



# MINERVA

PA801A SFF-8643 8 Lanes to M.2/M.3 NVMe converter Card

---

## 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 M.2 NVMe SSD
  - 2.3 Install Hardware
  - 2.4 BIOS & Windows 10 OS environment setup
  - 2.5 CrystalDiskMark 6.0.2 x64 performance test
3. Burn In Tests and Results
  - 3.1 BurnInTestv8.1 Pro burn in test
4. Summary

# PA801A Rev1.0 Converter Card

## 1. Overview

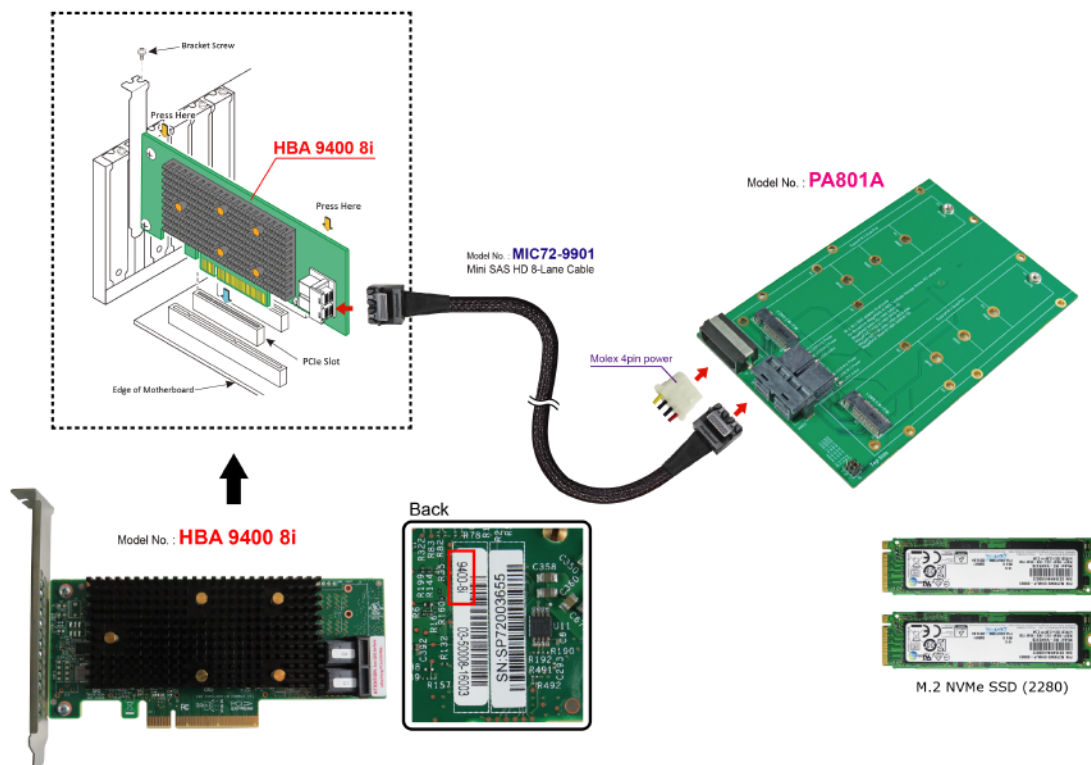
This riser card has built-in SFF-8643 8X connector and M.2 M-KEY connector, which can be inserted into M.2 or M.3 NVMe SSD. It is designed for use by Broadcom MegaRAID and HBA series, and can be set as needed for independent drive, or merge into RAID mode.

## 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**, **16GB**(8GB DIMM\*2)  
ATX Power : COOLER MASTER G750M, **750W ATX**, 12V V2.2 Power Supply  
Graphic : Z170 Chipsets built-in **HD Graphics 530**  
Adapter: Broadcom HBA-9400-8i Tri-mode Storage Adapter  
Adapter: PA801A SFF-8643(MINI SAS HD) 8-Lane to M.2/M.3 Adapter  
Cable: SFF-8643(MINI SAS HD) 8-Lane Cable  
OS : Microsoft **Windows 10 64bit OS**

### 2.2 Test target: PA801A adapter and M.2 NVMe SSD



### 2.3 Install Hardware

First insert the M.2 SSD into the PA801A riser card M.2 connector, then with copper nuts, and screws to fix SSDs. (Please refer to the Installation Notes). Connect the PA801A adapter to the Broadcom HBA 9400-8i AIC card, using the MIC72-9901 Cable. and Plug HBA 9400-8i AIC card into GIGABYTE [Z170X UD5 TH PCIe slot](#).

