



MINERVA

USB 3.1 Gen 2 for 2.5" SATA, mSATA SSD & M.2 SSD with Micro-B

Performance & Burn In Test Rev. 1.0

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4. Summary

USB 3.1 Micro-B for 2.5" SATA, mSATA SSD & M.2 SSD adapter

1. Overview

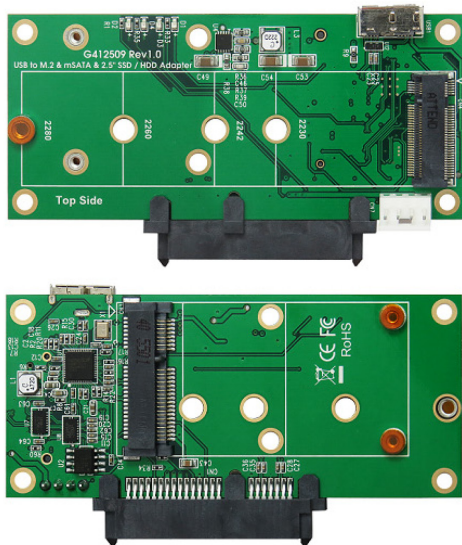
U4315A adapter, built-in USB3.1 Micro-B connectors, provides one SATA connector, one M.2 B-key connector and one Mini PCI-e connector. First inserts 2.5" SATA SSD, using USB A-type to Micro-B cable to connect to the host, 2.5" SATA SSD can work.

2. Tools and Results of Performance Measurement

2.1 Test Platform:

M/B : ASRock **Z170 Extreme 7+**
CPU : Intel **i5-6400**, 2.7GHz/ 6M Cache/ LGA1151
Memory : Kingston **KVR21N15D8/8**, DDR4-2133MHz, 16G(8GB DIMM*2)
ATX Power : FSP RAIDER 550, **550W ATX**, 12V V2.2 Power Supply
Graphic : Z170 Chipsets built-in **HD Graphics 530**
Cable: USB 3.1 A to micro-B cable
OS : Microsoft **Windows 8.1 64bit OS**

2.2 Test target: U4315A adapter and Crucial **2.5" 128GB**(CT128M550SSD1)



U4315A Adapter



Crucial 128GB 2.5" SSD

2.3 Install Hardware

Inserts 2.5" SATA SSD into U4315A adapter, Then this adapter through USB cable to connect to USB3.1 port of ASRock **Z170 Extreme 7+**

2.4 BIOS & Windows 8.1 OS environment setup

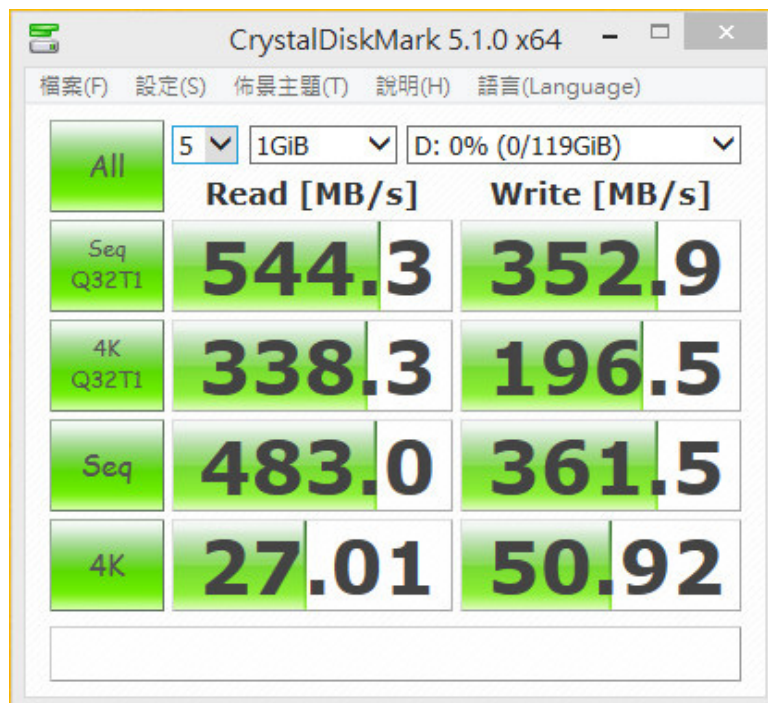
2.4.1 install Windows 8.1 64bit OS.

