MINERVA

R2031B/D RAID CARD

Performance & Burn In Test   Rev. 1.0

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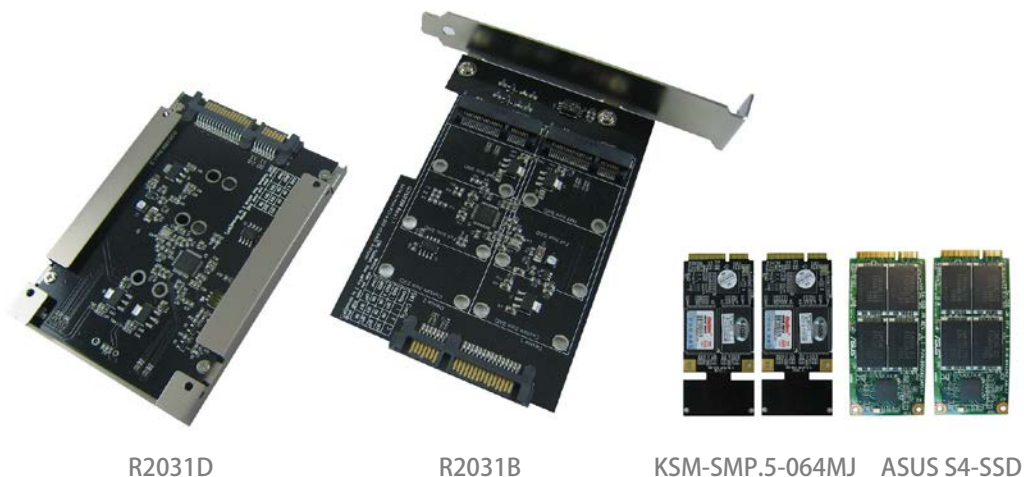
R2031B/D RAID CARD

1. Overview

R2031B / R2031D RAID card, includes 2-port mini PCI express interface to SATA 22-pin standard interface.   It built-in JMicron 390B controller to provide high-performance RAID modes every variety, such as RAID 0 (strip), RAID 1 (mirror), and JBOD (big / large).

2. Tools and Results of Performance Measurement

2.1   Test Platform
M/B :   GIGABYTE **GA-X58A-UD3R**
CPU :   Intel **i7-930,** 2.8MHz/ 8G Cache/ 4.8GT
Memory :   Kingston **KVR1333D3N9/2G,** 1333MHz,2G Byte DIMM*2
ATX Power : TC START W500, **500W ATX**,12V V2.2 Power Supplier
Graphic :   Asus NVIDIA, **Geforce 210**
OS :   Microsoft **Windows 7 64bit OS**

2.2   Test target: (R2031B/2031D RAID Card) and mini PCI-e SSD

R2031D   R2031B   KSM-SMP.5-064MJ   ASUS S4-SSD

2.3   Install Hardware
Insert any two pieces of mini PCI-e SSD (KingSpec 64GB KSM-SMP.5-064MJ) into R2031B or R2031D mini PCI-e connectors, and underline with copper nuts and screws to fix SSDs. (Please refer to the Installation Notes).   Connect R2031B / R2031D Raid Card to SATA Port of GA-X58A-UD3R motherboard.

2.4   BIOS & Windows 7 OS environment setup
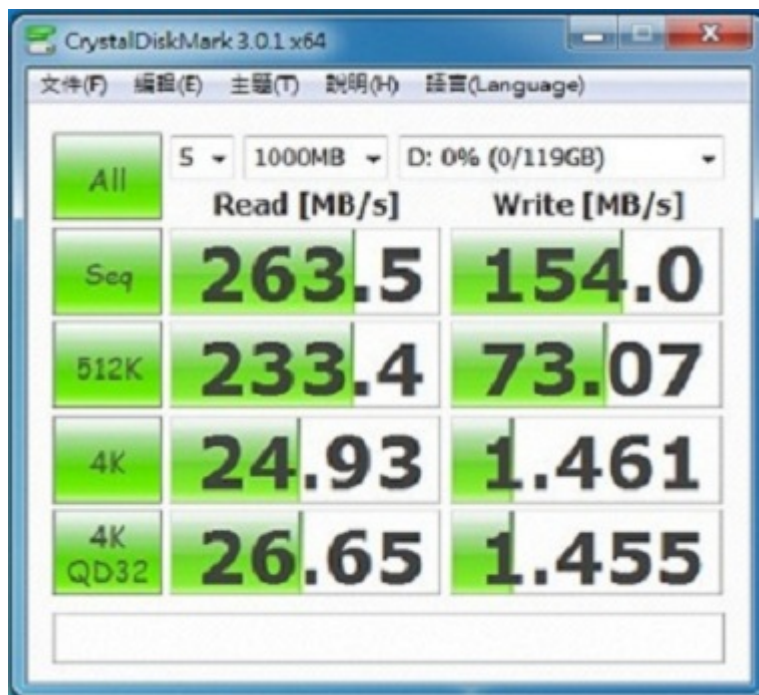2.4.1   In BIOS(Basic Input/Output Setup) – Change IDE Mode into AHCI Mode
2.4.2   In Windows 7 formatted SSD to NTFS Mode.   Don't install any program.

