



# MINERVA

## PU425A Converter Card

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

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## 1. Overview

The PU425A adapter provides a very simple mean for controlling and switching the PCI Express lanes in the connection to a U.2 SSD. It is possible to isolate & test specific lanes in order to isolate performance issues quickly and easily.

## 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: PE0405 PCIe to SFF-8654 Slimline SAS  
CABLE: Amphenol U.2(SFF-8639) to SFF-8454 Slimline SAS Cable  
OS : Microsoft **Windows 8.1 64bit OS**

### 2.2 Test target: PU425A adapter & Intel 750 U.2(SFF-8639) 400GB SSD



PE0405 Adaoter



Mini SAS HD to U.2 Cable



PD425A Adapter



Intel 750 U.2 SSD

### 2.3 Install Hardware

Inserts U.2 SSD into PU425A converter's U.2 female connector. Connect PU425A converter to PE0405 adapter(PCI-e 4-lane to Slimline SAS SFF-8654) using U.2 cable, plugs PE0405 into **PCI-e slot of Z170X UD5 TH**.

### 2.4 BIOS & Windows 10 OS environment setup

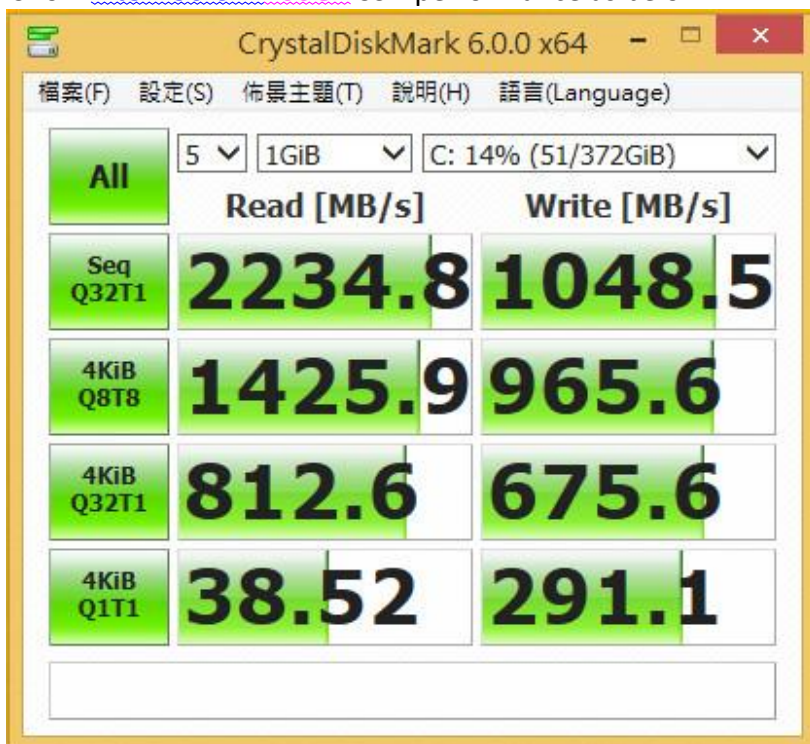
2.4.1 Install Windows 8.1 64bit OS into **Intel 750 U.2 400GB** SSD

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## 2.5 CrystalDiskMark 6.0.0 x64 performance test

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

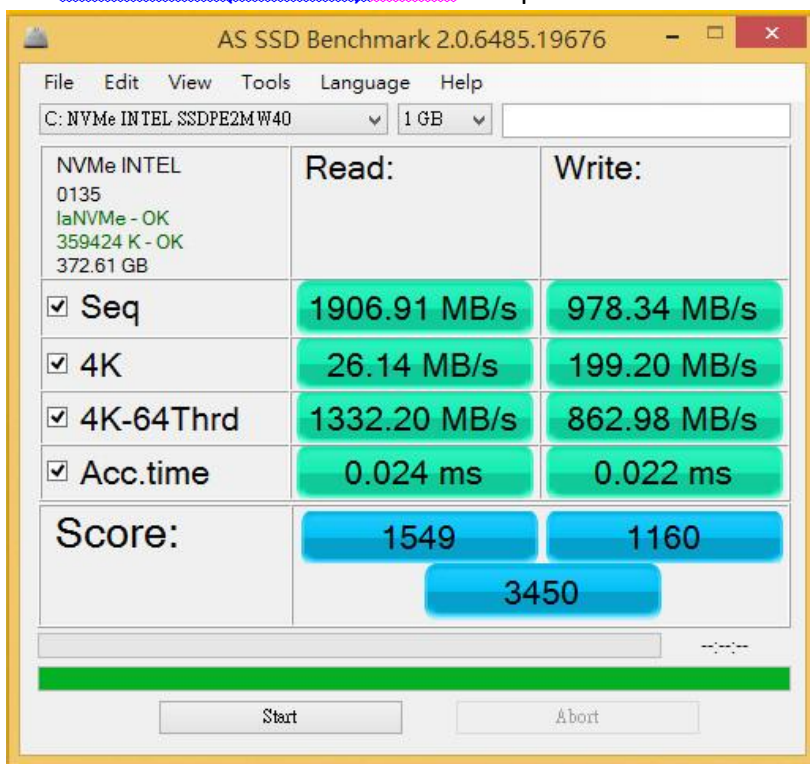
2.5.1 Show [Intel 750 U.2 400GB](#) SSD performance as below:



## 2.6 AS SSD Benchmark 2.0 performance test

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

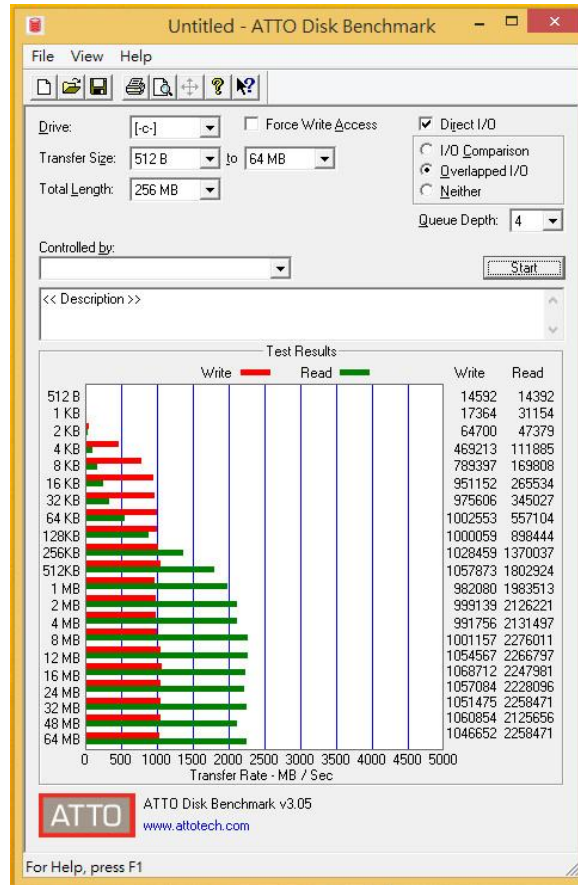
2.6.1 Show [Intel 750 U.2\(SFF-8639\) 400GB](#) SSD performance as below:



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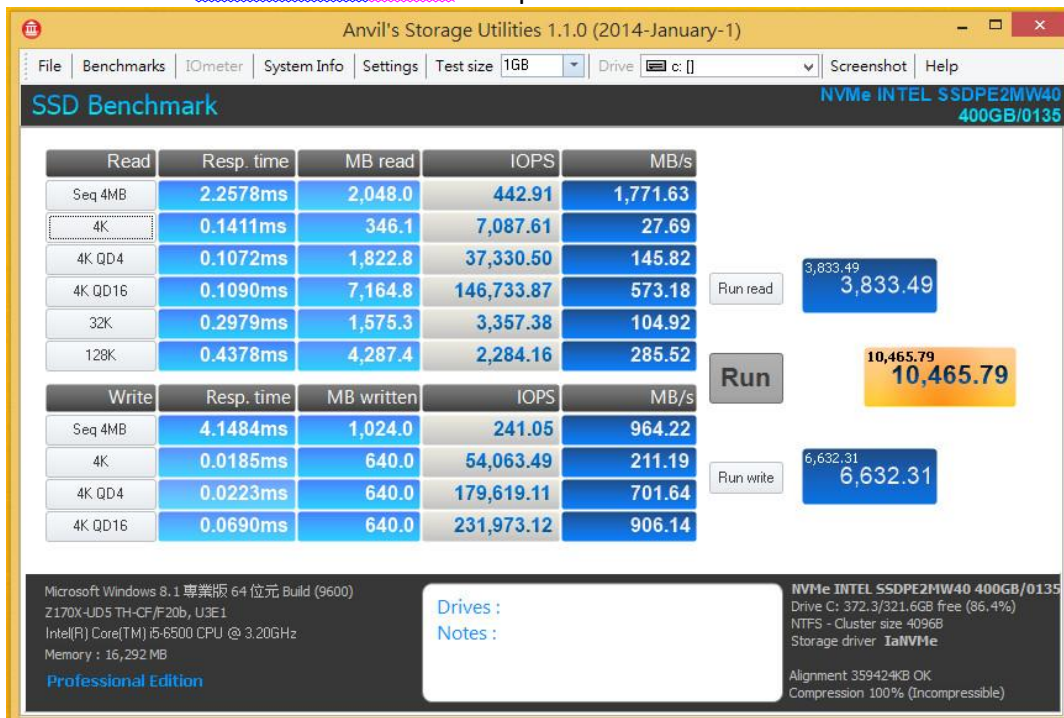
## 2.7 ATTO Disk Benchmark 3.05 performance test

