



# MINERVA

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

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

### Table of Contents

1. Overview
2. Performance Measurement Tools and Results
  - 2.1 Test Platform
  - 2.2 Test target and use U.2 NVMe SSD
  - 2.3 Install Hardware
  - 2.4 BIOS & Windows 10 OS environment setup
  - 2.5 CrystalDiskMark 8.0.0 x64 performance test
  - 2.6 AS SSD Benchmark 2.0.73 performance test
  - 2.7 ATTO Disk Benchamrk 4.01 performance test
  - 2.8 AnvilBenchmark\_V110\_B337 Benchmark performance test
3. Burn In Tests and Results
  - 3.1 BurnInTest v8.1 Pro burn in test
4. Summary

# SFF-8643 4x Internal cable

## 1. Overview

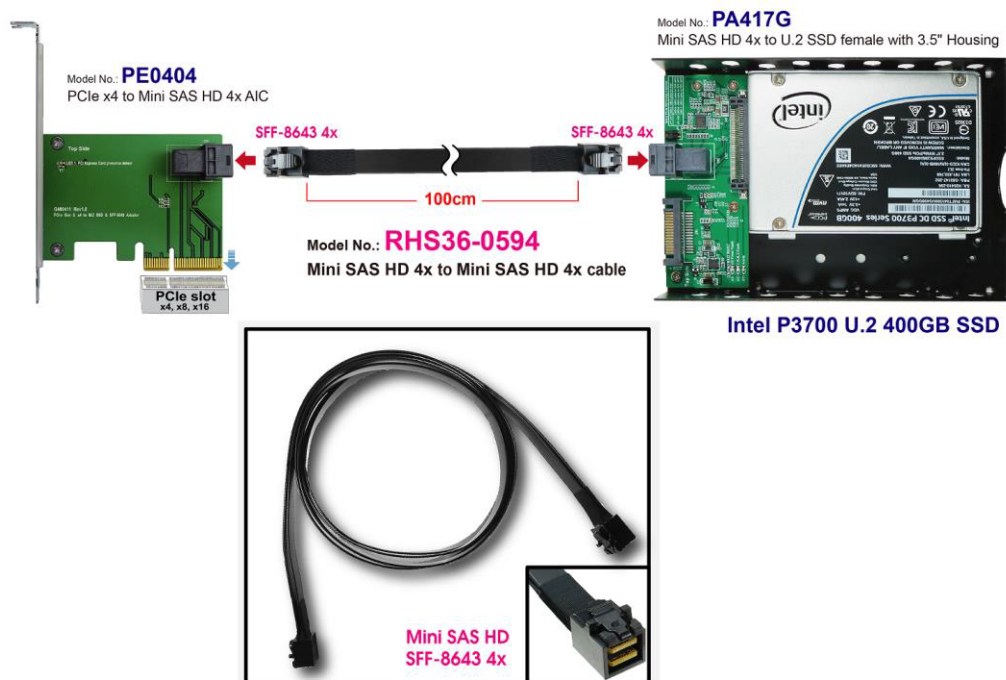
This cable may provide PCIe Gen 3, 8Gbps high-speed transmission, and with SFF-9401Rev1.0 sideband connection.

## 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 U.2(SFF-8639) Adapter  
Cable: SFF-8643 male to male cable, 100cm  
OS : Microsoft **Windows 10 64bit OS**

### 2.2 Test target: PA417G adapter & Intel P3700 U.2(SFF-8639) 400GB SSD



## SFF-8643 4x Internal cable

### 2.3 Install Hardware

Inserts U.2 SSD into PA417G converter's U.2 female connector and connects PA417G 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 U.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.

