MINERVA

PD803A OCulink(SFF-8612)8i to M.3 NF1 NVMe converter

Performance & Burn In Test Rev 1.0

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PD803A Rev1.0 Converter Card

1. Overview

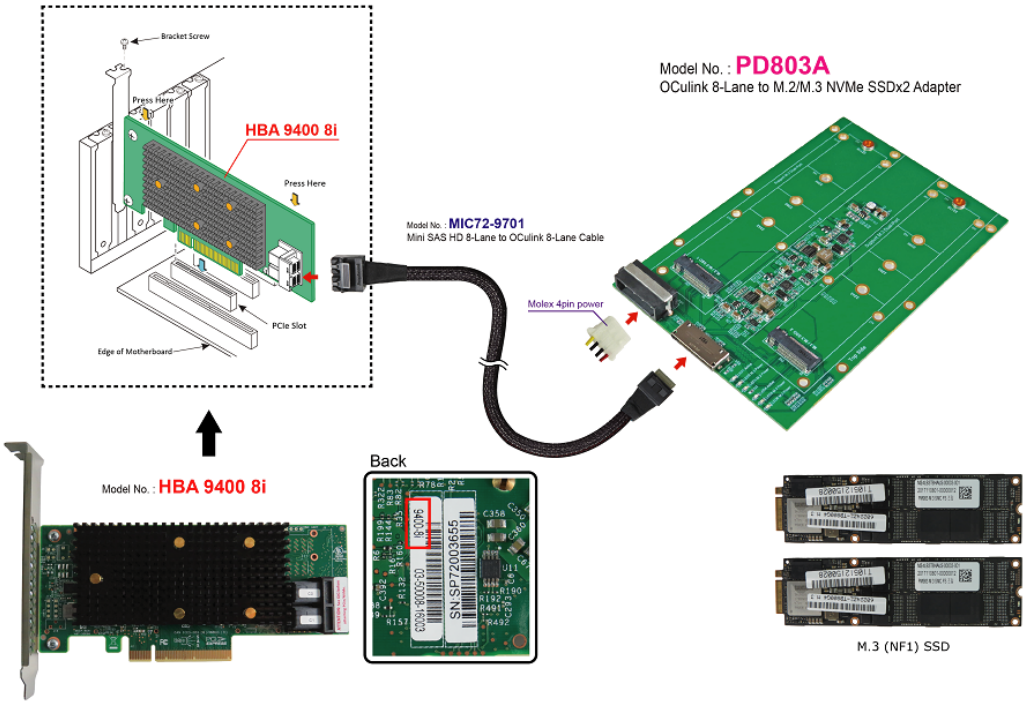
This riser card has built-in OCulink(SFF-8612) 8i connector and M.2 M-KEY connector, which can be inserted into M.2 or M.3 NVMe SSD. It is designed for use by Bradcom MegaRAID and HBA series, and can be set as needed for independent drive, or merge into RAID mode.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B :	GIGABYTE **Z270-Gaming 8**
CPU :	Intel **i7-7700,** 3.6GHz/ 8M Cache/ LGA1151
Memory :	Kingston **KVR21N15D8/8,** DDR4-2133MHz, **16GB**(8GB DIMM*2)
ATX Power :	COOLER MASTER G750M, **750W ATX**, 12V V2.2 Power Supply
Graphic :	Z270 Chipsets built-in **HD Graphics 630**
AIC:	Broadcom HBA-9400-8i Tri-mode Storage Adapter
Adapter:	PD803A SFF-8612(OCulink) 8-Lane to M.2/M.3 Adapter dual ports
Cable:	SFF-8643(MINI SAS HD) 8-Lane to SFF-8612(OCulink) 8-Lane Cable
OS :	Microsoft **Windows 10 64bit OS**

2.2 Test target: PD803A adapter and M.3 NF1 Samsung MZ4LB3T8HALS-000 4TB NVMe SSD



2.3 Install Hardware

First insert the M.3 NF1 SSD into the PD803A riser card M.2 connector, then with copper nuts, and screws to fix SSDs. (Please refer to the Installation Notes). To connect the PD803A adapter to the Broadcom HBA 9400-8i AIC card using the **MIC72-9701 Cable**, and Plugs HBA 9400-8i AIC card into GIGABYTE GIGABYTE **Z270-Gaming 8**.

