MINERVA

R2086E SATA 3 to SATA 2-port & M.2 2-port RAID

RAID 0 Mode Performance & Burn In Test   Rev. 1.0

Table of Contents

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 Mini PCI-e 52-pin connector & 2-port SATA 7-pin connector, can be combined mSATA SSD into a RAID 0, RAID 1, JBOD mode. **This test report is based mSATA 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**
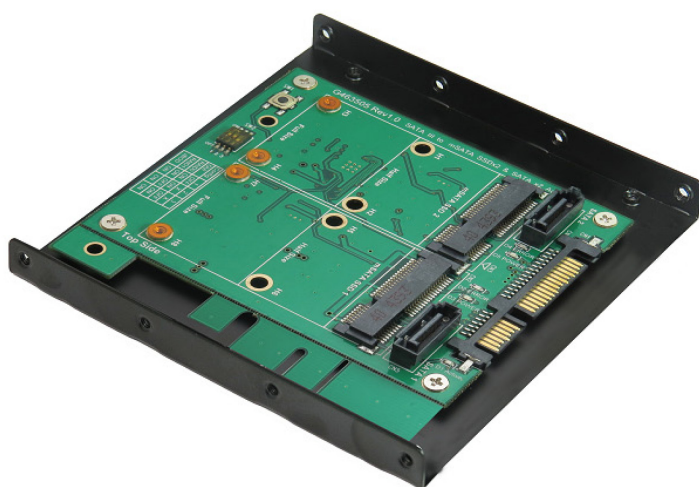CPU :   Intel **i5-4426,** 3.2GHz/ 6M Cache/ LGA1150
Memory :   Kingston **KVR16N11S8⁄4,** DDR3-1600MHz, 8G(4GB DIMM*2)
ATX Power : FSP RAIDER 550, **550W ATX**, 12V V2.2 Power Supply
Graphic :   Z97 Chipsets built-in **HD Graphics 4600**
OS :   Microsoft **Windows 8.1 64bit OS**

2.2 Test target: R2086F RAID Card and mSATA SSD(Crucial CT-128M550SSD3/128GBx2)

R2086F Adapter   Crucial CT-128M550SSD3 / 128GB x2

2.3 Install Hardware

2.3.1   Insert mSATA SSDx2 into R2086E converter's Mini PCI-e connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect R2086E converter to **SATA III Port of ASRock Z97 Extreme6**.
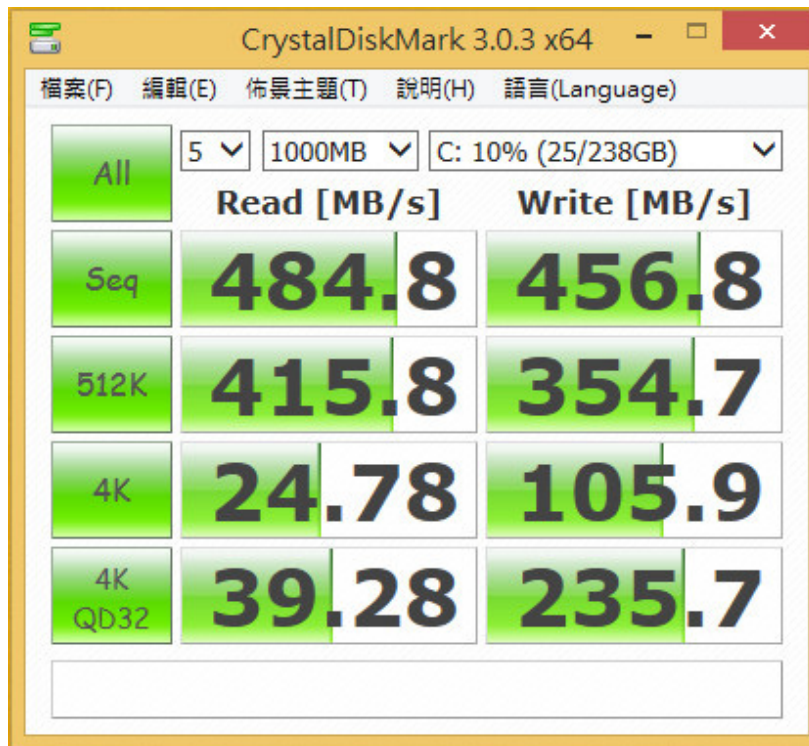
2.4 BIOS & Windows 8 OS environment setup