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2.5   CrystalDiskMark 3.0.1 x64
       ※Benchmark (Sequential Read & Write / default = 1MB)

   2.5.1   **RAID 0** mode performance as below:

   2.5.2   **RAID 1** mode performance as below:
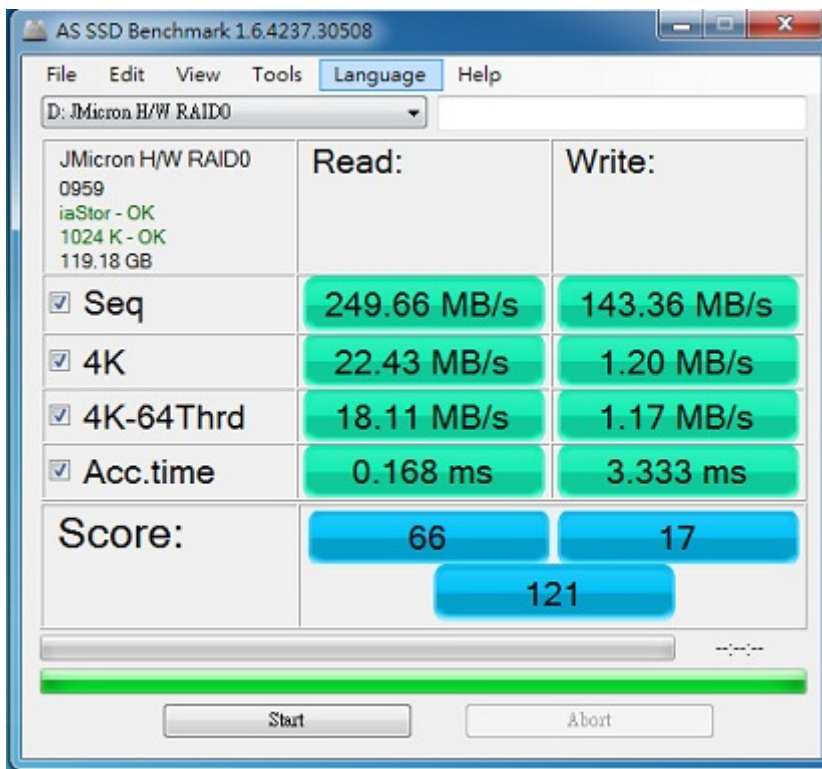
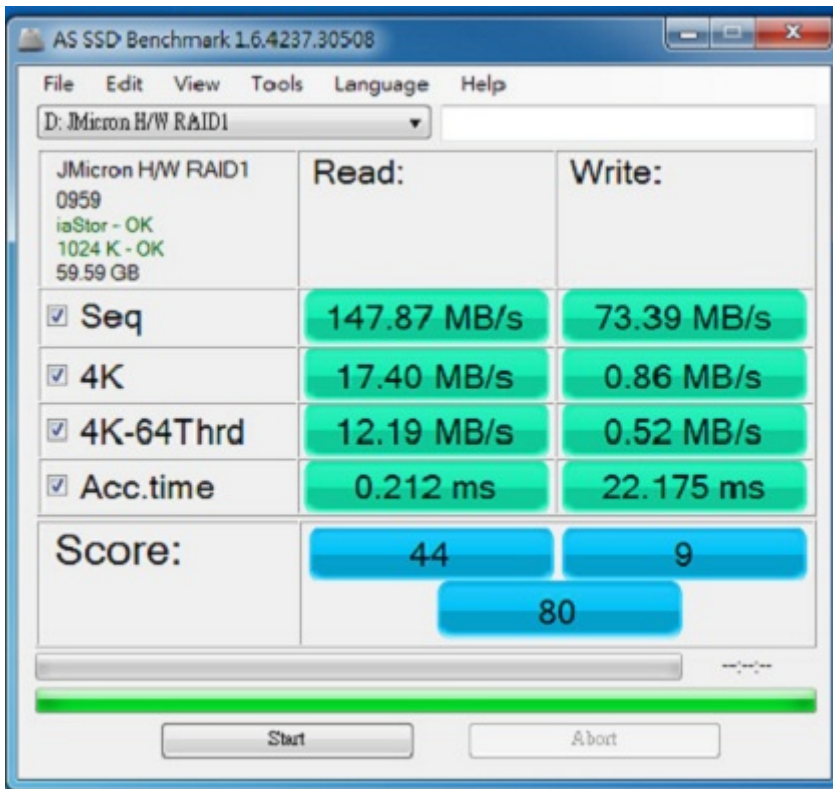### 2.5.3   **JBOD** mode performance as below:

2.6   AS SSD Benchmark 1.6
※Benchmark (Read & Write by MB/s, default block size = 16MB)
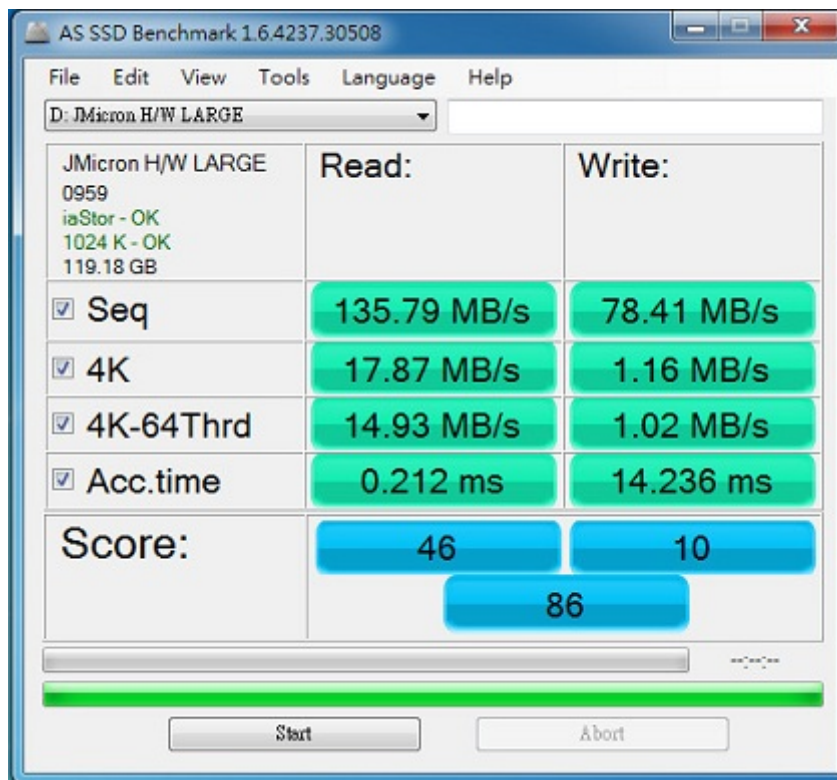
2.6.1   **RAID 0** mode performance as below:

2.6.2   **RAID 1** mode performance as below:

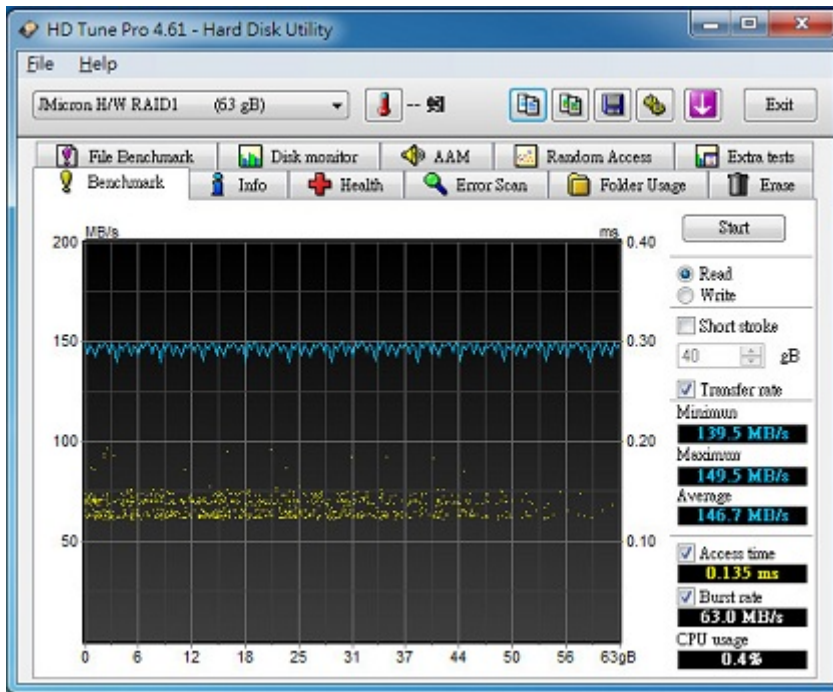2.6.5   **JBOD** mode performance as below:

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2.7 HD Tune pro 4.61
※Benchmark (Sequential Read / default block size = 64KB)
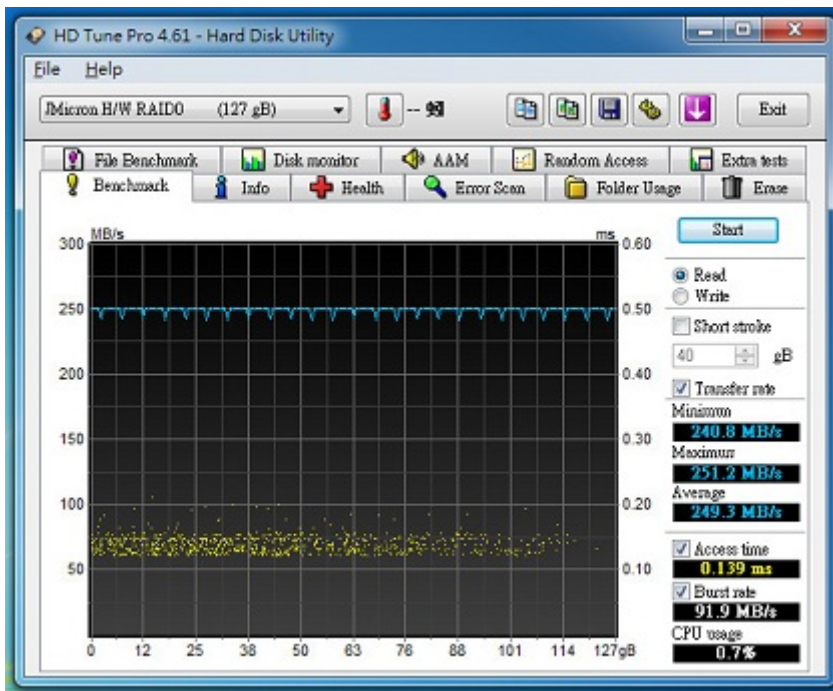
2.7.1 RAID 0 mode performance as below:

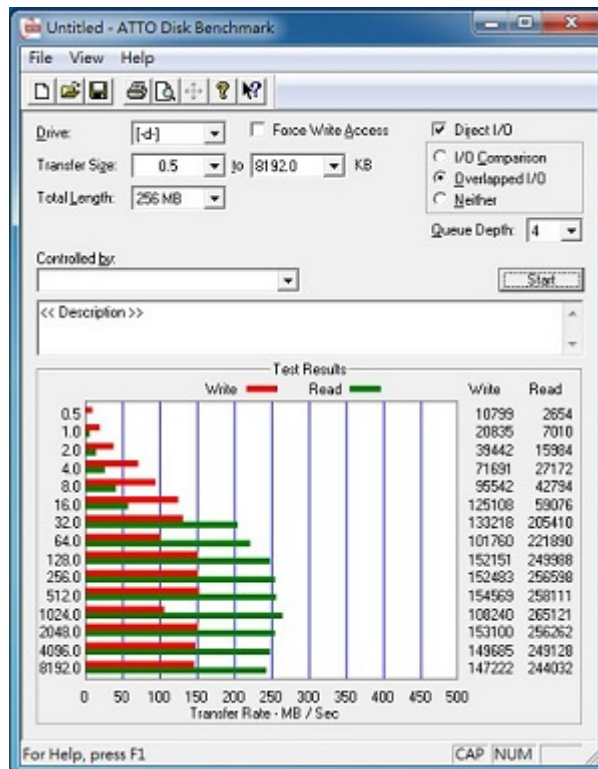#### 2.7.2 RAID 1 mode performance as below:

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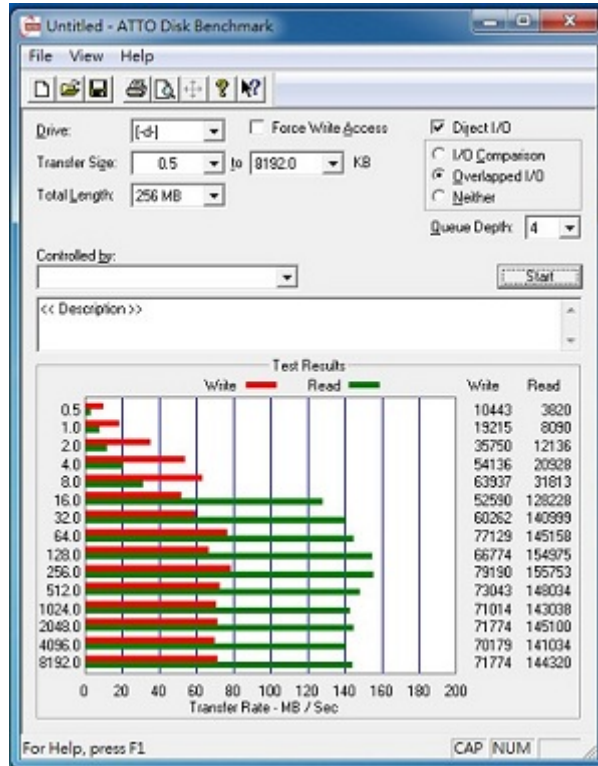2.7.3　　**JBOD** mode performance as below:

2.8　ATTO Disk BenchMark

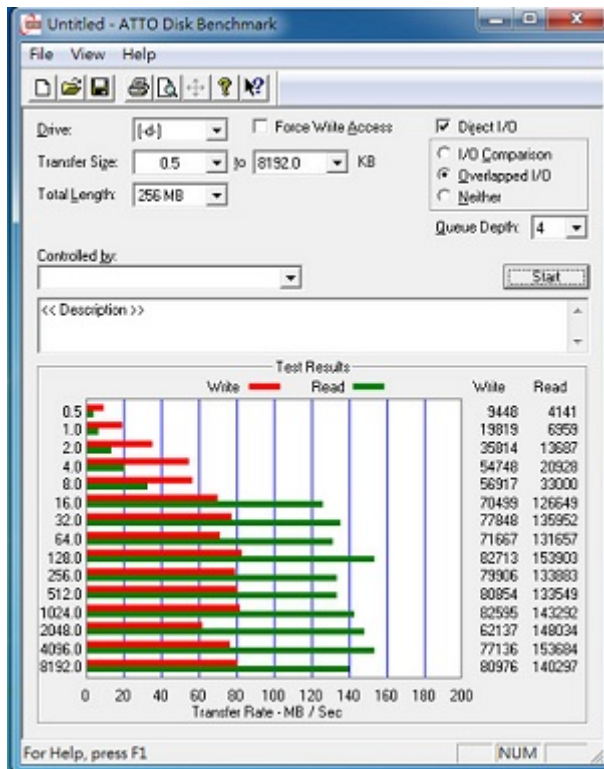2.8.1　　**RAID 0** mode performance as below:

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2.8.2   **RAID 1** mode performance as below:

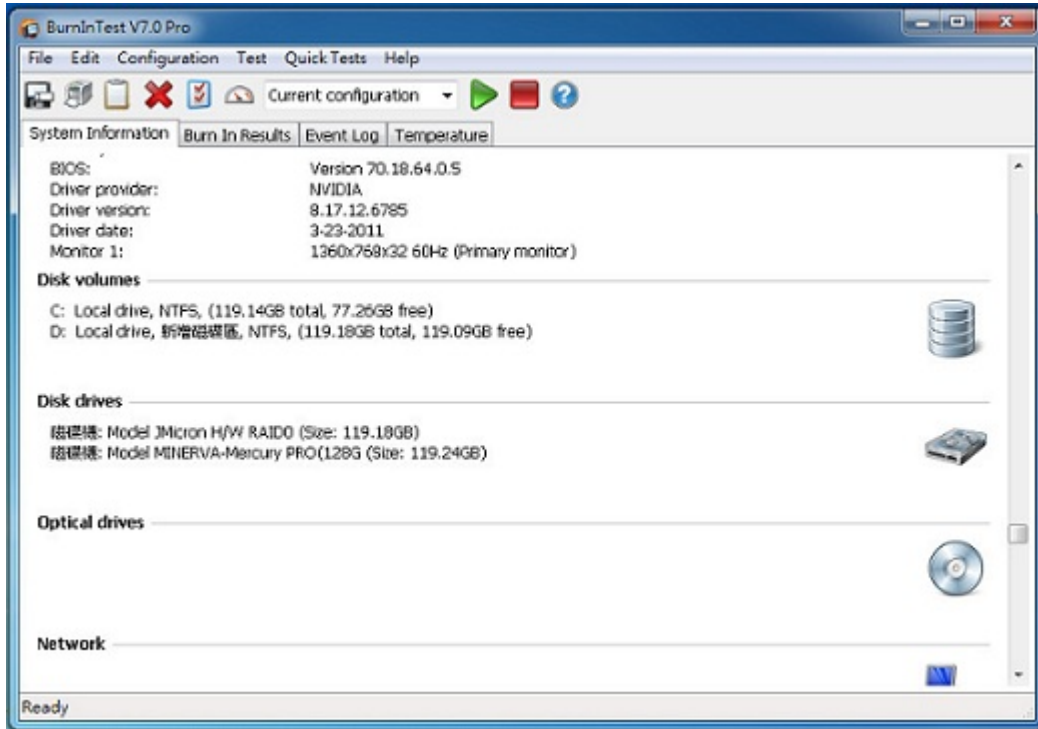2.8.3   **JBOD** mode performance as below:
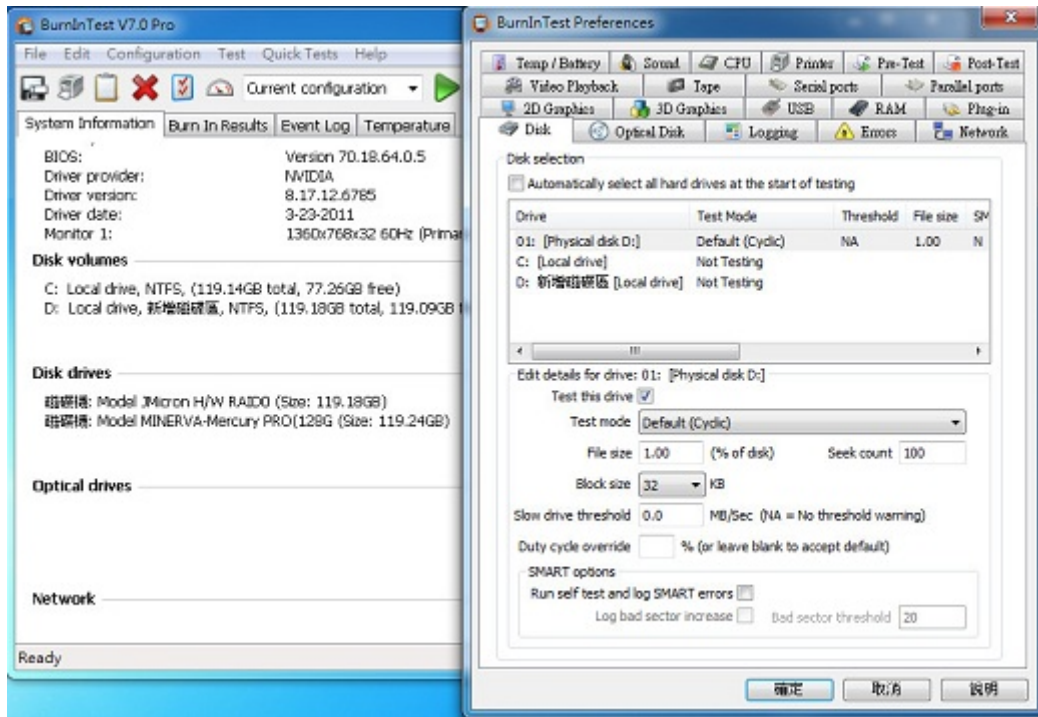
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3. Burn In Tests and Results