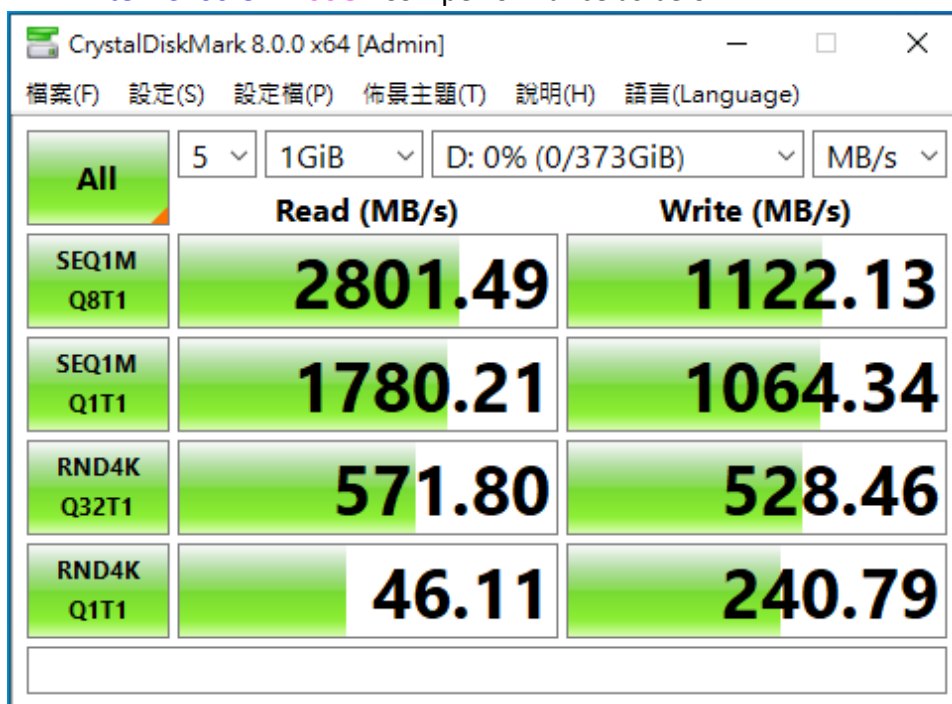


## SFF-8643 4x Internal cable

### 2.5 CrystalDiskMark 8.0.0 x64 performance test

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

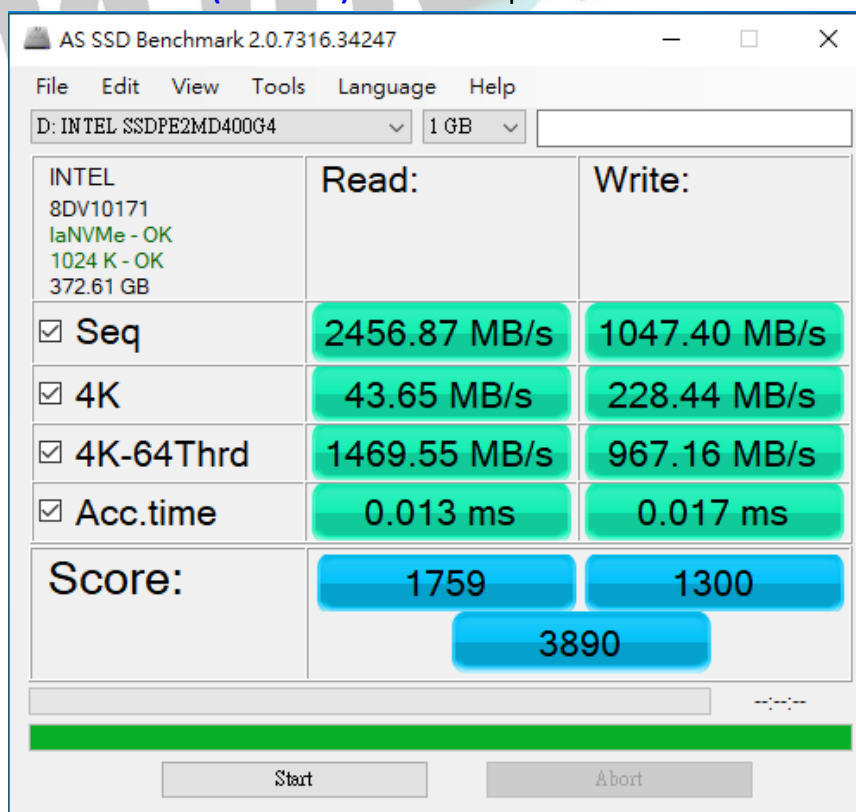
2.5.1 Intel P3700 U.2 400GB SSD performance as below:



### 2.6 AS SSD Benchmark 2.0.73 performance test

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

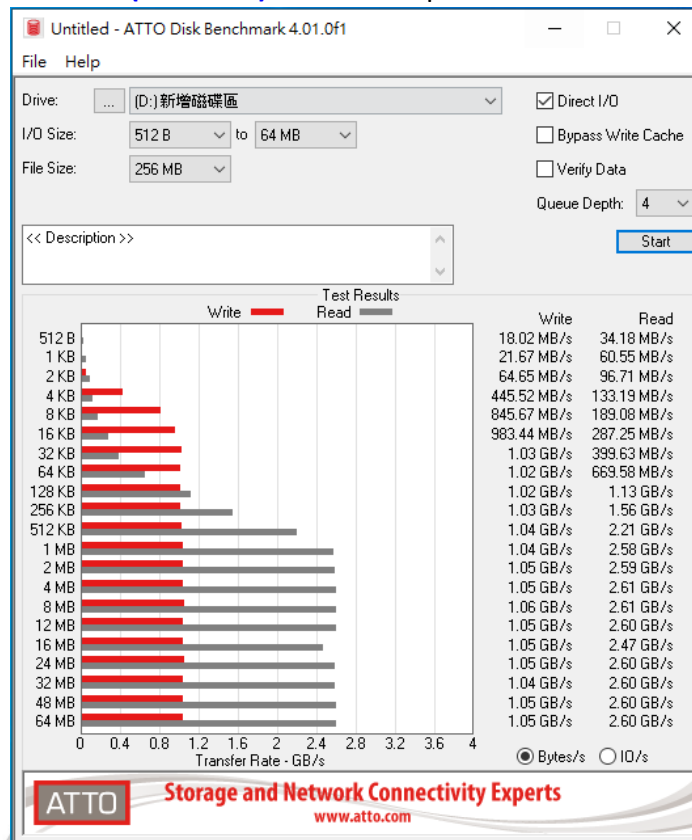
2.6.1 Intel P3700 U.2(SFF-8639) 400GB SSD performance as below:



# SFF-8643 4x Internal cable

## 2.7 ATTO Disk Benchmark 4.01 performance test

### 2.7.1 Intel P3700 U.2(SFF-8639) 400GB SSD performance as below:



## 2.8 AnvilBenchmark\_V110\_B337

### 2.8.1 Intel P3700 U.2(SFF-8639) 400GB SSD performance as below:

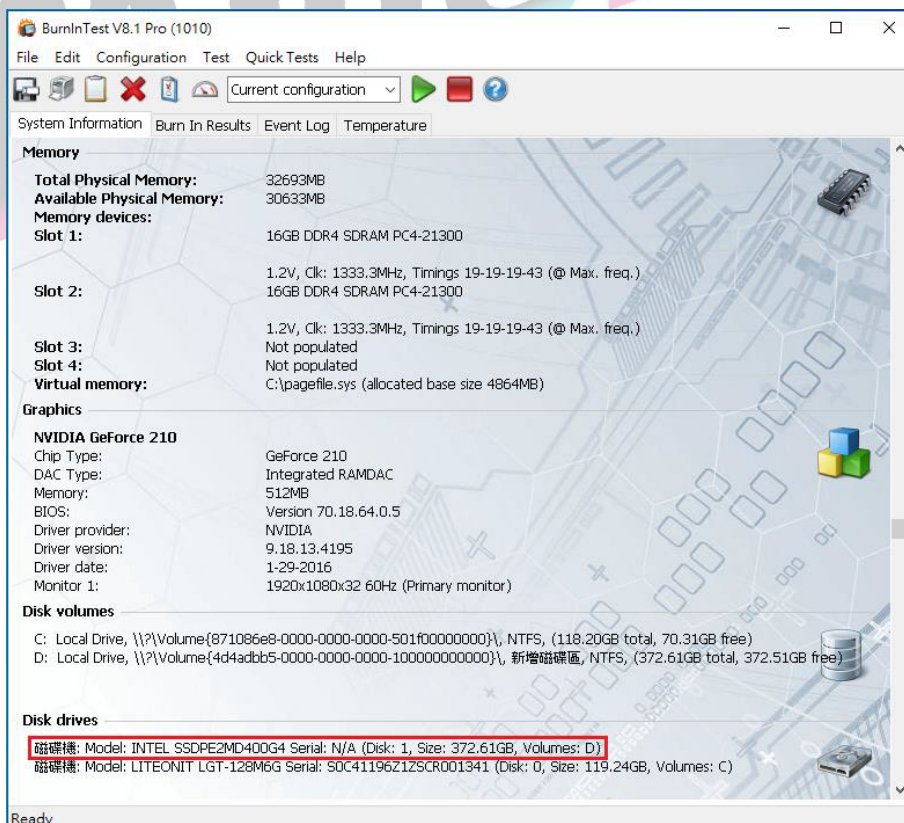
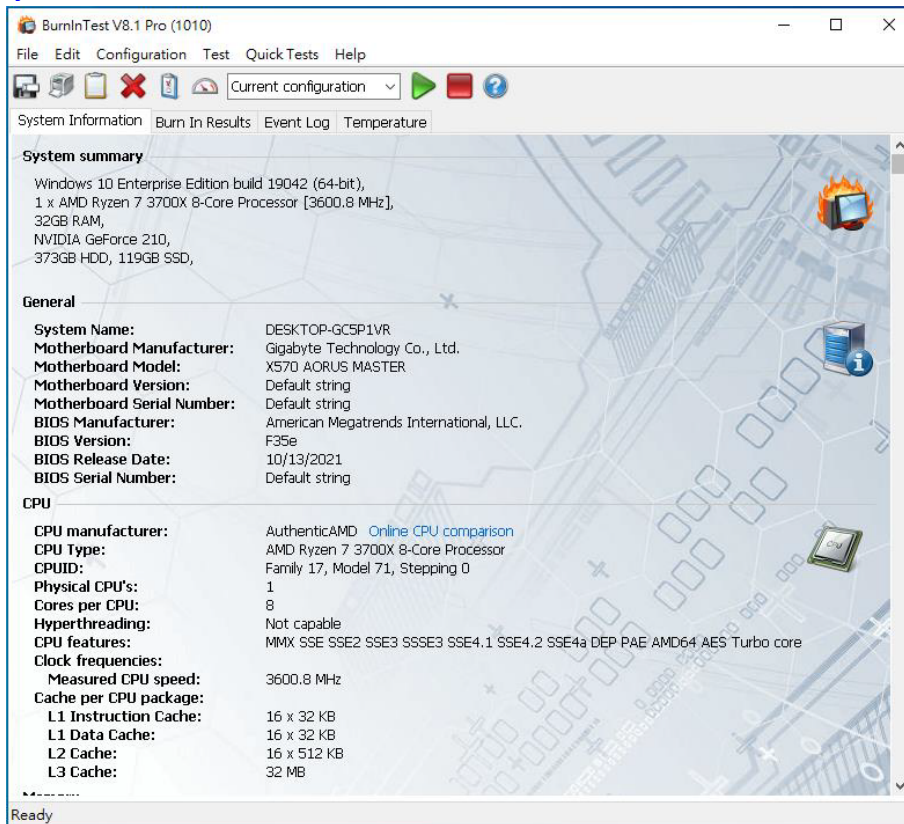


