

GDC47-7401 PCIe 4.0 MCIO 74P to 4ix2,50cm Y-Cable

Performance & Burn In Test Rev 1.0

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1. Overview

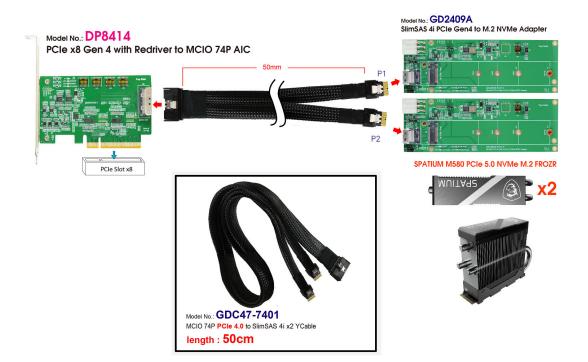
The cable can provide PCIe 4.0 performance. It connects to Host AIC and device. The AIC is built-in PCIe x8 Gen4 ReDriver, may support CTLE boosts up to 13 dB at 8 GHz. And it extends PCIe signals to Device adapter.

2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B :	ASUS PRIME X570-PRO
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
Add in Card:	DP8414 PCIe x8 Gen 4 to MCIO 74P AIC
Cable:	PCIe 4.0 MCIO 74P to SlimSAS(SFF-8654) 4ix2, 50cm Y-Cable
Adapter:	GD2409A SlimSAS(SFF-8654) 4i PCle 4.0 to M.2 adapter x2
OS :	Microsoft Windows 10 64bit OS

2.2 Test target: DP8414, GD2409A adapter x2 with GIGABYTE M.2 1TB SSD X2



2.3 Install Hardware

First inserts the M.2 SSD into the GD2409A M.2 connector, then with copper nuts, and screws to fix SSDs. (Please refer to the Installation Notes). Using the GDC47-7401 Cable to connect the GD2409A adapter to the DP8414 AIC card (PCIe x8 Gen 4 to MCIO 74P) and Plugs DP8414 AIC into ASUS PRIME X570-PRO.

2.4 BIOS & Windows 10 OS environment setup

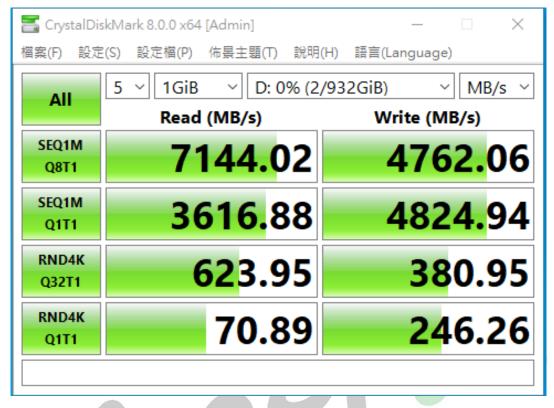
- 2.4.1 Primary SATA NVMe SSD install Windows 10 OS.
- 2.4.2 Two M.2 NVMe SSDs, formatted to NTFS Mode. Don't install any program.



2.5 CrystalDiskMark 8.0.0 x64 performance test

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

2.5.1 M.2 NVMe Gigabyte / 1TB in Drive D: performance as below:



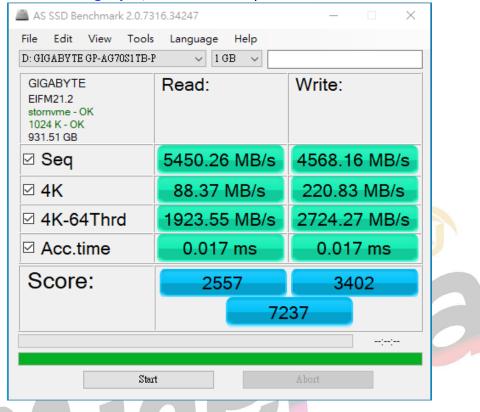
M.2 NVMe Gigabyte / 1TB in Drive E: performance as below: 2.5.2 \overline CrystalDiskMark 8.0.0 x64 [Admin] × 設定(S) 設定檔(P) 佈景主題(T) 說明(H) 語言(Language) 檔案(F) 1GiB E: 0% (0/932GiB) MB/s 5 All Read (MB/s) Write (MB/s) SEQ1M 4854.22 7143.65 Q8T1 SEQ1M 3615.68 4860.92 Q1T1 RND4K 381.22 622.97 Q32T1 RND4K 70.85 247.16 01T1

