



MINERVA

R2046A M.2 to SATA 2-port RAID Card

RAID 1 mode Performance & Burn In Test Rev. 1.0

Table of Contents

1. Overview

2. Performance Measurement Tools and Results

2.1 Test Platform

2.2 Test target and use SATA III / **Crucial M550 CT128M550SSD1 2.5" 128GB**

2.3 Install Hardware

2.4 BIOS & Windows 10 x64 OS environment setup

2.5 CrystalDiskMark 5.2.1 x64 performance test

2.6 AS SSD Benchmark 1.9 performance test

2.7 ATTO Disk Benchamrk 2.47 performance test

2.8 AnvilBenchmark_V110_B337 Benchmark performance test

3. Burn In Tests and Results

3.1 BurnInTest V8.1 Pro burn in test

4. Summary

R2046A M.2 to SATA 2-port RAID Card

1. Overview

R2046A RAID card offers SATA 3 interface, built-in 2-port SATA 7-pin connector, can be combined two SATA SSD into RAID 0, RAID 1, JBOD mode.

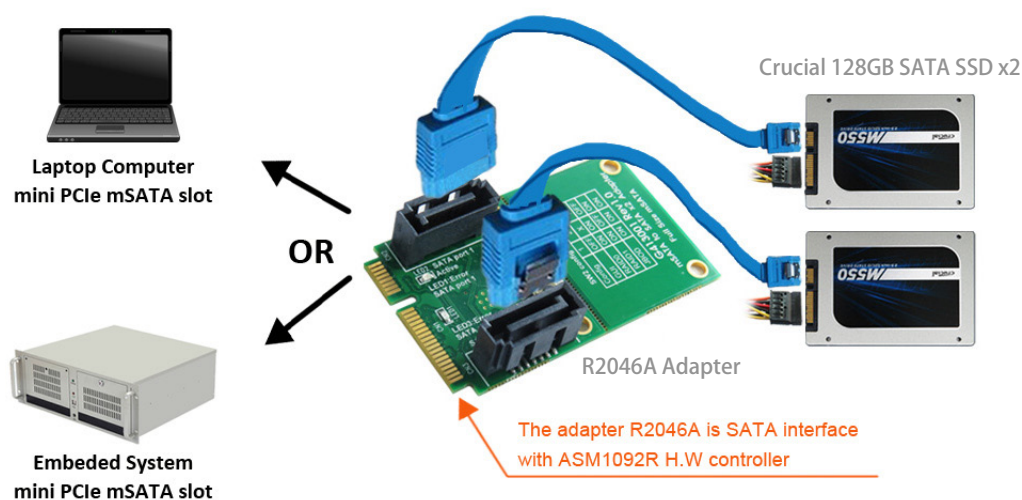
This test report is based on **SATA III 128GB SSD x2**, **RAID 1** mode as a benchmark.

2. Tools and Results of Performance Measurement

2.1 Test Platform:

M/B : ASRock **Z170 Extreme 7+**
CPU : Intel **i5-6400**, 2.7GHz/ 6M Cache/ LGA1151
Memory : Kingston **KVR21N15D8/8**, DDR4-2133MHz, 16G(8GB DIMM*2)
ATX Power : FSP RAIDER 550, **550W ATX**, 12V V2.2 Power Supply
Graphic : Z170 Chipsets built-in **HD Graphics 530**
Adapter: S2073F SATA III to mSATA & CFast Card Converter
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: R2046A RAID Card and [Crucial M550 CT128M550SSD1 2.5" 128GB](#)x2



2.3 Install Hardware

2.3.1 Use two SATA 7pin cable, connect the two 2.5" SSD to R2046A array card. And then inserts R2046A into S2073F converter. Using SATA 7pin signal cable, connect the converter to **SATA III Port of ASRock Z170 Extreme 7+**.