2.7.1 Show [Intel 750 U.2 400GB](#) SSD performance as below:



## 2.8 AnvilBenchmark\_V110\_B337

2.8.1 Show [Intel 750 U.2 400GB](#) SSD performance as below:

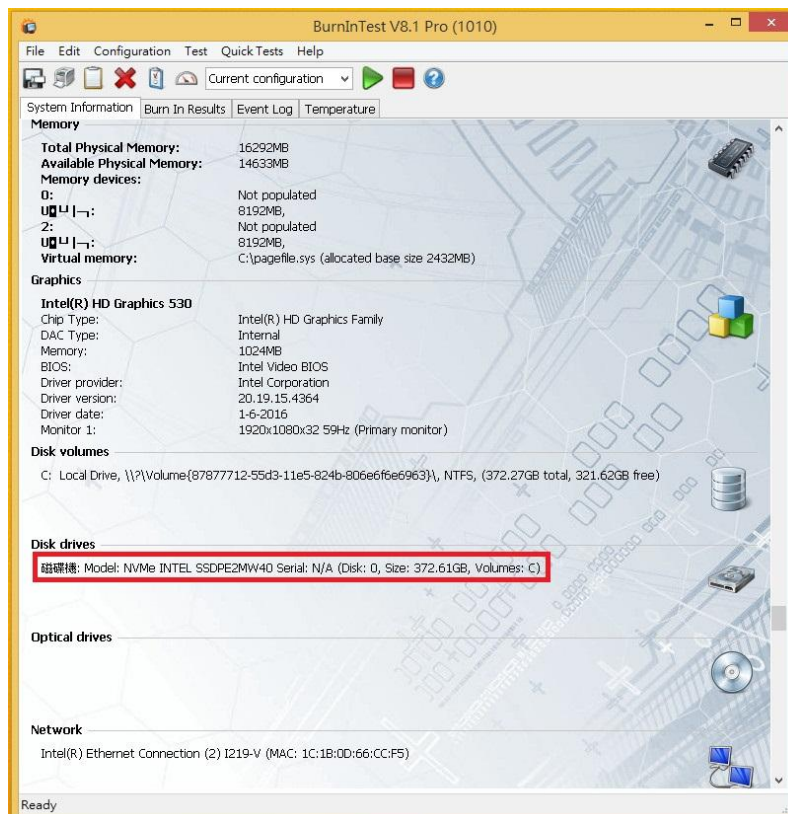
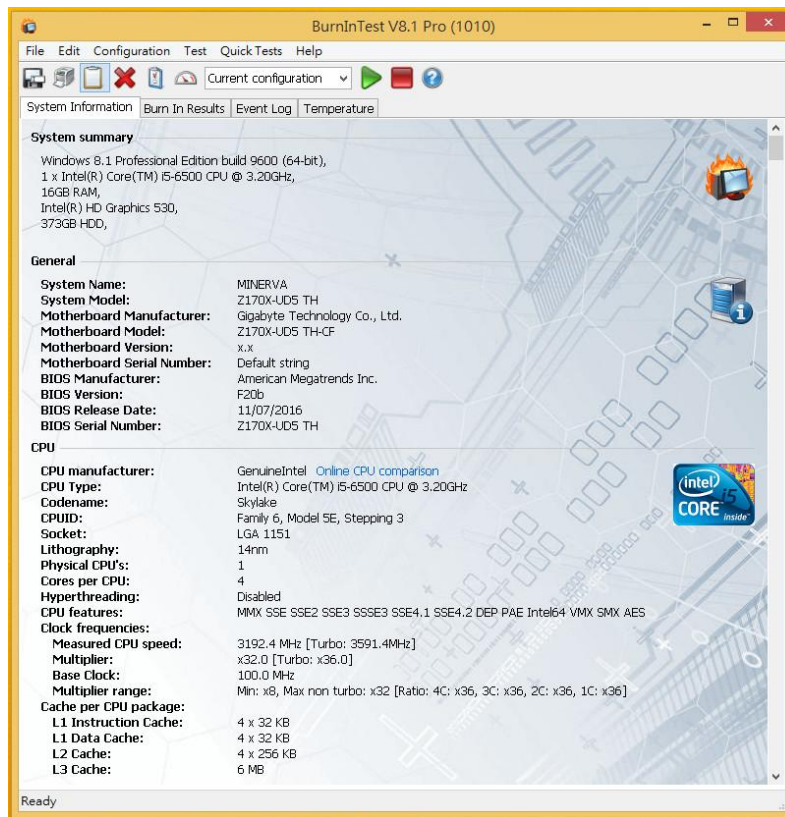


