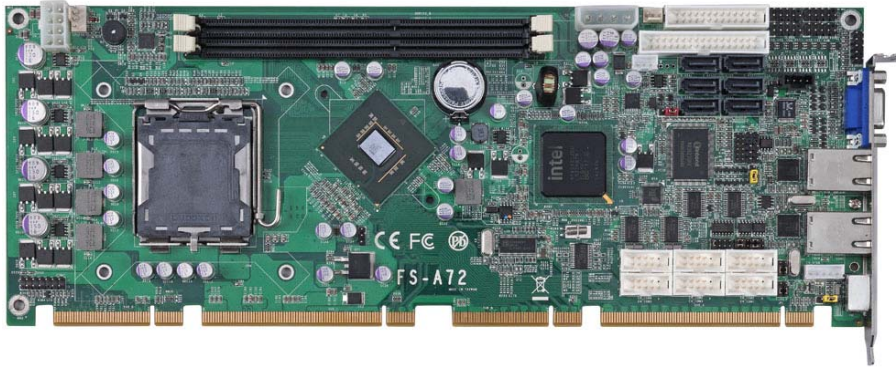


Product Test Report



Product Name	FS-A72
Product Version	A
Issued Date	30.Setpember.2009
Report Edition	1.0
BIOS Version	1.0
Testing Engineer	JEFF

Index

Index	2
1. Function test	4
1.1 Hardware function	4
1.2 BIOS function	7
1.3 Driver	9
2. Compatibility test	11
2.1 CPU Test	11
2.2 Memory Test.....	12
2.3 VGA Graphic Quality Test	13
2.4 Audio	14
2.5 HDD Test	16
2.6 CD-ROM Test.....	17
2.7 USB Test	18
2.8 Serial Port Test.....	20
2.9 PS2 Keyboard · Mouse Test	22
2.10 LAN Test.....	24
2.11 Power Supply Test.....	25
2.12 Os Install	27
2.13 Floppy Drive Test.....	28
2.14 Backplane (PICMG1.3)	28
2.15 Print Port Test.....	29
3. Environmental test.....	30
3.1 Temperature Test.....	30
3.2 Thermal measurements at various points on the board.....	33
4. Reliability Test.....	35
4.1 Power Consumption Test	35
5. Performance Test	45
5.1 Business Win Stone 2002	45
5.2 Business Win Stone 2004	47

5.3 Content Creation Winstone 2003	49
5.4 Content Creation Winstone 2004	51
5.5 3D MARK(2001、2003、2005).....	53
5.6 3D MARK2006	55
5.7 PC MARK2002.....	57
5.8 PC MARK2004.....	59
5.9 PC MARK2005.....	61
5.10 SATA Performance	63
5.11 USB Performance.....	65

1. Function test

1.1 Hardware function

Base Function Test

Item	Description	Result
1	Power Button	PASS
2	Reset	PASS
3	Power LED	PASS
4	HDD LED	PASS
5	SATA1	PASS
6	SATA2	PASS
7	SATA3	PASS
8	SATA4	PASS
9	SATA5	PASS
10	SATA6	PASS
11	DDR2-1	PASS
12	DDR2-2	PASS
10	USB1	PASS
11	USB2	PASS
12	USB3	PASS
13	USB4	PASS
14	COM1	PASS
15	COM2	PASS
16	COM3	PASS
17	COM4	PASS
18	COM5	PASS
19	COM6	PASS
20	VGA Port	PASS
21	PS2	PASS

22	AUDIO	PASS
23	CD_IN	PASS
24	DIO	PASS
25	CPUFAN	PASS
26	SYSFAN	PASS
27	LAN1	PASS
28	LAN2	PASS
29	IrDA	PASS
30	ATKB	PASS
31	LPT	PASS
32	Floppy	PASS

Jumper

Item	Description	Result
2	JCSEL1	PASS
3	JCSEL2	PASS
4.	JRIC	PASS
5.	JAT	PASS
7.	JP1	PASS
8.	JP2	PASS