USB 3.1 Micro-B for 2.5" SATA, mSATA SSD & M.2 SSD adapter

2.5 CrystalDiskMark 5.1.0 x64 performance test

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

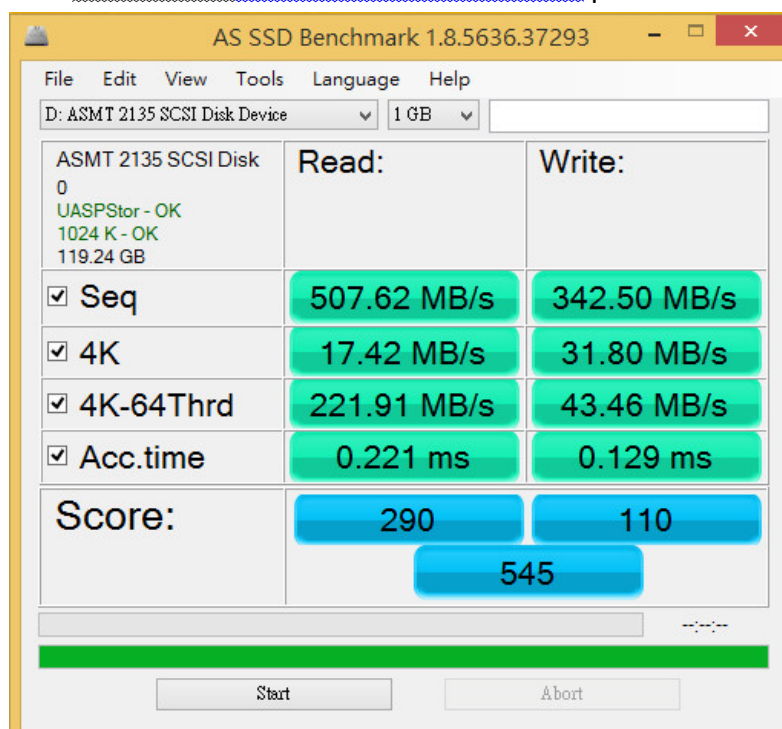
2.5.1 show Crucial M550 [CT128M550SSD1 2.5" 128GB](#) performance as below:



2.6 AS SSD Benchmark 1.9 performance test

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

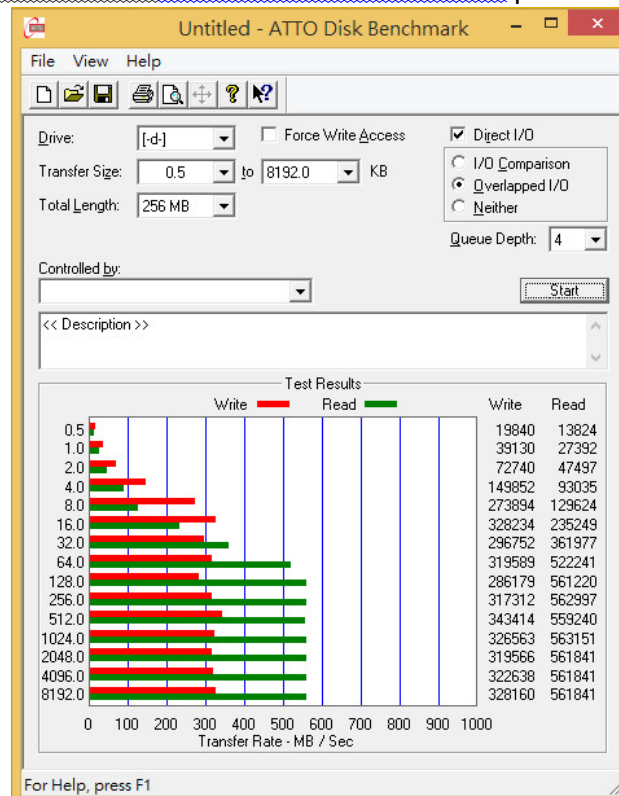
2.6.1 show Crucial M550 [CT128M550SSD1 2.5" 128GB](#) performance as below:



USB 3.1 Micro-B for 2.5" SATA, mSATA SSD & M.2 SSD adapter

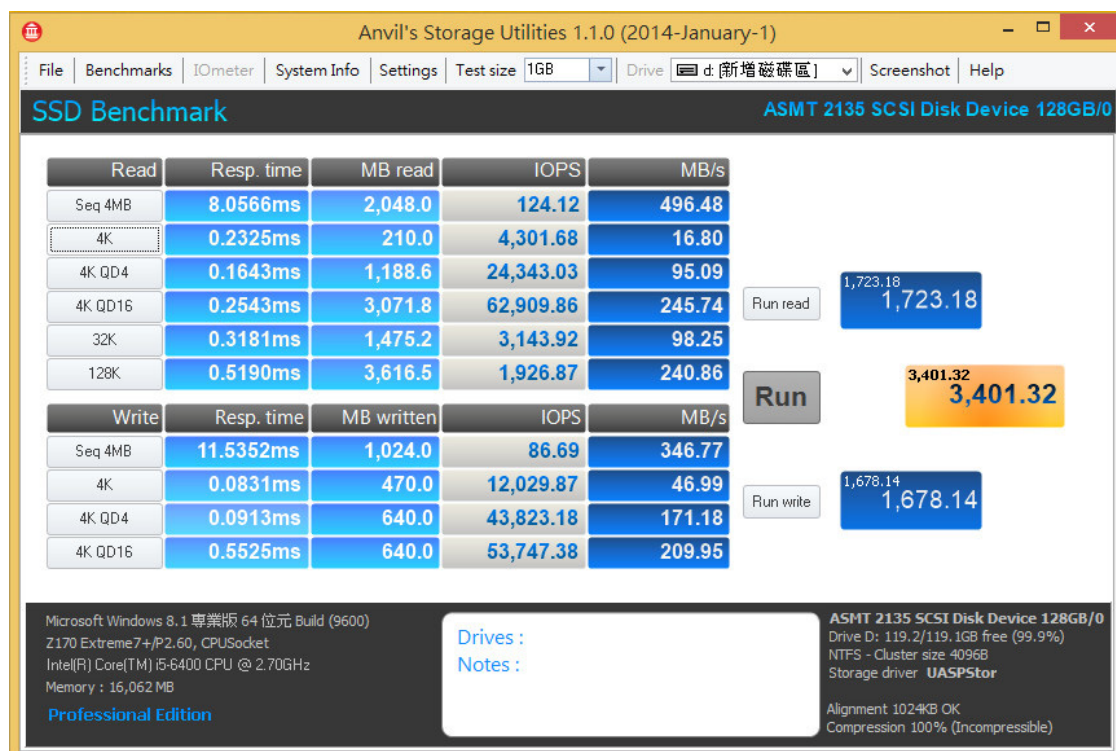
2.7 ATTO Disk Benchmark 2.47 performance test

2.7.1 show Crucial M550 [CT128M550SSD1 2.5" 128GB](#) performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 show Crucial M550 [CT128M550SSD1 2.5" 128GB](#) performance as below:

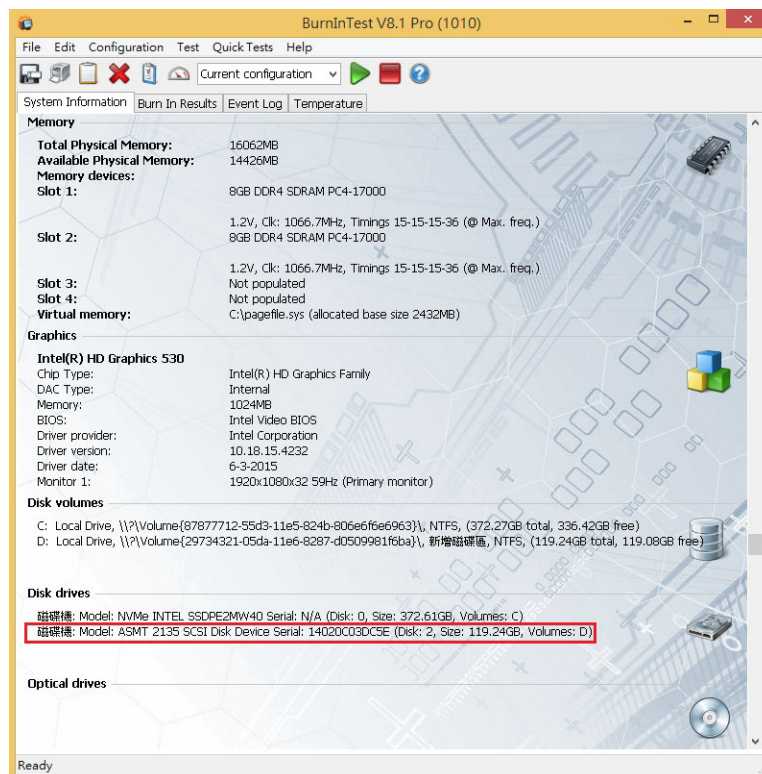
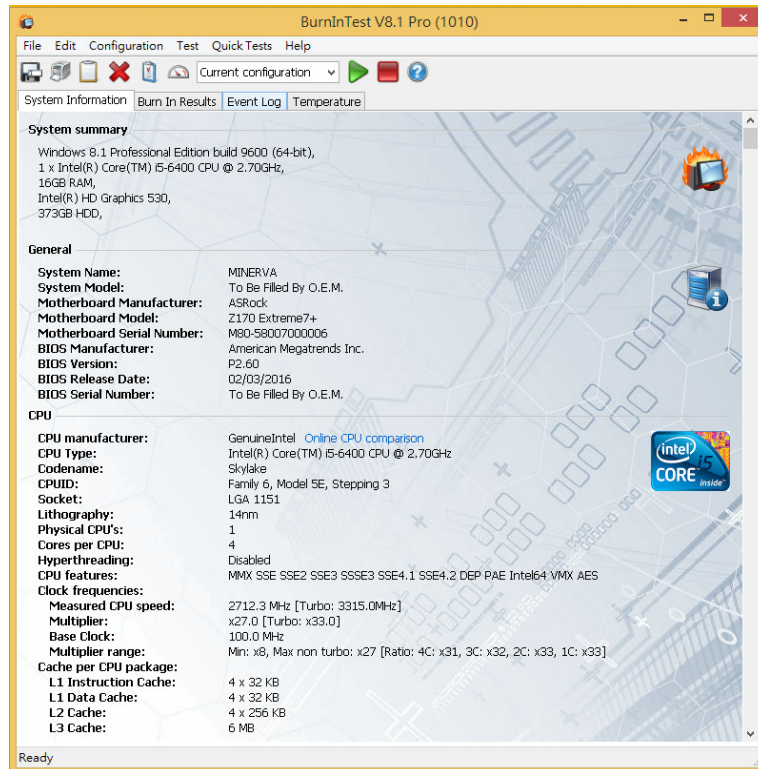


