



MINERVA

BU287F Rev1.0 Converter Card

Performance & Burn In Test Rev. 1.0

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4. Summary

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1. Overview

The BU287F adapter, built-in SFF-8639 connector, provides one port **M.2 M-key** connector, one port **M.2 B-key** connector. First M.2 SATA SSD inserts **M.2 B-key** connector, using SFF-8630 to SATA 7-pin dual port cable to connect to MainBoard, then M.2 NVMe(PCI-e) SSD can be work.

2. Tools and Results of Performance Measurement

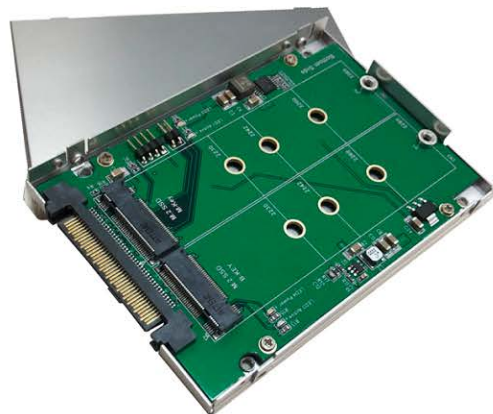
2.1 Test Platform

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**
CABLE: SFF-8630 to SATA 7-pin dual port Cable
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: BU287F adapter and M.2 SATA SSD



SFF-8630 to SATA 7pin dual ports cable



BU287F Adapter



Samsung PM871a M.2 SSD

2.3 Install Hardware

Insert M.2 SSD into BU287F converter's **M.2 B-key** , and then with coppers, and screws to fix SSDs. Using sff-8630 to SATA 7-pin dual port cable to connect BU287F converter to **SATA signals port of of Z170X UD5 TH**.

2.4 BIOS & Windows 10 OS environment setup

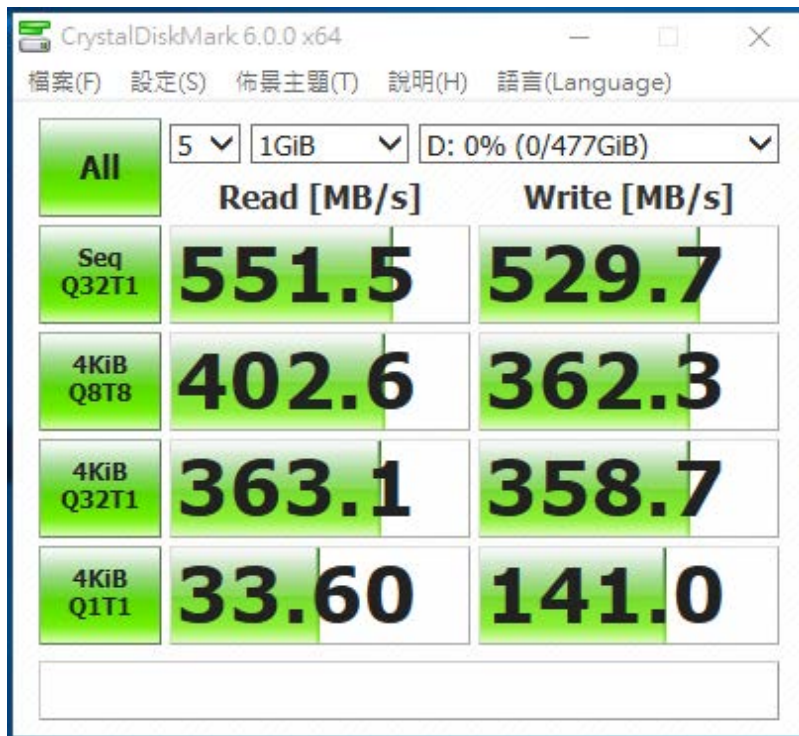
2.4.1 BU287F+M.2 SATA 512G SSD formatted NTFS, **not be intalled program**.

