

# P5 Verification Test Report

Release No: 08P010012

<b>Product Model</b>	<b>AOP-8120XT</b>
<b>Description</b>	<b>Fan-less C-M Operator Panel with 12" TFT LCD</b>
<b>Test Configuration</b>	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> System : AOP-8120XT <input checked="" type="checkbox"/> PCB : EMB-852T A1.1 <input checked="" type="checkbox"/> BIOS : AOP-8120XT BIOS Rev 1.0 (02/19/2008) <input checked="" type="checkbox"/> Riser Card : N/A <input checked="" type="checkbox"/> Inverter : N/A <input checked="" type="checkbox"/> Daughter Board : N/A <input checked="" type="checkbox"/> I/O Board : N/A <input checked="" type="checkbox"/> LCD : BOE HYDIS HT12X13-100 <input checked="" type="checkbox"/> Touch Panel : 3G 8-wire  <input checked="" type="checkbox"/> M/B Chipset : <input checked="" type="checkbox"/> North Bridge : Intel 852GM <input checked="" type="checkbox"/> South Bridge : ICH4 <input checked="" type="checkbox"/> VGA Chipset : Intel 852GM Integrated VGA <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC65X CODEC <input checked="" type="checkbox"/> Ethernet Chipset : Realtek 8100C ,10/100Base-TX RJ-45 connector x 1 (PER-C10L<82551QM>mini PCI LAN card is optional) <input checked="" type="checkbox"/> I/O Chipset : ITE 8712 + Fintek F81216 <input checked="" type="checkbox"/> TV Chipset : N/A  <input checked="" type="checkbox"/> Remark : QE P5 External Test Report
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2008/08/01

Issue date

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Manager

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Test Engineer

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**Platform Information:**

<b>Item</b>	<b>Device Information</b>
System	AOP-8120XT
PCB Model / Version	EMB-852T A1.1
BIOS / Version	AOP-8120XT BIOS Rev 1.0 (02/19/2008)
CPU Type	Intel Pentium M 1.6GHz / Celeron-M 600MHz
Memory Type	DSL DDR333 512MB SAMSUNG K4H560838H-UCB3
SATA	N/A
Primary IDE Master	Seagate ST3160812A 160GB IDE HDD
Primary IDE Slave	BenQ DVD-ROM 1650v
CRT	View Sonic E70
Compact Flash	Optional
Riser Card	N/A
Inverter	N/A
Daughter Board	N/A
I/O Board	N/A
LCD	BOE HYDIS HT12X13-100
Touch Panel	3G 8-Wire
	Windows XP Professional English Version V2002 Service Pack 2
	Windows XP Professional Simplified-Chinese Version V2002 Service Pack 2
	Windows XP Professional Japanese Version V2002 Service Pack 2
	Windows 2000 Professional English Version V5.00.2195 Service Pack4
Power Supply	ATX Power
	AT Power :AC input

# 1. OSD Control Function Test

## 1-3. OSD Light Test

OSD Control Function	Function			Note
	Pass	Fail	N/A	
Power off	X			
Power on	X			
Stand by			X	Into S1 / S3 and see light function

# 2. I/O Peripheral Function Test

## The Result:

I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:	X			
Primary IDE Master	X			
Primary IDE Slave	X			
Secondary IDE Master	X			
Secondary IDE Slave	X			
Third IDE Master			X	
Third IDE Slave			X	
RAID 0 Function Test			X	
RAID 1 Function Test			X	
SATA1 / Serial ATA Connector 1			X	
SATA2 / Serial ATA Connector 2			X	
SATA3 / Serial ATA Connector 3			X	
SATA4 / Serial ATA Connector 4			X	
Compact Flash – Type I			X	optional
Compact Flash – Type II			X	
DOC (Disk On Chip)			X	
DOM (Disk On Module) – 40 Pin			X	Transcend / TS512MDOM40V / 512MB / IDE 40 Pin
DOM (Disk On Module) – 44 Pin			X	Transcend / TS512MDOM44V / 512MB / IDE 44 Pin
COM 1-232	X			
COM 2-232	X			
COM 2-422	X			
COM 2-485	X			ICP CON I-7044D D/IO Module
COM 2-Ring /+5V /+12V	X			
COM 3-232	X			
COM 4-232			X	
COM 5-232			X	
COM 6-touch panel	X			
PS/2 Mouse & Keyboard (Internal)			X	
PS/2 Mouse & Keyboard (External)	X			
Audio Connector	X			
Audio 5.1 Channel / S/P DIF			X	
LPT 1	X			
LPT 2			X	

SIR / 115.2 Kbps			X	
FIR / 4M bps			X	
USB 1/2 Ports	X			
USB 3/4 Ports	X			
USB 5/6 Ports			X	
USB 7/8 Ports			X	
USB 2.0 1/2 Ports	X			
USB 2.0 3/4 Ports	X			
USB 2.0 5/6 Ports			X	
USB 2.0 7/8 Ports			X	
DVI Function			X	
DIO Connector	X			
Card Bus			X	
PC/104			X	
PC/104-Plus			X	
PCI-104			X	
CD-In Connector			X	
TFT TTL LCD			X	
TFT LVDS LCD	X			
TV-out / S Terminal			X	SHARP LCDTV LC-20S5T
TV-out / AV Terminal			X	SHARP LCDTV LC-20S5T
Touch Screen – 8 Wire	X			
Touch Screen – 5 Wire			X	
DIMM Slots			X	
Watchdog IRQ n			X	
Watchdog Software Control	X			
CPU FAN Connector	X			
System FAN Connector			X	
Front Panel	Result			Notes
	Pass	Fail	N/A	
Power On Button	X			
IDE LED			X	
External Buzzer			X	
On Board Buzzer	X			
Power LED	X			
Reset Switch			X	
Keyboard Lock			X	
Jumpers Function	Result			Notes
	Pass	Fail	N/A	
ATX simulates AT			X	
Audio Out Selection (W/O & W/ Amplifier)			X	
LCD Voltage Selection			X	
COM2-Ring/5V/12V Selection	X			
COM2 RS-232/422/485 Selection	X			
Clear CMOS	X			
Touch Screen Operating Mode Selection	X			
Clock Shift of TFT LCD			X	
Power Connector & Function	Result			Notes
	Pass	Fail	N/A	
ATX Power Connector			X	
ATX Power_12V Connector			X	

AT Power Connector (P8 & P9)				X	
Big 4P Power Connector				X	
Mini 4P Power Connector				X	
External Power Connector (-12/-5V)				X	
Option ATX Power Connector (PS-ON / +5VSB)				X	
LAN Connector & Function		Result			Notes
		Pass	Fail	N/A	
LAN Link / Speed LED	LAN1	X			
	LAN2			X	
LAN Active LED	LAN1	X			
	LAN2			X	
LAN 10/100 Ethernet		X			
LAN 1G Ethernet				X	HUB:D-Link DGS-1008T
PCI Connector & Function		Result			Notes
		Pass	Fail	N/A	
Mini PCI Slot		X			PER-C10 A1.0
PCI Slot				X	
PCI Express				X	NW-200503 / NW-200504

### 3. Timer Accuracy Test

#### 3-1. System Clock & RTC Clock Test

- Test Points: 1. This test focuses on the accuracy of system clock and RTC  
 2. Check your local time to adjust system clock and RTC in BIOS setup menu to fit system  
 3. Check if the time is correct or not after 24 hours passed

Under Room Temperature: 25 °C

Item Function	Time Interval	Margin for error	Actual	Result			Note
				Pass	Fail	N/A	
System Clock in Power On Mode	24 hrs	+/-3 sec	-3 Sec	X			Under Windows
RTC Clock in Power On Mode	24 hrs	+/-3 sec	-3 Sec	X			
RTC Clock in Power Off Mode	24 hrs	+/-3 sec	+2 Sec	X			

#### 3-2. Watchdog Timer Test

- Test Points: 1. Setup every time-out interval to check if system can generate a reset while on setting time.  
 2. Please pay attention to which method we would use to make system reset, Watchdog-IRQ n or Software Programming or BIOS Setup

Use Function as below:

Watchdog-IRQ n  Software Programming.

