MINERVA

S2035B/E   Converter Card

Performance & Burn In Test   Rev. 1.0

Table of Contents

S2035B/E   Converter Card

1. Overview

S2035B/E adapter, support M.2 socket 2 B-key connector 2-port to convert M.2 SSD into SATA III 7-pin 2-port standard interface.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B :   ASUS **P8P67**
CPU :   Intel **i5-2500,** 3.3MHz/ 6G Cache/ 5GT
Memory :   Kingston **KVR1333D3N9K2/4G,** DDR3-1333MHz,4G(2GB DIMM*2)
ATX Power : TC START W500, **500W ATX**,12V V2.2 Power Supplier
Graphic :   MSI **, R6700** / AMD HD 6700 Series
OS :   Microsoft **Windows 7 64bit OS**

2.2 Test target: S2035B/E adapter and M.2 SSD(LITE-ON LGT-128M6G/128G)

S2035B Adapter   S2035E Adapter   LTG-128M6G SSD
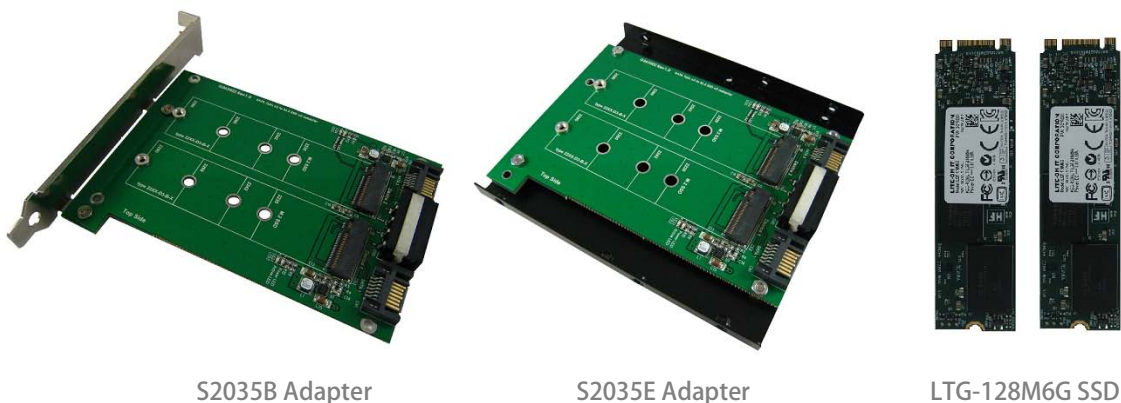
2.3 Install Hardware

2.3.1   Insert M.2 SSD into S2035B/E converter's M.2 B-key connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect S2035B/E converter to **SATA III Port of ASUS P8P67 motherboard**.

2.3.2   Insert M.2 SSD into S2035B/E converter's M.2 B-key connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect S2035B/E converter to **Marvell 9230 RAID Card SATA Port**.

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.

S2035B/E   Converter Card

2.5   SSD I/O Performance impact factors

   2.5.1   SATA I/O performance -- depending on the SSD Controller IC

   2.5.2   SATA I/O performance - -depending on the NAND Flash IC.
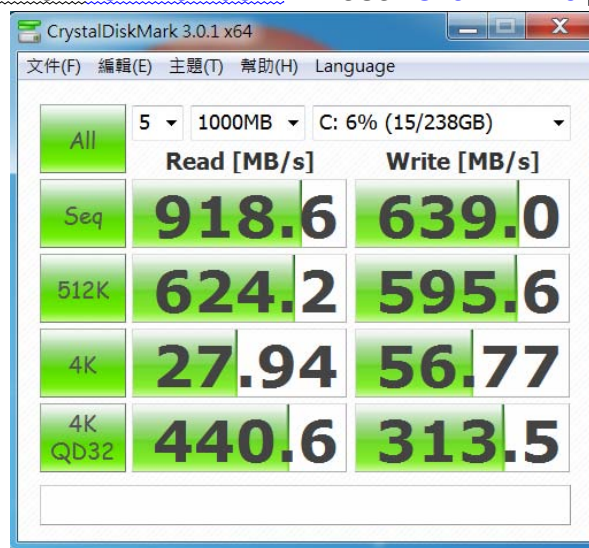
      2.5.2.1   Toggle DDR mode or ONFI synchronous NAND Flash IC, will show good performance

