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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
System Model	FWS-816 A1.0	
PCB Model / Version	FWB-816 A1.0	
BIOS / Version	FWS-816 BIOS Rev 1.0 (03/06/2007)	
CPU Type	Intel Pentium 4 LGA775 Series 670 3.8Ghz / FSB:800MHz / L2:2MB Intel Pentium D Processor LGA775 Series 840 Dual core CPU 3.2GHz / FSB:800MHz / L2:1MBx1 (EM64T)	
Memory Type	Transcend DDR2-800 SDRAM 1GB (SEC 640 ZCE7 K4T510830C)	
SATA HDD	Western Digital WD1600JD-00HBB0 160GB	
Primary IDE Master	N/A	
Primary IDE Slave	ASUS CD-ROM CD-S520/A	
CRT	ViewSonic E70 17"	
LCD	N/A	
Compact Flash	HITACHI/HMS360402D5CF00/2GB Type-II CF	
Backplane	N/A	
Riser Card	PER-T078 A0.1	
Operating System	[ ] Linux-RedHat 9.0 or [ X ] Fedora Core 4.0	9
	Windows Server 2003 English Version / Standard Edition 5.2.3790	9
	Windows Server 2003 English Version /Standard x64 Edition	9
	Windows XP Professional English Version V2002 Service Pack 2	9
	Windows XP Professional Simplified-Chinese Version V2002 Service Pack 2	9
	Windows XP Professional Japanese Version V2002 Service Pack 2	9
	Windows XP Professional English Version /Standard x64 Edition	3,4,5,6,7,8,9,10,11,12
	Windows 2000 Professional English Version V5.00.2195 Service Pack4	1,3,5,9
	Windows 2000 Professional Simplified-Chinese Version V5.00.2195 Service Pack4	9
	Windows 2000 Professional Japanese Version V5.00.2195 Service Pack4	9
	Windows Server 2000 English Version	9
	Windows 98SE English Version V4.10.2222A	N/A
	MS-DOS 6.22 English Version	1,2,3,4,5,6,8,10
MS-DOS 6.20 Japanese Version	9	
Power Supply	ATX Power : EMACS H1U-6250P (RoHS)	1,2,3,4,5,6,7,8,9,10,11,12
	AT Power	N/A

## Test Result for Certification

### 1. Environment Test

#### Platform Information

System Model	FWS-816 A0.2
PCB Model / Version	FWB-816 A0.2
BIOS	FWS-816 BIOS Rev 0.G (01/16/2007)
Operating System	Windows 2000 Professional English Version V5.00.2195 Service Pack4
CPU	Intel Pentium 4 LGA775 Series 670 3.8Ghz / FSB:800MHZ / L2:2MB
Memory	KINGMAX DDR2-533 SDRAM 1GB (hynix HY5PS12821F-C4)
SATA HDD	Western Digital WD1600JD-00HBB0 160GB
Primary IDE Master	N/A
Primary IDE Slave	N/A
CRT	ViewSonic E70 17"
LCD	N/A
Compact Flash	Transcend 32MB CF
Backplane	N/A
Riser Card	PER-T078 A0.1
Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003
Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4363 7/19/2005
LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006
Audio Driver	N/A
Power Supply	EMACS H1U-6250P(ROHS) 24 pin ATX Power Supply

#### 1.1. ATX Power Supply

Test Method	Test Condition	Result		
		Pass	Fail	N/A
Diagnostic Software Burn_In Test (Temperature variation operation test)	-5°C ~45°C, 0%RH~90%RH	<b>X</b>		
High Temperature Storage Test	60 °C (48 Hours, Non-operation)	<b>X</b>		
Low Temperature Storage Test	-20 °C (48 Hours, Non-operation)	<b>X</b>		
Humidity Test	40°C/85%RH/48Hours (Non-operation)	<b>X</b>		
Cold Start Test	-5 °C (5 hours or 50 times of ON/OFF)	<b>X</b>		
Hot Start Test	45 °C (5 hours or 50 times of ON/OFF)	<b>X</b>		

### 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	<b>X</b>		
Power On/Off Test in DOS Mode-210V Power Function Test	10 times in Room Temperature	<b>X</b>		
KB Reset in Dos Mode-110V Power Function Test	20 times in Room Temperature	<b>X</b>		
Hardware Reset in Dos Mode-110V Power Function Test	20 times in Room Temperature	<b>X</b>		