BIOS Setup.  No Support.

Under Room Temperature: 25°C / DOS Mode .

Time-out interval	IRQ	Reset	Margin for error	Actual	Result			Note
					Pass	Fail	N/A	
10 sec			+/- 20%	10 Sec	X			Software provided by Aaeon S/W
60 sec			+/- 20%	62 Sec	X			
255 sec			+/- 20%	258 Sec	X			
60 sec	10		+/- 20%	Sec			X	
60 sec	11		+/- 20%	Sec			X	
60 sec	15		+/- 20%	Sec			X	



## 4. Network HUB / LAN Connection Test

### 4-1. LAN LED Function Test :

Test Points: 1. Active LED→ It shows flickering orange color while LAN is access

2. Link LED→ It shows green color that is always on while LAN speed is 10/100 MBPs

→It shows red-orange color that is always on while LAN speed is 1000 MBPs (Gigabit)

#### RTL-8100C -OnBoard LAN 1 : LED Indicator Lights Function Test [ ] No Support

Test Item	Active LED (Flickering Orange Color)	Link / Speed LED (10/100: Green Color) (Gigabit: Red-Orange Color)	Note
Pass	X	X	
Fail			
N/A			

#### Mini PCI PER-C10L LAN 2 : LED Indicator Lights Function Test [ ] No Support

Test Item	Active LED (Flickering Orange Color)	Link / Speed LED (10/100: Green Color) (Gigabit: Red-Orange Color)	Note
Pass			
Fail			
N/A	X	X	

### 4-2. Network HUB / LAN Connects Test:

Test Point: 1. A represents QE Windows XP Pro / B represents Tested machine (Under Windows)

2. A ↔ B means to connect two computers each other by using “Ping” instruction

3. Use CAT.6 network cable with RJ-45 connector to test

4. Allow failure rate under 1/1000.

#### RTL-8100C - Onboard LAN1 Port Test : [ X ]10 , [ X ]100 , [ ]1000 Mbps

Network HUB / HUB Speed		Transfer Mode	Cable Length	Function Test					Note
				Packet in Byte	Send	Onboard LAN Speed	Received	N/A	
HP J4095A 24 Ports	100 MBps	A ↔ B	100 M	8192	1000	100	999		
D-Link DGS-1008T	1GBps	A ↔ B	100 M	8192	1000	100	1000		
D-Link DES-1316 PoE Switch	100 MBps	A ↔ B	100 M	8192	1000	100	1000		
Intel InBusiness 8 Port	100 MBps	A ↔ B	100 M	8192	1000	100	999		
Accton DeskTop-3005	100 MBps	A ↔ B	100 M	8192	1000	100	999		
SVEC FD916H (10 Mbps HUB)	10 MBps	A ↔ B	100 M	8192	1000	10	999		

#### Mini PCI PER-C10L LAN2 Port Test : [ X ]10 , [ X ]100 , [ ]1000 Mbps

Network HUB / HUB Speed		Transfer Mode	Cable Length	Function Test					Note
				Packet in Byte	Send	Onboard LAN Speed	Received	N/A	
HP J4095A 24 Ports	100 MBps	A ↔ B	100 M	8192	1000	100	999		
D-Link DGS-1008T	1GBps	A ↔ B	100 M	8192	1000	100	1000		
D-Link DES-1316 PoE Switch	100 MBps	A ↔ B	100 M	8192	1000	100	1000		
Intel InBusiness 8 Port	100 MBps	A ↔ B	100 M	8192	1000	100	999		
Accton DeskTop-3005	100 MBps	A ↔ B	100 M	8192	1000	100	999		
SVEC FD916H (10 Mbps HUB)	10 MBps	A ↔ B	100 M	8192	1000	10	999		

## 5. Hardware Compatibility

### 5-1. CPU Compatibility Test

- Test Points: 1. This test focuses on the CPU compatibility  
2. Run Prime95 Under Windows for 8 hours

#### Run Prime95 for 8 hours

OS	CPU Type	FSB	Result			Note
			Pass	Fail	N/A	
Windows Environment	Intel Pentium M 1.6GHz	400	X			

### 5-2. Memory Compatibility Test

- Test Points: 1. "DIMM 2(1)" means to insert DIMM item 1 in DIMM slot 2  
2. Power on machine then boot into DOS environment run "Memory Test Software"  
3. Run MemTest overnight in DOS mode for each item

#### Memory List:

Item	Memory Brand	Memory Chipset	Frequency	Size (MB)	Note
01	DSL	SAMSUNG K4H560838H-UCB3	DDR-333	512MB	
02					
03					
04					
05					
06					
07					

#### Test Result:

Environment Configuration	MemTest Version	Result			Note
		Pass	Fail	N/A	
DIMM 1(1)	1.70	X			
DIMM 2(1)				X	
DIMM 1(1) + DIMM 2(1)				X	
DIMM 1(2)				X	
DIMM 2(2)				X	
DIMM 1(2) + DIMM 2(2)				X	
DIMM 1(3)				X	
DIMM 2(3)				X	
DIMM 1(3) + DIMM 2(3)				X	
DIMM 1(4)				X	
DIMM 2(4)				X	
DIMM 1(4) + DIMM 2(4)				X	
DIMM 1(5)				X	
DIMM 2(5)				X	
DIMM 1(5) + DIMM 2(5)				X	
DIMM 1(6)				X	
DIMM 2(6)				X	
DIMM 1(6) + DIMM 2(6)				X	
DIMM 1(7)				X	
DIMM 2(7)				X	
DIMM 1(7) + DIMM 2(7)				X	

### 5-3. On Board Audio Function Test

#### 5-3.1. Audio Basic Function Test

- Test Points:
1. Check if the sound driver can be installed correctly in Windows
  2. Use the AP program supplied by sound driver to test sound function
  3. Please pay attention to Left / Right sound output

#### The Result:

Function Test		Result			Note
		Pass	Fail	N/A	
System Sound		X			
CD_In				X	
CD_In Sound Recorder				X	
Play Sound Recorder		X			
Line Out		X			
Line In		X			
Line In Sound Record		X			
MIC Speaker	Dynamic	X			Dynamic microphone [DP-2003002]
	Condenser	X			Condenser Microphone [DP-2003001]
MIC Sound Recorder	Dynamic	X			Dynamic microphone [DP-2003002]
	Condenser	X			Condenser Microphone [DP-2003001]

#### 5-3.2. Audio 5.1 Channel with S/P DIF Function Test

Speaker Device→Creative inspire 5.1 digital 5600

Function Test		Result			Note
		Pass	Fail	N/A	
Speaker configuration					
2-channel mode for stereo speaker output				X	
4-channel mode for 4 speaker output		X			
6-channel mode for 5.1 speaker output				X	
S/P DIF function Test	Input			X	
	Output			X	

