MINERVA

AD96AFB/AD96AFE Converter Card

Performance & Burn In Test Rev. 1.0

Table of Contents

AD96AFB/AD96AFE Converter Card

1. Overview

AD96AFB/FE series adapters, support 6+12pin connector to convert Asus Zenbook SATA III SSD into SATA 7+15pin standard interface.

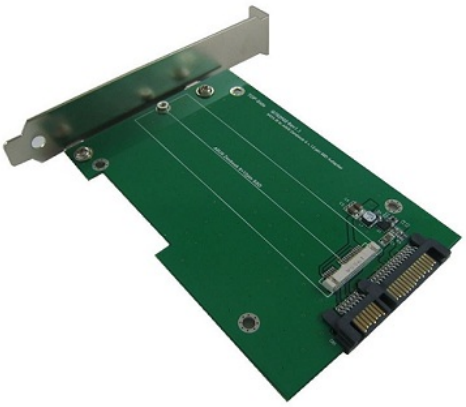
2. Tools and Results of Performance Measurement

2.1 Test Platform

M/B : ASUS **P8P67**
CPU : Intel **i5-2500,** 3.3MHz/ 6G Cache/ 5GT
Memory : Kingston **KVR1333D3N9K2/4G,** DDR3-1333MHz,4G(2GB DIMM*2)
ATX Power : TC START W500, **500W ATX**,12V V2.2 Power Supplier
Graphic : MSI **, R6700** / AMD HD 6700 Series
OS : Microsoft **Windows 7 64bit OS**

2.2 Test target: (AD96AFx series adapter) and SSD(ADATA XM11-128GB)

AD96AFE



AD96AFB

ASUS Zenbook SSD

2.3 Install Hardware

Insert SATA III SSD(ADATA XM11-128GB) into AD96AFB/FE converter's SATA 6+12pin connector, and then with coppers, and screws to fix SSDs. (Please refer to the Installation Notes). Connect AD96AFB/FE converter to SATA III Port of ASUS P8P67 motherboard.

2.4 BIOS & Windows 7 OS environment setup

2.4.1 In BIOS(Basic Input/Output Setup) – Change IDE Mode into AHCI Mode
2.4.2 In Windows 7, formatted SSD to NTFS Mode. Don't install any program.

2.5 SSD I/O Performance impact factors

2.5.1 SATA I/O performance -- depending on the SSD Controller IC

2.5.2 SATA I/O performance - -depending on the NAND Flash IC.

2.5.2.1 Toggle DDR mode or ONFI synchronous NAND Flash IC, will show good performance

2.5.2.2 Traditional asynchronous or SDR NAND Flash IC, will show poor performance

Suggestion:

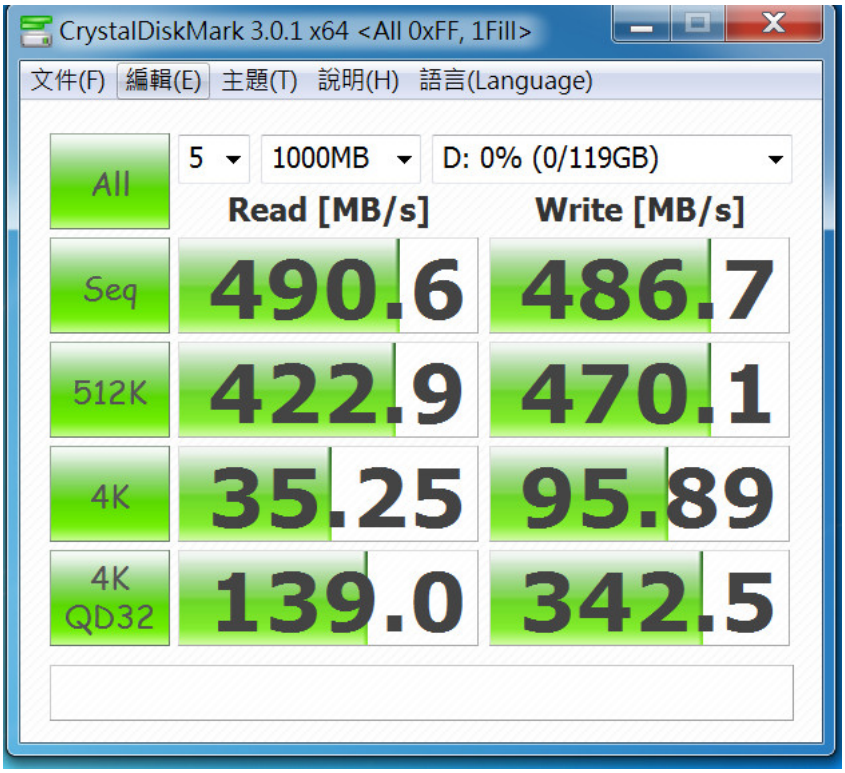
Please use the motherboard containing native SATA 6Gb/s Port testing, can provide more correct I/O performance. (Such as Intel 6 Series chipsets or AMD 9 Series Chipsets).