2.4 BIOS & Windows 10 OS environment setup

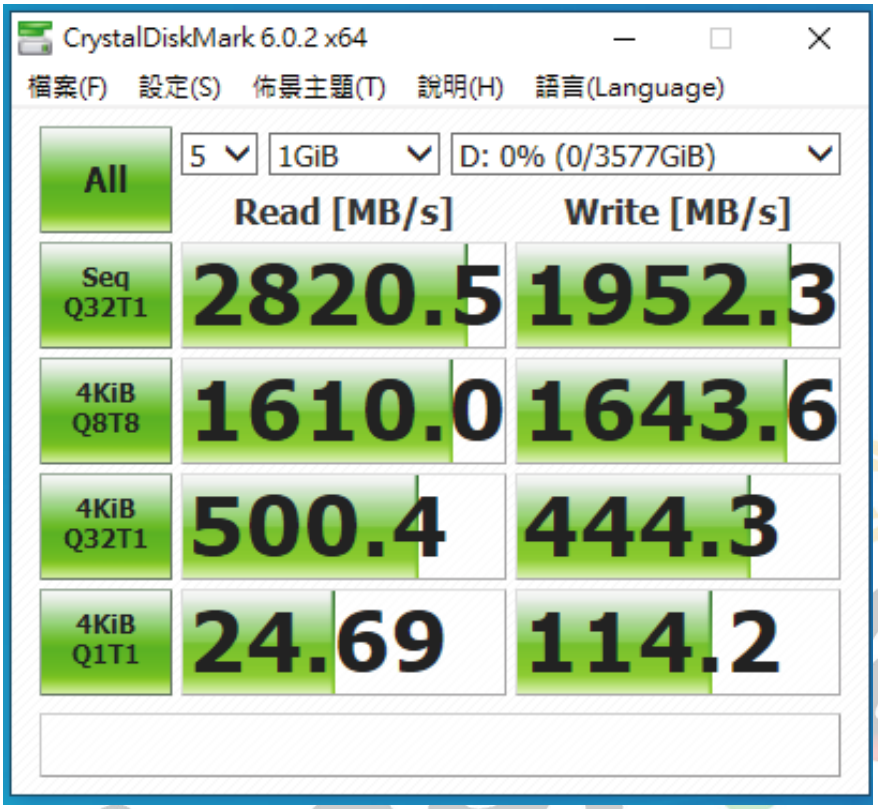
2.4.1 Primary NVMe SSD install Windows 10 OS.

2.4.2 Two M.3 NF1 NVMe SSD , formatted to NTFS Mode. Don't install any program.

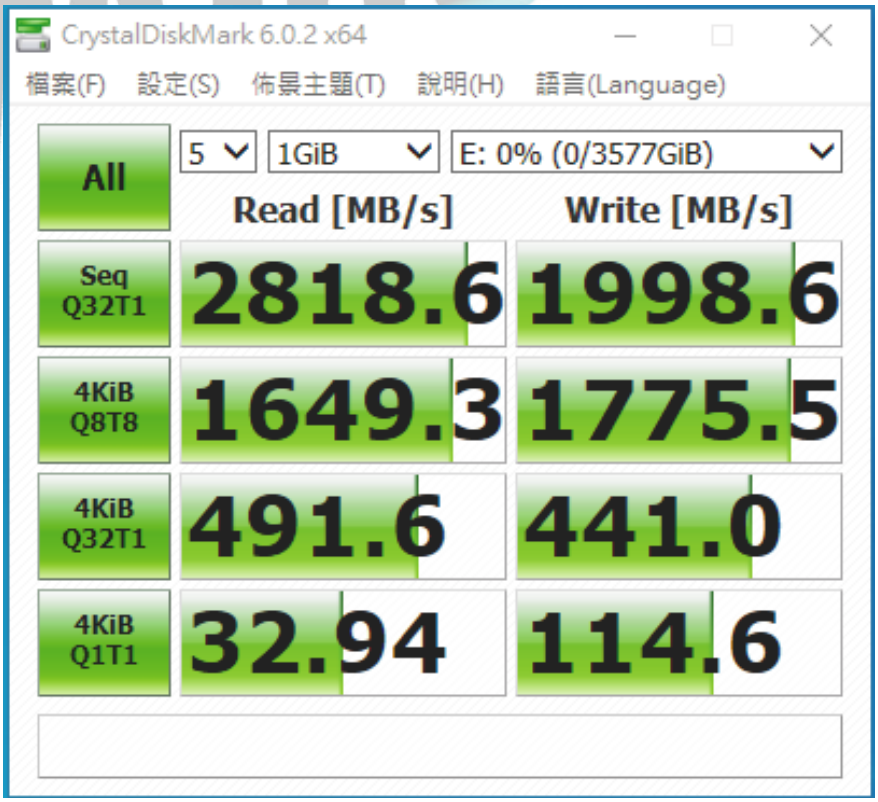
2.5 CrystalDiskMark 6.0.2 x64 performance test