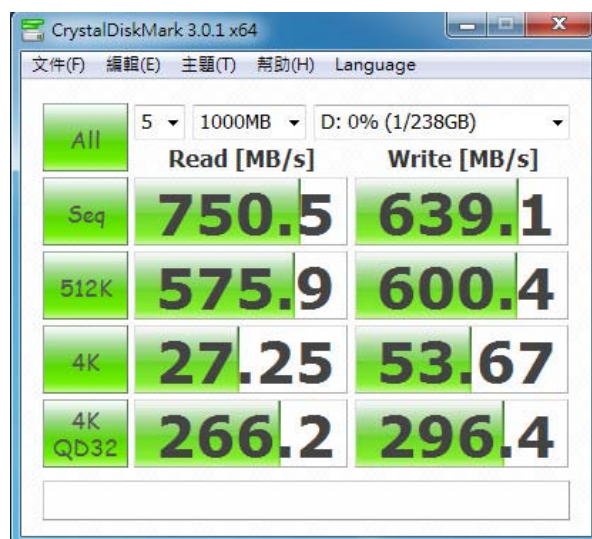   2.5.2.2   Traditional asynchronous or SDR NAND Flash IC, will show poor performance

2.6   CrystalDiskMark 3.0.1 x64 performance test

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

   2.6.1   Used LITE-ON LGT-128M6Gx2 in **ASUS P8P67 RAID 0** performance as below:

Used LITE-ON LGT-128M6Gx2 in **Marvell 9230 RAID 0** performance as below:
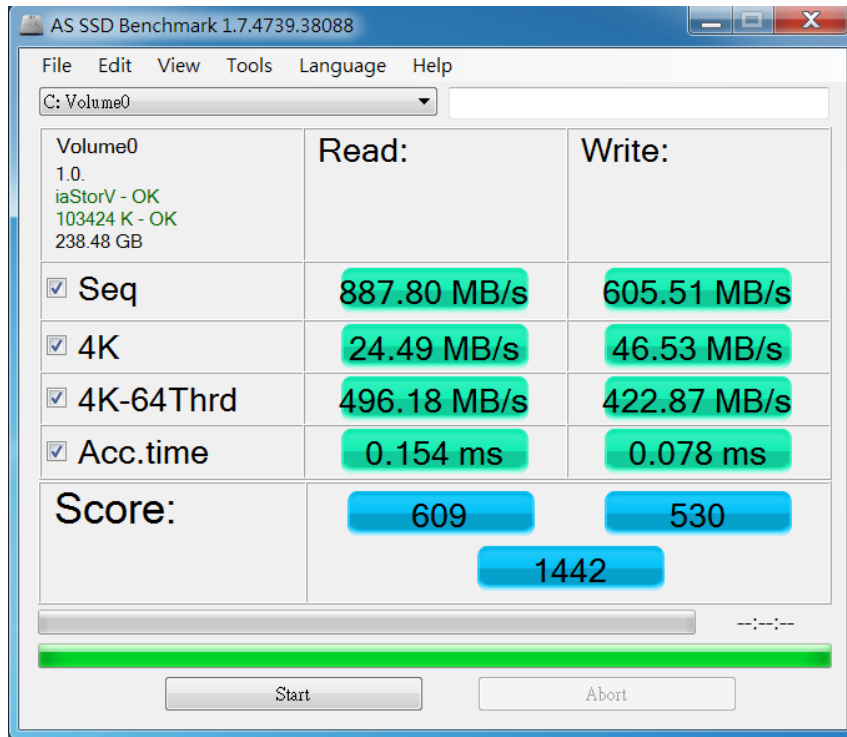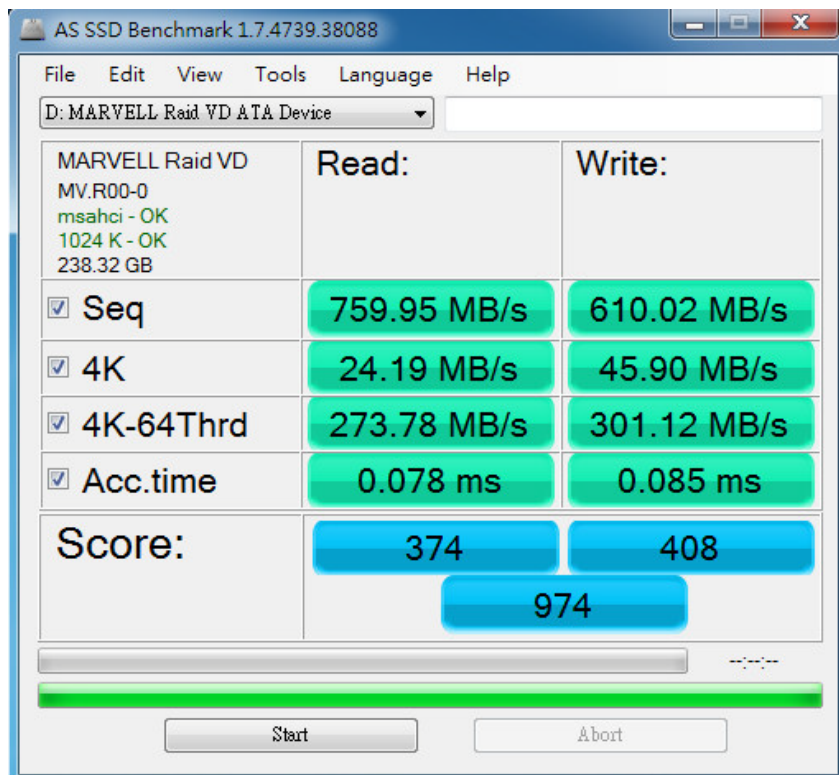
S2035B/E　Converter Card

2.7　AS SSD Benchmark 1.7 performance test
　　　※Benchmark (Read & Write by MB/s, default block size = 16MB)
　　　2.7.1　Used LITE-ON LGT-128M6Gx2 in **ASUS P8P67 RAID 0** performance as below:

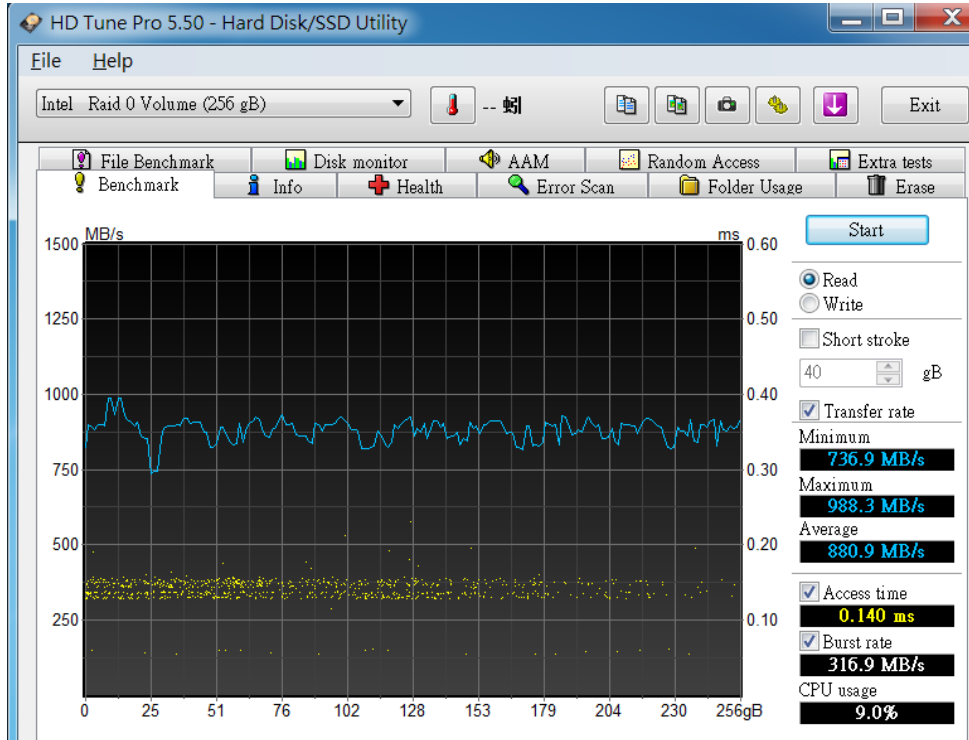Used LITE-ON LGT-128M6Gx2 in **Marvell 9230 RAID 0** performance as below:

S2035B/E　Converter Card
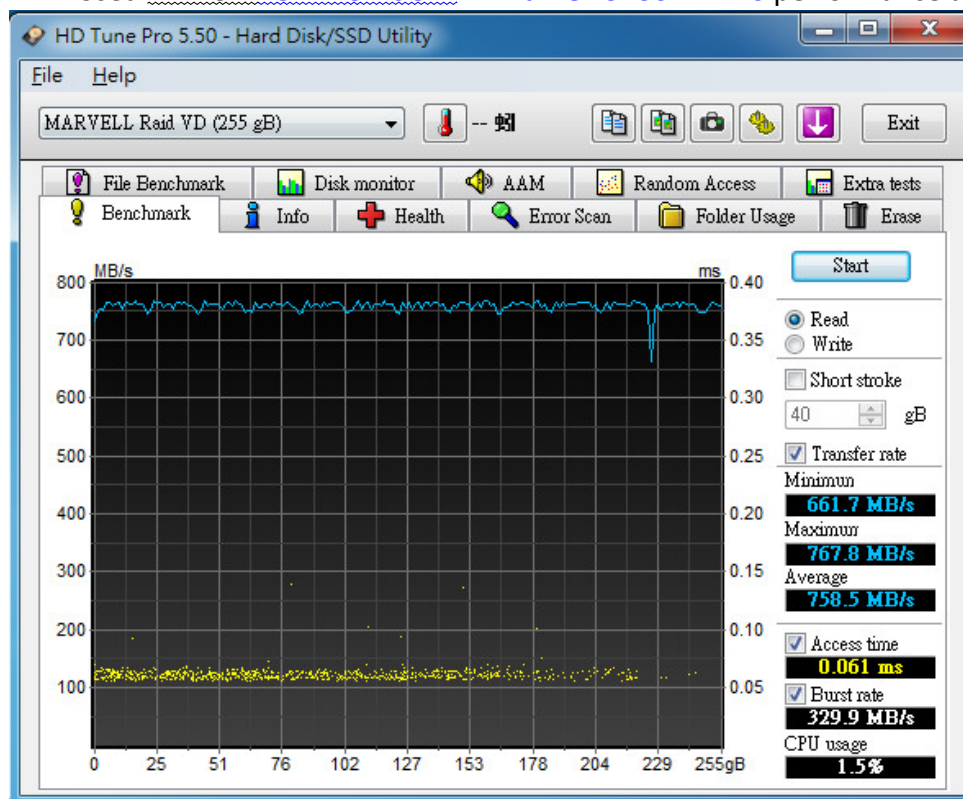
2.8　HD Tune Pro 5.5 performance test

