



# MINERVA

## U6237F USB3.1 C-type to mSATA & M.2 converter

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### Performance & Burn In Test Rev. 1.0

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# U6237F USB3.1 C-type for mSATA & M.2 Enclosure

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## 1. Overview

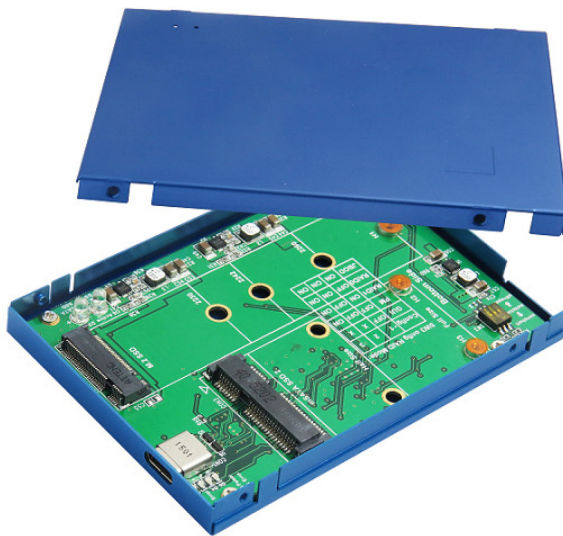
U6237F adapter, built-in USB3.1 C-type connector, provides one M.2 B-key connector and one Mini PCI-e connectors. First M.2 SSD inserts M.2 B-key connector and mSATA SSD inserts Mini PCI-e connectors, using USB A-type to C-type cable to connect to the host, both M.2 SSD and mSATA SSD would work simultaneous.

## 2. Tools and Results of Performance Measurement

### 2.1 Test Platform:

M/B : ASRock **Z170 Extreme 7+**  
CPU : Intel **i5-6400**, 2.7GHz/ 6M Cache/ LGA1151  
Memory : Kingston **KVR21N15D8/8**, DDR4-2133MHz, 16G(8GB DIMM\*2)  
ATX Power : FSP RAIDER 550, **550W ATX**, 12V V2.2 Power Supply  
Graphic : Z170 Chipsets built-in **HD Graphics 530**  
Cable: USB 3.1 A to C-type cable  
OS : Microsoft **Windows 8.1 64bit OS**

### 2.2 Test target: U6237F adapter and M.2 SSD, mSATA SSD



U6237F Adapter



Crucial 128GB mSATA



LITE-ON 128GB M.2

### 2.3 Install Hardware

Inserts M.2 SSD, mSATA SSD to U6237F adapter's M.2 and Mini PCI-e connector, and then use the coppers and screws to fix SSDs (please refer to the installation Notes). Then this adapter through USB cable to connect to USB3.1 port of ASRock **Z170 Extreme 7+**.

### 2.4 BIOS & Windows 8.1 OS environment setup

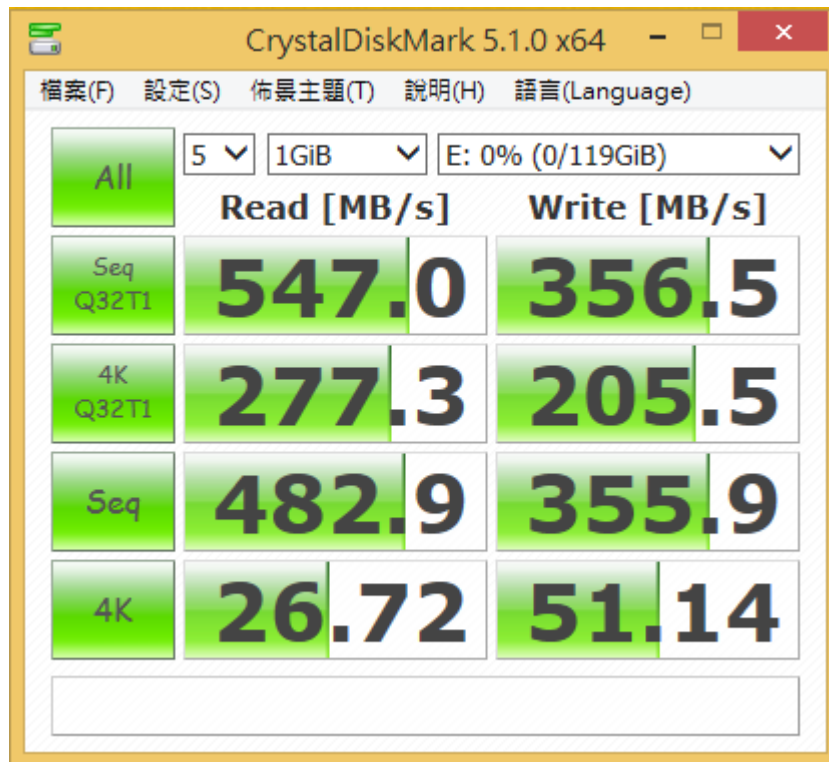
2.4.1 install Windows 8.1 64bit OS.

