

# QE 【Mainboard】

## Verification Test Plan

Release No : 07E010022

<b>Product Model</b>	<b>PFM-620S</b>
<b>Description</b>	ULV Celeron <i>PC/104 CPU Module</i>
<b>Test Configuration</b>	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB : PFM-620S Rev:B1.1 <input checked="" type="checkbox"/> BIOS : PFM-620S Rev.B BIOS Rev 2.0 (08/16/2006) <input checked="" type="checkbox"/> PCB :PER-YC02 Audio+USB Rev.A1.0 [External Board]  <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> CPU Type : Intel ULV Celeron 400/650MHz CPU <input checked="" type="checkbox"/> North Bridge : VIA VT8606 <input checked="" type="checkbox"/> South Bridge : VT82C686B <input checked="" type="checkbox"/> VGA Chipset : VIA VT8606 <input checked="" type="checkbox"/> Audio Chipset : (PER-YC02 Rev.A1.0): Realtek ALC655 / 35113Q1 <input checked="" type="checkbox"/> Ethernet Chipset : Realtek 8100BL <input checked="" type="checkbox"/> I/O Chipset : VIA VT82C686B <input checked="" type="checkbox"/> TV Chipset : N/A  <input checked="" type="checkbox"/> Remark : QE PFM-620S Bulletin test Report
<b>Test Result Summary</b>	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation  Comment: _____ _____	

2007/10/26

Wenyuan Yang

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Issue date

Manager

Test Engineer

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There are 3 test results in this document; they are described as follows:

- Pass: Function worked perfectly
- Fail: Function failed and must be modified in the next version
- N/A: Outside of specification or no test equipment

**Platform Information:**

Item	Device Information	Test Item
PCB Model / Version	PFM-620S Rev:B1.1	1,2,3,4,5,6,7,8,9,10,11
BIOS / Version	PFM-620S Rev.B BIOS Rev 2.0 (08/16/2006)	1,2,3,4,5,6,7,8,9,10,11
CPU Type	Intel ULV Celeron 400/650MHz CPU	1,2,3,4,5,6,7,8,9,10,11
Memory Type	ELPIDA PC133 SDRAM HB52RF648DC-75B 0207XB0568	1,2,3,4,5,6,7,8,9,10,11
Primary IDE Master	Western / WD1200BB-22GVA0 / 120GB	1,2,3,4,5,6,7,8,9,10,11
Primary IDE Slave	ASUS DVD-E616A2 / 16X	1,2,3,4,5,6,7,8,9,10,11
CRT	ViewSonic E70	1,2,3,4,5,6,7,8,9,10,11
LCD	N/A	
Compact Flash	N/A	
Riser Card	N/A	
Backplane	N/A	
Operating System	[ ] Linux-RedHat 9.0 or [ ] Fedora Core 4	N/A
	Windows Server 2003 English Version / Standard Edition 5.2.3790	N/A
	Windows XP Professional English Version V2002 Service Pack 2	9
	Windows 2000 Professional English Version V5.00.2195 Service Pack 4	N/A
	Windows 98SE English Version V4.10.2222A	N/A
	Windows NT Workstation 4.0 English Version Service Pack 6	N/A
	MS-DOS 6.22	N/A
	Power Supply	ATX Power :
	AT Power : LEMACS SP2-4300F 300W	1,2,3,4,5,6,7,8,9,10,11

## Test Result for Certification

### 1. Dynamic / Boot\_UP Burn\_In Test

Test Method	Test Condition	Result		
		Pass	Fail	N/A
Diagnostics Software Burn-In Test.	0°C ~60°C, 30%RH~80%RH, 48 hrs	X		
Power On/Off Test.	0°C ~60°C, 30%RH~80%RH, 24hrs	X		
High Temperature Storage Test (Just for PPC)	60 °C (48 Hours)			X
Low Temperature Storage Test (Just for PPC)	-20 °C (48 Hours)			X
Humidity Test (Just for PPC)	40 °C/95%RH (48 Hours)			X
Cold Start Test (Just for PPC)	-5 °C (Doing 50 times Power On/Off)			X

### 2. Power On and Reset Test

Test Method	Test Condition	Result		
		Pass	Fail	N/A
Power On/Off Test in DOS Mode-100V Power Function Test	10 times in Room Temperature	X		
Power On/Off Test in DOS Mode-210V Power Function Test	10 times in Room Temperature	X		
KB Reset in Dos Mode-110V Power Function Test	20 times in Room Temperature	X		
Hardware Reset in Dos Mode-110V Power Function Test	20 times in Room Temperature	X		

