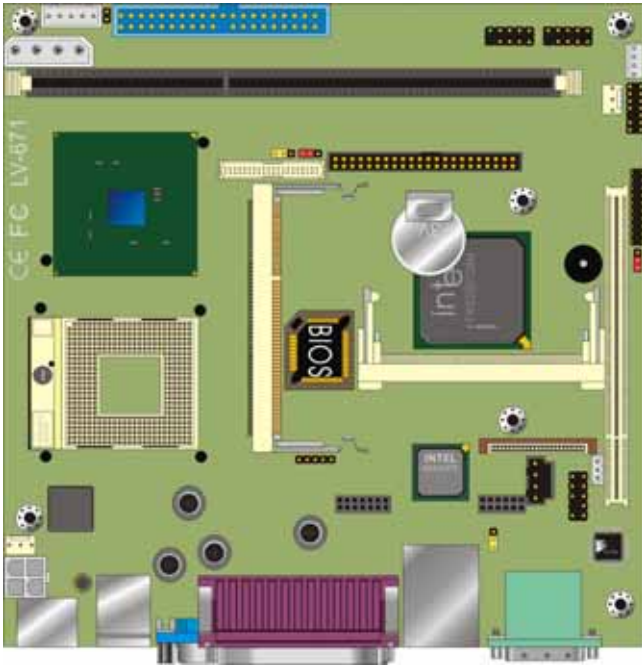


**LV-671**  
**Test Report**  
**Edition 1.01**  
**2004/7/14**



Test Engineer : Gary

Identify: Morgan

# Index

1. Function test .....	4
1.1 Hardware function .....	4
1.2 BIOS function .....	6
1.3 Driver .....	7
2. Compatibility test .....	8
2.1 CPU Test .....	8
2.2 Memory Test .....	14
2.3 VGA Graphic Test .....	16
2.4 Audio Test .....	18
2.5 HDD Test .....	20
2.6 USB Test .....	28
2.7 Serial Port Test .....	29
2.8 IrDA Test .....	31
2.9 Keyboard Test .....	32
2.10 Mouse Test .....	33
2.11 Extra LAN & 4 Com Port Module Test .....	34
2.12 Power Supply Test .....	36
2.13 CD-ROM Test .....	38
2.14 Floppy Drive Test .....	42
2.15 Printer Port Test .....	44
2.16 Boot Up Test .....	45
3. Environmental test .....	46
3.1 Temperature & Humidity Test .....	46
4. Reliability Test .....	47
4.1 Power Consumption Test .....	47
4.2 Thermal measurements at various points on the board .....	51

5. Performance Test.....	53
5.1 Win Bench 99.....	53
5.2 Win Stone 99.....	54
5.3 Business Win Stone 2001 .....	55
5.4 Business Win Stone 2002 .....	60
5.5 Winstone Content Creation 2001.....	61
5.6 Winstone Content Creation 2003.....	62
5.7 3DMARK .....	63

# 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	Floppy	Pass
10	Compact Flash	Pass
11	DIMM	Pass
12	VGA Port	Pass
13	Keyboard	Pass
14	Mouse	Pass
15	AUDIO Port	Pass
16	COM 1	Pass
17	COM 2	Pass
18	Printer Port	Pass
19	IRDA	Pass
20	CDIN	Pass
21	CPUFAN	Pass
22	HASFAN	Pass
23	SPDIF	Pass

## 2.0 PITCH (DIP)

1	JRTC	PASS
2	LAN1	PASS
3	JLCD	PASS
4	JCFSEL	PASS
5	JDOM	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	IDE Setting	Pass	
6	Drive A	Pass	
7	Drive B	Pass	
8	Quick Power On Self Test	Pass	
9	Boot Device Setting	Pass	
10	Swap Floppy Drive	Pass	
11	Boot Up NumLock Status	Pass	
12	Memory Hole		
13	On Chip USB	Pass	
14	USB Keyboard Support	Pass	
15	ACPI Function	Pass	
16	Soft-Off by PWRBTN	Pass	
17	Frame Buffer Size	Pass	
18	RTC Alarm Resume	Pass	
19	Modem Ring On	Pass	
20	Wake Up On LAN	Pass	
21	Wake Up On PCI CARD	Pass	
22	OnChip IDE Channel 0/1	Pass	
23	Init Display First	Pass	
24	Onboard FDD Controller	Pass	
25	Onboard Serial Port	Pass	
26	Onboard Parallel Port	Pass	
27	CPU Warring Temperature		