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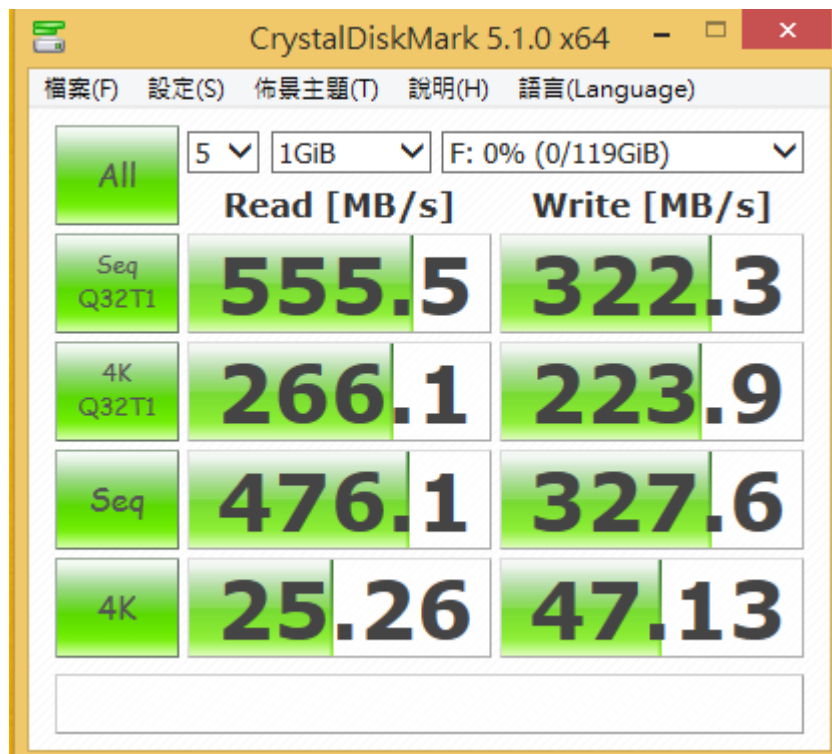
### 2.5 CrystalDiskMark 5.1.0 x64 performance test