1.2 BIOS function

Item	Description	Result	Remark
1	Press 'Del' to run Setup Utility	PASS	
2	Ctrl-Alt-Del – Soft-Reboot	PASS	
3	Save & Exit Setup	PASS	
4	Date & Time Setting	PASS	
5	Quick Power On Self Test	PASS	
6	Boot Device Setting	PASS	
7	Boot Up Num Lock Status	PASS	
8	Halt On	PASS	
9	Onboard Serial Port	PASS	
10	USB Controller	PASS	
11	USB Keyboard Support	PASS	
12	USB KB Wake-UP From S3	PASS	
13	PEG/Onchip VGA Control	PASS	
14	Soft-Off by PWRBTN	PASS	
15	Power On Function	PASS	
16	ACPI Function	PASS	
17	APCI Suspend Type	PASS	
18	Hot Key Password	PASS	
19	Wake-up by PCI card	PASS	
20	Watch Dog Timer Select	PASS	-
21	Init Display First	PASS	
22	PWRON After PWR-Fail	PASS	
23	Power On by Ring	PASS	
24	Set Supervisor Password	PASS	
25	Set User Password	PASS	
26	UART Mode Select	PASS	

27	RxD , Txd Active	PASS	
28	IR Transmission Delay	PASS	
29	UR2 duplex Mode	PASS	
30	Use IR Pins	PASS	
31	CPU Warning Temperature	PASS	
32	Shutdown Temperature	PASS	
33	Smart CPUFAN Temp	PASS	
34	DVMT/FIXED Memory Size	PASS	
35	Onboard FDC Controller	PASS	
36	Drive A	PASS	

1.3 Driver

CD Edition : IPCi2.1 – 1.1

1. Windows XP SP2 Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.0.0.1008
2	VGA Driver	PASS	6.14.0.5009
3	Audio Driver	PASS	5.10.0.5464
4	LAN Driver	PASS	10.3.49.0

2. Windows Vista 64 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.0.0.1008
2	VGA Driver	PASS	7.15.10.1688
3	Audio Driver	PASS	6.0.1.5473
4	LAN Driver	PASS	10.3.49.0

3. Windows Vista 32 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.0.0.1008
2	VGA Driver	PASS	7.15.10.1518
3	Audio Driver	PASS	6.0.1.5473
4	LAN Driver	PASS	10.3.49.0

4. Windows Server 2003 Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.0.0.1008
3	Audio Driver	PASS	5.10.0.5464
4	LAN Driver	PASS	10.3.49.0

5. Windows 2000 SP4 Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.1.1.10194882
2	VGA Driver	PASS	6.14.0.5009
3	Audio Driver	PASS	5.10.0.5464
4	LAN Driver	PASS	10.3.49.0

2. Compatibility test

2.1 CPU Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Spec	CPU Speed	Family	Processor	FSB	L2 Size	Result
SL9XP	1.60 GHz	Celeron	420	800 MHz	512 KB	PASS
SLAWE	2.50 GHz	Quad	Q9300	1333 MHz	6 MB	PASS
SLACR	2.40 GHz	Quad	Q6600	1066 MHz	8 MB	PASS
SL9XL	2.0GHz	Celeron	440	800 MHz	512 KB	PASS
SLGUH	2.93GHz	Dual-Core	E6500	1066 MHz	2 MB	PASS

2.2 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Manufacturer	Chip	DDRII frequency	Capacity Mbytes	Memory test Source
Transcend	K4B1G0846 D	DDRIII 1333	2GB	PASS
Transcend	K4B1G0846 D	DDRIII 1066	2GB	PASS
ADATA	AD30908C80 -151C	DDRIII 1333	2GB	PASS

Supported DIMM Module Configurations

Memory Type	Raw Card Version	DIMM Capacity	DRAM Device Technology	DRAM Organization	# of DRAM Devices	# of Physical Device Ranks	# of Row/ Col Address Bits	# of Banks Inside DRAM	Page Size
DDR3 800 and 1066	A	512 MB	512Mb	64M X 8	8	1	13/10	8	8K
		1 GB	1Gb	128M X 8	8	1	14/10	8	8K
	B	1 GB	512Mb	64M X 8	16	2	13/10	8	8K
		2 GB	1Gb	128M X 8	16	2	14/10	8	8K
	C	256 MB	512Mb	32M X 16	4	1	12/10	8	8K
		512 MB	1Gb	64M X 16	4	1	13/10	8	8K
	F	512 MB	512Mb	32M X 16	8	2	12/10	8	8K
		1 GB	1Gb	64M X 16	8	2	13/10	8	8K

