



BIWIN Flash Storage

Test Report

Product Name: SSD

Product Model: CHF87GS237D-480

Test Item: Performance Test

Reporter: Erik Zhang

Date: 2015-11-24

Approver: _____

Date: _____

1.Sample Information

Product Model	CHF87GS237D-480	Quantity	4PCS
Controller	SM2256K	Flash	K9CHGD8U5D
PCB	SM2256AB_8BGA152_00928	Capacity	480GB
Firmware	O1015A		

2.Hardware Test Equipment

CPU	Intel i3-2100 3.10G	Motherboard	GA-Z77-D3H
Chipset	Intel Z77	Memory	Samsung DDR3 1600/4G
Graphics Card	On Board VGA	OS HDD	Seagate 500GB
Power Supply	HuntKey ATX-500W	OS Version	Windows7 X64

3.Test Enviroment

Temperature	25°C	Humidity	50%
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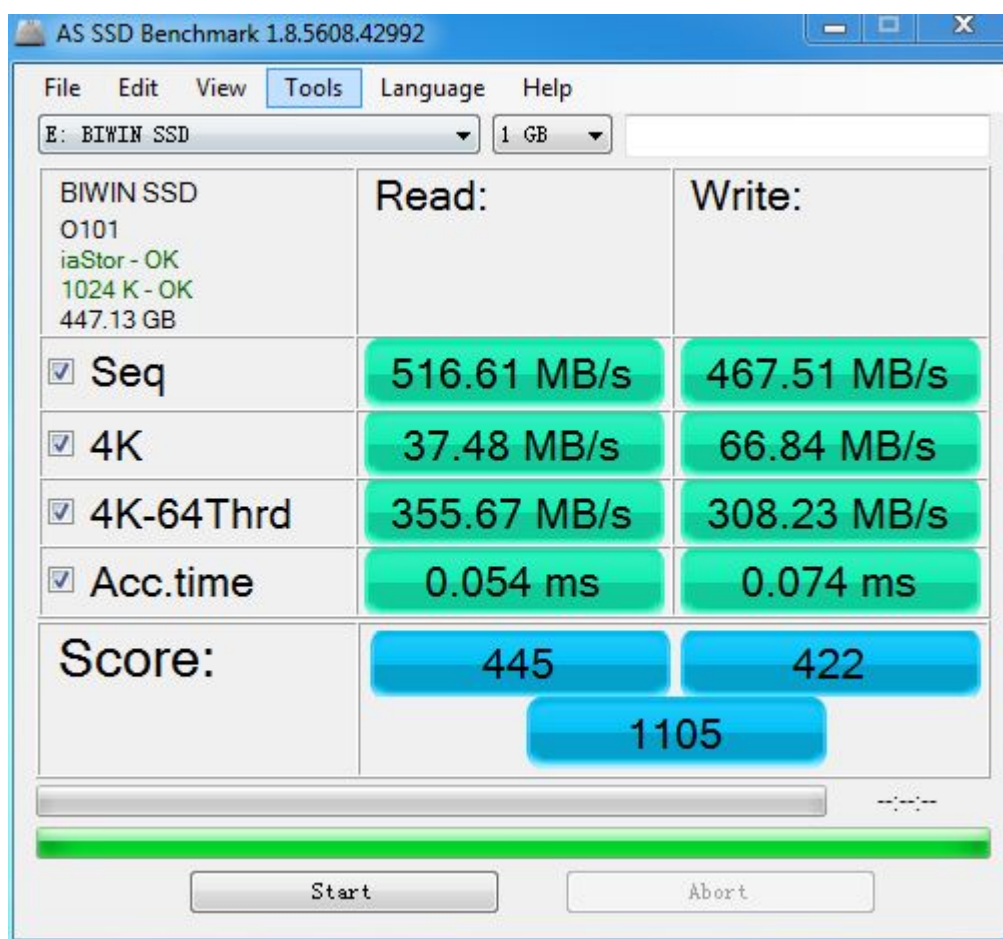
4.Test Software

