



MINERVA

GD1407A U.3 PCIe Gen 4,16GT/s to EDSFF(Gen-Z) 1C Adapter

Performance & Burn In Test Rev. 1. 0

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4. Summary

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1. Overview

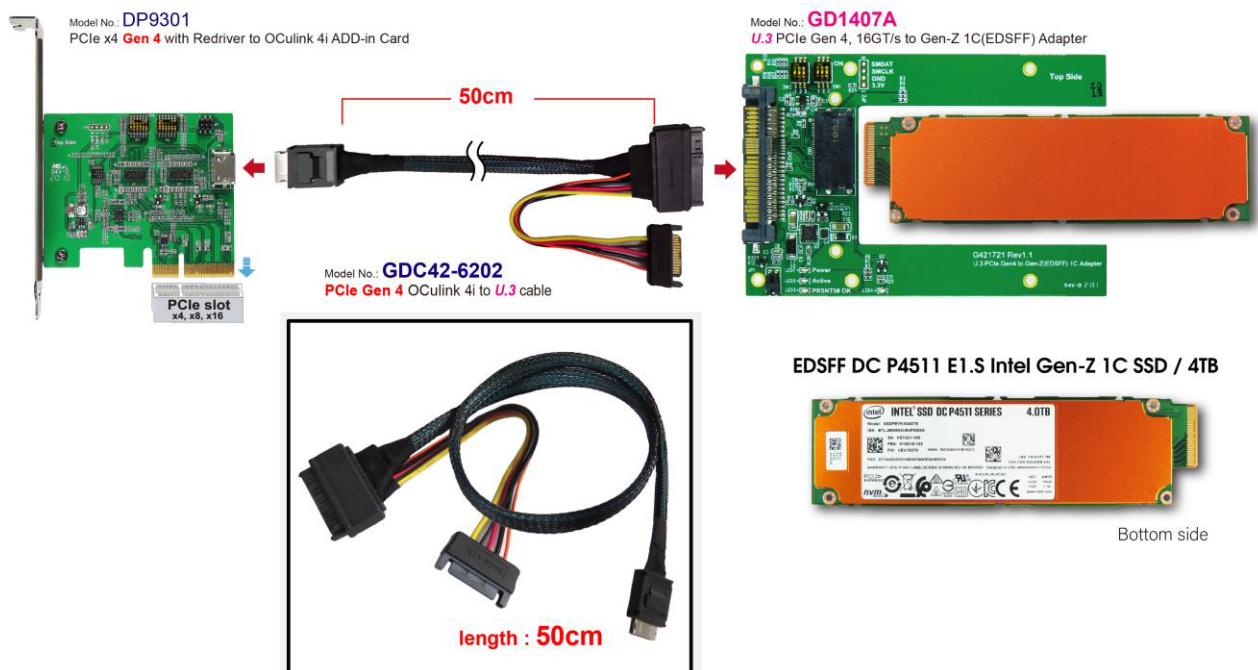
This adapter supports PCIe Gen 4, 16GT/s high-speed transmission, and provides EDSFF 1C NVMe SSD to U.3 conversion.

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: DP9301 PCIe x4 to OCulink 4i Add-In Card
Adapter: GD1407A U.3 to Gen-Z 1C Storage Adapter
Cable: SFF-8611 4i to U.3 Cable, 50cm
OS : Microsoft **Windows 10 64bit OS**

2.2 Test target: GD1407A adapter and Intel EDSFF 1C 4TB SSD



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2.3 Install Hardware

Inserts Intel EDSFF E1.S 1C 4TB NVMe SSD into GD1407A converter's Gen-Z 1C female connector. Connect GD1407A to DP9301 AIC(PCIe x4 Gen 4 to Oculink 4i) using SFF-8611 to U.3 cable, plugs DP9301 adapter into **PCIe slot 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 EDSFF E1.S 1C 4TB SSD, formatted to NTFS Mode. Don't install any program.

