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1. Function test

1.1 Hardware function

Base Function Test

1	Power Button	PASS
2	Reset	PASS
3	Power LED	PASS
4	HDD LED	PASS
5	IDE Primary Master	PASS
6	IDE Primary Slave	PASS
7	SATA	PASS
8	DIMM	PASS
9	Floppy	PASS
10	Keyboard	PASS
11	Mouse	PASS
12	VGA Port	PASS
13	AUDIO	PASS
14	COM 1	PASS
15	COM 2	PASS
16	Printer Port	PASS
17	USB	PASS
18	LAN	PASS
19	IrDA	PASS
20	CDIN	PASS
21	GPIO	PASS
22	Compact Flash	PASS
23	DVI	PASS

24	CPUFAN	PASS
25	SYSFAN	PASS

Jumper

1	JRTC	PASS
2	JDOM	PASS
3	JCFSEL	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 Floppy Seek	PASS	
8	Boot Up NumLock Status	PASS	
9	VGA Control	PASS	
10	On Chip Video Memory Size	PASS	
11	On Chip Primary IDE	PASS	
12	On Chip Serial ATA	PASS	
13	SATA Mode	PASS	
14	USB Controller	PASS	
15	USB 2.0 Controller	PASS	
16	USB Keyboard Support	PASS	
17	USB Mouse Support	PASS	
18	AC97 Audio	PASS	
19	Onboard 10/100Base LAN	PASS	
20	Onboard FDC Controller	PASS	
21	PWRON After PWR-Fail	PASS	
22	Watch Dog Timer Select	PASS	
23	Soft-Off by PWRBTN	PASS	
24	Wake Up On LAN	PASS	
25	Power On by Ring	PASS	
26	Resume by Alarm	PASS	

1.3 Driver

1. Windows 2000 Driver Test

Item	Description	Result	Remark
1	Chipset Driver	PASS	
2	VGA Driver	PASS	
3	Audio Driver	PASS	
4	LAN Driver	PASS	

2. Windows Server 2000 Driver Test

Item	Description	Result	Remark
1	Chipset Driver	PASS	
2	VGA Driver	PASS	
3	Audio Driver	PASS	
4	LAN Driver	PASS	

3. Windows XP Driver Test

	Description	Result	Remark
1	Chipset Driver	PASS	
2	VGA Driver	PASS	
3	Audio Driver	PASS	
4	LAN Driver	PASS	

4. Windows Server 2003 Driver Test

Item	Description	Result	Remark
1	Chipset Driver	PASS	
2	Audio Driver	PASS	
3	LAN Driver	PASS	

2. Compatibility test

2.1 CPU Test

CPU	Operating System	Result	Remark
Pentium 4 /1M/ 2.8 GHZ	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
	Windows Server 2003	PASS	
Pentium 4 /1M/ 3.0 GHZ	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
	Windows Server 2003	PASS	
Pentium 4 /1M/ 3.2 GHZ	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
	Windows Server 2003	PASS	
Pentium 4 /1M/ 3.4 GHZ	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
	Windows Server 2003	PASS	
Pentium 4 /1M/ 3.6 GHZ	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
	Windows Server 2003	PASS	

2.2 Memory Test

DDR DRAM	DDR Freq	Capacity Mbytes	Operating System	Result
SAMSUNG (K4T56083QF-GCD5)	DDRII 533	256MB	Win2k、 Server2000 WinXP、 Server2003	PASS
Crucial (MT8HTF3264AG-53EB3)	DDRII 533	256MB	Win2k、 Server2000 WinXP、 Server2003	PASS
TwinMOS (K4T51083QB-GCD5)	DDRII 533	512MB	Win2k、 Server2000 WinXP、 Server2003	PASS
ELPIDA (E5108AB-5C-E)	DDRII 533	512MB	Win2k、 Server2000 WinXP、 Server2003	PASS
Crucial (CT16HTF6464AY53EB2)	DDRII 533	512MB	Win2k、 Server2000 WinXP、 Server2003	PASS
LEGACY (L506464K20C-37A)	DDRII 533	512MB	Win2k、 Server2000 WinXP、 Server2003	PASS
Apacer (HYB18T512)	DDRII 533	1GB	Win2k、 Server2000 WinXP、 Server2003	PASS
SAMSUNG (K4T51083QB-GCD5)	DDRII 533	1GB	Win2k、 Server2000 WinXP、 Server2003	PASS
Kingston (K4T51083QB-GCD5)	DDRII 533	1GB	Win2k、 Server2000 WinXP、 Server2003	PASS

2.3 VGA Graphic Test

1. Windows 2000

Item	Description	Result	Remark
1	Resolution/Color Change	PASS	
2	CRT Display Test	PASS	
3	CRT Display Quality Test	PASS	
4	DVI Display Test	PASS	

