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## Performance & Burn In Test Rev. 1.0

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# U213A / mSATA SSD to USB 3.0 Module

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## 1. Overview

U213A adapter card, which provides a mini PCI-e 52pin connector, can be converted into a USB 3.0 standard interface. Built-in ASMedia ASM1053 controller IC to achieve the conversion of the SATA signals to USB signals.

## 2. Tools and Results of Performance Measurement

### 2.1 Test Platform -- [Acer aspire V5-571PG Notebook](#)

CPU : Intel Core i5-3337U (1.7Ghz/Turbo : 2.6G)  
Memory : **8G DDR3**  
Graphic : NVIDIA [Geforce 710M/2G](#)  
HDD : 750G HDD(SATA)  
USB port : **USB 3.0x1, USB 2.0x2**  
OS : Microsoft **Windows 8 OS**

### 2.2 Test target: U213A adapter and [Crucial 64GB\(M4-CT064M4SSD3\)](#) mSATA SSD



### 2.3 Install Hardware

Insert Crucial **64GB(M4-CT064M4SSD3)** into U213A converter's mini PCI-e connector, and then with coppers, nuts and screws to fix mSATA SSDs. (Please refer to the Installation Notes). Connect U423D converter to USB 3.0 Port of [Aspire V5-571PG](#).

### 2.4 BIOS & Windows 8 OS environment setup

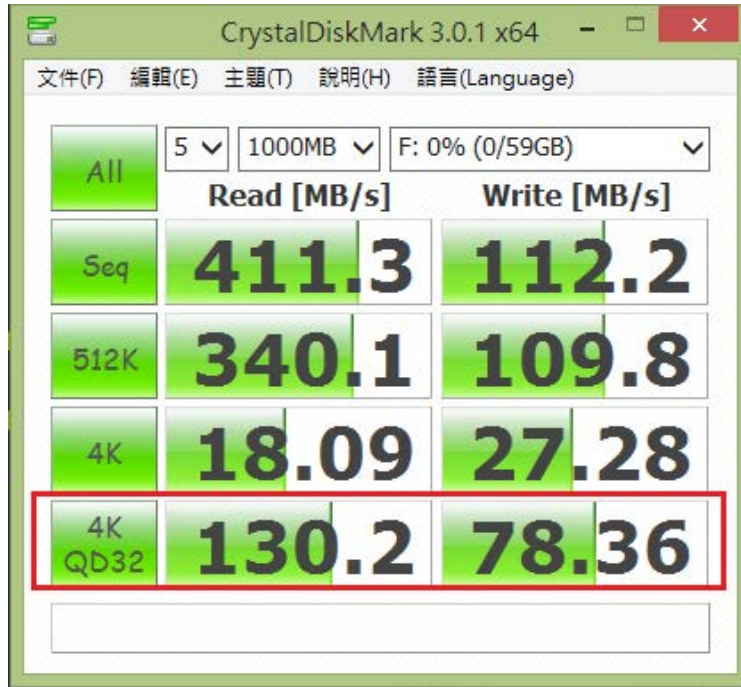
2.4.1 In Windows 8, formatted SSD to NTFS Mode. Don't install any program.

