MINERVA
PE0405 Converter Card

Performance & Burn In Test   Rev. 1. 0

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1. Overview

PE0405 adapter, providing SFF-8654 Slimline SAS connector can be U.2(SFF-8639)SSD or SFF-8639 to M.2 NVMe SSD converted into 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, 16GB(8GB DIMM*2)
ATX Power :	COOLER MASTER G750M, **750W ATX**, 12V V2.31 Power Supply
PCIe adapter:	PCIe Gen 3/4 Lanes to SFF-8639 adapter
Cable:	SFF-8654 to SFF-8639 cable
OS :	Microsoft **Windows 8.1 64bit OS**

2.2 Test target: PE0405 adapter + PU3401A + SM951 256GB NVMe MZVPV256HDGL-00000

2.3 Install Hardware

Use SFF-8654 to SFF-8639 cable to connect PU3401A to PE0405 **PCI-e adapter of Z170 M/B.**

PU3401A Converter

PE0405 Converter

RSL38-0340
SFF-8654 to SFF-8639 cable

SM951 NVMe SSD
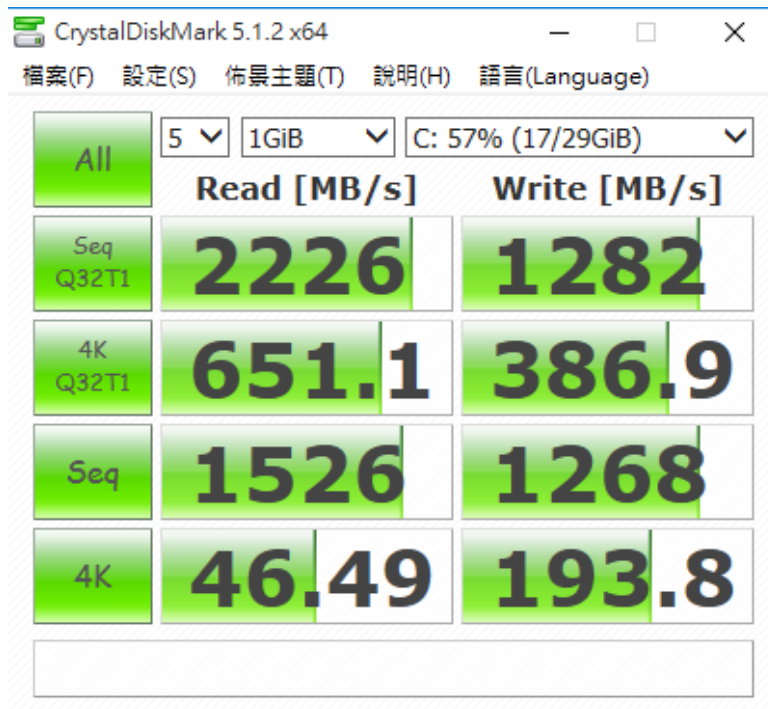
2.4 BIOS & Windows 8.1 OS environment setup

2.4.1 Install Windows 10 64BIT OS.

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2.5 CrystalDiskMark 5.1.2 x64 performance test

　　※Benchmark (Sequential Read & Write / default = 1MB)
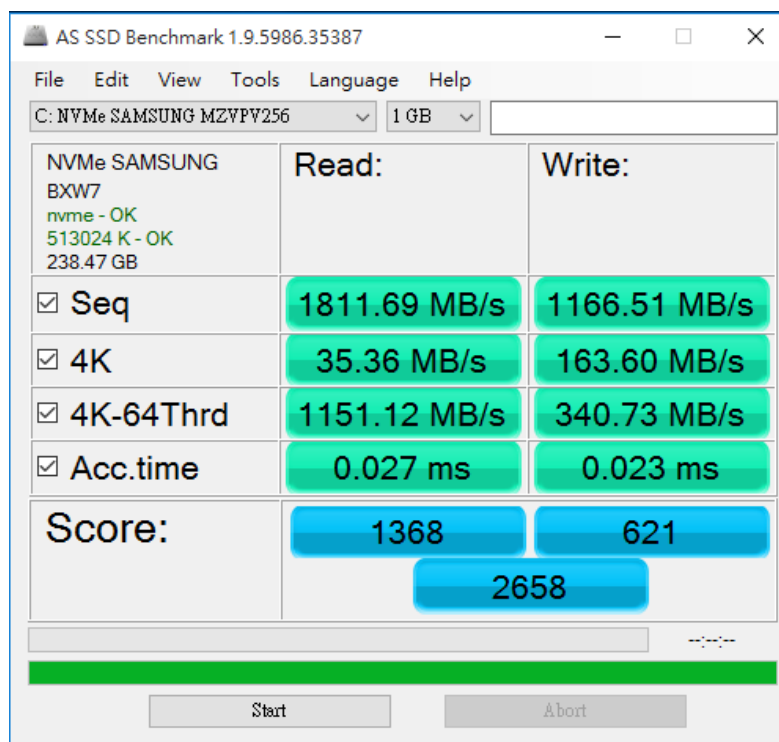
　　2.5.1　　Used SSD(SM951 256GB NVMe)performance as below:

2.6 AS SSD Benchmark 1.9 performance test

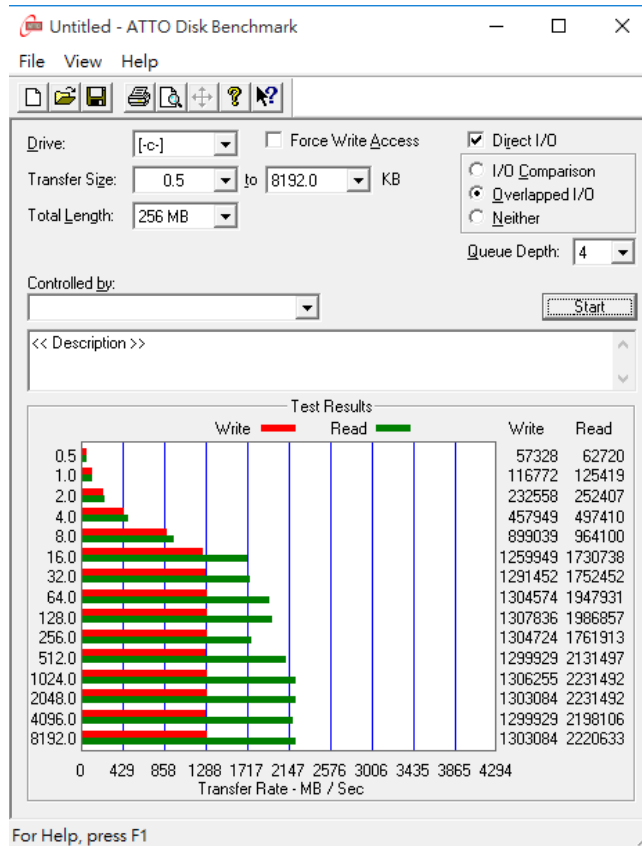　　※Benchmark (Read & Write by MB/s, default block size = 16MB)

　　2.6.1　Used SSD(SM951 256GB NVMe)performance as below:
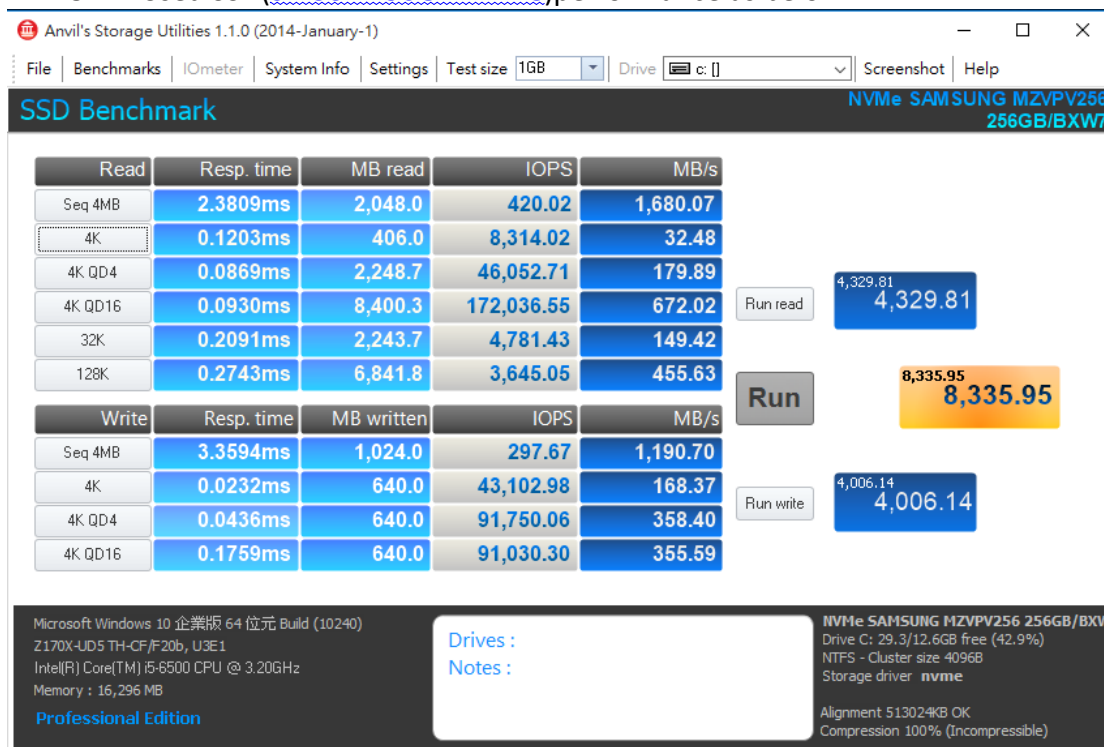
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2.7   ATTO Disk Benchamrk 2.47 performance test

