



MINERVA

R2086E SATA 3 to SATA 2-port & mSATA 2-port RAID

RAID 0 Mode Performance & Burn In Test Rev. 1.0

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R2086E SATA 3 to SATA 2-port & mSATA 2-port RAID Card

1. Overview

R2086E RAID card offers SATA 3 interface, built-in 2-port SATA 7-pin connector & 2-port M.2 B key connector, can be combined two SATA interface SSD into a RAID 0, RAID 1, JBOD mode.

This test report is based on **SATA III 128GB SSD x2**, RAID 0 set as a benchmark.

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

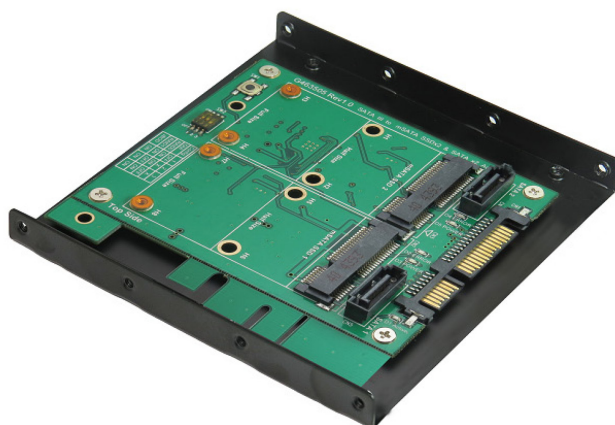
Memory : Kingston **KVR16N11S8/4**, DDR3-1600MHz, 8G(4GB DIMM*2)

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: R2086E RAID Card and Crucial M550 CT128M550SSD1 2.5" 128GB



R2086E Adapter



Crucial M550 CT128M550SSD1 2.5" 128GB x2

2.3 Install Hardware

- 2.3.1 Use two SATA 7pin cable, connect the two groups 2.5 "SSD to R2096E array card, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). using SATA 7pin signal cable, connect the array card to **SATA III Port of ASRock Z97 Extreme6 M/B**.

2.4 BIOS & Windows 8 OS environment setup

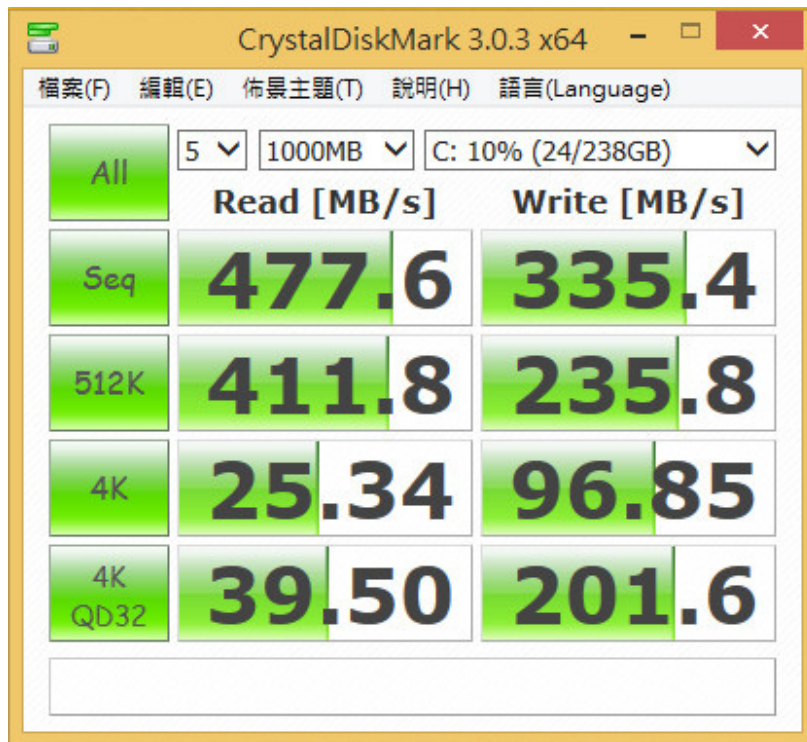
- 2.4.1 Install Windows 8.1 x64 OS.