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

2.5.1 Show [LGT-128M6G](#)/128GB using **C-type Plug Orientation Detection**:

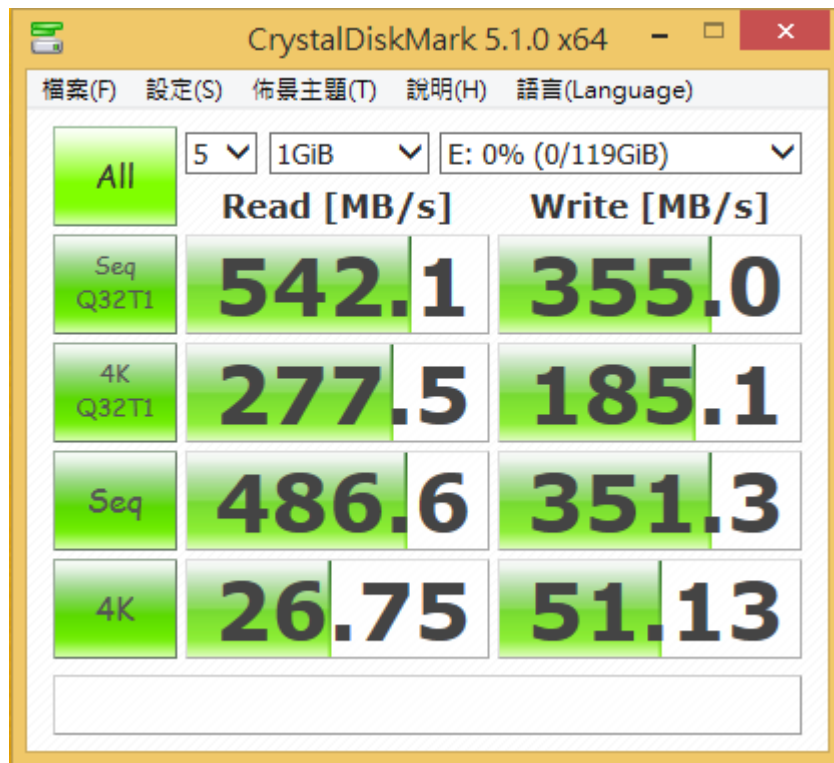


2.5.2 Show [LGT-128M6G](#)/128GB using **C-type Plug Cable Twist Detection**:

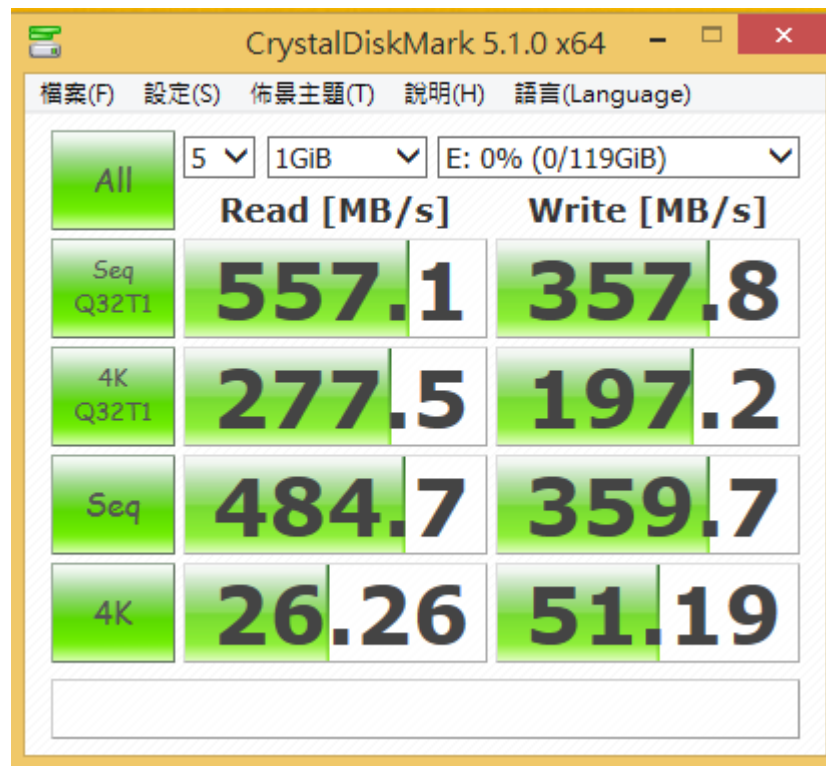


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2.5.3 Show [CT-128M550SSD3](#)/128GB using **C-type Plug Orientation Detection**:



2.5.4 Show [CT-128M550SSD3](#)/128GB using **C-type Plug Twist Detection**:

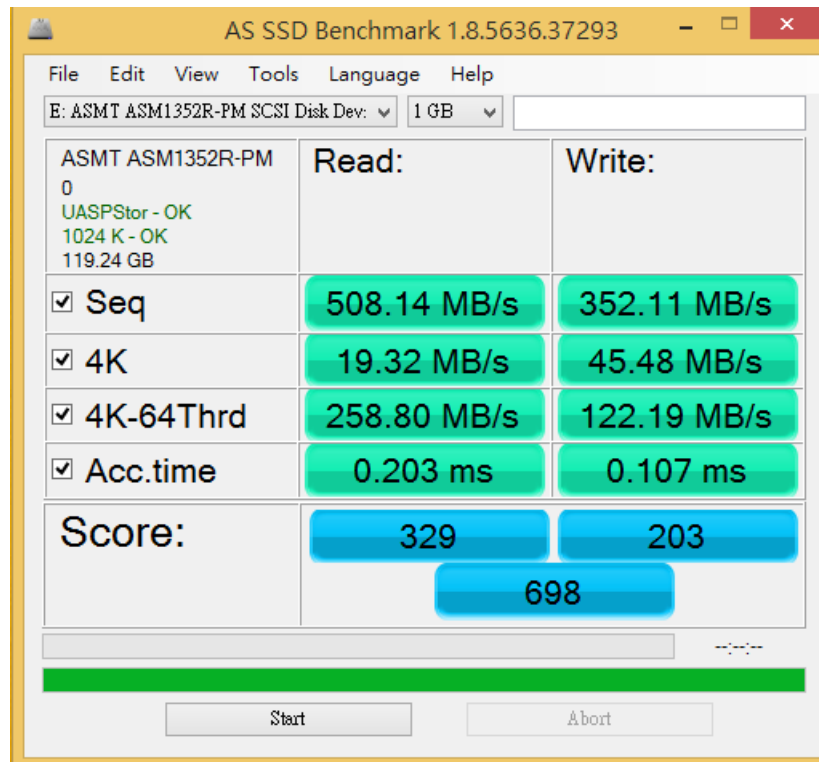


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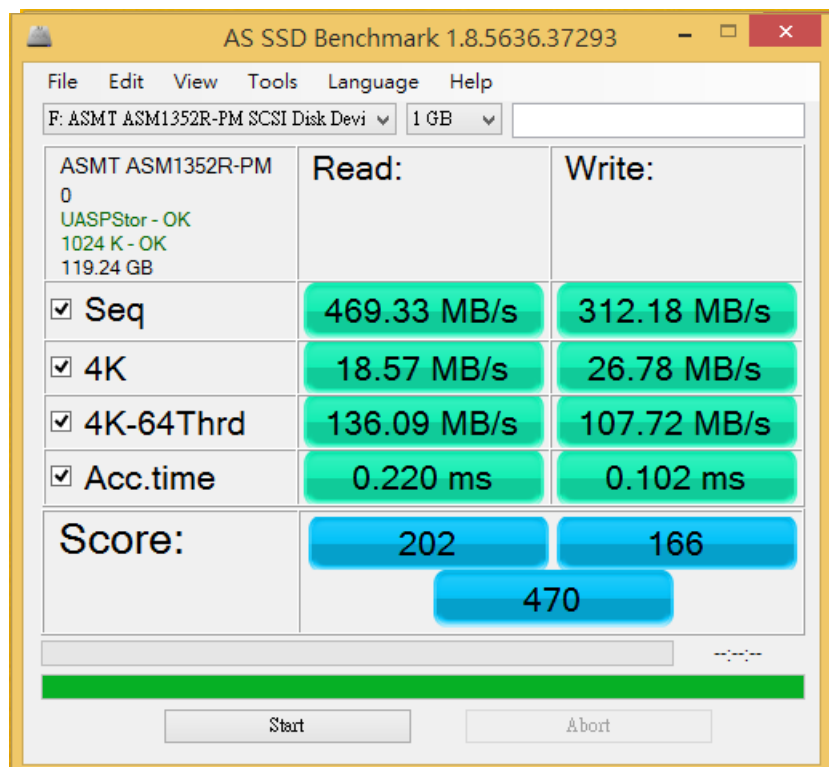
## 2.6 AS SSD Benchmark 1.8 performance test

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

2.6.1 Show [LGT-128M6G](#)/128GB performance as below:



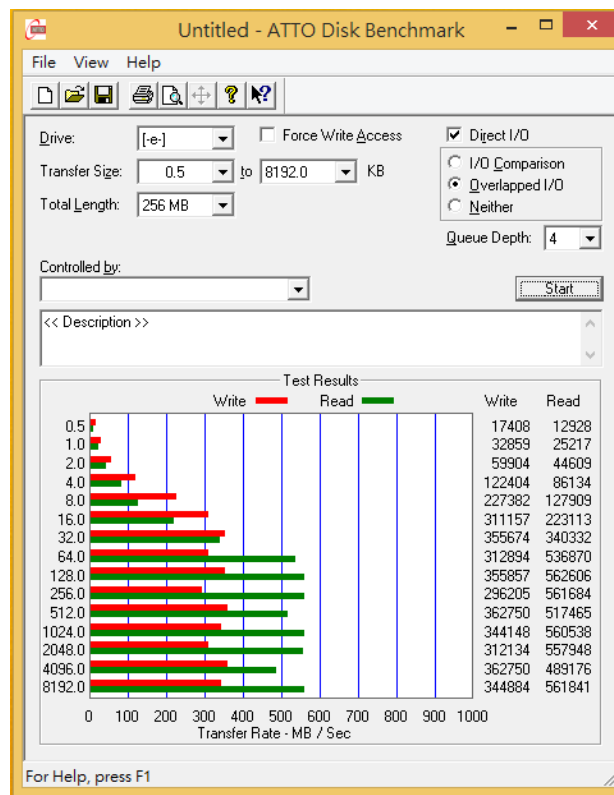
2.6.2 Show [CT-128M550SSD3](#)/128GB performance as below:



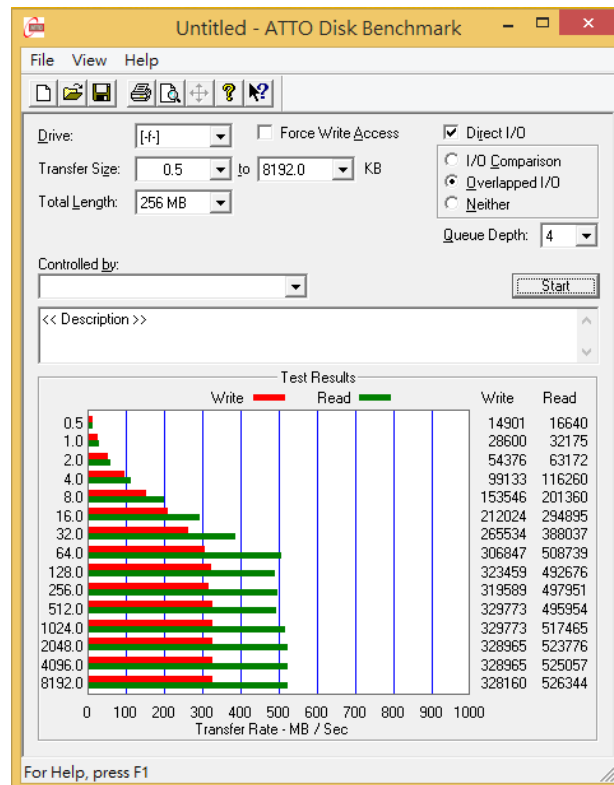
# U6237F USB3.1 C-type for mSATA & M.2 Enclosure

## 2.7 ATTO Disk Benchmark 2.47 performance test

2.7.1 Show [LGT-128M6G](#)/128GB performance as below:



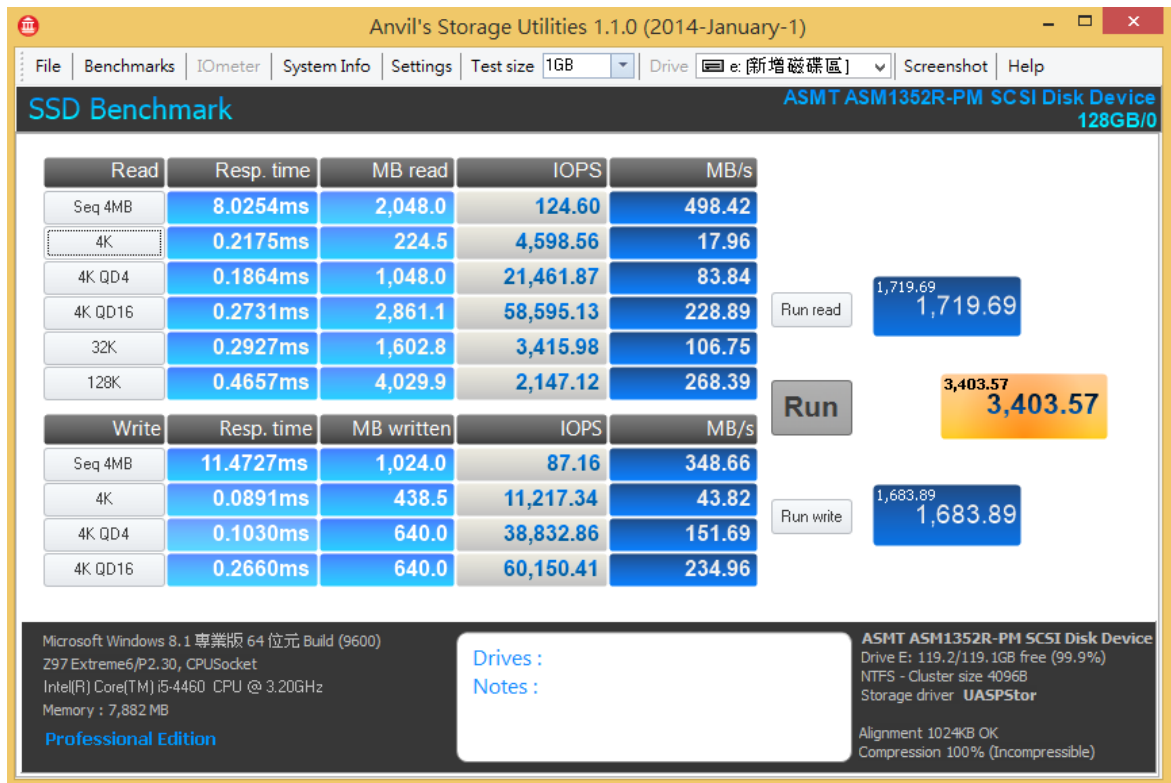
2.7.2 Show [CT-128M550SSD3](#)/128GB performance as below:



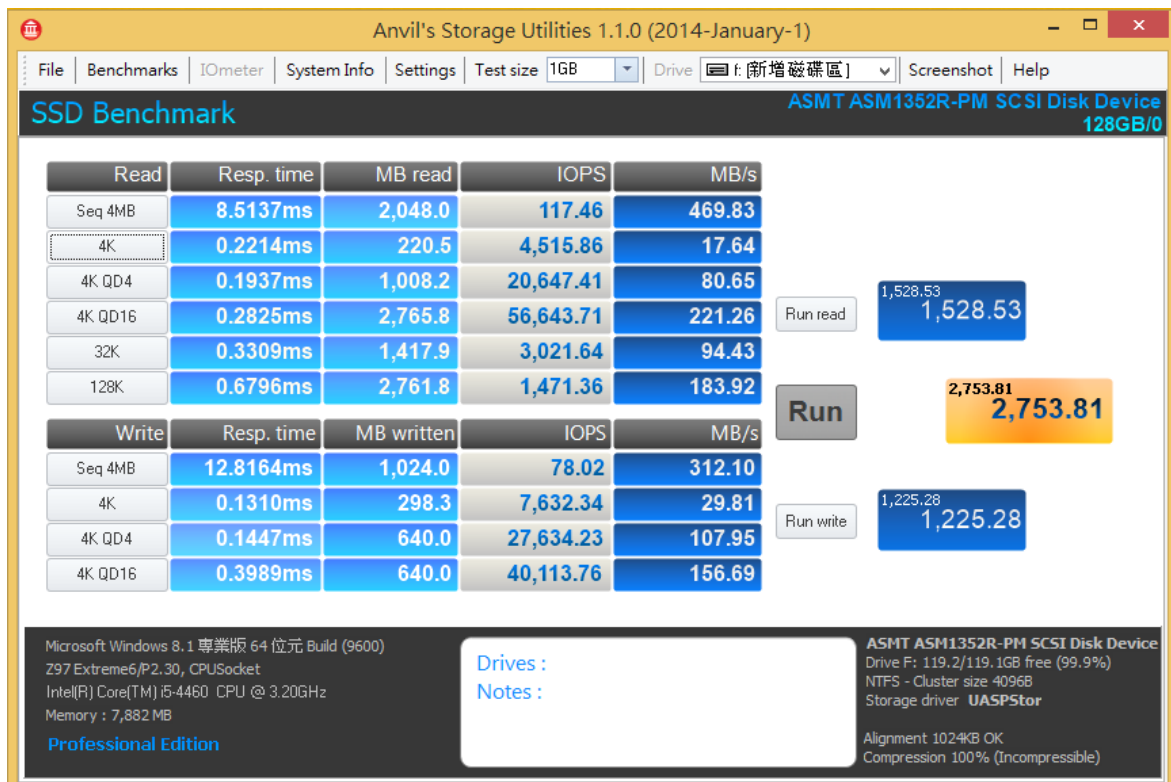
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## 2.8 AnvilBenchmark\_V110\_B337