PCIe x8 Gen 4 with ReDriver to SFF-TA-1016 74P

2.6 AS SSD Benchmark 2.0 performance test

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

2.6.1 M.2 NVMe Gigabyte / 1TB in Drive D: performance as below:

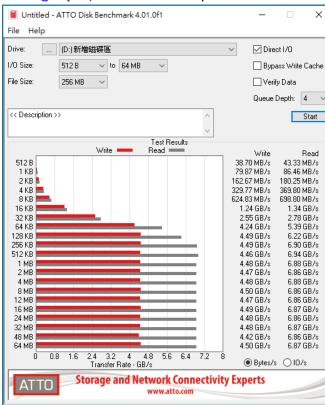


2.6.2 M.2 NVMe Gigabyte / 1TB in Drive E: performance as below:

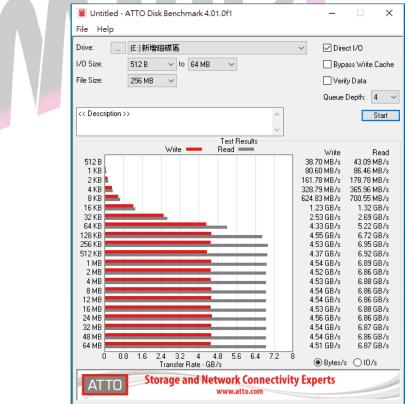
AS SSD Benchmark 2.0.73	16.34247	– 🗆 X					
File Edit View Tools	Language Help						
E: GIGABYTE GP-AG70S1TB-P	E: GIGABYTE GP-AG70S1TB-P V 1 GB V						
GIGABYTE EIFM21.2 stornyme - OK 1024 K - OK 931.51 GB	Read:	Write:					
⊠ Seq	5406.51 MB/s	4824.90 MB/s					
⊠ 4 K	87.92 MB/s	219.00 MB/s					
☑ 4K-64Thrd	1937.82 MB/s	2823.91 MB/s					
☑ Acc.time	0.017 ms	0.017 ms					
Score:	2566	3525					
	7390						
Star	t	Abort					

2.7 ATTO Disk Benchamrk 4.01 performance test

2.7.1 M.2 NVMe Gigabyte / 1TB in Drive D: performance as below:



2.7.2 M.2 NVMe Gigabyte / 1TB in Drive E: performance as below:



2.8 AnvilBenchmark_V110_B337

2.8.1 M.2 NVMe Gigabyte / 1TB in Drive D: performance as below:

ile Benchmarks	IOmeter 9	vstem Info	Settings	Test size 1GB	Drive	同止節	増磁碟區」	✓ Screenshot He	ln
1	1 1	Jorennine	oottiingo			G: [49]			-AG70S1T
SD Benchn	nark								GB/EIFM
Read	Resp. tir		B read [IOPS	_	MB/s			
					5.0				
Seq 4MB	0.7637n		,048.0	1,309.46	·	37.85			
4K	0.0582n		839.0	17,182.15		67.12			
4K QD4	0.0635n	ns 3	077.0	63,017.61	2	46.16		8,883.33	
4K QD16	0.0850n	ns 9	191.3	188,237.77	7	35.30	Run read	8,883.33	
32K	0.1227n	ns 3	823.9	8,148.91	2	54.65			
128K	0.1667n	ns 11,	262.6	6,000.33	7	50.04		21,696.09	
Write	Resp. tiı	nel MR	written	IOPS		MB/s	Run	21,6	96.09
Seq 4MB	0.8555n		024.0	1,168.95	4.6	75.80			
					·			12,812.76	
4K	0.0168n		640.0	59,604.66		32.83	Run write	12,812.76	
4K QD4	0.0237n		640.0	169,128.72		60.66			
4K QD16	0.0359n	าร	640.0	445,752.32	1,7	41.22			
Microsoft Windows 1		Build (19045)		Deinen				GIGABYTE GP-AG7051	
PRIME X570-PRO/360 AMD Ryzen 7 3700X				Drives : Notes :				Drive D: 931.5/929.4GB f NTFS - Cluster size 4096B	
Memory: 32,672 MB				notes.				Storage driver stornvm	e
Professional Ed	ition							Alignment 1024KB OK	npressible)

