



MINERVA

AD963DB9/DE9 Converter Card

Performance & Burn In Test Rev. 2.0

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4. Summary

AD963DB9/DE9 Converter Card

1. Overview

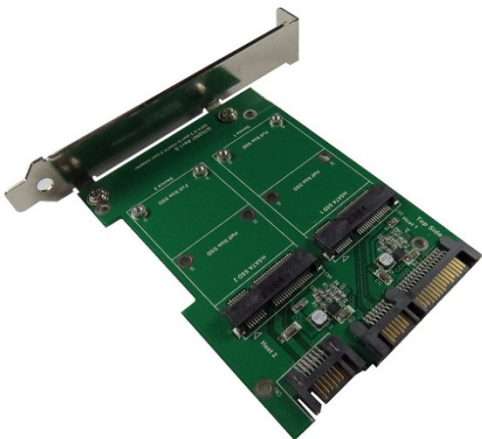
AD963DB9/DE9 adapter, build in mini PCI-e connector 2-port. It used SATA 7-pin 2-port cable to connect to ASRock Z97 M/B SATA III port.

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: AD963DB9/DE9 adapter and mSATA SSD(Crucial [CT-128M550SSD3/128G](#))



AD963DB9 Adapter



AD963DE9 Adapter



Micron CT128M550SSD3

2.3 Install Hardware

2.3.1 Insert mSATA SSD into AD963DB9/DE9 converter's mini PCI-e connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect AD963DB9/DE9 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 AHCI 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.

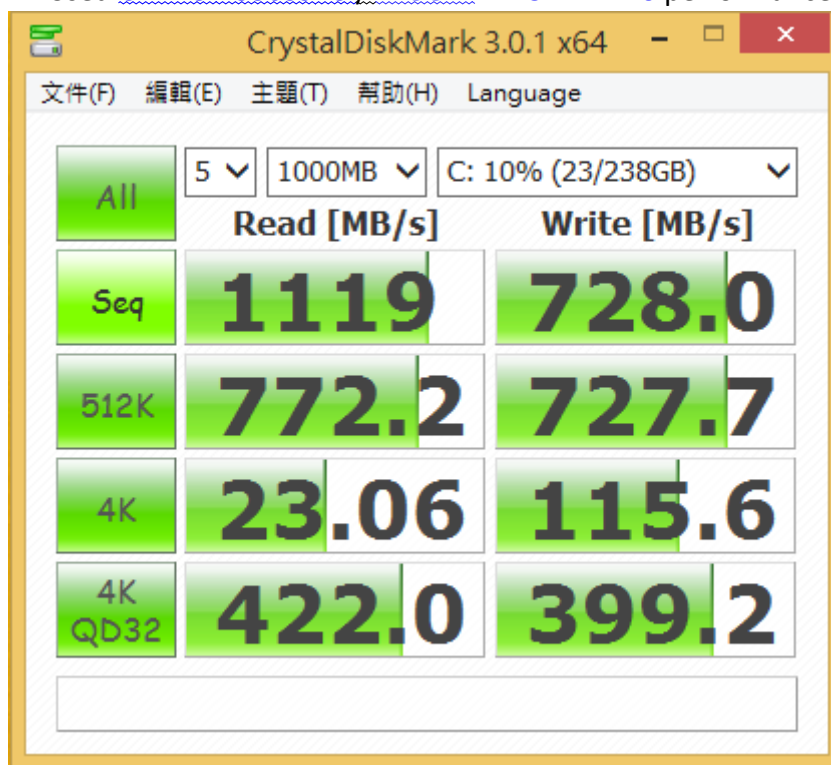
2.5.2.1 Toggle DDR mode or ONFI synchronous NAND Flash IC, will show good performance

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 / 128Gx2](#) in **Z97 RAID 0** performance as below:

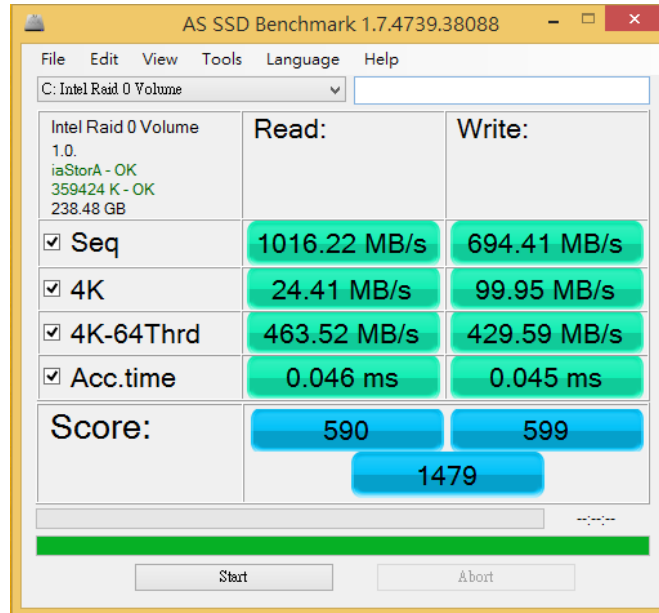


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2.7 AS SSD Benchmark 1.7 performance test

