



# MINERVA

RHS36 -0594 mini SAS HD 4x(SFF-8643),100cm cable

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## Performance & Burn In Test Rev. 1. 0

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# SFF-8643 4x Internal cable

## 1. Overview

This cable may provide PCIe Gen 3, 8Gbps high-speed transmission, and with SFF-9401Rev1.0 sideband connection.

## 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: PE0404 PCIe x4 Gen3 to SFF-8643(MINI SAS HD) ADD-in Card  
Adapter: SFF-8643(MINI SAS HD 4x) PCIe 3.0 to PCIe x4 Gen3 Adapter  
Cable: SFF-8643 male to male cable, 100cm  
OS : Microsoft **Windows 10 64bit OS**

### 2.2 Test target: PA405A adapter & Intel 750 PCIe x4 400GB SSD



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### 2.3 Install Hardware

Inserts PCIe SSD into PA405A converter's PCIe Slot and connects PA405A converter to PE0404 AIC(PCIe x4 to Mini SAS HD/SFF-8643), using SFF-8643 to SFF-8643 cable, plugs PE0404 adapter into **PCIe x16 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 PCIe NVMe 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 750 PCIe 400GB SSD performance as below:

The screenshot shows the CrystalDiskMark 8.0.0 x64 [Admin] interface. The test is configured for 5 passes, 1GiB block size, and D: 0% (0/373GiB). The results are as follows:

|             | Read (MB/s) | Write (MB/s) |
|-------------|-------------|--------------|
| SEQ1M Q8T1  | 2326.67     | 1068.94      |
| SEQ1M Q1T1  | 1429.56     | 1047.92      |
| RND4K Q32T1 | 568.51      | 523.80       |
| RND4K Q1T1  | 45.84       | 239.82       |

### 2.6 AS SSD Benchmark 2.0.73 performance test

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

2.6.1 Intel 750 PCIe 400GB SSD performance as below:

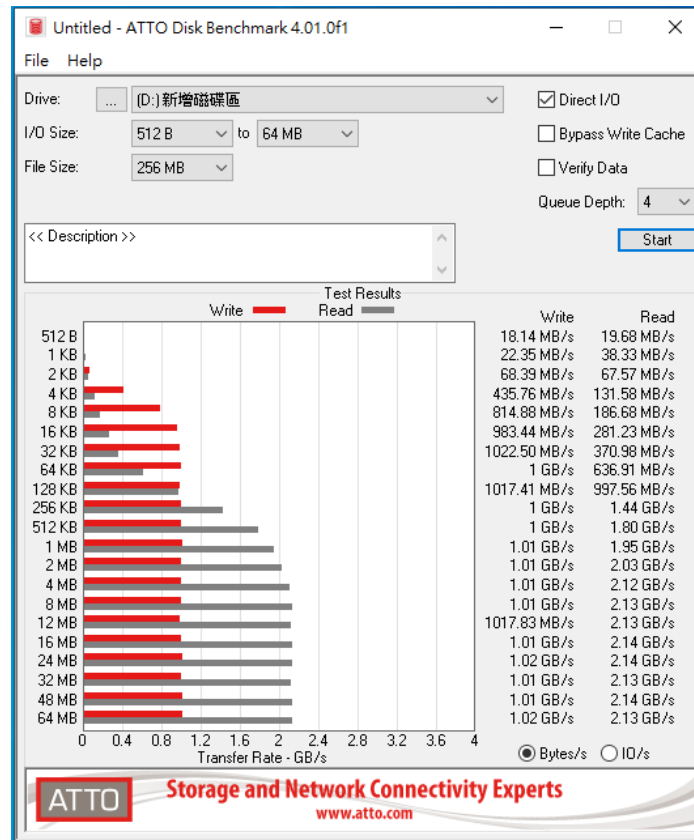
The screenshot shows the AS SSD Benchmark 2.0.7316.34247 interface. The test is configured for D: INTEL SSDPEDMW400G4 and 1 GB block size. The results are as follows:

|   | Read:        | Write:       |
|---|--------------|--------------|
| INTEL 8EV10135<br>laNVMe - OK<br>1024 K - OK<br>372.61 GB |              |              |
| <input checked="" type="checkbox"/> Seq                   | 2016.91 MB/s | 1024.57 MB/s |
| <input checked="" type="checkbox"/> 4K                    | 43.75 MB/s   | 223.39 MB/s  |
| <input checked="" type="checkbox"/> 4K-64Thrd             | 1348.98 MB/s | 970.74 MB/s  |
| <input checked="" type="checkbox"/> Acc.time              | 0.014 ms     | 0.018 ms     |
| Score:  | 1594         | 1297         |
|   | 3660         |              |

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## 2.7 ATTO Disk Benchmark 4.01 performance test

### 2.7.1 Intel 750 PCIe 400GB SSD performance as below:



## 2.8 AnvilBenchmark V110\_B337

### 2.8.1 Intel 750 PCIe 400GB SSD performance as below:

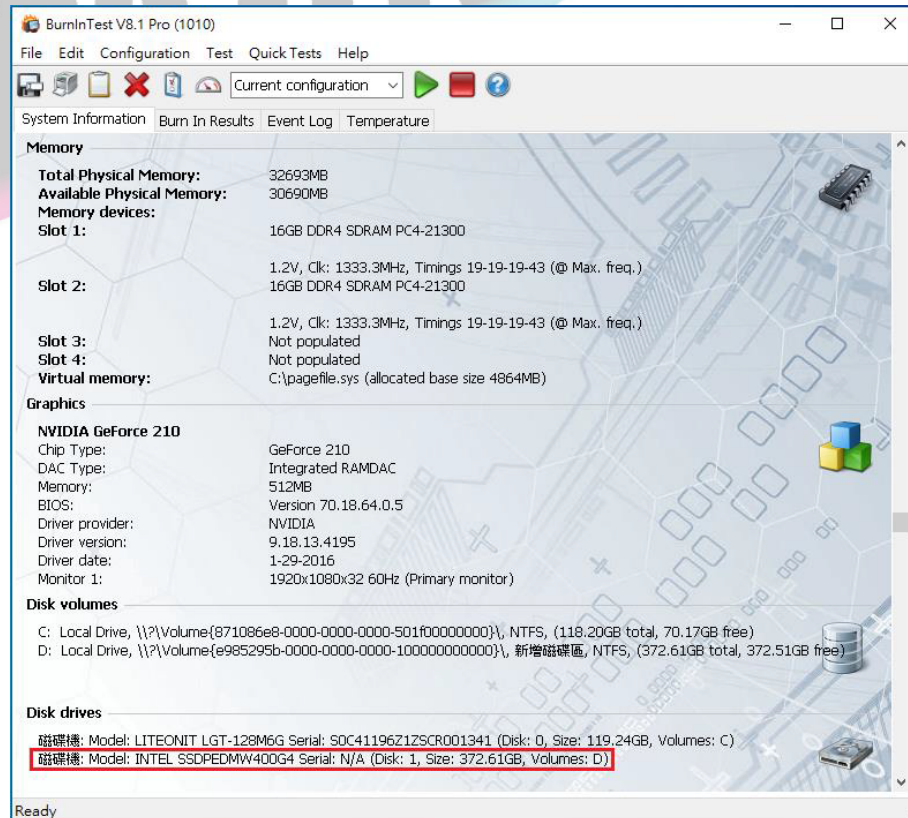
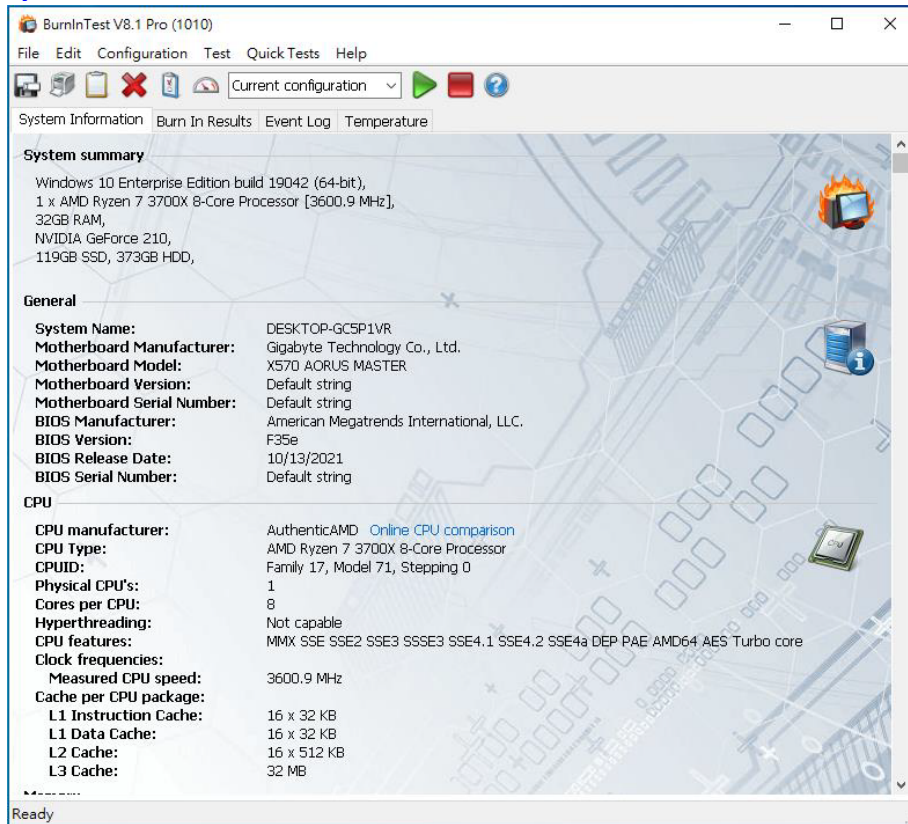


