

## Test Report

### X-Wall FX-128 USB/SATA Bridge Chip

(Hardware AES 128-bit Full Disk Encryption Enabled)

**Date: May 8, 2008**

### Test Configuration

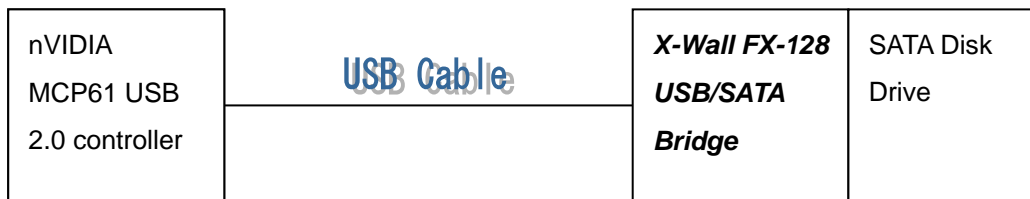
USB Host	nVIDIA MCP61 USB 2.0 controller
CPU	AMD Athlon™ 64x2 Dual Core Processor 4000+
Memory	1GB
Hard Drive	Hitachi Travelstar SATA 40GB
Operating System	Windows Vista
Test Program	See below Test Programs Applied

### Test Programs Applied

- ATTO Disk Benchmark
- SiSoftware SANDRA 2004

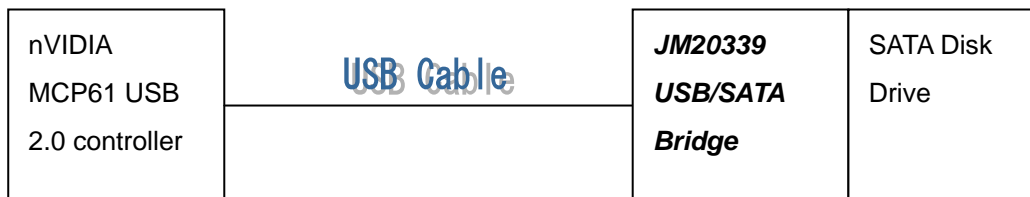
### Configuration 1

- Test the SATA hard disk performance with *X-Wall FX-128 USB/SATA bridge*  
(Hardware AES 128-bit Full Disk Encryption Enabled)



