MINERVA

AD920E SATA 2-port for mSATA x2 SSD & M.2 x2 SSD

Performance & Burn In Test Rev. 1.0

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AD920E SATA dual port for mSATA x2 SSD & M.2 x2 SSD

1. Overview

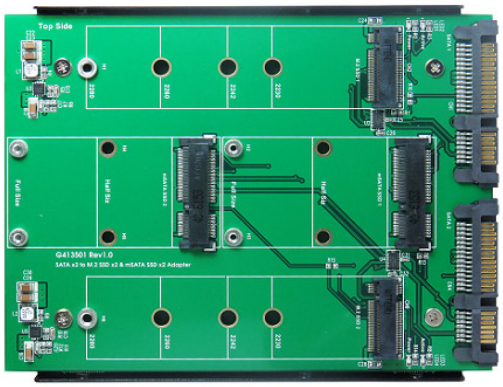
AD920E adapter, provides dual M.2 B-key connectors and dual Mini PCI-e connectors. First M.2 SSD inserts M.2 B-key connector and mSATA SSD inserts Mini PCI-e connectors, using SATA 7-pin cable to connect to the host, both M.2 SSD and mSATA SSD would work simultaneous.

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, 8G(8GB DIMM*2)
ATX Power : FSP RAIDER 550, **550W ATX**, 12V V2.2 Power Supply
Graphic : Z170 Chipsets built-in **HD Graphics 530**
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: AD920E adapter with port 1: M.2 256GB SSD & port 2: mSATA 128GB SSD



AD920E Adapter

mSATA SSD
Crucial M550

M.2 SSD
Samsung CM871a

2.3 Install Hardware

Inserts M.2 SSD, mSATA SSD to AD920E adapter's M.2 and Mini PCI-e connector, and then use the coppers and screws to fix SSDs (please refer to the installation Notes). Then this adapter through SATA cable to connect to SATA port of GIGABYTE **Z170X UD5 TH**.

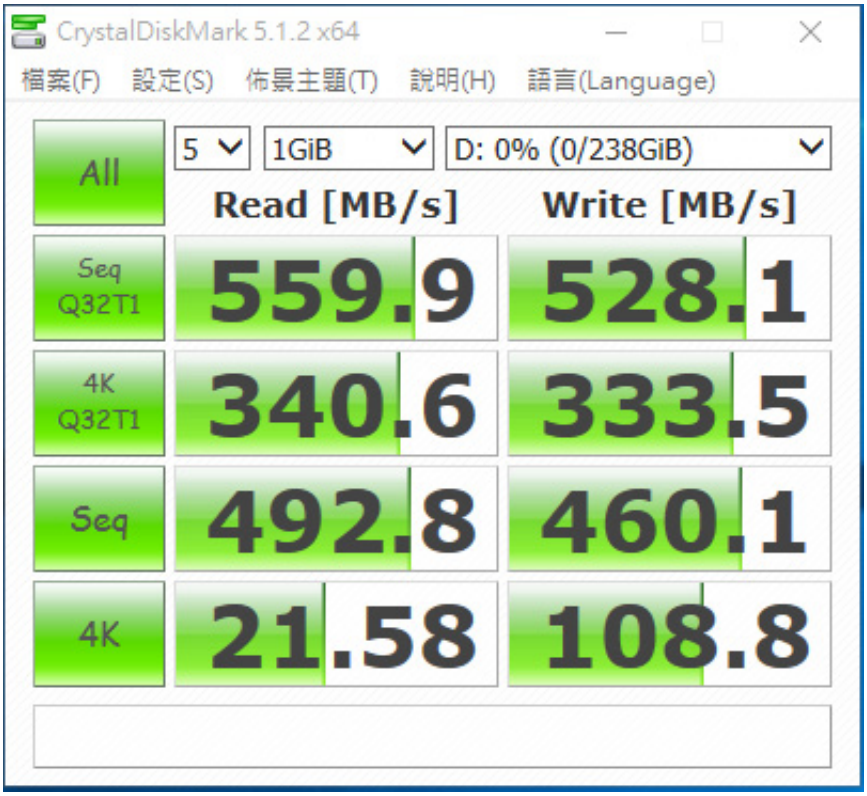
2.4 BIOS & Windows 10 OS environment setup

2.4.1 install Windows 10 64bit OS.

