MINERVA

USB 3.1 Gen 2 for M.2 SATA SSD with USB Type-C Enclosure

Performance & Burn In Test Rev. 1.0

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USB 3.1 Gen 2 Type-C for M.2 SSD Enclosure

1. Overview

U6135P Enclosure, built-in USB3.1 Type-C connector, provides one M.2 B-key connector. First inserts M.2 SSD into M.2 B-key connector and assembly PCBA into enclosure, then use Type-A to Type-C cable to connect U6135P to USB 3.1 type-A female connector of the host.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : ASUS **X99-PRO/USB3.1**
CPU : Intel **i7-5820K,** 3.3GHz/ 15M Cache/ LGA2013-v3
Memory : ADATA DDR4 PC4-1700MHz, 8G(4GB DIMM*2)
ATX Power : COOLER MASTER G750M, **750W ATX**, 12V V2.31 Power Supply
Graphic : ATI Radeon **HD Graphics 5450** Graphics Processor
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: U6135P enclosure and M.2 256GB(Samsung CM871a M.2).

U6135P Enclosure

Samsung CM871a M.2 SSD

2.3 Install Hardware

Inserts M.2 SSD into U6135P adapter's M.2 connector, and use the coppers and screws to fix SSDs (please refer to the installation Notes). Then use USB 3.1 cable to connect U6135P Enclosure to USB3.1 port of ASUS **X99-PRO/USB3.1.**

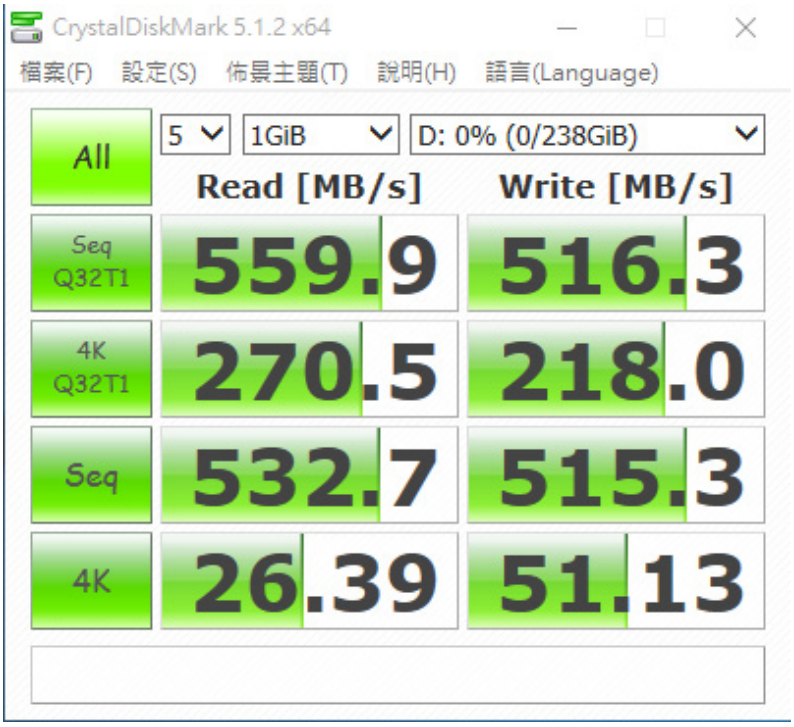
2.4 BIOS & Windows 8.1 OS environment setup

2.4.1 install Windows 8.1 64bit OS.