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

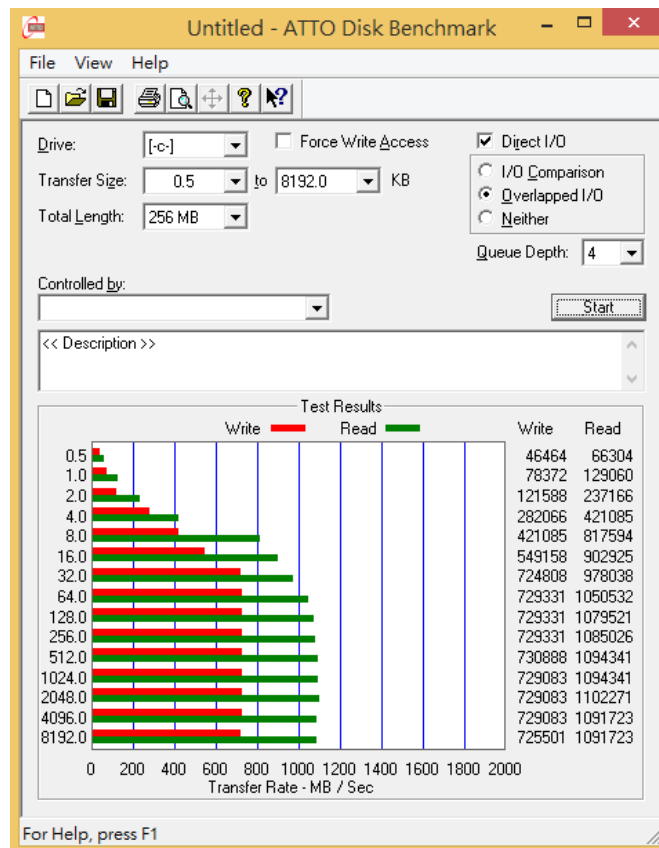
2.7.1 Used [CT-128M550SSD3 / 128Gx2](#) in **Z97 RAID 0** performance as below:



2.8 ATTO Disk Benchmark performance test

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

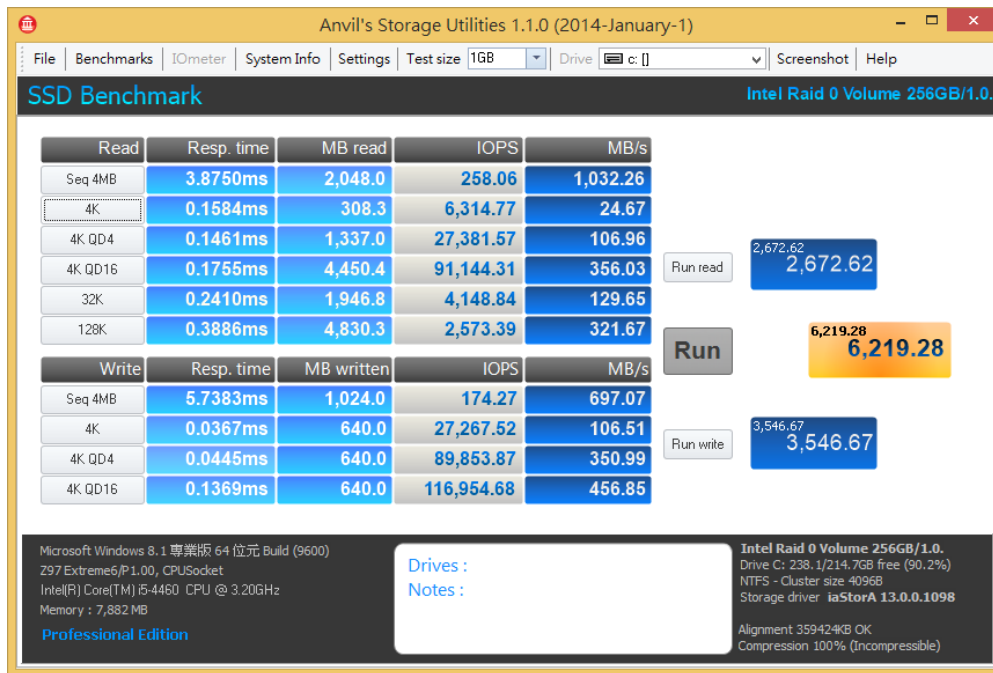
2.8.1 Used [CT-128M550SSD3 / 128Gx2](#) in **Z97 RAID 0** performance as below:



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2.9 AnvilBenchmark_V110_B337

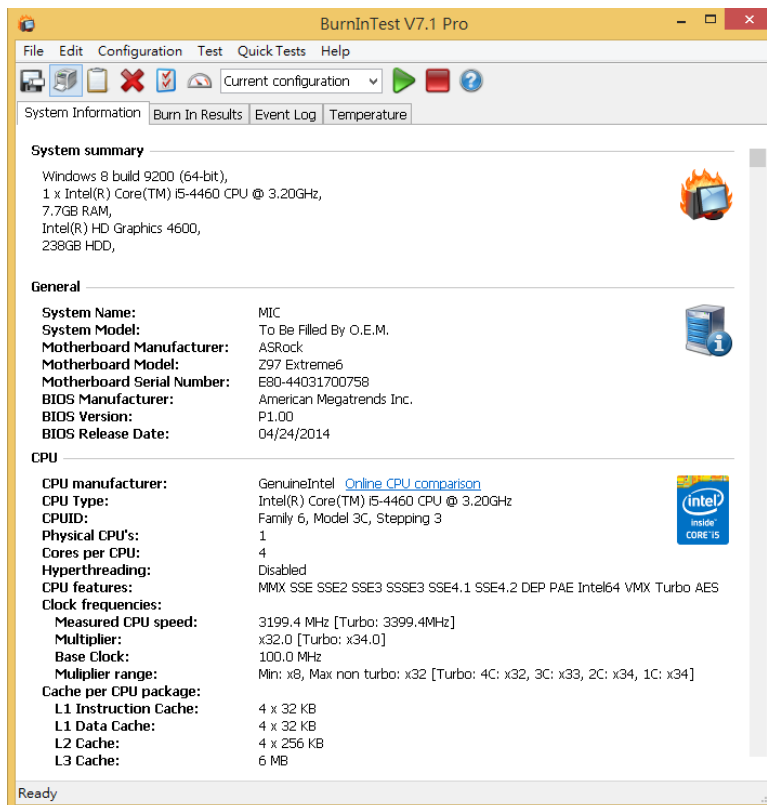
2.9.1 Used [CT-128M550SSD3 / 128Gx2](#) in **Z97 RAID 0** performance as below:



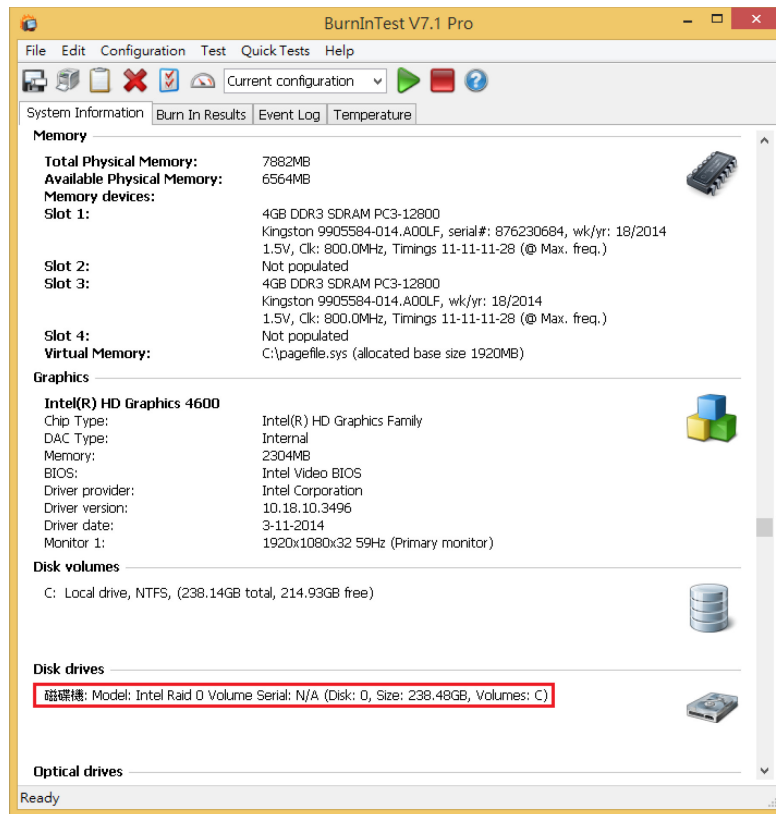
3. Burn In Tests and Results

3.1 BurnInTest v7.1 Pro

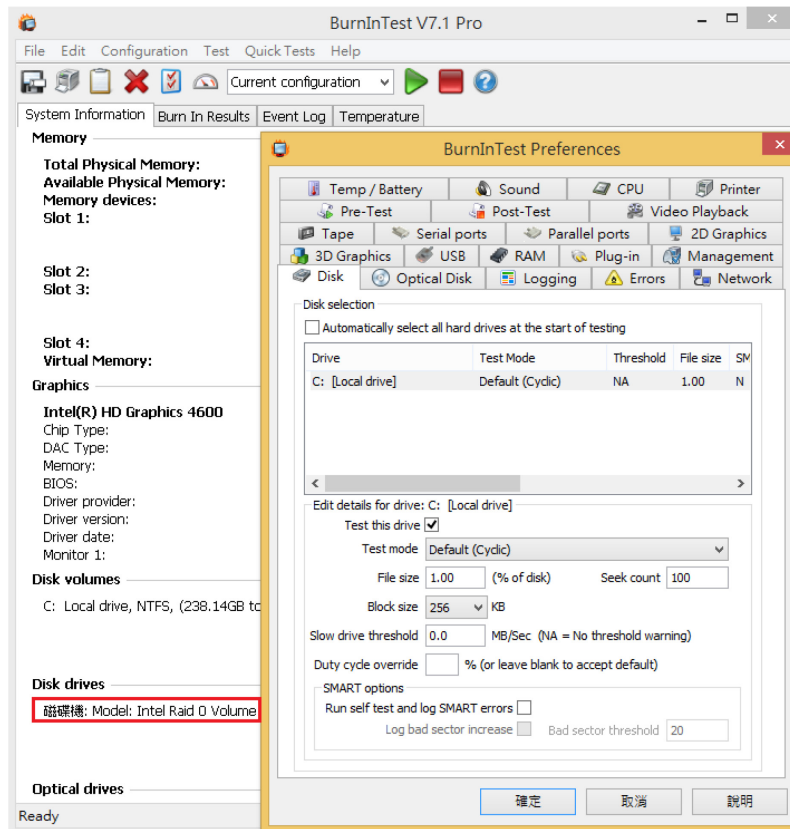
3.1.1 **system information** for [CT-128M550SSD3 / 128Gx2](#) as below:



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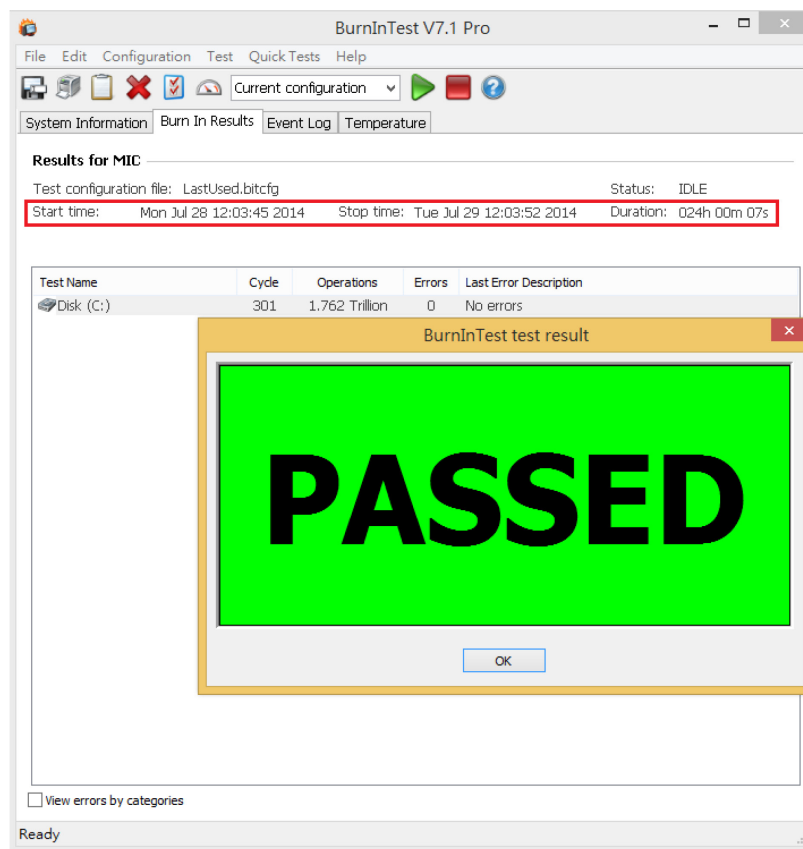


3.1.2 show [CT-128M550SSD3 / 128Gx2](#) Disk test mode(default cyclic -- 10 ways cycle test)



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3.1.3 show [CT-128M550SSD3](#) / [128Gx2](#) 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 AD963DB9/DE9 adapter I/O performance is based on mSATA SSD.