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## 3. Burn In Tests and Results

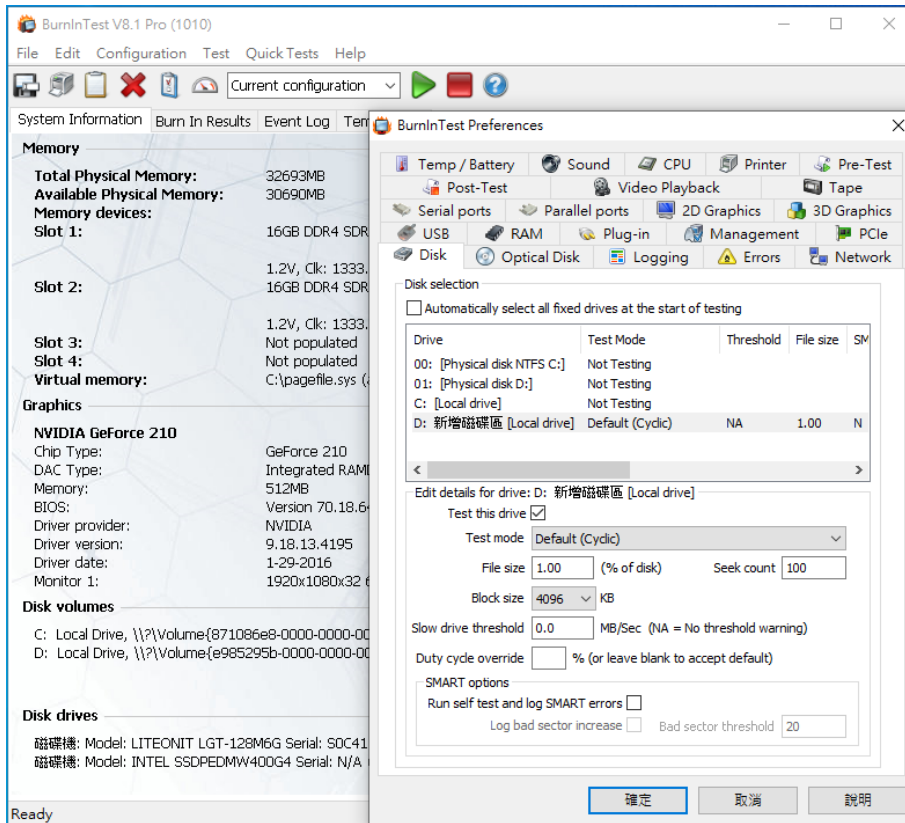
### 3.1 BurnInTest v8.1 Pro for Intel 750 PCIe 400GB SSD