# SFF-8643 4x Internal cable

## 3. Burn In Tests and Results

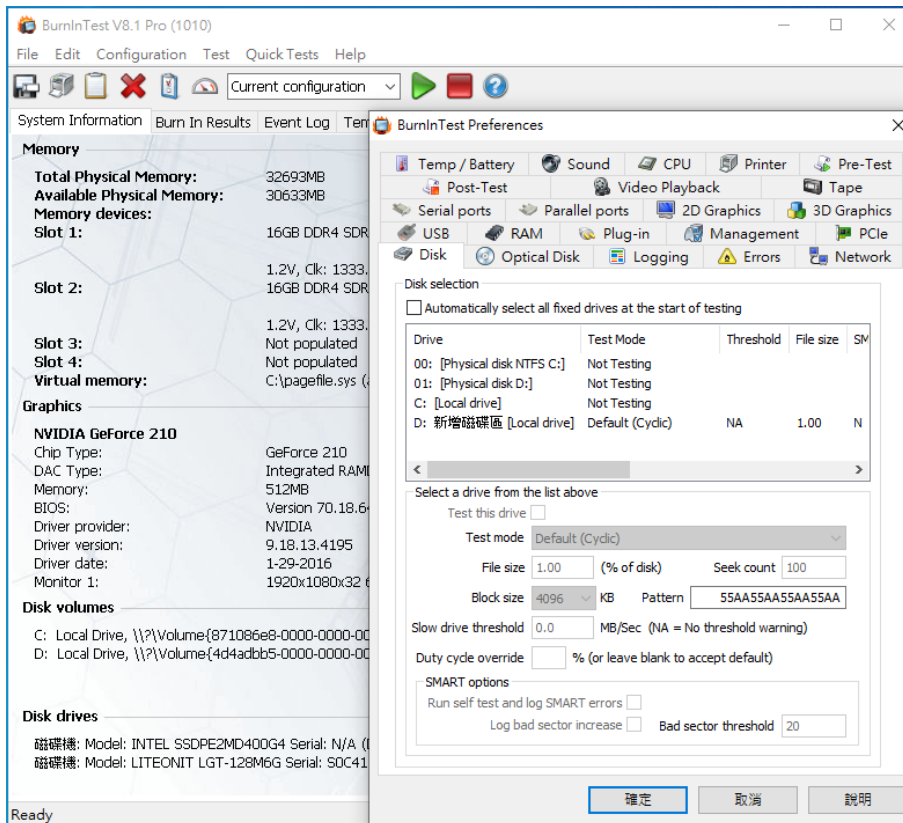
### 3.1 BurnInTest v8.1 Pro for Intel P3700 U.2(SFF-8639) 400GB SSD

#### 3.1.1 system information as below:

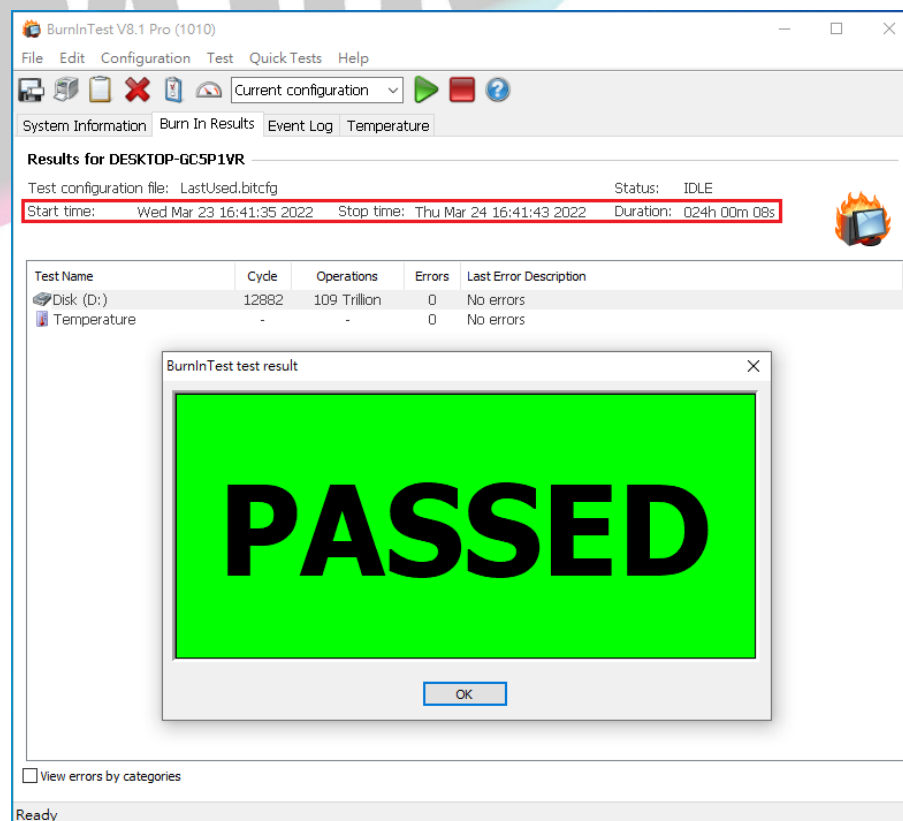


# SFF-8643 4x Internal cable

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



## 3.1.3 24-hour Burn-in test PASSED



## SFF-8643 4x Internal cable

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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 U.2 SSD is PCI-e Gen 3 / 4 Lanes Interface, I/O speed, max. to 32Gbps.

4.3 PA417G adapter I/O performance is based on U.2 NVMe PCI-e Gen 3 / 4 Lanes SSD.