    2.7.1   Used SSD(SM951 256GB NVMe)performance as below:

2.8   AnvilBenchmark_V110_B337

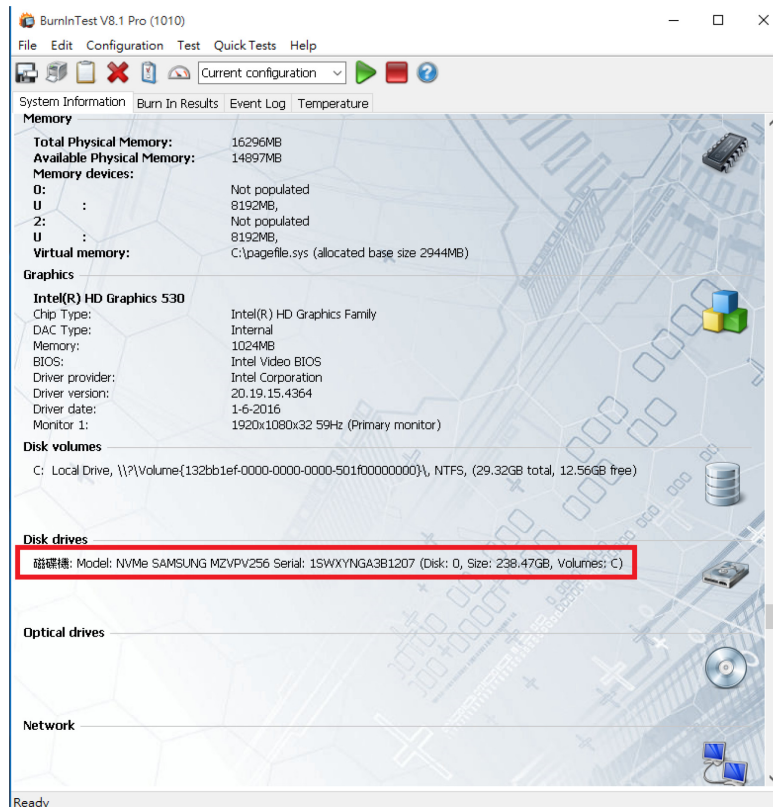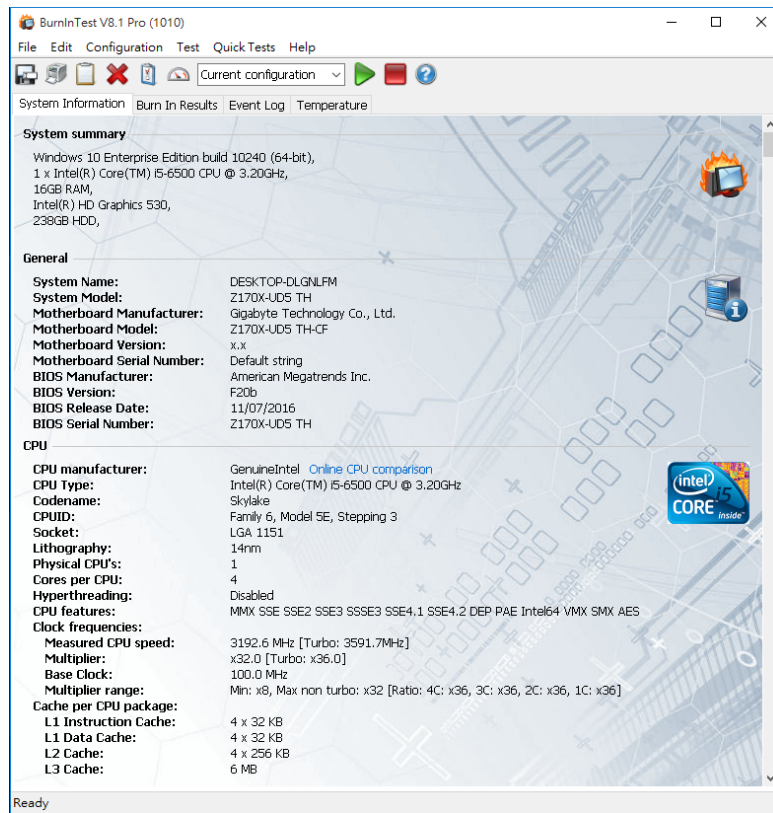   2.8.1   Used SSD(SM951 256GB NVMe)performance as below:
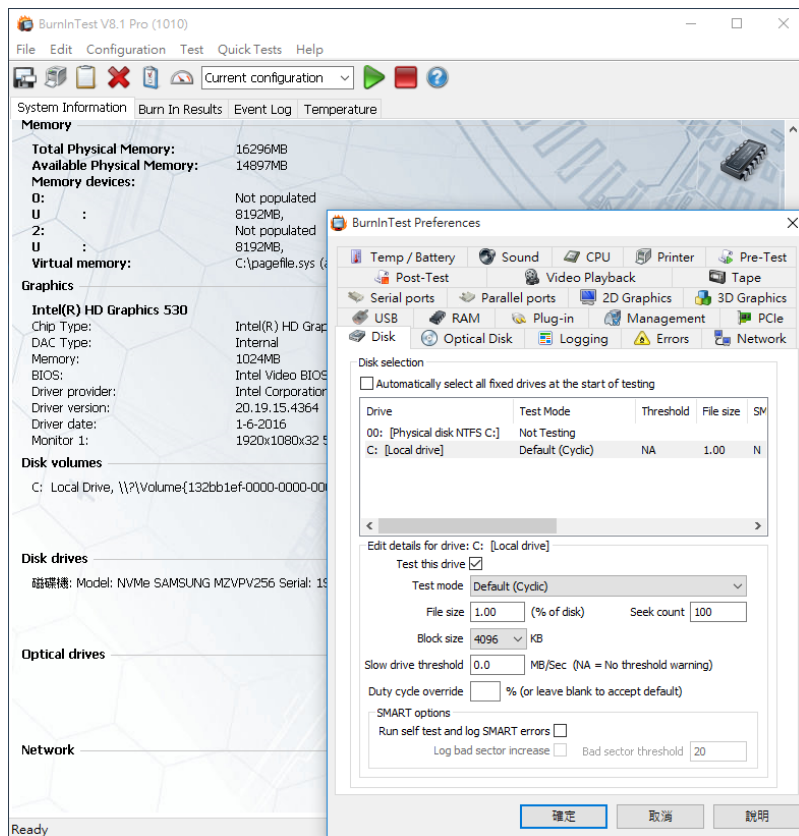
3. Burn In Tests and Results