### 2.4 BIOS & Windows 10 OS environment setup

2.4.1 Primary M.2 NVMe SSD install Windows 10 OS.

2.4.2 Secondary M.2 NVMe SSD, formatted to NTFS Mode. Don't install any program.

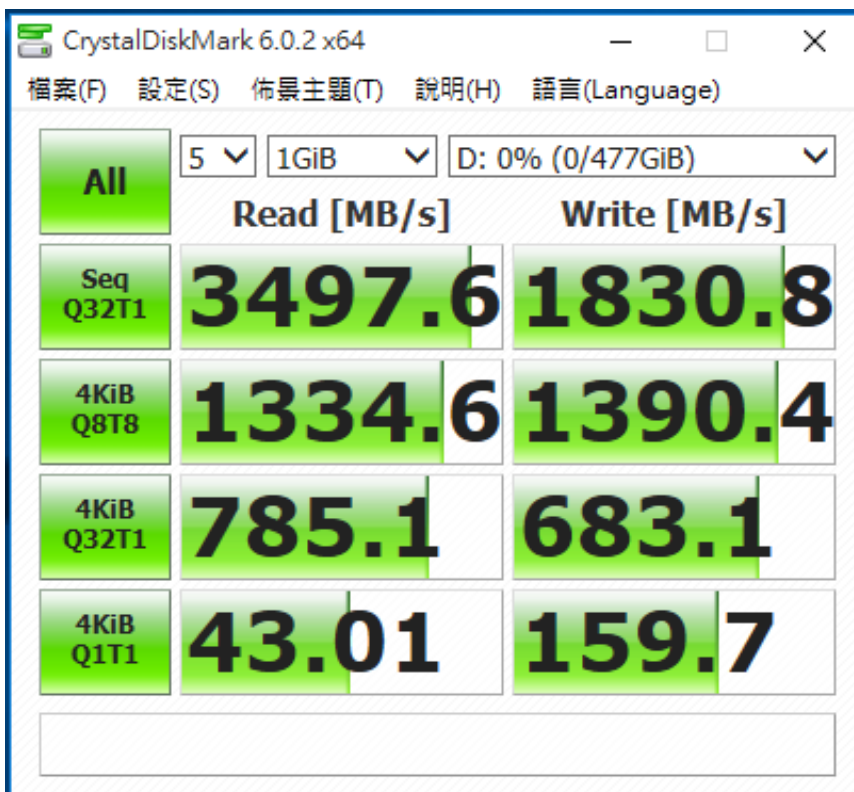


# PA801A Rev1.0 Converter Card

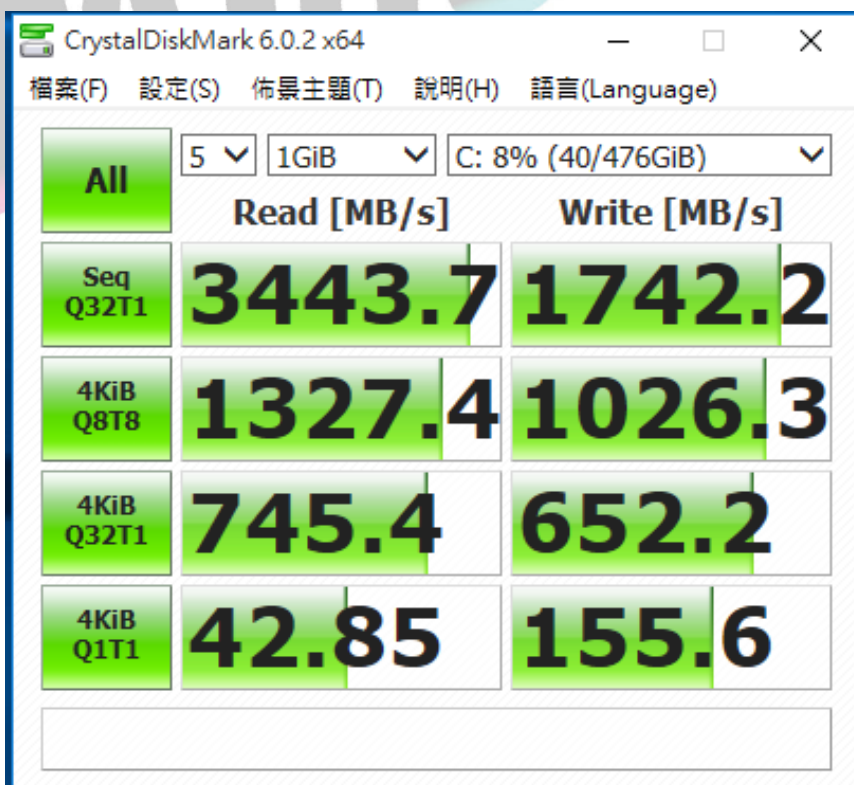
2.5 CrystalDiskMark 6.0.2 x64 performance test