2.3 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP2

Driver version : 6.14.0.5009

Resolution	Color	Result	
800*600	16 /32bit	PASS	
1024*768	16 /32bit	PASS	
1152*864	16 /32bit	PASS	
1280*600	16 /32bit	PASS	
1280*720	16 /32bit	PASS	
1280*768	16 /32bit	PASS	
1280*960	16 /32bit	PASS	
1280*1024	16 /32bit	PASS	
1400*1050	16 /32bit	PASS	
1600*900	16 /32bit	PASS	
1600*1200	16 /32bit	PASS	
1680*1050	16 /32bit	PASS	

2.4 Audio

Test envirement:

OS Windows XP professional SP2

Driver version : 5.10.0.5464

Item	Description	Result	
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Vista 64 bit

Driver version : 6.0.1.5473

Item	Description	Result	
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Vista 32bit

Driver version : 6.0.1.5473

Item	Description	Result	
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Server 2003 Driver Test

Driver version : 5.10.0.5464

Item	Description	Result	
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows 2000 SP4 Driver Test

Driver version : 5.10.0.5464

Item	Description	Result	
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

2.5 HDD Test

Test envirement:

OS Windows XP professional SP2

HDD MODEL	INTERFACE	Capacity	HDD Size Detect	HDD Data Transfer	HDD LED Check
Western Digital WD800JD-75MSA3	SATA	80GB	PASS	PASS	PASS
Western Digital WD1600AAJS-22B2 A0	SATA	160GB	PASS	PASS	PASS
HITACHI HDT722525DLA380	SATA	250GB	PASS	PASS	PASS
Seagate ST3160815AS160	SATA	160GB	PASS	PASS	PASS

2.6 CD-ROM Test

Test envirement:

OS Windows XP professional SP2

CD-ROM MODEL	INTERFACE	CD-ROM Detect	CD-ROM Data Transfer	PLAY DVD
LG DVD GSA-H62L	SATA	PASS	PASS	PASS
PIONEER DVD PVR-212BK	SATA	PASS	PASS	PASS
LG DVD GGW-H20L	SATA	PASS	PASS	PASS

2.7 USB Test

1. Windows XP SP2

Item	Result	Remark
USB Keyboard Test	PASS	
USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

2. Windows Vista 64 bit

Item	Result	Remark
USB Keyboard Test	PASS	
USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

3. Windows Vista 32 bit

Item	Result	Remark
USB Keyboard Test	PASS	
USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

4. Windows Server 2003 Driver Test

Item	Result	Remark
USB Keyboard Test	PASS	
USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

5. Windows 2000 SP4 Driver Test

Item	Result	Remark
USB Keyboard Test	PASS	
USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

2.8 Serial Port Test

1. MS-DOS

Item	Description	Result	Remark
1	RS-232 Mouse Test	PASS	
2	RS-422 & RS-485	PASS	
3	PC Check	PASS	
4	TS	PASS	

2. Windows XP SP2

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

3. Windows Vista 62 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

4. Windows Vista 32 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

5. Windows Server 2003 Driver Test

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

6. Windows 2000 SP4 Driver Test

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

2.9 PS2 Keyboard 、 Mouse Test

1. MS-DOS

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2. Windows XP SP2

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

3. Windows Vista 64 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

4. Windows Vista 32 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

5.Windows Server 2003 Driver Test

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

5.Windows 2000 SP4 Driver Test

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2.10 LAN Test

Data Transfer Test envirement:

-CAT 6 UTP 100M

-8 HR. continuous

1. Windows XP SP2

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

2. Windows Vista 32bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

3. Windows Vista 64bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

4. Windows Server 2003 Driver Test

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

5. Windows 2000 SP4 Driver Test

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

2.11 Power Supply Test

1. MS-DOS

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	CWT CWT-300BS 300W
2	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
3	ATX Power On/Off	PASS	Seasonic SS-380HB 380W