### 5-4. On Board TV Function Test

#### Test Result:

Function Test		Result			Note
		Pass	Fail	N/A	
NTSC	S terminal			X	SHARP LCD TV LC-20S5T
PAL				X	
NTSC	AV Terminal			X	SHARP LCDTV LC-20S5T
PAL				X	

## 5-5. On Board LCD Function Test

- Test Point: 1. Please pay more attention to panel color, resolution, and shift issue when you test LCD  
 2. Check LCD display in POST and Windows mode

### Test Result:

TFT LCD Model		Result			Note
		Pass	Fail	N/A	
LVDS	BOE HYDIS HT12X13-100 / 12" / 1024x768	X			Touch panel
	AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)			X	LM-200608 / 3.3V
	AU B104SN02 / 10.4" / 800*600 / 18bit (4:3)			X	LM-200113 / 3.3V
	AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)			X	LM-200703 / 3.3V
	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)			X	LM-200115 / 3.3V
	AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)			X	LM-200603 / 3.3V
	AU M170EG01 V.D / 17" / 1280*1024 / 48bit (4:3)			X	LM-200601 / 5V
	AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)			X	LM-200704 / 5V
	AUO T260XW02 / 26" / 1366x768 / 24bit			X	LM-200702 / 5V
	AU M201UN02 V.5 / 20.1" / 1600x1200x48bit			X	LM-200607 / 5V
	AUO T370HW01 / 37" / 1920x1080 / 48bit			X	LM-200701 / 5V
	TTL	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit (4:3)			X
NEC NL8060AC31-12 / 12.1" / 800*600 / 18bit (4:3)				X	LM-200101 / 3.3/5V
Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit (4:3)				X	LM-200102 / 3.3V
LG LM151X2-C2TH / 15.1" / 1024x768 / 18bit (4:3)				X	LM-200605 / 3.3V
Fujitsu FLC38XGC6V-06 / 15" / 1024*768 / 36bit (4:3)				X	LM-200602 / 5V

## 5-6. PCI Slot Function (PCI Adapter Card) Test

### The Result:

Adapter VGA Card	Install Driver			Set Simultaneous Display and Reboot			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
CECUBE GC-R9250PCI-D3 (ATI REDEON9250 256MB)			X			X	[VC-200601]
CHAINTECH NVIDIA GeForce4 MX440-8X			X			X	[VC-200200]
Adapter Sound Card	Install Driver			Play Sound			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
SC3000 CMI8738/C3DX			X			X	[SC-001]
Adapter SCSI Card	Install Driver			Copy files to SCSI HDD			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
Takram DC-395U V1.02			X			X	[SS-200200]
ADAPTEC Ultra160 SCSI ASC-29160			X			X	[SS-200601]
Adapter Image Capture Card	Install Driver			Connect to CCD			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
I-VIEW CP-1400AS (with Age STD-477FAI CCD)			X			X	[CP-200501]
Adapter LAN Card	Install Driver			Connect to Internet			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
Intel GD82559 10/100 Mbps Fast Ethernet Adapter			X			X	[NW-013]
3Com 3C905C-TXM ETHERLINK 10/100 PCI			X			X	[NW-016]
D-Link DWL-520+ Wireless LAN			X			X	[NW-2002001]
Adapter RAID Card	Install Driver			RAID 0, 1, 10 Function Test			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
ADAPTEC 1420SA RoHS 4-Port SATA II RAID			X			X	[SS-200602]
MODEM Card							

	Pass	Fail	N/A	Pass	Fail	N/A	
LEMEL MD V1456VQH-P2 PCI MODEM Card			X			X	[MD-200200]
Other Card	Install Driver			Check Device Status			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
D-Link DU-520 USB 2.0			X			X	[DU-001]
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HDD Seagate ST3120026AS 120GB			X			X	[SA-001] + [ID-200305]

### 5-6.1. PCI Card Full loading Test

Test Points: 1. Plug all PCI cards to test machine to make it heavy loading

2. Active and run every PCI card under Windows at least 8 hours

PCI Slot	PCI Card	Device status			Burn in			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
PCI1	SC3000 CMI8738/C3DX			X			X	[SC-001]
PCI2	I-VIEW CP-1400AS (with Age STD-477FAI CCD)			X			X	[CP-200501]
PCI3	ADAPTEC Ultra160 SCSI ASC-29160			X			X	[SS-200601]
PCI4	Intel GD82559 10/100 Mbps Fast Ethernet Adapter			X			X	[NW-013]
PCI5	CHAINTECH NVIDIA GeForce4 MX440-8X			X			X	[VC-200200]

### 5-7. PCI-Express Function Test

#### PCI-Express Device

PCI-Express x1	Install Driver		Function Test		N/A	Note
	Pass	Fail	Pass	Fail		
SUNIX SATA1414 VER 1.1 PCI-Express x1 SATA Card					X	[eSATA-200602]
SksKonnect SK-9E21D 10/100/1000 Base-T Adapter PCI-Express x1 LAN Card					X	[NW-200503] [NW-200504]
PCI-Express x4	Install Driver		Function Test		N/A	Note
	Pass	Fail	Pass	Fail		
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card					X	[RA-200701]
PCI-Express x16	Install Driver		Function Test (Dual Display)		N/A	Note
	Pass	Fail	Pass	Fail		
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card					X	[VC-200602]
WinFast PX6200 TC TDH PCI-Express x16 VGA Card					X	[VC-200501]
Express card	Install Driver		Function Test		N/A	Note
	Pass	Fail	Pass	Fail		
SUNIX SATA II Express card (+ eSATA HDD External Box [eSATA-200601])					X	[PEC-200501]

## 5-8. HDD Compatibility Test

- Test Points: 1. This test focuses on IDE HDD Devices compatibility  
 2. Check if HDD could be detected correctly during POST  
 3. Check HDD boot up function and read/write function

### IDE HDD Compatibility Test:

Cable Type: [ X ] 40 pin , [ X ] 44 pin , [ ] 80 pin

HDD Device	Detect Message		Booting Up		N/A	Note
	Pass	Fail	Pass	Fail		
Fujitsu MHW2040AT 40GB PATA 2.5" HDD	X		X			
Seagate ST3400620A 400GB 3.5" IDE HDD					X	ID-200709
Hitachi HDS722525VLAT80 250GB ATA100 3.5" IDE HDD					X	ID-2002003
IBM DTLA-307045 46.1GB ATA100 3.5" IDE HDD					X	ID-041
Seagate ST315320A 15.3GB ATA33 3.5" IDE HDD					X	ID-048
FUJITSU MPE 3136AH 13.6GB ATA66 3.5" IDE HDD					X	ID-033
Seagate ST340014A 40GB Barracuda 7200.7 3.5" IDE HDD					X	ID-200611
Seagate ST3160812A 160GB 3.5" IDE HDD					X	ID-200618
Quantum Fireball Plug AS 30GB ATA100 3.5" IDE HDD					X	ID-200111
Seagate ST310210A 10.2GB ATA66 3.5" IDE HDD					X	ID-050
Western WD400BB-75DEA0 40GB ATA100 3.5" IDE HDD					X	ID-2002001

