



MINERVA

S4025A/E Converter Card

Performance & Burn In Test Rev. 1.0

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4. Summary

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1. Overview

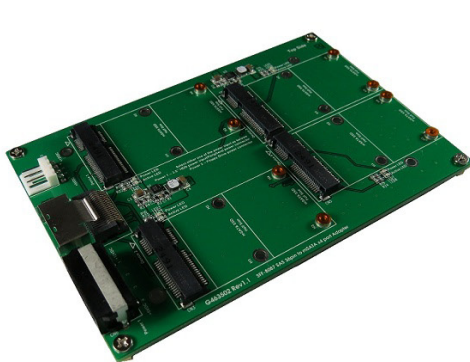
S4025A/E adapter, build in mini PCI-e connector 4-port. It used mini SAS SFF-8087 to SATA III 7-pin 4-port cable to connect to M/B SATA port.

2. Tools and Results of Performance Measurement

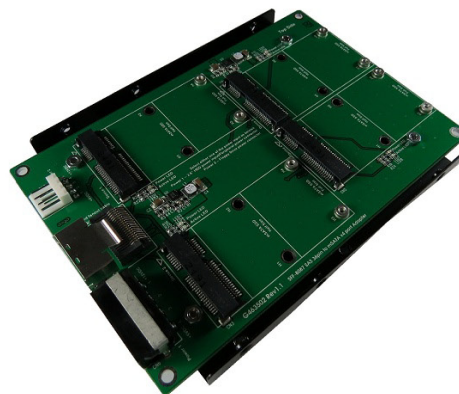
2.1 Test Platform

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: S4025A/E adapter and mSATA SSD(Crucial [CT-128M550SSD3/128G](#))



S4025A Adapter



S4025E Adapter



Crucial CT-128M550SSD3

2.3 Install Hardware

2.3.1 Insert mSATA SSD into S4025A/E converter's mini PCI-e connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect S4025A/E converter to **SATA III Port of ASRock Z97 Extreme 6**.

2.4 BIOS & Windows 7 OS environment setup

2.4.1 In UFI BIOS(Basic Input/Output Setup) – Change IDE Mode into RAID Mode
2.4.2 Install Windows 8.1 x64 OS.

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2.5 SSD I/O Performance impact factors

2.5.1 SATA I/O performance -- depending on the SSD Controller IC

2.5.2 SATA I/O performance - -depending on the NAND Flash IC.

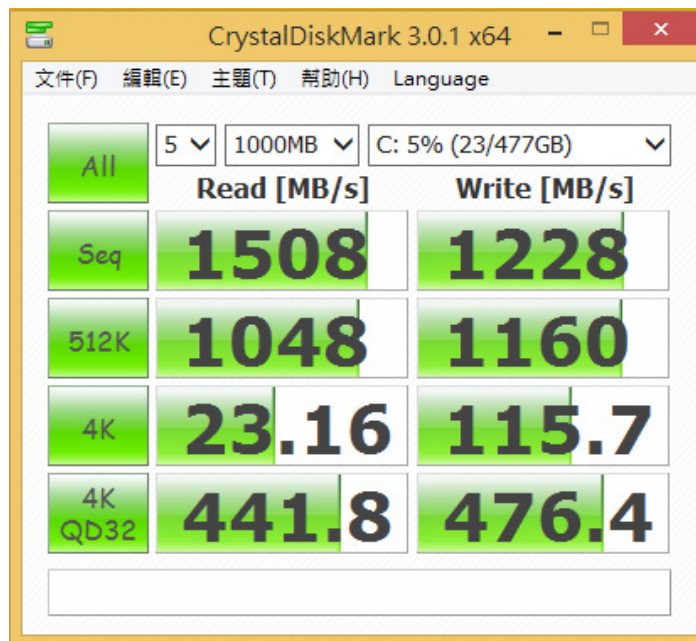
2.5.2.1 Toggle DDR mode or ONFI synchronous NAND Flash IC, will show good performance