2. Windows XP SP2

Item	Description	Verification	
		Result	Remark
1	AT Power On/Off	PASS	CWT CWT-300BS 300W
2	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
3	ATX Power On/Off	PASS	Seasonic SS-380HB 380W

3. Windows Vista 64 bit

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	CWT CWT-300BS 300W
2	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
3	ATX Power On/Off	PASS	Seasonic SS-380HB 380W

4. Windows Vista 32 bit

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	CWT CWT-300BS 300W
2	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
3	ATX Power On/Off	PASS	Seasonic SS-380HB 380W

5. Windows Server 2003 Driver Test

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	CWT CWT-300BS 300W
2	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
3	ATX Power On/Off	PASS	Seasonic SS-380HB 380W

5. Windows 2000 SP4 Driver Test

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	CWT CWT-300BS 300W
2	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
3	ATX Power On/Off	PASS	Seasonic SS-380HB 380W

2.12 Os Install

	Description	Result	Remark
1	Windows Vista 64 bit	PASS	
2	Windows Vista 32 bit	PASS	
3	Windows XP SP2	PASS	
4	Windows Server 2003	PASS	
5	Windows 2000 SP4	PASS	
6	Windows Server 2008	PASS	
7	Fedora10	PASS	

2.13 Floppy Drive Test

Floppy	Floppy Drive Detect	Floppy Data Transfer
MITSUMI D353M3	PASS	PASS

2.14 Backplane (PICMG1.3)

Item	BRAND	MODEL	Result	Remark
1	IEI	PE-10S	PASS	
2	IEI	PE-6S2	PASS	

2.15 Print Port Test

1. MS-DOS

Item	Description	Result	Remark
1	PC Check	PASS	
2	TS	PASS	

2. Window XP SP2

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

3. Window 2003

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

54. Windows 2000 SP4

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

5. Windows Vista 32bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

5. Windows Vista 64bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

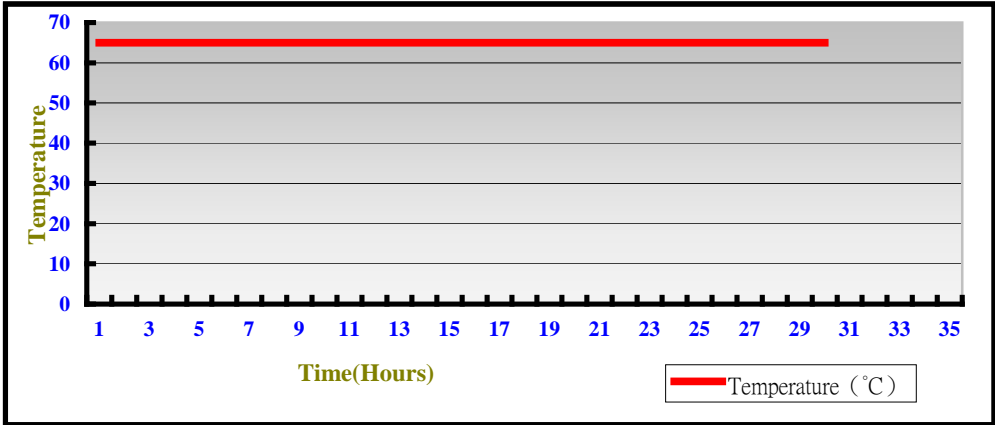
3. Environmental test

3.1 Temperature Test

Hardware Device list:

System Board	FS-A72
CPU	Intel(R) Core(TM) Quad CPU Q9300 2.5GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB
Operating OS	Windows XP
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3DMark 2003