2.4 BIOS & Windows 10 OS environment setup

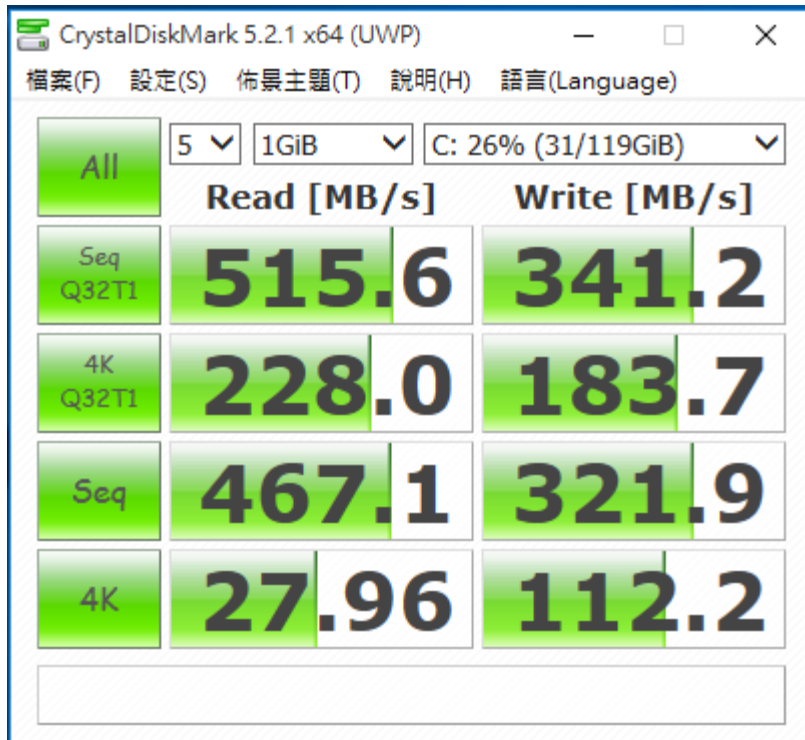
2.4.1 Install Windows 10 x64 OS.

R2046A M.2 to SATA 2-port RAID Card

2.5 CrystalDiskMark 5.2.1 x64 performance test

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

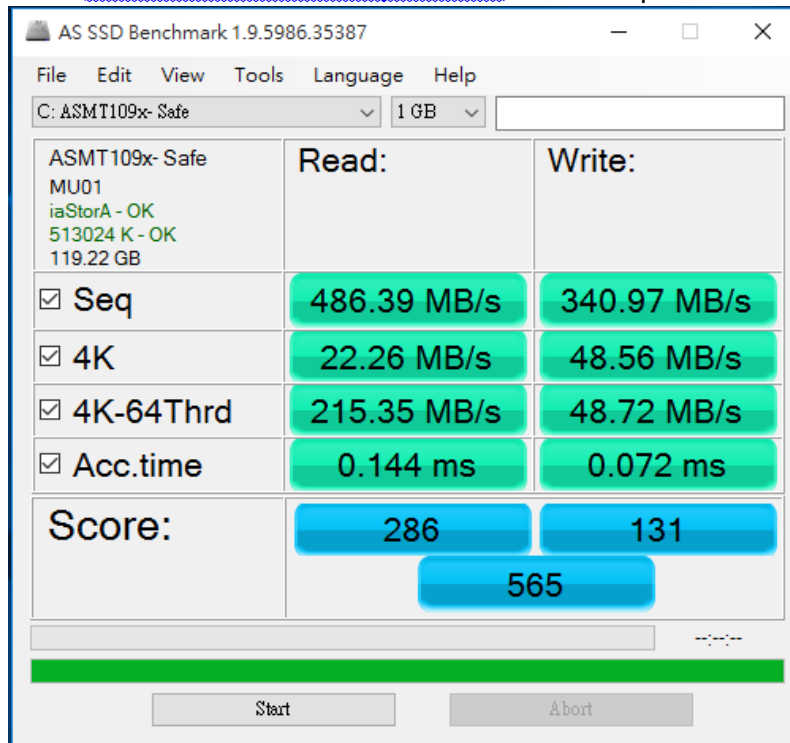
2.5.1 shows [Crucial CT128M550SSD1/128GBx2](#) in **RAID 1** performance as below:



2.6 AS SSD Benchmark 1.9 performance test

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

2.6.1 Shows [Crucial CT128M550SSD1/128GBx2](#) in **RAID 1** performance as below:

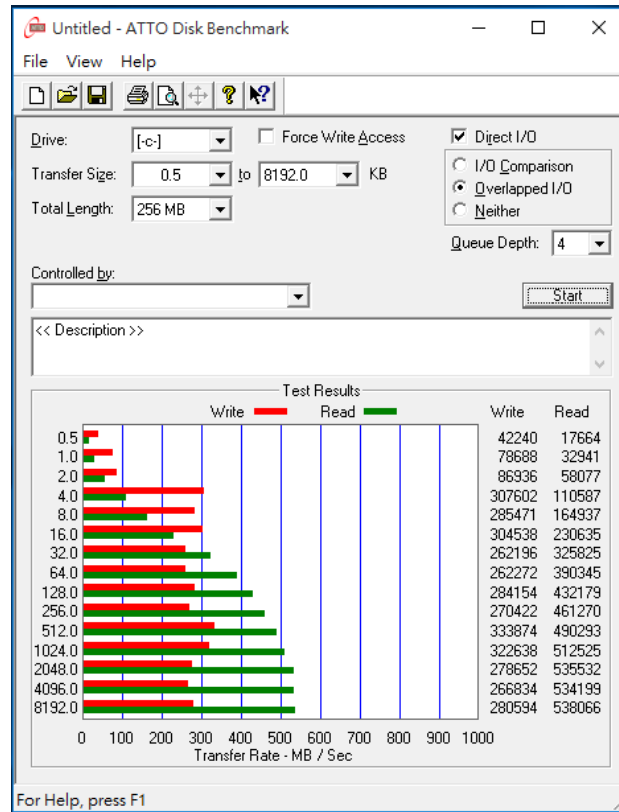


R2046A M.2 to SATA 2-port RAID Card

2.7 ATTO Disk Benchmark performance test

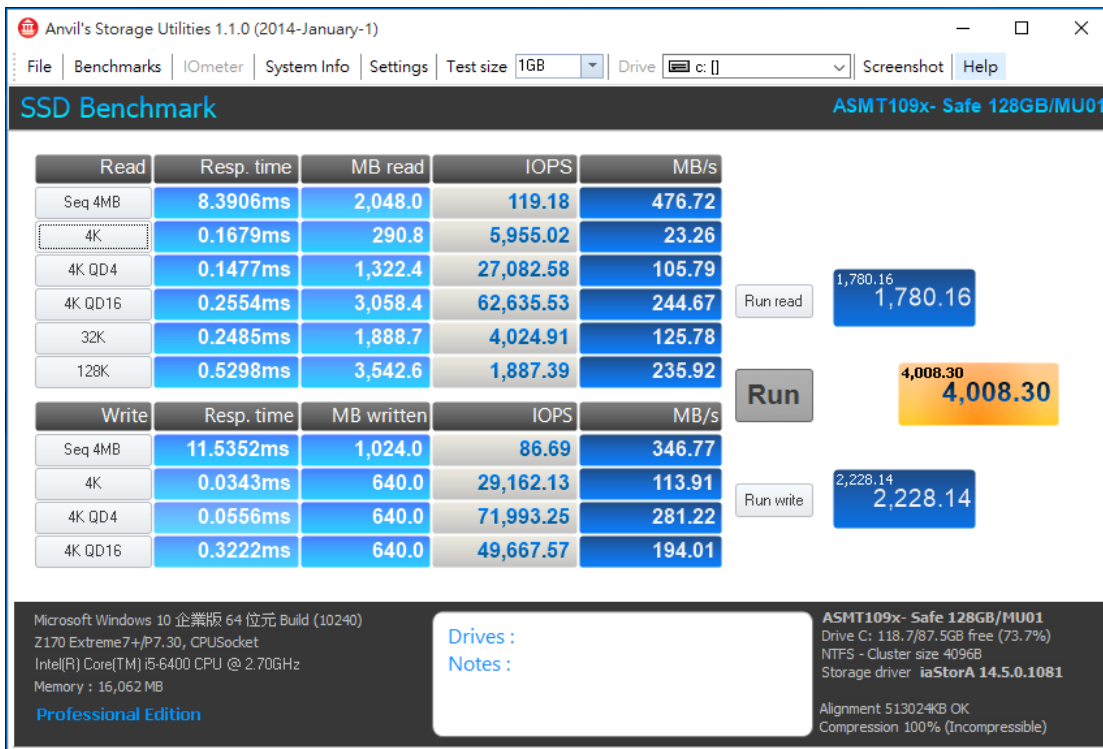
✘ Benchmark (Sequential Read / default block size = 8MB)

2.7.1 Shows [Crucial CT128M550SSD1/128GBx2](#) in RAID 1 performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 Shows [Crucial CT128M550SSD1/128GBx2](#) in RAID 1 performance as below:

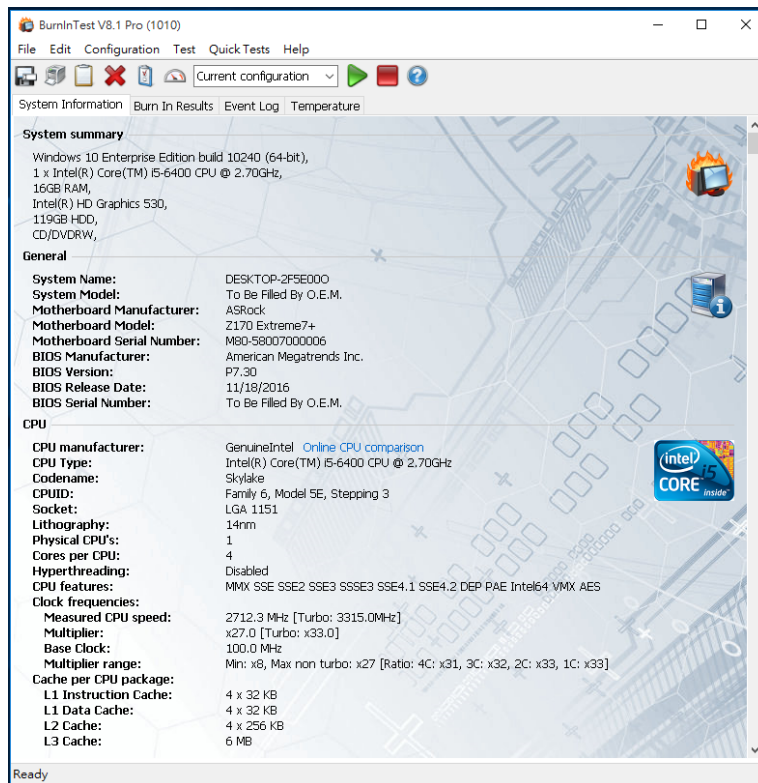


R2046A M.2 to SATA 2-port RAID Card

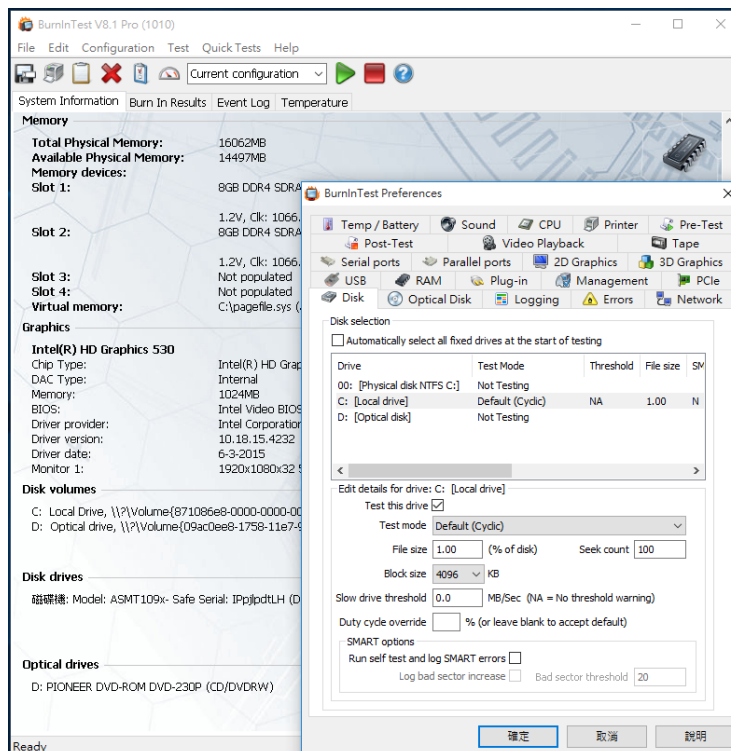
3. Burn In Tests and Results

3.1 BurnInTest v8.1 Pro

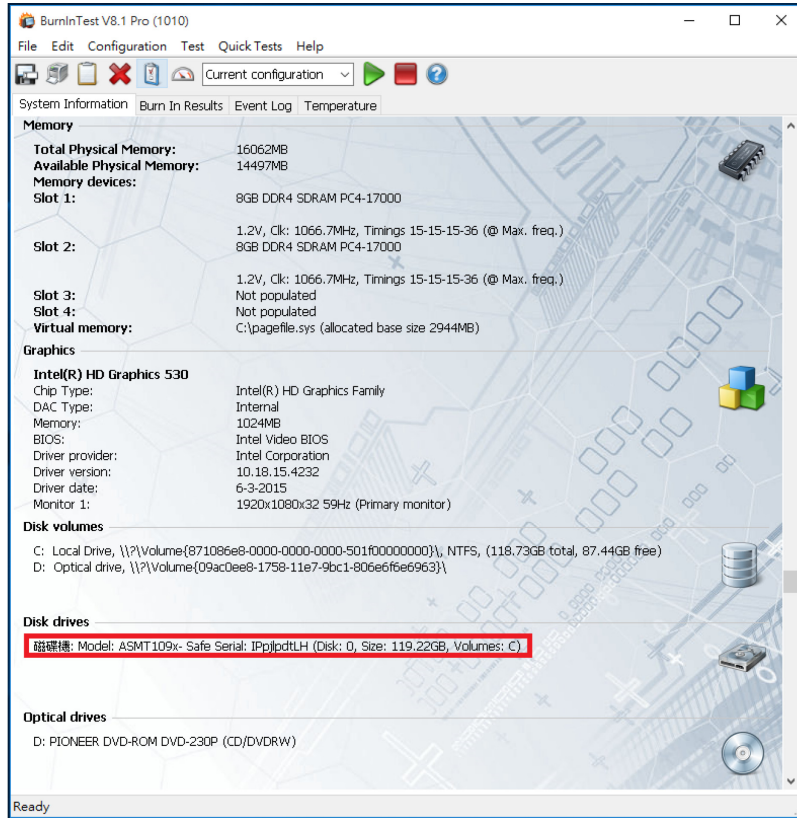
3.1.1 system information for Crucial CT128M550SSD1/128GBx2 in **RAID 1** as below:



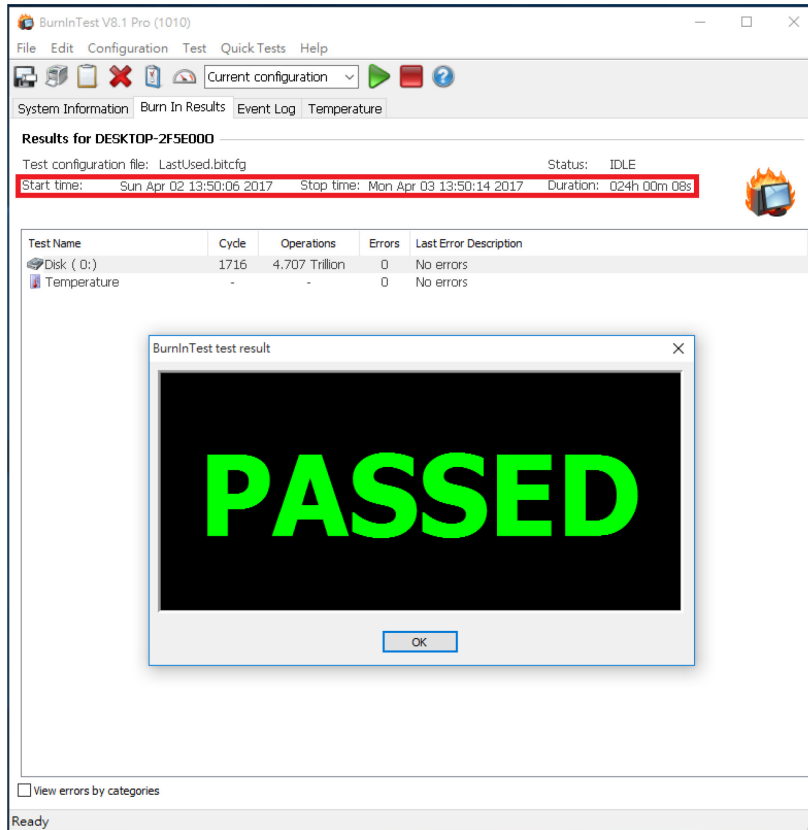
3.1.2 show 2.5" SSD/128GBx2 in **JBOD** test mode(default cyclic -- 10 ways cycle test)



R2046A M.2 to SATA 2-port RAID Card



3.1.3 show [Crucial CT128M550SSD1/128GBx2](#) in RAID 1 24-hour Burn-in test PASSED



R2046A M.2 to SATA 2-port RAID Card

4. Summary

- 4.1 R2046A is SATA III Interface, I/O speed, max. to 600MB/s.
- 4.2 R2046A adapter I/O performance is based on SATA III 2.5" SSD RAID 1 mode.