If you are using a motherboard plus SATA III host bus adapter, non-native 6Gb/s Port or SATA to PCI-e adapter provides 6Gb/s Port. I/O performance testing will be very much lower than the native SATA III Port.

2.6 CrystalDiskMark 3.0.1 x64 performance test

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

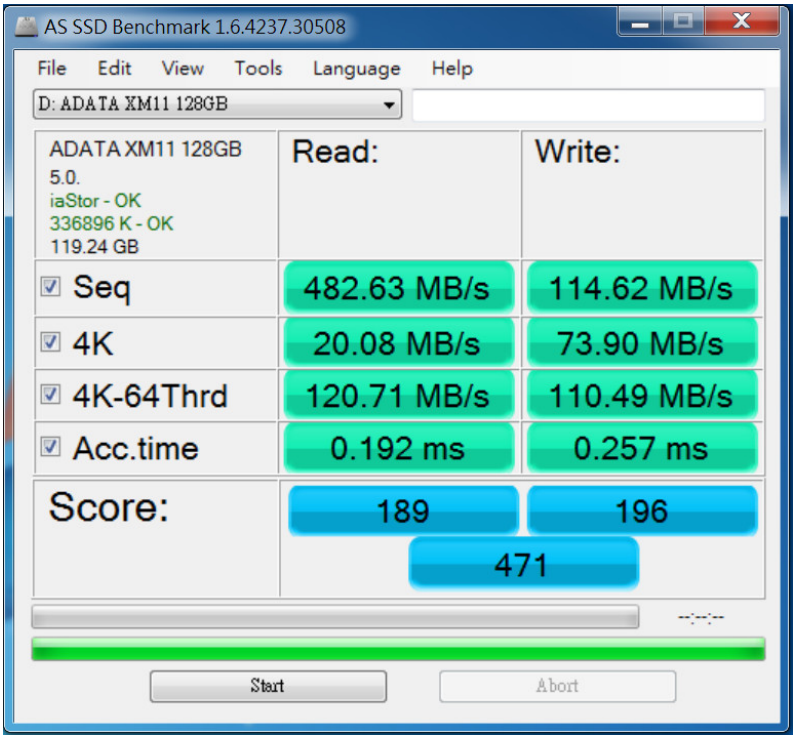
2.6.1 Used ADATA XM11-128GB performance as below:



2.7 AS SSD Benchmark 1.6 performance test

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

2.7.1 Used ADATA XM11-128GB performance as below:

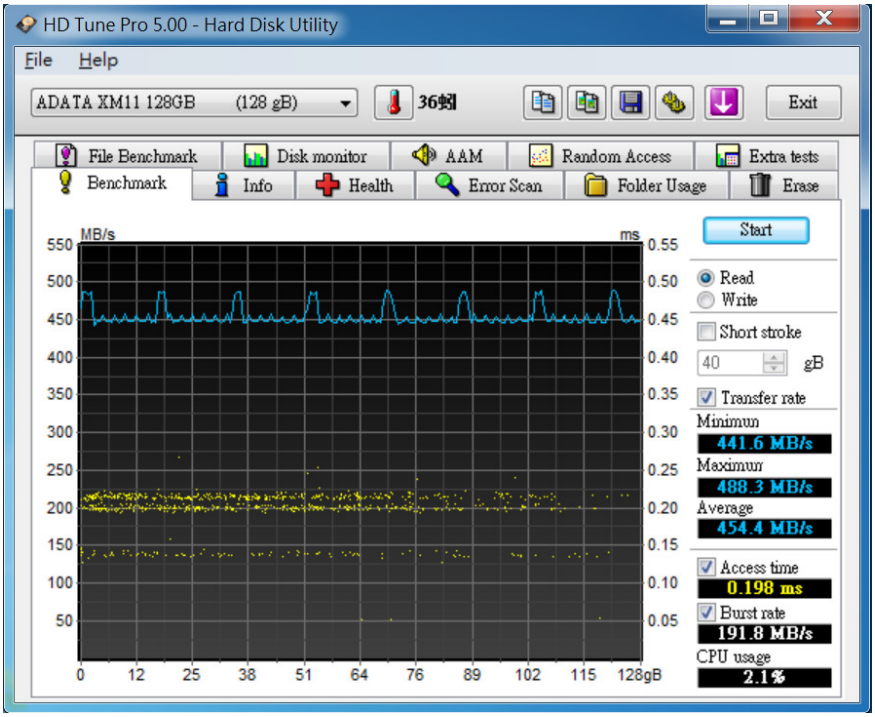


2.7.2 Used ADATA XM11-128GB IOPS as below:

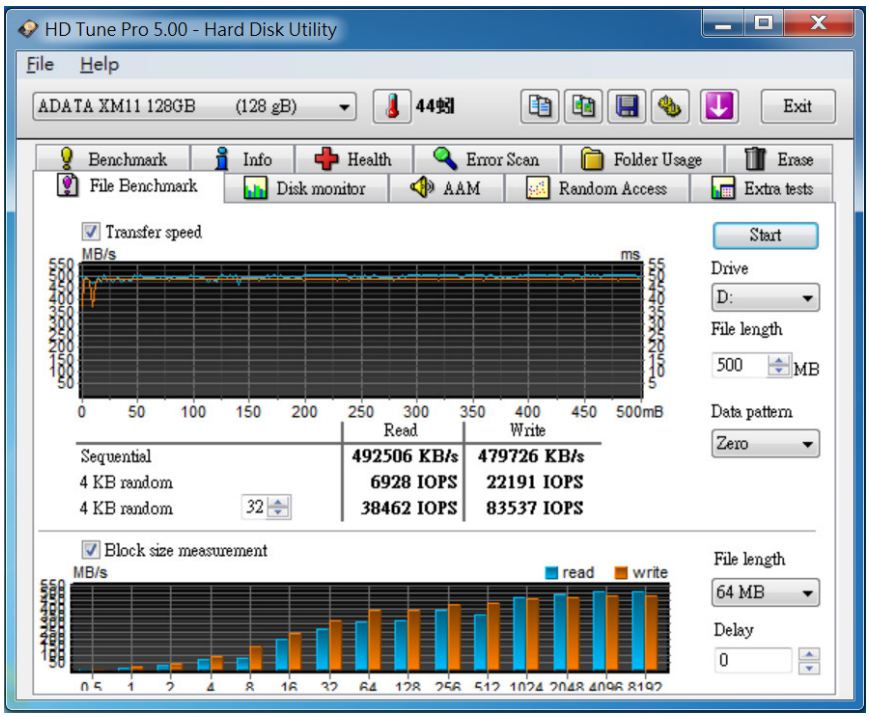
2.8 HD Tune Pro 5.0 performance test

※Benchmark (Sequential Read / default block size = 64KB)