2.5 CrystalDiskMark 5.1.2 x64 performance test

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

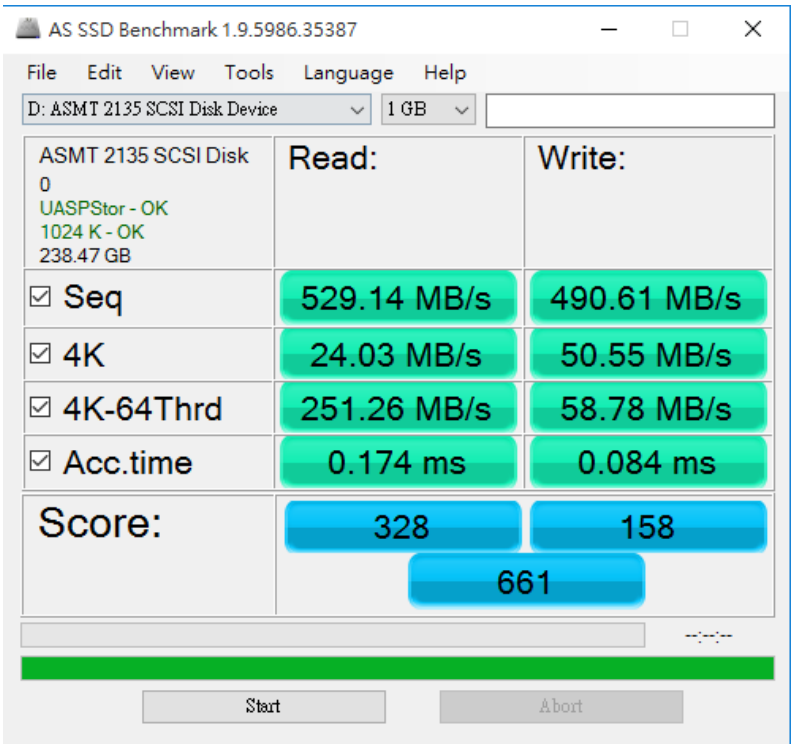
2.5.1 show M.2 256GB(**Samsung CM871a M.2**) performance as below:



2.6 AS SSD Benchmark 1.9 performance test

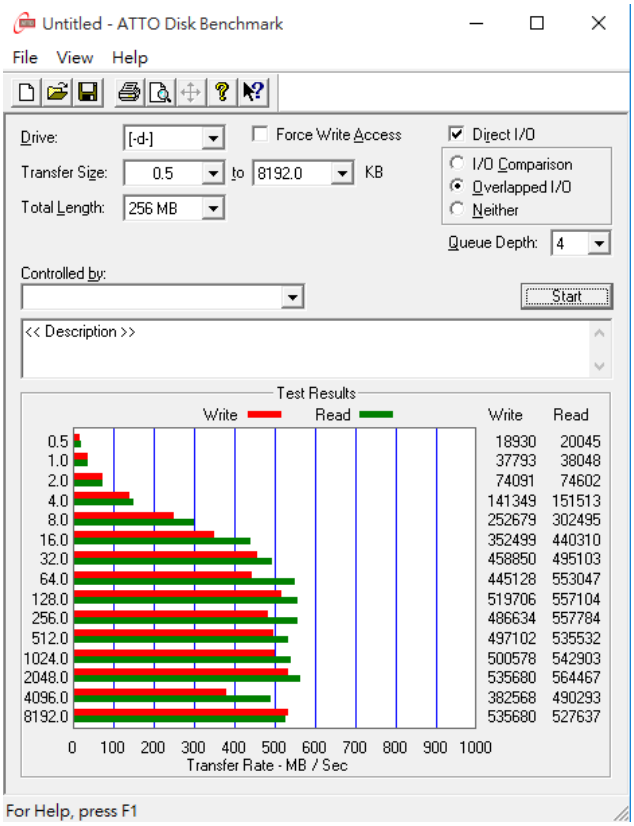
※Benchmark (Read & Write by MB/s, default block size = 16MB)

