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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	IDE Secondary Master	PASS
8	IDE Secondary Slave	PASS
9	DIMM	PASS
10	Floppy	PASS
11	Keyboard	PASS
12	Mouse	PASS
13	VGA Port	PASS
14	AUDIO Port	PASS
15	Mini AGP Port	PASS
16	LVDS Port	PASS
17	COM 1	PASS
18	COM 2	PASS
19	Printer Port	PASS
20	USB Port	PASS
21	IRDA	PASS
22	CDIN	PASS
23	CPUFAN	PASS

24	SYSFAN	PASS
25	Compact Flash	PASS

2.0 PITCH (DIP)

1	JRTC	PASS
2	JDOM	PASS
3	JCFSEL	PASS
4	JLAN	PASS
5	JVLCD	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	Drive A	PASS	
6	Drive B	PASS	
7	Quick Power On Self Test	PASS	
8	Boot Device Setting	PASS	
9	Swap Floppy Drive	PASS	
10	Boot Up Floppy Seek	PASS	
11	Boot Up NumLock Status	PASS	
12	On Chip VGA	PASS	
13	On Chip Frame Buffer Size	PASS	
14	On Chip Primary PCI IDE	PASS	
15	On Chip Secondary PCI IDE	PASS	
16	USB Controller	PASS	
17	USB 2.0 Controller	PASS	
18	USB Keyboard Support	PASS	
19	USB Mouse Support	PASS	
20	AC97 Audio	PASS	
21	Init Display First	PASS	
22	POWER ON Function	PASS	
23	Onboard FDC Controller	PASS	
24	Onboard Serial Port	PASS	
25	Onboard Parallel Port	PASS	
26	Watch Dog Timer Select	PASS	
27	ACPI Function	PASS	

28	Soft-Off by PWRBTN	PASS	
29	Modem Ring On	PASS	
30	Wake Up On LAN	PASS	
31	Wake Up by PCI Card (On board Lan)	PASS	
32	RTC Alarm Resume	PASS	

1.3 Driver

1. Windows 98 Driver Test

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

2. Windows 2000 Driver Test

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

3. Windows Server 2000 Driver Test

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

4. Windows XP Driver Test

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

2. Compatibility test

2.1 CPU Test

CPU	Operating System	Result	Remark
Celeron-M/512K/ 1.3 GHZ	Windows 98	PASS	
	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
Pentium-M /1M/ 1.3 GHZ	Windows 98	PASS	
	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
Pentium-M /1M/ 1.6 GHZ	Windows 98	PASS	
	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
Pentium-M /1M/ 1.7 GHZ	Windows 98	PASS	
	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	
Pentium-M /2M/ 1.7 GHZ (Dothan)	Windows 98	PASS	
	Windows 2000	PASS	
	Windows Server 2000	PASS	
	Windows XP	PASS	

2.2 Memory Test

DDR DRAM	DDR Freq	Capacity Mbytes	Operating System	Result
NANYA (NT5DS16M8AT-7K)	DDR266	128MB	Win98、 Win2000 WinXP	PASS
Micron (MT8VDDT1664AG-265A1)	DDR266	128MB	Win98、 Win2000 WinXP	PASS
HYUNDAI (HY5DU28822T-H)	DDR266	256MB	Win98、 Win2000 WinXP	PASS
NANYA (NT5DS16M8AT-7K)	DDR266	256MB	Win98、 Win2000 WinXP	PASS
SAMSUNG (K4H280838B-TCB0)	DDR266	256MB	Win98、 Win2000 WinXP	PASS
Infineon (HYB25D256800BT-6)	DDR333	512MB	Win98、 Win2000 WinXP	PASS
KINGMAX (KDL388P4EA-60)	DDR333	512MB	Win98、 Win2000 WinXP	PASS
SEITEC (DDR32M8AT-7)	DDR333	512MB	Win98、 Win2000 WinXP	PASS
SAMSUNG (K4H560838D-TCB3)	DDR333	512MB	Win98、 Win2000 WinXP	PASS
HYNIX (HY5DU12822AT-D43)	DDR400	1GB	Win98、 Win2000 WinXP	PASS

