



# MINERVA

## GD3404G PCIe 4.0 SFF-8612 4i OCulink for U.2 NVMe SSD Adapter

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

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# GD3404G Converter Card

## 1. Overview

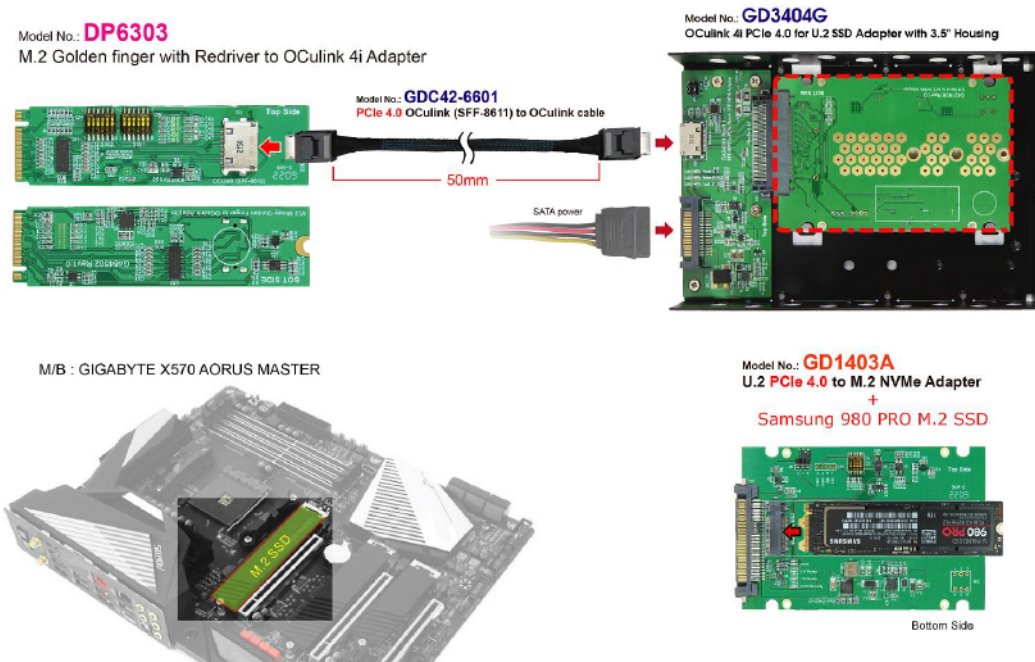
This adapter supports PCIe 4.0, 16GT / s high-speed transmission, and provides U.2 NVMe SSD to OCulink 4i conversion. It may put 2.5" SSD into 3.5" standard H.D.D. enclosure.

## 2. Tools and Results of Performance Measurement

### 2.1 Test Platform

M/B : GIGABYTE **X570S 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  
Host: DP6303 M.2 PCIe 4.0 with ReDriver to OCulink 4i  
Adapter: GD3404G SFF-8612 4i to U.2 Storage Adapter  
Adapter: GD1403A U.2 to M.2 Storage Adapter  
Cable: SFF-8611 4i to SFF-8611 4i, 50cm Cable  
OS : Microsoft **Windows 10 64bit OS**

### 2.2 Test target: GD3404G adapter, GD1403A adapter and **Samsung M.2 NVMe 1TB SSD**



# GD3404G Converter Card

## 2.3 Install Hardware

Insert GD1403A adapter(with M.2 NVMe SSD) into GD3404G converter's U.2 female connector. Connect GD3404G to DP6303 adapter(M.2 PCIe 4.0 with ReDriver to OCulink 4i) using SFF-8611 to SFF-8611 cable, plugs DP6303 adapter into **PCI-e slot of GIGABYTE X570S AORUS MASTER.**