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

2.8.1　Used LITE-ON LGT-128M6Gx2 in **ASUS P8P67 RAID 0** performance as below:
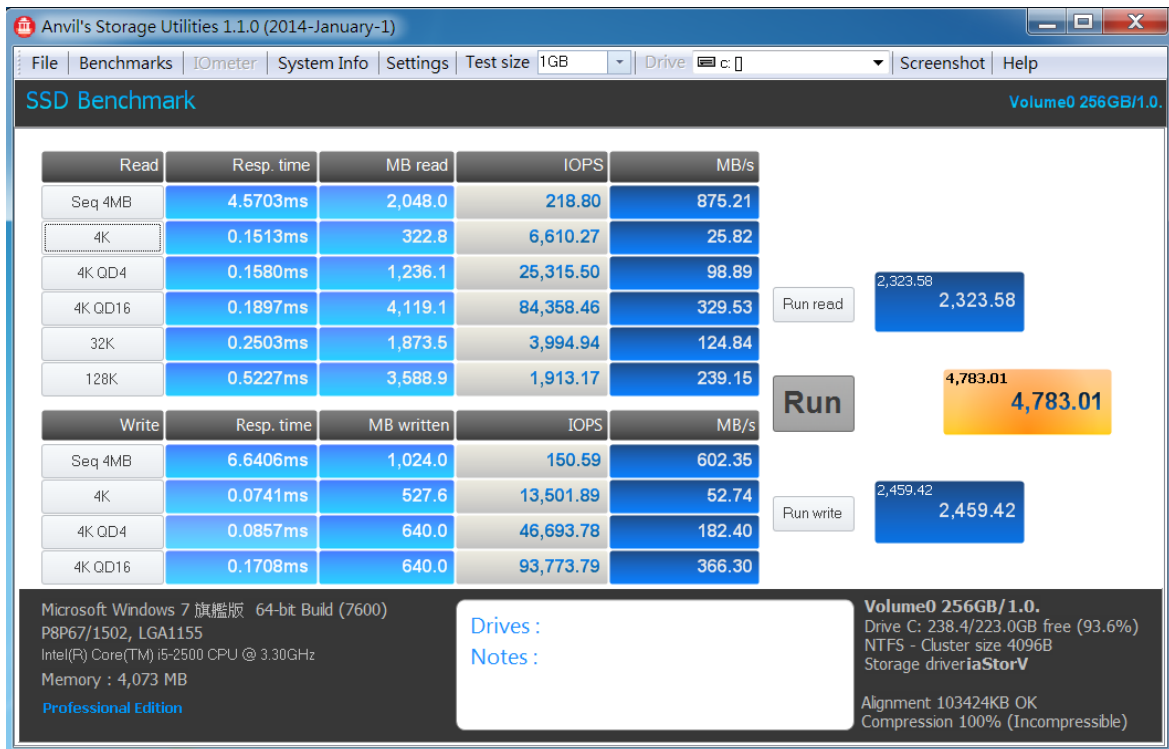

Used LITE-ON LGT-128M6Gx2 in **Marvell 9230 RAID 0** performance as below:

S2035B/E   Converter Card

2.9   AnvilBenchmark_V110_B337

2.9.1   Used LITE-ON LGT-128M6Gx2 in **ASUS P8P67 RAID 0** performance as below:

Used LITE-ON LGT-128M6Gx2 in **Marvell 9230 RAID 0** performance as below:
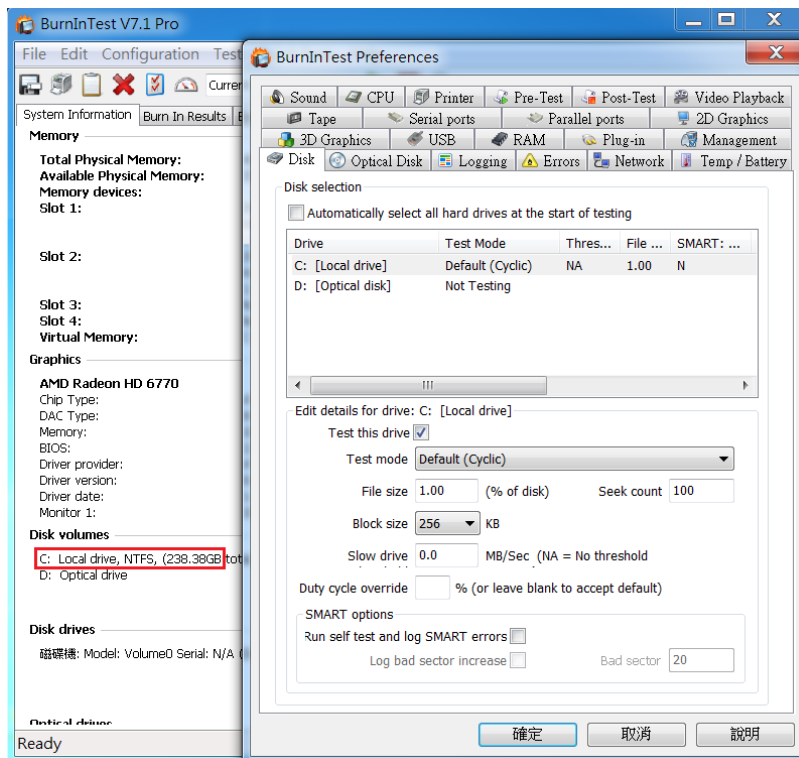
S2035B/E   Converter Card

3. Burn In Tests and Results

3.1 BurnInTest v7.1 Pro

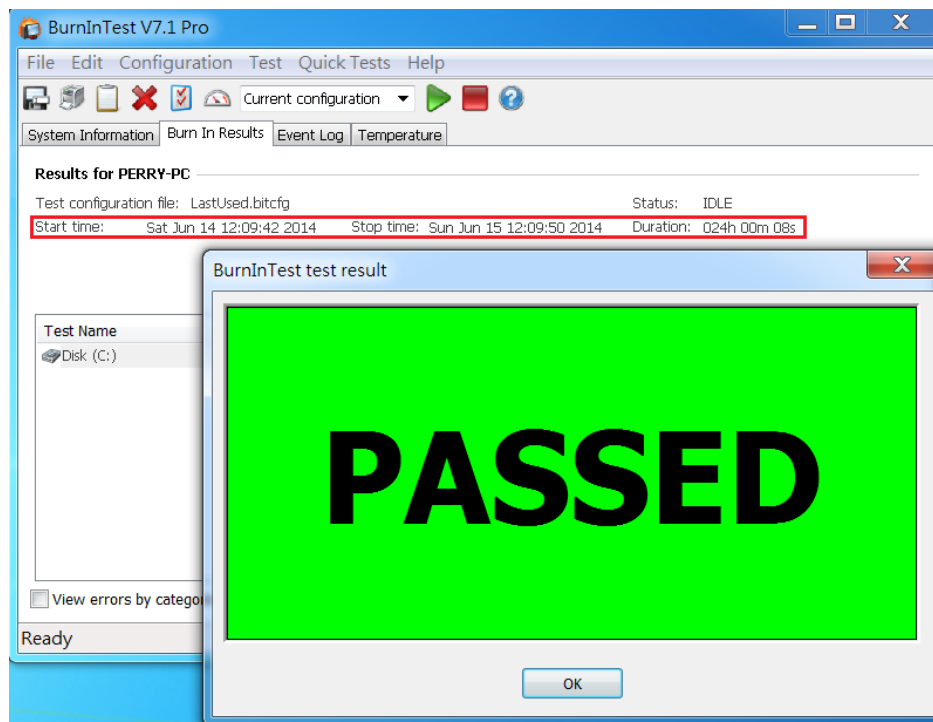#### 3.1.1 system information for LITE-ON LGT-128M6G as below:

3.1.2 show LITE-ON 128G Disk test mode(default cyclic -- 10 ways cycle test)

3.1.3   show LITE-ON 128G 24-hour Burn-in test PASSED

4. Summary

4.1   M.2 SSD is SATA III Interface, I/O speed, max. to 600MB/s.

4.2   S2035B/E adapter I/O performance is based on M.2 SSD.