MINERVA
R2056A M.2 to SATA 2-port RAID Card

RAID JBOD mode Performance & Burn In Test   Rev. 1.0

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R2056A   M.2 to SATA 2-port RAID Card

1. Overview

R2056A 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.
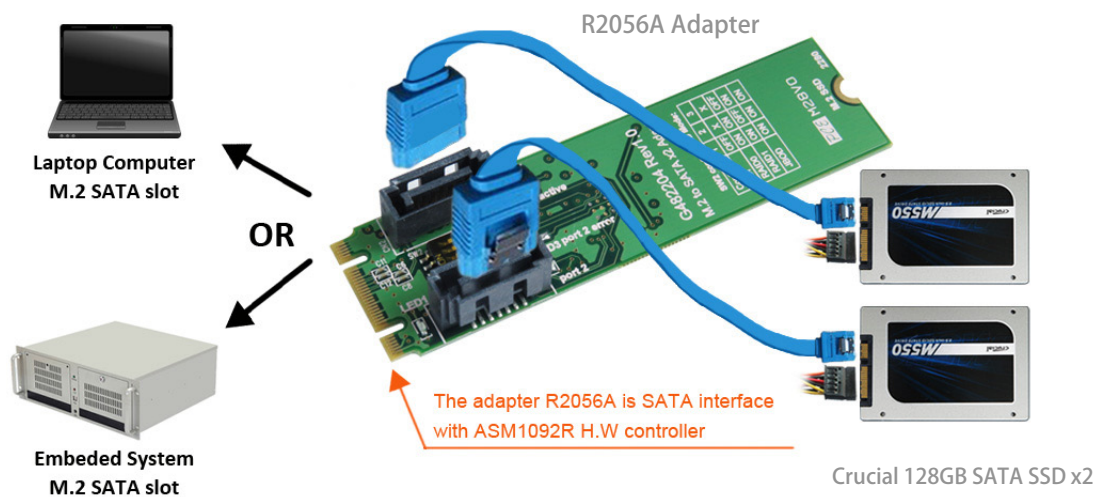
This test report is based on SATA III 128GB SSD x2, JBOD mode as a benchmark.

2. Tools and Results of Performance Measurement

2.1 Test Platform
M/B :   GIGABYTE **Z170X UD5 TH**
CPU :   Intel **i5-6500,** 3.2GHz/ 6M Cache/ LGA1150
Memory :   Kingston **KVR21N15D8/8,** DDR4-2133MHz, **16GB**(8GB DIMM*2)
ATX Power : COOLER MASTER V750, **750W ATX**, 12V V2.2 Power Supply
Graphic :   Z170 Chipsets built-in **HD Graphics 530**
Adapter: S2093F SATA III to M.2 & CFast Card Converter
OS :   Microsoft **Windows 10 64bit OS**

2.2 Test target: R2056A RAID Card and **Crucial M550 CT128M550SSD1 2.5" 128GB)**x2

R2056A Adapter

Laptop Computer
M.2 SATA slot

OR

Embeded System
M.2 SATA slot

The adapter R2056A is SATA interface
with ASM1092R H.W controller

Crucial 128GB SATA SSD x2

2.3 Install Hardware
2.3.1   Use two SATA 7pin cable, connect the two 2.5" SSD to R2056A array card. And then inserts R2056A into S2093F converter. Using SATA 7pin signal cable, connect the converter to **SATA III Port of** GIGABYTE **Z170X UD5 TH** .

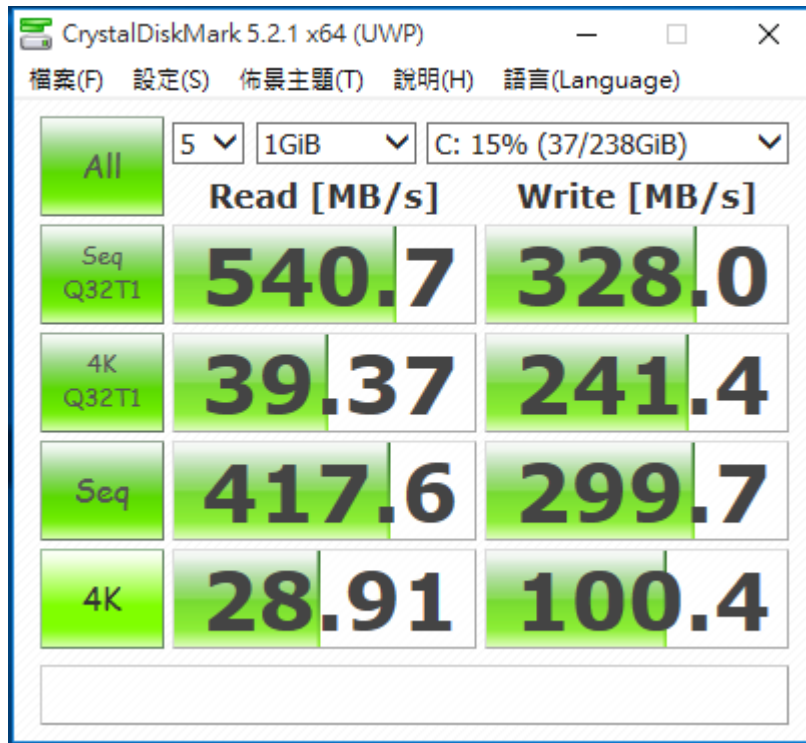### 2.4 BIOS & Windows 10 OS environment setup
2.4.1   Install Windows 10 x64 OS.

