

Performance & Burn In Test Rev. 1.0

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1. Overview

PC408A adapter, providing PCIe Gen 3 4-Lnae slot can be PCIe SSD converted into SFF-8654 Slimline SAS.

2. Tools and Results of Performance Measurement

2.1 Test Platform:

M/B :	GIGABYTE Z170X UD5 TH
CPU :	Intel i5-6500, 3.2GHz/ 6M Cache/ LGA1150
Memory :	Kingston KVR21N15D8/8, DDR4-2133MHz, 16G (8GB DIMM*2)
ATX Power :	COOLER MASTER G750M, 750W ATX , 12V V2.2 Power Supply
Graphic :	Z170 Chipsets built-in HD Graphics 530
Adapter:	PE0404 PCIe to SFF-8643 Mini SAS HD Cable
Cable:	Amphenol SFF-8654 to SFF-8654 Slimline SAS Cable
OS :	Microsoft Windows 8.1 64bit OS

2.2 Test target: PC408A adapter & Intel 750 Series PCIe 400GB



2.3 Install Hardware

Inserts Intel PCIe SSD into PC408A converter's PCIe Gen 3 x4 slot, and then using SFF-8654 to SFF-8654 cable to connect PC408A converter to PE0405 adapter of GIGABYTE Z170X UD5 TH.

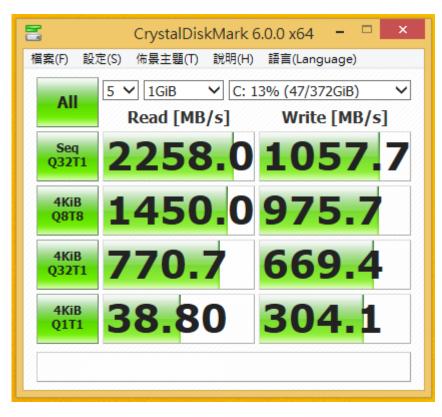
2.4 BIOS & Windows 8.1 OS environment setup

Install Windows 8.1 64bit OS into Intel 750 U.2 400GB SSD

2.5 CrystalDiskMark 6.0 x64 performance test
※Benchmark (Sequential Read & Write / default = 1MB)

PC408A Converter Card

2.5.1 Shows INTEL 750 SSDPEDMW400G4R5 Add-in Card performance as below:



2.6 AS SSD Benchmark 1.9 performance test

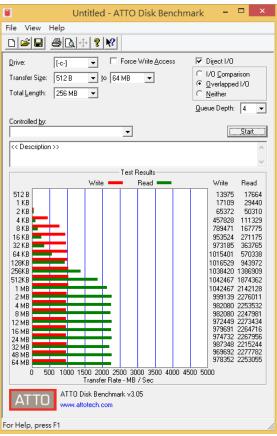
※Benchmark (Read & Write by MB/s, default block size = 16MB)

2.6.1 Shows INTEL 750 SSDPEDMW400G4R5 Add-in Card performance as below:

AS SSD Benchmark 1.9.5986.35387								
File Edit View Tools Language Help C: NVMe INTEL SSDPEDMW40 V 1 GB V								
NVMe INTEL 0135 IaNVMe - OK 359424 K - OK 372.61 GB	Read:	Write:						
⊡ Seq	1955.74 MB/s	984.15 MB/s						
☑ 4K	26.05 MB/s	200.86 MB/s						
☑ 4K-64Thrd	1296.81 MB/s	789.88 MB/s						
☑ Acc.time	0.025 ms	0.020 ms						
Score:	1518	1089						
	3331							
Start Abort								