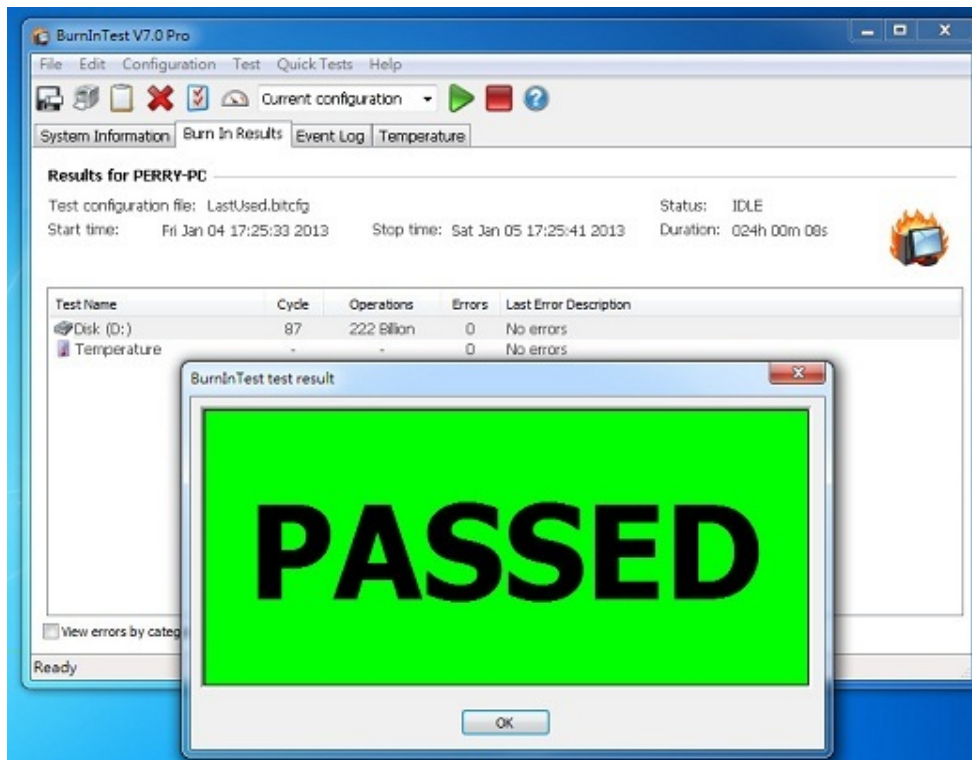### 3.1 BurnInTest v7.0 Pro

3.1.1 system information as below:

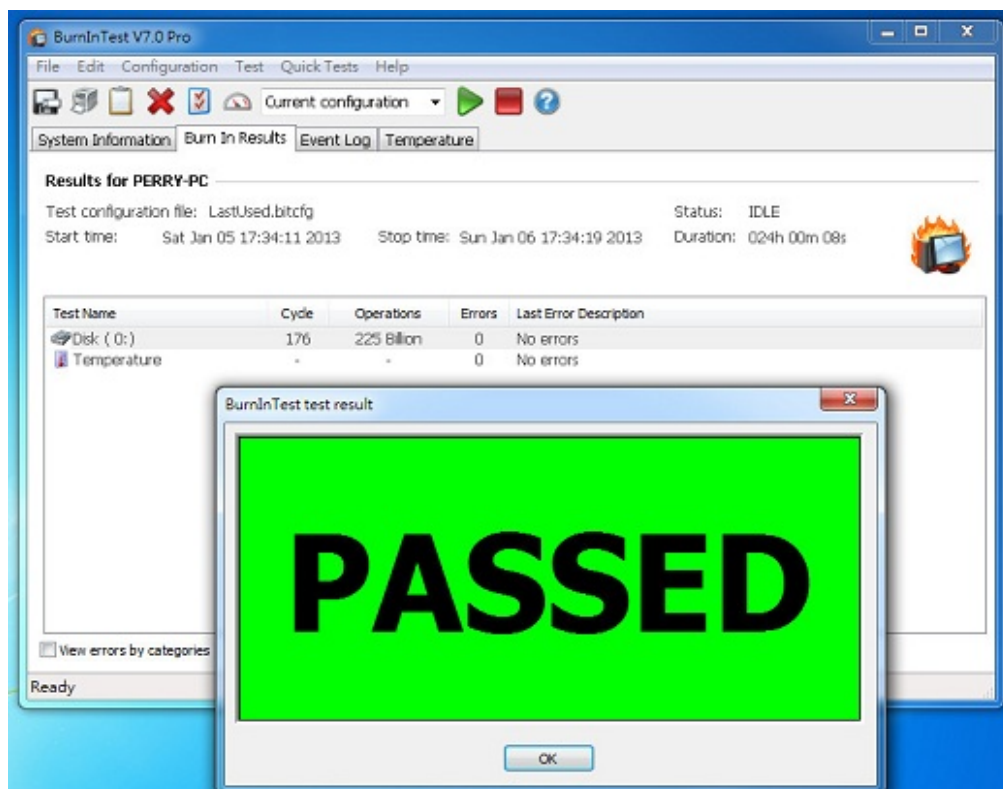#### 3.1.2 show Disk test mode(default cyclic -- 10 ways cycle test)