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2.5 CrystalDiskMark 6.0.0 x64 performance test

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

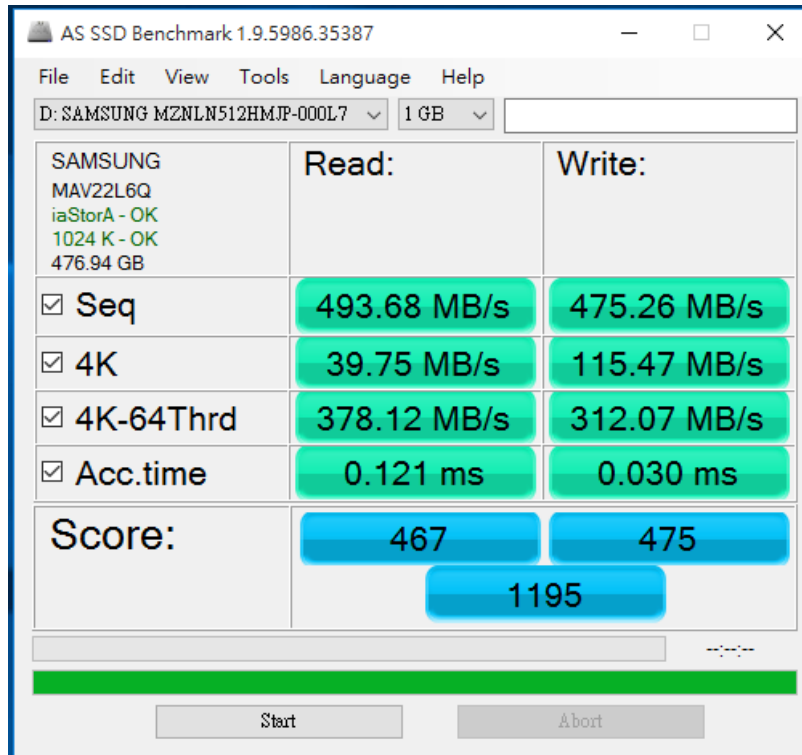
2.5.1 Shows Primary Samsung **512GB (PM871a M.2)** performance as below:



2.6 AS SSD Benchmark 1.9 performance test

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

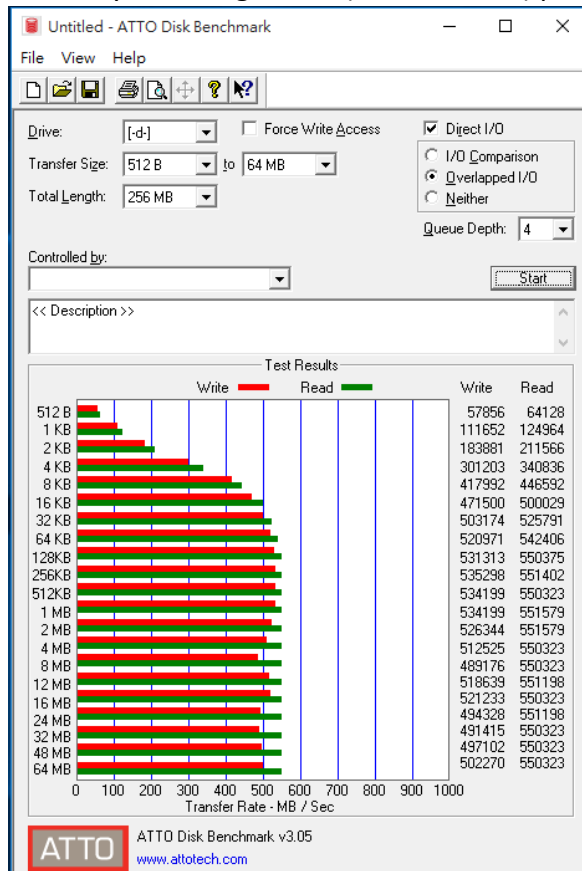
2.6.1 Shows Primary Samsung **512GB (PM871a M.2)** performance as below:



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2.7 ATTO Disk Benchmark 3.0.5 performance test

2.7.1 Shows Primary Samsung 512GB (PM871a M.2) performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 Shows Primary Samsung 512GB (PM871a M.2) performance as below:

