



MINERVA

DP6502 M.2 PCIe 4.0 with ReDriver for Gen-Z 1C(EDSFF) Adapter

Performance & Burn In Test Rev. 1. 0

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DP6502 Adapter

1. Overview

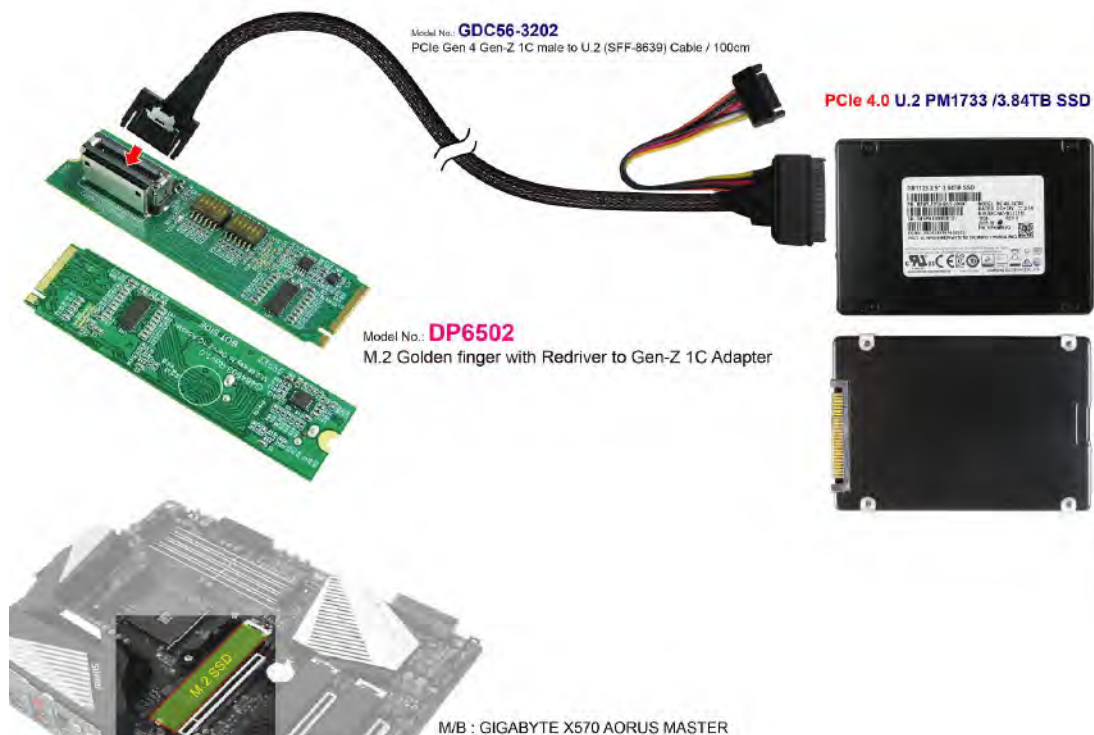
This adapter may provide PCIe Gen4, 16GT/s 4-Lane data link high-speed signals with ReDriver extension to GEN-Z 1C(EDSFF).

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: DP6502 M.2 PCIe Gen 4 with Redriver to Gen-Z 1C
Cable: Gen-Z 1C PCIe Gen4 to U.2(SFF-8639) Cable, 100cm
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: DP6502 Adapter and **Samsung PM1733 U.2 3.84TB NVMe SSD**



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2.3 Install Hardware

Plugs U.2 SSD into one side of Gen-Z 1C to U.2(SFF-8639) cable and cable another side connects to DP6502 adapter's Gen-Z 1C with latch connector. And then plugs DP6502 Adapter into M.2 M-key connector of 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 U.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.