2.8.1 Show [LGT-128M6G](#)/128GB performance as below:



2.8.2 Show [CT-128M550SSD3](#)/128GB performance as below:





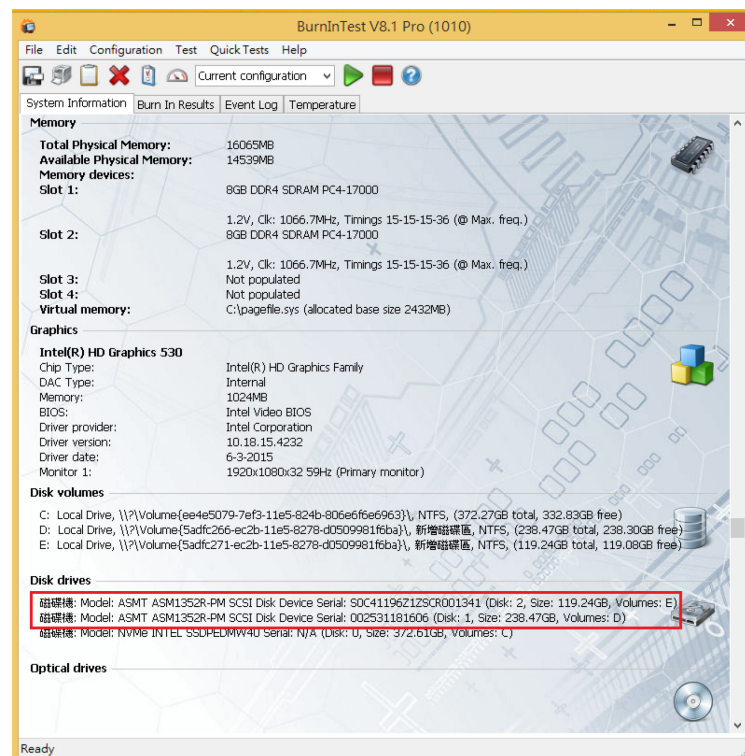
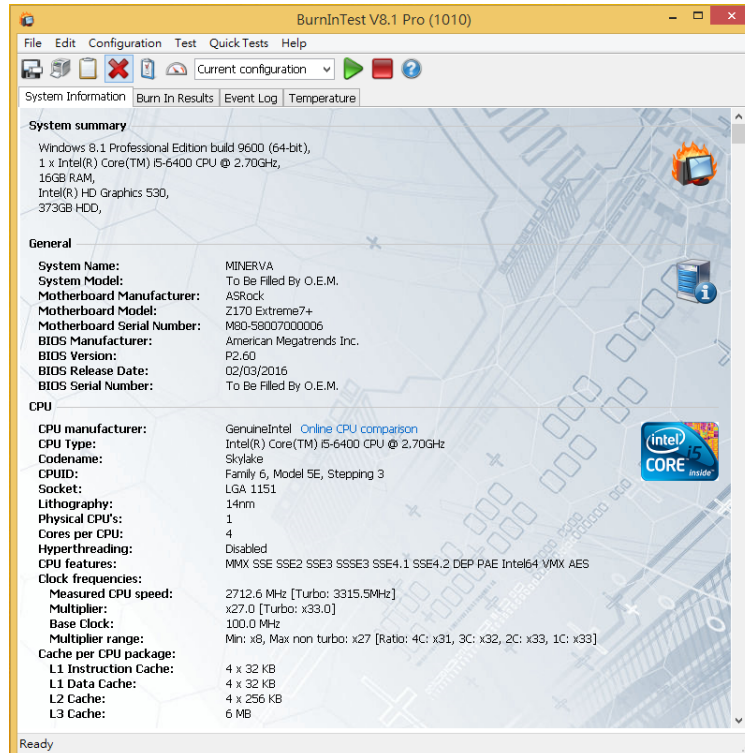
# U6237F USB3.1 C-type for mSATA & M.2 Enclosure

## 3. Burn In Tests and Results

### 3.1 BurnInTest v8.1 Pro

show LITE-ON 128GB(LGT-128M6G) & Crucial 128GB(CT-128M550SSD3)

