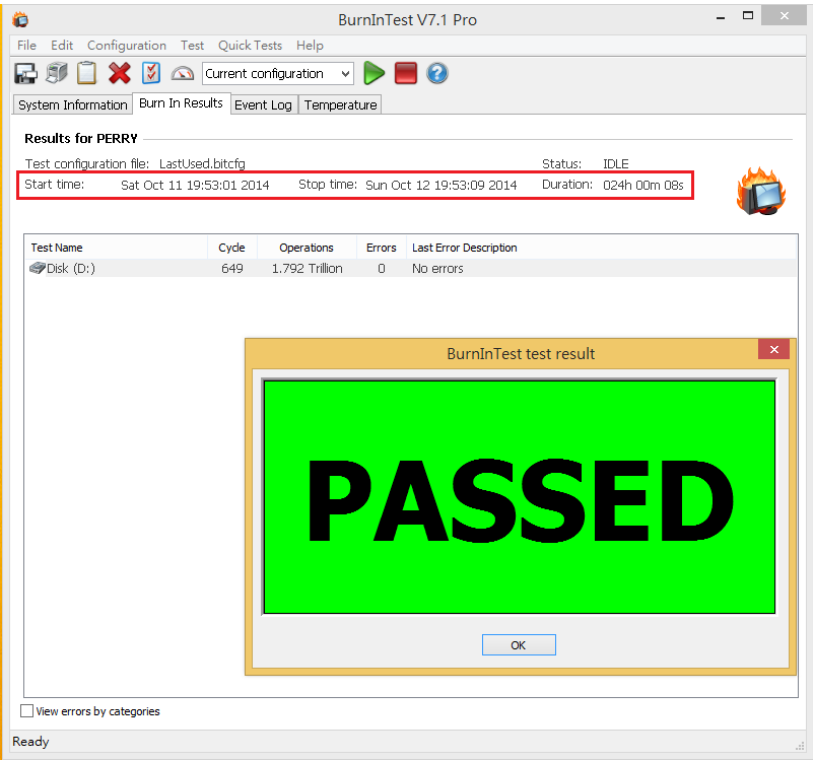


3.2.2 show Disk test mode(10 ways cycle test)