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2.5 CrystalDiskMark 8.0.x64 performance test

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

2.5.1 Samsung PM1733 U.2 / 3.84TB performance as below:

	Read (MB/s)	Write (MB/s)	Mix (MB/s)
SEQ1M Q8T1	7419.97	3910.99	5328.21
SEQ1M Q1T1	1861.03	4000.75	1967.17
RND4K Q32T1	532.30	514.21	518.16
RND4K Q1T1	53.04	185.88	67.17

2.6 AS SSD Benchmark 2.0.7 performance test

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

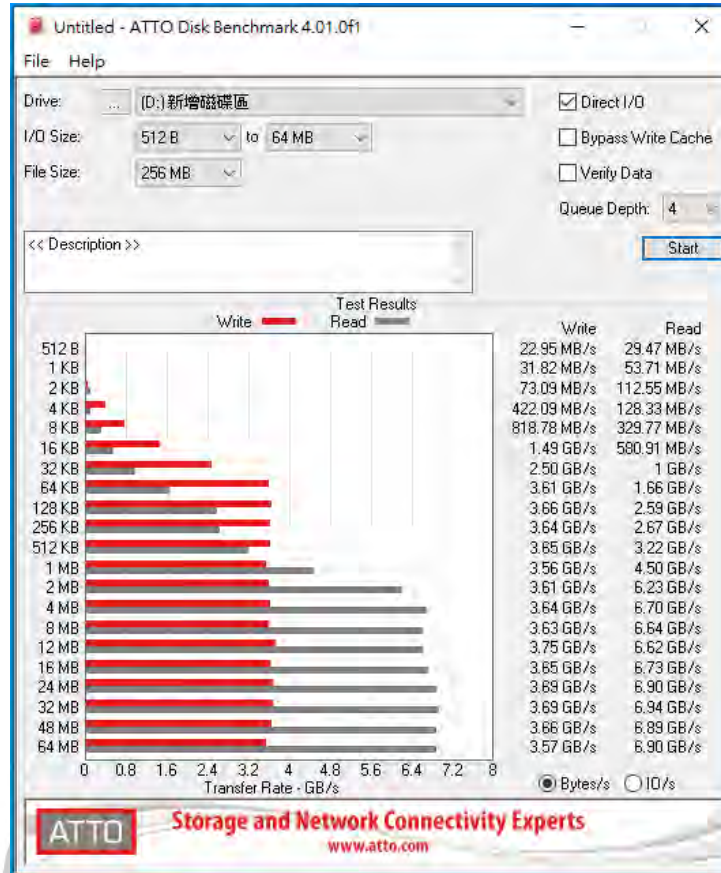
2.6.1 Samsung PM1733 U.2 / 3.84TB performance as below:

	Read:	Write:
SAMSUNG EPK98B5Q stornvme - OK 16384 K - OK 3576.98 GB		
<input checked="" type="checkbox"/> Seq	5423.84 MB/s	3955.16 MB/s
<input checked="" type="checkbox"/> 4K	51.18 MB/s	189.13 MB/s
<input checked="" type="checkbox"/> 4K-64Thrd	2237.76 MB/s	2209.51 MB/s
<input checked="" type="checkbox"/> Acc.time	0.024 ms	0.091 ms
Score:	2831	2794
	6993	

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2.7 ATTO Disk Benchmark 4.01 performance test

2.7.1 Samsung PM1733 U.2 / 3.84TB performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 Samsung PM1733 U.2 / 3.84TB performance as below:

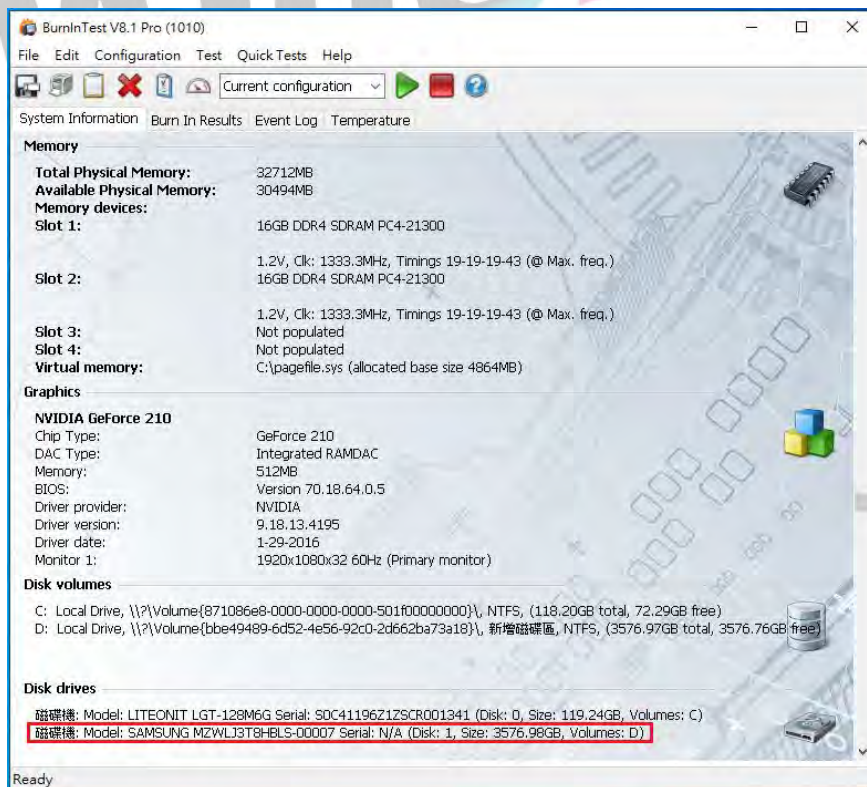
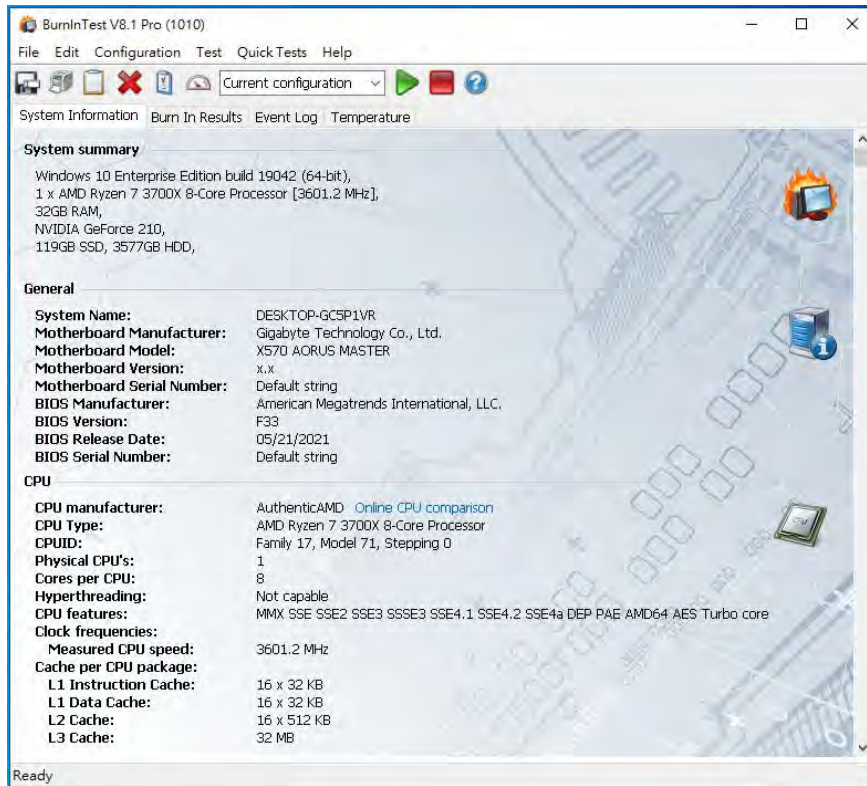


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3. Burn In Tests and Results