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## 3. Burn In Tests and Results

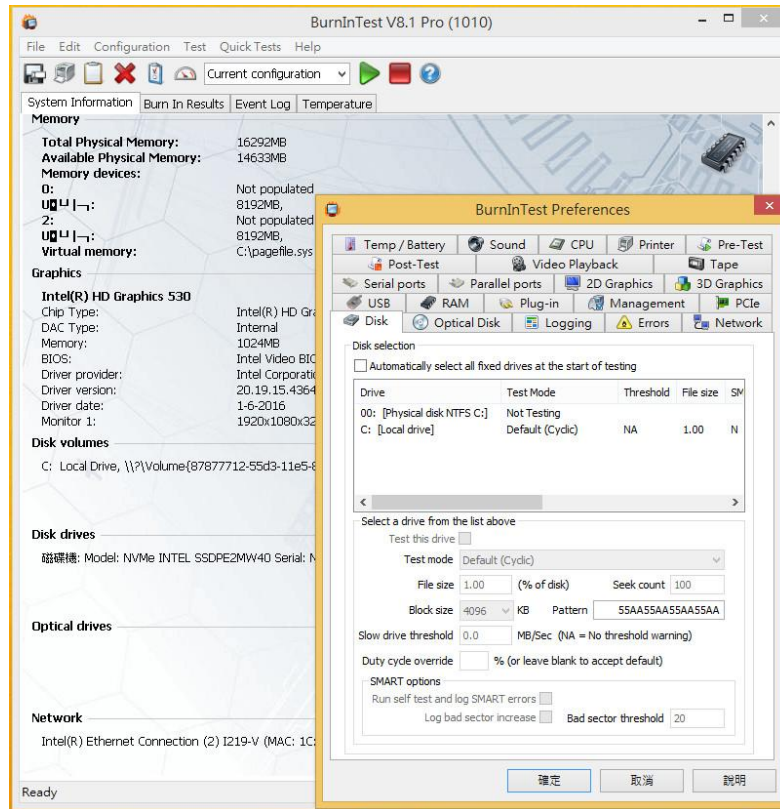
### 3.1 BurnInTest v8.1 Pro for [Intel 750 U.2\(SFF-8639\) 400GB](#) SSD

#### 3.1.1 system information as below:

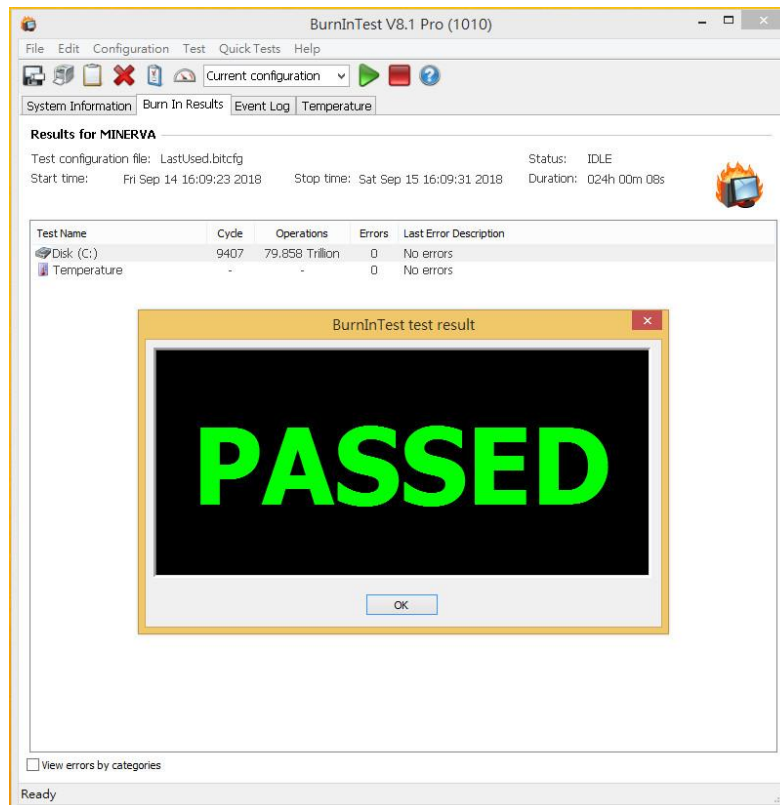


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## 3.1.2 show Disk test mode (10 ways cycle test)



## 3.1.2 show 24-hour Burn-in test PASSED



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## 4. Summary

- 4.1 U.2 SSD is PCI-e Gen 3 / 4 Lanes Interface, I/O speed, max. to 4Gbps.
- 4.2 PU425A adapter I/O performance is based on U.2 NVMe PCI-e Gen 3 / 4 Lanes SSD.