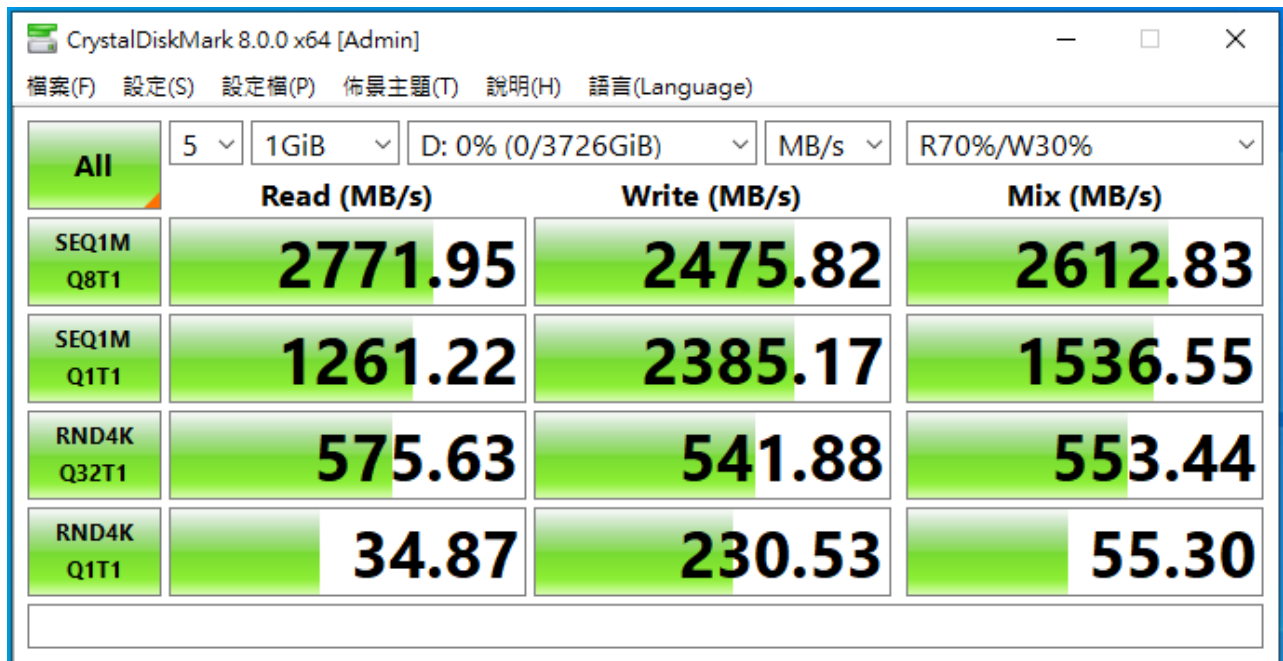


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2.5 CrystalDiskMark 8.0.0 x64 performance test

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

2.5.1 Intel DC P4511 EDSFF E.1S / 4TB performance as below:



CrystalDiskMark 8.0.0 x64 [Admin]

檔案(F) 設定(S) 設定檔(P) 佈景主題(T) 說明(H) 語言(Language)

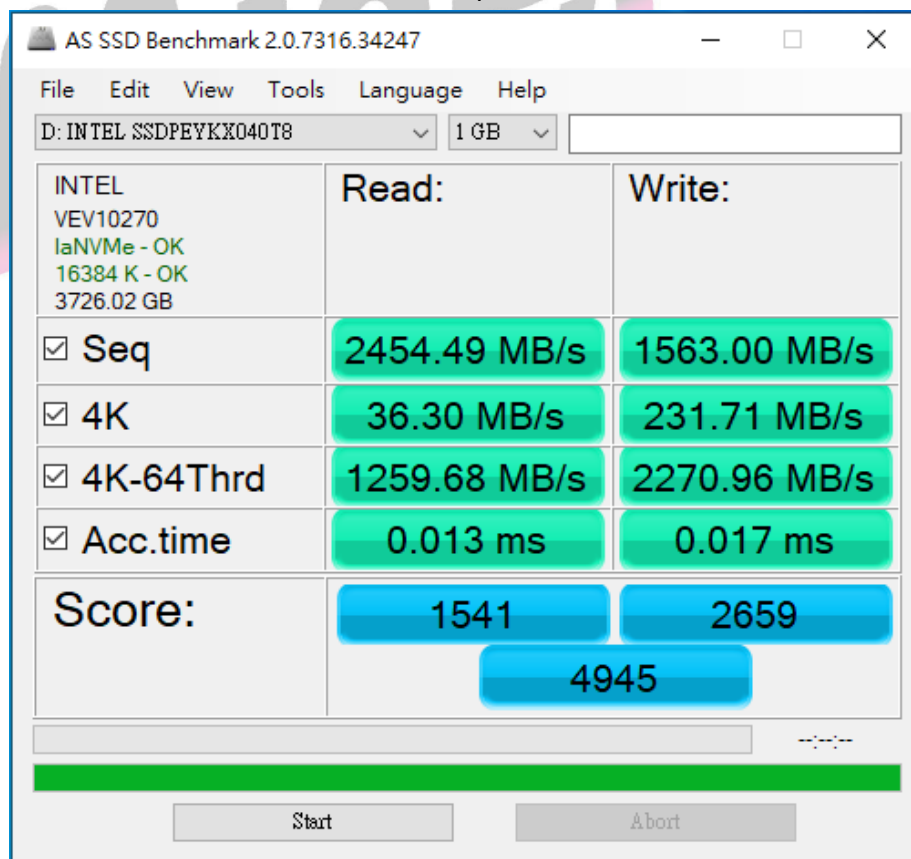
All 5 1GiB D: 0% (0/3726GiB) MB/s R70%/W30%