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2.5 CrystalDiskMark 3.0.3 x64 performance test

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

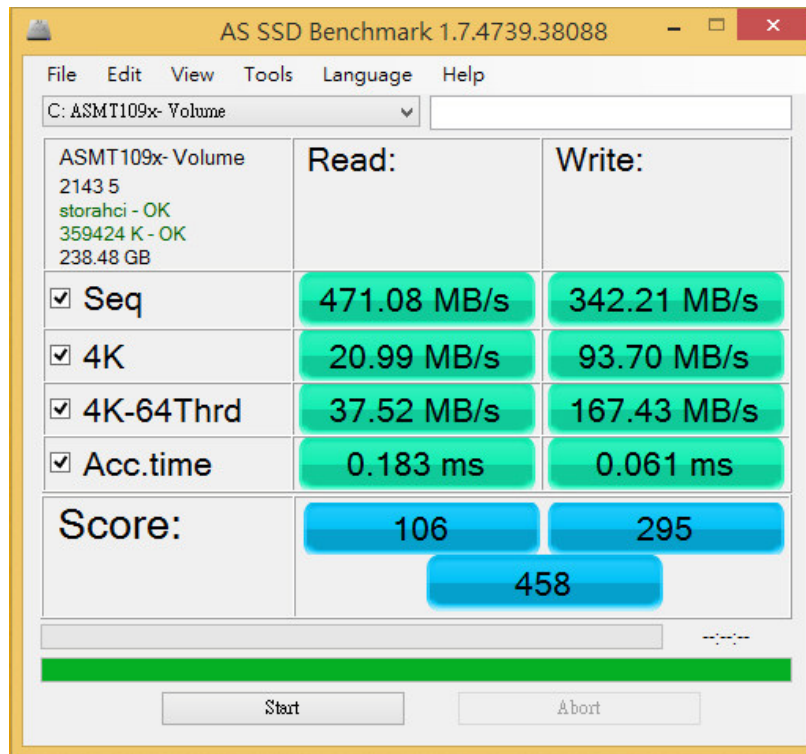
2.5.1 Used [Crucial CT128M550SSD1/128GBx2](#) in **RAID 0** performance as below:



2.6 AS SSD Benchmark 1.7 performance test

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

2.6.1 Used [Crucial CT128M550SSD1/128GBx2](#) in **RAID 0** performance as below:

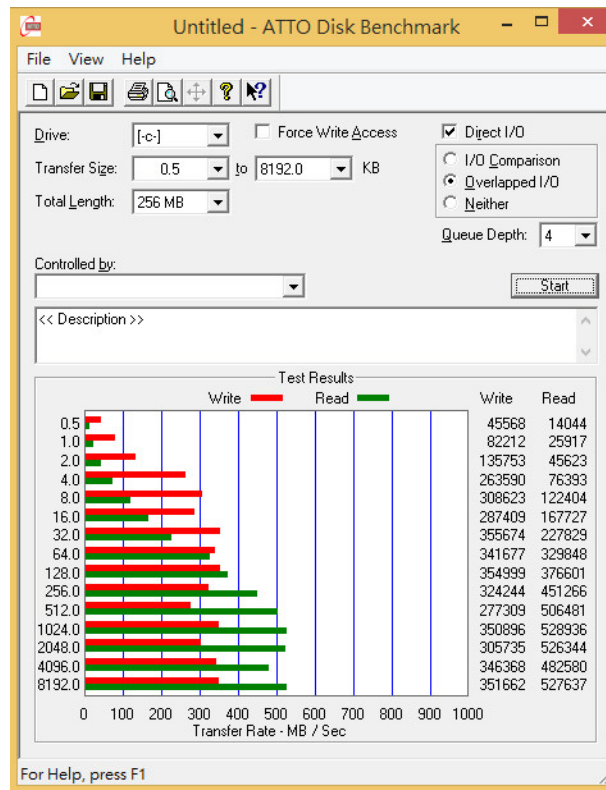


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2.7 ATTO Disk Benchmark performance test