2.4.1   Install Windows 8.1 x64 OS.

2.5 CrystalDiskMark 3.0.3 x64 performance test
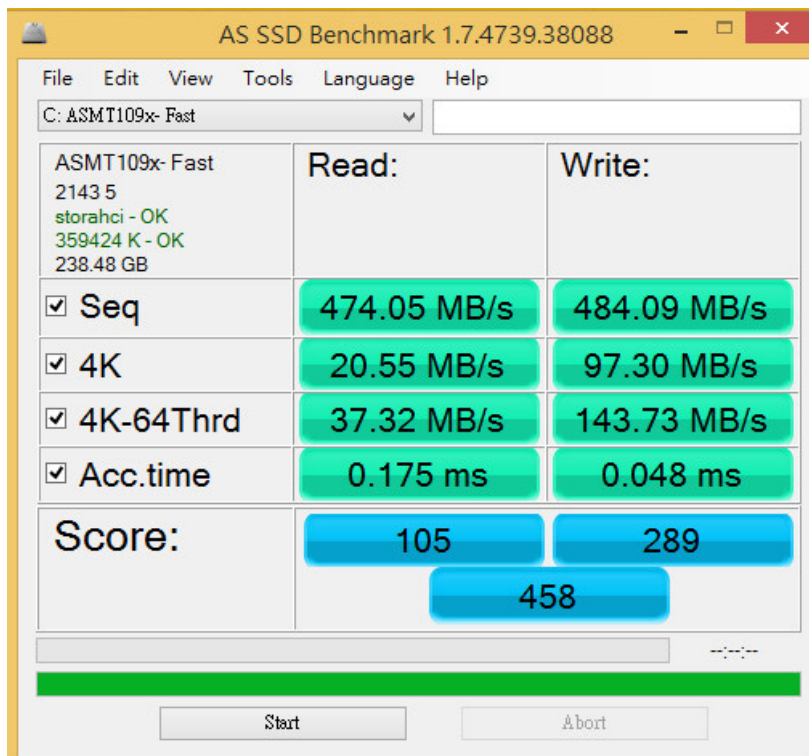
※Benchmark (Sequential Read & Write / default = 1MB)

2.5.1 Used Crucial CT-128M550SSD3/128GBx2 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 CT-128M550SSD3/128GBx2 in **RAID 0** performance as below:

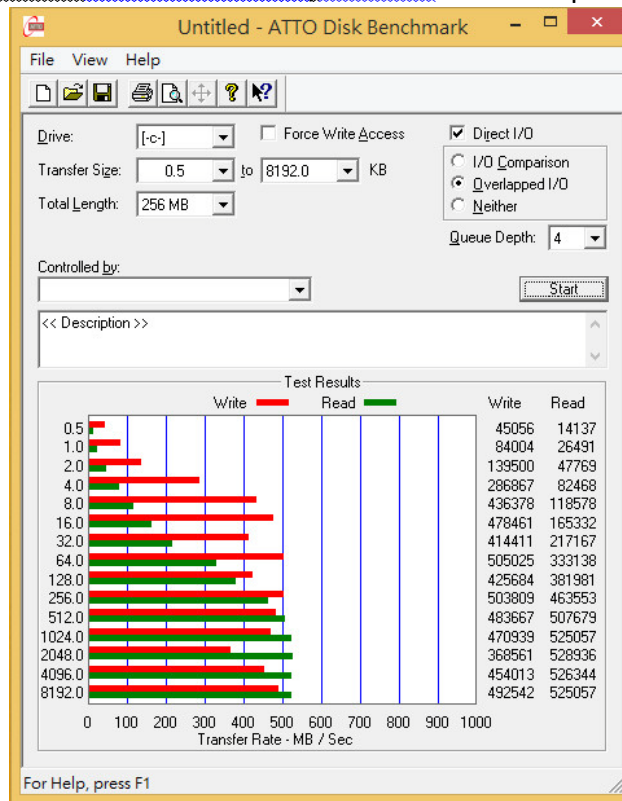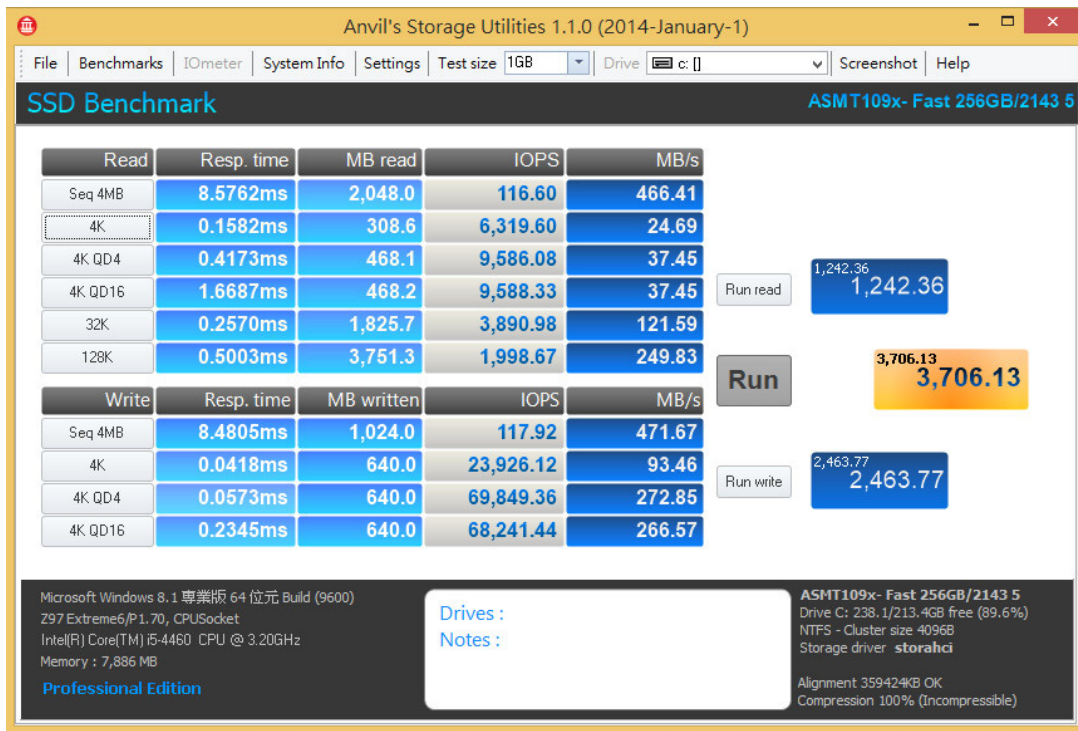2.7   ATTO Disk Benchmark performance test