## 2.4 BIOS & Windows 10 OS environment setup

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

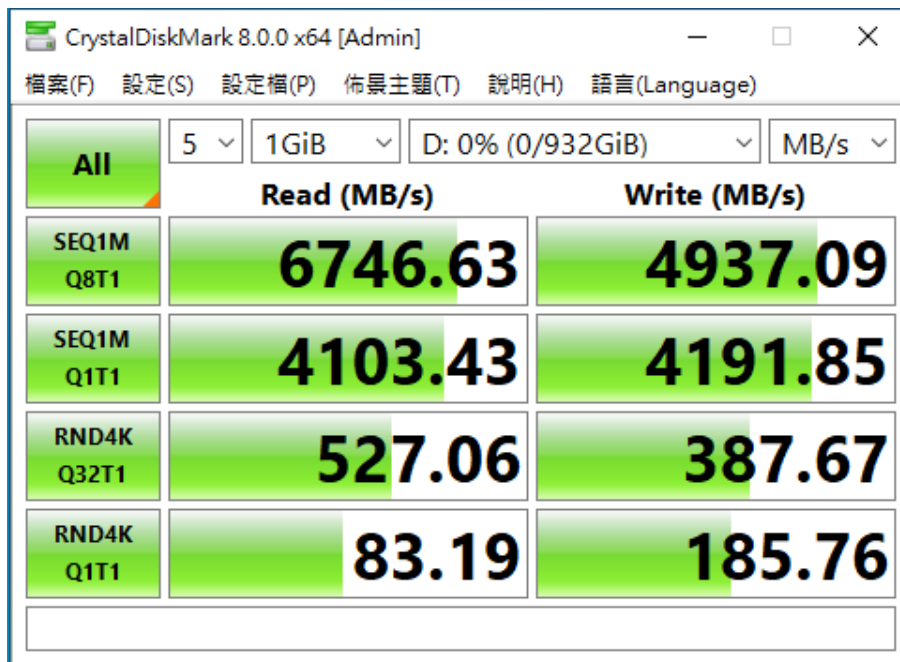


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## 2.5 CrystalDiskMark 8.0.0 x64 performance test