## 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 XP Driver Test

	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

Processor: Pentium-M Intel 1.3 GHZ

O.S: MS-DOS 6.22

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	

#### Windows 98

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
4	WinBench99 Test	Pass	
5	WinStone99 Test	Pass	

#### Windows 2000

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
5	WinStone2000 Test	Pass	



## Windows XP

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
4	WinStone2000 Test	Pass	

## Red Hat Linux 9.0

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	

**Processor: Pentium-M Intel 1.4 GHZ**

**O.S: MS-DOS 6.22**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	

**Windows 98**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
4	WinBench99 Test	Pass	
5	WinStone99 Test	Pass	

**Windows 2000**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
5	WinStone2000 Test	Pass	

## Windows XP

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
4	WinStone2000 Test	Pass	

## Red Hat Linux 9.0

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	

**Processor: Pentium-M Intel 1.6 GHZ**

**O.S: MS-DOS 6.22**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	

**Windows 98**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
4	WinBench99 Test	Pass	
5	WinStone99 Test	Pass	

**Windows 2000**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
5	WinStone2000 Test	Pass	

## Windows XP

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	
4	WinStone2000 Test	Pass	

## Red Hat Linux 9.0

Item	Description	Result	Remark
1	CPU Type Detect	Pass	
2	CPU Speed Detect	Pass	
3	OS Running Stability	Pass	

## 2.2 Memory Test

### 1. SAMSUNG DDR266 256MB ECC

Item	Description	Result	Remark
1	Boot	Pass	
2	MS-DOS 6.22	Pass	
3	Windows 98	Pass	
4	Windows 2000	Pass	
5	Windows XP	Pass	
6	Red Hat Linux 9.0	Pass	

### 2 SAMSUNG DDR333 512MB

Item	Description	Result	Remark
1	Boot	Pass	
2	MS-DOS 6.22	Pass	
3	Windows 98	Pass	
4	Windows 2000	Pass	
5	Windows XP	Pass	
6	Red Hat Linux 9.0	Pass	

### 3 SAMSUNG DDR333 1GB

Item	Description	Result	Remark
1	Boot	Pass	
2	MS-DOS 6.22	Pass	
3	Windows 2000	Pass	
4	Windows XP	Pass	
5	Red Hat Linux 9.0	Pass	

### 4 HYNIX DDR400 1GB ECC

Item	Description	Result	Remark
1	Boot	Pass	
2	MS-DOS 6.22	Pass	
3	Windows 2000	Pass	

4	Windows XP	Pass	
5	Red Hat Linux 9.0	Pass	

## 2.3 VGA Graphic Test

### 1. Windows 98

Item	Description	Result	Remark
1	Driver Install	Pass	
2	Resolution/Color Change	Pass	
3	Dual View Test	Pass	With LVDS LCD panel
4	CRT Display Test	Pass	
5	CRT Display Quality Test	Pass	

### 2. Windows 2000

Item	Description	Result	Remark
1	Driver Install	Pass	
2	Resolution/Color Change	Pass	
3	Dual View Test	Pass	With LVDS LCD panel
4	CRT Display Test	Pass	
5	CRT Display Quality Test	Pass	

### 3. Windows XP

Item	Description	Result	Remark
1	Driver Install	Pass	
2	Resolution/Color Change	Pass	
3	Dual View Test	Pass	With LVDS LCD panel
4	CRT Display Test	Pass	
5	CRT Display Quality Test	Pass	



#### 4. Red Hat Linux 9.0

Item	Description	Result	Remark
1	Driver Install	Pass	
2	Resolution/Color Change	Pass	
3	CRT Display Test	Pass	
4	CRT Display Quality Test	Pass	

## 2.4 Audio Test

### 1. Windows 98

Item	Description	Result	Remark
1	Driver Install	Pass	
2	Speaker Left	Pass	
3	Speaker Right	Pass	
4	Sound Effect	Pass	
5	Equalizer	Pass	
6	Micophone	Pass	