	Read (MB/s)	Write (MB/s)	Mix (MB/s)
SEQ1M Q8T1	2771.95	2475.82	2612.83
SEQ1M Q1T1	1261.22	2385.17	1536.55
RND4K Q32T1	575.63	541.88	553.44
RND4K Q1T1	34.87	230.53	55.30

2.6 AS SSD Benchmark 2.0.7 performance test

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

2.6.1 Intel DC P4511 EDSFF E.1S / 4TB performance as below:



AS SSD Benchmark 2.0.7316.34247

File Edit View Tools Language Help

D: INTEL SSDPEYKX040T8 1 GB

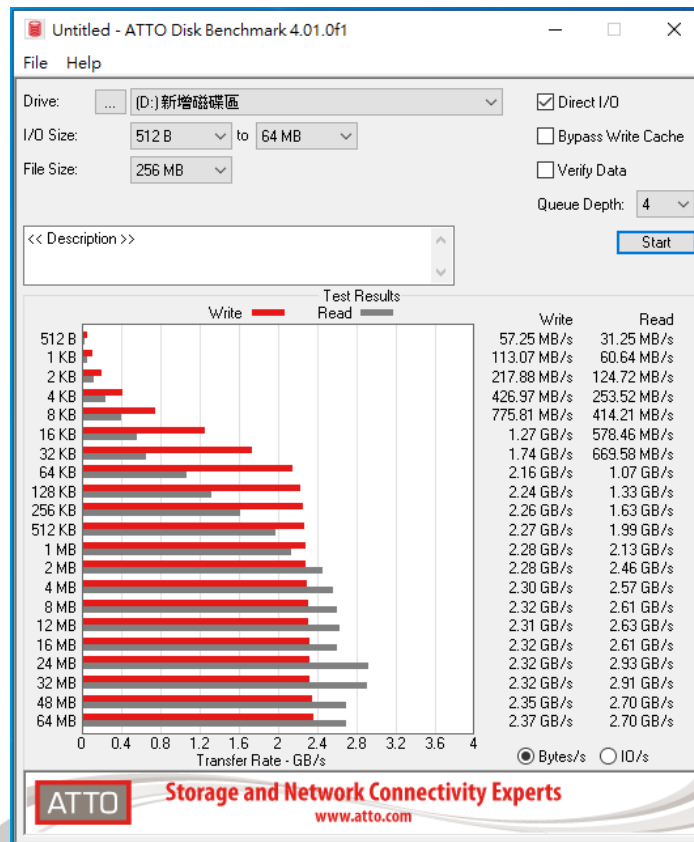
	Read:	Write:
INTEL VEV10270 laNVMe - OK 16384 K - OK 3726.02 GB		
☒ Seq	2454.49 MB/s	1563.00 MB/s
☒ 4K	36.30 MB/s	231.71 MB/s
☒ 4K-64Thrd	1259.68 MB/s	2270.96 MB/s
☒ Acc.time	0.013 ms	0.017 ms
Score:	1541	2659
	4945	

Start Abort

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2.7 ATTO Disk Benchmark 4.0.1 performance test

2.7.1 Intel **DC P4511 EDSFF E.1S** / **4TB** performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 Intel **DC P4511 EDSFF E.1S** / **4TB** performance as below:

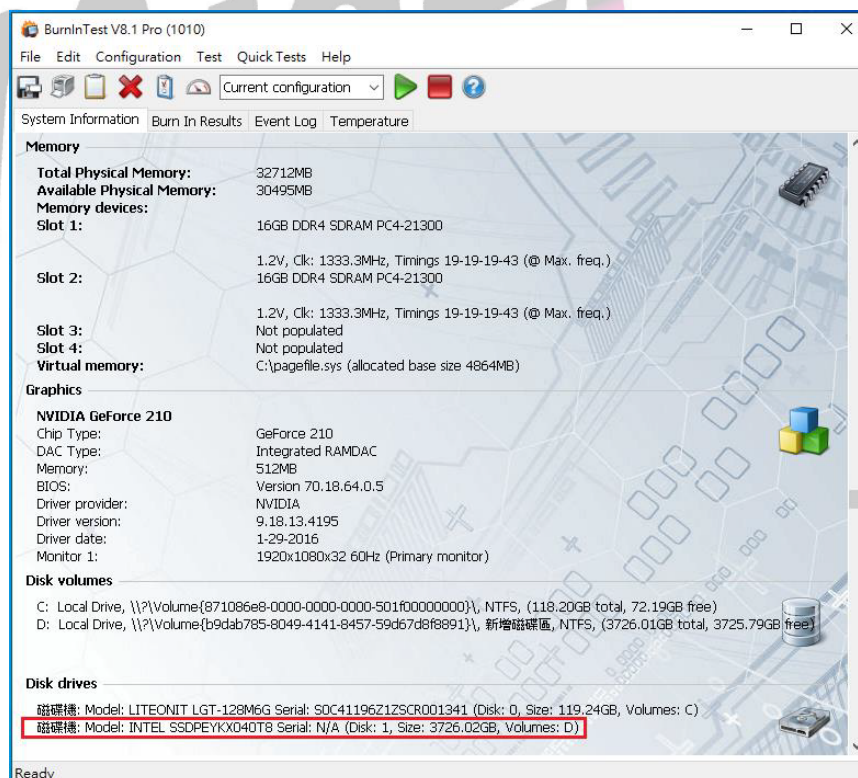
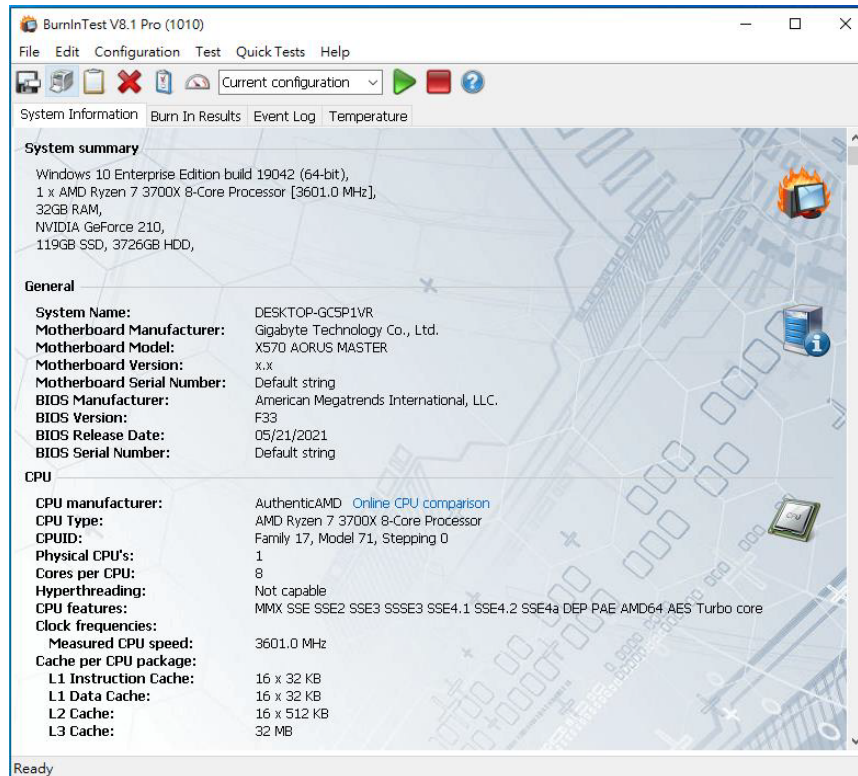


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3. Burn In Tests and Results