2.8.1 Used ADATA XM11-128GB performance as below:

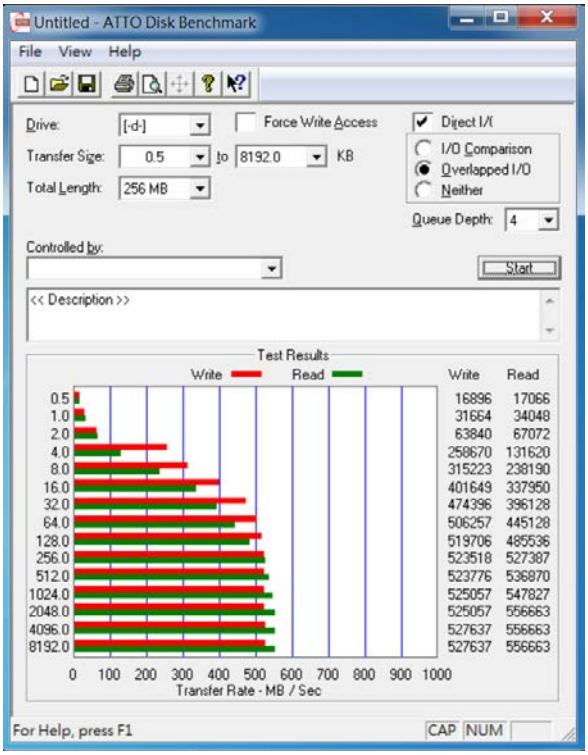


2.8.2 Used ADATA XM11-128GB File Benchmark as below:



2.9 ATTO Disk Benchmark

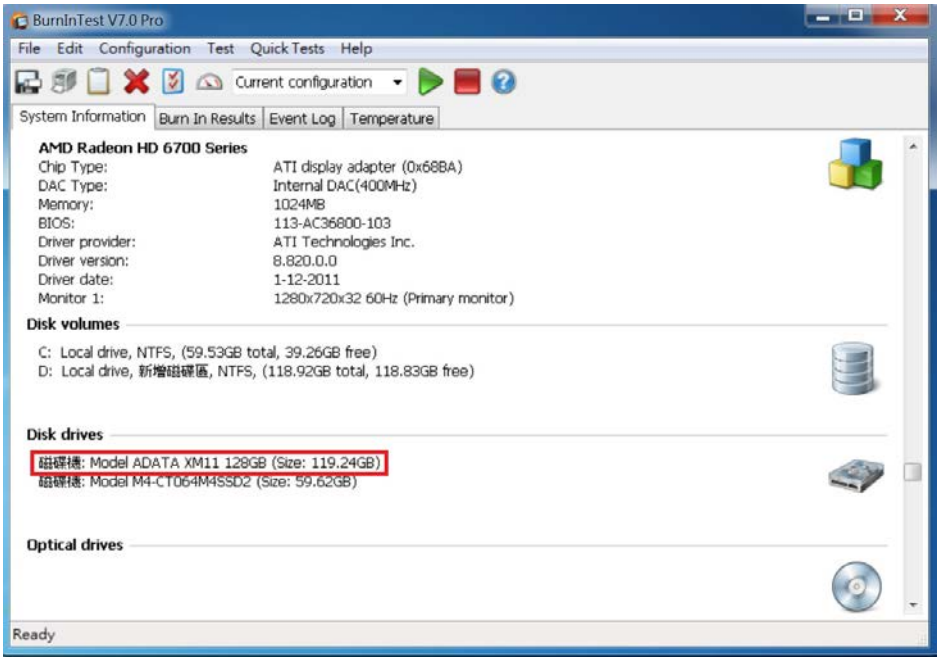
2.9.1 Used ADATA XM11-128GB performance as below:



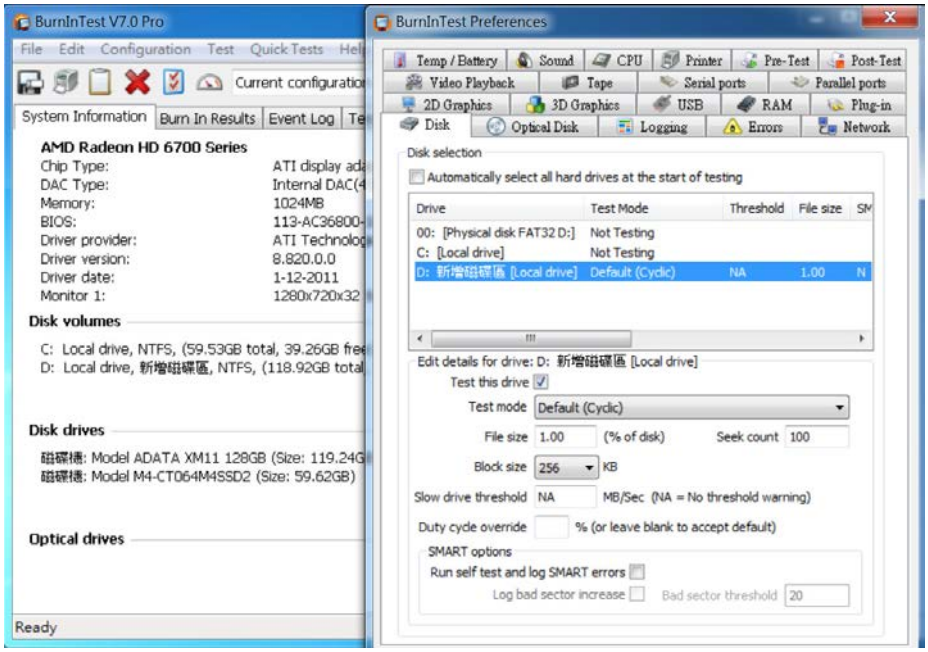
Burn In Tests and Results

3.1 BurnInTest v7.0 Pro

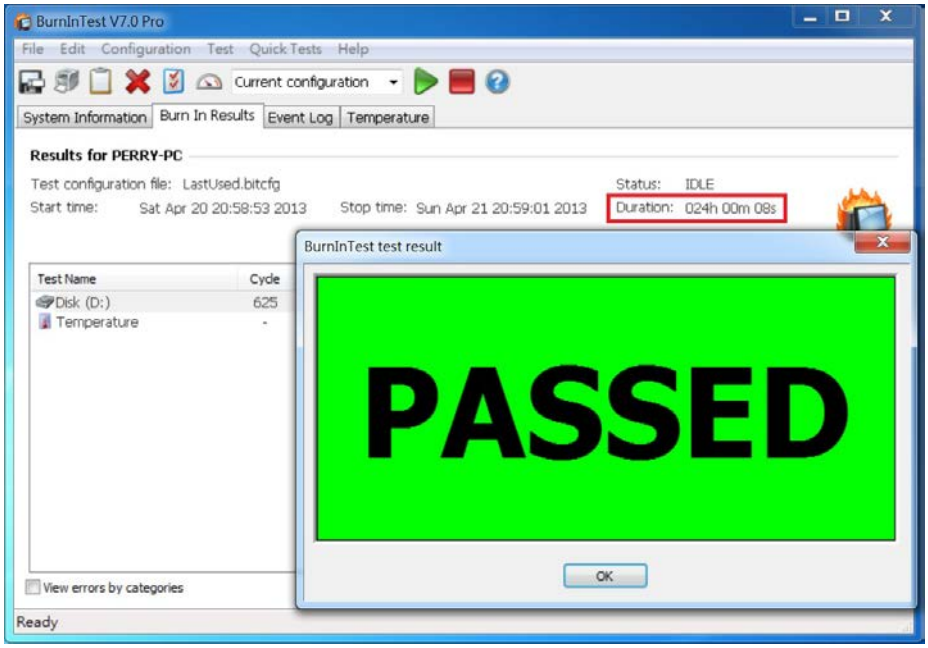
3.1.1 **system information** for ADATA XM11-128GB as below:



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



3.1.3 show ADATA XM11-128GB 24-hour Burn-in test PASSED



4. Summary

4.1 ADATA XM11 Series SSD is SATA III Interface, I/O speed, max. to 600MB/s.

4.2 AD96AFB/FE adapter I/O performance is based on ADATA XM11 Series SSD