### 3. I/O Peripheral Function Test

I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:			X	
Primary IDE Master	X			CF card is fixed to primary master IDE channel and it does no provide jumper to select other channel
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	ICH7R supports RAID function but FWS-816 does no provide it
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 1-232	X			Use for Console
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			CN7
PS/2 Mouse & Keyboard (External)			X	
Audio Connector			X	No onboard audio chipset
Audio 5.1 Channel / S/P DIF			X	
LPT 1			X	Reserved for LCM
LPT 2			X	
SIR / 115.2 Kbps			X	
FIR / 4M bps			X	
USB 1/2 Ports	X			USB1 on front panel
USB 3/4 Ports	X			CN4 on pin header
USB 5/6 Ports	X			CN5 on pin header
USB 7 Ports			X	
USB 2.0 1/2 Ports	X			USB1 on front panel
USB 2.0 3/4 Ports	X			CN4 on pin header
USB 2.0 5/6 Ports	X			CN5 on pin header
USB 2.0 7 Ports			X	
DVI Function			X	
DIO Connector			X	
Card Bus			X	
PC/104			X	
PC/104-Plus			X	

PCI-104			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			
LAN1 –LAN8 Active LED	X			
LAN1 –LAN8 Link LED	X			
LCM keypad	X			
Software reset button	X			It will work normally until software is ready
VGA Connector	X			CN1
FAN1 connector	X			
FAN2 connector	X			
FAN3 connector	X			
CPUFAN1 connector	X			
Front Panel	Result			Notes
	Pass	Fail	N/A	
HDD LED	X			
Power LED	X			
Status LED	X			
LAN Bypass LED	Disable	X		Depends on BIOS
	Forced Mode	X		
	Watchdog Mode	X		
Power On Button	X			
External Buzzer	X			
On Board Buzzer	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			JP1
Touch Screen Operating Mode Selection			X	
Clock Shift of TFT LCD			X	
Power Connector & Function	Result			Notes
	Pass	Fail	N/A	
ATX Power Connector 20pin			X	
ATX Power Connector 24pin	X			ATX2
ATX Power_12V Connector	X			ATX1
AT Power Connector (P8 & P9)			X	
PWR1 (Mini4P)	X			
Big 4P Power Connector	X			
Mini 4P Power Connector	X			

External Power Connector (-12/-5V)				X	
Option ATX Power Connector (PS-ON / +5VSB) CN1				X	
LAN Connector & Function		Result			Notes
		Pass	Fail	N/A	
LAN Speed LED	LAN1 ~ LAN8			X	
LAN Active LED	LAN1 ~ LAN8	X			
LAN Link LED	LAN1 ~ LAN8	X			
LAN 10/100 Ethernet		X			
LAN 1G Ethernet		X			
PCI Connector & Function		Result			Notes
		Pass	Fail	N/A	
Mini PCI slot		X			
PCI Slots		X			
PCI Express				X	
Status LED Function		Result			Notes
		Pass	Fail	N/A	
Disable		X			Depends on BIOS
RED LED ON		X			
RED LED BLINK		X			
GREEN LED ON		X			
GREEN LED BLINK		X			

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

##### Platform Information

<b>System Model</b>	FWS-816 A0.2
<b>PCB Model / Version</b>	FWB-816 A0.2
<b>BIOS</b>	FWS-816 BIOS Rev 0.1 (01/30/2007)
<b>Operating System</b>	Windows XP Professional English Version V2002 Service Pack 2
<b>CPU</b>	List as following
<b>Memory</b>	Transcend DDR2-800 SDRAM 1GB (SEC 640 ZCE7 K4T510830C)
<b>SATA HDD</b>	Western Digital WD1600JD-00HBB0 160GB
<b>Primary IDE Master</b>	N/A
<b>Primary IDE Slave</b>	ASUS CD-ROM CD-S520/A
<b>CRT</b>	ViewSonic E70 17"
<b>LCD</b>	N/A
<b>Compact Flash</b>	N/A
<b>Backplane</b>	N/A
<b>Riser Card</b>	PER-T078 A0.1
<b>Chipset Software</b>	Intel® Chipset Software Installation Utility 7.2.1.1003
<b>Graphics Media</b>	Intel® 82945G Express Chipset Family Properties 6.14.10.4363 7/19/2005
<b>LAN Driver</b>	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 5/27/1999 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006
<b>Audio Driver</b>	N/A
<b>Power Supply</b>	EMACS H1U-6250P (RoHS)