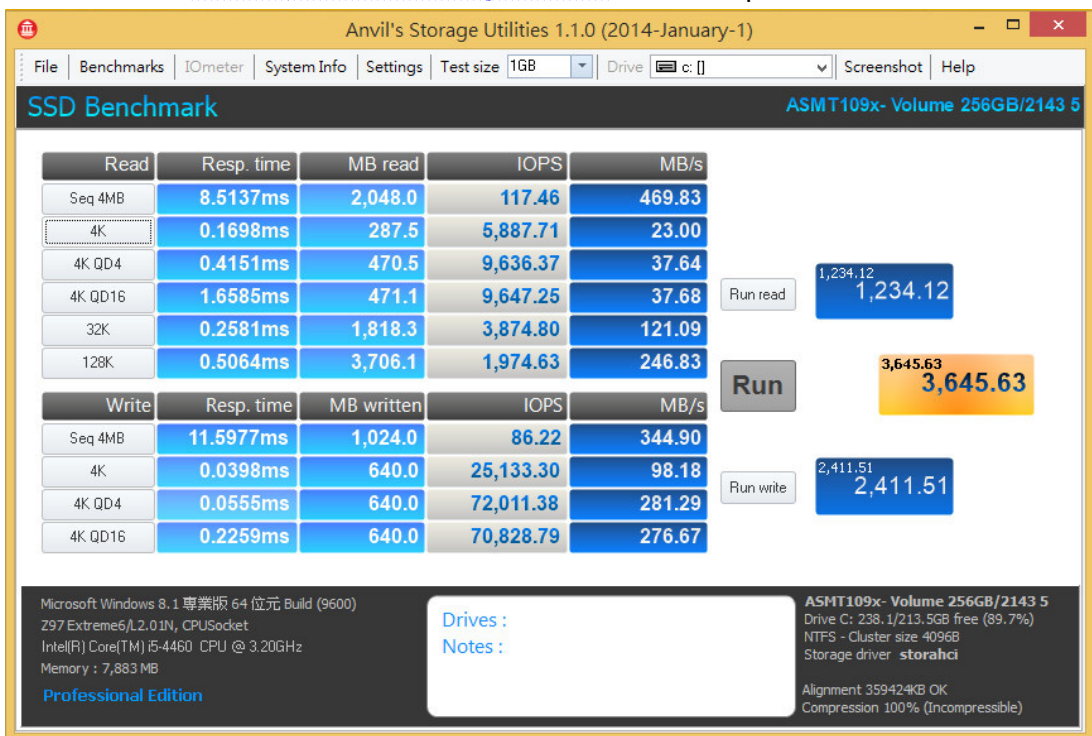
✘ Benchmark (Sequential Read / default block size = 8MB)

2.7.1 Used [Crucial CT128M50SSD1/128GBx2](#) in RAID 0 performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 Used [Crucial CT128M50SSD1/128GBx2](#) in RAID 0 performance as below:

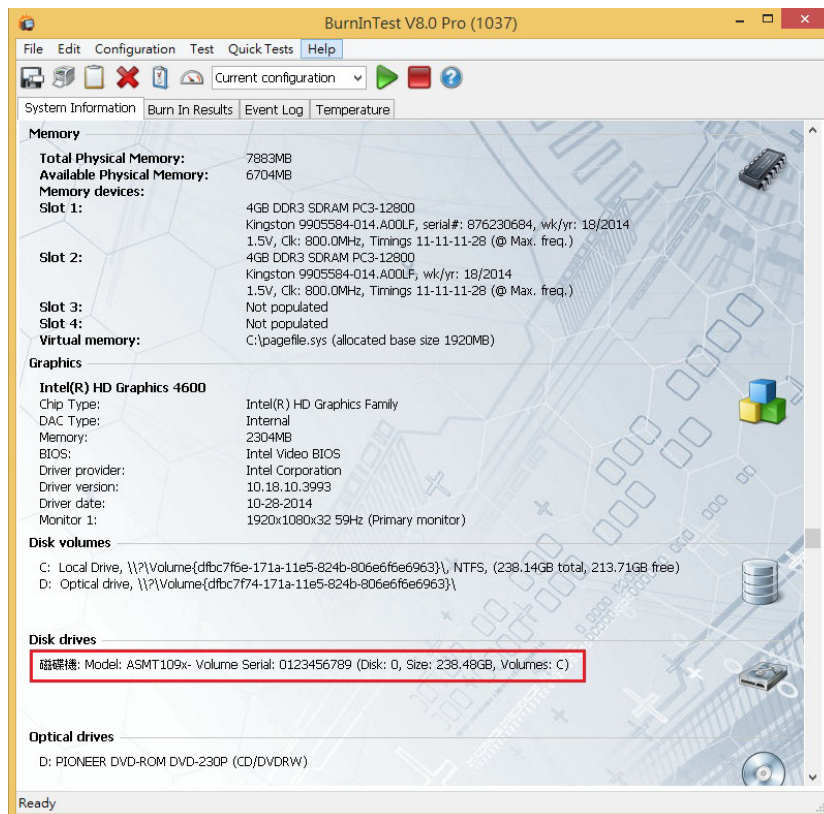
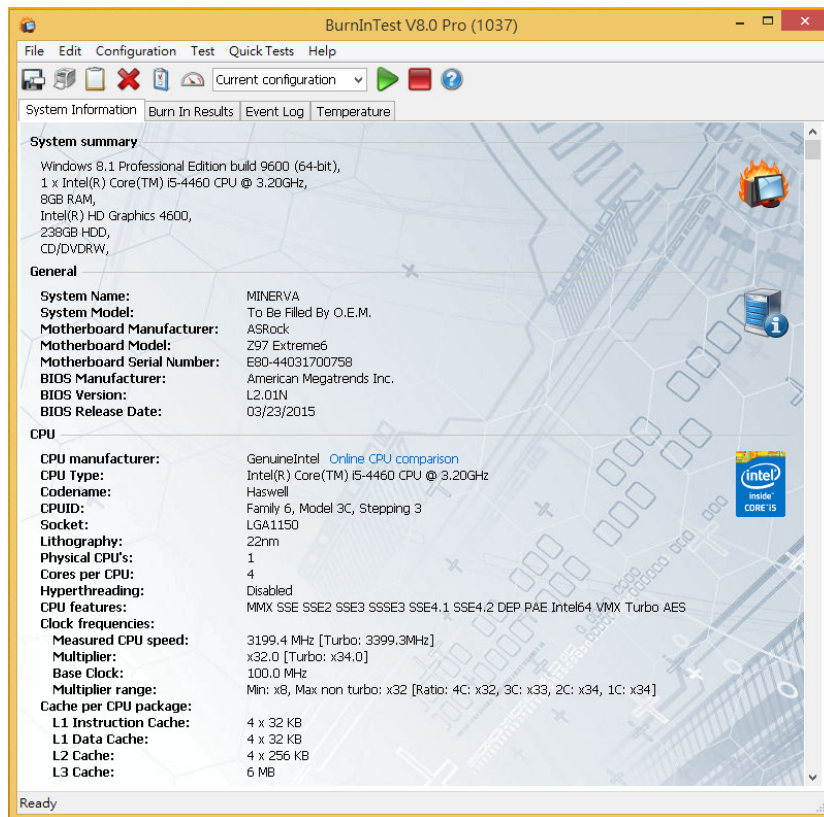


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3. Burn In Tests and Results