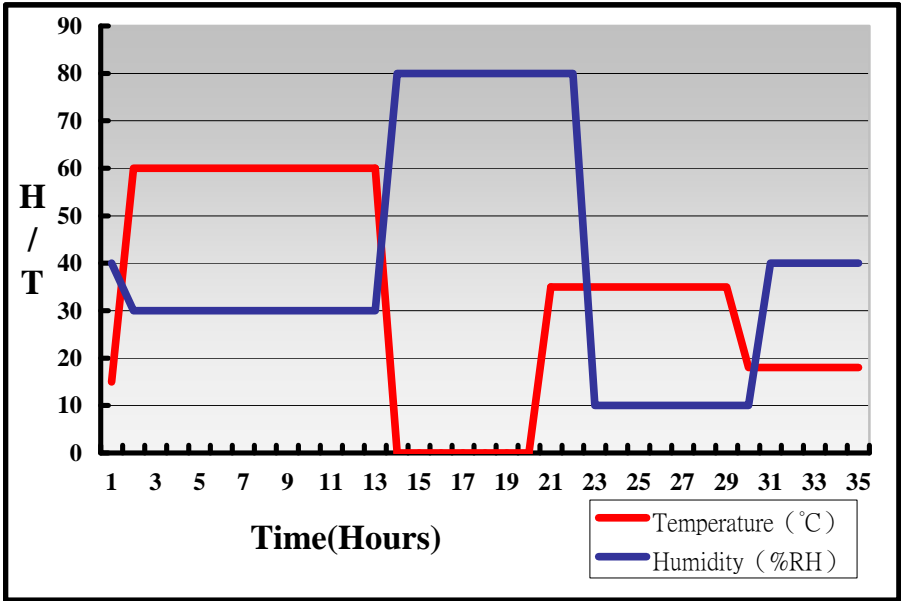
Test Result:



Hardware Device list:

System Board	FS-A72
CPU	Intel(R) Core(TM) Quad CPU Q9300 2.5GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB
Operating OS	Windows XP
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3DMark 2003

Test Result:



Boot Up Test:

Hardware Device list:

System Board	FS-A72
CPU	Intel(R) Core(TM) Quad CPU Q9300 2.5GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Temperature	Result	Remark
-20°C	PASS	50 Times
70°C	PASS	50 Times

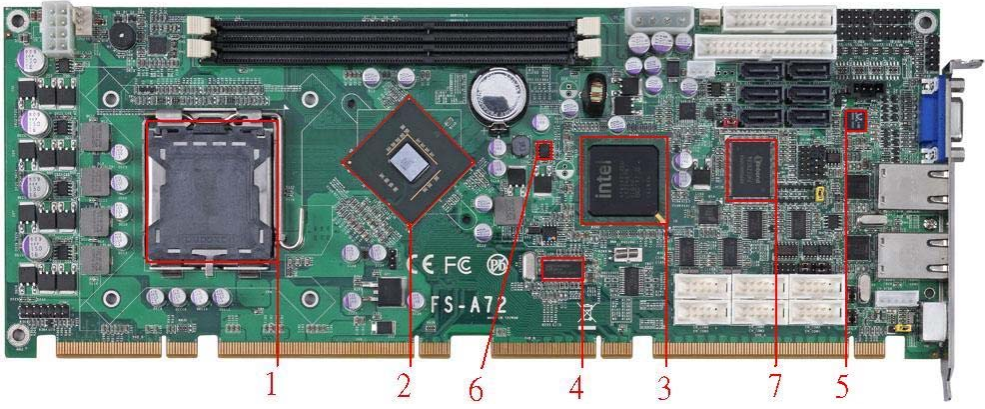
3.2 Thermal measurements at various points on the board

Test Environment:

CPU	Intel(R) Celeron(R) 420 1.60GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB
Power	CWT CWT-300BS 300W
Operating System	Windows XP
Test Program	3D WinMark2003

Test Result:

Item	Environmental temperature	26°C
1	CPU	33.4°C
2	ICHQ45 (Northbridge)	68.9°C
3	ICH10R (Southbridge)	47.7°C
4	U26 (ICS9LP505)	52.9°C
5	U6 (ICHALC888)	54°C
6	U10 (ISWHIP6601CB)	57.6°C
7	LPCIO(ICH83627DHG)	47.7°C



4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

Motherboard	FS-A72 + PE-6S2
CPU	Intel(R) Core(TM)2 Duo CPU E6750 2.66GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eurnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.2	38.4	3.31	39.72
5V	4.75	23.75	4.51	22.55
3.3V	0.176	0.5805	0.193	0.6396
5VSB	0.253	1.256	0.106	0.53