2.3 VGA Graphic Test

1. Windows 98

Item	Description	Result	Remark
1	Resolution/Color Change	PASS	
2	CRT Display Test	PASS	
3	CRT Display Quality Test	PASS	
4	LVDS Display Test	PASS	(LG PHILIPS LM150X08)

2. Windows 2000

Item	Description	Result	Remark
1	Resolution/Color Change	PASS	
2	CRT Display Test	PASS	
3	CRT Display Quality Test	PASS	
4	LVDS Display Test	PASS	(LG PHILIPS LM150X08)

3. Windows Server 2000

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

4. Windows XP

Item	Description	Result	Remark
1	Resolution/Color Change	PASS	
2	CRT Display Test	PASS	
3	CRT Display Quality Test	PASS	
4	LVDS Display Test	PASS	(LG PHILIPS LM150X08)

5. VGA Card

VGA Card	Operating System	Result	Remark
Trident TVGA9000B(ISA)	Windows 98	PASS	
CyberPro2000(PCI)	Windows 98	PASS	
S3 Trio64V2/DX 86C775 (PCI)	Windows XP	PASS	
ATI 3D RAGE PRO (PCI)	Windows XP	PASS	

2.4 Audio Test

1. Windows 98

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

2. Windows 2000

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

3. Windows Server 2000

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

4. Windows XP

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

5. Sound Card

Sound Card	Operating System	Result	Remark
ESS ES1869F (ISA)	Windows 98	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
IBM DTL/307030 30.6GB	MS-DOS Win98 Win2000 WinXP	PASS	PASS	PASS
Maxtor D740X-6L 40GB		PASS	PASS	PASS
Seagate ST340014A 40GB		PASS	PASS	PASS
HITACHI IC35L060AVV207-0 61.4GB		PASS	PASS	PASS

2.6 CD-ROM Test

CD-ROM Type	Operating System	CD-ROM Detect	CD-ROM Data Transfer	PLAY DVD
BENQ 652A	Win98 Win2000 WinXP	PASS	PASS	
AOPEN DVD1648/LKY		PASS	PASS	PASS
SONY DDU1621		PASS	PASS	PASS

2.7 USB Test

1. Windows 98

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 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	

2.8 Serial Port & Printer Port Test

1. Windows 98

Item	Description	Result	Remark
1	MS-DOS PCCheck TEST	PASS	
2	Device Manager Check	PASS	
3	RS-232 Modem Test	PASS	

2. Windows 2000

Item	Description	Result	Remark
1	Device Manager Check	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 6.22

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

2. Windows 98

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

3. Windows 2000

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

4. Windows Server 2000

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

5. Windows XP

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 98

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

2. Windows 2000

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

3. Windows Server 2000

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

4. Windows XP

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test (With 100M Standard Cable)	PASS	

5. LAN Card

LAN Card	Operating System	Result	Remark
Realtek RTL8019 (ISA)	Windows 98	PASS	
Realtek RTL8139D(PCI)	Windows XP	PASS	
Realtek RTL8029AS(PCI)	Windows XP	PASS	
D-link DFE-530TX (PCI)	Windows XP	PASS	

2.11 Power Supply Test

1. MS-DOS 6.22

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	AOpen FSP300-60ATV
2	AT Power On/Off	Pass	MAGITRONIC D-P350

2. Windows 98

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	AOpen FSP300-60ATV
2	AT Power On/Off	Pass	MAGITRONIC D-P350

3. Windows 2000

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	AOpen FSP300-60ATV
2	AT Power On/Off	Pass	MAGITRONIC D-P350

4. Windows XP

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	AOpen FSP300-60ATV
2	AT Power On/Off	Pass	MAGITRONIC D-P350

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 98

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

3. Windows 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	

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	Reboot test with Win 98	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
8	Reboot test with WinNT 4.0	PASS	Times
9	Reboot test with Red Hat Linux 9.0	PASS	Times