3.1 BurnInTest v8.0 Pro for SSD(SM951 256GB NVMe)

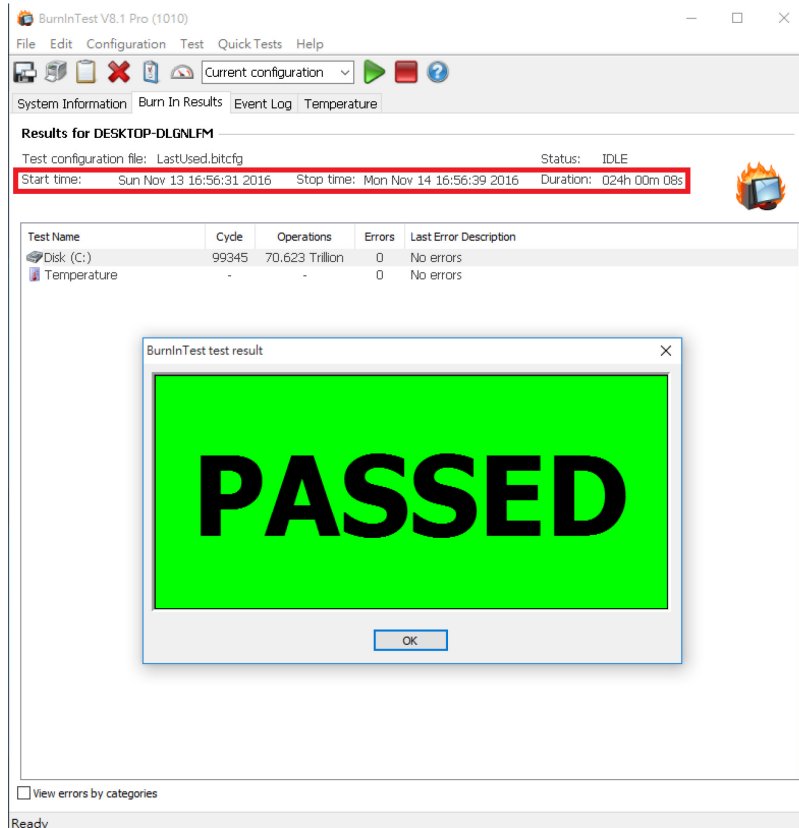#### 3.1.1 **system information** as below:

3.1.2   show Disk test mode(10 ways cycle test)

3.1.3   show 24-hour Burn-in test PASSED

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4. Summary

4.1   SM951 256GB NVMe SSD is PCI-e Gen 3 / 4 Lanes Interface, I/O speed, max. to 32Gbps.

4.2   PE0405 adapter I/O performance is based on SM951 256GB NVMe.