2. Windows Server 2000

Item	Description	Result	Remark
1	Resolution/Color Change	PASS	
2	CRT Display Test	PASS	
3	CRT Display Quality Test	PASS	

3. Windows XP

Item	Description	Result	Remark
1	Resolution/Color Change	PASS	
2	CRT Display Test	PASS	
3	CRT Display Quality Test	PASS	
4	DVI Display Test	PASS	

4. Windows Server 2003

Item	Description	Result	Remark
1	Resolution/Color Change	PASS	
2	CRT Display Test	PASS	
3	CRT Display Quality Test	PASS	

5. VGA Card

VGA Card	Operating System	Result	Remark
S3 Trio64V2/DX 86C775 (PCI)	Windows XP	PASS	
ATI 3D RAGE PRO (PCI)	Windows XP	PASS	

2.4 Audio Test

1. Windows 2000

Item	Description	Result	Remark
1	Sound Effect	PASS	
2	Equalizer	PASS	
3	Microphone	PASS	

2. Windows Server 2000

Item	Description	Result	Remark
1	Sound Effect	PASS	
2	Equalizer	PASS	
3	Microphone	PASS	

3. Windows XP

Item	Description	Result	Remark
1	Sound Effect	PASS	
2	Equalizer	PASS	
3	Microphone	PASS	

4. Windows Server 2003

Item	Description	Result	Remark
1	Sound Effect	PASS	
2	Equalizer	PASS	
3	Microphone	PASS	

5. Sound Card

Sound Card	Operating System	Result	Remark
Yamaha YMF724-C (PCI)	Windows XP	PASS	
Yamaha YMF754-R (PCI)	Windows XP	PASS	
ESS ES1989S (PCI)	Windows XP	PASS	

2.5 HDD Test

HDD Type	Operating System	HDD Size Detect	HDD Data Transfer	HDD LED Check
WD D400BB-00DEA0 40GB	MS-DOS	PASS	PASS	PASS
Seagate ST340014A 40GB		PASS	PASS	PASS
Maxtor A605EE7E 160GB	Win2000	PASS	PASS	PASS
WD 2500JB-00EVA0 250GB	Win Server2000	PASS	PASS	PASS
HITACHI HDS722525VLSA80 250GB (SATA)	WinXP	PASS	PASS	PASS
	Win Server2003	PASS	PASS	PASS

2.6 CD-ROM Test

CD-ROM Type	Operating System	CD-ROM Detect	CD-ROM Data Transfer	PLAY DVD
BENQ 652A	Win2000	PASS	PASS	
ASUS CD-S400/A		PASS	PASS	
AOPEN DVD1648/LKY	WinServer2000	PASS	PASS	PASS
	WinXP	PASS	PASS	PASS
SONY DDU1621	WinServer2003	PASS	PASS	PASS

2.7 USB Test

1. Windows 2000

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	External USB Keyboard Test	PASS	
3	External USB Mouse Test	PASS	
4	Hot plugging test	PASS	

2. Windows Server 2000

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	External USB Keyboard Test	PASS	
3	External USB Mouse Test	PASS	
4	Hot plugging test	PASS	

3. Windows XP

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	External USB Keyboard Test	PASS	
3	External USB Mouse Test	PASS	
4	Hot plugging test	PASS	

4. Windows Server 2003

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	External USB Keyboard Test	PASS	
3	External USB Mouse Test	PASS	
4	Hot plugging test	PASS	

2.8 Serial Port & Printer Port Test

1. MS-DOS

Item	Description	Result	Remark
1	MS-DOS PCCheck TEST	PASS	
2	MS-DOS QuickTech Pro TEST	PASS	

2. Windows 2000

Item	Description	Result	Remark
1	Device Manager Chck	PASS	
2	RS-232 Mouse Test	PASS	
3	RS-232 Modem Test	PASS	

3. Windows XP

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

2.9 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 2000

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

3. Windows Server 2000

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

4. Windows XP

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

5. Windows Server 2003

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

2.10 LAN Test

1. Windows 2000

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

2. Windows Server 2000

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

3. Windows XP

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

4. Windows Server 2003

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

5. LAN Card

LAN Card	Operating System	Result	Remark
Realtek RTL8019AS(ISA)	Windows XP	PASS	
D-link DFE-530TX (PCI)	Windows XP	PASS	
Realtek RTL8029AS(PCI)	Windows XP	PASS	

2.11 Power Supply Test

1. MS-DOS

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seventeam ST-300BLV
2	ATX Power On/Off	Pass	AOpen FSP300-60ATV