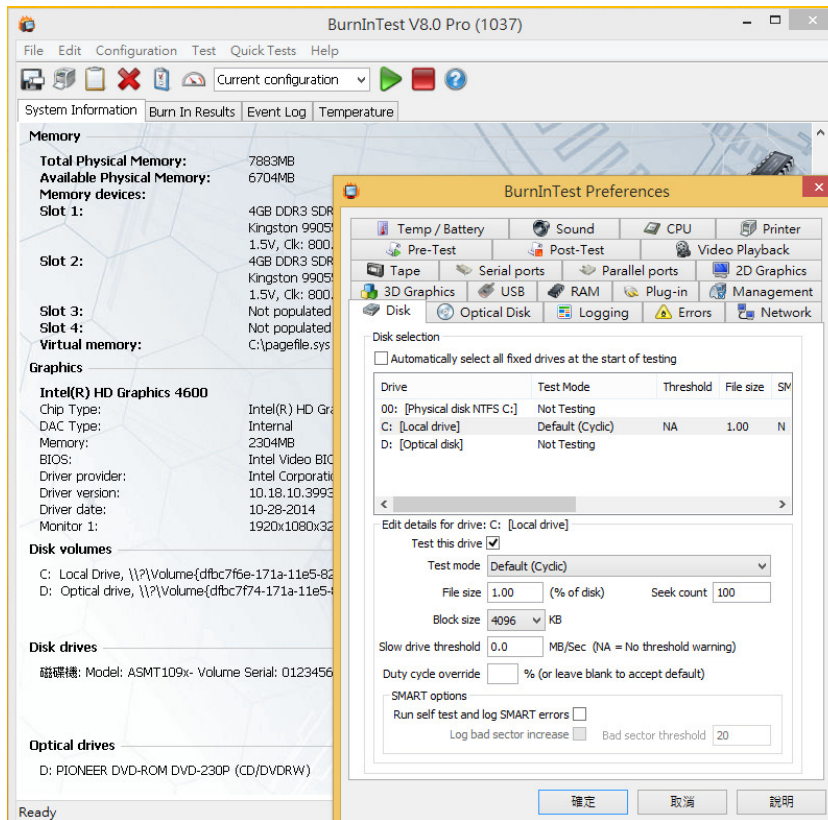
3.1 BurnInTest v8.0 Pro

3.1.1 system information for [Crucial CT128M550SSD1/128GBx2](#) in **RAID 0** as below:

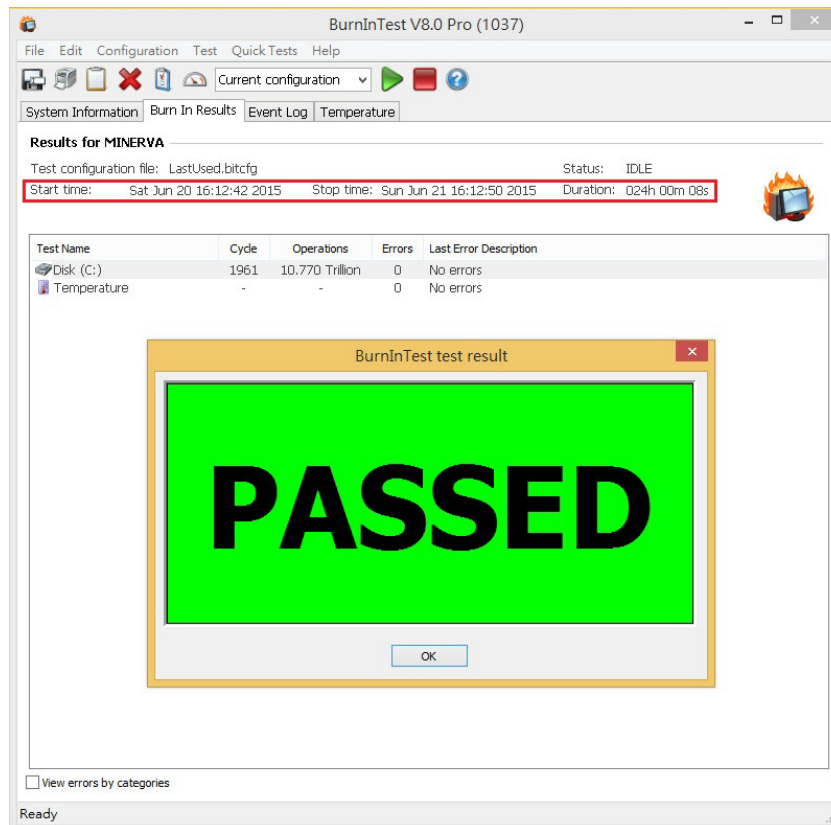


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3.1.2 show [2.5" SSD/128GBx2](#) in RAID 0 test mode(default cyclic -- 10 ways cycle test)



3.1.3 show [Crucial CT128M550SSD1/128GBx2](#) in RAID 0 24-hour Burn-in test PASSED



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4. Summary

- 4.1 R2086E is SATA III Interface, I/O speed, max. to 600MB/s.
- 4.2 R2086E adapter I/O performance is based on SATA III 2.5" SSD.