### SATA HDD Compatibility Test:

HDD Device	Detect Message		Booting Up		N/A	Note
	Pass	Fail	Pass	Fail		
Seagate ST3120026AS 120GB 3.5" SATA-I HDD					X	ID-200305
Seagate ST3120827AS 120GB 3.5" SATA-I HDD					X	ID-200505
Western Digital WD1200JS-00MHB1 120GB 3.5" SATA-I HDD					X	ID-200509
Western Digital WD800JD-00LSA0 80GB 3.5" SATA-I HDD					X	ID-200510
Western Digital WD1600JD-00HBB0 160GB 3.5" SATA HDD					X	ID-200609
Seagate ST98823AS 80GB 2.5" SATA HDD					X	ID-200613
Seagate ST3160811AS 160GB 3.5" SATA-II HDD					X	ID-200619
Western Digital WD 1600AAJS-00PSA0 160GB 3.5" SATA-II HDD					X	ID-200707

### IDE and SATA Device Full Loading Test

IDE and SATA Device Full Loading Test		Detect Message		Booting Up		N/A	Note
		Pass	Fail	Pass	Fail		
Primary Master		X		X			
Primary Slave		X		X			
Secondary Master		X		X			
Secondary Slave		X		X			
SATA1						X	
SATA2						X	
SATA3						X	
SATA4						X	

### 5-9. CD/DVD-ROM Compatibility Test

- Test Points: 1. This test focuses on IDE CD/DVD-ROM Devices compatibility  
 2. Check if CD/DVD-ROM could be detected correctly during POST  
 3. Quickly move VCD or DVD seek bar in order to ensure display quality

Cable Type: [ X ] 40 pin , [ ] 44 pin , [ ] 80 pin

DVD/CD-ROM Device	Detect Message		Booting Up		Play VCD		Play DVD Forward 32X Backward 32X		N/A
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
Pioneer DVD-ROM DVD-126D CD 40X / DVD 16X									X
BenQ DW1655 OB2 16 x DVD ReWriter	X		X		X		X		
Acer DVP1640A / 16X / DVD-ROM / ATA33									X
Pioneer / DVR-A11FXC1 / 8X DVD-RW / 6X DVD-RW / ATA66	X		X		X		X		
IBM HL-DT-ST / GCR-8480B / 48X / CD-ROM/ ATA33							===	===	X
Pioneer / DVD-121 / 16X / DVD-ROM / ATA66									X
SAMSUNG / SH-W08 / DVD+R 8X / DVD-R 8X / CD-R 32X / ATA33									X
NEC / ND-2500A / DVD R/RW / +R8X-R8X / ATA33									X

### 5-10. USB Function Test

Test Points: 1. Enable/Disabled USB Function in BIOS then check if the result is fine or not Under Windows or DOS.

#### 5-10.1. USB Basic Function Test :

USB In BIOS Setup Test :

In BIOS Setup Menu														
Test Item	USB Port	USB 1 / 2			USB 3 / 4			USB 5 / 6			USB 7 / 8			Note
		Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
USB Controller	Enable	X			X					X			X	Under Windows
	Disable	X			X					X			X	Under Windows
USB 2.0 Controller	Enable	X			X					X			X	Under Windows
	Disable	X			X					X			X	Under Windows
USB Keyboard Support	Enable			X			X			X			X	Under DOS 6.22
	Disable			X			X			X			X	Under DOS 6.22
USB Mouse Support	Enable	X			X					X			X	Under DOS 6.22
	Disable	X			X					X			X	Under DOS 6.22



### USB System Booting Test :

- Test Points: 1. Set following devices as the first boot device in BIOS setup menu  
2. Restart and check if system could boot from them

System Booting Test																
Item	USB Port			USB 1 / 2			USB 3 / 4			USB 5 / 6			USB 7 / 8			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A				
USB HDD	X			X						X			X	Please use USB thumb device to boot		
USB FDD Mitsumi D353GUE	X			X						X			X	[FL-200201] Max 5V / 500mA		
USB2.0 DRW-1604P-D/WHT/G/ASUS	X			X						X			X	[CD-200501]		

### 5-10.2. USB Compatible Test :

- Test Points: 1. Test Read and Write function for the following devices

[ X ] USB 1.1 [ X ] USB 2.0 Compatible Test

Item	USB Port			USB 1 / 2			USB 3 / 4			USB 5 / 6			USB 7 / 8			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A				
USB 2.0 HUB ATEN/ 4 Port UH-204	X			X						X			X	[HB-200201]		
USB FDD Mitsumi D353GUE	X			X						X			X	[FL-200201] Max 5V / 500mA		
USB2.0 DRW-1604P-D/WHT/G/ASUS	X			X						X			X	[CD-200501]		
USB HDD IBM IC25N020ATCS04-0 / 20GB / 4200RPM	X			X						X			X	1394b + USB2.0 External Box (MP-FBHUB20P-V2.0 E10-7073161D60)		

### 5-10.3. Install Windows XP Professional from USB CD-ROM Device

- Test Points: 1. This test focuses on whether we can install OS from USB devices or not  
2. Install Windows XP Professional by High Speed USB2.0 CD/DVD-ROM

	Pass	Fail	N/A	Note
Install Windows XP Professional by HighSpeed Device: USB2.0 DRW-1604P-D/WHT/G/ASUS	X			Set it as first boot device in BIOS Setup Menu

### 5-10.4. USB Devices Full Loading Test

- Test Points: 1. Connect each USB devices to the machine  
2. Play VCD(DAT or MPG file) for each storage device for 8 hours in Windows to make system full loading  
3. In the duration of test, check if system could work fine or not

USB Device Full Loading Test (Burn-In 8 Hrs):

USB Port	Installation		Function		Burn in		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail		
USB1	X		X		X			BENQ 4824WI-ON2
USB2	X		X		X			Mitsumi FLL3.5 D353GUE/FUE
USB3	X		X		X			USB HDD 20GB
USB4	X		X		X			USB Card Reader
USB5							X	USB Mouse
USB6							X	USB Thumb drive Transcend 256MB



## 5-11. Floppy Disk Controller Function Test

### Test Result:

Test Item		Result (1.44M)			Note
		Pass	Fail	N/A	
Copy and compare file between C: and A / B:	Under Windows			X	
Change Floppy to None value	Under Windows			X	
Swap FDD	Under Windows			X	

## 5-12. Peripheral Compatibility- Storage Device Test

### 5-12.1. Storage Device Test

Device item		Booting		Detected in POST		Read/Write		N/A	Note
		Pass	Fail	Pass	Fail	Pass	Fail		
ZIP 100 [Parallel]		-----		X		X			Iomega ZIP100P2 [ZIP-200401]
DOC 2000 Model	16MB							X	M-System / MD2200-D16
DOC 2000 Onboard Address	CC00							X	
	D000							X	
	D400							X	
	D800							X	
	DC00							X	
	Disable							X	

### 5-12.2. Compact Flash Compatibility Test

Test Points: 1. Most of the default value of CF card is set as IDE primary master so we may make the same setting before we use CF

2. Install OS from IDE or USB CD-ROM to IDE CF card according to following description.

Device item		Booting		Detected during POST		Install OS		N/A	Note
		Pass	Fail	Pass	Fail	Pass	Fail		
Type-I CF (Fix / PIO Mode)								X	Optional
Type-I CF (Fix / UDMA Mode)								X	

## 5-13. Digital I/O Connector Test

Position: 801h / VCC: 5 V

Input Address: 5 / Output Address: B

Device item	Input Address		Output Address		VCC		GND		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail		
DIO-1 Function Test	X		X		X		X			
DIO-2 Function Test	X		X		X		X			