### 3. I/O Peripheral Function Test

I/O Peripheral Function Test –I/O Function	Result		
	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		
Compact Flash – Type II			X
DOC (Disk On Chip)			X
DOM (Disk On Module) – 40 Pin			X

DOM (Disk On Module) – 44 Pin	X		
COM 1	X		
COM 2-232	X		
COM 2-422	X		
COM 2-485	X		
COM 2-Ring /+5V /+12V	X		
COM 3			X
COM 4			X
COM 5			X
COM 6			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
TV-out / AV Terminal			X
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		
		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		
		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		
		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		
		Pass	Fail	N/A
LAN Speed LED	LAN1			X
	LAN2			X
LAN Active LED	LAN1			X
	LAN2			X
LAN Link LED	LAN1	X		
	LAN2			X
LAN 10/100 Ethernet		X		
LAN 1G Ethernet				X
PCI Connector & Function		Result		
		Pass	Fail	N/A
PCI Slots				X
PCI Express				X

#### 4. Power Consumption Test (Run Prime95 Program)

Memory : ASIAMOS 256MB PC133 (hynix HY57V56820CT-H)

HDD : Seagate ST380215A 80GB

CD-ROM : ASUS DVD-E818A 18X DVD ROM

Test Environment Mode	ATX Power:		AT Power: ZECK ZKS-300W			
	CPU:	CPU:	CPU: Intel ULV Celeron 650MHz		CPU: Intel ULV Celeron 400MHz	
OS Environment			Windows XP Pro		Windows XP Pro	
Normal Mode (+5V)	A	A	3.97	A	2.04	A
Suspend Mode (+5V)	A	A	2.51	A	2.03	A
5VSB in Power Off Mode (ATX Mode)	A	A	-----	A	-----	A
5VSB in Power On Mode (ATX Mode)	A	A	-----	A	-----	A
Normal Mode (+12V)	A	A	0.21	A	0.23	A
Suspend Mode (+12V)	A	A	0.2	A	0.22	A
Normal Mode (+3.3V) (ATX Mode)	A	A	-----	A	-----	A
Suspend Mode (+3.3V) (ATX Mode)	A	A	-----	A	-----	A
Normal Mode (-12V)	A	A	0	A	0	A
Suspend Mode (-12V)	A	A	0	A	0	A
Normal Mode (-5V)	A	A	0	A	0	A
Suspend Mode (-5V)	A	A	0	A	0	A

#### 5. Power Connector Test (110V / 220V )

Test Method	Result		
	Pass	Fail	N/A
ATX Connector - Power On/Off for 10 times in DOS			X
AT Connector - Power On/Off for 10 times in DOS	X		
5V Only - Power On/Off for 10 times in DOS			X

#### 6. Timer Accuracy Test

System Clock & RTC Clock Test				
Test Method	Margin for error	Result		
		Pass	Fail	N/A
System Clock in Power On Mode	±1 second during 24 hours	X		
RTC Clock in Power On Mode	±1 second during 24 hours	X		
RTC Clock in Power Off Mode	±1 second during 24 hours	X		
Watchdog Timer Test		Result		
		Pass	Fail	N/A
Time-out Interval	10 sec	X		
	60 sec	X		
	255 sec	X		

## 7. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN1 LED		Active LED						X
		Link LED				X		
		Speed LED						X
LAN2 LED		Active LED						X
		Link LED						X
		Speed LED						X
Location	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
LAN1	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	100	X		
		Intel InBusiness 8 Ports	100M	100 Mbps	100	X		
		LEMEL LM-S5 5 Ports	100M	100 Mbps	100	X		
		Accton Desktop-3005	100M	100 Mbps	100	X		
		SVEC FD916H	100M	10 Mbps	10	X		
Location	Speed	Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
LAN2	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps				X
		D-Link DGS-1008T	100M	1Gbps				X
		Intel InBusiness 8 Ports	100M	100 Mbps				X
		LEMEL LM-S5 5 Ports	100M	100 Mbps				X
		Accton Desktop-3005	100M	100 Mbps				X
		SVEC FD916H	100M	10 Mbps				X