Test Environment	ATX Power: EMACS H1U-6250P (ROHS) 24 pin Power					Note
	CPU: Intel Pentium 4 LGA775 Series 670 3.8Ghz / FSB:800MHz / L2:2MB		CPU: Intel Pentium D Processor LGA775 Series 840 Dual core CPU 3.2GHz / FSB:800MHz / L2:1MBx1 (EM64T)			
Model						
OS Environment	WinXP ACPI		WinXP APM		WinXP APM	
Suspend meaning	Suspend from Windows		Suspend from DOS		Suspend from DOS	
Normal Mode (+5V)	2.30	A	2.33	A	2.30	A
Suspend Mode (+5V)	1.66	A	1.85	A	1.86	A
5VSB in Power Off Mode (just for ATX)	0.06	A	0.06	A	0.06	A
5VSB in Power On Mode (just for ATX)	0	A	0	A	0	A
Normal Mode (+12V)	11.43	A	11.42	A	14.30	A
Suspend Mode (+12V)	4.95	A	5.30	A	5.76	A
Normal Mode (+3.3V) (just for ATX)	5.23	A	5.26	A	5.26	A
Suspend Mode (+3.3V) (just for ATX)	3.37	A	4.45	A	4.53	A
Normal Mode (-12V)	0	A	0	A	0	A
Suspend Mode (-12V)	0	A	0	A	0	A
Normal Mode (-5V)	0	A	0	A	0	A
Suspend Mode (-5V)	0	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		
LAN Bypass Function Test		Result		
LAN Bypass function only supports LAN3 and LAN4		Pass	Fail	N/A



Disable	X		
Force mode	X		
Watch Dog Mode	X		

## 7. Network HUB / LAN Connection Test

Location	LED Type	Result		
		Pass	Fail	N/A
LAN1 LED (Intel 82551ER)	Active LED	X		
	Link LED	X		
	Speed LED			X
LAN2 LED (Intel 82551ER)	Active LED	X		
	Link LED	X		
	Speed LED			X
LAN3 LED (Intel PC82573L)	Active LED	X		
	Link LED	X		
	Speed LED			X
LAN4 LED (Intel PC82573L)	Active LED	X		
	Link LED	X		
	Speed LED			X
LAN5 LED (Intel PC82573L)	Active LED	X		
	Link LED	X		
	Speed LED			X
LAN6 LED (Intel PC82573L)	Active LED	X		
	Link LED	X		
	Speed LED			X
LAN7 LED (Intel PC82573L)	Active LED	X		
	Link LED	X		
	Speed LED			X
LAN8 LED (Intel PC82573L)	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
Onboard LAN1 (Intel 82551ER)	10/100 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		
Onboard LAN2 (Intel 82551ER)	10/100 Mbp 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		

Onboard LAN3 (Intel PC82573L)	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	1000	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		
Onboard LAN4 (Intel PC82573L)	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	1000	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		
Onboard LAN5 (Intel PC82573L)	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	1000	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		
Onboard LAN6 (Intel PC82573L)	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	1000	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		
Onboard LAN7 (Intel PC82573L)	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	1000	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		
Onboard LAN8 (Intel PC82573L)	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	1000	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		

## 8. Hardware Compatibility

CPU Compatible Test						
Type	Clock Speed	FSB	Prime95 Version	Result		
				Pass	Fail	N/A
Intel Pentium 4 LGA775 Series 670 / L2:2MB	3.8GHz	800MHz	V2414	X		

