MINERVA

PU424F U.3/Gen-Z PCIe Gen 3 for M.2 SSD adapter with 2.5”Housing

Performance & Burn In Test Rev. 1. 0

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1. Overview

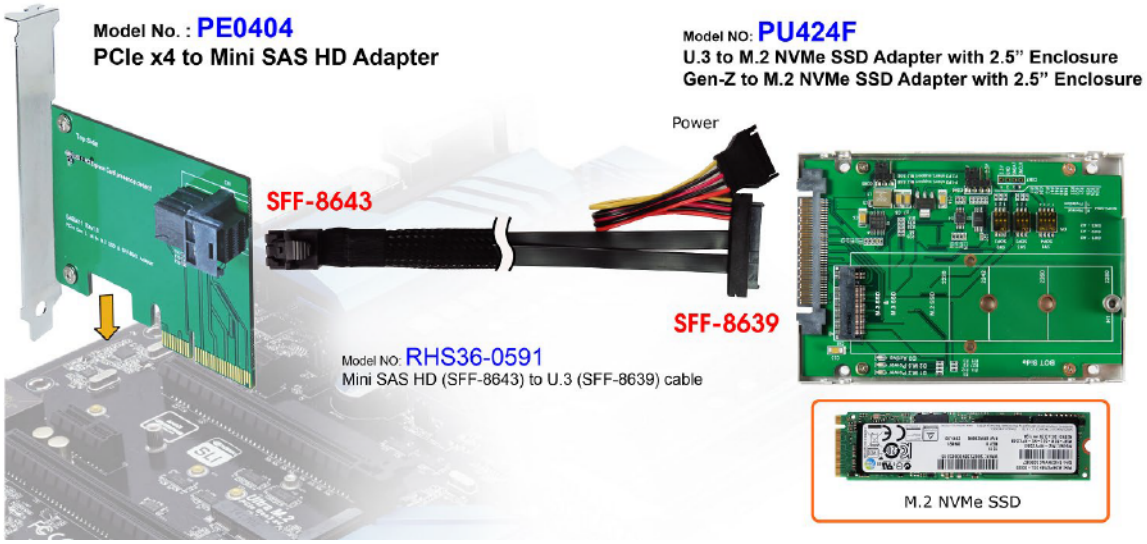
PU424F 2.5” Enclosure, providing M.2 M-key connector can be M.2 NVMe SSD converted into U.3 or Gen-Z , PCI-e Gen 3 / 4 Lanes interface.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B :	GIGABYTE **X570 AORUS MASTER**
CPU :	AMD **Ryzen 7, 3700X 8-Core**
Memory :	Kingston **KVR26N19D8/16**, DDR4-2666MHz, **32GB**(16GB DIMM*2)
ATX Power :	COOLER MASTER G750M, **750W ATX**, 12V V2.2 Power Supply
AIC:	PE0404 PCIe x4 to Mini SAS HD ADD-in Card
Adapter:	PU424F U.3/Gen-Z(SFF-8639) to M.2 NVMe SSD 2.5” Enclosure
Cable:	SFF-8643 to U.3(SFF-8639) Cable
OS :	Microsoft **Windows 10 64bit OS**

2.2 Test target: PU424F 2.5” Enclosure & Samsung SM961 **512GB** NVMe SSD



2.3 Install Hardware

Inserts M.2 NVMe SSD into PU424F adapter converter's M.2 M-key connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connects PU424F converter to PE0404 adapter(PCI-e 4-lane to Mini SAS HD SFF-8643) using SFF-8643 to U.3(SFF-8639) cable and Plugs PE0404 into GIGABYTE **X570 AORUS MASTER**