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

2.5.1 **M.2 NVMe Samsung SM961/512GB** performance as below:



2.5.2 **M.2 NVMe Samsung SM961/512GB** performance as below:

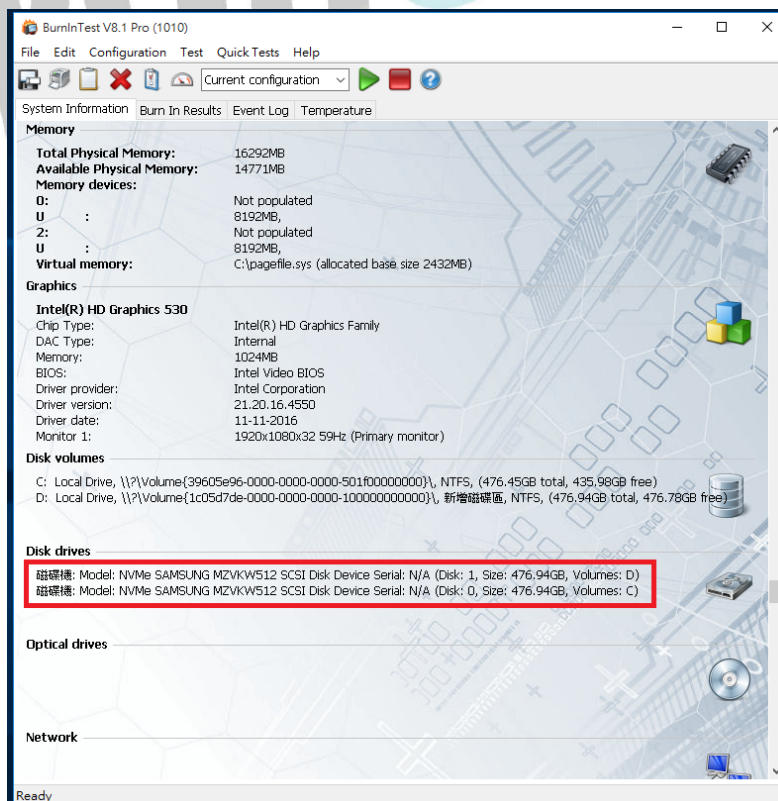
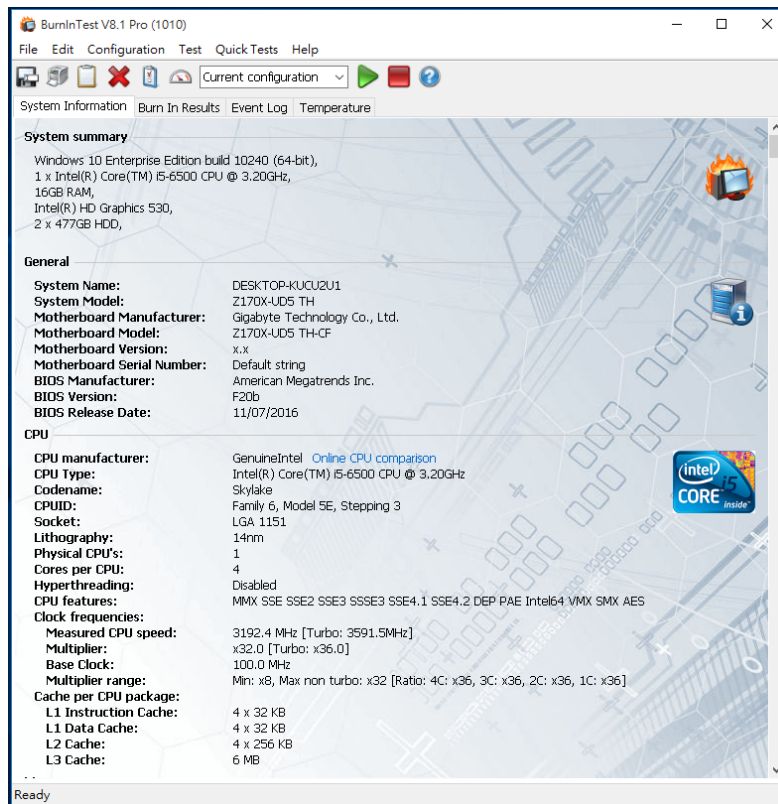