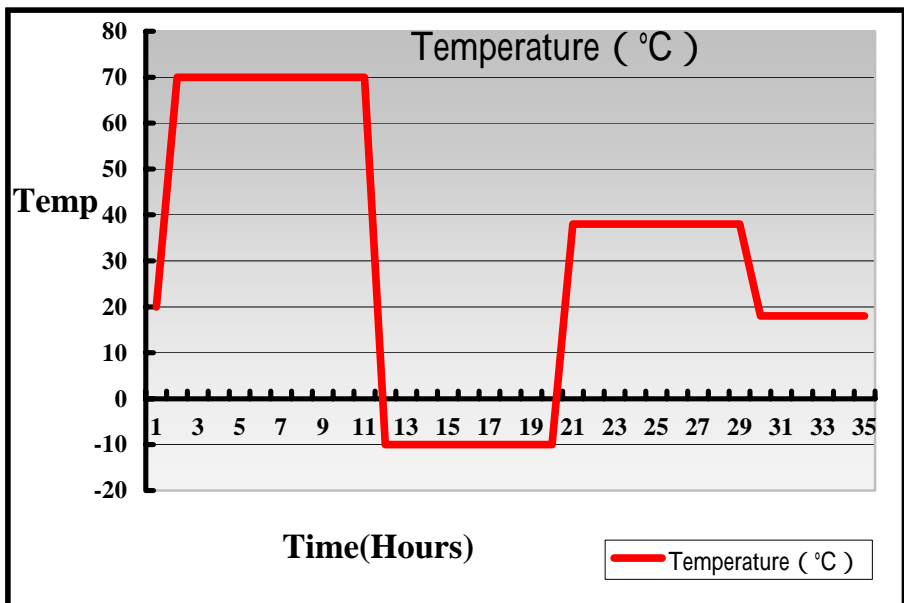
3. Environmental test

3.1 Temperature & Humidity Test

Hardware Device list:

System Board	FS-97A
CPU	Pentium-M /1M/ 1.7 GHZ
Memory	SAMSUNG 184 Pin DDR333 512MB
HDD	Seagate ST340014A 40GB
Operating OS	Windows XP
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3D WinMark 2001

Test Result:



4. Reliability Test

4.1 Power Consumption Test

1.Test Environment:

CPU	Celeron-M/ 512K /1.3 GHZ
Memory	SEITEC 184 Pin DDR333 512MB
HDD	Seagate ST340014A 40G
CDROM	AOPEN DVD1648/LKY
Operating System	Windows XP
Test Program	3DwinMark 2001

5V Current	6.3A
5V Power	31.5W
12V Current	0.3A
12V Power	3.6W

2.Test Environment:

CPU	Pentium-M/1M/1.3 GHZ
Memory	SEITEC 184 Pin DDR333 512MB
HDD	Seagate ST340014A 40G
CDROM	AOPEN DVD1648/LKY
Operating System	Windows XP
Test Program	3DwinMark 2001

5V Current	6.5A
5V Power	32.5W
12V Current	0.5A
12V Power	6W

3.Test Environment:

CPU	Pentium-M/2M/1.5 GHZ (Dothan)
Memory	SEITEC 184 Pin DDR333 512MB
HDD	Seagate ST340014A 40G
CDROM	AOPEN DVD1648/LKY
Operating System	Windows XP
Test Program	3DwinMark 2001

5V Current	6.3A
5V Power	31.5W
12V Current	0.3A
12V Power	3.6W

4.Test Environment:

CPU	Pentium-M/1M/1.6 GHZ
Memory	SEITEC 184 Pin DDR333 512MB
HDD	Seagate ST340014A 40G
CDROM	AOPEN DVD1648/LKY
Operating System	Windows XP
Test Program	3DwinMark 2001

5V Current	7.5A
5V Power	37.5W
12V Current	0.5A
12V Power	6W

5.Test Environment:

CPU	Pentium-M/1M/1.6 GHZ
Memory	HYNIX 184 Pin DDR400 1GB*2
HDD	Seagate ST340014A 40G
CDROM	AOPEN DVD1648/LKY
Display	CRT+LVDS (LG PHILIPS LM150X08)
Operating System	Windows XP
Test Program	3DwinMark 2001