2.4 BIOS & Windows 10 OS environment setup

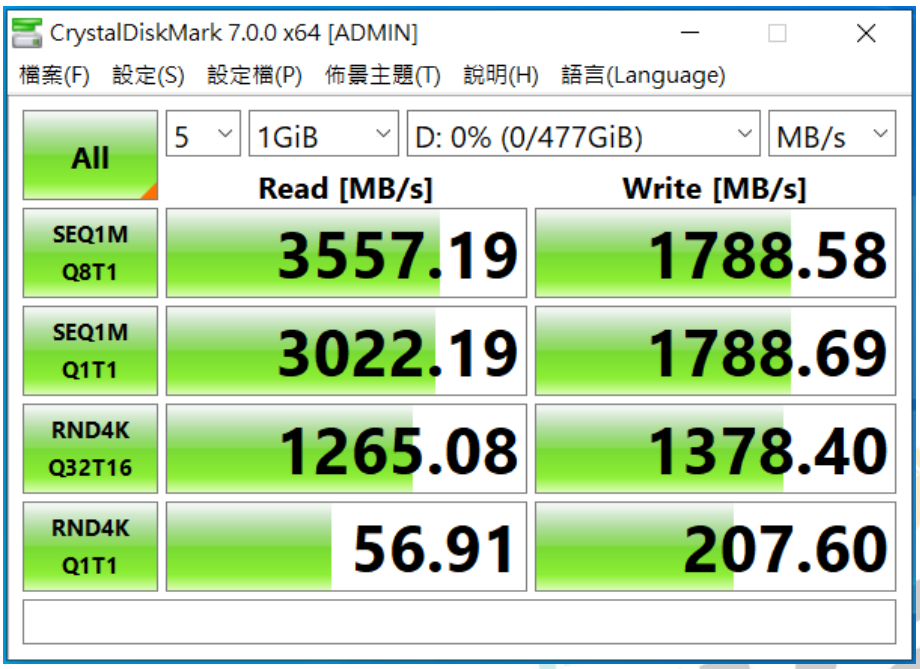
2.4.1 Primary SATA SSD installed Windows 10 OS.

2.4.2 M.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.

2.5 CrystalDiskMark 7.0 x64 performance test

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

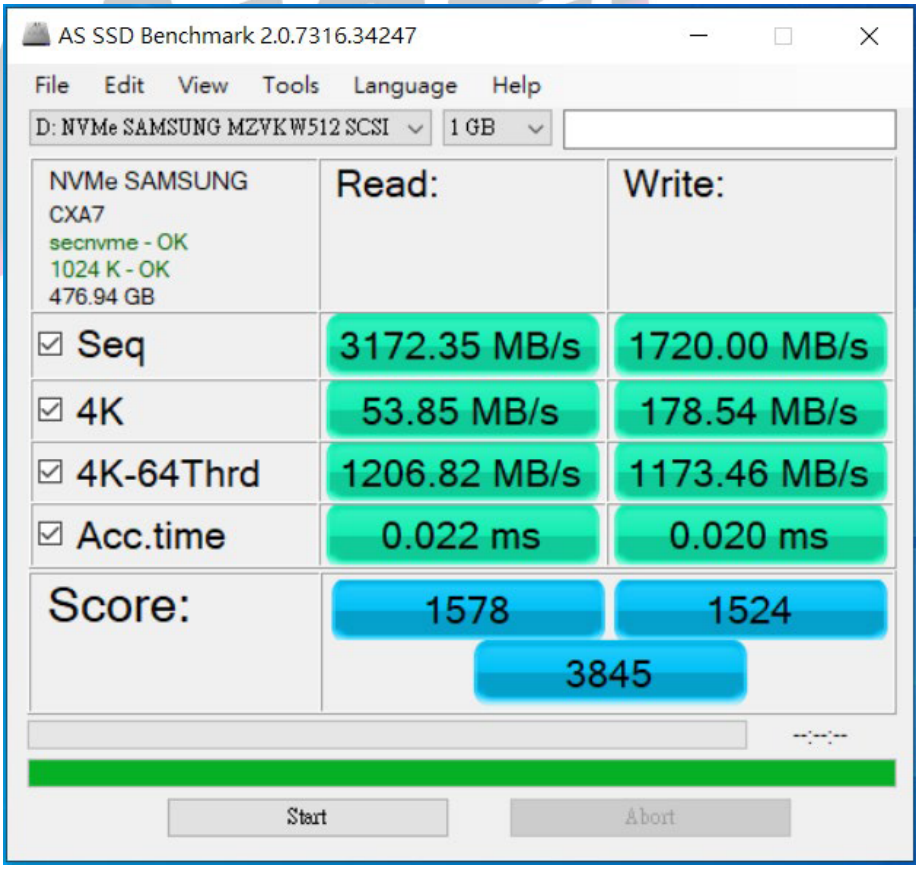
2.5.1 Samsung SM961 M.2/512GB performance as below:



2.6 AS SSD Benchmark 2.0.7 performance test

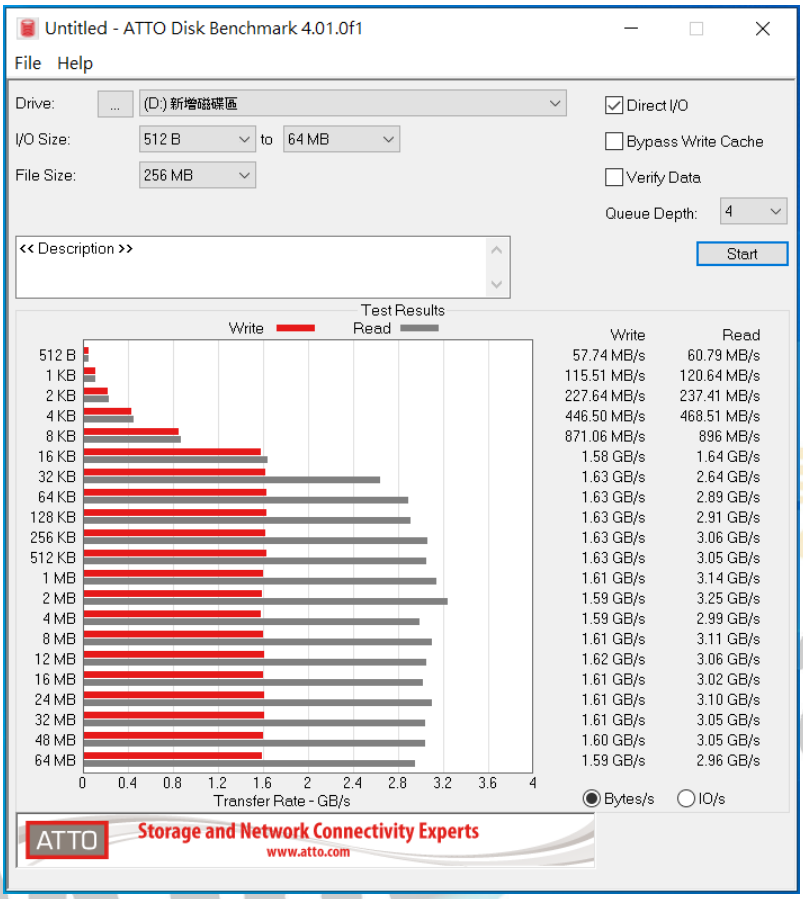
※Benchmark (Read & Write by MB/s, default block size = 16MB)