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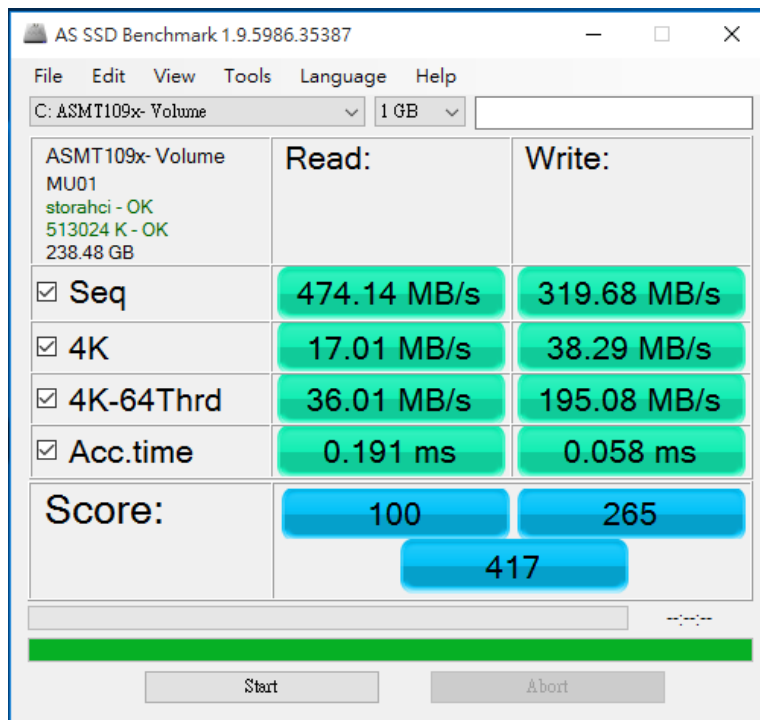2.5　CrystalDiskMark 5.2.1 x64 performance test

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

2.5.1　shows **Crucial CT128M550SSD1/128GBx2** in **JBOD** performance as below:

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

2.6.1　Shows **Crucial CT128M550SSD1/128GBx2** in **JBOD** performance as below:
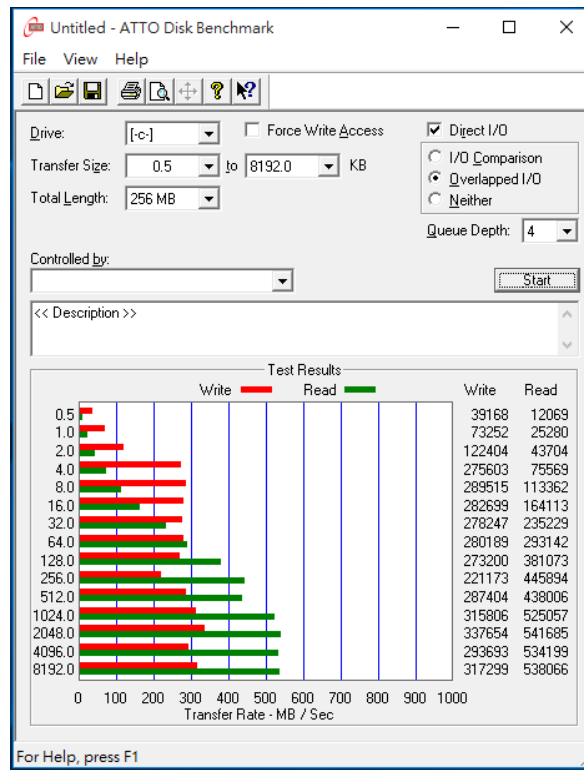
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2.7   ATTO Disk Benchmark performance test
　　　※Benchmark (Sequential Read / default block size = 8MB)
　　　2.7.1　　Shows **Crucial CT128M550SSD1/128GBx2** in **JBOD** performance as below:

2.8   AnvilBenchmark_V110_B337
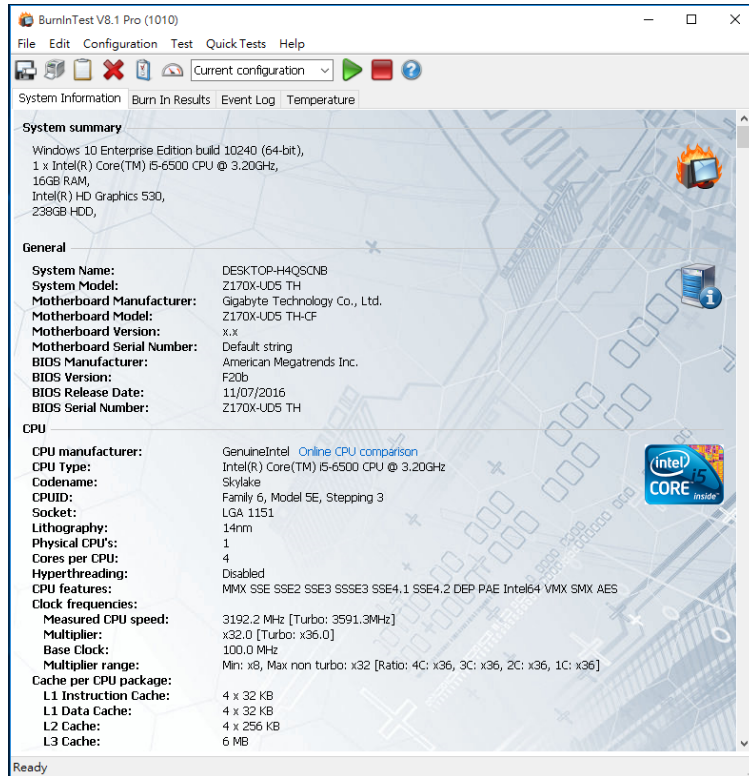　　　2.8.1　　Shows **Crucial CT128M550SSD1/128GBx2** in **JBOD** performance as below:
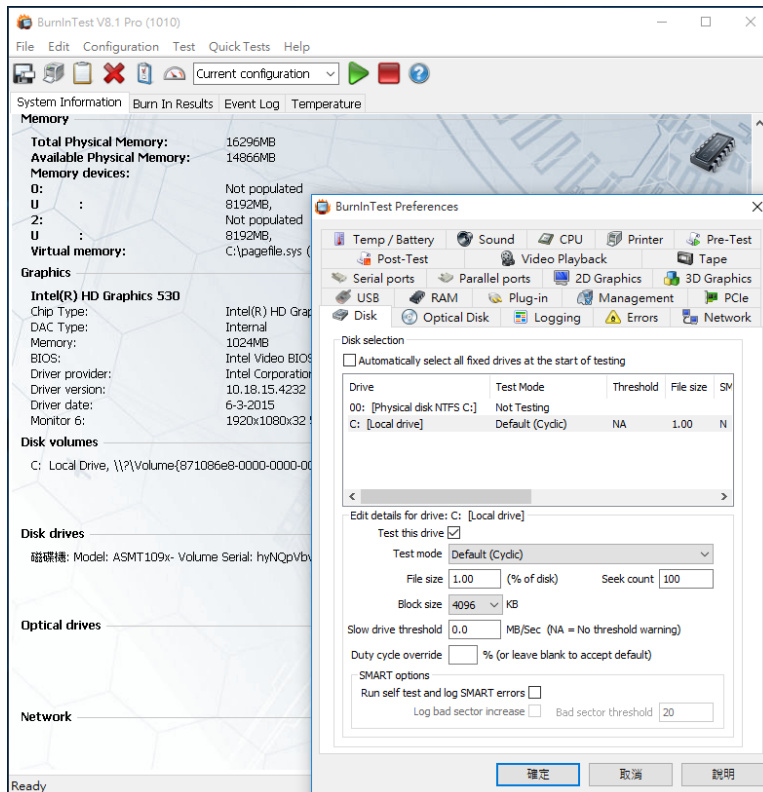
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3. Burn In Tests and Results