2.7 ATTO Disk Benchamrk 3.05 performance test

2.7.1 Shows INTEL 750 SSDPEDMW400G4R5 Add-in Card performance as below:



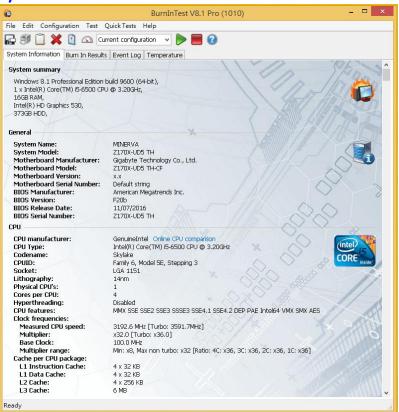
2.8 AnvilBenchmark_V110_B337

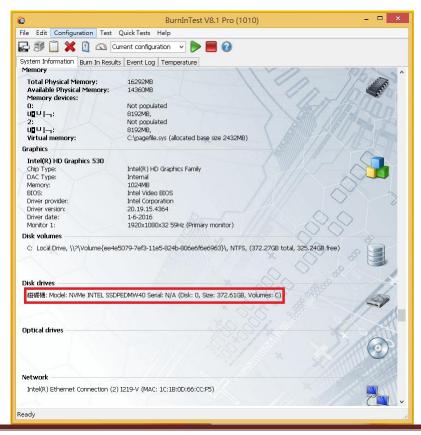
2.8.1 Shows INTEL 750 SSDPEDMW400G4R5 Add-in Card performance as below:

•	Anvil's Storage Utilities 1.1.0 (2014-January-1) – 🗖 🗙									
File Benchmarks	IOmeter System	m Info Settings	Test size 1GB	▼ Drive 🖃 c: []		✓ Screenshot Help				
SSD Benchmark NVMe INTEL SSDPEDMW44 400GB/013										
Read	Resp. time	MB read	IOPS							
Seq 4MB	2.2578ms	2,048.0	442.91	1,771.63						
<u>4K</u>	0.1483ms	329.4	6,745.25	26.35						
4K QD4	0.1103ms	1,771.3	36,276.95	141.71		^{3,825.15} 3,825.15				
4K QD16	0.1080ms	7,234.7	148,165.20	578.77	Run read	3,825.15				
32K	0.3061ms	1,533.1	3,267.05	102.10						
128K	0.4357ms	4,307.5	2,295.04	286.88	_	10,432.28				
Write	Resp. time	MB written	IOPS	MB/s	Run	10,432.28				
Seq 4MB	4.0273ms	1,024.0	248.30	993.21						
4K	0.0186ms	640.0	53,827.14	210.26		6,607.13 6,607.13				
4K QD4	0.0223ms	640.0	179,042.32	699.38	Run write	0,007.13				
4K QD16	0.0701ms	640.0	228,242.42	891.57						
Microsoft Windows 8.1 專業版 64 位元 Build (9600) NVMe INTEL SSDPEDHW40 400										
Z170X-UD5 TH-CF/F20b, U3E1 Intel(R) Core(TM) i5-6500 CPU @ 3.20GHz			Drives : Notes :			Drive C: 372.3/325.2GB free (87.4%) NTFS - Cluster size 4096B				
Memory : 16,292 MB			NULES.			Storage driver IaNVMe				
Professional Ed						Alignment 359424KB OK Compression 100% (Incompressible)				

3. Burn In Tests and Results

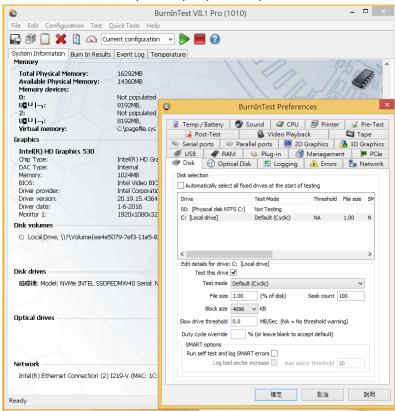
- 3.1 BurnInTest v8.1 Pro for INTEL 750 SSDPEDMW400G4R5 Add-in Card
 - 3.1.1 **system information** as below:



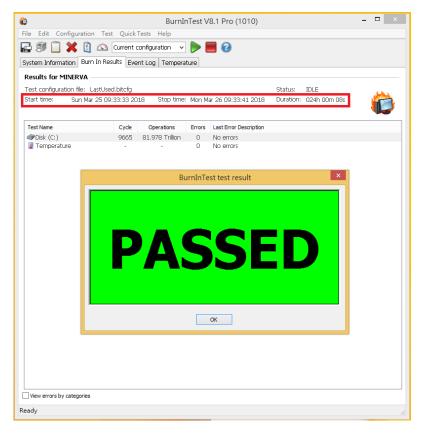


PC408A Converter Card

3.1.2 show Disk test mode(10 ways cycle test)



3.1.3 show 24-hour Burn-in test PASSED



4. Summary

- 4.1 Intel PCI-e SSD is PCI-e Gen 3 / 4 Lanes Interface, I/O speed, max. to 32Gbps.
- 4.2 PC408A adapter I/O performance is based on Intel PCI-e NVMe 400GB SSD.