



MINERVA

S301F Converter Card

Performance & Burn In Test Rev. 1. 0

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4. Summary

S301F Converter Card

1. Overview

S301F adapter, providing M.2 B-key, Mini PCI-e connector and CFast connector can be M.2 SATA SSD, or mSATA SSD, or CFast Card converted into SATA.

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 G750M, **750W ATX**, 12V V2.2 Power Supply
Graphic : Z170 Chipsets built-in **HD Graphics 530**
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: S301F adapter with M.2 SATA **512GB**



S301F Adapter



Samsung PM871a M.2 SSD

2.3 Install Hardware

Insert M.2 SATA SSD, or mSATA , or CFast Card into S301F converter's M.2 B-key, or mini PCIe, or CFast connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Then connect S301F converter to SATA port of GIGABYTE **Z170X UD5 TH**

2.4 BIOS & Windows 10 OS environment setup

2.4.1 Primary SSD Drive installs win10 64bit OS

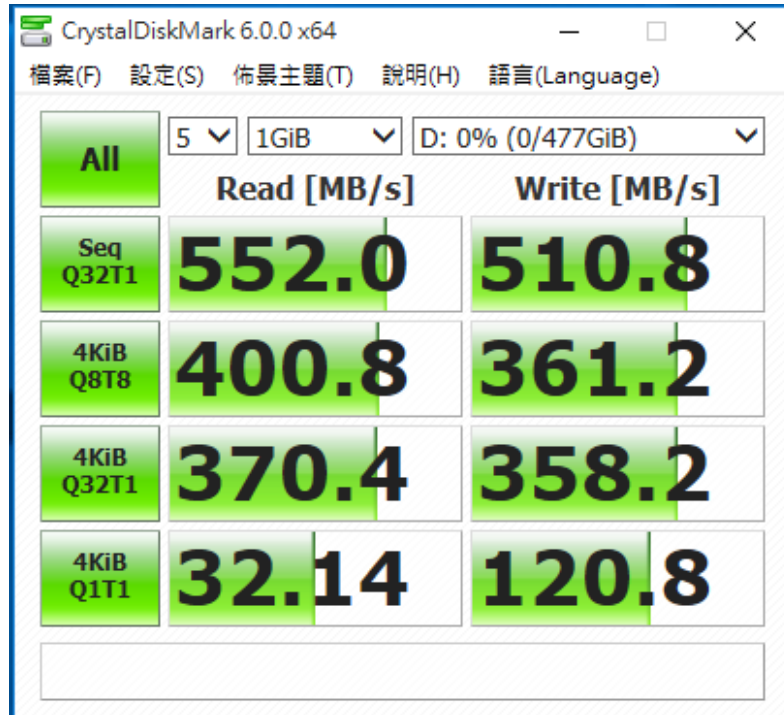
2.4.2 Tested Target M.3 SSD is formatted to NTFS Mode. Don't install any program.

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2.5 CrystalDiskMark 6.0 x64 performance test

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

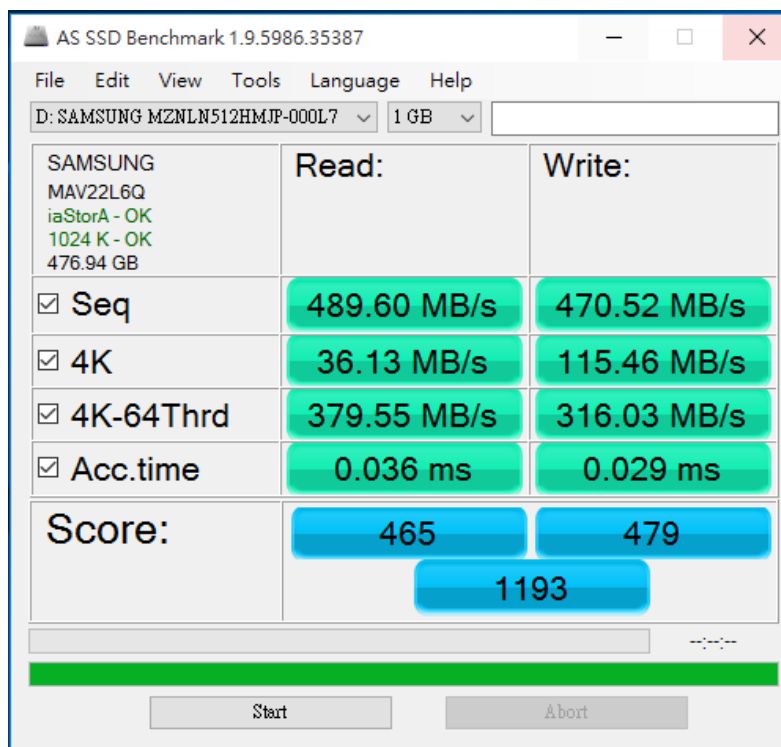
2.5.1 show Samsung **512GB(CM871a M.2)** performance as below:



2.6 AS SSD Benchmark 1.9 performance test

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

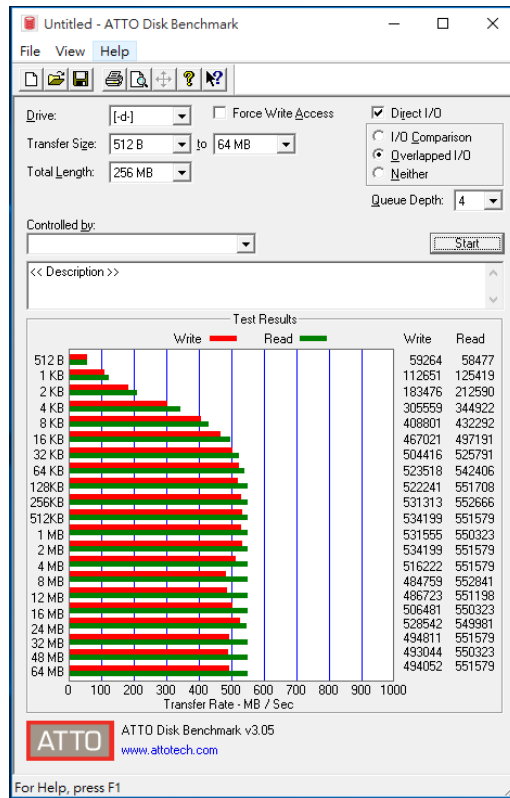
2.6.1 show Samsung **256GB(CM871a M.2)** performance as below:



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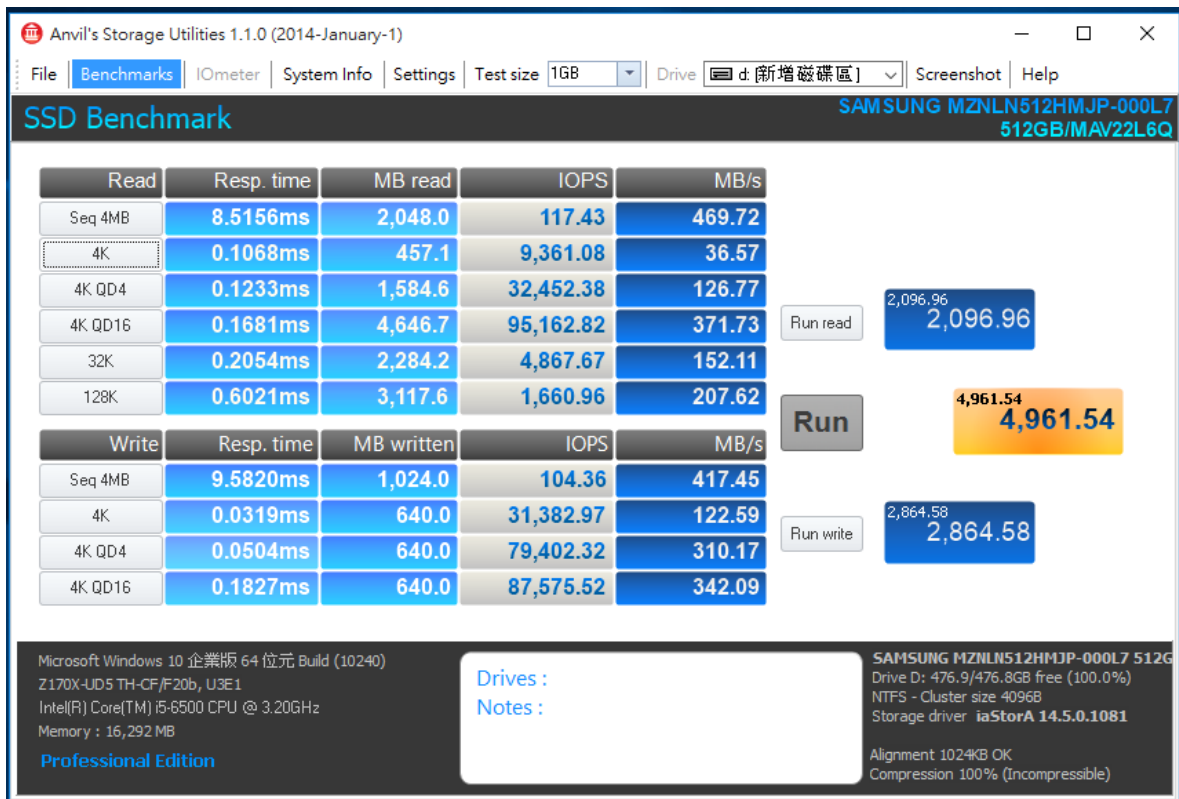
2.7 ATTO Disk Benchmark 3.05 performance test