#### 3.1.1 system information as below:

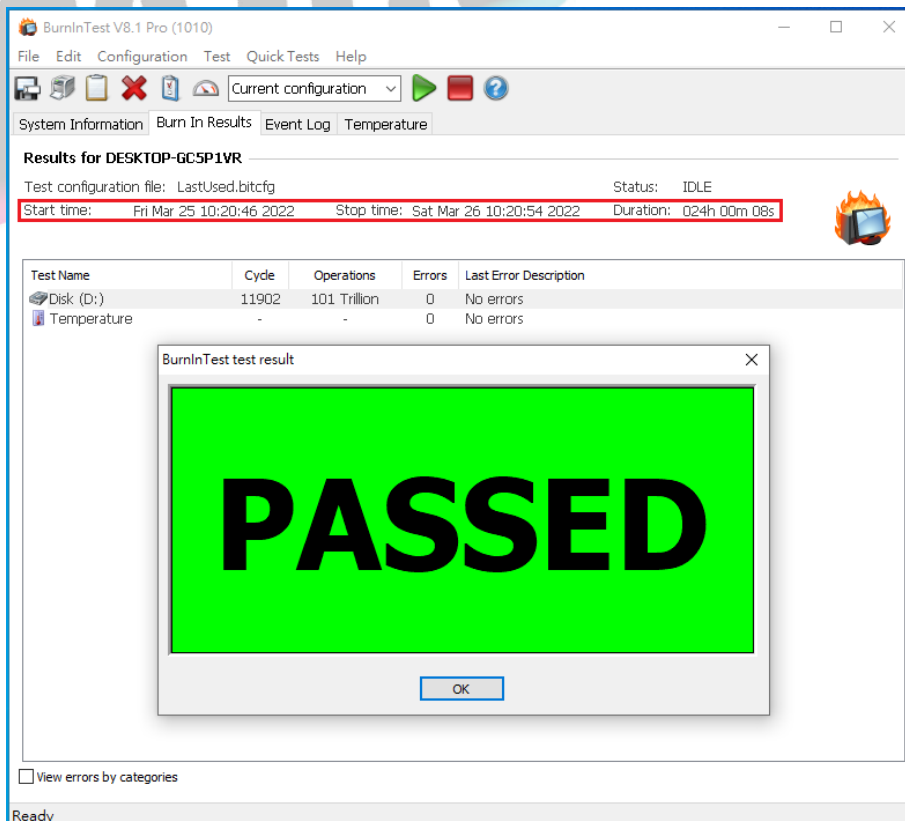


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## 3.1.2 Disk test mode (10 ways cycle test)



## 3.1.3 24-hour Burn-in test PASSED



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### 4. Summary

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4.1 mini SAS HD 4x cable may support PCIe 3.0 spec.

4.2 Intel 750 SSD is PCIe Gen3 / 4 Lanes Interface, I/O speed, max. to 32Gbps.

4.3 PA405A adapter I/O performance is based on U.2 NVMe PCIe Gen 3 / 4 Lanes SSD.