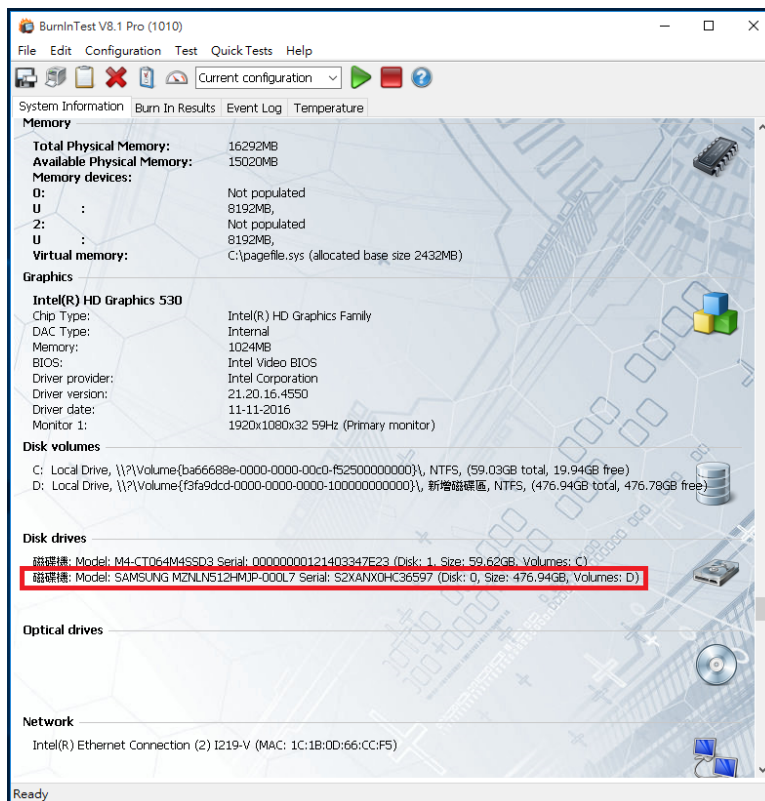
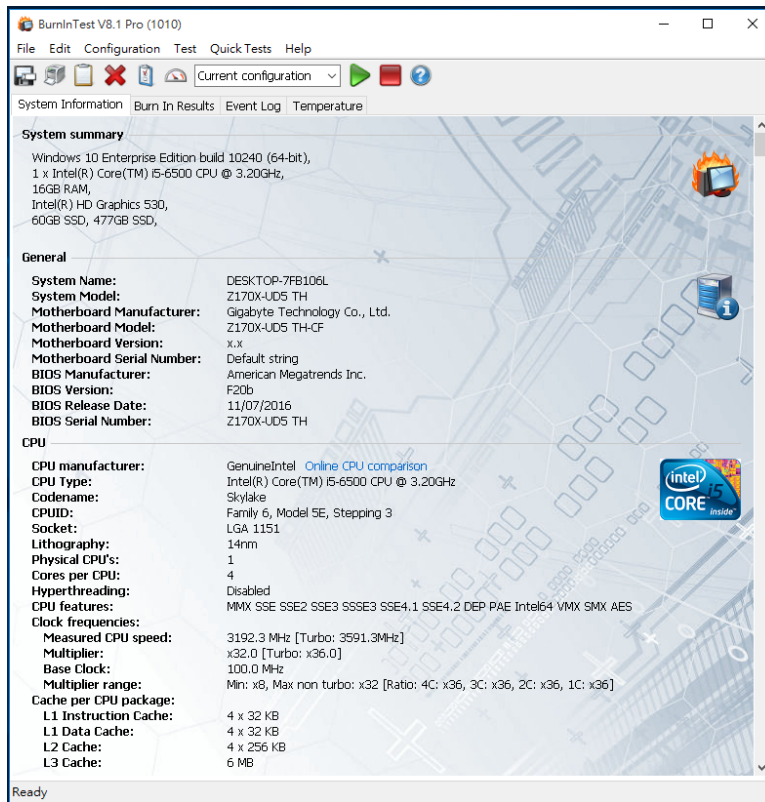


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3. Burn In Tests and Results