5V Current	8A
5V Power	40W
12V Current	1.5A
12V Power	18W

4.2 Thermal measurements at various points on the board

Test Environment :

CPU	Pentium-M/1M/1.6GHz (with fan)
Memory	HYNIX 184 Pin DDR400 1GB
HDD	Seagate ST340014A 40G
Operating System	Windows XP
Test Program	Winstone Content Creation 2003

Test Result:

CPU	51.1°C
INTEL 82855GME	48.4°C
INTEL 82801DB	40.3°C
U14	48.4°C
Q14	46.1°C
Q25	41.6°C

5. Performance Test

5.1 Business Win Stone 2001

1. Windows 98

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2001	Celeron-M/512k/1.3 GHZ	Pass	59
	SEITEC DDR333 512MB		61.1
	IBM DTL/ 307030 30.7GB		62.9
			62.3
			64.1

2. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2001	Pentium-M /1M/ 1.3 GHZ	Pass	66.7
	HYNIX DDR400 1GB		68
	Seagate ST340014A 40GB		67
			68
			68.1

5.2 Business Win Stone 2002

1. Windows 98

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2002	Celeron-M/512k/1.3 GHZ	Pass	27.4
	SEITEC DDR333 512MB		28.2
	IBM DTL/ 307030 30.7GB		28.2
			28.3
			28

2. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2002	Pentium-M /1M/ 1.3 GHZ	Pass	32.2
	HYNIX DDR400 1GB		34.2
	Seagate ST340014A 40GB		34.5
			34.4
			34

3. Windows XP

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2002	Pentium-M /1M/ 1.6 GHZ	Pass	31.4
	HYNIX DDR400 1GB		35.8
	Seagate ST340014A 40GB		34.2
			35.7
			34.7

5.3 Winstone Content Creation 2001

1. Windows 98

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2001	Celeron-M/512k/1.3 GHZ	Pass	65.4
	SEITEC DDR333 512MB		67.5
	IBM DTL/ 307030 30.7GB		67.5
			68.5
			68.4

2. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2001	Pentium-M /1M/ 1.3 GHZ	Pass	91.6
	HYNIX DDR400 1GB		96.7
	Seagate ST340014A 40GB		96.8
			96.1
			96.3

3. Windows XP

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2001	Pentium-M /1M/ 1.6 GHZ	Pass	101.2
	HYNIX DDR400 1GB		106.8
	Seagate ST340014A 40GB		107.6
			108.5
			107.9

5.4 Winstone Content Creation 2003

1. Windows 98

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2003	Celeron-M/512k/1.3 GHZ	Pass	27.1
	SEITEC DDR333 512MB		27
	IBM DTL/ 307030 30.7GB		26.9
			26.9
			27.4

2. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2003	Pentium-M /1M/ 1.3 GHZ	Pass	37.2
	HYNIX DDR400 1GB		38.1
	Seagate ST340014A 40GB		38.3
			38.3
			35.1

3. Windows XP

WEIGHTED SUITE	Test Environment	Result	Remark
Winstone Content Creation2003	Pentium-M /1M/ 1.6 GHZ		39.5
	HYNIX DDR400 1GB		43.6
	Seagate ST340014A 40GB		43.6
			43.8
			43.6

5.5 3D MARK

1. Windows 98

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Celeron-M/512k/1.3 GHZ	Pass	2009
3DMARK2003 Scores	SEITEC DDR333 512MB IBM DTLA -307030 30.7GB	Pass	114

2. Windows 2000

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Pentium-M/1M/1.3 GHZ	Pass	1975
3DMARK2003 Scores	HYNIX DDR400 1GB Seagate ST340014A 40G	Pass	105

3. Windows XP

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Pentium-M/1M/1.6 GHZ	Pass	1987
3DMARK2003 Scores	HYNIX DDR400 1GB Seagate ST340014A 40G	Pass	104