2.7.1 show Samsung 512GB(CM871a M.2) performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 show Samsung 512GB(CM871a M.2) performance as below:

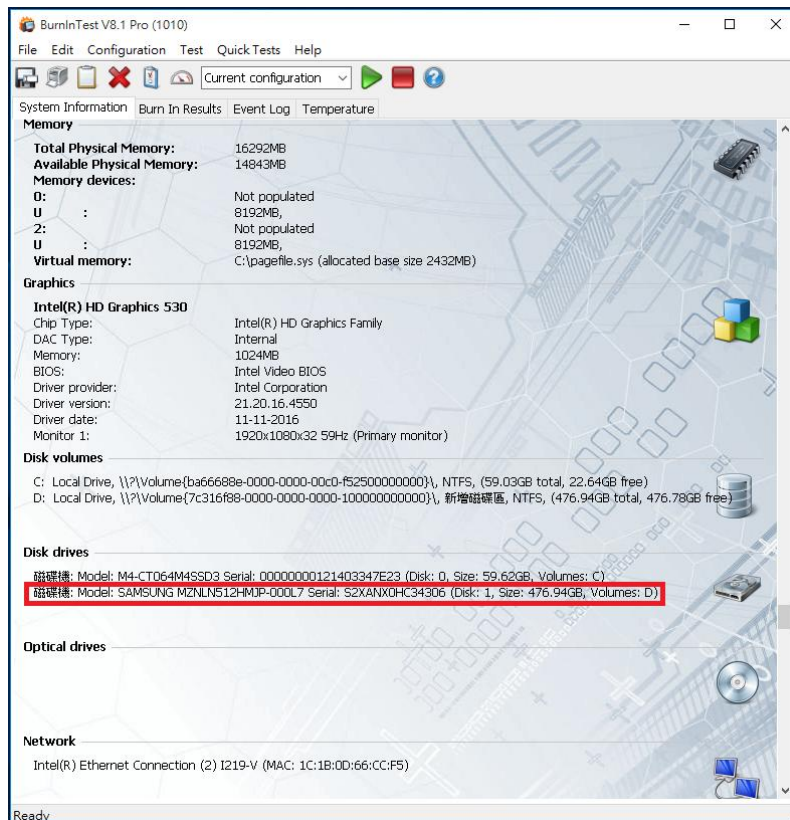
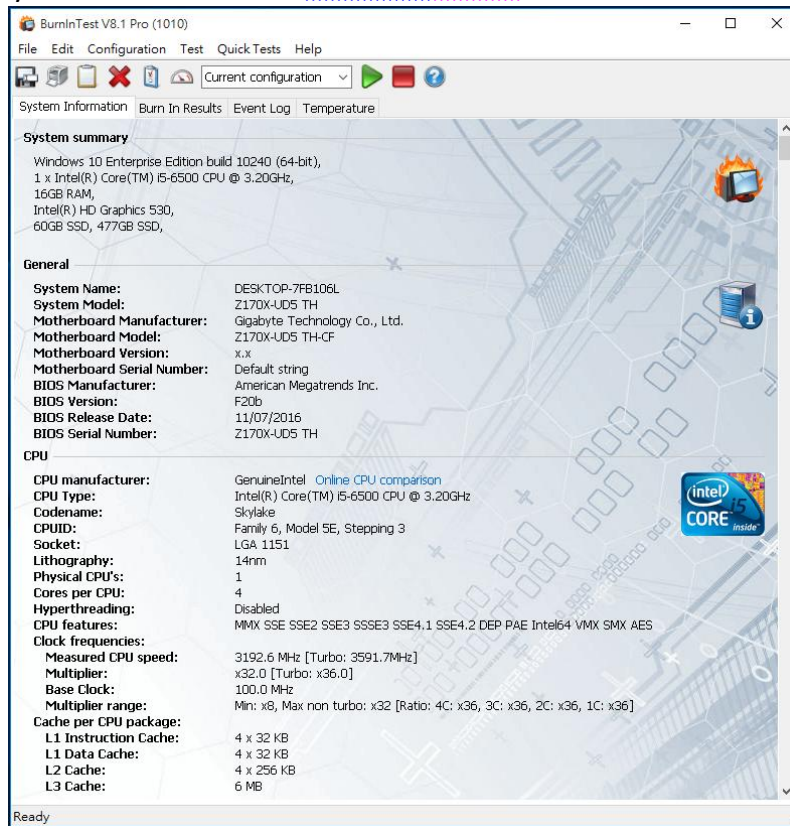


