

Product Test Report



Product Name	FS-A73
Product Version	A
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Report Edition	1.2
BIOS Version	1.0
Testing Engineer	Jamin

REVISION HISTORY			
DATE	REVISION NO.	PAGE	DESCRIPTONS
2011.05.19	Ver. 1.0	78	Initial Release
2011.11.23	Ver. 1.1	78	Fix Report
2016.07.07	Ver. 1.2	78	Add Back Plane

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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	CPUFAN	Pass
6	SYSFAN	Pass
7	CN_CRT	Pass
8	CN_AUDIO	Pass
9	LAN1	Pass
10	LAN2	Pass
11	DDRIII	Pass
12	CF Card	Pass
13	SATA1/2/3/4/5/6	Pass
14	USB1/2/3/4/5/6/7/8	Pass
15	CN_LPT	Pass
16	LVDS	Pass
17	INV	Pass
18	CN_PS	Pass
19	CN_DIO	Pass
20	CN_IR	Pass
21	CN_SMBUS	Pass
22	COM1/2/3/4/5/6	Pass

23	CD_IN	Pass
24	MINPCIE	Pass
25	PCI (With Back Plan)	Pass
26	PCIEX16 (With Back Plan)	Pass
27	PCIEX4 (With Back Plan)	Pass

Jumper

Item	Description	Result
1	JRTC	Pass
2	JAT	Pass
3	JVLCD	Pass
4	JP1	Pass
5	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	Halt On	Pass	
6	Boot priority order	Pass	
7	Keyboard Features NumLock	Pass	
8	VGA Setting	Pass	
9	Core Multi-Processing	Pass	
10	Hyper Threading Technology	Pass	
11	Intel (R) SpeedStep(tm)	Pass	
12	Onboard Serial Port	Pass	
13	PCH Usb Control Sub-Menu	Pass	
14	Console Redirection	Pass	
15	Wake-up on LAN(Onboard)	Pass	
16	Smart Fan	Pass	
17	CPU Warning Temperature	Pass	
18	Serial port 2(IR)	Pass	
19	Watch Dog Timer	Pass	
20	Total Graphics Memory	Pass	
21	Set Supervisor Password	Pass	

22	Set User Password	Pass	
23	HD AUDIO	Pass	
24	ACPI Control Sub-Menu	Pass	
25	AHCI (SATA Mode)	Pass	
26	PWRON After PWR-Fail	Pass	
27	Full screen Logo	Pass	

1.3 Driver

CD dition : IPCI3-1.1

1. Windows XP SP3 Driver Test

Item	Description	Result	version
1	Chipset Driver	Pass	9.2.0.1019
2	VGA Driver	Pass	6.14.10.5284
3	Audio Driver	Pass	5.10.0.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	5.2.3790.540

2. Windows XP 64 bit Driver Test

Item	Description	Result	version
1	Chipset Driver	Pass	9.2.0.1019
2	VGA Driver	Pass	6.14.10.5284
3	Audio Driver	Pass	5.10.0.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	5.2.3790.540

3. Windows Server 2003 Driver Test

Item	Description	Result	version
1	Chipset Driver	Pass	9.1.1.1019
2	VGA Driver		
3	Audio Driver	Pass	5.10.0.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	5.2.3790.540

4. Windows Server 2003 64 bit Driver Test

Item	Description	Result	version
1	Chipset Driver	Pass	9.1.1.1019
2	VGA Driver		
3	Audio Driver	Pass	5.10.0.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	5.2.3790.540

5. Windows Vista 32 bit Driver Test

Item	Description	Result	version
1	Chipset Driver	Pass	9.1.1.1019
2	VGA Driver	Pass	15.17.11.2202
3	Audio Driver	Pass	6.0.1.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	5.2.3790.540

6. Windows Vista 64 bit Driver Test

Item	Description	Result	version
1	Description	Pass	9.1.1.1019
2	Chipset Driver	Pass	15.17.11.64.2202
3	VGA Driver	Pass	6.0.1.6083
4	Audio Driver	Pass	11.4.7.0
5	LAN Driver	Pass	5.2.3790.540