1.a Test Environment:

Motherboard	FS-A72
CPU	Intel(R) Core(TM)2 Duo CPU E6750 2.66GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.29	39.48	3.68	44.16
5V	4.93	24.65	4.85	24.25

2.Test Environment:

Motherboard	FS-A72 + PE-6S2
CPU	Intel(R) Celeron(R) 420 1.60GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.58	18.96	1.64	19.68
5V	4.29	21.45	4.15	20.75
3.3V	0.188	0.6204	0.185	0.6105
5VSB	0.252	1.26	0.107	0.535

2.a Test Environment:

Motherboard	FS-A72
CPU	Intel(R) Celeron(R) 420 1.60GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.47	17.64	1.66	19.92
5V	4.1	20.5	3.91	19.55

3.Test Environment:

Motherboard	FS-A72 + PE-6S2
CPU	Intel(R) Core(TM) Quad CPU Q9300 2.5GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.77	33.24	3.88	46.56
5V	5	25	4.74	23.7
3.3V	0.172	0.5676	0.19	0.627
5VSB	0.26	1.3	0.104	0.52

3.a Test Environment:

Motherboard	FS-A72
CPU	Intel(R) Core(TM) Quad CPU Q9300 2.5GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.71	32.52	3.92	47.04
5V	4.87	24.35	4.62	23.1

4. Test Environment:

Motherboard	FS-A72 + PE-6S2
CPU	Intel(R) Core(TM) Quad CPU Q6600 2.4GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.99	47.88	5.24	62.88
5V	4.68	23.4	4.64	23.2
3.3V	0.182	0.6006	0.198	0.6534
5VSB	0.252	1.26	0.103	0.515

4.a Test Environment:

Motherboard	FS-A72
CPU	Intel(R) Core(TM) Quad CPU Q6600 2.4GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.95	47.4	5.22	62.64
5V	4.14	20.7	4.28	21.4

5. Test Environment:

Motherboard	FS-A72 + PE-6S2
CPU	Intel(R) Core(TM) Dual-Core CPU E6500 2.93GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.12	25.44	2.02	24.24
5V	4.42	22.1	3.92	19.6
3.3V	0.168	0.5544	0.178	0.5874
5VSB	0.331	1.655	0.14	0.7

5.a Test Environment:

Motherboard	FS-A72
CPU	Intel(R) Core(TM) Dual-Core CPU E6500 2.93GHz
Memory	Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D)
HDD	Western Digital WD1600AAJS-22B4A0 160GB

Power Supply : CWT CWT-300BS 300W

Voltage	MS-DOS Boot up		Windows XP SP2 Eburnin 5.3	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.09	25.08	2.69	32.28
5V	4.43	22.15	3.7	18.5

5. Performance Test

5.1 Business Win Stone 2002

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
<p align="center">Business Win stone2001</p>	<p>Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">36.2 35.7 28 35.7</p>
<p align="center">Business Win stone2001</p>	<p>Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">47.5 47.9 47.4 46.7</p>
<p align="center">Business Win stone2001</p>	<p>Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">39.1 37.8 47.4 42.7</p>

<p style="text-align: center;">Business Win stone2001</p>	<p>Intel(R) Celeron(R) 440 2.0GHz</p> <p>Transcend DDR3 1333 2GB (K4B1G0846D)</p> <p>Transcend DDR3 1066 2GB (K4B1G0846D)</p> <p>Western Digital WD1600AAJS-22B4A0 160GB</p>	<p>Pass</p>	<p>37.5</p> <p>31.5</p> <p>38.4</p> <p>38.8</p>
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5.2 Business Win Stone 2004

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
<p align="center">Business Win stone2002</p>	<p>Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">19.9 18 16.6 16.9</p>
<p align="center">Business Win stone2002</p>	<p>Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">15 21.7 27.4 7</p>
<p align="center">Business Win stone2002</p>	<p>Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">23 22.5 15.4 26.4</p>
<p align="center">Business</p>	<p>Intel(R) Celeron(R) 440 2.0GHz Transcend DDR3 1333 2GB</p>	<p align="center">Pass</p>	<p align="center">19.8</p>