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

2.5.1 Samsung **M.2 980 PRO/ 1TB** performance as below:

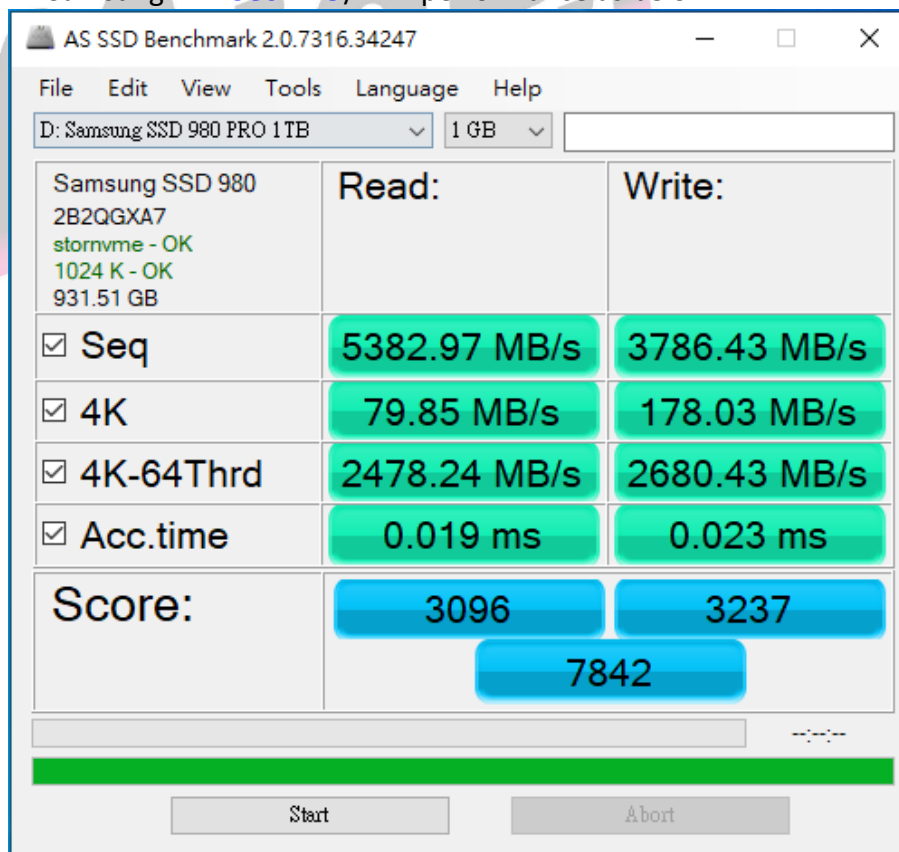


|             | Read (MB/s) | Write (MB/s) |
|-------------|-------------|--------------|
| SEQ1M Q8T1  | 6746.63     | 4937.09      |
| SEQ1M Q1T1  | 4103.43     | 4191.85      |
| RND4K Q32T1 | 527.06      | 387.67       |
| RND4K Q1T1  | 83.19       | 185.76       |

## 2.6 AS SSD Benchmark 2.0.7 performance test

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

2.6.1 Samsung **M.2 980 PRO/ 1TB** performance as below:

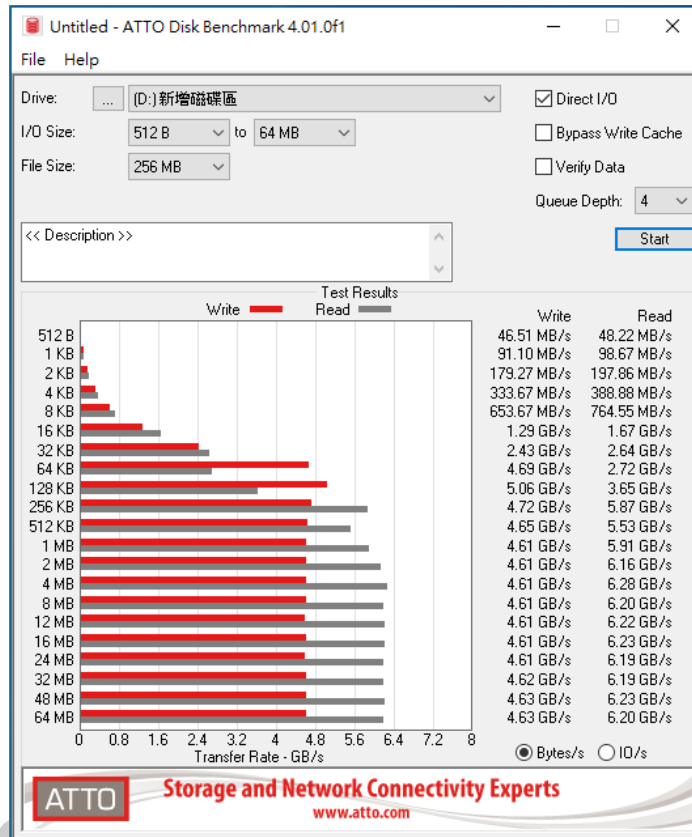


|           | Read:        | Write:       |
|-----------|--------------|--------------|
| Seq       | 5382.97 MB/s | 3786.43 MB/s |
| 4K        | 79.85 MB/s   | 178.03 MB/s  |
| 4K-64Thrd | 2478.24 MB/s | 2680.43 MB/s |
| Acc.time  | 0.019 ms     | 0.023 ms     |
| Score:    | 3096         | 3237         |
|           | 7842         |              |

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## 2.7 ATTO Disk Benchmark 4.0.1 performance test