2. Windows 2000

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seventeam ST-300BLV
2	ATX Power On/Off	Pass	AOpen FSP300-60ATV

3. Windows Server 2000

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seventeam ST-300BLV
2	ATX Power On/Off	Pass	AOpen FSP300-60ATV

4. Windows XP

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seventeam ST-300BLV
2	ATX Power On/Off	Pass	AOpen FSP300-60ATV

5. Windows Server 2003

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seventeam ST-300BLV
2	ATX Power On/Off	Pass	AOpen FSP300-60ATV

2.12 Floppy Drive Test

Model: Newtronics D353T6

1. MS-DOS 6.22

Item	Description	Result	Remark
1	Floppy Drive Detect	PASS	
2	Boot from Floppy	PASS	
3	Floppy Data Transfer	PASS	

2. Windows 2000

Item	Description	Result	Remark
1	Floppy Drive Detect	PASS	
2	Floppy Data Transfer	PASS	

3. Windows Server 2000

Item	Description	Result	Remark
1	Floppy Drive Detect	PASS	
2	Floppy Data Transfer	PASS	

4. Windows XP

Item	Description	Result	Remark
1	Floppy Drive Detect	PASS	
2	Floppy Data Transfer	PASS	

5. Windows Server 2003

Item	Description	Result	Remark
1	Floppy Drive Detect	PASS	
2	Floppy Data Transfer	PASS	

2.13 Boot Up Test

Item	Description	Result	Remark
1	Soft boot from HDD	PASS	Times
2	Soft boot from CD-ROM	PASS	Times
3	Soft boot from Floppy	PASS	Times
4	Reboot test with Win 2000	PASS	Times
5	Reboot test with Win Server 2000	PASS	Times
6	Reboot test with Win XP	PASS	Times
7	Reboot test with Win Server 2003	PASS	Times

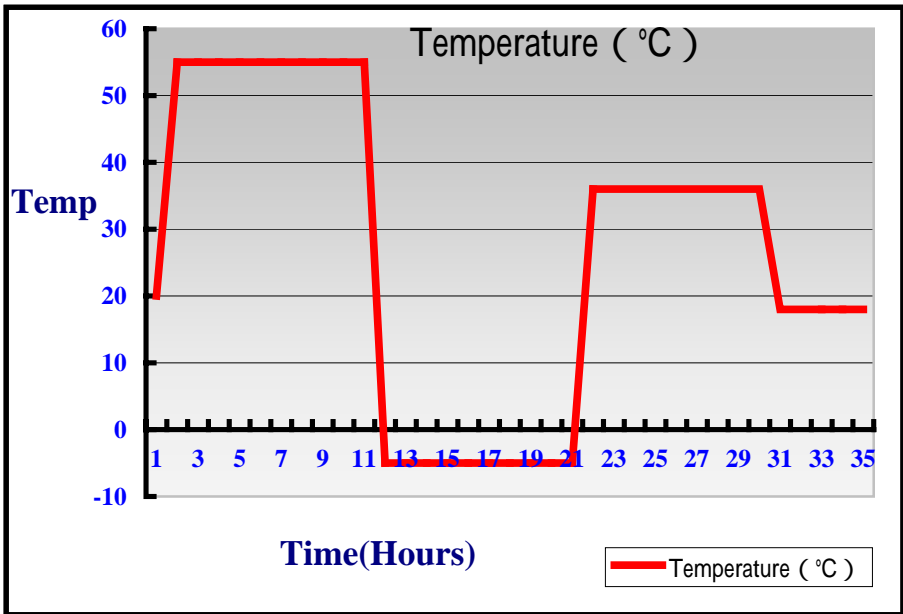
3. Environmental test

3.1 Temperature Test

Hardware Device list:

System Board	FS-979
CPU	Pentium 4 /1M/ 3.0 GHZ
Memory	SAMSUNG DDRII 533 1GB*2
HDD	Seagate ST340014A 40GB
Operating OS	Windows XP Professional
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3D WinMark 2003

Test Result:



4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

CPU	Pentium 4 /1M/ 2.8 GHZ
DIM1	Apacer 240 Pin DDRII 533 1GB*2
DIM2	SAMSUNG 240 Pin DDRII 533 1GB*2
HDD	Seagate ST340014A 40G
CDROM	SONY DDU1621 DVD-ROM
Operating System	Windows XP
Test Program	3DwinMark 2003

V'oltae	Current (A)	Power (W)	Remark
5V	7.2	36	
12V	7.1	85.2	

2. Test Environment:

CPU	Pentium 4 /1M/ 3.0 GHZ
DIM1	Apacer 240 Pin DDRII 533 1GB*2
DIM2	SAMSUNG 240 Pin DDRII 533 1GB*2
HDD	Seagate ST340014A 40G
CDROM	SONY DDU1621 DVD-ROM
Operating System	Windows XP
Test Program	3DwinMark 2003