# U213A / mSATA SSD to USB 3.0 Module

## 2.5 CrystalDiskMark 3.0.1 x64 performance test

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

2.5.1 Used Crucial 64GB(M4-CT064M4SSD3) performance as below:

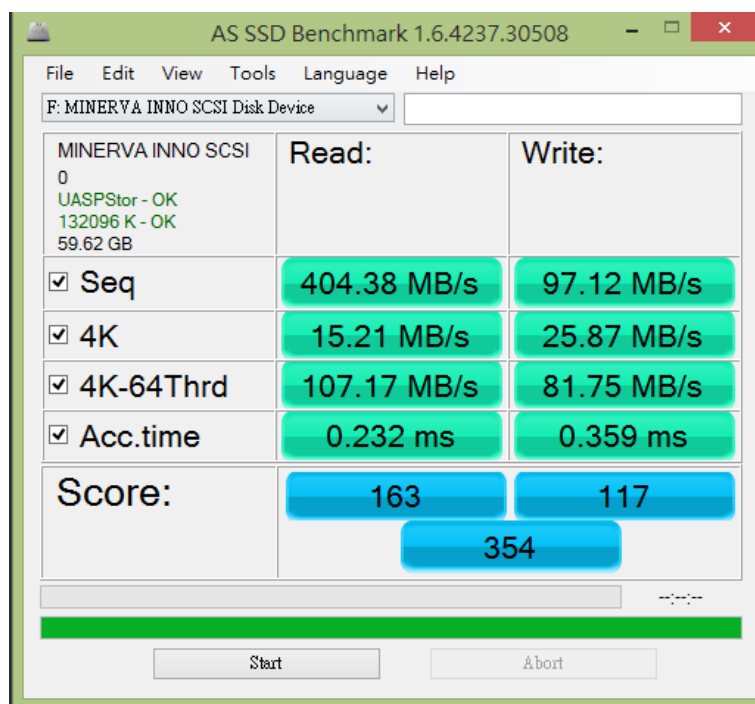


[Notice] USB 3.0 **support UASP**, 4K QD32 can get better performance

## 2.6 AS SSD Benchmark 1.6 performance test

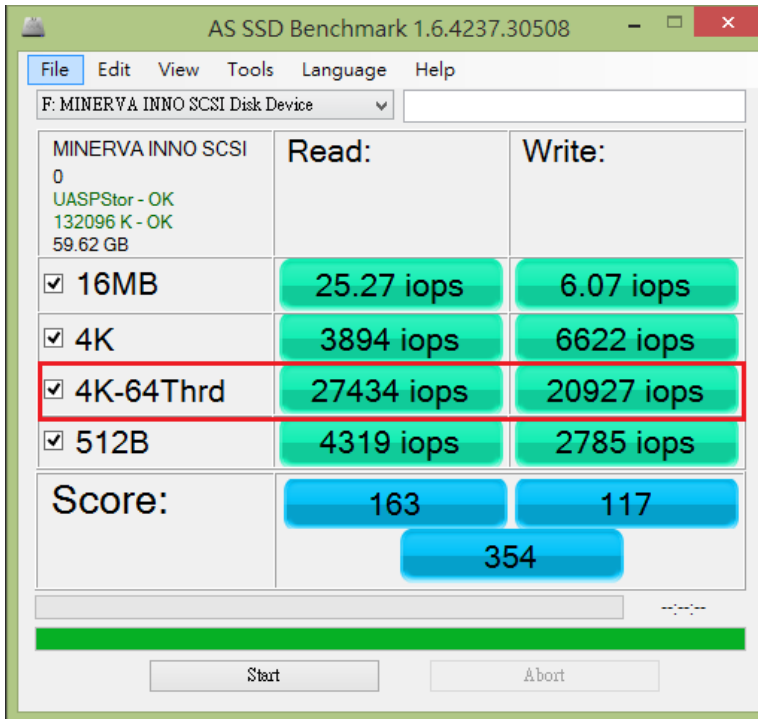
※Benchmark (**Read & Write** by MB/s, default block size = **16MB**)

2.6.1 Used Crucial 64GB(M4-CT064M4SSD3) performance as below:



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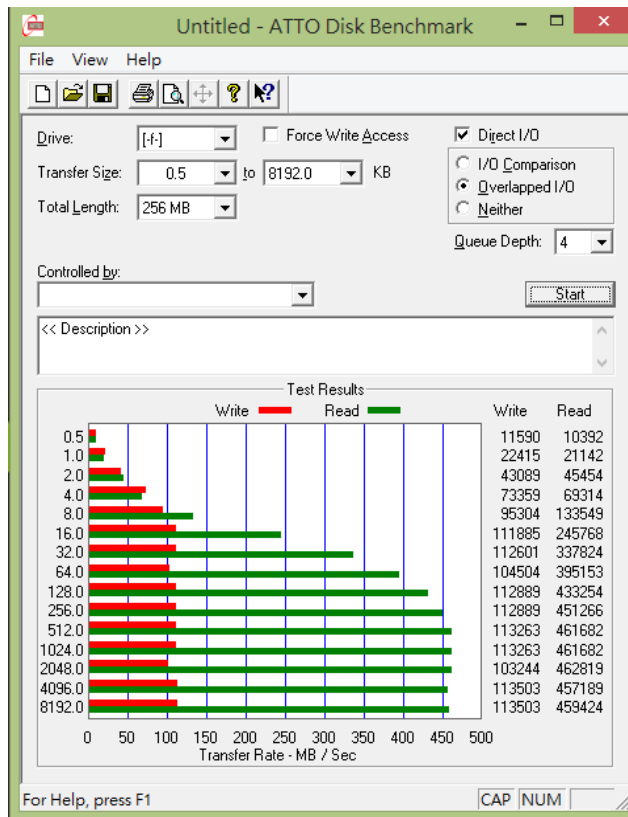
2.6.2 Used Crucial 64GB(M4-CT064M4SSD3) IOPS as below:



[Notice] USB 3.0 support UASP, 4K 64 Thread can get better performance

## 2.7 ATTO Disk BenchMark

2.7.1 Used Crucial 64GB(M4-CT064M4SSD3) performance as below:

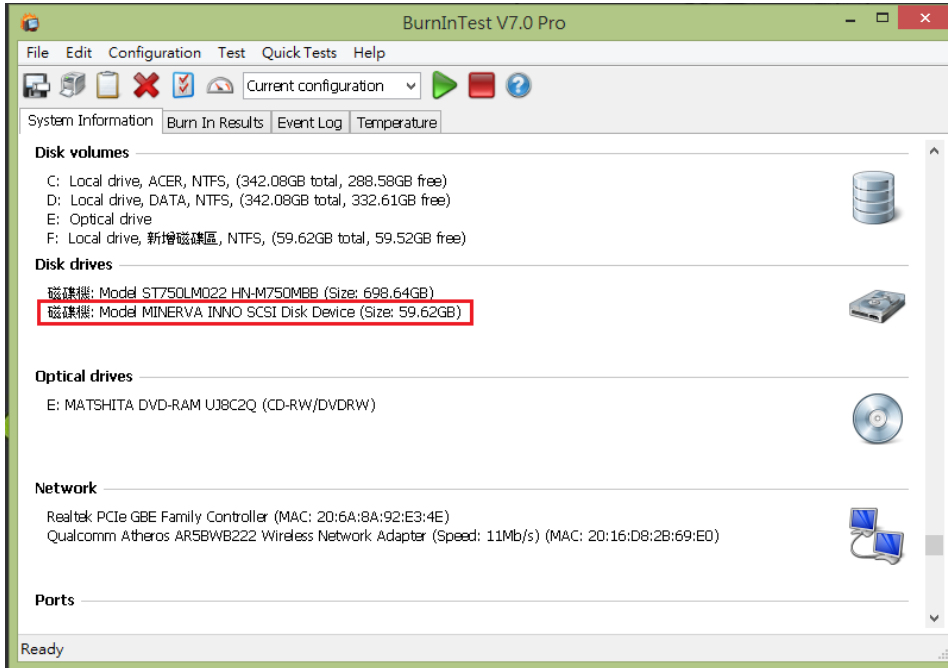


# U213A / mSATA SSD to USB 3.0 Module

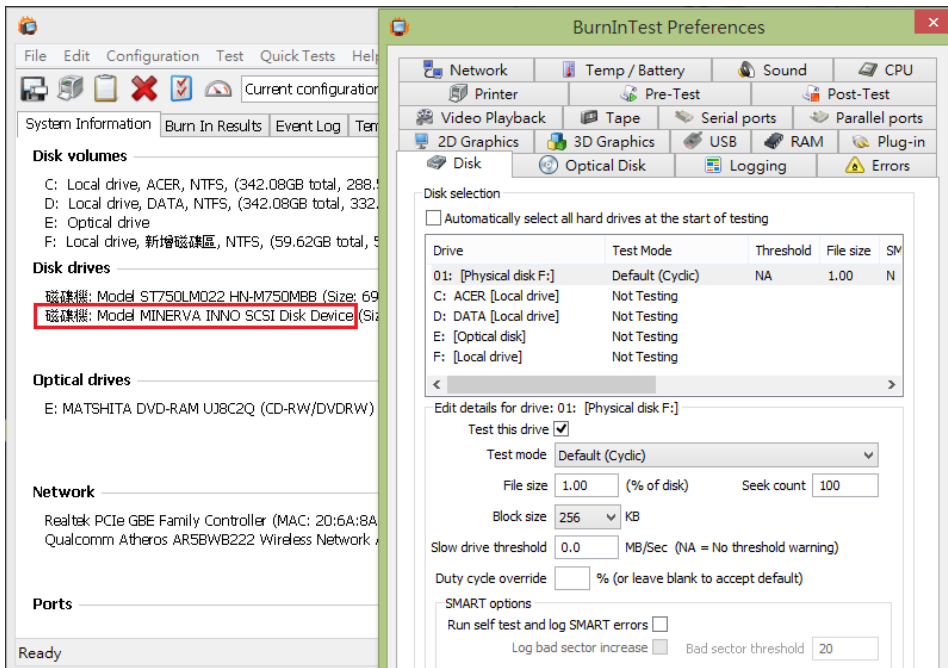
## 3. Burn In Tests and Results

### 3.1 BurnInTest v7.0 Pro

#### 3.1.1 system information for Crucial 64GB(M4-CT064M4SSD3) as below:

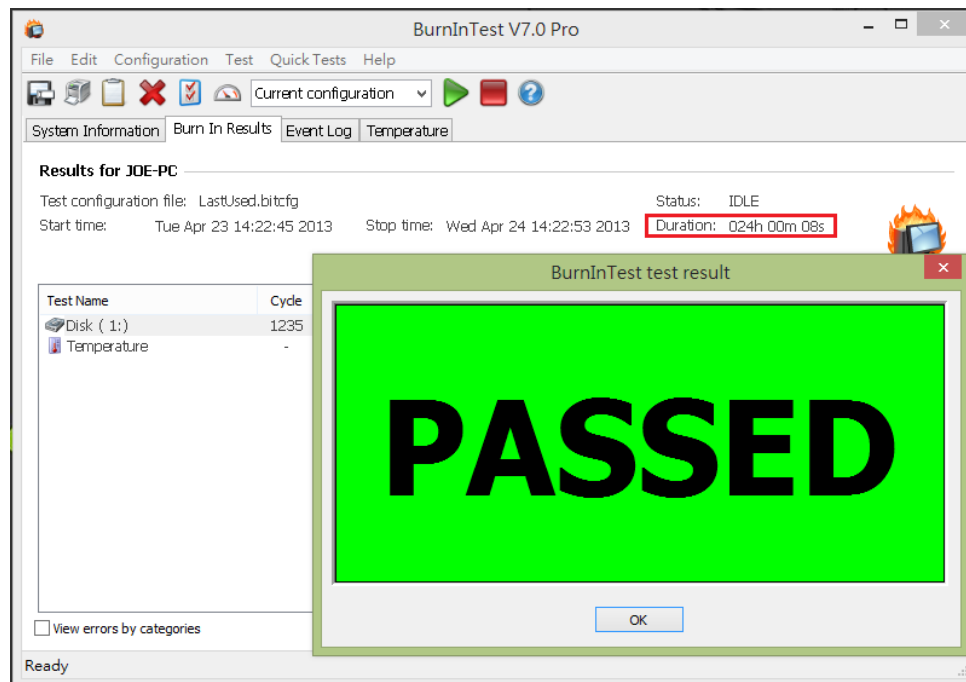


#### 3.1.2 show Disk test mode(default cyclic -- 10 ways cycle test)



# U213A / mSATA SSD to USB 3.0 Module

## 3.1.3 show Crucial 64GB(M4-CT064M4SSD3) 24-hour Burn-in test PASSED



## 4. Summary

- U213A convert, following USB 3.0 Standard, Current spec I/O speed, max. to 5Gb/s.
- U213A Adapter support **UAS Attached SCSI Protocol Specification Revision 1.0**
- I/O performance of U213A adapter is based on mSATA SSD