### 2.7.1 Samsung M.2 980 PRO/ 1TB performance as below:



## 2.8 AnvilBenchmark\_V110\_B337

### 2.8.1 Samsung M.2 980 PRO/ 1TB performance as below:

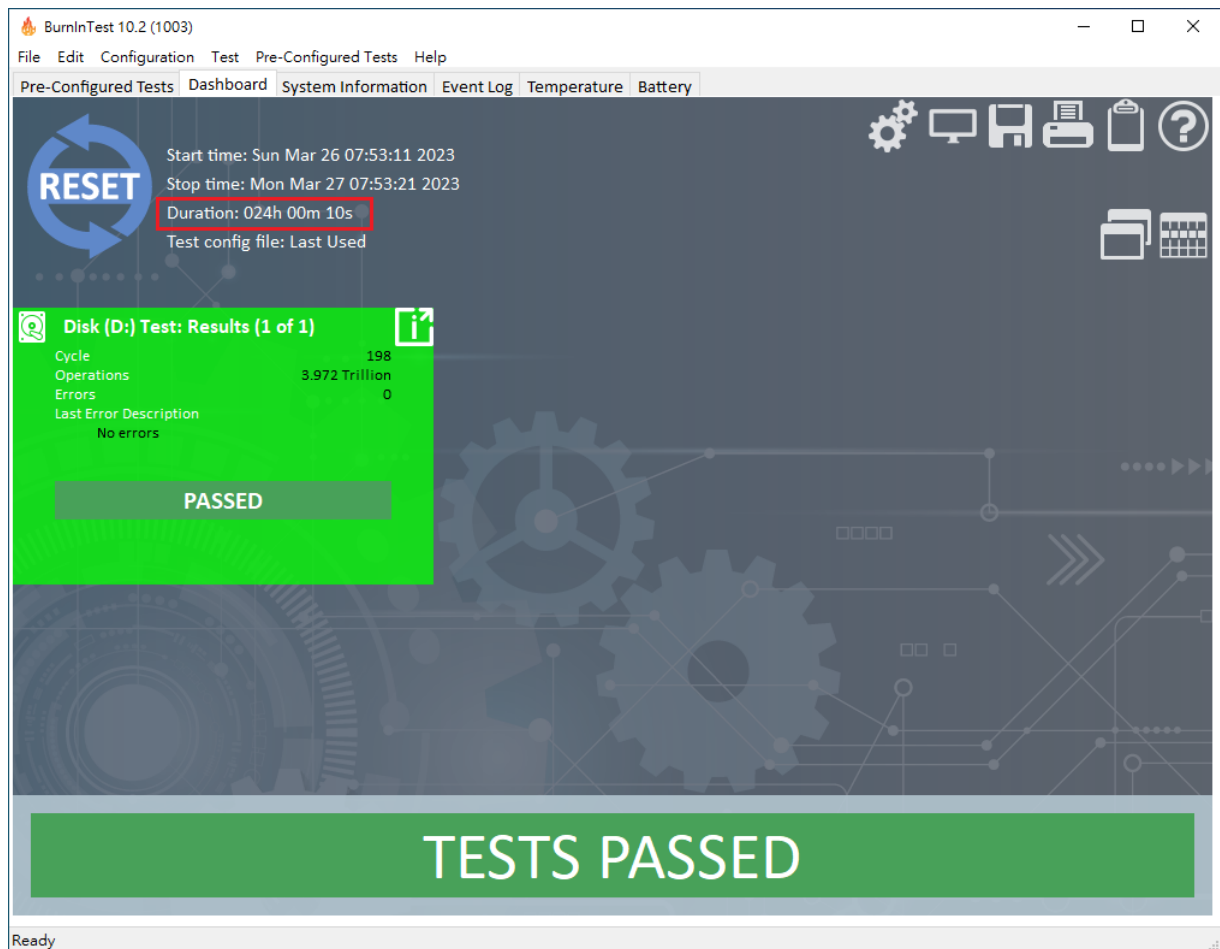


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## 3. Burn In Tests and Results

3.1 BurnInTest v8.1 Pro for Samsung **M.2 980 PRO/ 1TB** SSD

3.1.1 24-hour Burn-in test **PASSED**



## 4. Summary

4.1 M.2 SSD is PCIe 4.0 / 4 Lanes Interface, I/O speed, max. to 64Gbps.

4.2 GD3404G adapter I/O performance is based on PCIe 4.0 M.2 NVMe SSD.