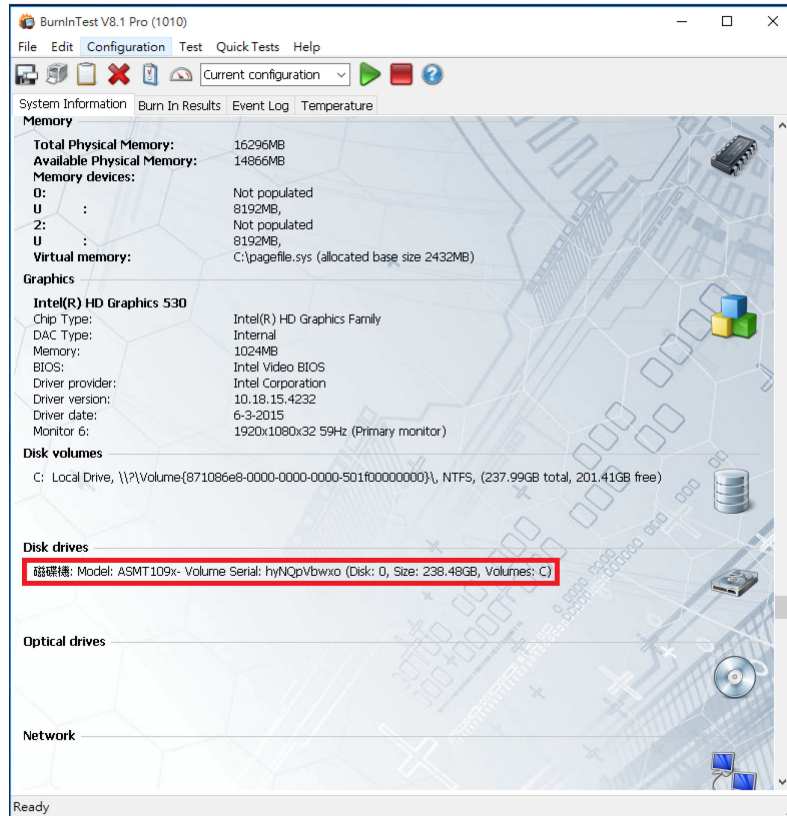### 3.1 BurnInTest v8.1 Pro

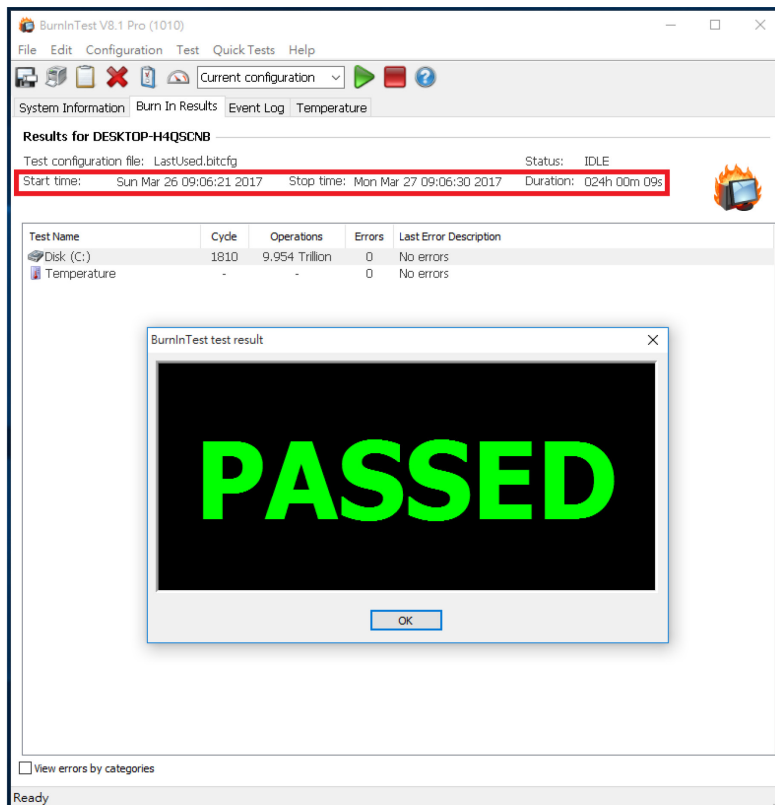#### 3.1.1 **system information** for Crucial CT128M550SSD1/128GBx2 in **JBOD** as below:

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

3.1.3　show Crucial CT128M550SSD1/128GBx2 in JBOD 24-hour Burn-in test PASSED

4. Summary

4.1   R2056A is SATA III Interface, I/O speed, max. to 600MB/s.

4.2   R2056A adapter I/O performance is based on SATA III 2.5" SSD JBOD mode.