MINERVA
PU407SH Converter Card

Performance & Burn In Test   Rev. 1. 0

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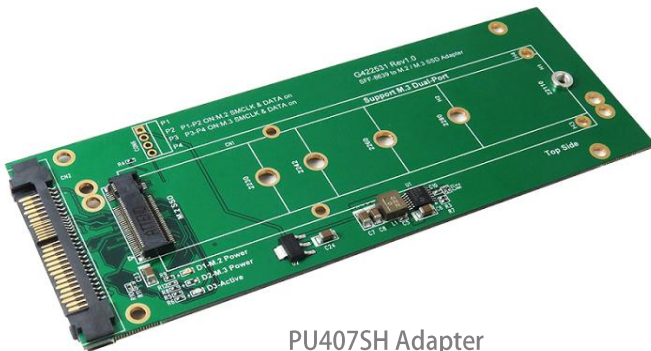
PU407SH   Converter Card

1. Overview

PU407SH adapter, providing M.3 M-key connector can be M.3 (PCI-e I/F NVMe) SSD converted into U.2(SFF-8639), PCI-e Gen 3 / 4 Lanes interface.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : GIGABYTE **Z170X UD5 TH**

CPU : Intel **i5-6500,** 3.2GHz/ 6M Cache/ LGA1150

Memory : Kingston **KVR21N15D8/8,** DDR4-2133MHz, **16G**(8GB DIMM*2)

ATX Power : COOLER MASTER G750M, **750W ATX**, 12V V2.2 Power Supply

Graphic : Z170 Chipsets built-in **HD Graphics 530**

Adapter: PE0404 PCIe to SFF-8643 mini SAS HD

Cable: Amphenol SFF-8643 Slimsline SAS to U.2(SFF-8639) Cable

OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: PU407SH adapter & M.3 Samsung MZ4LB3T8HALS-000 **4TB** NVMe SSD

PU407SH Adapter   Samsung PM983 M.3 SSD / 4TB

2.3 Install Hardware

Insert M.3 SSD into PU47SHG converter's M.2 M-key connector, and then connect PU407SH converter to PE0404 adapter(PCI-e 4-lane to SFF-8643) using SFF-8643 mini SAS HD to U.2(SFF-8639) cable, Plug PE0404 into **PCI-e slot of Z170X UD5 TH.**
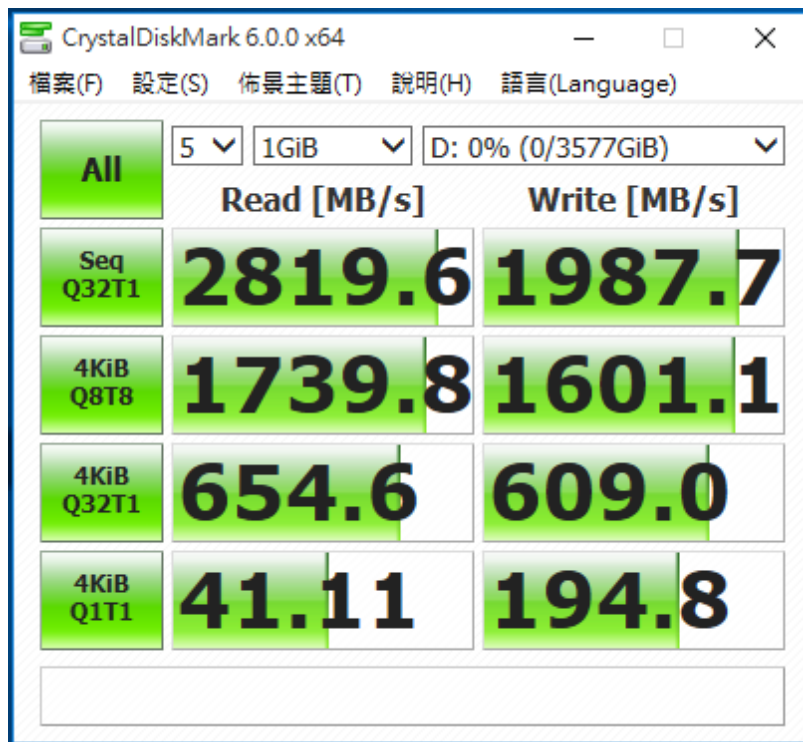
2.4 BIOS & Windows 10 OS environment setup

2.4.1   Primary SSD Drive installs win10 64bit OS

2.4.2   Tested Target M.3 SSD is formatted to NTFS Mode. Don't install any program.

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2.5　CrystalDiskMark 6.0 x64 performance test