Win stone2002	(K4B1G0846D)		11.5
	Transcend DDR3 1066 2GB		20.3
	(K4B1G0846D)		18.9
	Western Digital		
	WD1600AAJS-22B4A0 160GB		

5.3 Content Creation Winstone 2003

Windows XP XP2

WEIGHTED SUITE	Test Environment	Result	Remark
<p align="center">Content Creation Winstone 2001</p>	<p>Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">46.8 50.3 47.2 47.2</p>
<p align="center">Content Creation Winstone 2001</p>	<p>Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">82.6 68.6 69.3 81</p>
<p align="center">Content Creation Winstone 2001</p>	<p>Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">84.8 81.9 85 84.6</p>
<p align="center">Content Creation</p>	<p>Intel(R) Celeron(R) 440 2.0GHz Transcend DDR3 1333 2GB</p>	<p align="center">Pass</p>	<p align="center">55.3</p>

Winstone 2001	(K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB		55.7 55.4 60.4
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5.4 Content Creation Winstone 2004

Windows XP XP2

WEIGHTED SUITE	Test Environment	Result	Remark
<p align="center">Content Creation Winstone 2004</p>	<p>Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">28.3 28.8 28.6 28.7</p>
<p align="center">Content Creation Winstone 2004</p>	<p>Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">43.9 39.2 44 44</p>
<p align="center">Content Creation Winstone 2004</p>	<p>Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB</p>	<p align="center">Pass</p>	<p align="center">43.8 39.2 32 40.8</p>
<p align="center">Content Creation</p>	<p>Intel(R) Celeron(R) 440 2.0GHz Transcend DDR3 1333 2GB</p>	<p align="center">Pass</p>	<p align="center">32.6</p>

Winstone	(K4B1G0846D)		34.2
2004	Transcend DDR3 1066 2GB		34.2
	(K4B1G0846D)		29
	Western Digital		

5.5 3D MARK(2001、2003、2005)

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	5725
3DMARK2003 Scores	Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital	Pass	2384
3DMARK2005 Scores	WD1600AAJS-22B4A0 160GB	Pass	1252

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	8796
3DMARK2003 Scores	Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital	Pass	2857
3DMARK2005 Scores	WD1600AAJS-22B4A0 160GB	Pass	1861

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Core(TM)2 Duo CPU E6750 2.66GHz Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	9336
3DMARK2003 Scores	Transcend DDR3 1066 2GB (K4B1G0846D)	Pass	2857
3DMARK2005 Scores	Western Digital WD1600AAJS-22B4A0 160GB	Pass	1861

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	9071
3DMARK2003 Scores	Transcend DDR3 1066 2GB (K4B1G0846D)	Pass	2994
3DMARK2005 Scores	Western Digital WD1600AAJS-22B4A0 160GB	Pass	1951

5.6 3D MARK2006

Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Celeron(R) 420 1.60GHz	Pass	1013
2	SM2.0 Source	Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	338
3	HDR/SM3.0 Source	Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital	Pass	416
4	CPU Source	WD1600AAJS-22B4A0 160GB	Pass	701

Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) Quad CPU Q6600 2.4GHz	Pass	1187
2	SM2.0 Source	Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	364
3	HDR/SM3.0 Source	Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital	Pass	461
4	CPU Source	WD1600AAJS-22B4A0 160GB	Pass	3345

Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM)2 Duo CPU E6750 2.66GHz	Pass	1235
2	SM2.0 Source	Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	381
3	HDR/SM3.0 Source	Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital	Pass	488
4	CPU Source	WD1600AAJS-22B4A0 160GB	Pass	2204

Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) Quad CPU Q9300 2.5GHz	Pass	1250
2	SM2.0 Source	Transcend DDR3 1333 2GB (K4B1G0846D)	Pass	381
3	HDR/SM3.0 Source	Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital	Pass	487
4	CPU Source	WD1600AAJS-22B4A0 160GB	Pass	3571

5.7 PC MARK2002

Test Environment
Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	6125
2	Memory test Source	Pass	9859
3	HDD test Source	Pass	2421