2.5.2.2 Traditional asynchronous or SDR NAND Flash IC, will show poor performance

2.6 CrystalDiskMark 3.0.1 x64 performance test

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

2.6.1 Used [CT-128M550SSD3 / 128G x4](#) in **Z97 RAID 0** performance as below:

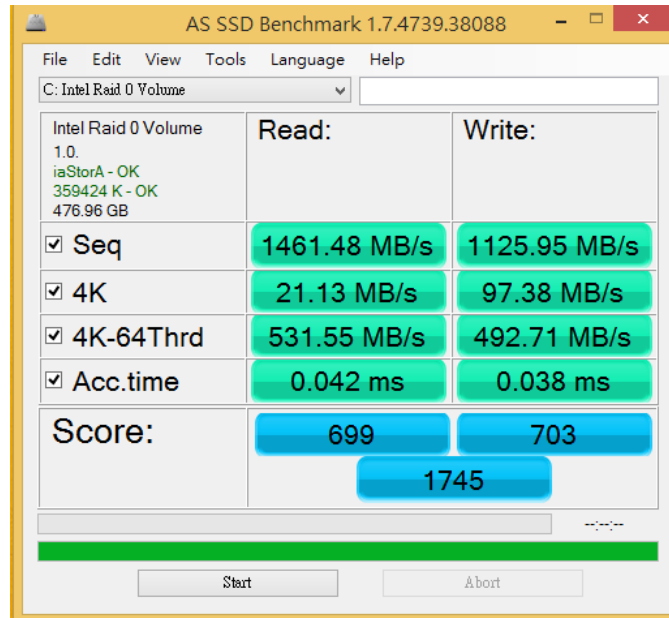


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2.7 AS SSD Benchmark 1.7 performance test

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

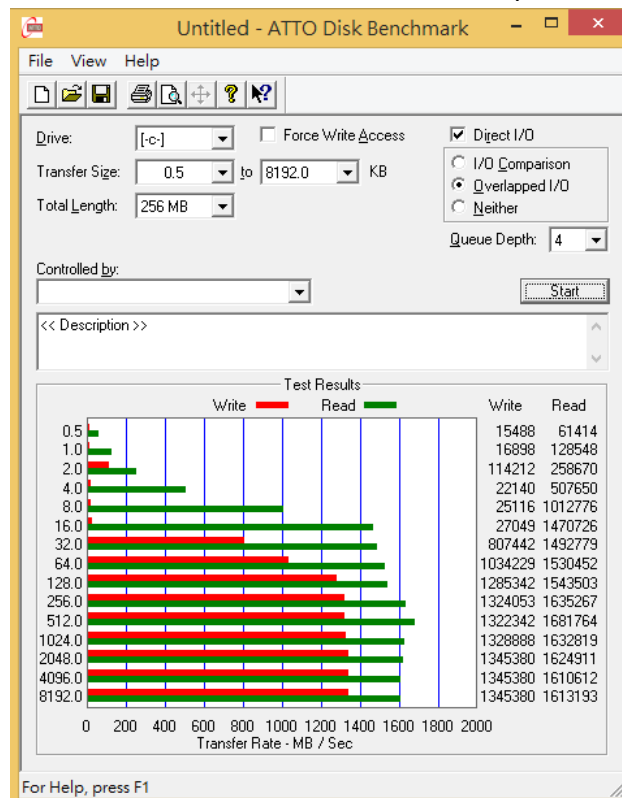
2.7.1 Used [CT-128M550SSD3 / 128G x4](#) in **Z97 RAID 0** performance as below:



2.8 ATTO Disk Benchmark performance test

※Benchmark (Sequential Read / default block size = 8MB)

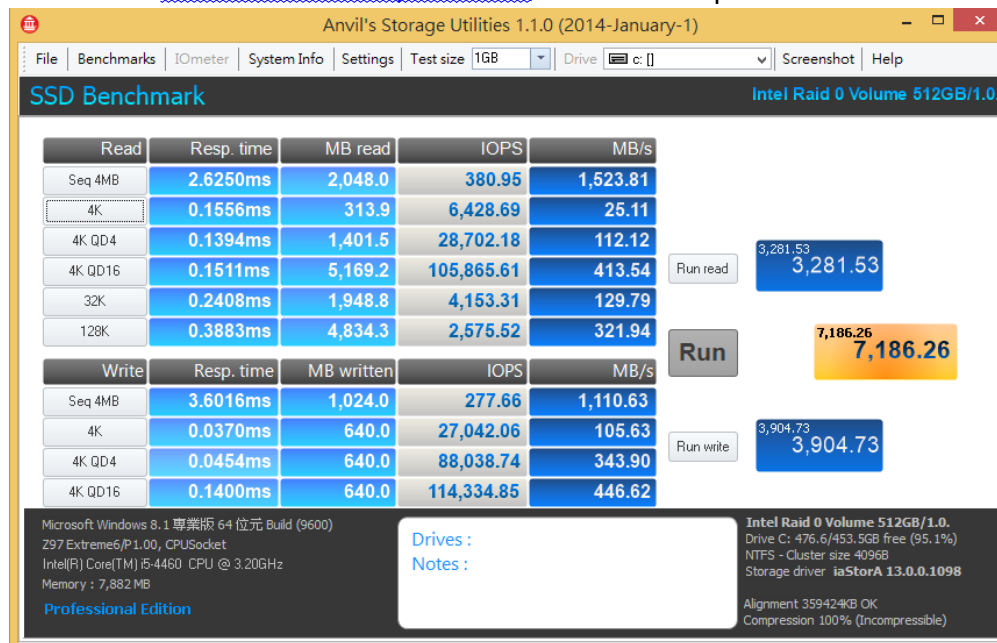
2.8.1 Used [CT-128M550SSD3 / 128G x4](#) in **Z97 RAID 0** performance as below:



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2.9 AnvilBenchmark_V110_B337

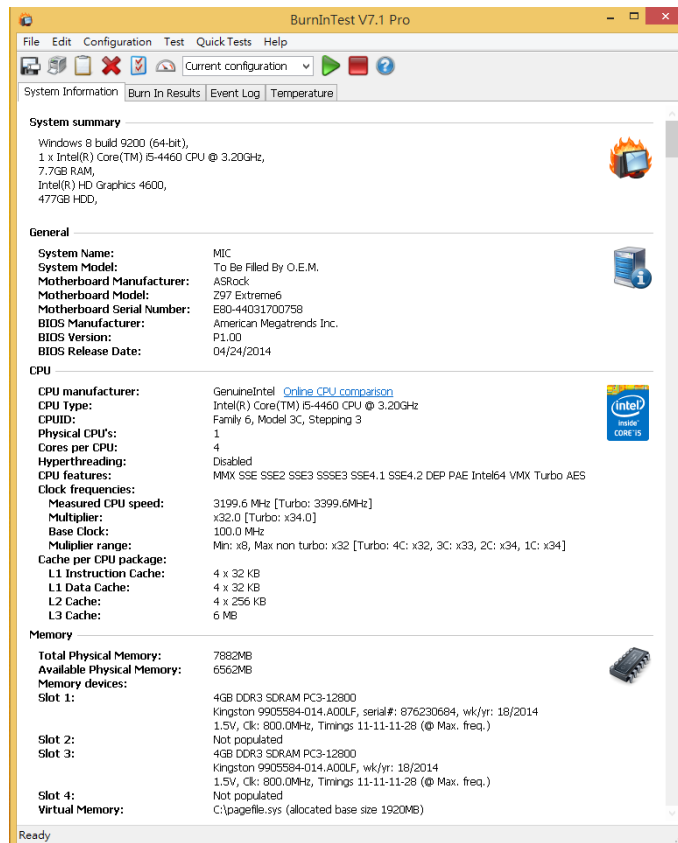
2.9.1 Used [CT-128M550SSD3 / 128G x4](#) in **Z97 RAID 0** performance as below:



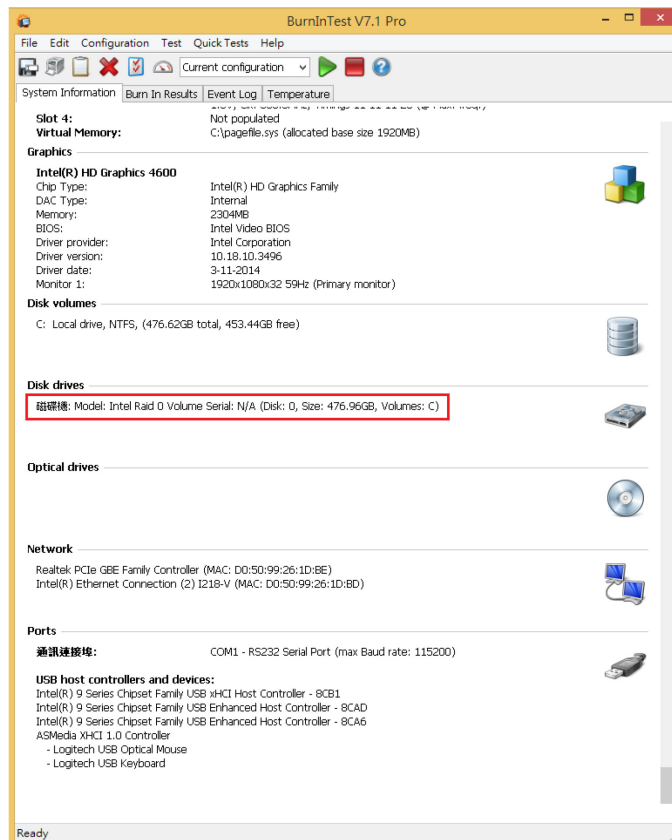
3. Burn In Tests and Results

3.1 BurnInTest v7.1 Pro

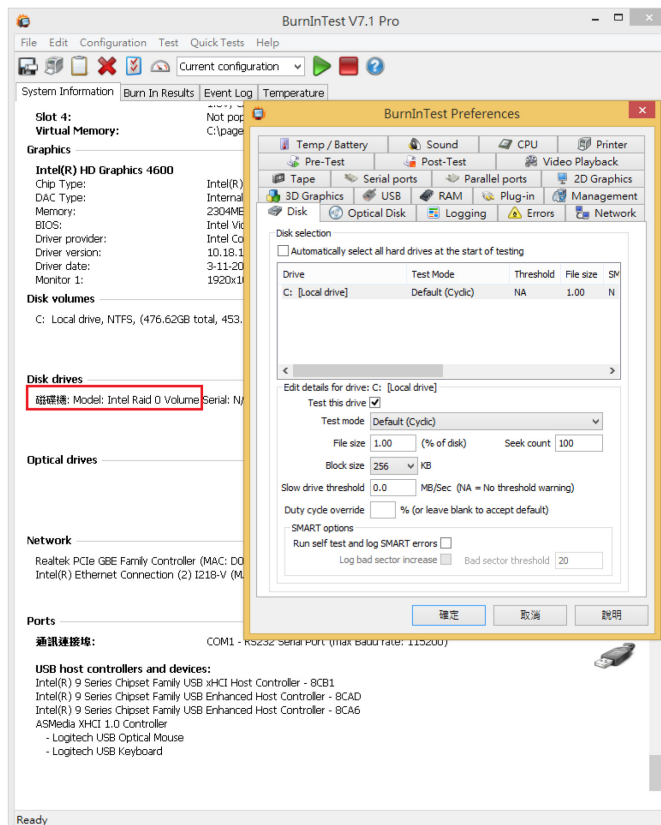
3.1.1 **system information** for [CT-128M550SSD3 / 128G x4](#) as below:



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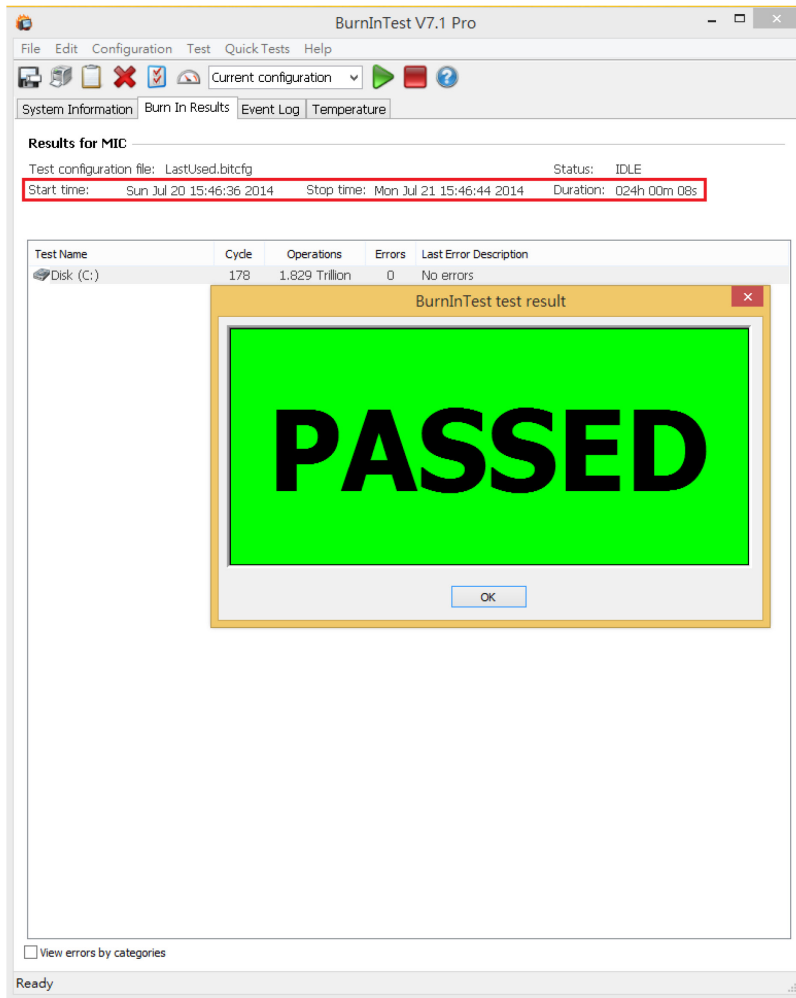


3.1.2 show [CT-128M550SSD3 / 128G x4](#) Disk test mode(default cyclic -- 10 ways cycle test)



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3.1.3 show [CT-128M550SSD3 / 128G x4](#) 24-hour Burn-in test **PASSED**



4. Summary

- 4.1 mSATA SSD is SATA III Interface, I/O speed, max. to 600MB/s.
- 4.2 S4025A/E adapter I/O performance is based on mSATA.