Voltae	Current (A)	Power (W)	Remark
5V	7.3	36.5	
12V	7.8	93.6	

3.Test Environment:

CPU	Pentium 4 /1M/ 3.2 GHZ
DIM1	Apacer 240 Pin DDRII 533 1GB*2
DIM2	SAMSUNG 240 Pin DDRII 533 1GB*2
HDD	Seagate ST340014A 40G
CDROM	SONY DDU1621 DVD-ROM
Operating System	Windows XP
Test Program	3DwinMark 2003

Voltae	Current (A)	Power (W)	Remark
5V	7.6	38	
12V	8.1	97.2	

4.Test Environment:

CPU	Pentium 4 /1M/ 3.4 GHZ
DIM1	Apacer 240 Pin DDRII 533 1GB*2
DIM2	SAMSUNG 240 Pin DDRII 533 1GB*2
HDD	Seagate ST340014A 40G
CDROM	SONY DDU1621 DVD-ROM
Operating System	Windows XP
Test Program	3DwinMark 2003

Voltae	Current (A)	Power (W)	Remark
5V	7.7	38.5	
12V	8.5	102	

5. Test Environment:

CPU	Pentium 4 /1M/ 3.6 GHZ
DIM1	Apacer 240 Pin DDRII 533 1GB*2
DIM2	SAMSUNG 240 Pin DDRII 533 1GB*2
HDD	Seagate ST340014A 40G
CDROM	SONY DDU1621 DVD-ROM
Operating System	Windows XP
Test Program	3DwinMark 2003

Voltae	Current (A)	Power (W)	Remark
5V	7.7	38.5	
12V	10.6	127.2	

4.2 Thermal measurements at various points on the board

Test Environment :

CPU	Pentium 4 / 1M / 3.6GHz
Memory	SAMSUNG DDRII 533 1GB*2
HDD	WD WD400BB-00DEA0 40G
DVD-ROM	SONY DDU1621
Power	AOpen FSP300-60ATV
Operating System	Windows XP Professional
Test Program	3DMark 2003

Test Result:

CPU	53.1°C
915G (Northbridge)	48.2°C
ICH6R (Southbridge)	42.1°C
L5	58.9°C
L12	57.6°C
Q45	61.2°C
Q46	62.9°C
U6	52.8°C
U18	53.9°C
U22	68.5°C

5. Performance Test

5.1 Business Win Stone

1. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2001	Pentium-4/1M/ 3.0 GHZ SAMSUNG DDRII 533 1GB*2 WD WD400BB-00DEA0 40GB	Pass	70.3 71.5 70.5 71 71.1
Business Win stone2002	Pentium-4/1M/ 3.0 GHZ SAMSUNG DDRII 533 1GB*2 WD WD400BB-00DEA0 40GB	Pass	33.1 33.6 33.9 33.9 33.5

2. Windows XP

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2002	Pentium-4/1M/ 3.0 GHZ ELPIDA DDRII 533 512MB*2 WD WD400BB-00DEA0 40GB	Pass	34.9 34 34.3 34.6 34

5.2 Content Creation Winstone

1. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2001	Pentium-4/1M/ 3.0 GHZ SAMSUNG DDRII 533 1GB*2 WD WD400BB-00DEA0 40GB	Pass	95.1
			95.5
			95.1
			95.7
			95.1
Winstone Content Creation2003	Pentium-4/1M/ 3.0 GHZ SAMSUNG DDRII 533 1GB*2 WD WD400BB-00DEA0 40GB	Pass	48.3
			48.2
			50.1
			47.7
			47.8

2. Windows XP

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2001	Pentium-4/1M/ 3.0 GHZ ELPIDA DDRII 533 512MB*2 WD WD400BB-00DEA0 40GB	Pass	105.5
			106.4
			105.5
			106
			106.2
Winstone Content Creation2004	Pentium-4/1M/ 3.0 GHZ ELPIDA DDRII 533 512MB*2 WD WD400BB-00DEA0 40GB	Pass	28.9
			28.9
			28.9
			29
			29

5.3 3D MARK

1. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Pentium-4/1M/ 3.0 GHZ SAMSUNG DDRII 533 1GB*2	Pass	4754
3DMARK2003 Scores	WD WD400BB-00DEA0 40GB	Pass	1483

2. Windows XP

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Pentium-4/1M/ 3.4 GHZ TwinMOS DDRII 533 512MB*2	Pass	5574
3DMARK2003 Scores	Seagate ST340014A 40GB	Pass	1721