### 2. Windows 2000

Item	Description	Result	Remark
1	Driver Install	Pass	
2	Speaker Left	Pass	
3	Speaker Right	Pass	
4	Sound Effect	Pass	
5	Equalizer	Pass	
6	Micophone	Pass	

### 3. Windows XP

Item	Description	Result	Remark
1	Driver Install	Pass	
2	Speaker Left	Pass	
3	Speaker Right	Pass	
4	Sound Effect	Pass	
5	Equalizer	Pass	
6	Micophone	Pass	

#### 4. Red Hat Linux 9.0

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	Driver Install	Pass	
2	Speaker Left	Pass	
3	Speaker Right	Pass	
4	Microphone	Pass	

## 2.5 HDD Test

Model: Western Digital WD2500

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	HDD Size Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Partition/Format	Pass	
4	QAPLUS HDD Test	Pass	
5	HDD LED Check	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

#### 4. Windows XP

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

**Model: HITACHI Deskstar IC35L060AVV207-0 61.4GB**

**1. MS-DOS 6.22**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Size Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Partition/Format	Pass	
5	HDD LED Check	Pass	

**2. Windows 98**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

**3. Windows 2000**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

#### 4. Windows XP

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

#### 5. Red Hat Linux 9.0

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

## Model: MaxtorDiamondMax8 Plus8 40GB

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	HDD Size Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Partition/Format	Pass	
5	HDD LED Check	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	



#### 4. Windows XP

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

#### 5. Red Hat Linux 9.0

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

## Model: Western Digital WD400

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	HDD Size Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Partition/Format	Pass	
4	HDD LED Check	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

#### 4. Windows XP

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

#### 5. Red Hat Linux 9.0

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	HDD Detect	Pass	
2	HDD Read/Write	Pass	
3	HDD Data Transfer	Pass	
4	HDD Format	Pass	
5	HDD LED Check	Pass	

## 2.6 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	
5	Direct Connect by USB Test	Pass	
6	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	
5	Direct Connect by USB Test	Pass	
6	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	
5	Direct Connect by USB Test	Pass	
6	Hot plugging test	Pass	

## 2.7 Serial Port Test

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	RS-232 Mouse Test	Pass	
2	RS-232 Modem Test	Pass	
3	QAPLUS COM Port RS-232 Test (W/Loop-Back)	Pass	
4	SFT COM Port RS-232 Test (W/Loop-Back)	Pass	
5	SIOTEST COM Port RS-232 Test (W/Loop-Back)	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Driver Install	Pass	
3	RS-232 Mouse Test (PNP)	Pass	
4	RS-232 Modem Test (PNP)	Pass	
5	Win-QAPLUS COM Port RS-232 Test (W/Loop-Back)	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Driver Install	Pass	
3	RS-232 Mouse Test (PNP)	Pass	
4	RS-232 Modem Test (PNP)	Pass	
5	Win-QAPLUS COM Port RS-232 Test (W/Loop-Back)		

#### 4. Windows XP

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Driver Install	Pass	
3	RS-232 Mouse Test (PNP)	Pass	
4	RS-232 Modem Test (PNP)	Pass	
5	Win-QAPLUS COM Port RS-232 Test (W/Loop-Back)		

## 2.8 IrDA Test

### 1. Windows 98

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	SIR Mode Data Transfer Test	Pass	
3	SIR Data Transfer Quality Test	Pass	
4	SIR Loop-Back Test	Pass	

### 2. Windows 2000

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	SIR Mode Data Transfer Test	Pass	
3	SIR Data Transfer Quality Test	Pass	
4	SIR Loop-Back Test	Pass	

### 3. Windows XP

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	SIR Mode Data Transfer Test	Pass	
3	SIR Data Transfer Quality Test	Pass	
4	SIR Loop-Back Test	Pass	

### 4. Red Hat Linux 9.0

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	SIR Mode Data Transfer Test		
3	SIR Data Transfer Quality Test		
4	SIR Loop-Back Test		

## 2.9 Keyboard Test

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	QAPLUS Keyboard Test	Pass	
2	Keyboard LED Status Test	Pass	
3	Keyboard Command Test	Pass	
4	Keyboard Typing Test	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Keyboard LED Status Test	Pass	
3	Keyboard Typing Test	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Keyboard LED Status Test	Pass	
3	Keyboard Typing Test	Pass	