PS0401/Rev1.1 Converter Card

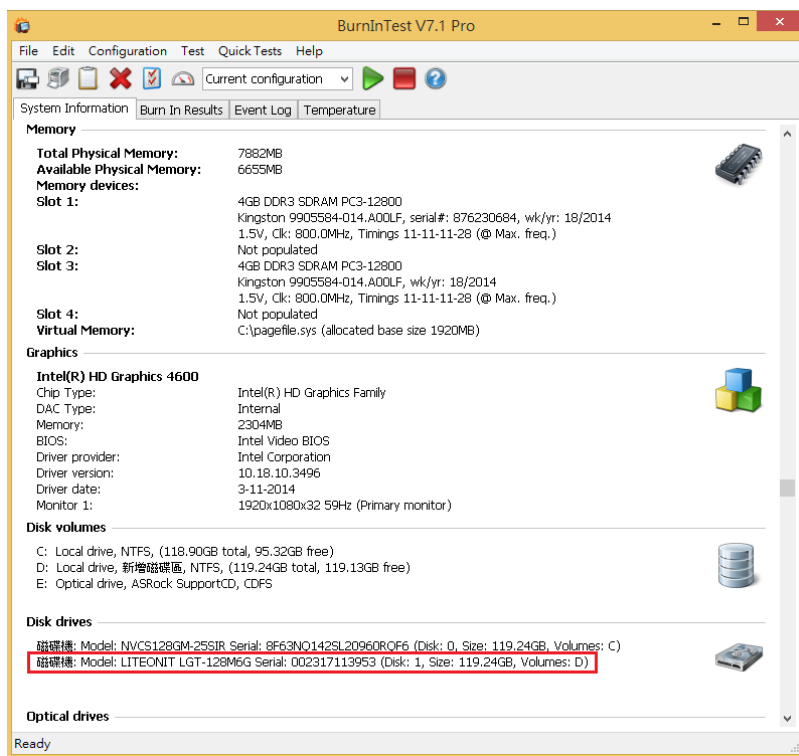
3.2.3 show 24-hour Burn-in test PASSED



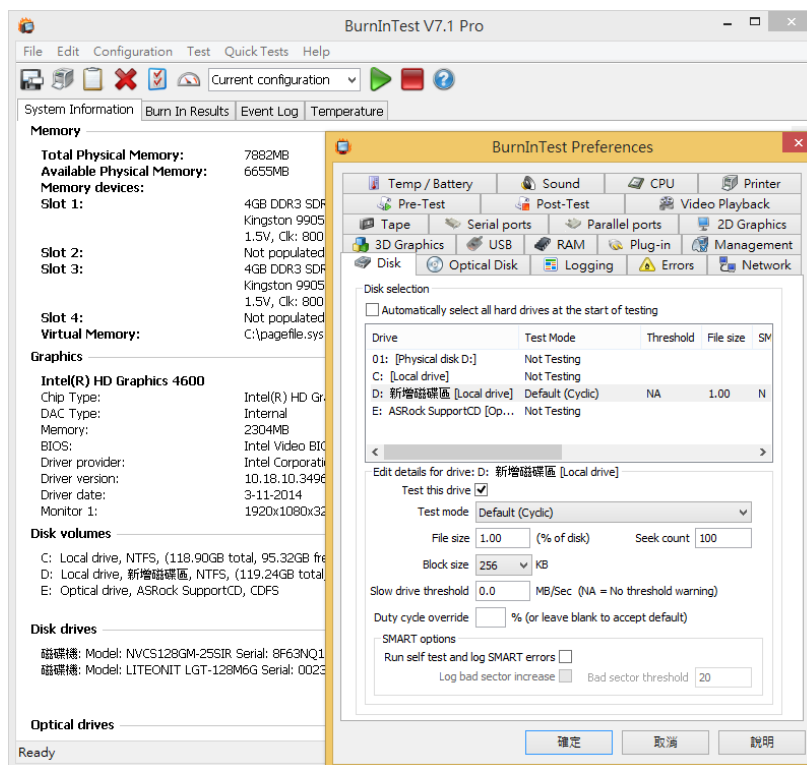
PS0401/Rev1.1 Converter Card

3.3 BurnInTest v7.1 Pro for Plextor 128GB(PX-AG128M6e)

3.3.1 system information as below:

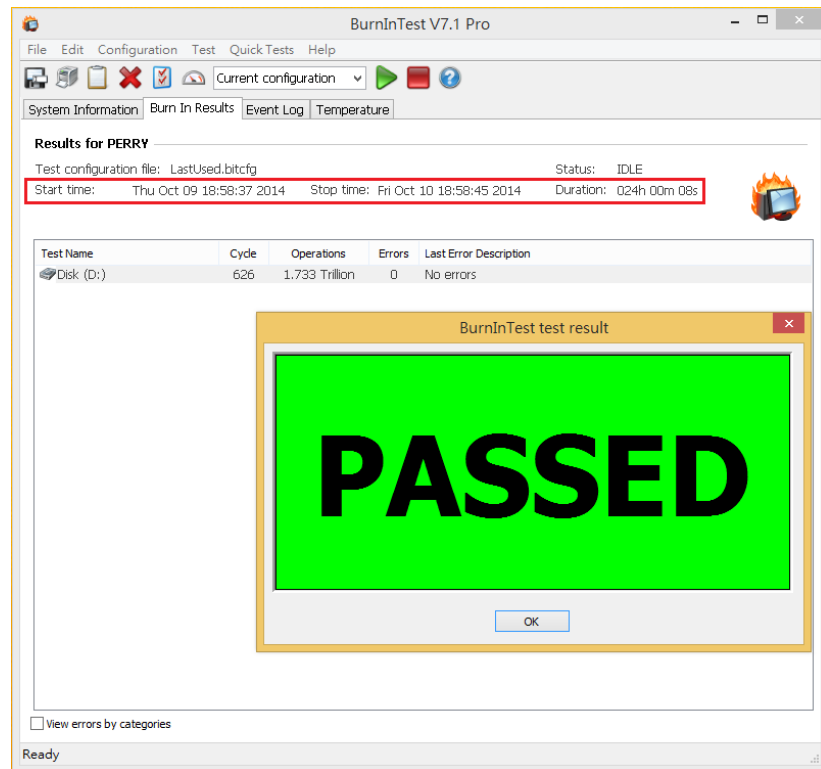


3.3.2 show Disk test mode(10 ways cycle test)



PS0401/Rev1.1 Converter Card

3.3.3 show 24-hour Burn-in test **PASSED**



4. Summary

- 4.1 M.2(PCI-e I/F) SSD is PCI-e Gen 2 / 4 Lane Interface, I/O speed, max. to 1,600MB/s.
- 4.2 M.2(PCI-e I/F) SSD is PCI-e Gen 2 / 2 Lane Interface, I/O speed, max. to 800MB/s.
- 4.3 M.2(SATA I/F) SSD is SATA III Interface, I/O speed, max. to 600MB/s.
- 4.2 PS0401 adapter I/O performance is based on M.2 NGFF SSD.