## 5-14. Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules

### 5-14.1. Device List: PC/104 Module

Device item	Device Detection		Function		N/A	Note
	Pass	Fail	Pass	Fail		
AAEON PCM-3660					X	LAN Module
AAEON PCM-5600					X	Modem Module
AAEON PCM-3115B					X	PCMCIA Module

### 5-14.2. Device List: PC/104+ Module

Device item	Device Detection		Function		N/A	Note
	Pass	Fail	Pass	Fail		
AAEON PCM-3430					X	SCSI Module

### 5-14.3. Device List: PCI-104 Module

Remark: If you want to use PCM-3730, don't forget to adjust LAN1 to INT B, LAN2 to INT C and LAN3 to INT D

Device item	Device Detection		Function		N/A	Note
	Pass	Fail	Pass	Fail		
AAEON PCM-FA00					X	Mini-PCI Converter
AAEON PCM-3794					X	2 Slots PCMCIA Module
AAEON PCM-3730					X	Intel 82559 LAN Module

### 5-15. On-Board RAID Function Test

	Booting		Format		Read / Write		Install OS		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail		
Set SATA HDDs as RAID 0									X	
Set SATA HDDs as RAID 1									X	
Set SATA HDDs as RAID 10									X	
Set SATA HDDs as RAID 5									X	

### 5-16. COM Port Function Test

#### 5-16.1. COM Port Burn In Test

Test Point: 1. Use BurnIn Test V5.1 Pro to test COM port reliability

2. Add all COM port of test machine into "COM Ports Selected" table and set "detect and loopback test" in Set Preferences→Serial Ports

3. Attach COM port loopbacks to each COM connector then burn in overnight

4. Com port status must be error free after finish test

BurnIn Test V5.1 Pro	Result			Note
	Pass	Fail	N/A	
COM1	X			
COM2	X			
COM3	X			
COM4			X	
COM5			X	
COM6			X	

### 5-17. Disk On Module [DOM] Compatibility Test

Test Point: Please pay attention to align pin 1 of DOM with pin 1 of socket.

Device Item	Detect Message		Booting UP		Read/ Write		Programming		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail		
Transcend / TS512MDOM40V / 512MB / IDE 40 Pin									X	[DC-200703]
Transcend / TS512MDOM44V / 512MB / IDE 44 Pin									X	[DC-200704]

### 5-18. Mini PCI Card Compatibility Test

#### Test Result:

Device Item	Detect Message		Function Test		N/A	Note
	Pass	Fail	Pass	Fail		
PER-C10L Mini PCI LAN Card	X		X			

### 5-19. COM/LPT Ports & RS-232/422/485 Function Test

#### Test Result:

Basic Function Test				
Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM2	X			Use loopback and WINSSD.exe to test RS-422 in Windows
RS-485 for COM2	X			Use ICP CON I-7044D D/IO Module in Windows
COM1	Serial Mouse	X		
	Serial Modem	X		
COM2	Serial Mouse	X		
	Serial Modem	X		
COM3	Serial Mouse	X		
	Serial Modem	X		
COM4	Serial Mouse		X	
	Serial Modem		X	
COM5	Serial Mouse		X	
	Serial Modem		X	
COM6	Serial Mouse		X	Touch panel
	Serial Modem		X	
LPT1	X			Epson Stylus C61 Printer
LPT2			X	Epson Stylus C61 Printer

### 5-20. CardBus(PCMCIA) Compatibility Function Test

#### Test Result:

Device Item	Bit	Detect Message		Function Test		N/A	Note
		Pass	Fail	Pass	Fail		
Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)	Slot 1 (Up)					X	[PC-200200]
	Slot 2 (Down)					X	
PQI 16MB Compact Flash Adapter (64MB PQI CF Card inserting)	Slot 1 (Up)					X	[PC-200100]
	Slot 2 (Down)					X	
Kingston datapack DP-PCM2 / 2GB (PC Card TypeII HDD)	Slot 1 (Up)					X	[PC-200201]
	Slot 2 (Down)					X	
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 1 (Up)					X	[PC-200502]
	Slot 2 (Down)					X	
PQI 16MB Compact Flash Adapter (64MB PQI CF Card inserting)	Slot 1 (Up)					X	[PC-200100] + [PC-200502]
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 2 (Down)						

### 5-21. Modular System Industrial Workstation Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
AC power outlet / inlet	X			

Power On / Off	X			
CD-ROM & Floppy drive included			X	
Lockable front-panel door			X	
Finger mouse			X	
Front USB Port			X	
59 Data-entry&20/24 Function keys			X	
Digital brightness controller			X	
OSD Function Test			X	
Remote LCD Function Test			X	

## 5-22. Mechanism construction check

Test Item	Result			Note
	Pass	Fail	N/A	
Panel construction check	X			
Case construction check	X			
PCMICA construction check			X	
I/O Port connector check	X			Serial port / Parallel port / PS2 connector
USB connector check	X			
Component check	X			

## 6. O.S. Compatibility Test

### 6-1. Windows XP Professional English Version

[ ] No Support

#### Driver Information:

Chipset Software	Intel Chipset Ver 6.0.1.1002
Graphics Media	Intel 82852/82855GM/GME Ver.6.14.10.3865
LAN Driver	PER-C10L(82551QM) Intel PRO/100+ Management Adapter Driver Ver: 7.1.12.0 Date: 2/10/2004 (PER-C10L<82551QM>mini PCI LAN card is optional) Realtek RTL8139/810x Ethernet Ver:5.616.809.2004 Date:9/16/2004
Audio Driver	Realtek Ver. 5.10.0.5630
Touch screen Driver	PenMount 9000 Serial Ver:1.0.0.1018 Date:2/13/2007

#### Install OS to [ X ]IDE [ ]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	
English Windows XP Professional Service Pack 2 V2002 APM Mode	X			

#### Onboard RAID Function Test:

Installation	Result			Note
	Pass	Fail	N/A	
Set 2 SATA HDDs as RAID 0 and install Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	
Set 2 SATA HDDs as RAID 1 and install Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	

Test Points: 1. Before starting every test, you must install all drivers completely first

#### VGA Resolution Test

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [ ] 16bit [ X ] 32bit

Resolution	CRT (Please use CTX PR-960F to Test)			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	X					X	X			
800X600	X					X	X			
1024X768	X					X	X			
1280X1024			X			X			X	
1600X1200			X			X			X	

CRT Model Name: ViewSonic E70

TTL Panel: N/A

LVDS Panel: BOE HYDIS HT12X13-100

#### Display Function Test:

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while system reaches Windows then check VGA driver and display

	Check VGA driver			Check Display			
	Pass	Fail	N/A	Pass	Fail	N/A	
In Windows Desktop	X			X			