2.6.1 Samsung SM961 M.2/512GB performance as below:



2.7 ATTO Disk Benchamrk 4.01 performance test

2.7.1 Samsung SM961 M.2/512GB performance as below:



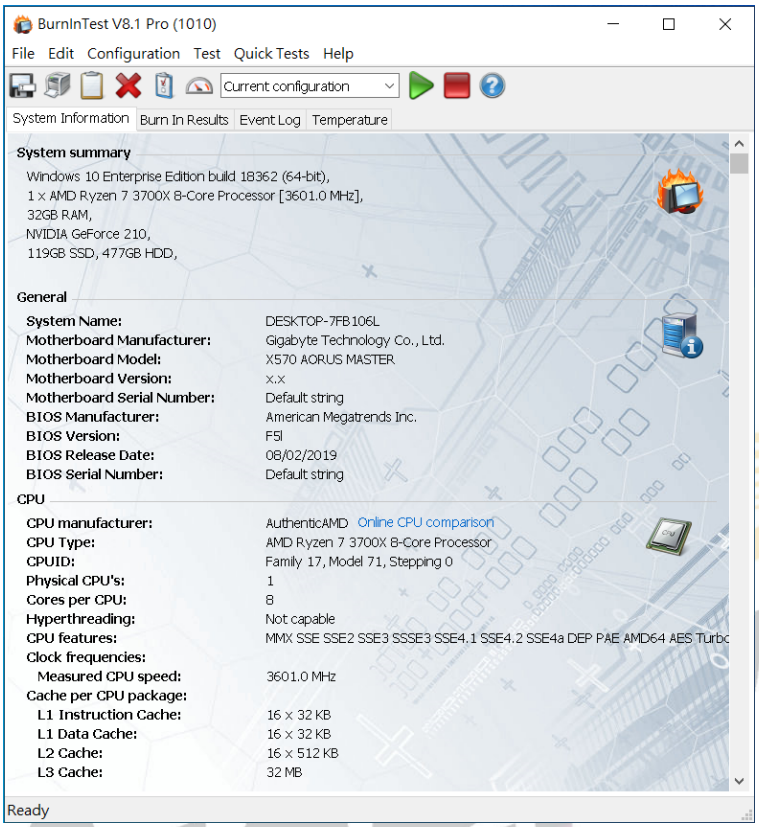
2.8 AnvilBenchmark_V110_B337

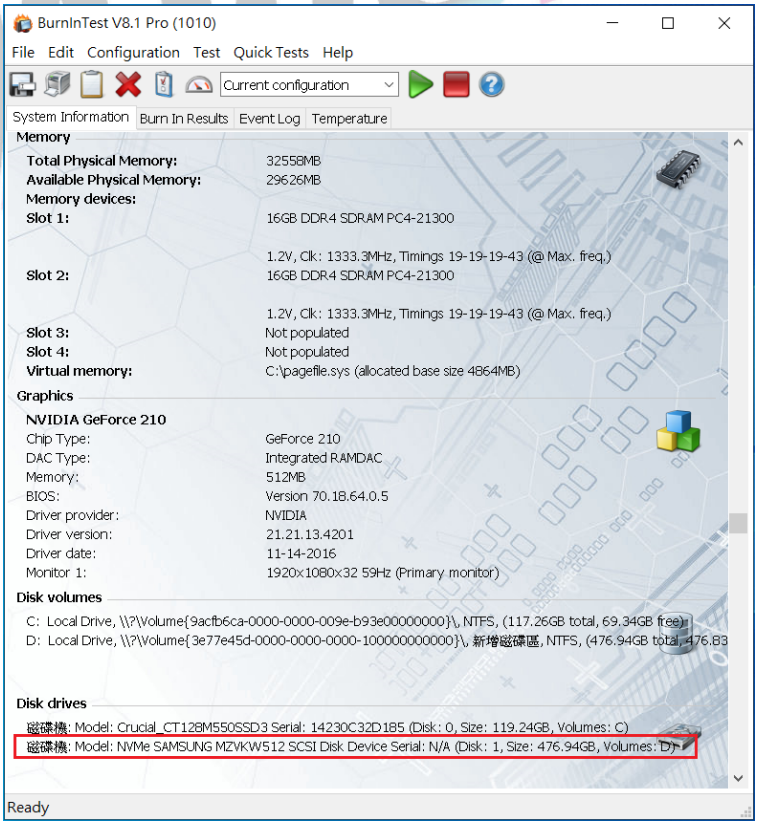
2.8.1 Samsung SM961 M.2/512GB performance as below:

3. Burn In Tests and Results

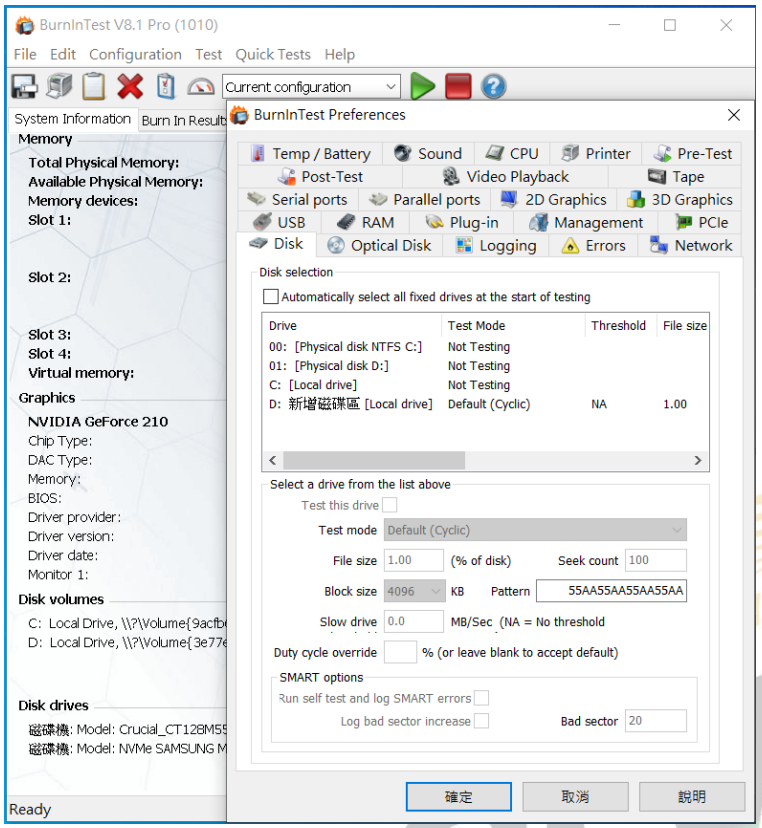
3.1 BurnInTest v8.1 Pro for Samsung SM961 M.2/512GB SSD

3.1.1 System Information as below:

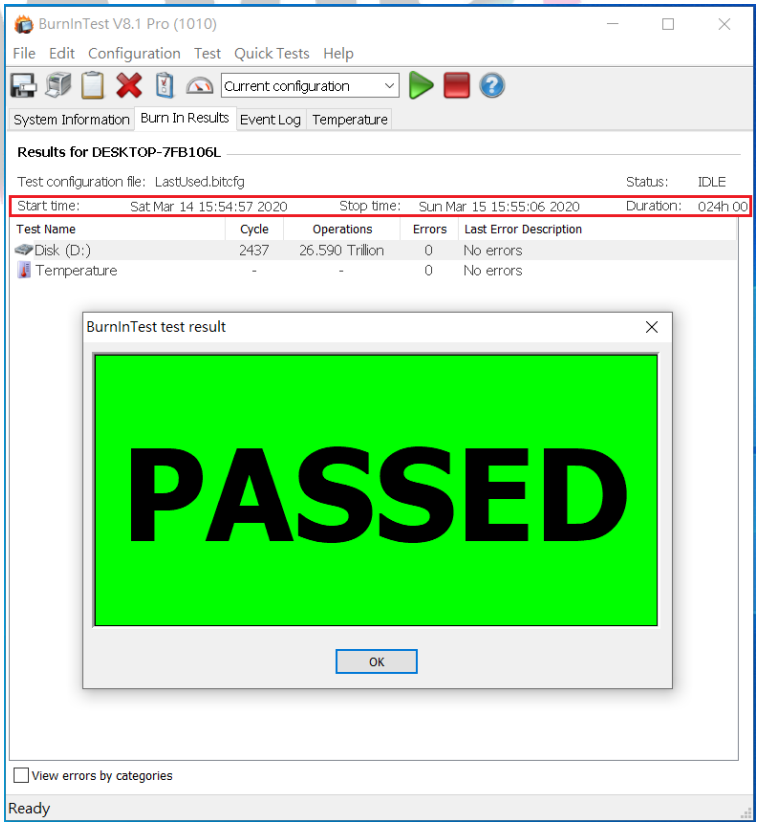




3.1.2 Disk test mode(10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



4. Summary

4.1 M.2 NVMe SSD is PCI-e Gen 3 / 4 Lanes Interface, I/O speed, max. to 32Gbps.

4.2 PU424F adapter I/O performance is based on M.2 NVMe PCI-e Gen 3 / 4 Lanes SSD.