Item	Tools	Model	Result
R/W speed test	AS SSD Benchmark	V1.7.4739.38088	Record data and print screen
	FastCopy	V2.08	Record data and print screen
	H2testw	V1.0.4.0	Record data and print screen
	HDBENCH	V3.4003	Record data and print screen
	ATTO Disk Benchmark	V2.46	Record data and print screen
	PCMark Vantage	V1.0.2.1	Record data and print screen
	Iometer	V2008.06.18	Record data and print screen
	CrystalDiskMark	V3.02	Record data and print screen
Capacity test	N/A	Windows 7 X64	Print screen
Power Consumption Test	Multimeter	Fluke 18B	Record data and print screen
Power on-off test	System Computer	N/A	Check the final result
S3/S4 test	System Computer	N/A	Check the final result
Reboot test	System Computer	N/A	Check the final result

4.1.AS SSD Benchmark Test(V1.7.4739.38088)

Test Step	Test Process	Test Result	
1	Run AS SSD Benchmark and test the performance of write, Record data and print screen	Sequence Read	516.61 MB/s
2		Sequence Write	467.51 MB/s
3		4K Read	37.48 MB/s
4		4K Write	66.84 MB/s
5		4K-64Thrd Read	355.67 MB/s
6		4K-64Thrd Write	308.23 MB/s
7		ACC.time Read	0.054 ms
8		ACC.time Write	0.074 ms
9		Score Read	445
10		Score Write	422
11		Score All	1105

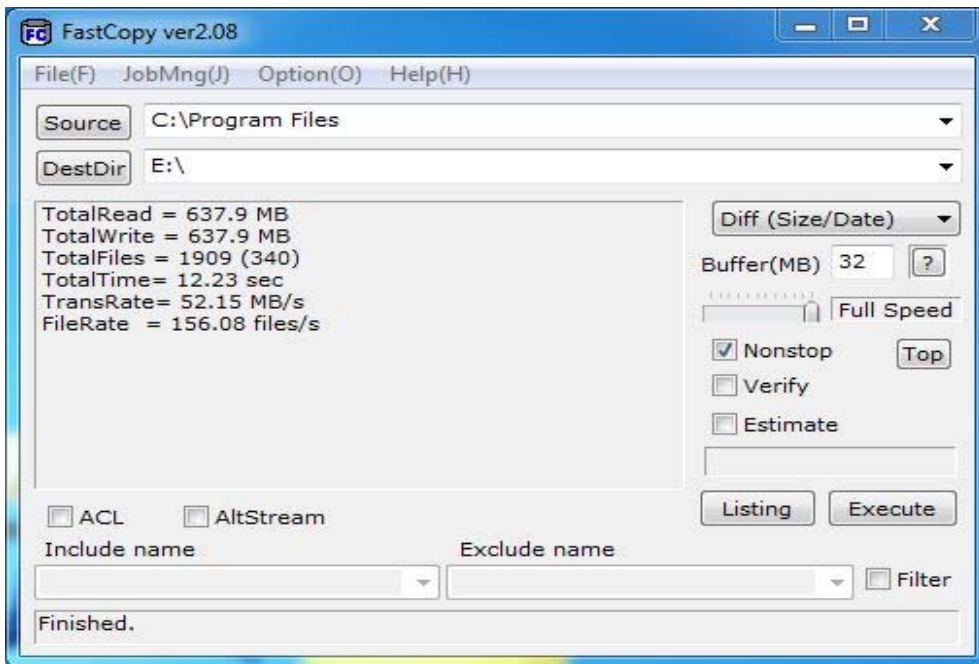
Printscreen of test result:



4.2. FastCopy Test (V2.08)

Test Step	Test Process	Test Result	
1	Run FastCopy and test the performance, Record data and print screen	Transport speed	52.15 MB/s