7. Windows 7 32 bit Driver Test

Item	Description	Result	version
1	Chipset Driver	Pass	9.2.0.1019
2	VGA Driver	Pass	15.17.11.2202
3	Audio Driver	Pass	6.0.1.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	6.0.6000.6210

8. Windows 7 64 bit Driver Test

Item	Description	Result	version
1	Chipset Driver	Pass	9.1.1.1019
2	VGA Driver	Pass	15.17.11.64.2202
3	Audio Driver	Pass	6.0.1.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	6.0.6000.6210

9. Windows 2008 32 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	Pass	9.2.0.1019
2	VGA Driver		
3	Audio Driver	Pass	6.0.1.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	6.0.6000.6210

10. Windows 2008 64 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	Pass	9.1.1.1019
2	VGA Driver		
3	Audio Driver	Pass	6.0.1.6083
4	LAN Driver	Pass	11.4.7.0
5	RAID Driver	Pass	6.0.6000.6210

2. Compatibility test

2.1 CPU Test

Test environment:

OS :Windows XP professional SP3

Spec	Clock Speed	Processor	DMI	Cache Size	Result
<u>SLBNL</u>	1.86 GHz	P4500	2.5 GT/s	2M	Pass
<u>SLBJJ</u>	1.73 GHz	i7-820QM	2.5 GT/s	8M	Pass
<u>SLBLC</u>	2.4 GHz	i5-520M	2.5 GT/s	3M	Pass
<u>SLBTQ</u>	2.66 GHz	i7-620M	2.5 GT/s	4M	Pass

2.2 Memory Test

Test environment:

OS :Windows XP professional SP3

Manufacturer	Chip	DDRII frequency	Capacity Mbytes	Memory test Source
PQI	H5TQ2G 83AFR	DDRIII 1333	2GB	Pass
PQI	H5TQ2G 83AFR	DDRIII 1333	4GB	Pass
TLA	H5TQ2G 83BFR	DDRIII 1333	4G	Pass
TLA	H5TQ2G 83BFR	DDRIII 1066	4G	Pass
TLA	H5TQ2G 83BFR	DDRIII 1066	1G	Pass
Transcend	K4B1G0 846D	DDRIII 1066	2GB	Pass
Kingston	K4B2G0 846B	DDRIII 1066	4GB	Pass
Kingston	K4B2G0 846B-HC FB	DDR3 1066	4GB	Pass
Kingston	D2568JE NCPGD9 U	DDR3 1333	4GB	Pass
A-DATA	J2108BC SE-GN-F	DDR3 1333	4GB	Pass

2.3 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP3

Driver version : 6.14.10.5284

Resolution	Color	Result	Remark
800 x 600	16 /32bit	Pass	
1024 x 768	16 /32bit	Pass	
1152 x 864	16 /32bit	Pass	
1280 x 600	16 /32bit	Pass	
1280 x 720	16 /32bit	Pass	
1280 x 768	16 /32bit	Pass	
1280 x 800	16 /32bit	Pass	
1280 x 960	16 /32bit	Pass	
1280 x 1024	16 /32bit	Pass	
1360 x 768	16 /32bit	Pass	
1366 x 768	16 /32bit	Pass	
1400 x 1050	16 /32bit	Pass	
1440 x 900	16 /32bit	Pass	
1600 x 900	16 /32bit	Pass	
1600 x 1200	16 /32bit	Pass	
1600 x 1050	16 /32bit	Pass	
1792 x 1344	16 /32bit	Pass	
1920 x 1080	16 /32bit	Pass	

2.4 Audio

Test envirement:

OS Windows XP professional SP3

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows XP professional x64 Edition

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows SERVER 2003

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows SERVER 2003 64bit

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows Vista 32 bit

Driver version : 6.0.1.6083

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows Vista 64 bit

Driver version : 6.0.1.6083

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows 7 32 bit

Driver version : 6.0.1.6083

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows 7 64 bit**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows 2008 32 bit**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

OS Windows 2008 64 bit**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2.1CH	Pass	
2	Microphone	Pass	
3	CDIN	Pass	

2.5 HDD Test

Test envirement:

OS Windows XP professional SP3

HDD MODEL	INTERFACE	capacity	HDD Size Detect	HDD Data Transfer	HDD LED Check
Western Digital WD1600AAJS	3.5 SATA	160GB	Pass	Pass	Pass
Western Digital WD2500AAJS		250GB	Pass	Pass	Pass
Western Digital WD5000AAKS		500GB	Pass	Pass	Pass
Western Digital WD10EARS		1TB	Pass	Pass	Pass
Western Digital WD10EALX		1TB	Pass	Pass	Pass
Western Digital WD2500BEVT	2.5 SATA	250GB	Pass	Pass	Pass

HDD MODEL	INTERFACE	capacity	HDD Size Detect	HDD Data Transfer	HDD LED Check
Western Digital WD3200BEKT		320GB	Pass	Pass	Pass
Memo Right	CF CARD	4GB	Pass	Pass	Pass
Memo Right(Wide-Temp)		8GB	Pass	Pass	Pass
Memo Right(Wide-Temp)		16GB	Pass	Pass	Pass
PQI		8GB	Pass	Pass	Pass
InnoDsik		8GB	Pass	Pass	Pass
InnoDsik(Wide-Temp)		8GB	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
PIONEER DVR-S19LBK	SATA	Pass	Pass	Pass
PIONEER DVR-212BK	SATA	Pass	Pass	Pass
LITEON DVD ETAU108	USB	Pass	Pass	Pass

2.7 USB Test

1. Windows XP SP3

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

2. Windows XP 64 bit

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

3. Windows Server 2003

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

4. Windows Server 2003 64bit

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

5. Windows Vista 32 bit

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

6. Windows Vista 64 bit

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

7. Windows 7 32 bit

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

8. Windows 7 64 bit

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

9. Windows 2008 32 bit

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

10. Windows 2008 64 bit

Item	Result	Remark
External USB Keyboard Test	Pass	
External 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-422	Pass	
2	RS-485	Pass	
3	TS	Pass	

2. Windows XP SP3

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

3. Windows XP 64 bit

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

4. Windows Server 2003

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

5. Windows Server 2003 64 bit

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

6. Windows Vista 32 bit

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

7. Windows Vista 64 bit

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

8. Windows 7 32 bit

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

9. Windows 7 64 bit

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

10. Windows 2008 32 bit

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

11. Windows 2008 64 bit

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	RS-232 Mouse 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 SP3

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

3. Windows XP 64 bit

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

4. Windows Server 2003

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

5. Windows Vista 32 bit

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

6. Windows Vista 64 bit

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

7. Windows 7 32 bit

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

8. Windows 7 64 bit

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

9. Windows 2008 32 bit

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

10. Windows 2008 64 bit

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

Test Program : iperf

1. Windows XP SP3

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

2. Windows XP 64 bit

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

3. Windows Server 2003

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

4. Windows Server 2003 64 bit

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

5. Windows Vista 32 bit

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

6. Windows Vista 64 bit

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

7. Windows 7 32 bit

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

8. Windows 7 64 bit

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

9. Windows 2008 32 bit

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

10. Windows 2008 64 bit

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

2.11 Power Supply Test

Item	TYPE	Description	Result	Remark
1	ATX Power	COOLER MASTER RS-390-PMSR-A3	Pass	
2	ATX Power	CWT CWT-300BS	Pass	
3	ATX Power	CWT CWT-300ATX12	Pass	
4	ATX Power	Seventeam ST-400EAG-05F	Pass	
5	ATX Power	Snake PT-300W	Pass	
6	ATX Power	AcBel PC7008	Pass	

2.12 Os Install

Item	Description	Result	Remark
1	Windows Server 2003	Pass	
2	Windows Server 2003 64 bit	Pass	
3	Windows XP SP3	Pass	
4	Windows XP 64 bit	Pass	
5	Windows Vista 32 bit	Pass	
6	Windows Vista 64 bit	Pass	
7	Windows 7 32 bit	Pass	
8	Windows 7 64 bit	Pass	
9	Windows 2008 32 bit	Pass	
10	Windows 2008 64 bit	Pass	