## Test Results:

Test Item	Pass	Fail	N/A	Note
<b>Install From USB CD-ROM</b>				
Install to HDD	X			
<b>Display Function Test</b>				
CRT -- Full Screen	X			
LCD -- Full Screen	X			
DVI --- Full Screen			X	
TV ---- Full Screen			X	
DVI + LCD			X	
CRT + LCD	X			
CRT + DVI			X	
CRT + TV			X	
CRT + LCD + TV			X	
<b>External VGA Card Test (Dual Display)</b>				
CHAINTECH NVIDIA GeForce4 MX440-8X			X	
<b>Boot - Windows XP Professional Advanced Options Menu</b>				
Safe Mode			X	
Safe Mode with Networking			X	
Safe Mode with Command Prompt			X	
Enable Boot Logging			X	
Enable VGA Mode			X	
Last known Good Configuration			X	
Directory Services Restore Mode (windows XP domain controllers only)			X	
Debugging Mode			X	
Disable automatic restart on system failure			X	
Start Windows Normally	X			
Reboot	X			
Return to OS Choices Menu			X	
<b>Basic Function Test</b>				
IDE Primary Master	X			
IDE Primary Slave	X			
IDE Secondary Master			X	
IDE Secondary Slave			X	
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
<b>LAN Function Test</b>				
LAN1 --- Auto	X			
LAN2 --- Auto	X			
<b>Audio Function Test</b>				
Audio 5.1 Channel Test			X	
S/P DIF Test			X	
Play Audio Function Test	X			
<b>Start Menu</b>				
Log off User	X			
Shut down	X			

Standby			X	
Restart	X			
Hibernate			X	

## 6-2. Windows XP Professional Simplified-Chinese Version

[ ] No Support

### Driver Information:

Chipset Software	Intel Chipset Ver 6.0.1.1002
Graphics Media	Intel 82852/82855GM/GME Ver.6.14.10.3865 Date:2004/07/01
LAN Driver	PER-C10L(82551QM) Intel PRO/100+ Management Adapter Driver Ver: 7.1.12.0 Date: 2/10/2004 Realtek RTL8139/810x Ver.5.616.809.2004 Date:2004/09/16
Audio Driver	Realtek AC97 Audio Ver.5.10.0.5630 Date:2004/07/01

### Install OS to [ X ]IDE [ ]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Simplified Chinese Windows XP Professional Service Pack 2 V2002 ACPI Mode	X			

### Test Results:

Test Item	Pass	Fail	N/A	Note
<b>LAN Function Test</b>				
LAN1 --- Auto	X			
LAN2 --- Auto	X			
<b>Audio Function Test</b>				
Play Audio Function Test	X			
<b>Start Menu</b>				
Log off User	X			
Shut down	X			
Standby			X	
Restart	X			
Hibernate			X	

### 6-3. Windows XP Professional Japanese Version

[ ] No Support

#### Driver Information:

Chipset Software	Intel Chipset Ver 6.0.1.1002
Graphics Media	Intel 82852/82855GM/GME Ver.6.14.10.3865 Date:2004/07/01
LAN Driver	PER-C10L(82551QM) Intel PRO/100+ Management Adapter Driver Ver: 7.1.12.0 Date: 2/10/2004 (PER-C10L<82551QM>mini PCI LAN card is optional) Realtek RTL8139/810x Ethernet Ver:5.616.809.2004 Date:9/16/2004
Audio Driver	Realtek Ver. 5.10.0.5630 Date:2004/07/01
Touch screen Driver	PenMount 9000 Serial Ver:1.0.0.1018 Date:2/13/2007

#### Install OS to [ X ]IDE [ ]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Japanese Windows XP Professional Service Pack 2 V2002 APM Mode	X			

#### Test Results:

Test Item	Pass	Fail	N/A	Note
<b>LAN Function Test</b>				
LAN1 --- Auto	X			
LAN2 --- Auto	X			
<b>Audio Function Test</b>				
Play Audio Function Test	X			
<b>Start Menu</b>				
Log off User	X			
Shut down	X			
Standby			X	
Restart	X			
Hibernate			X	



## 6-4. Windows 2000 Professional English Version

[ ] No Support

### Driver Information:

Chipset Software	Intel Chipset Ver 6.0.1.1002
Graphics Media	Intel 82852/82855GM/GME Ver.6.14.10.3865
LAN Driver	Realtek RTL 8139/810x Ver.5.616.809.2004 PER-C10L (82551QM) Intel PRO/100+ Management Adapter Driver Ver: 7.1.12.0 Date: 2/10/2004
Audio Driver	Realtek AC97 Audio 5.10.0.5630
Touch Panel Driver	PenMount DMC9000 Driver Ver.5.1.0.0

### Install OS to [ X ]IDE [ ]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 2000 Professional Service Pack 4 V5.00.2195 ACPI Mode			X	
English Windows 2000 Professional Service Pack 4 V5.00.2195 / APM Mode	X			

Test Points: 1. Before starting every test, you must install all drivers completely first

### VGA Resolution Test

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [ ] 16bit [ X ] 32bit

Resolution	CRT (Please use CTX PR-960F to Test)			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	X					X			X	
800X600	X					X			X	
1024X768	X					X			X	
1280X1024			X			X			X	
1600X1200			X			X			X	

CRT Model Name: View Sonic E70

TTL Panel:

LVDS Panel:

### Display Function Test:

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while system reaches Windows then check VGA driver and display

	Check VGA driver			Check Display			
	Pass	Fail	N/A	Pass	Fail	N/A	
In Windows Desktop	X			X			

## Test Results:

Test Item	Pass	Fail	N/A	Note
<b>Install From IDE CD-ROM</b>				
Install to HDD	X			
<b>Display Function Test</b>				
CRT -- Full Screen	X			
LCD -- Full Screen			X	
DVI --- Full Screen			X	
TV ---- Full Screen			X	
DVI + LCD			X	
CRT + LCD			X	
CRT + DVI			X	
CRT + TV			X	
CRT + LCD + TV			X	
<b>External VGA Card Test (Dual Display)</b>				
CHAINTECH NVIDIA GeForce4 MX440-8X			X	
<b>Boot - Windows 2000 Professional Advanced Options Menu</b>				
Safe Mode			X	
Safe Mode with Networking			X	
Safe Mode with Command Prompt			X	
Enable Boot Logging			X	
Enable VGA Mode			X	
Last known Good Configuration			X	
Directory Services Restore Mode (windows 2000 domain controllers only)			X	
Debugging Mode			X	
Start Windows Normally	X			
Reboot			X	
Return to OS Choices Menu			X	
<b>Basic Function Test</b>				
IDE Primary Master	X			
IDE Primary Slave			X	
IDE Secondary Master			X	
IDE Secondary Slave			X	
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
<b>LAN Function Test</b>				
LAN1 --- Auto	X			
LAN2 --- Auto	X			
<b>Audio Function Test</b>				
Play Audio Function Test	X			
<b>Start Menu</b>				
Log off User			X	
Shut down	X			
Standby			X	
Restart	X			
Hibernate			X	

## 7. BIOS Function Test

### 7-1. Memory Beep Test

Test Item	Function		N/A	Note
	Pass	Fail		
Check if there is beep sound during power on inserting no memory	X			

### 7-2. Standard CMOS Features

Test Item	Setting		Function		N/A	Note
	Pass	Fail	Pass	Fail		
Data (mm:dd:yy)	X		X			
Time (hh:mm:ss)	X		X			
IDE Primary Master	X		X			
IDE Primary Slave	X		X			
IDE Secondary Master	X		X			
IDE Secondary Slave	X		X			
Drive A (Floppy)					X	1.44M,3.5 in. / None
Drive B (Floppy)					X	1.44M,3.5 in. / None

