MINERVA

PE2401 Converter Card

Performance & Burn In Test Rev. 1.1

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PE2401 Interposer Card

1. Overview

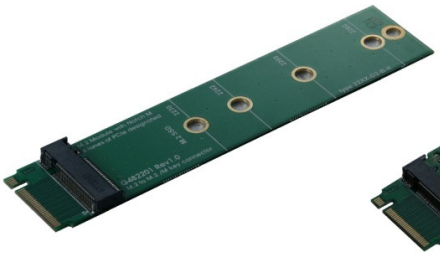
PE2401 Interposer card, is M.2 (NGFF) to M.2 (NGFF) converter. It built M.2 (NGFF) 67pin M key connector, and use 22x103(mm) form factor with M key notch golden finger board. PE2401 allows 22x30(mm), 22x42(mm), 22x60(mm) , 22x80(mm) M.2 PCI-e/ 4 Lane SSD inserted using.

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: PE2401 adapter and SM951 256GB AHCI MZHPV256HDGL-00000/M.2SSD



PE2401 Adapter

PE2401 + SM951 SSD

Samsung SM951 SSD AHCI

2.3 Install Hardware

Insert M.2 PCI-e 4 Lane SSD(Samsung SM951 256GB AHCI) into PE2401 converter's M.2 67pin M key connector, and then with coppers, and screws to fix SSDs. Insert PE2401 converter to M.2_1 connector of ASRock Z97 Extreme 6 motherboard.

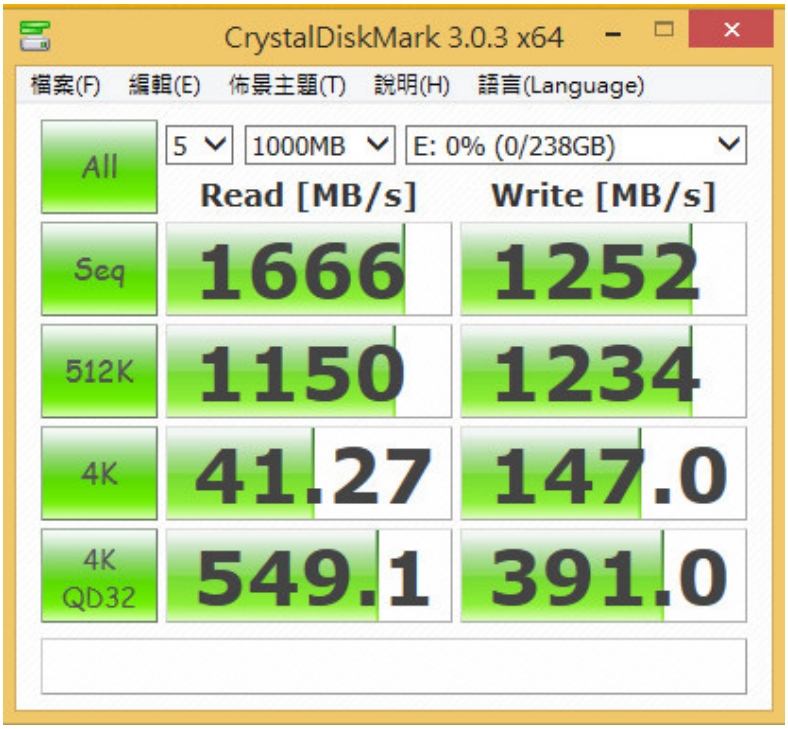
2.4 BIOS & Windows 8.1 OS environment setup

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

2.5 CrystalDiskMark 3.0.1 x64 performance test

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

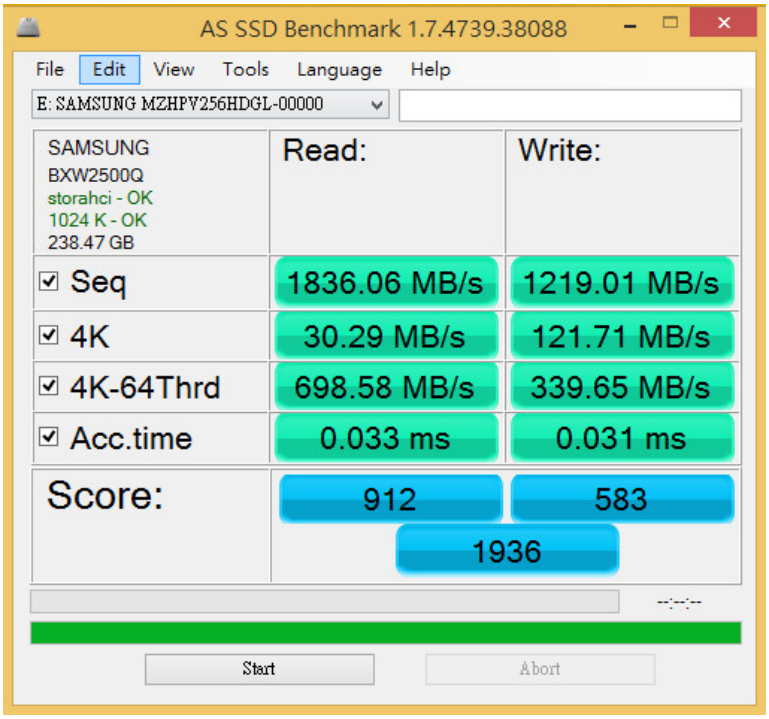
2.5.1 Used Samsung SM951 256GB AHCI performance as below:



2.6 AS SSD Benchmark 1.7 performance test

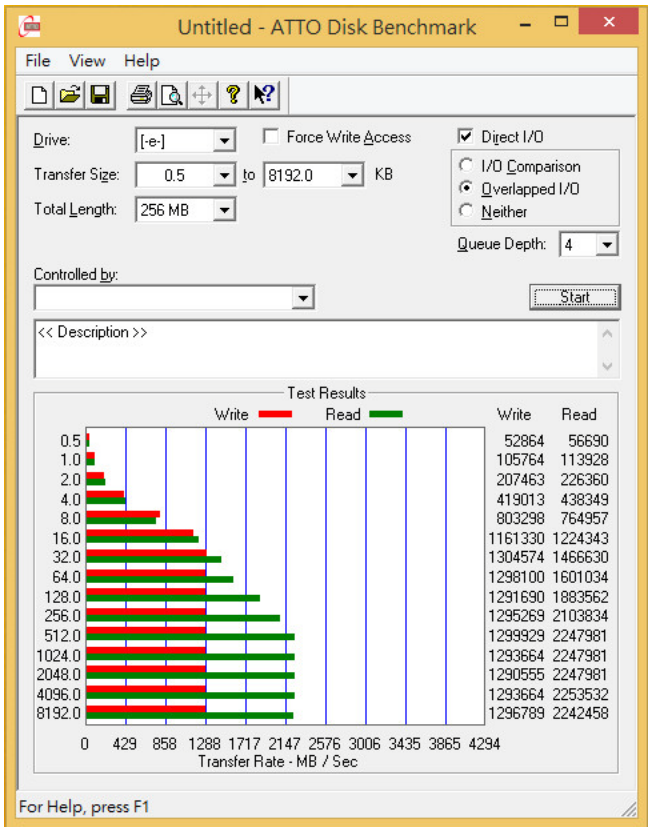
※Benchmark (Read & Write by MB/s, default block size = 16MB)