2.13 PCI Express Mini Card

Motherboard	PCI Express mini card	Result
FS-A73	MPX-954	PASS
FS-A73	MPX-954E	PASS
FS-A73	MPX-643	PASS
FS-A73	MPX-1040	PASS
FS-A73	MPX-574D	PASS
FS-A73	MPX-574D2	PASS
FS-A73	MPX-885	PASS
FS-A73	MPX-827	PASS
FS-A73	MPX-7767	PASS
FS-A73	MPX-3132	PASS
FS-A73	MPX-7202	PASS
FS-A73	MPX-SDVOD	PASS
FS-A73	MPX-TP4R	PASS

2.14 Back plane

Item	Brand	Model	Result	Remark
1	AXIOMTEK	FAB113-13A7P4	PASS	Rev:A0-RC

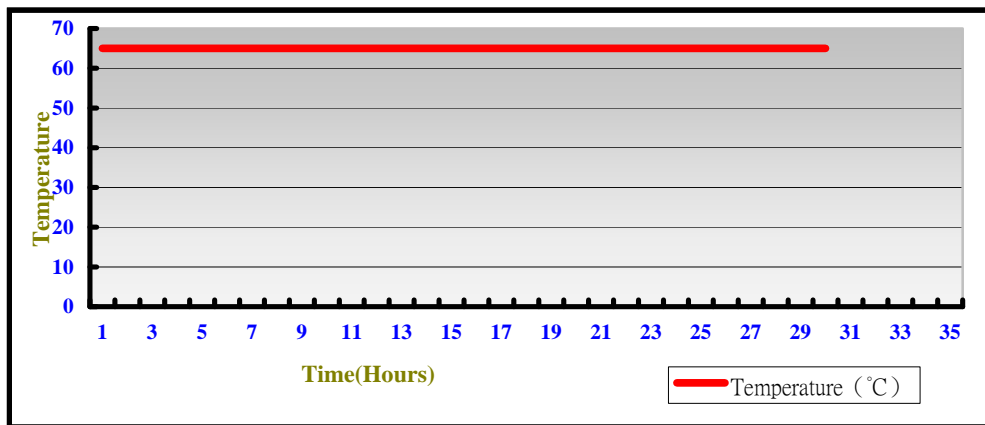
3. Environmental test

3.1 Temperature Test

Hardware Device list:

System Board	FS-A73
CPU	Intel(R) Celeron (R) CPU P4500 1.87 GHz
Memory	Kingston DDR3 1333 4GB (D2568JENC PGD9U)
HDD	Western Digital 500GB (WD5000AAKS)
Operating OS	Windows XP SP3
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3DMark 2003 + Prime95

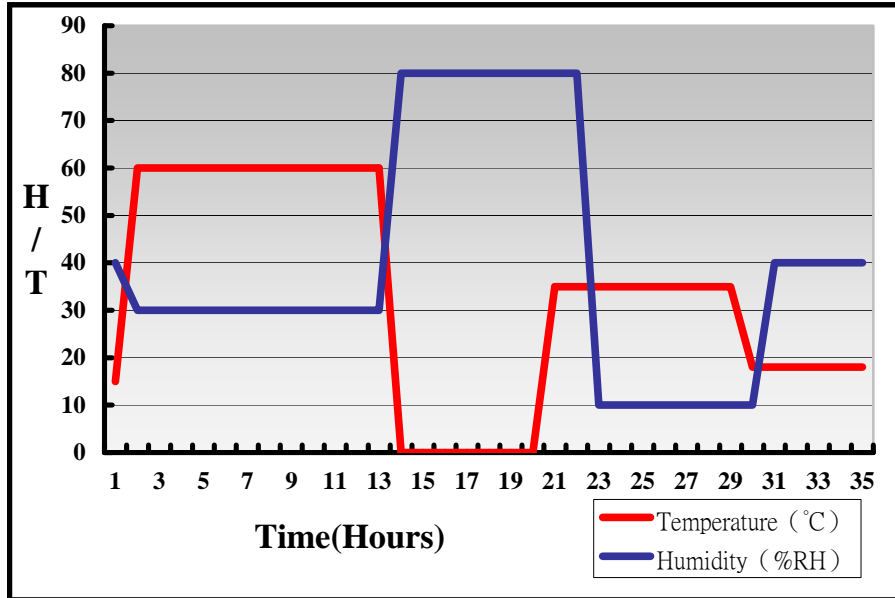
Test Result:



Hardware Device list:

System Board	FS-A73
CPU	Intel(R) Celeron (R) CPU P4500 1.87 GHz
Memory	Kingston DDR3 1333 4GB (D2568JENCPGD9U)
HDD	Western Digital 500GB (WD5000AAKS)
Operating OS	Windows XP SP3
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3DMark 2003 + Prime95

Test Result:



Boot Up Test:**Hardware Device list:**

System Board	FS-A73
CPU	Intel(R) Celeron (R) CPU P4500 1.87 GHz
Memory	Kingston DDR3 1333 4GB (D2568JENC PGD9U)
HDD	Western Digital 500GB (WD5000AAKS)

Temperature	Result	Remark
0°C	PASS	50 Times.
65°C	PASS	50 Times

3.2 Thermal measurements at various points on the board

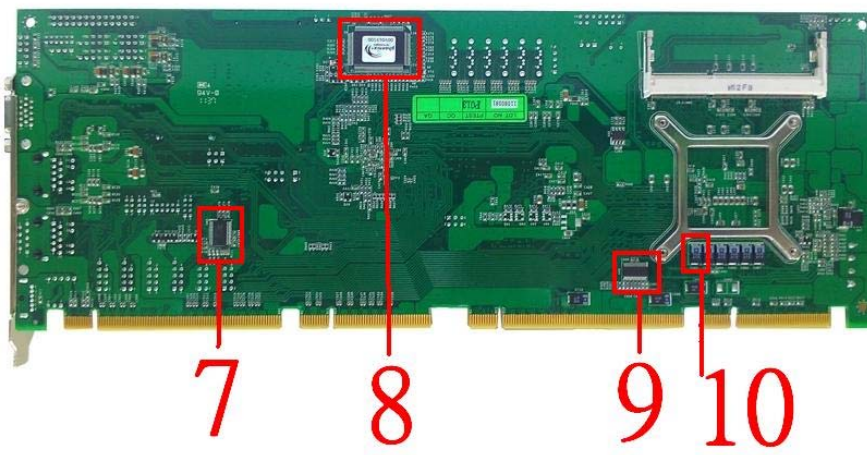
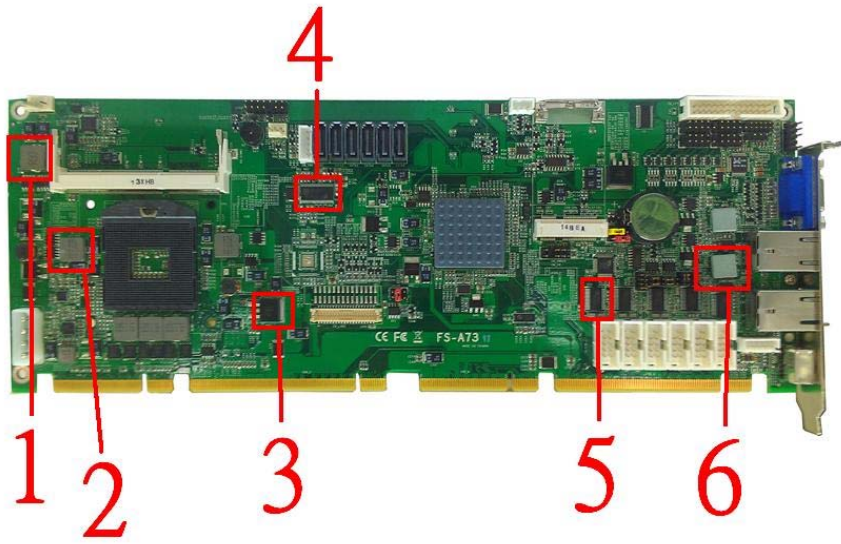
Test Environment :

CPU	Intel(R) Celeron (R) CPU P4500 1.87 GHz
Memory	Kingston DDR3 1333 4GB (D2568JENCPGD9U)
HDD	Western Digital 500GB (WD5000AAKS)
Power	AcBel PC7008 POWER 430 380W
Operating System	Windows XP SP3
Test Program	3DMARK2003,Prime95

Test Result:

Environmental temperature	27.5°C
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Item	name	temperature
1	L1(LLC0.9UH)	33.8 °C
2	Q42(TMSIRF7413Z)	33.2 °C
3	Q49(TRE1084)	36.8°C
4	C73(22P)	46.3 °C
5	U32(ADM213E)	32.2 °C
6	U28	33.6 °C
7	U45(ADM213E)	32.7 °C
8	Lpcio1(ICH83627DHG)	34.4 °C
9	U46(IT8209R)	36.6 °C
10	C482	39.5 °C
11	Heat Sink	28.9 °C





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4. Reliability Test

Power Consumption Test

1. Test Environment:

Motherboard	FS-A73
CPU	Intel(R) Celeron (R) CPU P4500 1.87 GHz
Memory	Kingston DDR3 1333 4GB*2 (D2568JENCPGD9U)
HDD	Western Digital 500GB (WD5000AAJS)
Back Plan	BPE-1308A

(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	0.93	11.16	1.75	21
5V	4.7	23.5	6.6	33
5VSB	0.658	3.29	0.035	0.175

1.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
---------------	----------------------

(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.5	30	3.34	40.08
5V	5.24	26.2	7.59	37.95
5VSB	0.717	3.585	0.072	0.36

2.Test Environment:

Motherboard	FS-A73
CPU	Intel(R) Celeron (R) CPU P4500 1.87 GHz
Memory	ADATA DDR3 1600 4GB*2 (J2108BCSE-GN-F)
HDD	Western Digital 500GB (WD5000AAJS)
Back Plan	BPE-1308A

(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.11	13.32	1.29	15.48
5V	4.69	23.45	6.19	30.95
5VSB	0.599	2.995	0.045	0.225

2.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
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(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.86	34.32	2.71	32.52
5V	5.29	26.45	6.83	34.15
5VSB	0.667	3.335	0.057	0.285

3.Test Environment:

Motherboard	FS-A73
CPU	Intel(R) Core(TM) CPU i5-520M 2.4GHz
Memory	Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U)
HDD	Western Digital 500GB (WD5000AAJS)
Back Plan	BPE-1308A

(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.3	15.6	1.77	21.24
5V	4.85	24.25	6.87	34.35
5VSB	0.485	2.425	0.034	1.39

3.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
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(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.28	27.36	2.6	31.2
5V	5.12	25.6	7.5	37.5
5VSB	1.124	5.62	0.152	0.76

4. Test Environment:

Motherboard	FS-A73
CPU	Intel(R) Core(TM) CPU i5-520M 2.4GHz
Memory	ADATA DDR3 1600 4GB*2 (J2108BCSE-GN-F)
HDD	Western Digital 500GB (WD5000AAJS)
Back Plan	BPE-1308A

(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.23	14.76	1.81	21.72
5V	4.52	22.6	6.8	34
5VSB	0.417	2.085	0.053	0.265

4.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
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(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.62	31.44	2.86	34.32
5V	6.24	31.2	7.28	36.4
5VSB	1.043	5.215	0.165	0.825

5.Test Environment:

Motherboard	FS-A73
CPU	Intel(R) Core(TM) CPU i7-620M 2.66 GHz
Memory	Kingston DDR3 1333 4GB*2 (D2568JENCPGD9U)
HDD	Western Digital 500GB (WD5000AAJS)
Back Plan	BPE-1308A

(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.16	13.92	1.96	23.52
5V	5.9	29.5	7.9	39.5
5VSB	0.491	2.455	0.091	0.455

5.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
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(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.73	32.76	3.56	42.72
5V	6.17	30.85	8.85	44.25
5VSB	1.103	5.515	0.155	0.775

6.Test Environment:

Motherboard	FS-A73
CPU	Intel(R) Core(TM) CPU i7-620M 2.66 GHz
Memory	ADATA DDR3 1600 4GB*2 (J2108BCSE-GN-F)
HDD	Western Digital 500GB (WD5000AAJS)
Back Plan	BPE-1308A

(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.29	15.48	2.01	24.12
5V	5.84	29.2	7.88	39.4
5VSB	0.575	2.875	0.096	0.48

6.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
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(A) Power Supply: CWT-250ATX-A(250W)

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.74	32.88	3.52	42.24
5V	5.89	29.45	9.08	45.4
5VSB	1.015	5.075	0.233	1.165