## 8. Hardware Compatibility

CPU Compatible Test						
Type	Clock Speed	FSB	Prime95 Version	Result		
				Pass	Fail	N/A
Intel ULV Celeron 650MHz			V2414	X		
Intel ULV Celeron 400MHz			V2414	X		
Memory Compatibility Test						
Brand / Memory Size	Chipset	Frequency	MemTest86 Version	Result		
				Pass	Fail	N/A
Hynix PC133 SDRAM / 256MB	Hynix HY57V56820CT-H		V1.65	X		



ELPIDA PC133 SDRAM / 512MB	HB52RF648DC-75B 0207XB0568		V1.65	X		

**On Board Audio Function Test**

Audio Basic Function Test	Result		
	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	
	Condenser	X	
MIC Sound Recorder	Dynamic	X	
	Condenser	X	

Audio 5.1 Channel with S/P DIF Function Test	Result		
	Pass	Fail	N/A
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

On Board TV Function Test	Result		
	Pass	Fail	N/A
NTSC			X
PAL			X
NTSC			X
PAL			X

On Board LCD Function Test					
TFT LCD	Type	Voltage	Result		
			Pass	Fail	N/A
LVDS	AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	3.3V			X
	AU B104SN02 / 10.4" / 800*600 / 18bit (4:3)	3.3V	X		
	Hyundai HT12X11-200 / 12.1" / 1024*768 / 18bit (4:3)	3.3V	X		
	AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	3.3V			X
	AU M170EG01 / 17" / 1280*1024 / 48bit (4:3)	5V			X
	AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	5V			X
TTL	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit (4:3)	5V			X
	NEC NL8060AC31-12 / 12.1" / 800*600 / 18bit (4:3)	3.3/5V			X
	Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit (4:3)	3.3V			X

	LG LM151X2-C2TH / 15.1" / 1024x768 / 18bit (4:3)	3.3V			X
	Fujitsu FLC38XGC6V-06 / 15" / 1024*768 / 36bit (4:3)	5V			X

**PCI Slot Function (PCI Adapter Card) Test**

Model	Type	Result		
		Pass	Fail	N/A
CECUBE GC-R9250PCI-D3 (ATI REDEON9250 256MB)	VGA Card			X
CHAINTECH NVIDIA GeForce4 MX440-8X	VGA Card			X
SC3000 CMI8738/C3DX	Sound Card			X
Takram DC-395U V1.02	SCSI Card			X
ADAPTEC Ultra160 SCSI ASC-29160	SCSI Card			X
I-VIEW CP-1400AS (with Age STD-477FAI CCD)	Capture Card			X
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	LAN Card			X
Realtek RTL8139B Ethernet	LAN Card			X
D-Link DGE-530T 1000BASE-T Gigabit Ethernet Adapter	LAN Card			X
D-Link DWL-520+ Wireless LAN	LAN Card			X
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	RAID Card			X
D-Link DU-520 USB 2.0	USB Hub Card			X
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HDD Seagate ST3120026AS 120GB	SATA Card			X

**PCI-Express Function Test**

Model	Result		
	Pass	Fail	N/A
SksKonnnect SK-9E21D 10/100/1000Base-T Adapter PCI-Express X1 LAN Card			X
WinFast PX6200 TC TDH PCI-Express X16 VGA Card			X

**HDD Compatibility Test**

Model	Result		
	Pass	Fail	N/A
Hitachi / HDS722525VLAT80 / 250GB / ATA-100			X
IBM / DTLA-307045 / 46.1GB / ATA-100			X
FUJITSU / MPE 3136AH / 13.6GB / ATA-66	X		
Seagate / ST340014A / 40GB / Barracuda 7200.7	X		
Seagate / ST3160812A / 160GB	X		
Quantum / Fireball Plug AS / 30GB / ATA-100	X		
Seagate / ST310210A / 10.2GB / ATA-66	X		
Western / WD400BB-75DEA0 / 40GB / ATA-100	X		
Seagate / ST3120026AS / 120GB / ATA-100 / S-ATA	X		

**CD/DVD-ROM Compatibility Test**

Model	Result		
	Pass	Fail	N/A
Acer DVP1640A / 16X / DVD-ROM	X		
Creative DVD1240E / 12X / DVD-ROM	X		
IBM HL-DT-ST / GCR-8480B / 48X / CD-ROM	X		