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

2.7.1   Used Crucial CT-128M550SSD3/128GBx2 in **RAID 0** performance as below:

2.8   AnvilBenchmark_V110_B337

2.8.1   Used Crucial CT-128M550SSD3/128GBx2 in **RAID 0** performance as below:
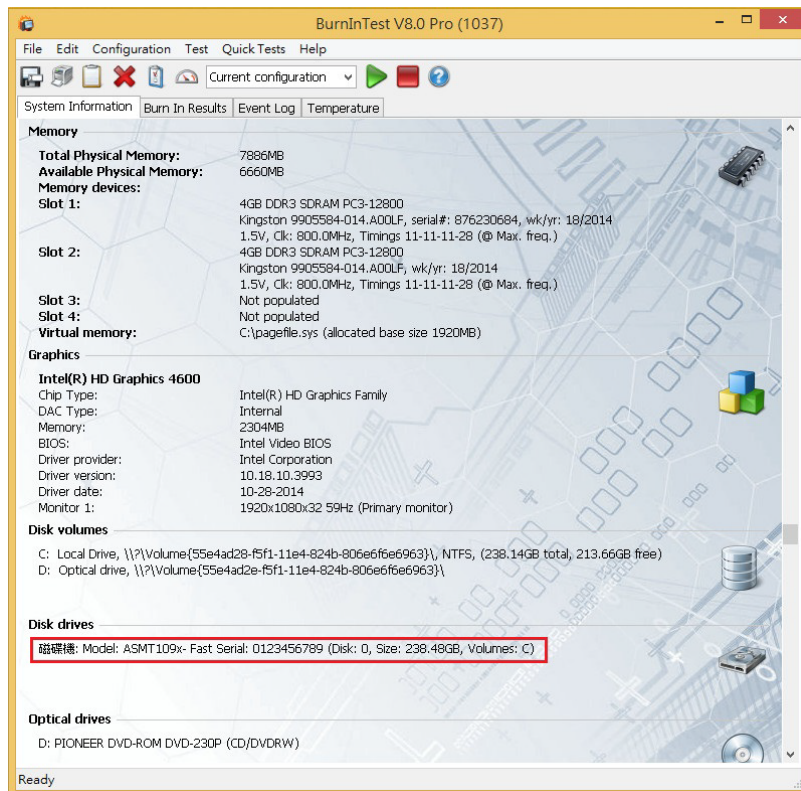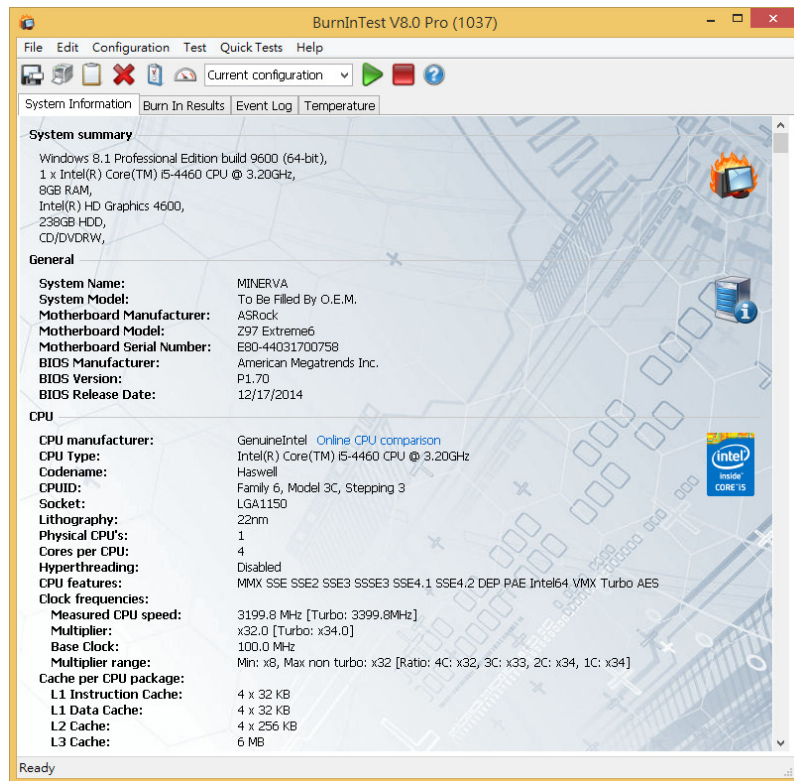
R2086E   SATA 3 to SATA 2-port & mSATA 2-port RAID Card
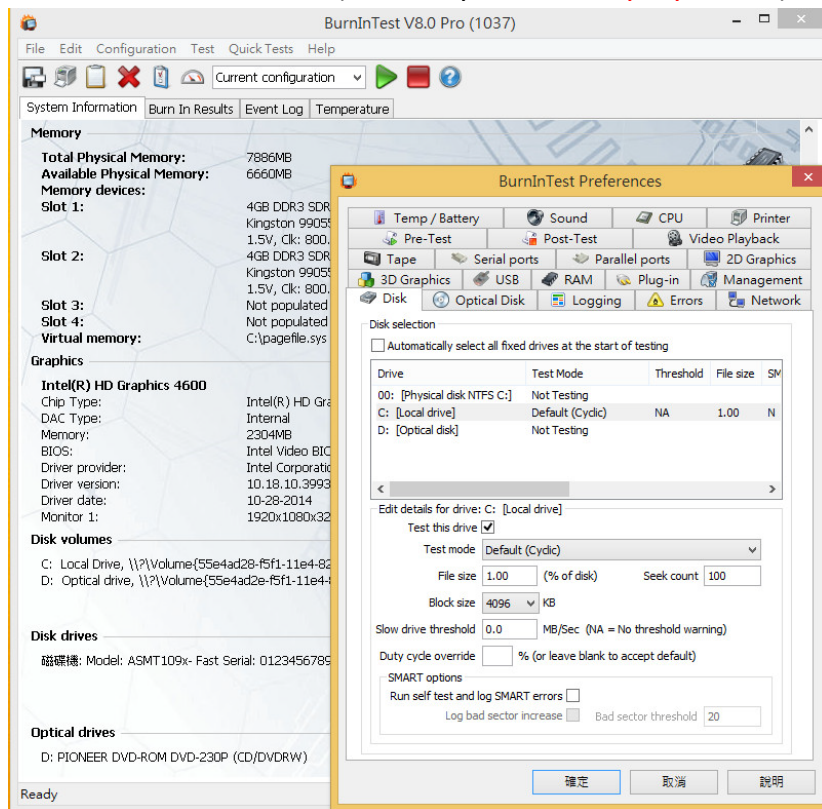
3. Burn In Tests and Results