5. Performance Test

5.1 3D MARK(2001、2003、2005)

Windows XP SP3

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Celeron (R) CPU P4500 1.87 GHz	Pass	8324
3DMARK2003 Scores	Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2	Pass	3205
3DMARK2005 Scores	Western Digital 500GB (WD5000AAJS)	Pass	2164

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Celeron (R) CPU P4500 1.87 GHz	Pass	8411
3DMARK2003 Scores	A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) X2	Pass	3223
3DMARK2005 Scores	Western Digital 500GB (WD5000AAJS)	Pass	2158

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Core(TM) CPU i5- 520M 2.40GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)	Pass	9247
3DMARK2003 Scores		Pass	3295
3DMARK2005 Scores		Pass	2341

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Core(TM) CPU i5- 520M 2.40GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)	Pass	9352
3DMARK2003 Scores		Pass	3351
3DMARK2005 Scores		Pass	2184

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Core(TM) i7-620M 2.66GHz Kingston DDR3 1333 4GB (D2568JENCPGD9U)X2 Western Digital 500GB (WD5000AAJS)	Pass	9712
3DMARK2003 Scores		Pass	3371
3DMARK2005 Scores		Pass	2358

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel(R) Core(TM) i7-620M 2.66GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)	Pass	9622
3DMARK2003 Scores		Pass	3357
3DMARK2005 Scores		Pass	2264

5.2 3D MARK2006

Windows XP SP3

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Celeron (R) CPU P4500 1.87GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)	Pass	988
2	SM2.0 Source		Pass	427
3	HDR/SM3.0 Source		Pass	470
4	CPU Source		Pass	1606

Windows XP SP3

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Celeron (R) CPU P4500 1.87 GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)	Pass	1008
2	SM2.0 Source		Pass	423
3	HDR/SM3.0 Source		Pass	512
4	CPU Source		Pass	1628

Windows XP SP3

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) CPU i5- 520M 2.40GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)	Pass	1432
2	SM2.0 Source		Pass	437
3	HDR/SM3.0 Source		Pass	562
4	CPU Source		Pass	2417

Windows XP SP3

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) CPU i5- 520M 2.40GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)	Pass	1424
2	SM2.0 Source		Pass	428
3	HDR/SM3.0 Source		Pass	548
4	CPU Source		Pass	2389

Windows XP SP3

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i7-620M 2.66GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)	Pass	1462
2	SM2.0 Source		Pass	439
3	HDR/SM3.0 Source		Pass	579
4	CPU Source		Pass	2778

Windows XP SP3

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i7-620M 2.66GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)	Pass	1458
2	SM2.0 Source		Pass	431
3	HDR/SM3.0 Source		Pass	573
4	CPU Source		Pass	2768

5.3 PC MARK2002

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	6758
2	Memory test Source	Pass	19023
3	HDD test Source	Pass	1288

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87 GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	7212
2	Memory test Source	Pass	18825
3	HDD test Source	Pass	1311

Test Environment
Intel(R) Core(TM) CPU i5- 520M 2.40GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	7128
2	Memory test Source	Pass	20147
3	HDD test Source	Pass	1328

Test Environment
Intel(R) Core(TM) i5 CPU 520M 2.40GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	7521
2	Memory test Source	Pass	20812
3	HDD test Source	Pass	1412

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	8544
2	Memory test Source	Pass	33241
3	HDD test Source	Pass	1785

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Source	Pass	8761
2	Memory test Source	Pass	37877
3	HDD test Source	Pass	1692

5.4 PC MARK2004

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP PS3

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	5939
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	4954
4	Graphic test Source	Pass	2119
5	HDD test Source	Pass	6944

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87 GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP PS3

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	5938
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	4963
4	Graphic test Source	Pass	2106
5	HDD test Source	Pass	6915

Test Environment
Intel(R) Core(TM) CPU i5- 520M 2.40GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP PS3

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	6142
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	6354
4	Graphic test Source	Pass	2178
5	HDD test Source	Pass	4921

Test Environment
Intel(R) Core(TM) i5 CPU 520M 2.40GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP PS3

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	6171
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	6348
4	Graphic test Source	Pass	2161
5	HDD test Source	Pass	4937