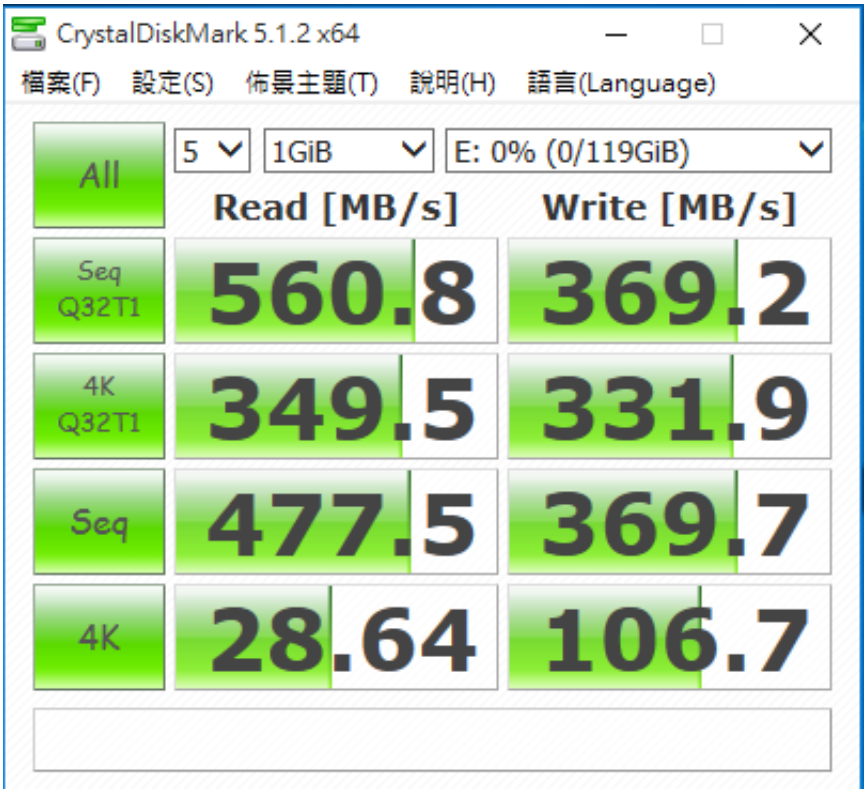
2.5 CrystalDiskMark 5.1.2 x64 performance test

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

2.5.1 Show **M.2** Samsung CM871a/256GB performance as below:



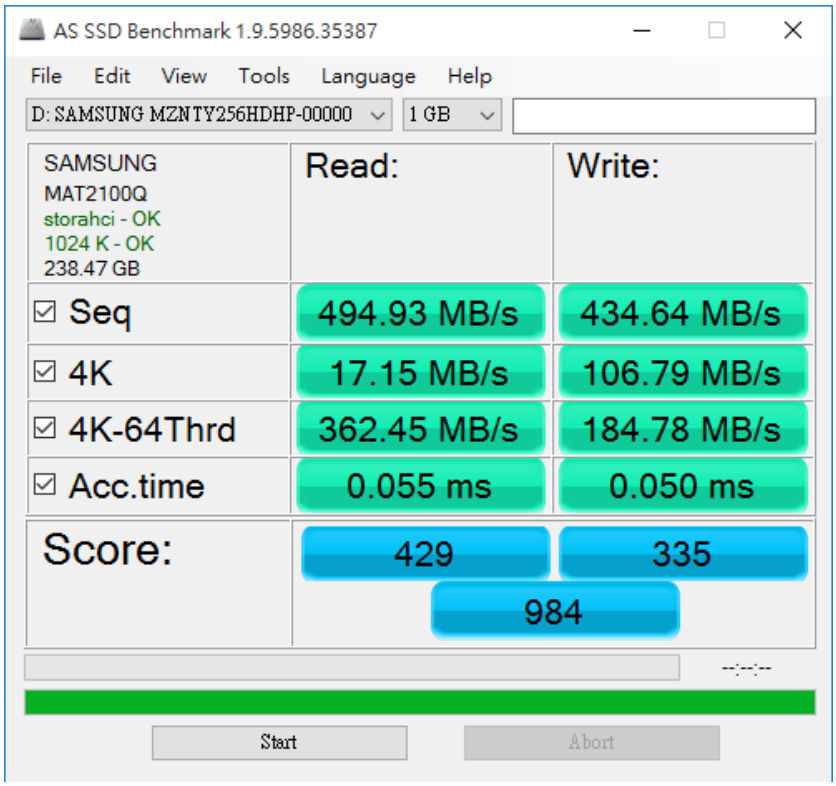
2.5.2 Show **mSATA** Crucial 128GB(CT-128M550SSD3) performance as below:



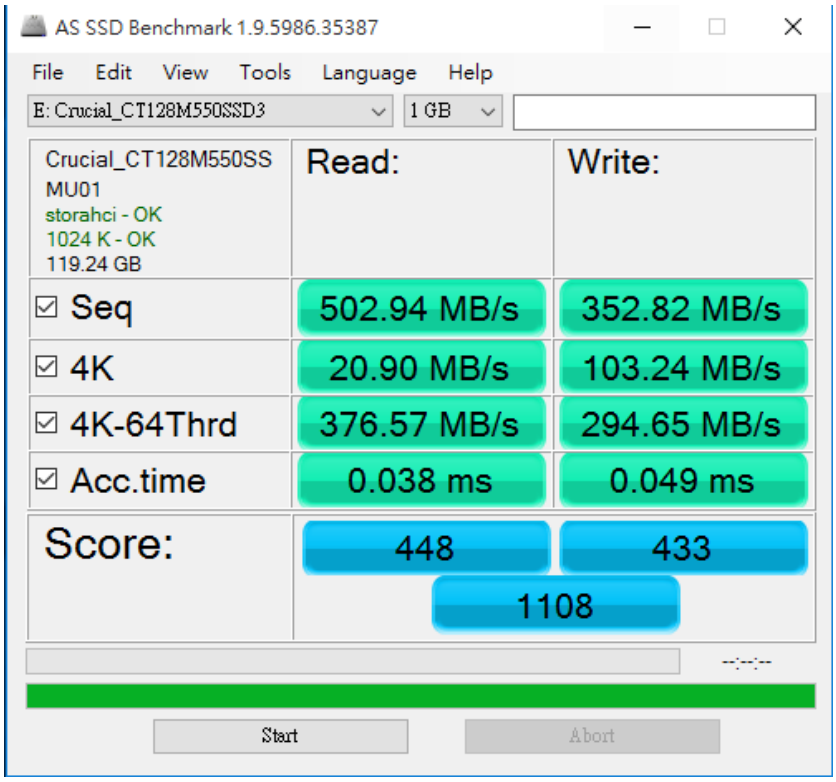
2.6 AS SSD Benchmark 1.9 performance test