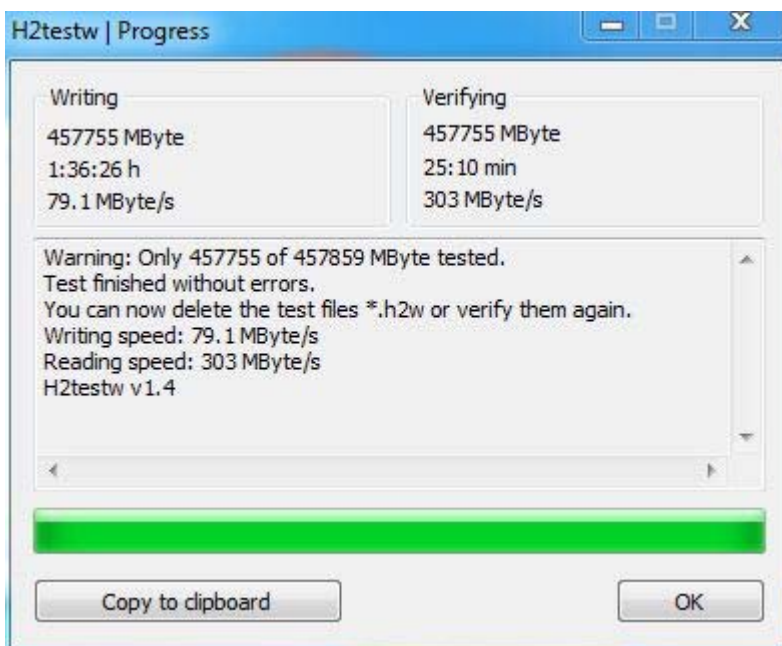
Printscreen of test result:



4.3.H2testw Test(V1.0.4.0)

Test Step	Test Process	Test Result	
1	Run H2testw and test the performance of write.	Write	79.1 MB/s
2	Record data and print screen	Read	303 MB/s

Printscreen of test result:



4.4.HDBENCH Test (V3.40)

Test Step	Test Process	Test Result	
1	Run HDBENCH and test the performance.	Sequential Read	503 MB/s
2		Sequential Write	468 MB/s
3	Record data and print screen	Random Read	152 MB/s
4		Random Write	198 MB/s

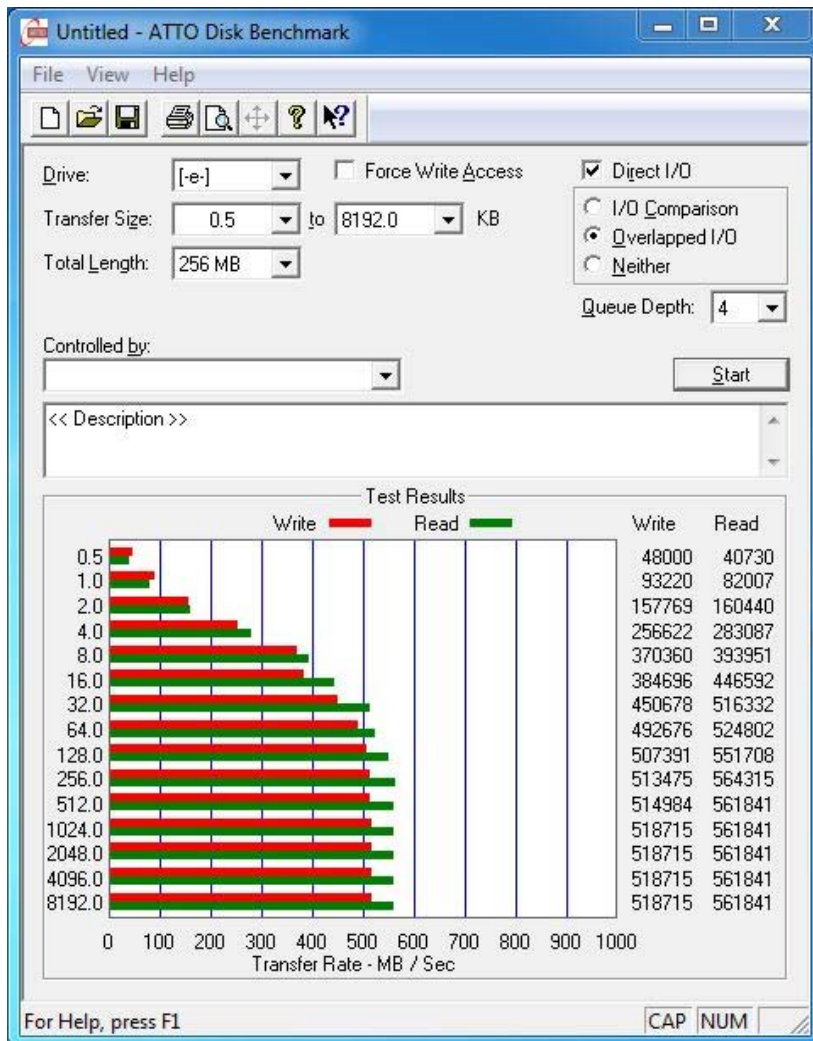
Printscreen of test result:



4.5. ATTO Disk Benchmark Test(V2.46)

Test Step	Test Process	Test Result	
1	Run ATTO Disk Benchmark and test the performance. Record data and print screen	Read	564 MB/s
2		Write	518 MB/s

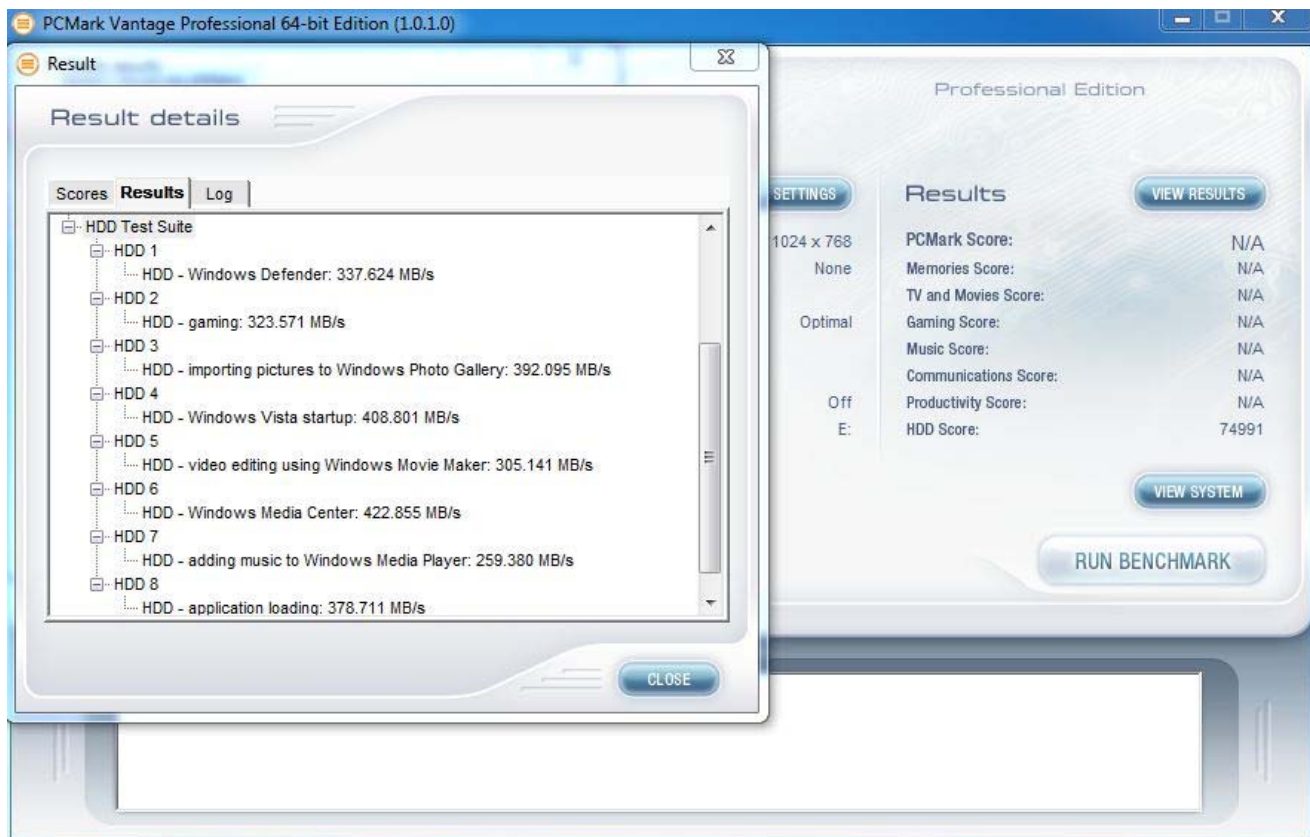
Printscreen of test result:



4.6. PCMark Vantage Test (1.0.2.1)

Test Step	Test Process	Test Result	
1	Run PCMark Vantage and test the performance. Record data and print screen	HDD Score	74991
2		Windows Defender	337.624 MB/s
3		Gaming	323.571 MB/s
4		Importing Pictures	392.095 MB/s
5		Windows Vista Startup	408.801 MB/s
6		Video Editing	305.141 MB/s
7		Windows Media Center	422.855 MB/s
8		Adding Musing	259.380 MB/s
9		Application Loading	378.711 MB/s

Printscreen of test result:

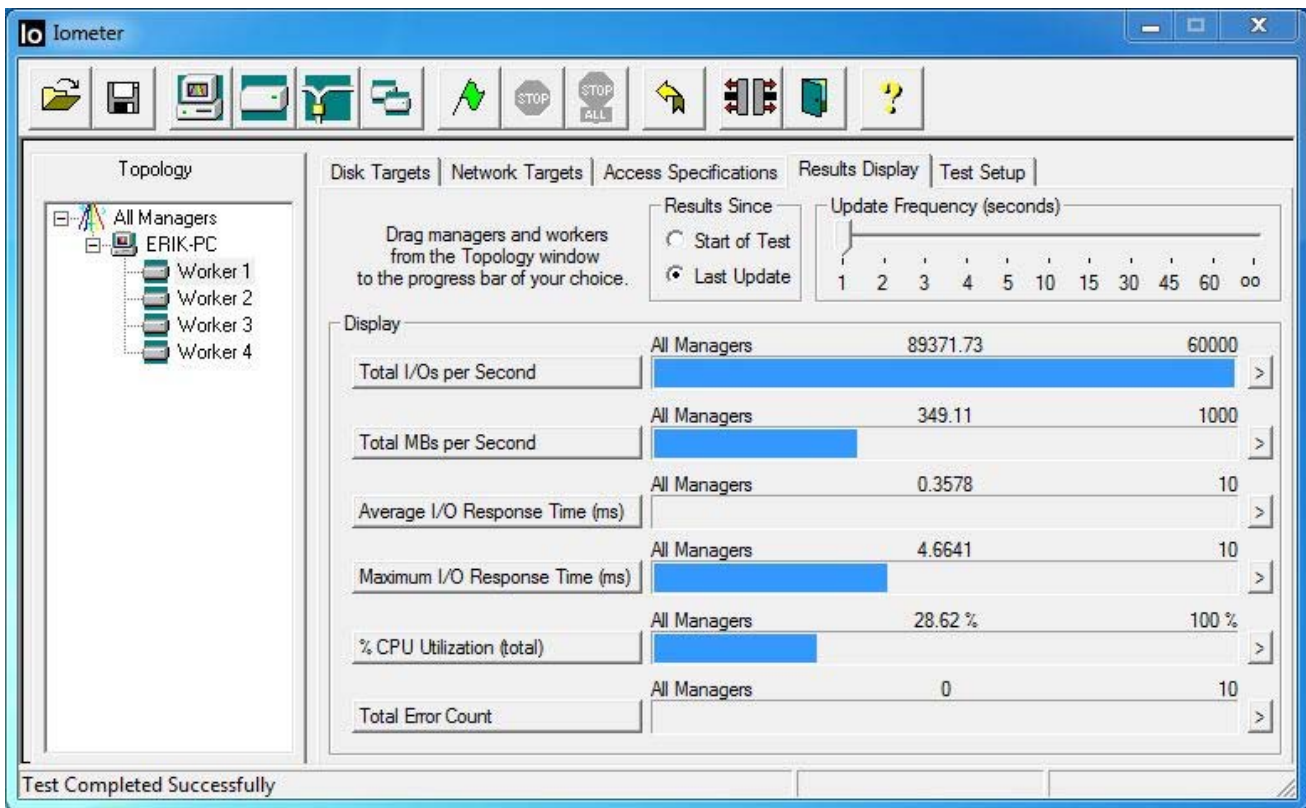


4.7. Iometer Test (V2008.06.18)

4.7.1 4KB Random Read

Test Step	Test Process	Test Result	
1	Run Iometer and test the performance of read. Record data and print screen	Average IO/s	89371.73
2		Average MB/s	349.11 MB/s
3		Average Response Time	0.3578ms