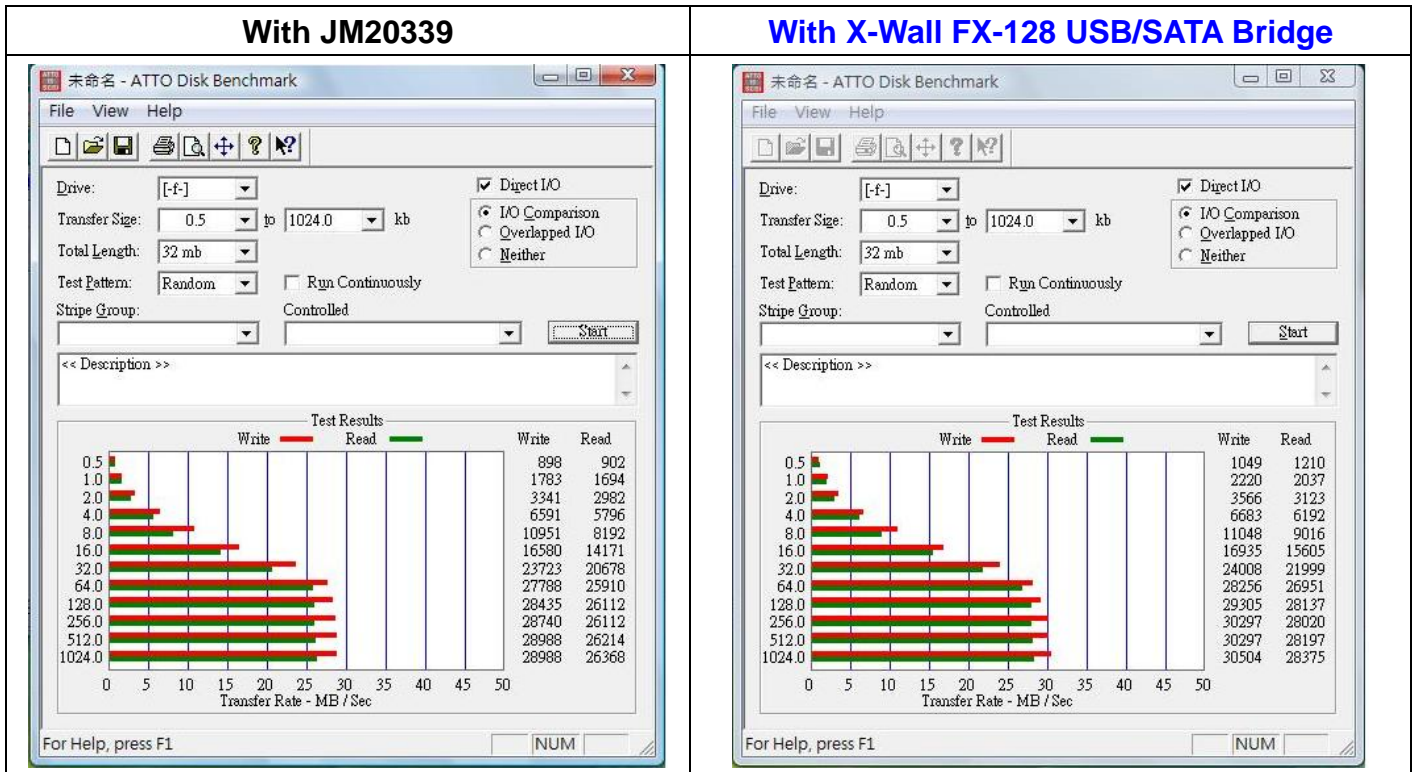
### Configuration 2

- Test the SATA hard disk performance with a standard USB/SATA bridge



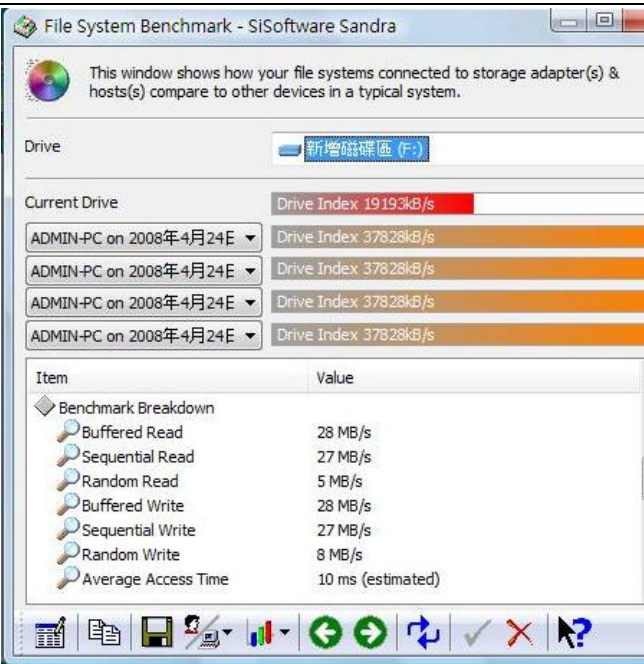
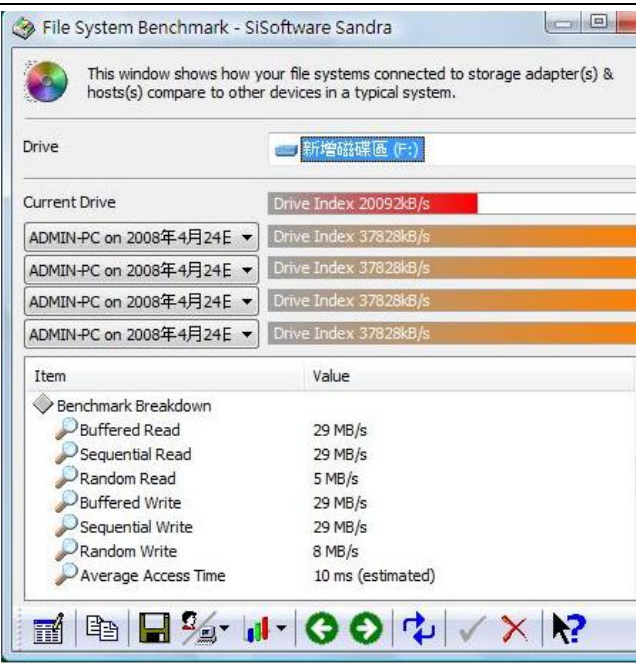
# Test Result

## ■ ATTO Disk Benchmark



USB/SATA Bridge Chip		With JM20339		With X-Wall FX-128 (Hardware AES 128-bit Full Disk Encryption Enabled)			
		Write	Read	Write	Performance Improvement in Write %	Read	Performance Improvement in Read %
0.5KB size transfer	MB/s	898	902	1049	16.82	1210	34.15
1.0KB size transfer	MB/s	1783	1694	2220	24.51	2037	20.25
2.0KB size transfer	MB/s	3341	2982	3566	6.73	3123	4.73
4.0KB size transfer	MB/s	6591	5796	6683	1.4	6192	6.83
8.0KB size transfer	MB/s	10951	8192	11048	0.89	9016	10.06
16.0KB size transfer	MB/s	16580	14171	16935	2.14	15605	10.12
32.0KB size transfer	MB/s	23723	20679	24008	1.2	21999	6.38
64.0KB size transfer	MB/s	27768	25910	28256	1.76	26951	4.02
128.0KB size transfer	MB/s	28435	26112	29305	3.06	28137	7.76
256.0KB size transfer	MB/s	28740	26112	30297	5.42	28020	7.31
512.0KB size transfer	MB/s	28988	26214	30297	4.52	28197	7.56
1024.0KB size transfer	MB/s	28988	26368	30504	5.23	28375	7.61

➤ SiSoftware Sandra 2004

With JM20339	With X-Wall FX-128 USB/SATA Bridge
	

USB/SATA Bridge Chip		With JM2033 9	With X-Wall FX-128 (Hardware AES 128-bit Full Disk Encryption Enabled)	Performance Improvement in %
Buffered Read	MB/s	28	29	3.57%
Sequential Read	MB/s	27	29	7.41%
Random Read	MB/s	5	5	0%
Buffered Write	MB/s	28	29	3.57%
Sequential Write	MB/s	27	29	7.41%
Random Write	MB/s	8	8	0%
Average Access Time	ms	10	10	0%