Intel Pentium D Processor LGA775 Series 840 Dual core CPU / L2:1MBx1 (EM64T)	3.2GHz	800MHz	V2414	X		
<b>Memory Compatibility Test</b>						
Brand / Memory Size	Chipset	Frequency	MemTest86 Version	Result		
				Pass	Fail	N/A
Transcend SDRAM 1GB	SEC 634 ZCEG K4T51083QC	DDR2-667	V1.65	X		
Transcend SDRAM 1GB	SEC 640 ZCE7 K4T51083QC	DDR2-800	V1.65	X		
Kingston SDRAM 512MB	hynix HY5PS12821B FP-Y5	DDR2-667	V1.65	X		
Kingston SDRAM 512MB	NANYA NT5TU64M8BE-25C	DDR2-800	V1.65	X		
KINGMAX SDRAM 1GB	hynix HY5PS12821 F-C4	DDR2-533	V1.65	X		
Kingston SDRAM 1GB	0636SP V59C1512804QBF25	DDR2-800	V1.65	X		
Kingston SDRAM 512MB	HYB18T512 800AF37	DDR2-533	V1.65	X		
<b>Audio Basic Function Test</b>				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
<b>Audio 5.1 Channel with S/P DIF Function Test</b>				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
8-channel mode for 7.1 speaker output						X
S/P DIF function Test		Input				X
		Output				X
<b>On Board TV Function Test</b>				Result		
				Pass	Fail	N/A
NTSC		AV Terminal				X
PAL						X
NTSC		S Terminal				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 M201UN02 V.5 / 20.1" / 1600x1200 / 48bit (4:3)	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**  
**Riser card : PER-T078 A0.1**

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		

ISA Slot Function Test	Result		
	Pass	Fail	N/A
Creative CT4170 Sound Blaster Sound Card			X
Adaptec AHA-1510/20/22B SCSI Card			X

**PCI-Express Function Test**

Model	Result		
	Pass	Fail	N/A
PER-C101 PCI-E BROADCOM BCM5789KFBG Gigabit LAN x2 (Defined by Aaeon)			X
PER-C102 PCI-E Marvell 88E8036 10/100Mbps LAN x2 (Defined by Aaeon)			X
SksKonnnect SK-9E21D 10/100/1000Base-T Adapter PCI-Express X1 LAN Card			X
WinFast PX6200 TC TDH PCI-Express X16 VGA Card			X

<b>HDD Compatibility Test</b>			
<b>Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Western Digital WD1200JB-00GVA0 120GB	X		
Western Digital WD800BB-00JHA0 80GB	X		
HITACHI HDS728080PLAT20 82.3GB	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		
Western Digital / WD400BB-75DEA0 / 40GB / ATA-100	X		
<b>CD/DVD-ROM Compatibility Test</b>			
<b>Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
ASUS DVD-E616A2	X		
BenQ DW1655 OB2 16 x DVD ReWriter	X		
Acer DVP1640A / 16X / DVD-ROM / ATA33	X		
Pioneer / DVR-A11FXC1 / 8X DVD-RW / 6X DVD-RW / ATA66	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		
<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 ATA100	X		
44 Pin Cable ATA33			X
80 Pin Cable ATA100	X		
<b>USB Function Test</b>			
USB speed in DOS is limited to USB 1.1 no matter USB 2.0 is enabled or not			
<b>USB Basic Function Test</b>		<b>Result</b>	
		<b>Pass</b>	<b>Fail</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>
USB 1.1 Compatible Test		X	
<b>USB 2.0 Compatible Test</b>		<b>Result</b>	
		<b>Pass</b>	<b>Fail</b>
USB 2.0 Compatible Test		X	