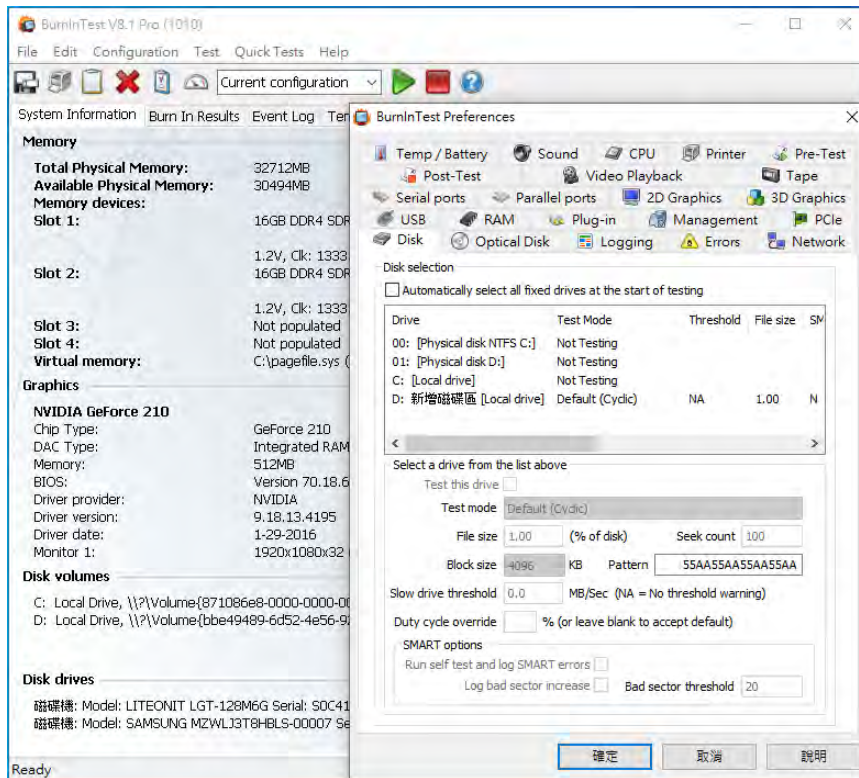
3.1 BurnInTest v8.1 Pro for Samsung PM1733 U.2 / 3.84TB

3.1.1 System Information as below:

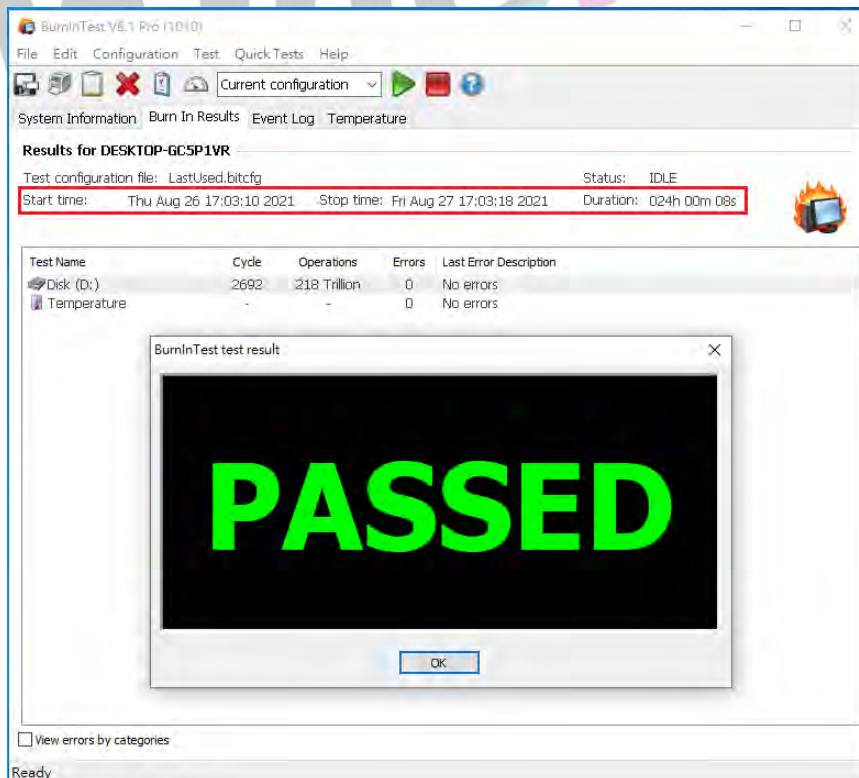


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3.1.2 Disk test mode(10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



4. Summary

- 4.1 U.2 NVMe SSD is PCIe Gen4 16GT/s, 4 Lanes Interface, I/O speed, max. to 64Gbps.
- 4.2 DP6502 adapter I/O performance is based on U.2 NVMe SSD.