3.1   BurnInTest v8.0 Pro

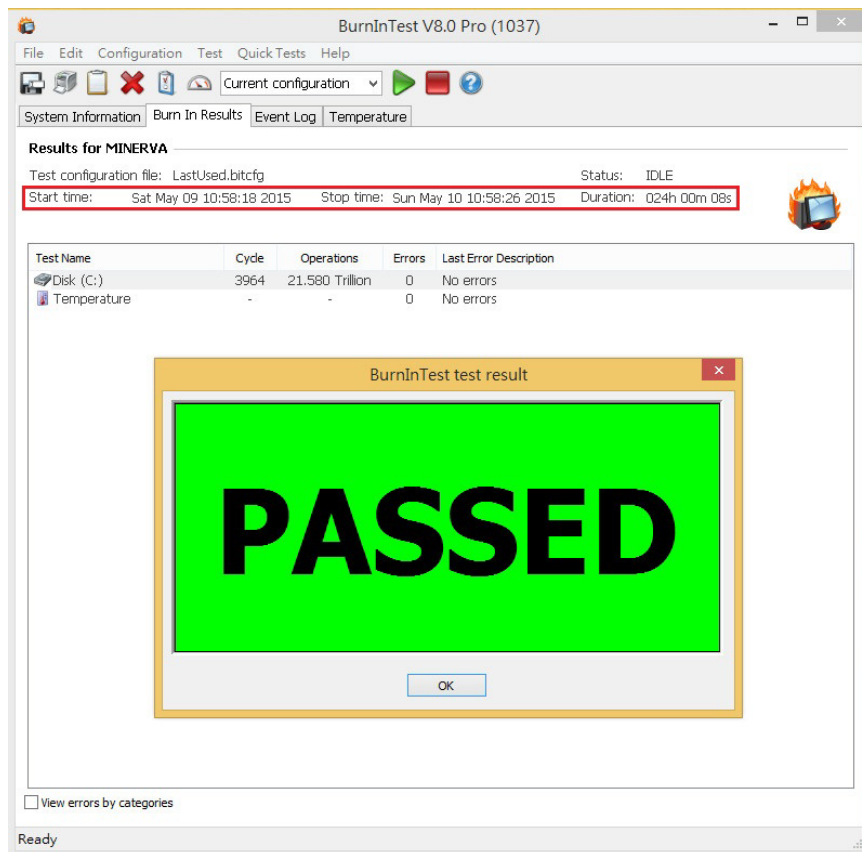#### 3.1.1   **system information** for CT-128M550SSD3/128GBx2 in **RAID 0** as below:

3.1.2 show **RAID 0** SSD test mode(default cyclic -- 10 ways cycle test)

3.1.3 show CT-128M550SSD3/128GBx2 in **RAID 0** 24-hour Burn-in test PASSED

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 mSATA SSD.