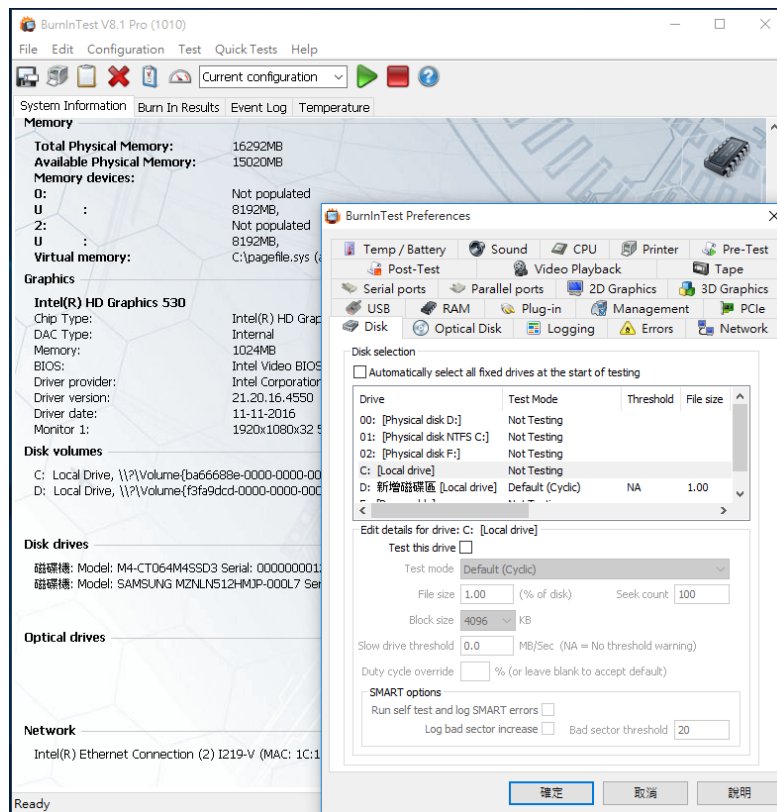
3.1 BurnInTest v8.1 Pro

3.1.1 system information for 512GB(PM871a M.2) as below:

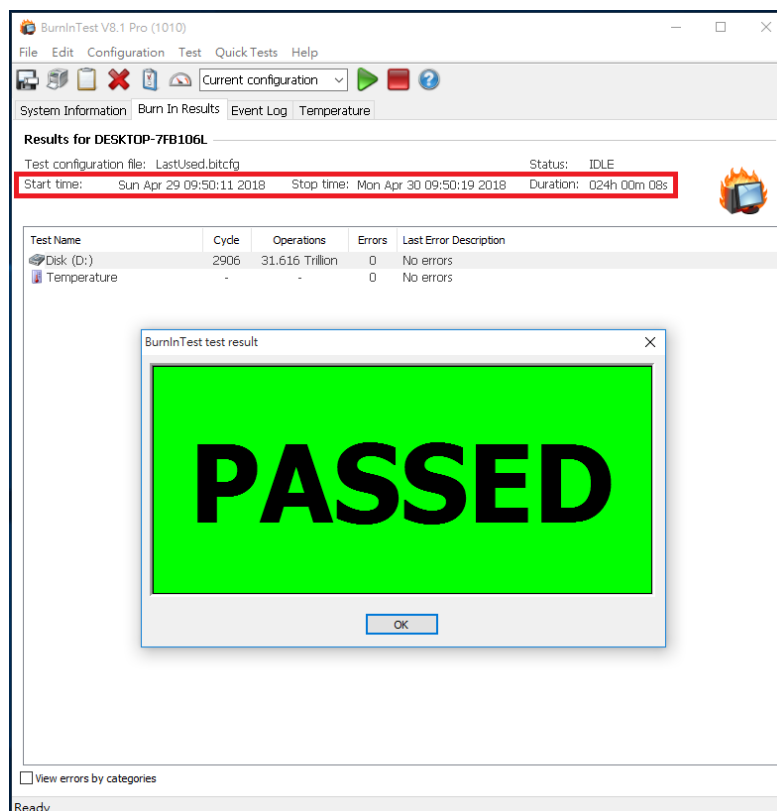


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3.1.2 show SSD test mode(10 ways cycle test)



3.1.3 show SSD 24-hour Burn-in test PASSED



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4. Summary

- 4.1 M.2 SSD is SATA III Interface, I/O speed, max. to 6Gbps.
- 4.2 BU287F adapter I/O performance is based on M.2 SSD.