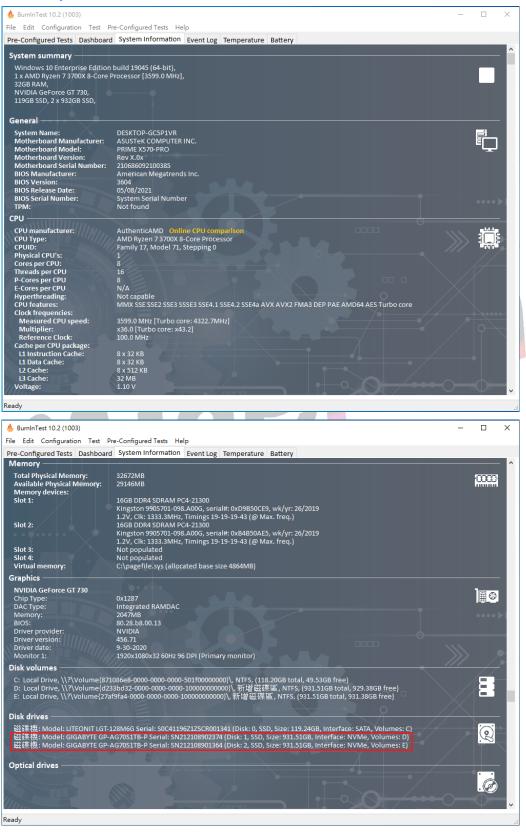
2.8.2 M.2 NVMe Gigabyte / 1TB in Drive E: performance as below:

le Benchmarks	IOmeter Syst	em Info Settings	Test size 1GB	🔽 Drive 🔳 e: 僚	「増磁碟區」	✓ Screenshot Help	
SD Benchr	mark					GIGABYTE GP-AG70S ⁴ 1000GB/EIF	
						1000GB/EIF	IVI
Read	Resp. time	MB read	IOPS	MB/s			
Seq 4MB	0.8223ms	2,048.0	1,216.15	4,864.61			
4K	0.0581ms	841.1	17,225.94	67.29			
4K QD4	0.0632ms	3,091.0	63,303.26	247.28		8,538.63	
4K QD16	0.0845ms	9,250.9	189,456.67	740.07	Run read	8,538.63	
32K	0.1218ms	3,851.4	8,208.13	256.50			
128K	0.1645ms	11,408.0	6,077.78	759.72		21,369.31	Ĺ
Write	Resp. time	MB written	IOPS	MB/s	Run	21,369.31	
Seq 4MB	0.8555ms	1,024.0	1,168.95	4,675.80			
4K	0.0170ms	640.0	58,926.21	230.18		12,830.69	
4K QD4	0.0237ms	640.0	168,909.67	659.80	Run write	12,830.69	
4K QD16	0.0357ms	640.0	448,405.96	1,751.59			
	l0 企業版 64 位元 Bu	ild (19045)	Drives :			GIGABYTE GP-AG7051TB-P 1000 Drive E: 931.5/931.4GB free (100.09	
PRIME X570-PRO/3604, AM4 AMD Ryzen 7 3700X 8-Core Processor			Notes :			NTFS - Cluster size 4096B	-) -
Memory : 32,672 MB						Storage driver stornvme	
Professional Ed	lition					Alignment 1024KB OK Compression 100% (Incompressible)	

3. Burn In Tests and Results

3.1 BurnInTest v10.2 Pro

3.1.1 System information as below:



3.1.2 24-hour Burn-in test PASSED

🎄 BurnInTest 10.2 (1003)		– 🗆 X					
File Edit Configuration Test Pre-Configured Tests Help							
Pre-Configured Tests Dashboard System Information Even Start time: Mon Mar 3 17:05:54 2025 Stop time: Tue Mar 4 17:06:04 2025 Duration: 024h 00m 10s Test config file: Last Used	nt Log Temperature Battery	?Î≞R⊂\$ ≣⊡					
💽 Disk (D:) Test: Results (1 of 2)	Disk (E:) Test: Results (2 of 2)	j.					
Cycle 4998 Operations 105 Trillion Errors 0 Last Error Description No errors	Cycle 5061 Operations 107 Trillion Errors 0 Last Error Description No errors						
PASSED	PASSED						
		8					
TESTS PASSED							
Ready							

4. Summary

- 4.1 M.2 NVMe SSD is PCIe Gen4 / 4 Lane Interface, I/O speed, max. to 64Gbps.
- 4.2 GDC74-5401 cable, I/O performance is based on NVMe SSD.