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3.1.3   show R2031B or R2031D with **KSM-SMP.5-064MJ** 24-hour Burn-in test PASSED
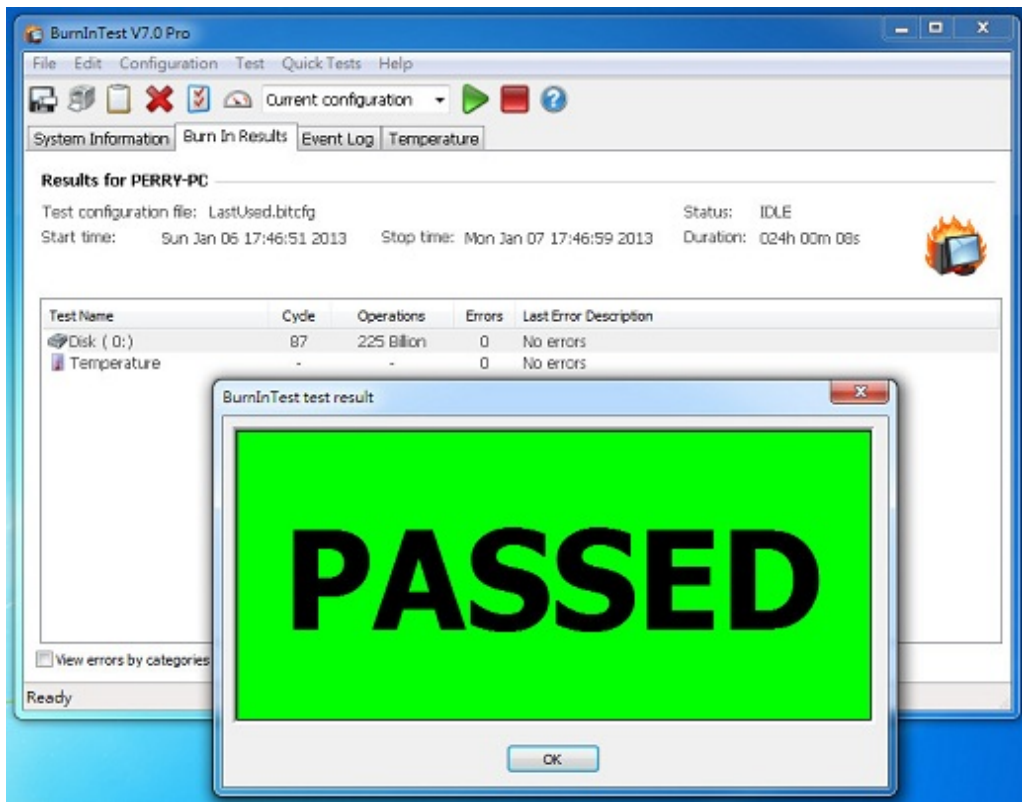
3.1.3.1   RAID 0 Mode Burn in test

3.1.3.2   RAID 1 Mode Burn in test

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3.1.3.3   JBOD Mode Burn in test

4. Summary

R2031B/2031D is SATA II 3Gb/s interface.

Please make sure your mini PCI-e SSD is supported RAID level.

I/O performance of RAID Card is based on mini PCI-e SSD, max. to 300MB/s.