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3. Burn In Tests and Results

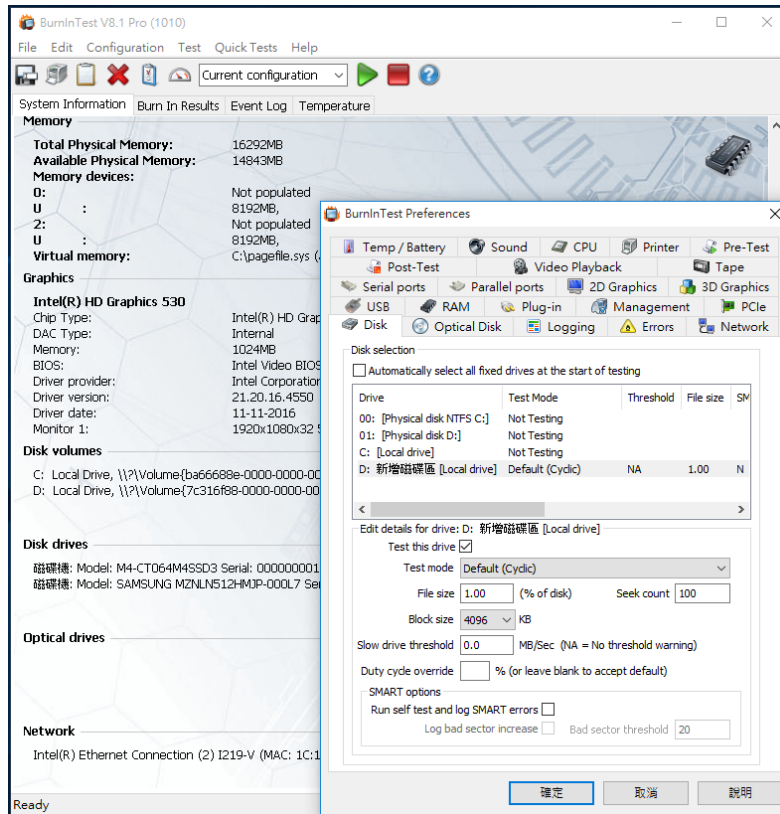
3.1 BurnInTest v8.1 Pro

3.1.1 system information for **M.2 SATA 512GB** as below:

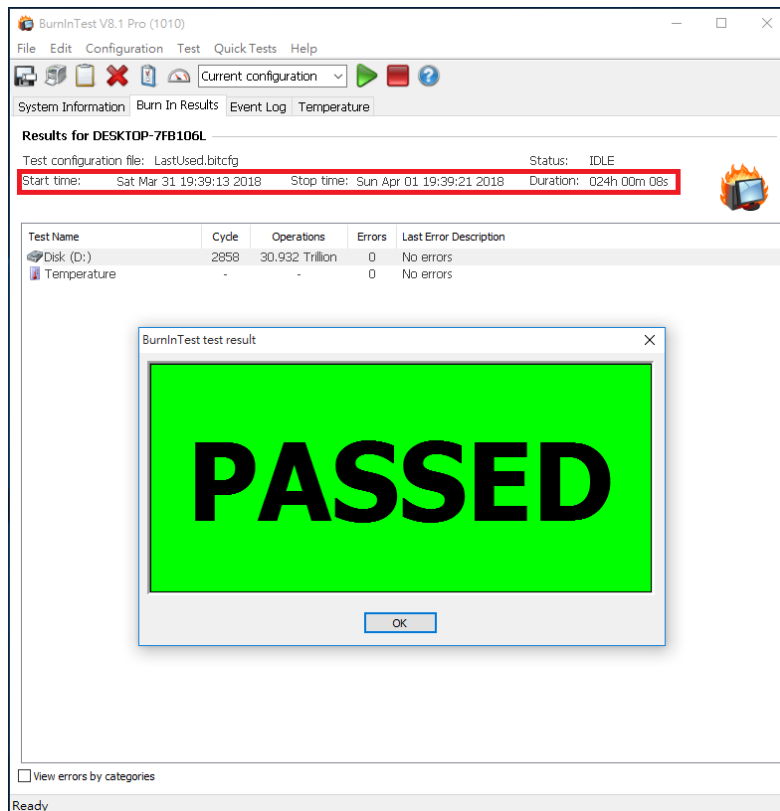


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3.1.2 show Disk test mode (10 ways cycle test)



3.1.3 show 24-hour Burn-in test PASSED



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4. Summary

- 4.1 M.2 SATA SSD is SATA 3 Interface, I/O speed, max. to 6Gbps.
- 4.2 S301F adapter I/O performance is based on M.2 SSD Card.