# PA801A Rev1.0 Converter Card

## 3. Burn In Tests and Results

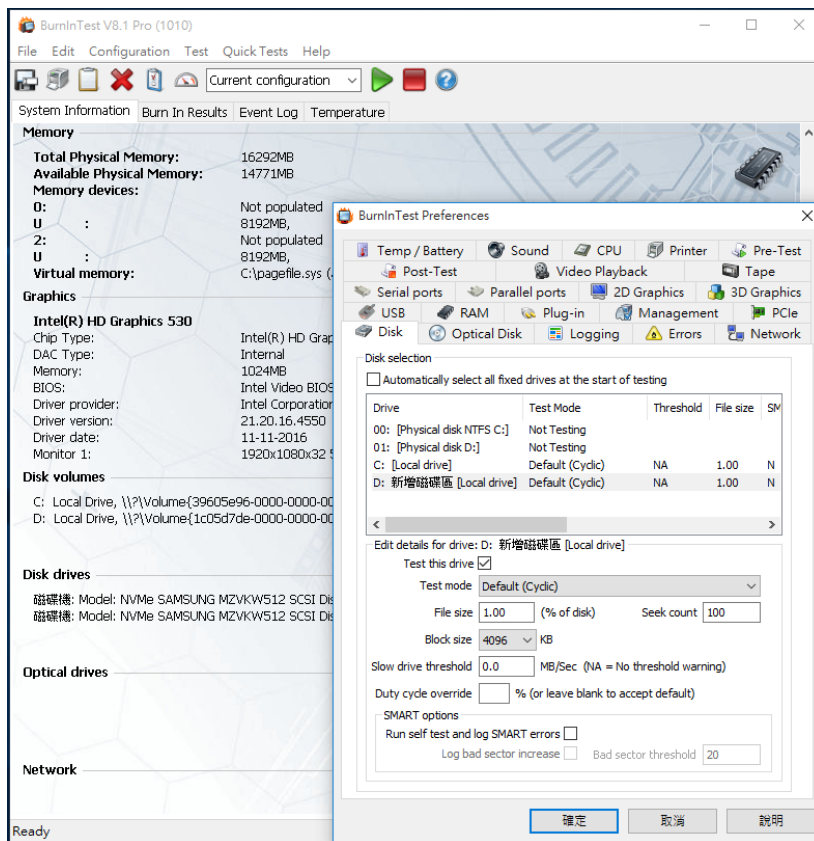
### 3.1 BurnInTest v8.1 Pro

#### 3.1.1 system information as below:

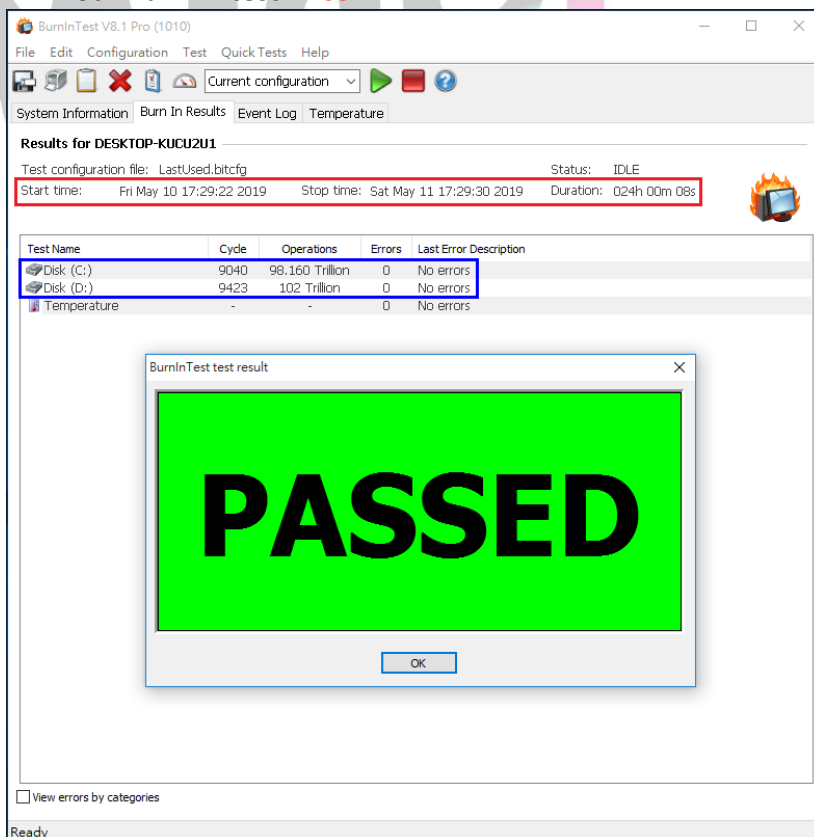


# PA801A Rev1.0 Converter Card

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



## 3.1.3 24-hour Burn-in test PASSED



### 4. Summary

- 4.1 M.2 NVMe SSD is PCI-e Gen 3 / 4 Lane Interface, I/O speed, max. to 32Gbps.
- 4.3 PA801A adapter I/O performance is based on M.2 NVMe SSD.