### 4. Windows XP

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Keyboard LED Status Test	Pass	
3	Keyboard Typing Test	Pass	

### 5. Red Hat Linux 9.0

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Keyboard LED Status Test	Pass	
3	Keyboard Typing Test	Pass	



## 2.10 Mouse Test

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	QAPLUS Mouse Test	Pass	
2	Mouse Detect Test	Pass	
3	DOS Edit Test (Use Microsoft Mouse Driver)	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Mouse Detect Test (PNP)	Pass	
3	Dos Mode Mouse Test	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Mouse Detect Test (PNP)	Pass	
3	Dos Mode Mouse Test	Pass	

### 4. Windows XP

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Mouse Detect Test (PNP)	Pass	
3	Dos Mode Mouse Test	Pass	

### 5. Red Hat Linux 9.0

Item	Description	Result	Remark
1	Device Manager Check	Pass	
2	Mouse Detect Test (PNP)	Pass	

## 2.11 Extra LAN & 4 Com Port Module Test

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	LAN Module Install Test	N/A	
2	Driver Install	N/A	
3	Device Manager Check	N/A	
4	Data Transfer Test	N/A	
5	SIOTEST COM Port RS-422 Test	Pass	
6	SIOTEST COM Port RS-485 Test	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	LAN Module Install Test	Pass	
2	Driver Install	Pass	
3	Device Manager Check	Pass	
4	Data Transfer Test	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	LAN Module Install Test	Pass	
2	Driver Install	Pass	
3	Device Manager Check	Pass	
4	Data Transfer Test	Pass	

### 4. Windows XP

Item	Description	Result	Remark
1	LAN Module Install Test	Pass	
2	Driver Install	Pass	
3	Device Manager Check	Pass	
4	Data Transfer Test	Pass	

## 5. Red Hat Linux 9.0

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	LAN Module Install Test	Pass	
2	Driver Install	Pass	
3	Device Manager Check	Pass	
4	Data Transfer Test	Pass	

## 2.12 Power Supply Test

### 1. MS-DOS 6.22

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seven team ST-300BLV
2	12V DC adapter Power On/Off	Pass	Highpower HPA-601250U3 60W
3	19V DC adapter Power On/Off	Pass	EDACpower EA 10953 90W

### 2. Windows 98

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seven team ST-300BLV
2	12V DC adapter Power On/Off	Pass	Highpower HPA-601250U3 60W
3	19V DC adapter Power On/Off	Pass	EDACpower EA 10953 90W

### 3. Windows 2000

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seven team ST-300BLV
2	12V DC adapter Power On/Off	Pass	Highpower HPA-601250U3 60W
3	19V DC adapter Power On/Off	Pass	EDACpower EA 10953 90W

### 4. Windows XP

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seven team ST-300BLV
2	12V DC adapter Power On/Off	Pass	Highpower HPA-601250U3 60W
3	19V DC adapter Power On/Off	Pass	EDACpower EA 10953 90W

## 5. Red Hat Linux 9.0

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	Pass	Seven team ST-300BLV
2	12V DC adapter Power On/Off	Pass	Highpower HPA-601250U3 60W
3	19V DC adapter Power On/Off	Pass	EDACpower EA 10953 90W

## 2.13 CD-ROM Test

Model: YAMAHA CRW2100E

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Bootable	Pass	
4	CD-ROM Data Transfer	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

### 4. Windows XP

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

### 5. Red Hat Linux 9.0

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

## Model: ACTIMA A52T

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Bootable	Pass	
4	CD-ROM Data Transfer	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

### 4. Windows XP

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

### 5. Red Hat Linux 9.0

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

## Model: Pioneer DVD116

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Bootable	Pass	
4	CD-ROM Data Transfer	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	
4	PLAY DVD	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	
4	PLAY DVD	Pass	

### 4. Windows XP

Item	Description	Result	Remark
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	
4	PLAY DVD	Pass	



## 5. Red Hat Linux 9.0

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	CD-ROM Detect	Pass	
2	CD-ROM Read	Pass	
3	CD-ROM Data Transfer	Pass	

## 2.14 Floppy Drive Test

Model: SAMSUNG SFD-321S

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	Floppy Drive Detect	Pass	
2	Floppy Read/Write	Pass	
3	Boot from Floppy	Pass	
4	Floppy Data Transfer	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	Floppy Drive Detect	Pass	
2	Floppy Read/Write	Pass	
3	Floppy Data Transfer	Pass	