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

2.6.1 Show **M.2** Samsung CM871a/256GB performance as below:

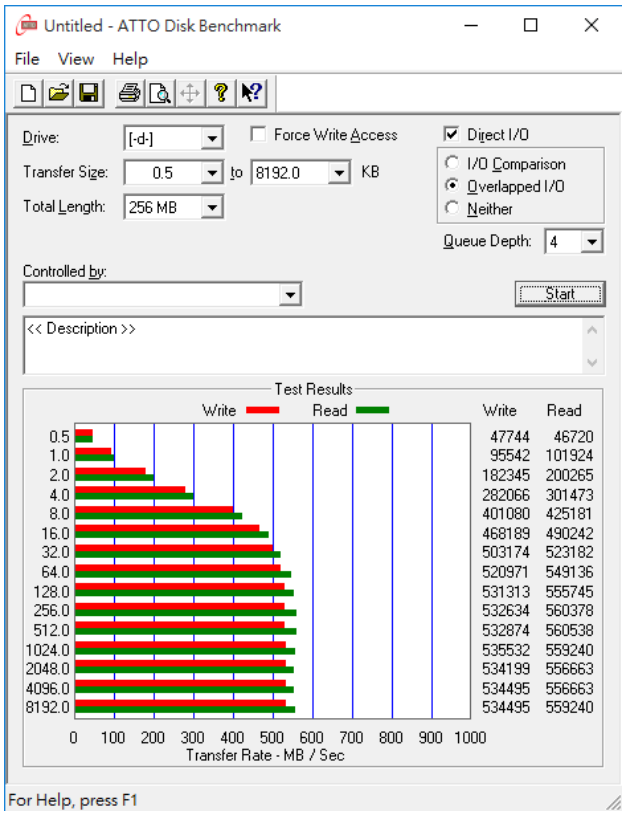


2.6.2 Show **mSATA** Crucial 128GB(CT-128M550SSD3) performance as below:

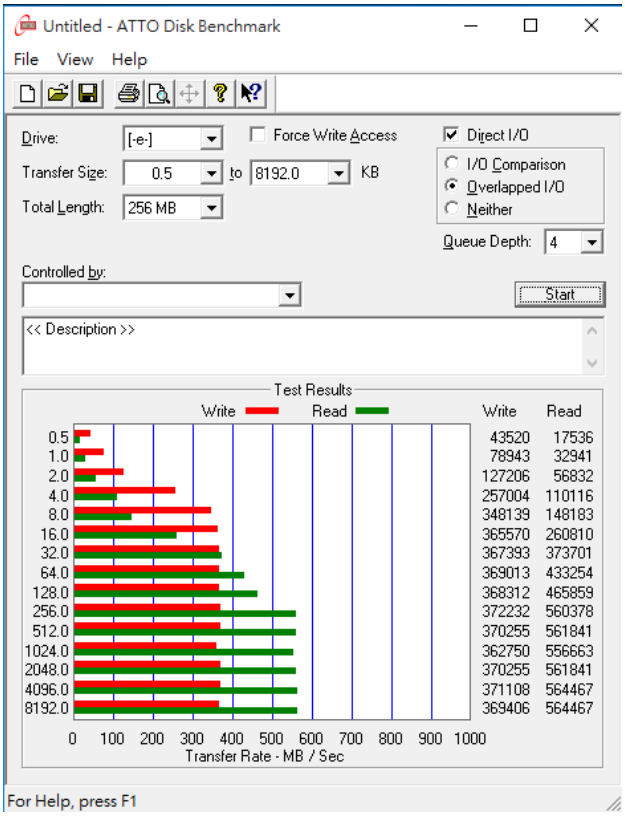


ATTO Disk Benchamrk 2.47 performance test

2.7.1 Show **M.2** Samsung CM871a/256GB performance as below:



2.7.2 Show **mSATA** Crucial 128GB(CT-128M550SSD3) performance as below:



2.7 AnvilBenchmark_V110_B337

2.7.1 Show **M.2** Samsung CM871a/256GB performance as below:

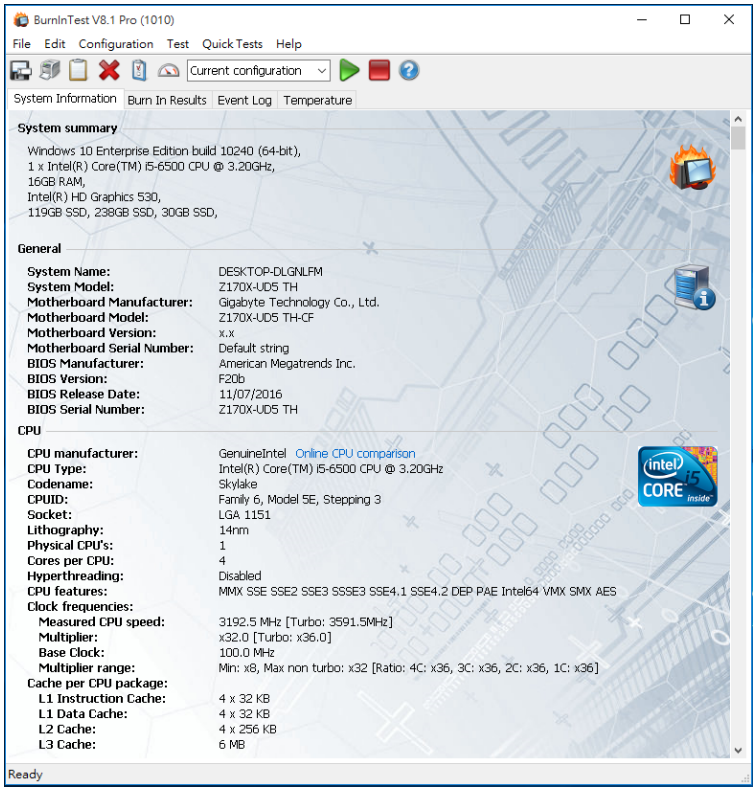
2.7.2 Show **mSATA** Crucial 128GB(CT-128M550SSD3) performance as below:

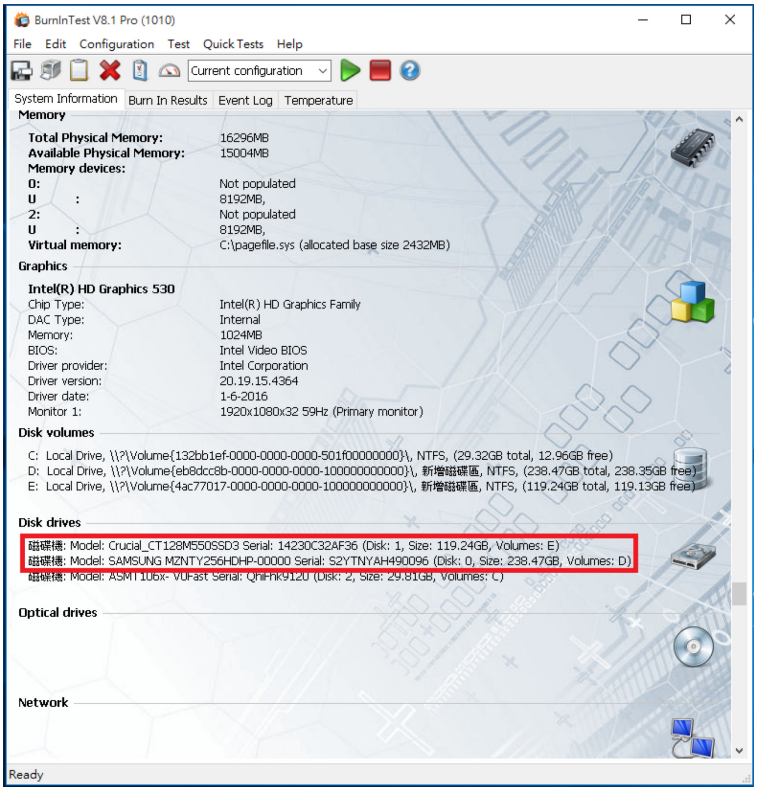
3. Burn In Tests and Results

3.1 BurnInTest v8.1 Pro

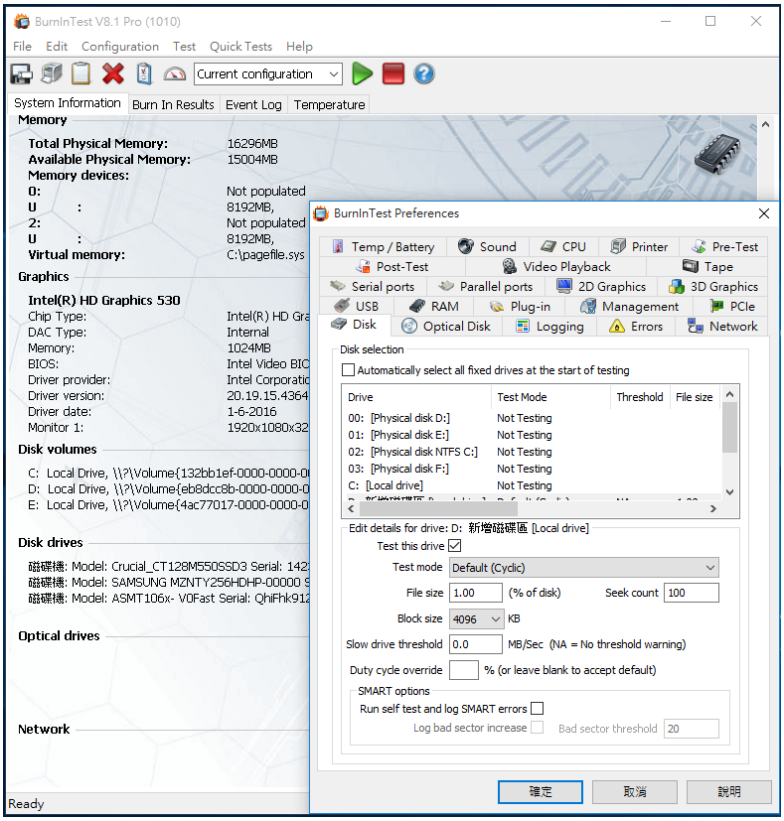
Show **M.2** Samsung CM871a/256GB & **mSATA** Crucial 128GB(CT-128M550SSD3)

3.1.1 **system information** as below:

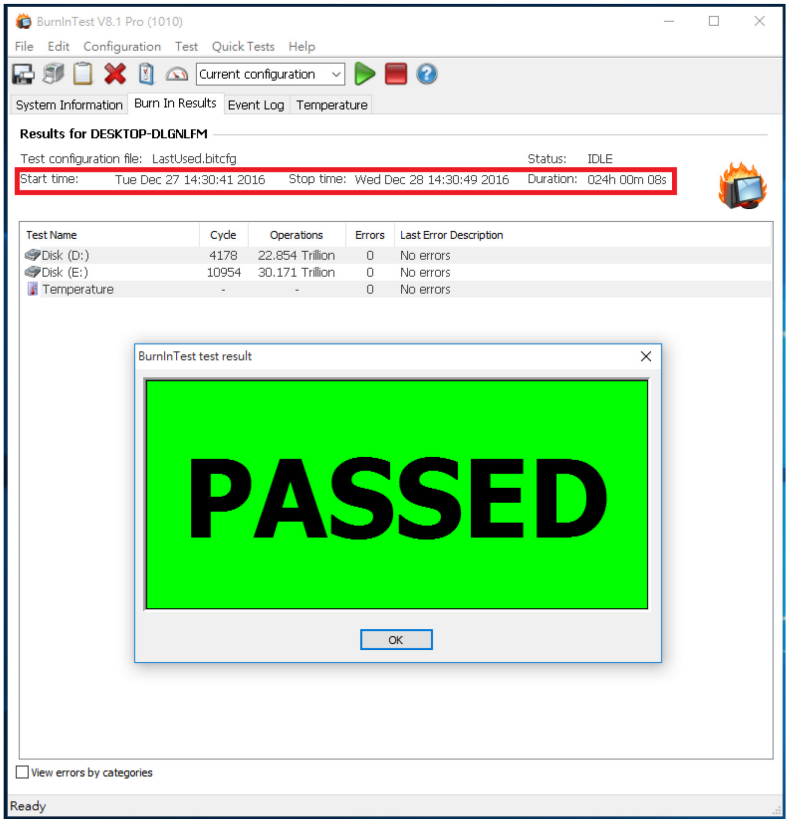




3.1.2 show Disk test mode(10 ways cycle test)



3.1.3 show 24-hour Burn-in test PASSED



4. Summary

4.1 SATA III is 6Gbps Interface.

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

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

4.4 AD920E adapter I/O performance is based on M.2 SSD or mSATA SSD.