※Benchmark (Sequential Read & Write / default = 1MB)
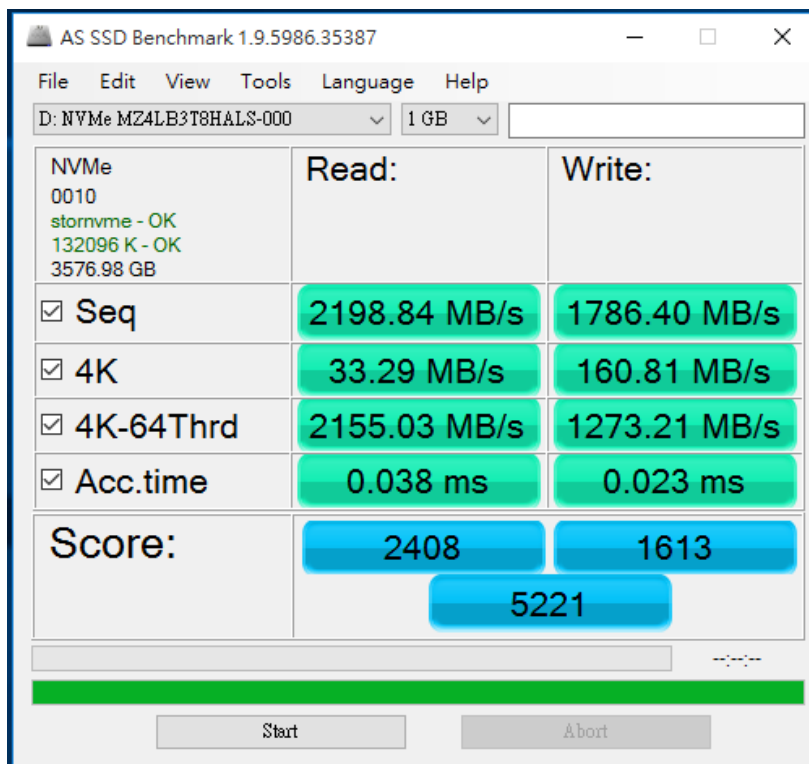
2.5.1　Show Samsung MZ4LB3T8HALS-000 4TB performance as below:

2.6　AS SSD Benchmark 1.9 performance test

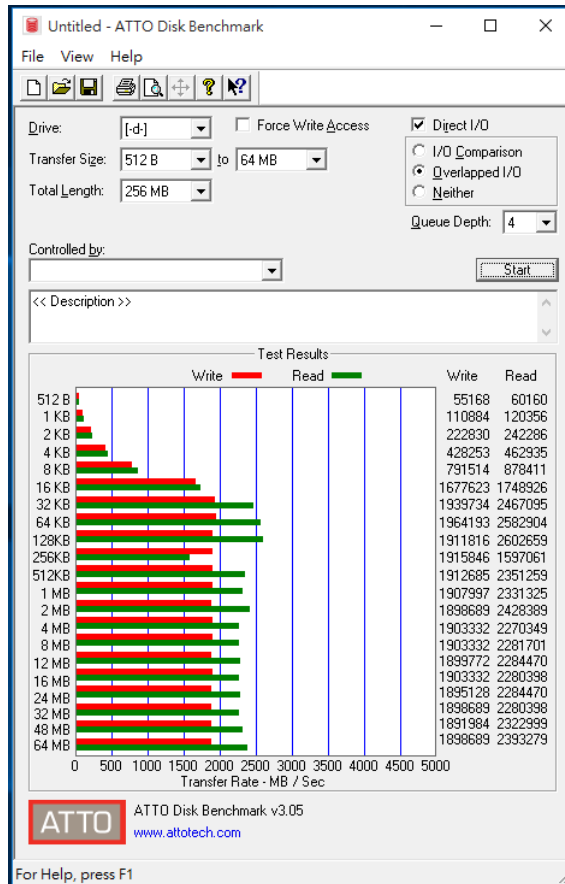※Benchmark (Read & Write by MB/s, default block size = 16MB)

2.6.1　Show Samsung MZ4LB3T8HALS-000 4TB performance as below:

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2.7　ATTO Disk Benchamrk 3.05 performance test