### 3. Windows NT 4.0

Item	Description	Result	Remark
1	Floppy Drive Detect	Pass	
2	Floppy Read/Write	Pass	
3	Floppy Data Transfer	Pass	

### 4. Windows 2000

Item	Description	Result	Remark
1	Floppy Drive Detect	Pass	
2	Floppy Read/Write	Pass	
3	Floppy Data Transfer	Pass	

## 5. Windows XP

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	Floppy Drive Detect	Pass	
2	Floppy Read/Write	Pass	
3	Floppy Data Transfer	Pass	

## 6. Red Hat Linux 9.0

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	Floppy Drive Detect	Pass	
2	Floppy Read/Write	Pass	
3	Floppy Data Transfer	Pass	

## 2.15 Printer Port Test

### 1. MS-DOS 6.22

Item	Description	Result	Remark
1	EPP	Pass	
2	ECP	Pass	
3	EPP+ECP	Pass	

### 2. Windows 98

Item	Description	Result	Remark
1	HCT LPT PnP Enumeration TEST	Pass	

### 3. Windows 2000

Item	Description	Result	Remark
1	HCT ECP/EPP TEST	Pass	

### 4. Windows XP

Item	Description	Result	Remark
1	HCT ECP/EPP TEST	Pass	

### 5. Red Hat Linux 9.0

Item	Description	Result	Remark
1	Print TEST	Pass	

## 2.16 Boot Up Test

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
1	Power On/Off with 12V DC adapter Power	Pass	50 Times
2	Power On/Off with 19V DC adapter Power	Pass	50 Times
3	Soft boot from HDD	Pass	Times
4	Soft boot from CD-ROM	Pass	Times
5	Reboot test with Win 98	Pass	Times
6	Reboot test with Win 2000	Pass	Times
7	Reboot test with Win XP	Pass	Times
8	Reboot test with Red Hat Linux 9.0	Pass	Times

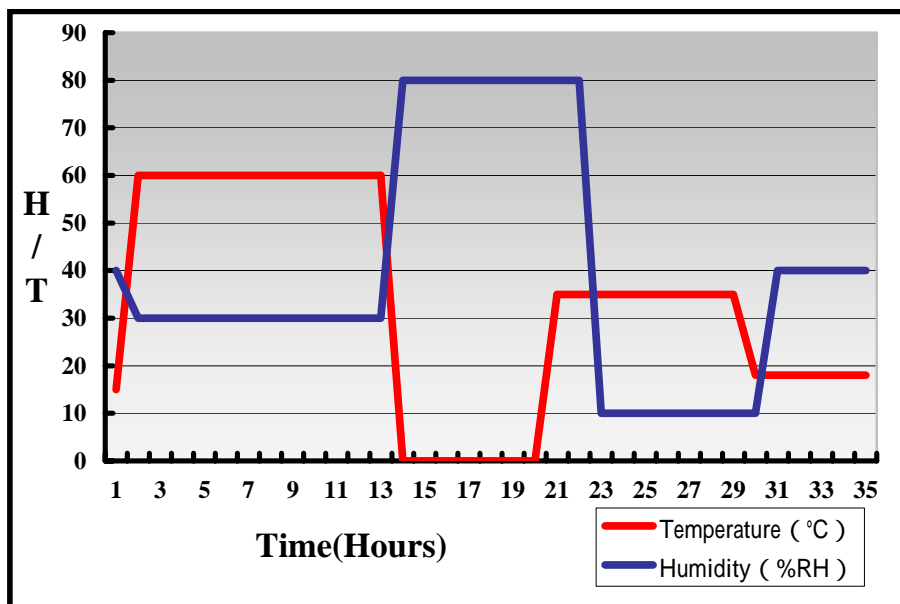
### 3. Environmental test

#### 3.1 Temperature & Humidity Test

##### Hardware Device list:

System Board	LV-671
CPU	Pentium-M Intel 1.4 GHZ
Memory	SAMSUNG DDR333 512MB
HDD	IBM 30.7GB Model:DTLA 307030
KEYBOARD	MAGITRONIC KB-6923
MOUSE	Logitech M-CAA43
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	BCM