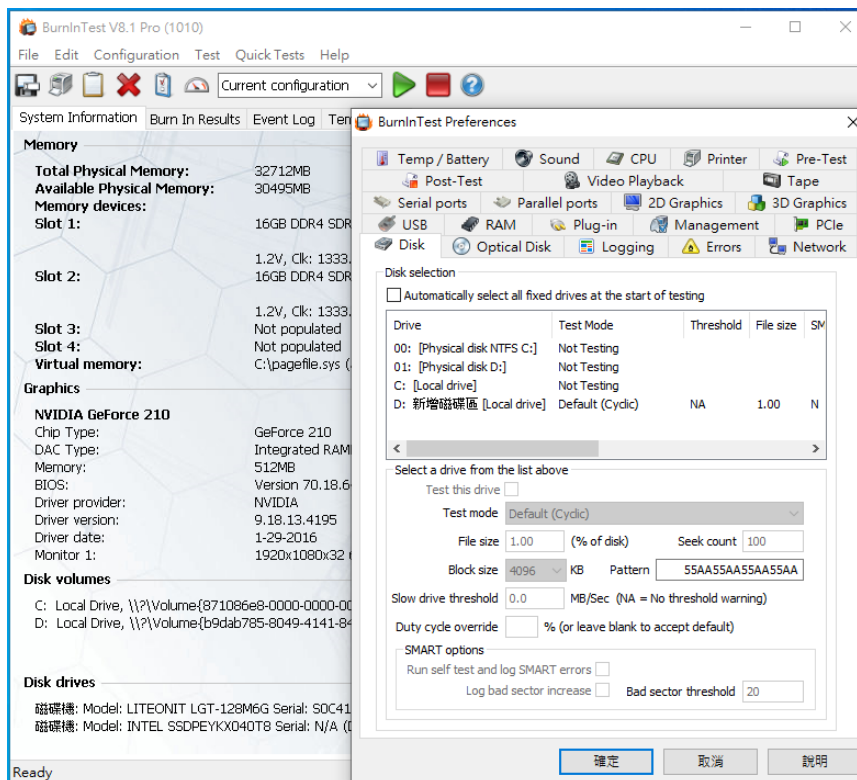
3.1 BurnInTest v8.1 Pro for Intel DC P4511 EDSFF E.1S / 4TB SSD

3.1.1 system information as below:

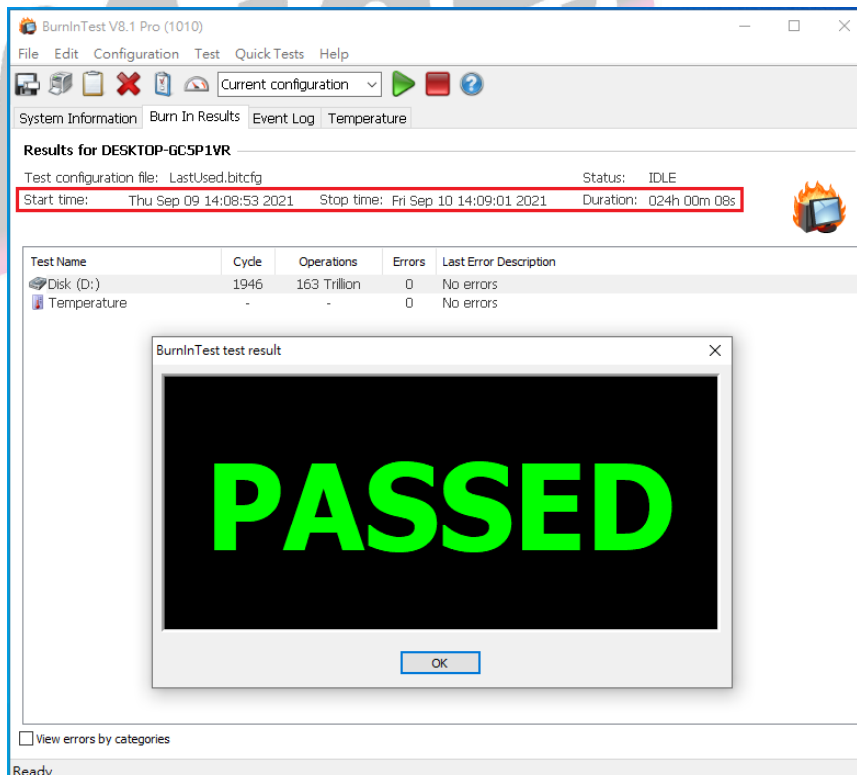


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3.1.2 Disk test mode(10 ways cycle test)



3.1.3 24-hour Burn-in test PASSED



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4. Summary

- 4.1 Intel DC P4511 E1.S SSD is PCIe Gen 3 / 4 Lanes Interface, I/O speed, max. to 32Gbps.
- 4.2 GD1407A adapter I/O performance is based on Intel DC P4511 E1.S SSD .