USB 2.0 Function Test		Result			
		Pass	Fail	N/A	
Use High Speed Device USB2.0 CD-R/W Ben-Q / 4824W1-ON2 to play Nero CD/DVD Speed		X			
USB Device Full Loading Test		Result			
Model		Pass	Fail	N/A	
USB HDD IBM IC25N020ATCS04-0 / 20GB / 4200RPM		X			
USB2.0 DVD-R/W DRW-1604P-D/WHT/G/ASUS		X			
Logitech M-BB48 USB Mouse		X			
PQI Thumb Drive 1GB		X			
USB FDD: Mitsumi D353GUE		X			
ADATA 512MB Thumb Drive		X			
Floppy Disk Controller Function Test		Result			
		Pass	Fail	N/A	
Copy and compare file between C: and A / B:				X	
Change Floppy to None value				X	
Swap FDD				X	
Peripheral Compatibility-Storage Device					
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			
PQI FC256 256MB, Transcend 128MB	Type-I CF Card	X			
HITACHI / HMS360402D5CF00	Type- II CF Card	X			
Digital I/O Connector Test		Result			
		Pass	Fail	N/A	
Input Address: (Depends on BIOS)				X	
Output Address: (Depends on BIOS)				X	
BIOS Address Note: 800H,801H				X	
VCC: (5V)				X	
DIO-1 Function Test				X	
DIO-2 Function Test				X	
Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules					
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-3430	SCSI Module			X
	AAEON PCM-3730	Intel 82559 LAN Module			X
On-Board SCSI Function Test					
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>On-Board RAID Function Test</b>				
(ICH7R supports RAID function but FWS-816 does not provide it)				
Model	Interface	Result		
		Pass	Fail	N/A
Set SATA HDDs as RAID 0	SATA			X
Set SATA HDDs as RAID 1	SATA			X
Set SATA HDDs as RAID 10	SATA			X
Set SATA HDDs as RAID 5	SATA			X
<b>COM Port Send / Receive Test</b>		Result		
		Pass	Fail	N/A
Use software program: COMTEST.exe		X		
Use software program: LL5.exe (LL5 test pass if we disable "USB Keyboard Support" and "USB Mouse Support" items in BIOS. We decide that default value of BIOS enable "USB Keyboard Support" and "USB Mouse Support" item because that firewall system applies for USB function is more popular than LL5)		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	Function	Result		
		Pass	Fail	N/A
PER-C20S A0.1 MiniPCI SATA RAID Card	SATA	X		
GM-100 WLAN 11g Mini PCI Card (Model: Sky Thru GC-100)	Wirelesslan			X
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	Wirelesslan	X		
PER-C200 4 Port USB 2.0 Mini PCI Card (Chip: NEC D720101GJ)	USB			X
<b>COM/LPT Ports &amp; RS-232/422/485 Function Test</b>		Result		
		Pass	Fail	N/A
RS-422 for COM2				X
RS-485 for COM2				X
COM1 (Console)		X		
COM2		X		
COM3				X
COM4				X
COM5				X

COM6			X
LPT1 (Reserved for LCM)			X
LPT2			X
<b>Card Bus(PCMCIA) Compatibility Function Test</b>			
<b>Model</b>		<b>Result</b>	
		<b>Pass</b>	<b>Fail</b>
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
<b>LAN Bypass Function Test</b>			
LAN Bypass function only supports LAN3 and LAN4			
<b>Test Function</b>		<b>Result</b>	
		<b>Pass</b>	<b>Fail</b>
Disable		X	
Force mode		X	
Watch Dog Mode		X	
<b>Console Redirection Function Test</b>			
<b>Test Function</b>		<b>Result</b>	
		<b>Pass</b>	<b>Fail</b>
Control by PS/2 keyboard		X	
Control by PS/2 mouse		X	
Show in PC display		X	
<b>Software Reset Function Test</b>			
<b>Test Function</b>		<b>Result</b>	
		<b>Pass</b>	<b>Fail</b>
ADU2.08	Release software reset button	X	
	Press software reset button	X	
<b>KeyPad Function Test (LCM)</b>			
<b>Test Function</b>		<b>Result</b>	
		<b>Pass</b>	<b>Fail</b>
Turning the display off		X	
Turning the display on		X	
Press any key to test keypad		X	



## 9. O.S. Compatibility Test

Installation Operation System Compatibility Test		Result			
		Pass	Fail	N/A	
[ ] Linux-RedHat 9.0 or [ X ] Fedora Core 4.0 [ ] Fedora Core 6.0		X			
Windows Server 2003 English Version Standard Edition Service Pack 1		X			
Windows Server 2003 English Version /Standard x64 Edition		X			
Windows XP Professional English Version V2002 Service Pack 2		X			
Windows XP Professional Simplified-Chinese Version V2002 Service Pack 2		X			
Windows XP Professional Japanese Version V2002 Service Pack 2		X			
Windows XP Professional English Version /Standard x64 Edition		X			
Windows 2000 Professional English Version V5.00.2195 Service Pack4		X			
Windows 2000 Professional Simplified-Chinese Version V5.00.2195 Service Pack4		X			
Windows 2000 Professional Japanese Version V5.00.2195 Service Pack4		X			
Windows Server 2000 English Version		X			
Windows 98SE English Version V4.10.2222A				X	
MS-DOS 6.22 English Version		X			
MS-DOS 6.20 Japanese Version		X			
Utility and Driver Test					
OS	Drivers Version		Result		
			Pass	Fail	N/A
Fedora Core 4.0	Chipset Software	N/A	X		
	Graphics Media	Intel® 82945G	X		
	LAN Driver	Intel 82551ER x2 Intel PC82573L x6	X		
	Audio Driver	N/A	X		
Windows Server 2003 English Version Standard Edition Service Pack 1	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	N/A	X		
	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 5/27/1999 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows Server 2003 English Version Standard x64 Edition	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4323 5/20/2005	X		
	LAN Driver	Intel 82551ER driver does not provide for Windows 64bit OS Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows XP Professional English Version	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		