2.6.1 Used Samsung SM951 256GB AHCI performance as below:



2.7 ATTO Disk Benchmark 2.47 performance test

2.7.1 Used Samsung SM951 256GB AHCI performance as below:



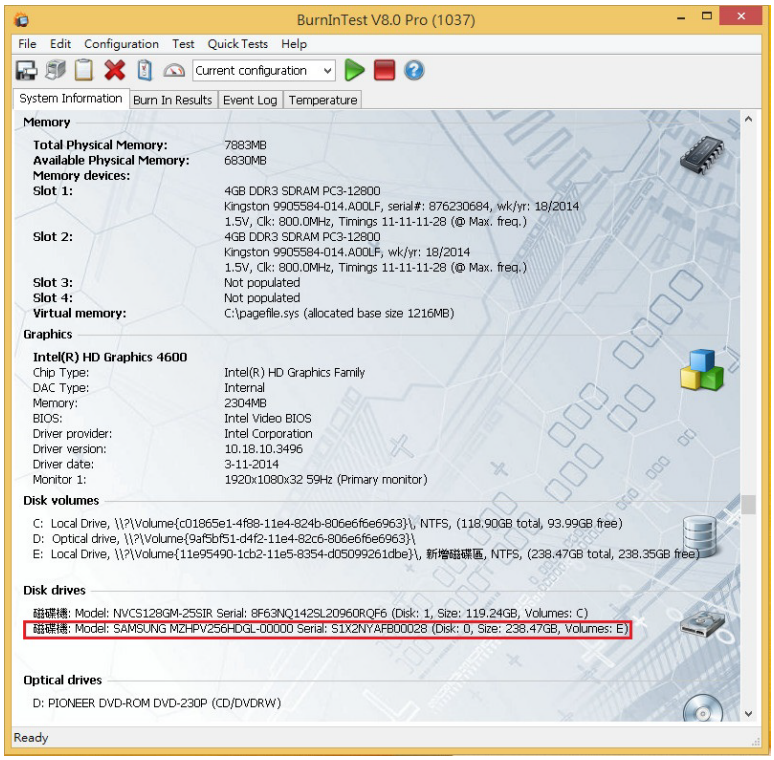
2.8 AnvilBenchmark_V110_B337

2.8.1 Used Samsung SM951 256GB AHCI performance as below:

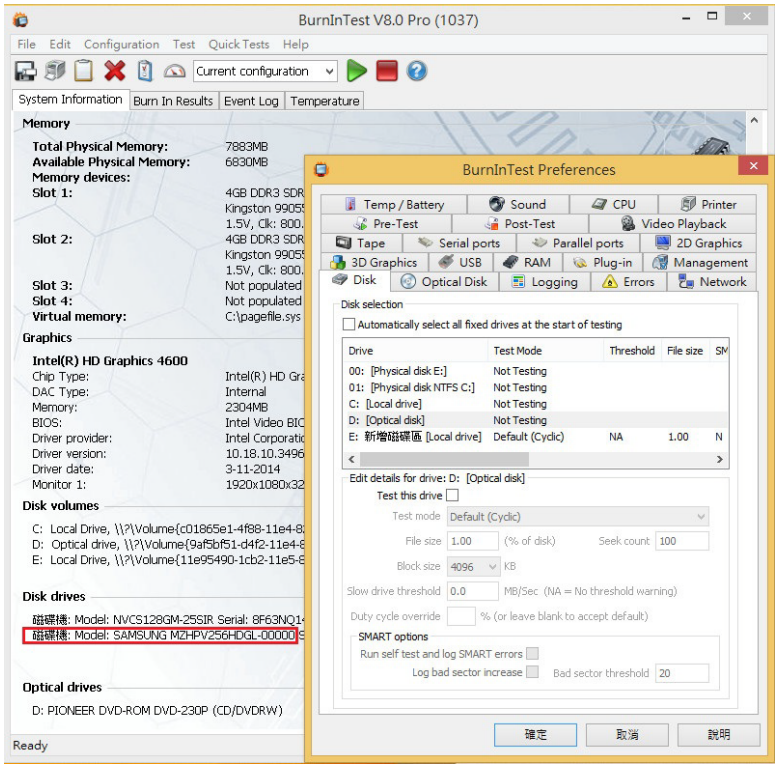
3. Burn In Tests and Results

3.1 BurnInTest v7.1 Pro

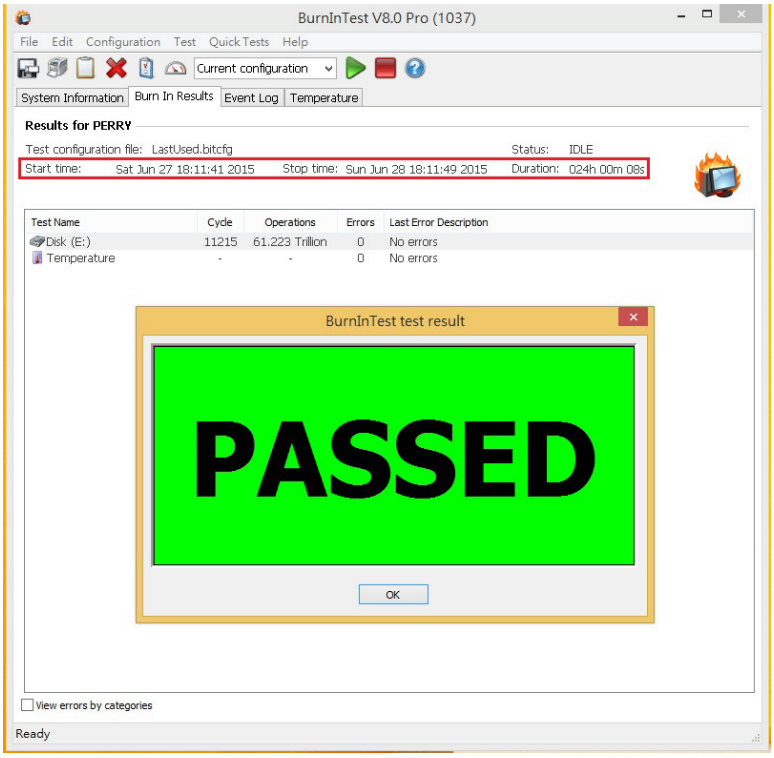
3.1.1 **system information** for Samsung SM951 256GB AHCI as below:



3.1.2 show Disk test mode(default cyclic -- 10 ways cycle test)



3.1.3 show Samsung SM951 256GB AHCI 24-hour Burn-in test PASSED



4. Summary

4.1 PCI-e Gen 2/ 1 Lane is 5Gbs

4.2 Samsung SM951 256GB AHCI SSD is PCI-e Gen 3/ 4 Lane Interface, I/O speed, max. to 32GBbps.

4.3 PE2401 adapter I/O performance is based on M.2(PCI-e Gen 3/ 4 Lane) SSD