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP PS3

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	6254
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	6527
4	Graphic test Source	Pass	2318
5	HDD test Source	Pass	5064

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP PS3

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Source	Pass	6266
2	CPU test Source	Pass	N/A
3	Memory test Source	Pass	6613
4	Graphic test Source	Pass	2372
5	HDD test Source	Pass	5121

5.5 PC MARK2005

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87GHz Kingston DDR3 1333 4GB (D2568JENCPCGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	3976
2	CPU test Source	Pass	4661
3	Memory test Source	Pass	4647
4	Graphic test Source	Pass	2024
5	HDD test Source	Pass	7213

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87 GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	3885
2	CPU test Source	Pass	4653
3	Memory test Source	Pass	4649
4	Graphic test Source	Pass	2138
5	HDD test Source	Pass	7412

Test Environment
Intel(R) Core(TM) CPU i5- 520M 2.40GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	4264
2	CPU test Source	Pass	5387
3	Memory test Source	Pass	5258
4	Graphic test Source	Pass	2186
5	HDD test Source	Pass	6123

Test Environment
Intel(R) Core(TM) i5 CPU 520M 2.40GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	4377
2	CPU test Source	Pass	5284
3	Memory test Source	Pass	5133
4	Graphic test Source	Pass	2219
5	HDD test Source	Pass	6251

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	5239
2	CPU test Source	Pass	7328
3	Memory test Source	Pass	5822
4	Graphic test Source	Pass	2452
5	HDD test Source	Pass	6757

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	System test Source	Pass	5142
2	CPU test Source	Pass	7171
3	Memory test Source	Pass	5963
4	Graphic test Source	Pass	2368
5	HDD test Source	Pass	6782

5.6 CINEBENCH

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87 GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	GFX	Pass	1.01 fps
2	CPU	Pass	1.12 pts

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87 GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	GFX	Pass	1.05 fps
2	CPU	Pass	1.18 pts

Test Environment
Intel(R) Core(TM) i5 CPU 520M 2.40GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	GFX	Pass	1.32 fps
2	CPU	Pass	1.41 pts

Test Environment
Intel(R) Core(TM) i5 CPU 520M 2.40GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	GFX	Pass	1.27 fps
2	CPU	Pass	1.39 pts

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	GFX	Pass	1.49 fps
2	CPU	Pass	1.73 pts

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	GFX	Pass	1.52 fps
2	CPU	Pass	1.81pts

5.7 ZD CPUMARK

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87 GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	Pass	286

Test Environment
Intel(R) Celeron (R) CPU P4500 1.87 GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	Pass	281

Test Environment
Intel(R) Core(TM) i5 CPU 520M 2.40GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	Pass	362

Test Environment
Intel(R) Core(TM) i5 CPU 520M 2.40GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	Pass	376

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz Kingston DDR3 1333 4GB (D2568JENC PGD9U)X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	Pass	471

Test Environment
Intel(R) Core(TM) i7-620M 2.66GHz A-DATA DDR3 1600 4GB(J2108BCSE-GN-F) X2 Western Digital 500GB (WD5000AAJS)

Windows XP SP3

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	Pass	468

5.8 Storage Performance

5.8.1 HDD

Test environment:

OS Windows XP professional SP3

Program (HD Tune)

HDD MODEL	INTERFACE	capacity	Average	Burst Rate	Access Time
Western Digital WD5000AAKS	SATA	500GB	71.2MB/sec	115.2MB/sec	14.8ms
Western Digital WD10EARS		1TB	76.5MB/sec	93.3 MB/sec	15.2ms
Western Digital WD10EALX		1TB	95.2MB/sec	108.6MB/sec	13.2 ms

5.8.2 CD-ROM

Test environment:

OS Windows XP professional SP3

Program (NERO)

CD-ROM MODEL	INTERFACE	Average speed	Full READ	Burst Rate	CD
LG GH20NS15	SATA	30.77x	175ms	45 MB/s	52X CD-R
PIONEER DVR-S19LBK	SATA	30.12x	182ms	63 MB/s	52X CD-R
LITEON DVD ETAU108	USB	17.93x	245ms	21 MB/s	52X CD-R