V2002 Service Pack 2	Graphics Media	Intel® 82945G Express Chipset Family Properties 6.14.10.4363 7/19/2005	X		
	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 5/27/1999 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows XP Professional Simplified-Chinese Version V2002 Service Pack 2	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4363 2005-7-19	X		
	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 1999-5-27 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 2006-7-26	X		
	Audio Driver	N/A	X		
Windows XP Professional Japanese Version V2002 Service Pack 2	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family Properties 6.14.10.4363 7/19/2005	X		
	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 5/27/1999 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows XP Professional x64 Edition English Version Service Pack 2 V2002	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4323 5/20/2005	X		
	LAN Driver	Intel 82551ER driver does not provide for Windows 64bit OS Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4363 7/19/2005	X		
	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows 2000 Professional Simplified-Chinese Version V5.00.2195 Service Pack 4	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4363 7/19/2005	X		

	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows 2000 Professional Japanese Version V5.00.2195 Service Pack4	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4363 7/19/2005	X		
	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A	X		
Windows Server 2000 English Version	Chipset Software	Intel® Chipset Software Installation Utility 7.2.1.1003	X		
	Graphics Media	Intel® 82945G Express Chipset Family 6.14.10.4363 7/19/2005	X		
	LAN Driver	Intel 82551ER x2: Intel® 8255xER PCI Adapter 1.0.0.1 Intel PC82573L x6: Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	N/A			X
Windows 98SE English Version V4.10.2222A	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 (LAN1~LAN2: PXE doesn't support for Intel 82551ER LAN3~LAN8: PXE supports for Intel 82573L)	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		
Status LED Test	X		
LAN Bypass Function Test (LAN Bypass function only supports LAN3 and LAN4)	X		

## 11. Performance Test

### Platform Information:

Item	Device Information
System	FWS-816 A0.2
PCB Model / Version	FWB-816 A0.2
BIOS / Version	FWS-816 BIOS Rev 0.I (01/30/2007)
CPU Type	Intel Pentium 4 LGA775 Series 670 3.8Ghz / FSB:800MHz / L2:2MB
Memory Type	Kingston DDR2-667 SDRAM 512MB / (hynix HY5PS12821B FP-Y5) x1 Kingston DDR2-800 SDRAM 512MB (NANYA NT5TU64M8BE-25C) x1
SATA HDD	Seagate 2.5" SATA HDD ST98823AS 80GB
Primary IDE Master	N/A
Primary IDE Slave	ASUS CD-ROM CD-S520/A
CRT	ViewSonic E70 17"
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	PER-T078 A0.1
Operating System	Windows XP Professional Version 2002 Service Pack 2
Power Supply	EMACS H1U-6250P (RoHS) ATX Power Supply

### Test Result:

Testing Software	Result	Unit
<b>ZD WinBench 99 V2.0</b>		
Business Disk WinMark99	6250 <sup>2.3</sup>	Thousand bytes/sec
High-End Disk WinMark99	19000 <sup>2.3</sup>	Thousand bytes/sec
Business Graphics WinMark99	331 <sup>2.3</sup>	
High-End Graphics WinMark99	952 <sup>2.3</sup>	
<b>Final Reality V1.01—BenchMark Test</b>		
2D image	50.42	
3D	5.84	
Bus transfer	66.54	
Overall	28.32	Reality marks
<b>ZD 3D Winbench 2000 V1.1</b>		
3D WinMark 2000	206 <sup>1.12.21</sup>	Frames / sec
<b>3Dmark2001SE Pro (Demo version)</b>		
3DMark2001SE Build 330_Benchmark mode	5909	
<b>ZD Multimedia Content Creation Winstone 2004 V1.0.1 (Up Pentium III 800 MHZ CPU)</b>		
Multimedia Content Creation Winstone 2004	Score: 32.3 / Variance: 0.93%	
<b>Business Winstone 2004 v1.0.1 (Up Pentium III 800 MHZ CPU)</b>		
Business Winstone2004	Score: 10 / Variance: 25%	