### 7-3. Boot Sequence Test

Test Item	Result			Note
	Pass	Fail	N/A	
Floppy			X	
Hard Disk	X			
Removable (All Device Priority)	X			For Product BIOS Request
HDD-0:	X			
SCSI			X	
CDROM	X			
HDD-1:			X	
HDD-2:			X	
USB HDD	X			
USB Floppy	X			
USB CD-ROM	X			
LAN [ Boot From LAN First ]	X			
First Boot Device			X	First Boot Device must be set to HDD in first edition SAP
Second Boot Device			X	
Third Boot Device			X	
Boot Other Device			X	
Disable			X	

### 7-4. Power Management Test

#### 7-4.1. APM Power Management Test

Test Item	Setting Test	Result			Note
		Pass	Fail	N/A	
Normal Mode	Normal Mode	X			
HDD Power Down	Function Test			X	
Suspend Mode	Function Test	X			
Power Button	Delay 4 Sec			X	Soft-Off By PWRBTN (ATX case)
Power Button	Instant-Off			X	Soft-Off By PWRBTN (ATX case)

## 7-4.2. ACPI Power Management Test

### Test Point:

1. While setting S1(POS) in BIOS ACPI option, boot into Windows then choice standby item to let system suspend. It must be resumed back correctly by moving PS/2 Keyboard or mouse
2. While setting S3(STR) in BIOS ACPI option, boot into Windows then choice standby item to let system suspend. It must be resumed back correctly by pressing power button

Test Item	Result			Note
	Pass	Fail	N/A	
Enable			X	
Disable			X	
ACPI - S1 (POS)			X	
ACPI - S3 (STR)			X	
ACPI - S1 & S3			X	

## 7-5. Power On Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
Password			X	Only support ACPI Mode
Hot KEY			X	Only support ACPI Mode
MOUSE Move			X	Only support ACPI Mode
Keyboard 98			X	Only support ACPI Mode
Any KEY			X	Only support ACPI Mode
BUTTON ONLY	X			Only support ACPI Mode

## 7-6. Wake Up Event Test

### Test Step:

#### 1. Wake on MODEM→

- 1.1. Connected COM port MODEM to machine and its power stays in on state.
- 1.2. Connected phone cable to MODEM
- 1.3. Power on machine then enter BIOS setup menu, ensure that “Power On by Ring” item is enabled.
- 1.4. Turn off power by pressing shutdown button during POST
  - 1.4.1. Machine will be powered on successfully by dialing from COM port MODEM
- 1.5. Turn off computer from start menu in Windows OS
  - 1.5.1. Machine will be powered on successfully by dialing from COM port MODEM

#### 2. Wake on LAN→

- 2.1. Connected machine and another PC with LAN cable.
- 2.2. Power on machine then enter BIOS setup menu, enable “Wake up by PCI Card” item.
- 2.3. Turn off power by pressing shutdown button during POST
  - 2.3.1. Send magic packet to machine by key in it’s MAC address in another PC, then machine must be powered on successfully
- 2.4. Turn off computer from start menu in Windows OS
  - 2.4.1. Send magic packet to machine by key in it’s MAC address in another PC, then machine must be powered on successfully

Test Item		Result			Note
		Pass	Fail	N/A	
Power On by Ring / COM 1	Ring			X	Test by Modem
	+12V			X	Test by Multimeter
	+5V			X	Test by Multimeter
Power On by Ring / COM 2	Ring			X	Test by Modem
	+12V	X			Test by Multimeter
	+5V	X			Test by Multimeter

Power On by Ring / COM 3	Ring			X	Test by Modem
	+12V			X	Test by Multimeter
	+5V			X	Test by Multimeter
Power On by Ring / COM 4	Ring			X	Test by Modem
	+12V			X	Test by Multimeter
	+5V			X	Test by Multimeter
Wake On LAN (Wake up by PCI Card)				X	Before test, all drivers must be installed completely first (ATM mode not support)
Wake On RTC (Resume by Alarm)				X	

### 7-7. Power On after Power Failure Test

Test Points: 1. Power on after power failure function only supports for ACPI mode

2. Power failure means that we turn off power by unplugging power cord or turn off power supply directly without pressing power button
3. Off→ Power failure function always off no matter shutdown normally or power failure
4. On→ Power failure function always on no matter shutdown normally or power failure
5. Auto→ Power failure function off while shutdown normally, and function on while power failure

Test Item	Result			Note
	Pass	Fail	N/A	
Off			X	Default value must set to "Off"
On			X	1. Directly turn off then on power supply for 10 times, each time for 1 seconds
			X	2. Directly turn off then on power supply for 5 times, each time for 1 minutes
			X	3. Shutdown power normally then turn off power supply, next time when you turn on power supply directly, machine still has to power on
Former-Sts (Auto)			X	1. Directly turn off then on power supply for 10 times, each time for 1 seconds
			X	2. Directly turn off then on power supply for 5 times, each time for 1 minutes
			X	3. Shutdown power normally then turn off power supply, next time when you turn on power supply directly, machine still has to stay in off status

### 7-8. CMOS Backup / Clear CMOS Test

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Backup	X			
Clear CMOS Test	X			

### 7-9. Boot ROM Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot ROM to Novell 4.11 [RPL]			X	HUB : HP J4095A
Boot ROM to WinNT 4.0 [PXE]	X			HUB : HP J4095A Onboard LAN RTL8100C & PER-C10L(82551QM)

### 7-10. Supervisor / User Password Test

Test Item	Result			Note
	Pass	Fail	N/A	
Supervisor Password			X	
User Password			X	

### 7-11. CRT / LCD / TV Function Test

Test Point: Boot display must be set to CRT+LCD in BIOS setup menu

Test Item	Result			Note
	Pass	Fail	N/A	
Boot Display –CRT	X			
Boot Display –LCD	X			
Boot Display –CRT+LCD	X			
Boot Display –DVI			X	
Boot Display –TV			X	
Boot Display –CRT+TV			X	
Boot Display –CRT+DVI			X	

### 7-12. TV Standard Function Test

Function Test		Result			Note
		Pass	Fail	N/A	
NTSC	S terminal (Composite)			X	SHARP LCDTV LC-20S5T
PAL				X	
NTSC	AV Terminal (Component)			X	KONKA / T3731A / AC220V /50Hz
PAL				X	

### 7-13. Init Display First Function Test

Test Item		Result			Note
		Pass	Fail	N/A	
Onboard VGA	PCI Slot			X	
	Onboard			X	
PCI-E / PCI	PCI Slot			X	
	PCIEx			X	

### 7-14. On-Chip Serial ATA Function Test

Test Item		Result			Note
		Pass	Fail	N/A	
Auto				X	
Combined Mode				X	
Enhanced Mode				X	
SATA Only				X	
Disable				X	

### 7-15. SATA Mode – IDE / RAID Function Test

Test Item		Result			Note
		Pass	Fail	N/A	
IDE				X	
RAID (Only support Enhanced Mode)				X	

### 7-16. Digital I/O Test

Position: ( 801H ) / VCC: ( 5V ) / Input Address: ( 5 ) / Output Address: ( B )

Device item	Input Address			Output Address			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
DIO-1 Function Test	X			X			

DIO-2 Function Test	X			X			
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### 7-17. PC Health Status

Voltage Monitoring Test	Result			Actual (V)	Note
	Pass	Fail	N/A		
(+) Vccp	X			1.02	
(+) Vcore	X			1.07	
(+) 1.5V			X		
(+) CPUVcore			X		
(+) 2.6V			X		
(+) 3.3V	X			3.28	
(+) 5V	X			5.05	
(+) 12V	X			12.16	
(-) 12V			X		
(-) 5V			X		
(+) 3.3VSB			X		
(+) 5VSB			X		
Voltage Battery ( Above 3V)	X			3.26	
CPU Fan Speed	X			0 RPM	
System Fan Speed	X			0 RPM	
Current CPU Temp.	X			68 °C	
System Temp.	X			47 °C	
N.B. Temp.	X			77 °C	