##### Test Result:



## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

CPU	<b>Pentium-M Intel 1.3 GHZ</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
CDROM	<b>Actima A52T</b>
Test OS	<b>Windows 2000</b>
Test Program	<b>3DwinMark 2001</b>

#### Test Result:

Current	5.1A
Power	61.2W

#### 2. Test Environment:

CPU	<b>Pentium-M Intel 1.4 GHZ</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
CDROM	<b>Actima A52T</b>
Test OS	<b>Windows 2000</b>
Test Program	<b>3DwinMark 2001</b>

#### Test Result:

Current	5.3A
Power	63.6W

### 3.Test Environment:

CPU	<b>Pentium-M Intel 1.6 GHZ</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
CDROM	<b>Actima A52T</b>
Test Program	<b>3DwinMark 2001</b>

### Test Result:

Current	5.5A
Power	66W

### 4.Test Environment:

CPU	<b>Pentium-M Intel 1.6 GHZ</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
CDROM	<b>Actima A52T</b>
13.3" LCD PANEL	<b>SAMSUNG LT133X2-126</b>
Test Program	<b>3DwinMark 2001</b>

### Test Result:

Current	6A
Power	70W



**5.Test Environment:**

CPU	<b>Pentium-M Intel 1.6 GHZ</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
CDROM	<b>Actima A52T</b>
15" LCD PANEL	<b>SAMSUNG LTM150XH-L01</b>
Test Program	<b>3DwinMark 2001</b>

**Test Result:**

Current	6.5A
Power	78W

**6.Test Environment:**

CPU	<b>Pentium-M Intel 1.6 GHZ</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
CDROM	<b>Actima A52T</b>
17" LCD PANEL	<b>SAMSUNG LTM170E4-L01</b>
Test Program	<b>3DwinMark 2001</b>

**Test Result:**

Current	8A
Power	96W

## 7. Test Environment:

CPU	<b>Pentium-M Intel 1.1 GHZ</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>Maxtor 6E040L0 40GB</b>
CDROM	<b>Actima A52T</b>
Test OS	<b>Windows XP</b>
Test Program	<b>3DwinMark 2001</b>

## Test Result:

Current	2.8A
Power	33.6W

## 4.2 Thermal measurements at various points on the board

### Test Environment A:

CPU	<b>Pentium-M Intel 1.4 GHZ (with fan)</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
Test Program	<b>3DwinMark 2001</b>

### Test Result:

Q24	58°C
U2 (82855GM)	38.4°C
U9 (INTEL 82540EM)	57.7°C
U10 (ICH4)	44°C
U20 (SUPER IO)	48.4°C
U23 (RICH05C475II)	45°C
CPU	54°C

### Test Environment B:

CPU	<b>Pentium-M Intel 1.6 GHZ (with fan)</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
Test Program	<b>WINSTONE 2002</b>

### Test Result:

Q24	52°C
U2 (82855GM)	33.4°
U9 (INTEL 82540EM)	58.8°C
U10 (ICH4)	44°C
U20 (SUPER IO)	45.5°C
U23 (RICH05C475II)	43°C
CPU	52°C

**Test Environment C:**

CPU	<b>Pentium-M Intel 1.6 GHZ (with fan)</b>
Memory	<b>SAMSUNG DDR333 512MB</b>
HDD	<b>HITACHI Deskstar IC35L060AVV207-0 61.4GB</b>
Test Program	<b>3DwinMark 2001</b>

**Test Result:**

Q24	59°C
U2 (82855GM)	40.4°C
U9 (INTEL 82540EM)	59°C
U10 (ICH4)	44°C
U20 (SUPER IO)	48.8°C
U23 (RICH05C475II)	45.5°C
CPU	56°C

## 5. Performance Test

### 5.1 Win Bench 99

#### 1.Windows 98 (Pentium-M Intel 1.4 GHZ)

Item	WEIGHTED SUITE	Result	Remark
1	CPUmark99	Pass	158
2	FPU Win Mark	Pass	7760
3	Business Disk Win Mark 99	Pass	7310 Thousand Bytes/Sec
4	High-End Disk Win Mark 99	Pass	32400 Thousand Bytes/Sec
5	Business Graphics Win Mark 99	Pass	321
6	High-End Graphics Win Mark 99	Pass	853