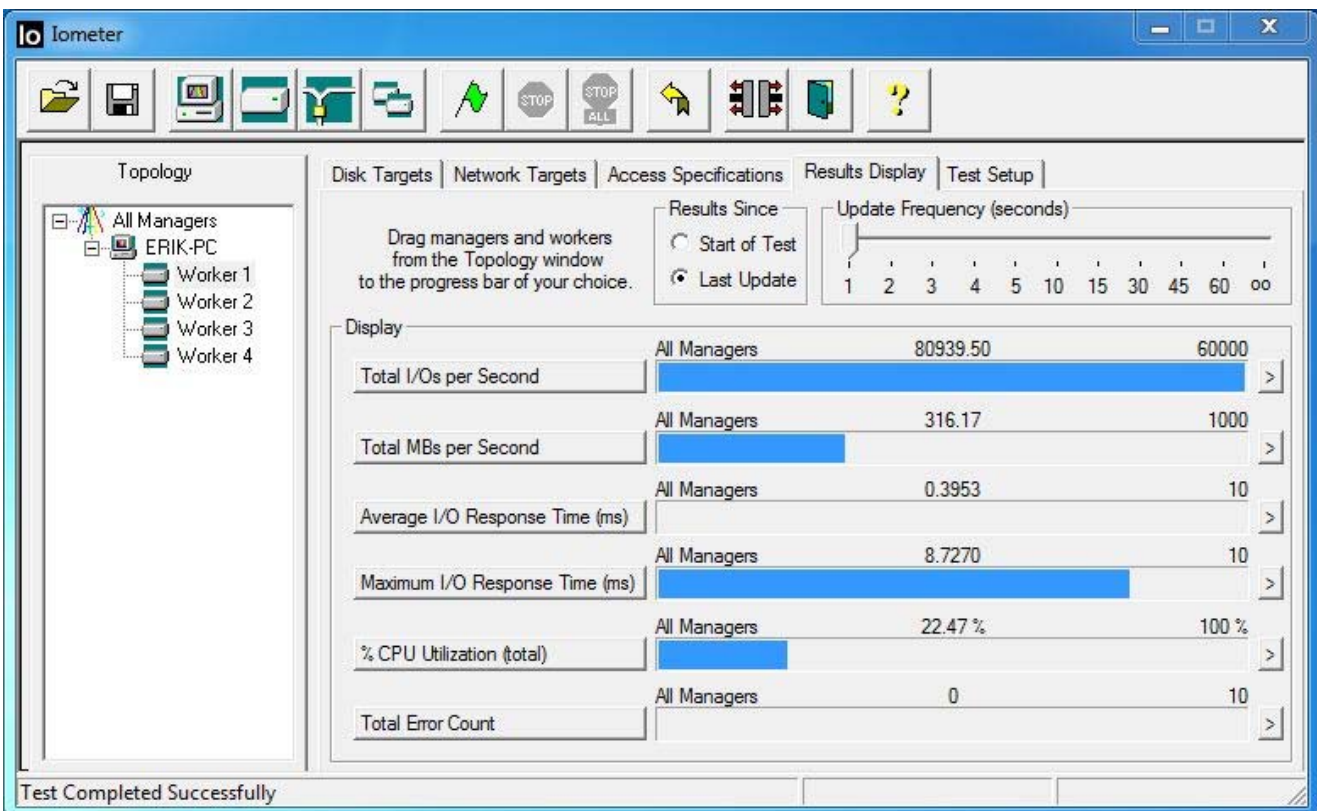
Printscreen of test result:



4.7.2 4KB Random Write

Test Step	Test Process	Test Result	
1	Run iometer and test the performance of write, Record data and print screen	Average IO/s	80939.50
2		Average MB/s	316.17 MB/s
3		Average Response Time	0.3953ms

Printscreen of test result:

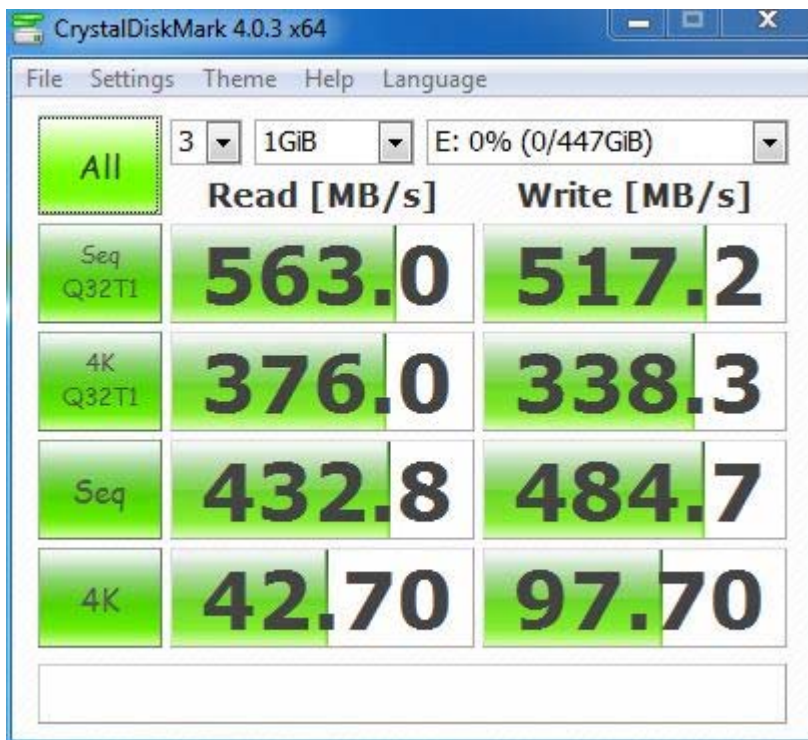


4.8. Crystal DiskMark Test(V4.0.3)

4.8.1 Default Setup

Test Step	Test Process	Test Result	
1	Run Crystal DiskMark and test the performance, Record data and print screen	Sequence QD32 Read	563.0 MB/s
2		Sequence QD32 Write	517.2 MB/s
3		4K QD32 Read	376.0 MB/s
4		4K QD32 Write	338.3 MB/s
5		Sequence Read	432.8 MB/s
6		Sequence Write	484.7 MB/s
7		4K Read	42.70 MB/s
8		4K Write	97.70 MB/s

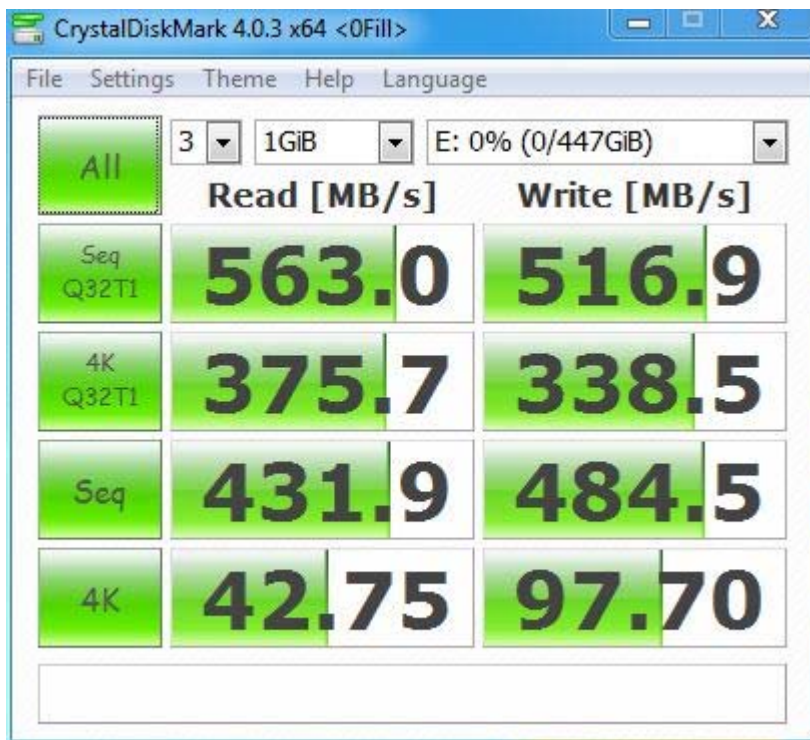
Printscreen of test result:



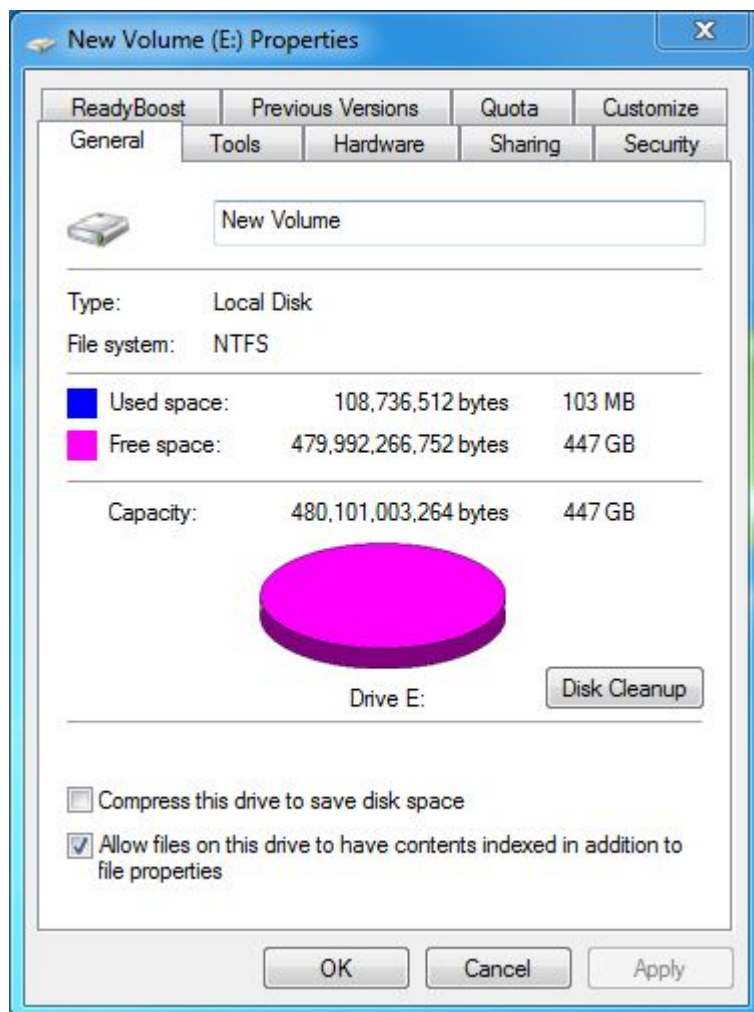
4.8.2 All 0 Setup

Test Step	Test Process	Test Result	
1	Run Crystal DiskMark and test the performance, Record data and print screen	Sequence QD32 Read	563.0 MB/s
2		Sequence QD32 Write	516.9 MB/s
3		4K QD32 Read	375.7 MB/s
4		4K QD32 Write	338.5 MB/s
5		Sequence Read	431.9 MB/s
6		Sequence Write	484.5 MB/s
7		4K Read	42.75 MB/s
8		4K Write	97.70 MB/s

Printscreen of test result:



4.9. Capacity Test



4.10. Power Consumption Test

Test Step	Test Process	Work State	Voltage	Current (Max)	Power
1	Add a resistor of 0.5ohm between the power-in site, calculate the current after measuring the voltage by the multimeter.	Read	5V	496mA	2.48W
2		Write	5V	852mA	4.26W
3		Idle	5V	94mA	0.47W

4.11 Power on-off Test

Test Step	Test Process	Test Result
1	Plug the SSD to the system computer.	PASS
2	Set the time from booting to shut down as 60s	
3	Run burnin test after the system booting normally	
4	Run 3000 times at least for this test	
5	Check the sample which have functional failure and data loss or not	

4.12 S3/S4 Test

Test Step	Test Process	Test Result
1	Install the Windows 7 into the test sample of SSD	PASS
2	Run the S3/S4 test program for 3000 times	
3	Check the sample which have dropped drive or not	

4.13 Restart Test

Test Step	Test Process	Test Result
1	Install the Windows 7 into the test sample of SSD	PASS
2	Run the restart test program for 3000 times	
3	Check the sample which have dropped drive or not	