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



2.7 ATTO Disk Benchamrk 2.47 performance test

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



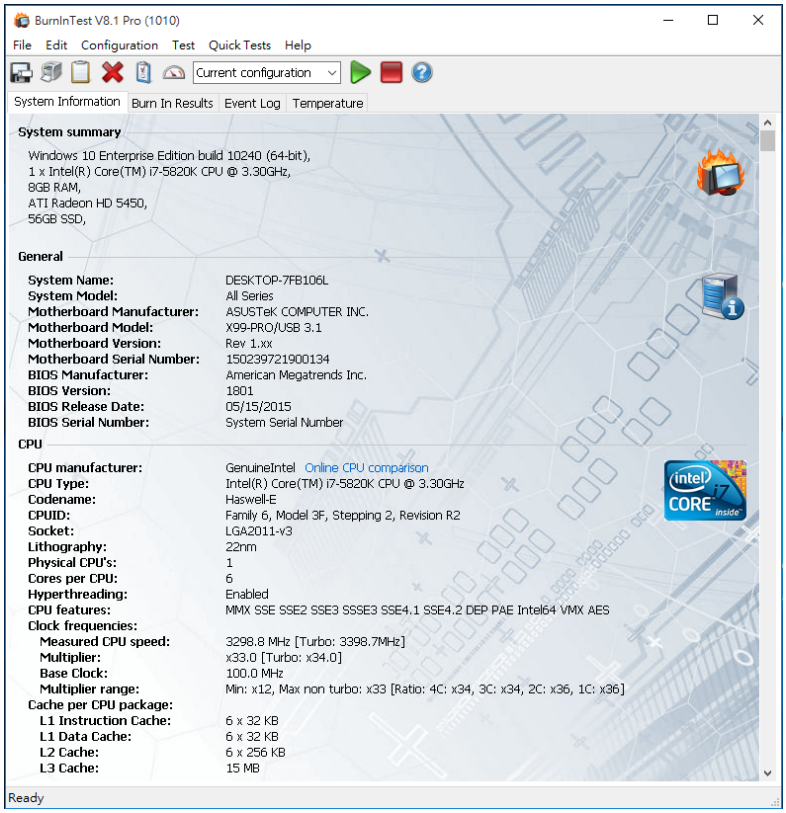
2.8 AnvilBenchmark_V110_B337

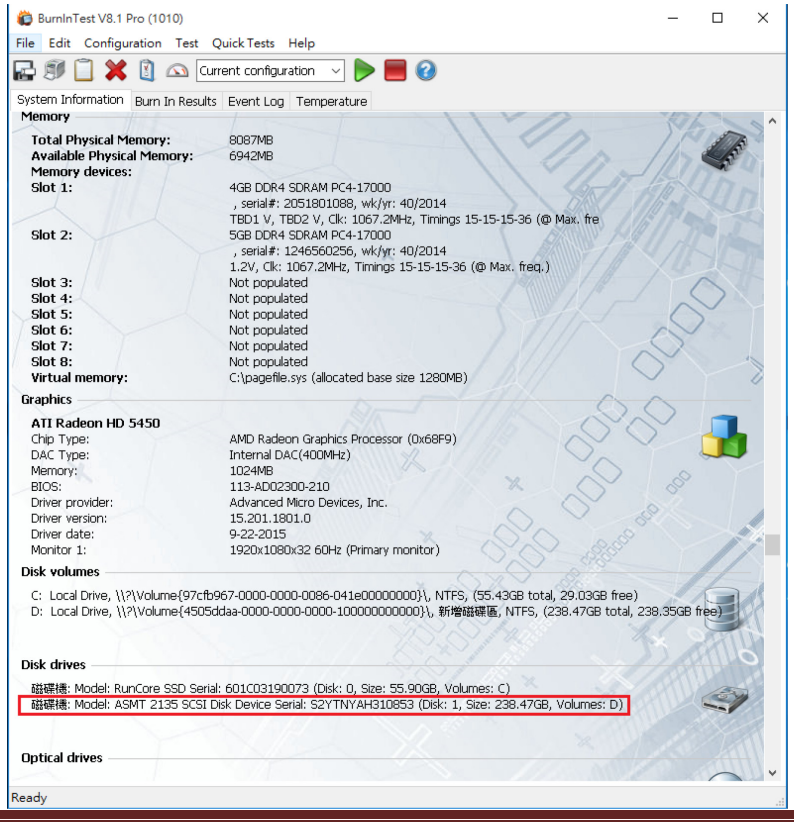
2.8.1 show M.2 256GB(Samsung CM871a M.2) performance as below:

3. Burn In Tests and Results

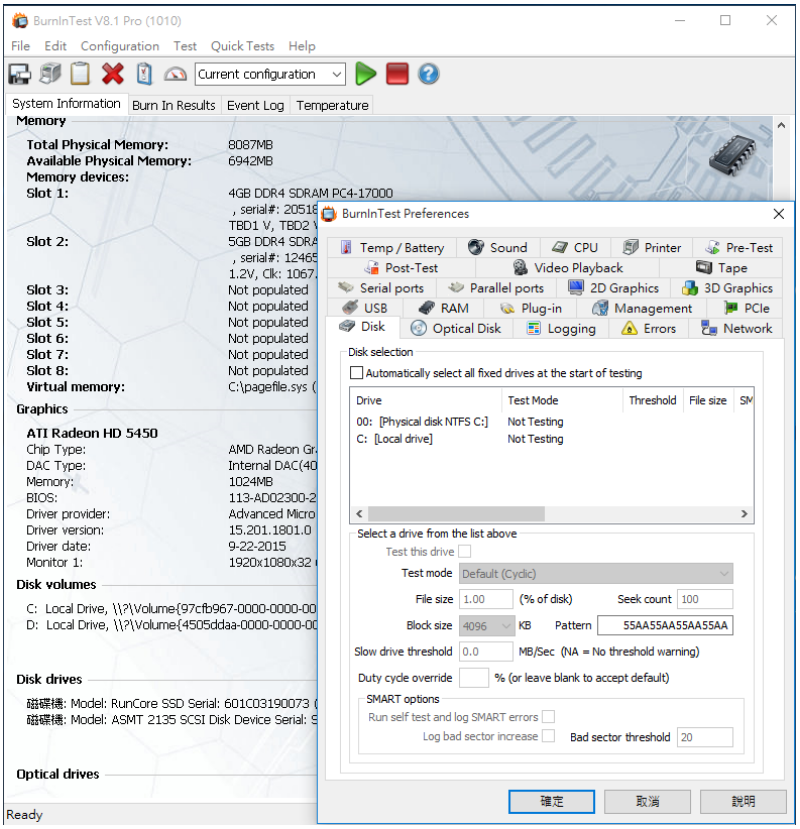
3.1 BurnInTest v8.1 Pro

3.1.1 system information for M.2 256GB(Samsung CM871a M.2) as below:

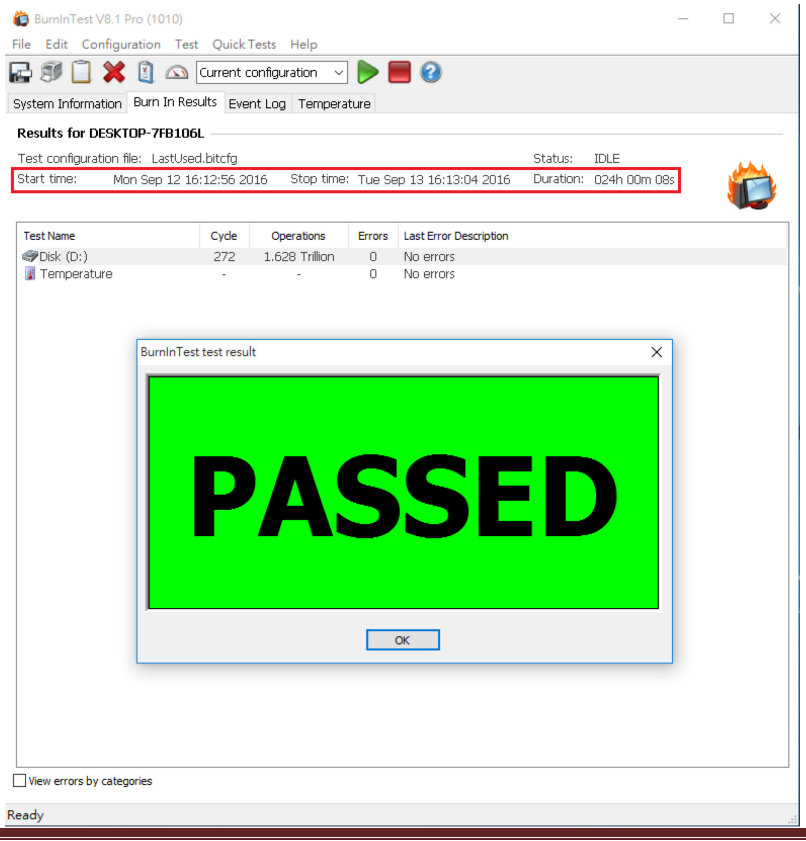




3.1.2 show Disk test mode(10 ways cycle test)



3.1.3 show 24-hour Burn-in test for M.2 256GB(Samsung CM871a M.2) PASSED



4. Summary

4.1 USB 3.1 Gen 2 is 10Gbps Interface.

4.2 SATA III is 6Gbps Interface.

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

4.4 U6135P adapter I/O performance is based on M.2 SSD.