Pioneer / DVD-121 / 16X / DVD-ROM	X		
PHILIPS CDD5301 / PBC03210G / 32X10X40 / 12X DVD / CD-RW / DVD-ROM	X		
SAMSUNG / SH-W08 / DVD+R 8X / DVD-R 8X / CD-R 32X	X		
NEC / ND-2500A / DVD R/RW / +R8X-R8X	X		
TEAC / CD-540E / 40X / CD-ROM	X		
<b>IDE Cable Function test</b>			
<b>IDE Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
40 Pin Cable ATA33			X
44 Pin Cable ATA33	X		
80 Pin Cable ATA100			X
<b>USB Function Test</b>			
<b>USB Basic Function Test (USB1/2 on USBRJ1 connector)</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
USB Controller	X		
USB 2.0 Controller			X
USB Keyboard Support	X		
USB Mouse Support	X		
<b>USB 1.1 Compatible Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
USB 1.1 Compatible Test	X		
<b>USB 2.0 Compatible Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
USB 2.0 Compatible Test			X
<b>USB 2.0 Function Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Use High Speed Device USB2.0 CD-R/W Ben-Q / 4824W1-ON2 to play Nero CD/DVD Speed	X		
<b>USB Device Full Loading Test</b>			
<b>Model</b>	<b>Type</b>	<b>Pass</b>	<b>Fail</b>
CyberLink Power DVD XP4.0	Remote Control	X	
BENQ 4824WI-ON2	CD-RW	X	
Thumb Device	Storage		X
USB HDD IBM IC25N020ATCS04-0 / 20GB / 4200RPM (1394b + USB2.0 External Box (MP-FBHUB20P-V2.0 E10-7073161D60))	HDD	X	
Mitsumi FL3.5D353GUE/FUE	Floppy	X	
ASUS DRW-1604P	DVD-RW	X	
<b>Floppy Disk Controller Function Test</b>			
		<b>Pass</b>	<b>Fail</b>
Copy and compare file between C: and A / B:			X
Change Floppy to None value			X
Swap FDD			X
<b>Peripheral Compatibility-Storage Device</b>			

Model	Interface	Result			
		Pass	Fail	N/A	
FUJITSU MCB3064SS	SCSI			X	
IO-Mega zip 100 parallel port	Parallel	X			
IO-Mega zip 100MB Internal ATAPI Drive	IDE			X	
DOC2000 M-System / MD2200-D16				X	
PQI FC512 512MB	Type-I CF Card	X			
HITACHI / HMS360402D5CF00	Type- II CF Card			X	
<b>Digital I/O Connector Test</b>		<b>Result</b>			
		<b>Pass</b>	<b>Fail</b>	<b>N/A</b>	
Input Address: ( )				X	
Output Address: ( )				X	
VCC: ( )				X	
DIO-1 Function Test				X	
DIO-2 Function Test				X	
<b>Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules</b>					
Interface	Model	Type	Result		
			Pass	Fail	N/A
PC/104	AAEON PCM-5600	Modem Module			X
	AAEON PCM-3115B	PCMCIA Module			X
PC/104+	AAEON PCM-3430	SCSI Module	X		
PCI-104	AAEON PCM-3730	Intel 82559 LAN Module			X
<b>On-Board SCSI Function Test</b>					
Model	Interface	Result			
		Pass	Fail	N/A	
RICOH MP7060S	SCSI-CDROM 24X			X	
Fujitsu MCB3064SS	SCSI-MO Device			X	
Seagate 32155W	SCSI-HDD 2.15GB			X	
IBM DNES-309170	SCSI-HDD 9GB			X	
Seagate ST39205LW/P	9GB / Ultra160 / LVD			X	
<b>COM Port Send / Receive Test</b>		<b>Result</b>			
		<b>Pass</b>	<b>Fail</b>	<b>N/A</b>	
Use software program: COMTEST.exe		X			
Use software program: LL5.exe		X			
<b>Disk On Module [DOM] Compatibility Test</b>					
Model	Interface	Result			
		Pass	Fail	N/A	
DOM-256-026P Rev: A1K20	IDE 40 Pin			X	
DOM-064-426P Rev: A2A11	IDE 44 Pin	X			
<b>Mini PCI Card Compatibility Test</b>					
Model	Interface	Result			
		Pass	Fail	N/A	

GM-100 WLAN 11g Mini PCI Card (Model: Sky Thru GC-100)	Wireless LAN			X
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	Wireless LAN			X
PER-C200 4 Port USB 2.0 Mini PCI Card (Chip: NEC D720101GJ)	USB 2.0			X
COM/LPT Ports & RS-232/422/485 Function Test		Result		
		Pass	Fail	N/A
RS-422 for COM2		X		
RS-485 for COM2		X		
COM1		X		
COM2		X		
COM3				X
COM4				X
COM5				X
COM6				X
LPT1		X		
LPT2				X
Card Bus(PCMCIA) Compatibility Function Test				
Model		Result		
		Pass	Fail	N/A
PQI 16MB Compact Flash Adapter (64MB PQI CF Card inserting)				X
Kingston datapack DP-PCM2 / 2GB (PC Card TypeII HDD)				X
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II				X
PQI 16MB Compact Flash Adapter (64MB PQI CF Card inserting)				X
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II				X