2.7.1　Show Samsung MZ4LB3T8HALS-000 **4TB** performance as below:

2.8　AnvilBenchmark_V110_B337

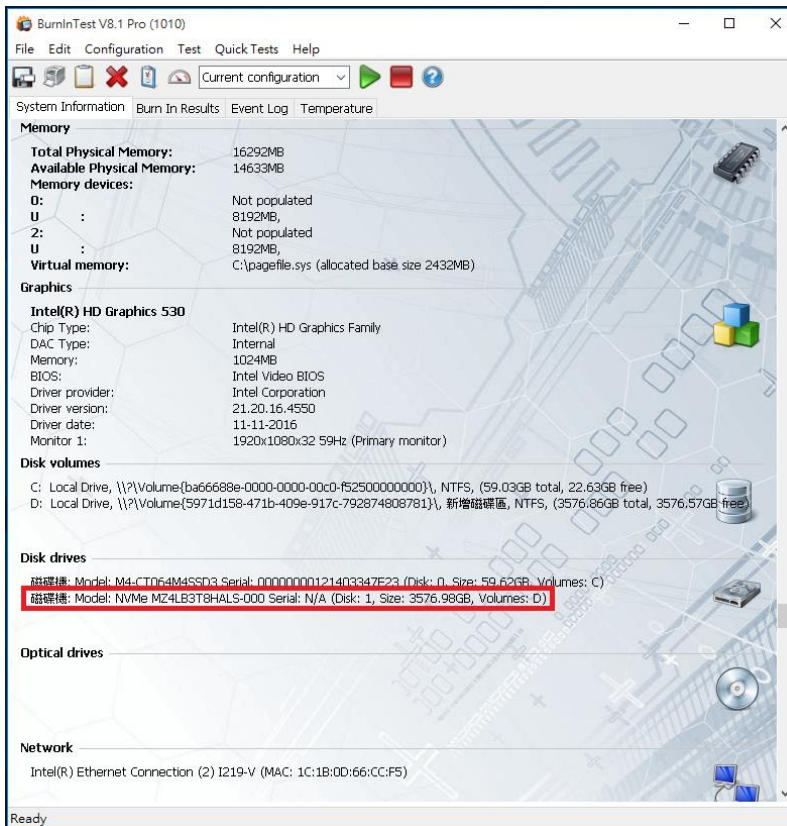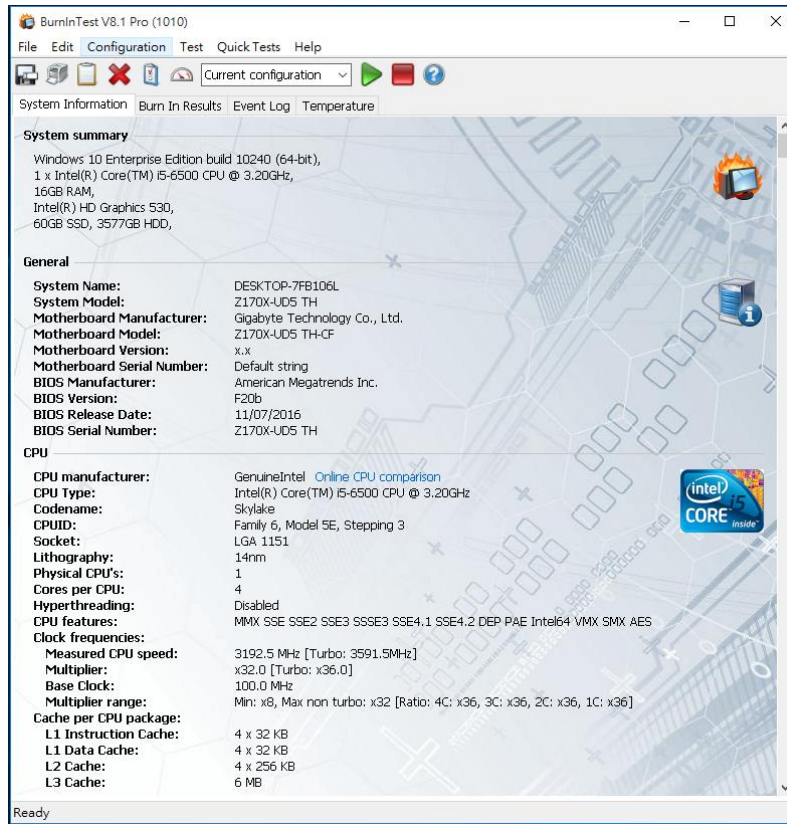2.8.1　Show Samsung MZ4LB3T8HALS-000 **4TB** performance as below:

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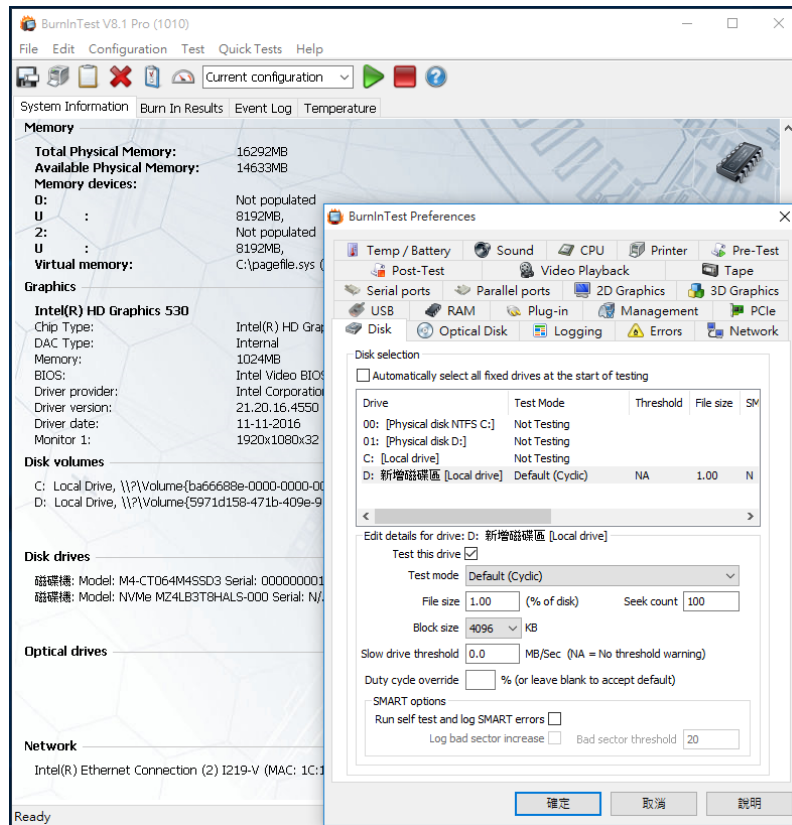
3. Burn In Tests and Results

3.1   BurnInTest v8.1 Pro for Samsung MZ4LB3T8HALS-000 4TB

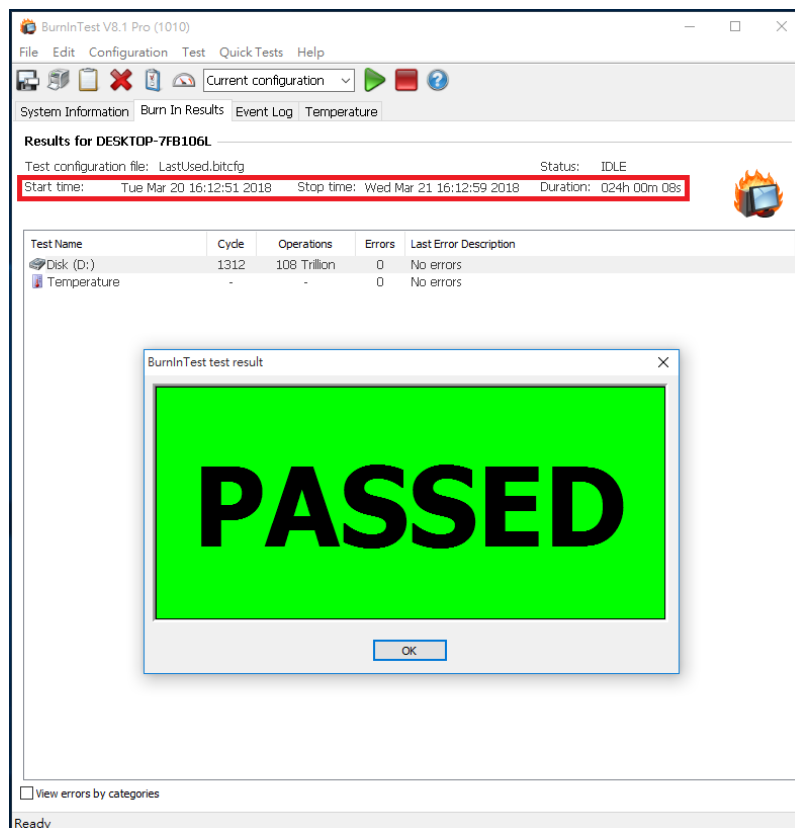3.1.1   **system information** as below:

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3.1.2   show Disk test mode(10 ways cycle test)

3.1.3   show 24-hour Burn-in test PASSED

4. Summary

4.1   M.3 NVMe SSD is PCI-e Gen 3 / 4 Lanes Interface, I/O speed, max. to 32Gbps.

4.2   PU407SH adapter I/O performance is based on M.3 NVMe SSD.