#### 3. Windows 2000

Item	WEIGHTED SUITE	Result	Remark
1	CPUmark99	Pass	161
2	FPU Win Mark	Pass	7761
3	Business Disk Win Mark 99	Pass	10000 Thousand Bytes/Sec
4	High-End Disk Win Mark 99	Pass	33200 Thousand Bytes/Sec
5	Business Graphics Win Mark 99	Pass	317
6	High-End Graphics Win Mark 99	Pass	884

#### 4. Windows XP

Item	WEIGHTED SUITE	Result	Remark
1	CPUmark32	Pass	159
2	FPU Win Mark	Pass	7740
3	Business Disk Win Mark 99	Pass	10100Thousand Bytes/Sec
4	High-End Disk Win Mark 99	Pass	35200Thousand Bytes/Sec
5	Business Graphics Win Mark 99	Pass	280
6	High-End Graphics Win Mark 99	Pass	972

## 5.2 Win Stone 99

### 1. Windows 98 (Pentium-M Intel 1.4 GHZ)

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 99 Win stone 99 Scores	Pass	37.5

### 2. Windows 2000

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 99 Win stone 99 Scores	Pass	52.2

### 3. Windows XP

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 99 Win stone 99 Scores	Pass	47.1

## 5.3 Business Win Stone 2001

### 1. Windows 98 (Pentium-M Intel 1.4 GHZ)

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 2001 Win stone 2001 Scores	Pass	47.8 47.8 48 49 47.6

### 2. Windows 2000

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 2001 Win stone 2001 Scores	Pass	67.8 69.2 68.7 70.1 67.5

### 4. Windows XP

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 2001 Win stone 2001 Scores	Pass	63.6 64 64.2 63.6 62.4

## 5.4 Business Win Stone 2002

### 1. Windows 98 (Pentium-M Intel 1.4 GHZ)

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 2002 Win stone 2002 Scores	Pass	23.5 22.7 23.6 23.7 23.7

### 2. Windows 2000

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 2002 Win stone 2002 Scores	Pass	32.4 32.2 33.1 32.8 32.9

### 4. Windows XP

Item	WEIGHTED SUITE	Result	Remark
1	Business Win stone 2002 Win stone 2002 Scores	Pass	31.4 32.1 31.3 31.9 32.7 31.8



## 5.5 Winstone Content Creation 2001

### 1. Windows 98 (Pentium-M Intel 1.4 GHZ)

Item	WEIGHTED SUITE	Result	Remark
1	Winstone Content Creation 2001 Scores	Pass	

### 2. Windows 2000

Item	WEIGHTED SUITE	Result	Remark
1	Winstone Content Creation 2001Scores	Pass	91.4 91.8 91.3 90.7 91.3

### 3. Windows XP

Item	WEIGHTED SUITE	Result	Remark
1	Winstone Content Creation 2001 Scores	Pass	90.8 91.2 91 91.4 91.7

## 5.6 Winstone Content Creation 2003

### 1. Windows 98 (Pentium-M Intel 1.4 GHZ)

Item	WEIGHTED SUITE	Result	Remark
1	Winstone Content Creation 2003 Scores	Pass	23.5 23.8 23.6 23.8 23.3

### 2. Windows 2000

Item	WEIGHTED SUITE	Result	Remark
1	Winstone Content Creation 2003Scores	Pass	36.8 36.7 36.7 36.9 36.5

### 3. Windows XP

Item	WEIGHTED SUITE	Result	Remark
1	Winstone Content Creation 2003 Scores	Pass	34.6 36.8 36.8 36.9 37

## 5.7 3D MARK

### 1. Windows 98 (Pentium-M Intel 1.4 GHZ)

Item	WEIGHTED SUITE	Result	Remark
1	3DMARK2000 Scores	Pass	3503
2	3DMARK2001 Scores	Pass	1542

### 2. Windows 2000

Item	WEIGHTED SUITE	Result	Remark
1	3DMARK2000 Scores	Pass	4029
2	3DMARK2001 Scores	Pass	1808

### 3. Windows XP

Item	WEIGHTED SUITE	Result	Remark
1	3DMARK2000 Scores	Pass	4051
2	3DMARK2001 Scores	Pass	1806