USB 3.1 Micro-B for 2.5" SATA, mSATA SSD & M.2 SSD adapter

3. Burn In Tests and Results

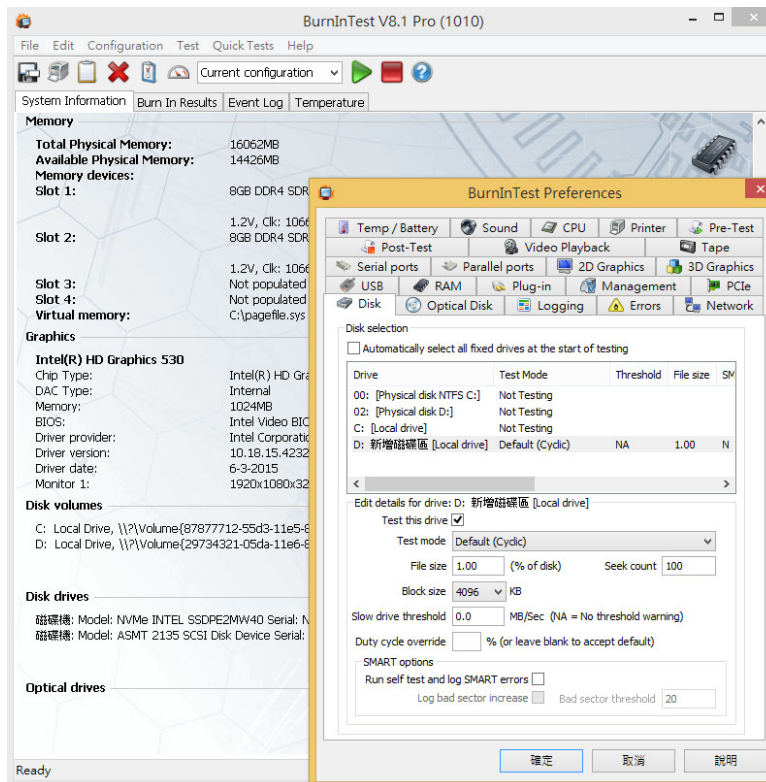
3.1 BurnInTest v8.1 Pro

3.1.1 system information for [Crucial M550 CT128M550SSD1 2.5" 128GB](#) as below:

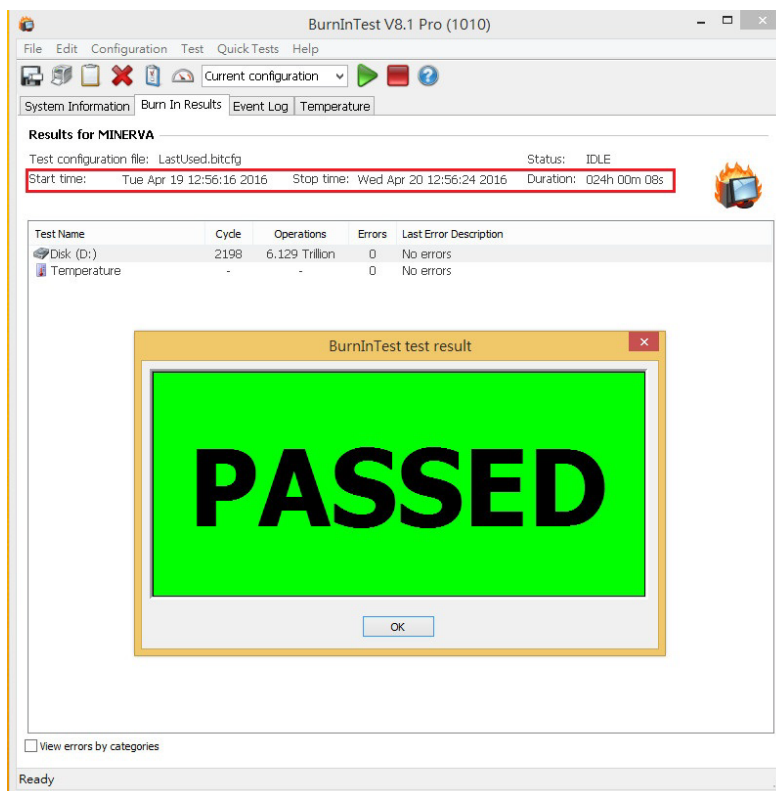


USB 3.1 Micro-B for 2.5" SATA, mSATA SSD & M.2 SSD adapter

3.1.2 show Disk test mode(10 ways cycle test)



3.1.3 show 24-hour Burn-in test PASSED



USB 3.1 Micro-B for 2.5" SATA, mSATA SSD & M.2 SSD adapter

4. Summary

- 4.1 USB 3.1 is 10Gbps Interface.
- 4.2 SATA III is 6Gbps Interface.
- 4.3 U4315A enclosure I/O performance is based on 2.5" SATA.