## 9. O.S. Compatibility Test

Installation Operation System Compatibility Test		Result		
		Pass	Fail	N/A
Linux-Red-Hat 9.0 Kernel 2.4.20-8				X
Fedora Core 4				X
Windows Server 2003 English Version / Standard Edition 5.2.3790				X
Windows XP Professional English Version V2002 Service Pack 2		X		
Windows 2000 Professional English Version V5.00.2195 Service Pack 4				X
Windows 98SE English Version V4.10.2222A				X
Windows NT Workstation 4.0 English Version Service Pack6				X
MS-DOS 6.22				X
Utility and Driver Test				
OS	Drivers Version	Result		
		Pass	Fail	N/A
Linux-Red-Hat 9.0 / Kernel 2.4.20-8	Chipset Software			X
	Graphics Media			X
	LAN Driver			X
	Audio Driver			X

Windows Server 2003 English Version / Standard Edition 5.2.3790	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows XP Professional English Version V2002 Service Pack 2	Chipset Software	VIA Service Pack 4.48v	X		
	Graphics Media	S3 Graphics Twister + S3Hotkey Ver: 6.13.10.1039(1/24/2002)	X		
	LAN Driver	Realtek RTL8139/810x Family Fast Rthernet NIC Ver: 5.505.1004.2002 (10/4/2002)	X		
	Audio Driver	PER-YC02 Rev.A1.0: Realtek ALC655 / 35113Q1 / 5.12.1.3200 (04/13/2001)	X		
Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows 98SE English Version V4.10.2222A	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows NT Workstation 4.0 English Version 4.00.1381 Service Pack6	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X

## 10. BIOS Function Test

Test Item	Result		
	Pass	Fail	N/A
Memory Beep Test	X		
Standard CMOS Setup Test	X		
Boot Sequence Test	X		
<b>Power Management Test</b>			
APM Power Management Test	X		
ACPI Power Management Test			X
Power On Function Test			X
Wake Up Event Test			X
Power On after Power Failure Test			X
CMOS Backup / Clear CMOS Test	X		
Boot ROM Test (RPL/PXE)	X		
Supervisor / User Password Test	X		
CRT / LCD / TV Function Test	X		
TV Standard Function Test			X
Init Display First Function Test			X
On-Chip Serial ATA Function Test			X
SATA Mode-IDE/RAID Function Test			X
<b>PC Health Status</b>			
Voltage Monitor Test	X		
FAN Speed Monitor Test	X		

Temperature Monitor Test	X		
Swap Floppy Drive & Boot up Floppy Seek Function Test			X
USB Onboard Device Function Test	X		
COM Address / IRQ Test	X		
LPT Address / IRQ Test	X		
BIOS AWDFLASH Program Test	X		

## 11. Performance Test

<b>English Windows 2000 Professional with SP4 5.00.2195 + 1024x768x32bit / 60Hz + Direct 9.0</b>		
<b>ZD WinBench 99 V2.0</b>		<b>Unit</b>
Business Disk WinMark99	4480	Thousand bytes/sec
High-End Disk WinMark99	17100	Thousand bytes/sec
Business Graphics WinMark99	97.7	
High-End Graphics WinMark99	37.2	
<b>Final Reality V1.01—BenchMark Test (Reality Marks)</b>		
2D Image	8.25	
3D	4.04	
Bus transfer	4.30	
Overall	5.34	Reality marks
<b>ZD 3D Winbench 2000 V1.1</b>		
3D WinMark 2000	N/A	Frames / sec
<b>ZD Multimedia Content Creation Winstone 2004 V1.0.1</b>		
Multimedia Content Creation Winstone 2004	N/A	
<b>3Dmark2001SE Pro (Demo version)</b>		
3DMark2001SE Build 330_Benchmark mode	354	
<b>English Windows XP Professional with SP2 V2002 + 1024x768x32bit / 60Hz + Direct 9.0</b>		
<b>Business Winstone 2004 v1.0.1</b>		
Business Winstone2004	N/A	