Test Environment
Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	9509
2	Memory test Source	Pass	29982
3	HDD test Source	Pass	2444

Test Environment
Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	9849
2	Memory test Source	Pass	60096
3	HDD test Source	Pass	2469

Test Environment
Intel(R) Celeron(R) 440 2.0GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	7650
2	Memory test Source	Pass	11646
3	HDD test Source	Pass	2421

5.8 PC MARK2004

Test Environment
Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	3529
2	CPU test Source	Pass	3658
3	Memory test Source	Pass	4724
4	Graphic test Source	Pass	1720
5	HDD test Source	Pass	N/A

Test Environment
Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	N/A
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	8122
4	Graphic test Source	Pass	1907
5	HDD test Source	Pass	5335

Test Environment
Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	N/A
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	8603
4	Graphic test Source	Pass	1768
5	HDD test Source	Pass	N/A

Test Environment
Intel(R) Celeron(R) 440 2.0GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	4197
2	CPU test Source	Pass	4472
3	Memory test Source	Pass	5270
4	Graphic test Source	Pass	1727
5	HDD test Source	Pass	N/A

5.9 PC MARK2005

Test Environment
Intel(R) Celeron(R) 420 1.60GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	2661
2	CPU test Source	Pass	2926
3	Memory test Source	Pass	3709
4	Graphic test Source	Pass	1766
5	HDD test Source	Pass	6157

Test Environment
Intel(R) Core(TM) Quad CPU Q6600 2.4GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	5508
2	CPU test Source	Pass	7737
3	Memory test Source	Pass	5186
4	Graphic test Source	Pass	2038
5	HDD test Source	Pass	5957

Test Environment
Intel(R) Core(TM) Quad CPU Q9300 2.5GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	5687
2	CPU test Source	Pass	8041
3	Memory test Source	Pass	5564
4	Graphic test Source	Pass	2215
5	HDD test Source	Pass	5981

Test Environment
Intel(R) Celeron(R) 440 2.0GHz Transcend DDR3 1333 2GB (K4B1G0846D) Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD1600AAJS-22B4A0 160GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	3021
2	CPU test Source	Pass	3639
3	Memory test Source	Pass	4189
4	Graphic test Source	Pass	1869
5	HDD test Source	Pass	6125

5.10 SATA Performance

5.10.1 SATA HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

HDD MODEL	INTERFACE	capacity	Average	Burst Rate	Access time
Seagate ST3160815 AS	SATA	160GB	60.4 MB/sec	107.2 MB/sec	14.0ms
Western Digital WD800JD- 75MSA3		80GB	47.3 MB/sec	146.5 MB/sec	15.8ms
Western Digital WD1600AA JS-22B2A0		160GB	84.2 MB/sec	146.5 MB/sec	15.8ms
HITACHI HDT722525 DLA380		250GB	47.3 MB/sec	112 MB/sec	13.5 ms

5.10.2 SATA CD-ROM

Test envirement:

OS Windows XP professional SP2

Program (NERO)

CD-ROM MODEL	INTERFACE	Average speed	Fill READ	Burst Rate	CD
PIONEER DVD DVR-212BK	SATA	29.41 x	190ms	43MB/s	52 X CD-R
LG DVD GSA-H62L		34.43 x	203ms	38MB/s	52X CD-R
LG DVD GGW-H20L		7 x	291ms	40MB/s	52X CD-R

5.11 USB Performance

5.11.1 USB HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

HDD MODEL	INTERFACE	capacity	Average	Burst Rate	Access time
WD WD5000H1Q-00	USB	640GB	30.4 MB/sec	24.8 MB/sec	14.7ms
Cooler Master (RX-3SB-S)+ WD800JD-75MSA3		80GB	30.5 MB/sec	27.5 MB/sec	14.3ms

5.11.2 UBS CD-ROM

Test envirment:

OS Windows XP professional SP2

Program (NERO)

CD-ROM MODEL	INTERFACE	Average speed	Fill READ	Burst Rate	CD
LITEON DVD SOSC-2485KX	USB	17.42 x	188ms	21MB/s	52X CD-R
LITEON DVD SOSW-833XS		12.33 x	207ms	21MB/s	52X CD-R