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

2.5.1 **M.3 NF1 NVMe Samsung PM983/4TB in Drive D:** performance as below:



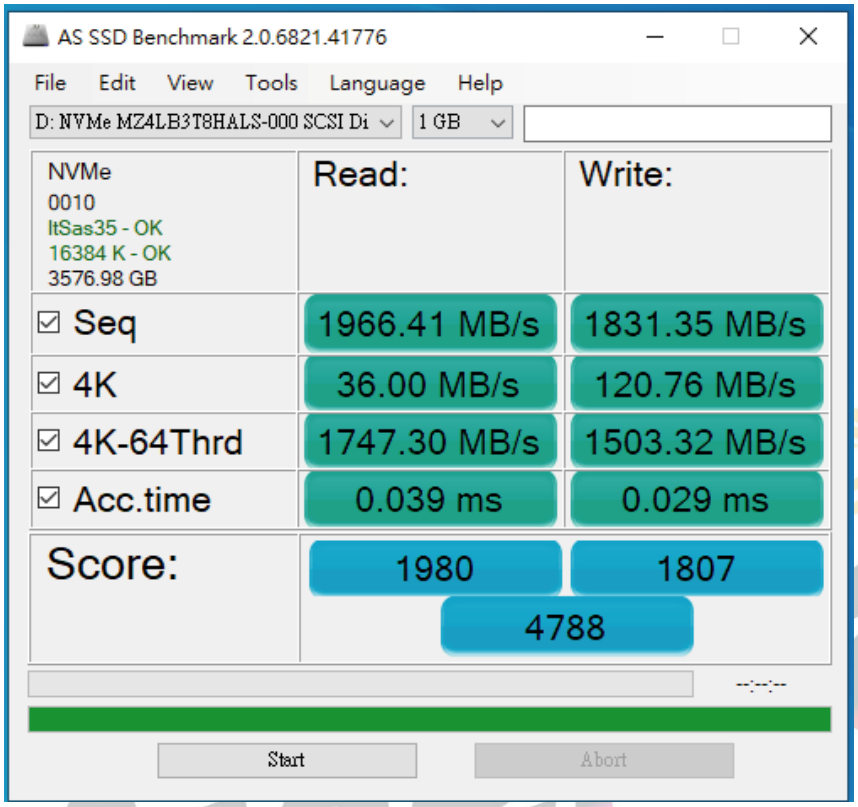
2.5.2 **M.3 NF1 NVMe Samsung PM983/4TB in Drive E:** performance as below:



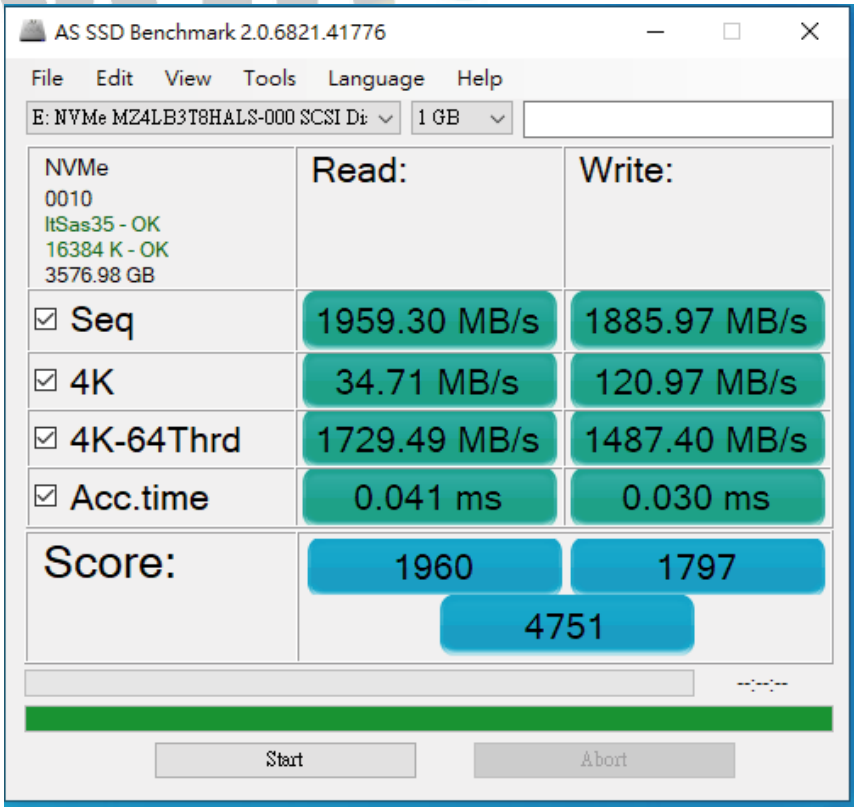
2.6 AS SSD Benchmark 2.06 performance test