### 7-18. Swap Floppy Drive & Boot up Floppy Seek Function Test

Test Item		Result			Note
		Pass	Fail	N/A	
Swap Floppy Drive	Enabled			X	
	Disabled			X	
Boot up Floppy Seek	Enabled			X	
	Disabled			X	

### 7-19. USB Onboard Device Function Test :

Test Item	Result			Note
	Pass	Fail	N/A	
USB Controller	X			
USB 2.0 Controller	X			Run Nero CD-DVD Speed V2.10
USB Keyboard Support	X			
USB Mouse Support	X			

### 7-20. COM Address / IRQ Test

COM Port Mouse : Logitech M-MM43

Test Item	BIOS Adjust		Function		Boot into Windows		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail		
<b>COM 1</b>								
3F8 / IRQ7	X		X		X			
2F8 / IRQ3							X	
3E8 / IRQ4							X	
2E8 / IRQ3							X	
AUTO (3F8 / IRQ4)							X	
Disable							X	

COM 2							
3F8 / IRQ4							X
2F8 / IRQ3	X		X		X		
3E8 / IRQ4							X
2E8 / IRQ3							X
AUTO (2F8 / IRQ3)							X
Disable							X
COM 3							
3F8 / 2F8 / 3E8 / 2E8 ; IRQ3							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ4							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ5							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ7							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ10	X		X		X		
3F8 / 2F8 / 3E8 / 2E8 ; IRQ11							X
Disable							X
COM 4							
3F8 / 2F8 / 3E8 / 2E8 ; IRQ3							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ4							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ5							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ7							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ10							X
3F8 / 2F8 / 3E8 / 2E8 ; IRQ11							X
Disable							X
COM 5							
4F8 / IRQ 10							X
/ IRQ							X
COM 6							
4F8 / IRQ 4	X		X		X		
/ IRQ							X

## 7-21. LPT Address / IRQ Test

Printer Type : EPSON Stylus C61

Test Item	BIOS Adjust		Function		Boot into Windows		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail		
<b>LPT 1</b>								
Disabled							X	
<b>LPT1 Mode(378 / IRQ 7 )</b>								
SPP	X		X		X			
EPP							X	
ECP / DMA1							X	
ECP / DMA3							X	
ECP+EPP / DMA 1							X	
ECP+EPP / DMA 3							X	
<b>LPT1 Mode( 278 / IRQ 5)</b>								
SPP							X	
EPP							X	
ECP / DAM1							X	
ECP / DMA3							X	
ECP+EPP / DMA 1							X	
ECP+EPP / DMA 3							X	
<b>LPT1 Mode( 3BC / IRQ 7 )</b>								
SPP							X	
ECP / DAM1							X	



ECP / DMA3									X
<b>LPT 2</b>									
Disabled									X
<b>LPT2 Mode( 3BC / IRQ7 )</b>									
SPP									X
ECP / DMA 1									X
ECP / DMA 3									X
<b>LPT2 Mode( 378 / IRQ7 )</b>									
SPP									X
EPP / EPP 1.7									X
EPP / EPP 1.9									X
ECP / DMA 1									X
ECP / DMA 3									X
ECP/EPP / DMA 1 / EPP 1.7									X
ECP/EPP / DMA 1 / EPP 1.9									X
ECP/EPP / DMA 3 / EPP 1.7									X
ECP/EPP / DMA 3 / EPP 1.9									X
<b>LPT2 Mode( 278 / IRQ5 )</b>									
SPP									X
EPP / EPP 1.7									X
EPP / EPP 1.9									X
ECP / DMA 1									X
ECP / DMA 3									X
ECP/EPP / DMA 1 / EPP 1.7									X
ECP/EPP / DMA 1 / EPP 1.9									X
ECP/EPP / DMA 3 / EPP 1.7									X
ECP/EPP / DMA 3 / EPP 1.9									X

## 7-22. BIOS AWDFLASH Program Test

Test Points: 1. All we have to do is just type instruction: awdfash.exe XXX.BIN in DOS, and other parameter is no need  
If it can not be run, then we can say the test is fail

BIOS BIN file	X8120_01.BIN		
	Result		
Award Flash Tools Version	Pass	Fail	N/A
8.79	X		

## 8. Performance Test

### Platform Information:

PCB Model / Version	EMB-852T A1.1
BIOS	AOP-8120XT BIOS Rev 1.0 (02/19/2008)
Operating System	Windows XP Professional V2002 Service Pack 2
CPU	Intel Pentium M 1.6GHz
Memory	DSL DDR-333 512MB
SATA HDD	N/A
Primary IDE Master	Fujitsu MHW2040AT 40GB PATA 2.5" HDD
Primary IDE Slave	N/A
CRT	View Sonic E70
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	Intel Chipset Ver 6.0.1.1002
Graphics Media	Intel 82852/82855GM/GME Ver.6.14.10.3865 Date:2004/07/01
LAN Driver	PER-C10L(82551QM) Intel PRO/100+ Management Adapter Driver Ver: 7.1.12.0 Date: 2/10/2004 Realtek RTL8139/810x Ethernet Ver:5.616.809.2004 Date:9/16/2004
Audio Driver	Realtek Ver. 5.10.0.5630 Date:2004/07/01
Touch screen Driver	PenMount 9000 Serial Ver:1.0.0.1018 Date:2/13/2007
Power Supply	AC in

### Test Result:

Testing Software	Result	Unit
<b>ZD WinBench 99 V2.0</b>		
Business Disk WinMark99	3760	Thousand bytes/sec
High-End Disk WinMark99	12300	Thousand bytes/sec
Business Graphics WinMark99	184	
High-End Graphics WinMark99	906	
<b>PCMark2002</b>		
CPU	5194	
Memory	3364	
HDD	394	
<b>Final Reality V1.01—BenchMark Test</b>		
2D image	18.88	
3D	6.58	
Bus transfer	23.61	
Overall	12.83	Reality marks
<b>ZD 3D Winbench 2000 V1.1</b>		
3D WinMark 2000	N/A	Frames / sec
<b>3Dmark2001SE Pro (Demo version)</b>		
3DMark2001SE Build 330_Benchmark mode	1074	
<b>ZD Multimedia Content Creation Winstone 2004 V1.0.1 (Up Pentium III 800 MHZ CPU)</b>		
Multimedia Content Creation Winstone 2004	N/A	
<b>Business Winstone 2004 v1.0.1 (Up Pentium III 800 MHZ CPU)</b>		
Business Winstone2004	N/A	

**Test Result:**

Testing Software	Result	Unit
<b>PCMark05</b>		
<b>PCMark</b>	N/A	<b>PCMarks</b>
<b>CPU</b>	<b>2466</b>	
<b>Memory</b>	<b>1609</b>	
<b>Graphics</b>	N/A	
<b>HDD</b>	<b>1743</b>	
<b>3Dmark2003 v360</b>		
<b>3Dmark Score</b>	<b>53</b>	
<b>CPU Score</b>	N/A	

Remark: Please uses below two performance software to test mainboard if the chipset is new enough.  
(ex. Intel Core 2 Duo CPU)