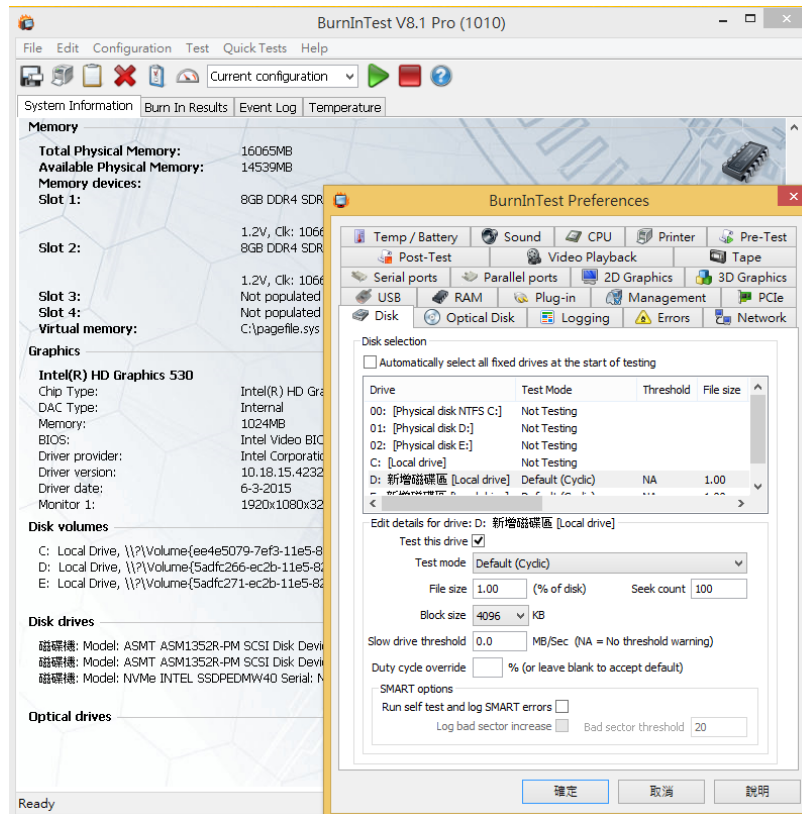
#### 3.1.1 system information as below:



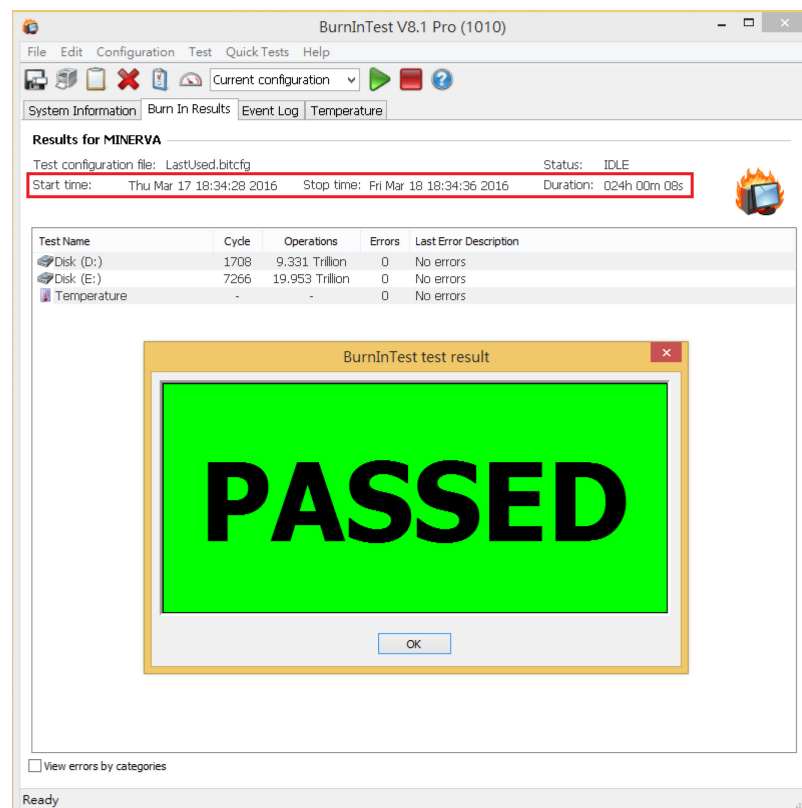


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## 3.1.2 show Disk test mode( 10 ways cycle test)



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



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## 4. Summary

- 4.1 USB 3.1 is 10Gbps Interface.
- 4.2 SATA III is 6Gbps Interface.
- 4.3 M.2 SSD is SATA III Interface, I/O speed, max. to 600MB/s.
- 4.4 mSATA SSD is SATA III Interface, I/O speed, max. to 600MB/s.
- 4.4 U6237F adapter I/O performance is based on M.2 SSD or mSATA SSD.