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

2.6.1 M.3 NF1 NVMe Samsung PM983/4TB in Drive D: performance as below:

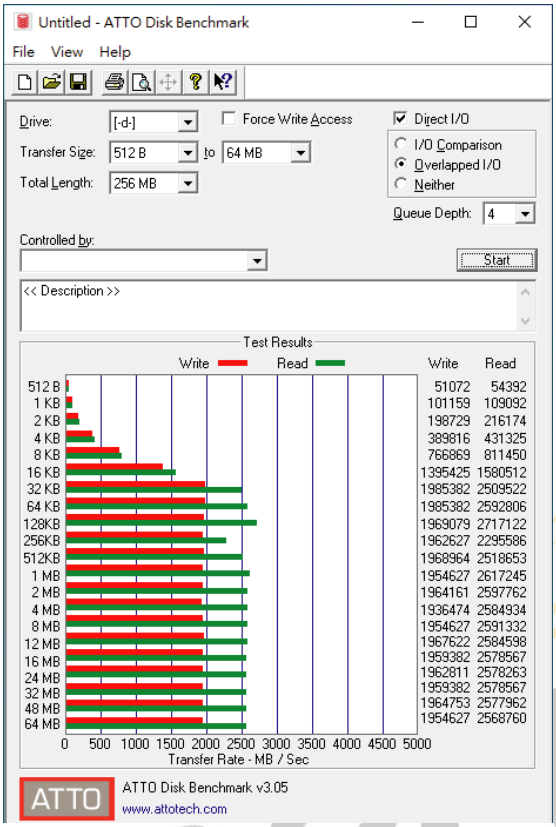


2.6.2 M.3 NF1 NVMe Samsung PM983/4TB in Drive E: performance as below:

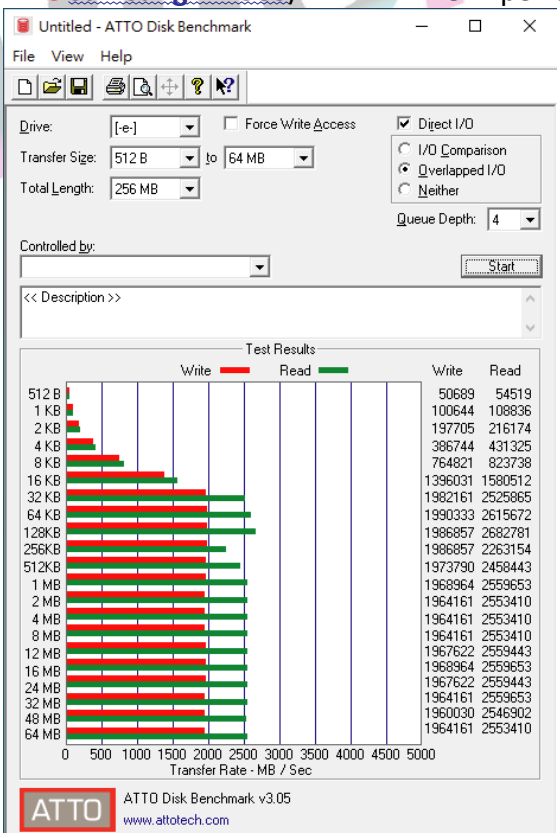


2.7 ATTO Disk Benchamrk 3.05 performance test

2.7.1 **M.3 NF1 NVMe Samsung PM983/4TB in Drive D:** performance as below:



2.7.2 **M.3 NF1 NVMe Samsung PM983/4TB in Drive E:** performance as below:



2.8 AnvilBenchmark_V110_B337

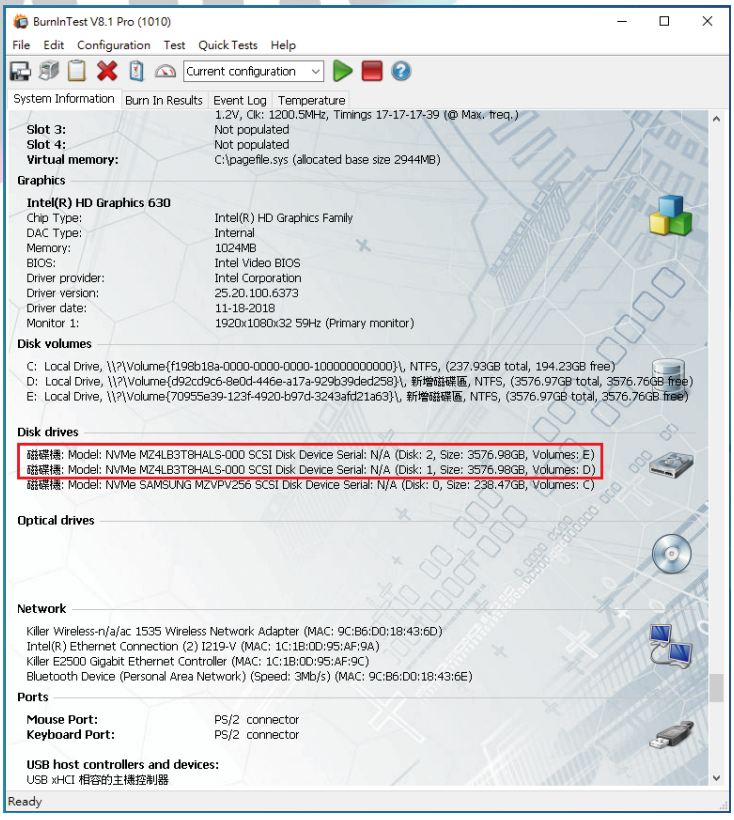
2.8.1 **M.3 NF1 NVMe Samsung PM983/4TB in Drive D:** performance as below:

2.8.2 **M.3 NF1 NVMe Samsung PM983/4TB in Drive E:** performance as below:

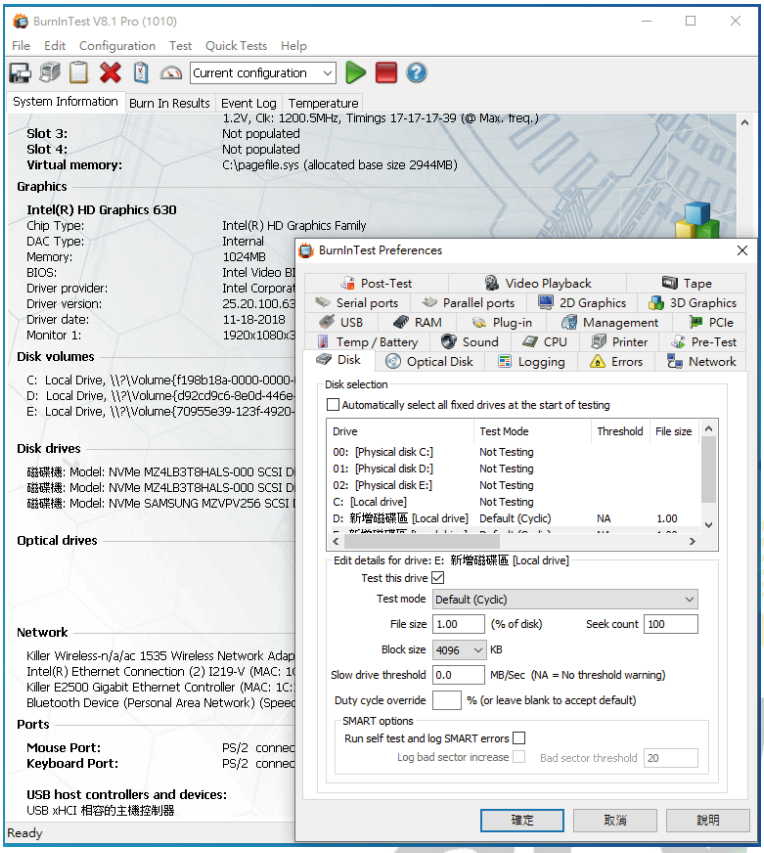
3. Burn In Tests and Results

3.1 BurnInTest v8.1 Pro

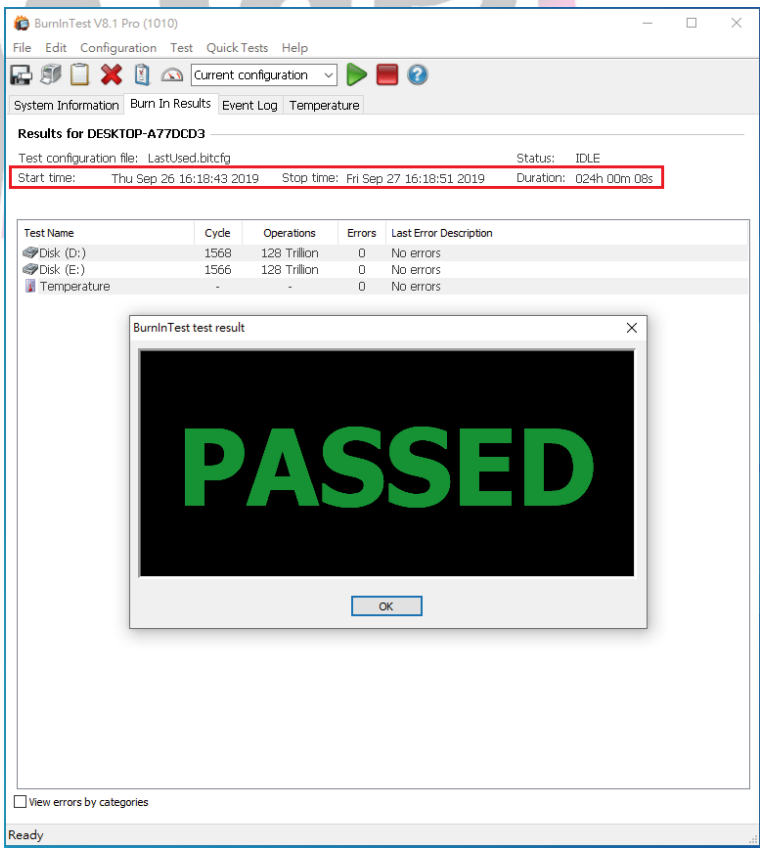
3.1.1 system information as below:



3.1.2 Disk test mode(10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



4. Summary

4.1 M.3 NF1 NVMe SSD is PCI-e Gen 3 / 4 Lane Interface, I/O speed, max. to 32Gbps.

4.2 PD803A adapter I/O performance is based on M.3 NF1NVMe SSD.