

# QE 【Mainboard】

## P5 Verification Test Plan

Release No : 07E010009

Product Model	<b>GENE-9310</b>
Description	<b>Intel Yonah Celeron M Subcompact Board</b>
Test Configuration	<p><input checked="" type="checkbox"/>New product <input checked="" type="checkbox"/>PCB : GENE-9310 A1.0 <input checked="" type="checkbox"/>BIOS : GENE-9310 + PER-T061 BIOS Rev.1.1 (DVI, 03/28/2007) GENE-9310 + PER-T061 BIOS Rev.1.1 (LVDS, 03/28/2007)</p> <p><input checked="" type="checkbox"/>Expansion Board <input checked="" type="checkbox"/>PCB : PER-T061 A0.2 <input checked="" type="checkbox"/>SATA Chipset : Silicon Image Sil3132CNU</p> <p><input checked="" type="checkbox"/>Chipset : <input checked="" type="checkbox"/>North Bridge : Intel 945GM <input checked="" type="checkbox"/>South Bridge : ICH7-M DH (82801 GHM) <input checked="" type="checkbox"/>VGA Chipset : Intel 945GM Integrated <input checked="" type="checkbox"/>Audio Chipset : Realtek ALC655-LF <input checked="" type="checkbox"/>Ethernet Chipset : Marvell 88E8053 <input checked="" type="checkbox"/>I/O Chipset : IT8712KX <input checked="" type="checkbox"/>TV Chipset : Intel 945GM Integrated</p> <p><input checked="" type="checkbox"/>Remark : QE P5 Report for GENE-9310 A1.0</p>
<b>Test Result Summary</b>	
<p><input checked="" type="checkbox"/> Pass</p> <p><input type="checkbox"/> Fail</p> <p><input type="checkbox"/> Pass with Deviation</p> <p>Comment: _____</p> <p>_____</p>	

2007/04/26

Issue date

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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	GENE-9310 A1.0	
BIOS / Version	GENE-9310 + PER-T061 BIOS Rev.1.1 (DVI, 03/28/2007) GENE-9310 + PER-T061 BIOS Rev.1.1 (LVDS, 03/28/2007)	
CPU Type	Intel Core Duo T2300 1.66GHz / L2: 2MB / FSB: 667MHz Intel Core Duo T2500 2.0GHz / L2: 2MB / FSB: 667MHz Intel Core Duo T2600 2.16GHz / L2: 2MB / FSB: 667MHz	
Memory Type	Transcend DDR2-533 SODIMM 256MB (SAMSUNG/K4T56083QF-GCD5)	
SATA HDD	Seagate ST98823AS 80GB	
Primary IDE Master	Seagate ST3160812A 160GB	
Primary IDE Slave	ASUS CD-ROM CD-S520/A	
CRT	ViewSonic E70	
LCD	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3) LVDS	
Compact Flash	Transcend 2GB for Industrial Type-I CF Card	
Riser Card	N/A	
Backplane	N/A	
Operating System	[ X ] Linux-RedHat 9.0 or [ ] Fedora Core 4.0	N/A
	Windows Server 2003 Standard Edition 5.2.3790 Build 37900	N/A
	Windows Server 2003 Standard x64 Edition Service Pack 1	N/A
	Windows XP Professional V2002 Service Pack 2	9
	Windows XP Professional x64 Edition Version 2003 Service Pack 1	N/A
	Windows 2000 Professional 5.00.2195 Service Pack 4	<u>1,2,3,4,5,6,7,8,9,10,11</u>
	Windows 2000 Professional 5.00.2195 Service Pack 4 (Server)	N/A
	Windows 98SE English Version V4.10.2222A	N/A
	DOS 6.22	<u>1,2,3,4,5,6,7,8,9,10,11</u>
Power Supply	ATX Power : SHARK /SPC5110-250ATZ2 250W	
	AT Power : LEMACS SP2-4300F	

## Test Result for Certification

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

PCB Model / Version	GENE-9310 A0.2
BIOS	GENE-9310 BIOS Rev:0.5
Operating System	Windows XP Professional English Version V2002 Service Pack 2
CPU	Intel Celeron M 1.73GHz / L2: 1MB / FSB: 533MHz (Yonah 478 pin)
Memory	ELPDIA DDR2 SODIMM 512MB (E5108AE-5C-E)
Primary IDE Master	Seagate ST340014A 40GB
Primary IDE Slave	N/A
CRT	ViewSonic E773
LCD	N/A
Compact Flash	PQI 32MB
Backplane	N/A
Riser Card	N/A
System	N/A
Onboard Graphics Media	Intel 945GM Express Chipset Ver:6.14.10.4543
Onboard LAN Driver	Intel PRO/1000 PM Network Ver : 9.5.12.0
Onboard Audio Driver	Realtek AC97 Audio Ver : 5.10.0.6090
Onboard RAID Driver	N/A
Touchscreen Driver	N/A
Power Supply	AT Power supply: Zippy SP2-4300F

### 1.1. AT Power Supply

Test Method	Test Condition	Result		
		Pass	Fail	N/A
Diagnostics Software Burn-In Test.	0°C ~60°C, 0%RH~90%RH, 48 hrs	<b>X</b>		
Power On/Off Test	0°C ~60°C, 0%RH~90%RH, 24hrs	<b>X</b>		
High Temperature Storage Test (Just for PPC)	60 °C (48 Hours)			<b>X</b>
Low Temperature Storage Test (Just for PPC)	-20 °C (48 Hours)			<b>X</b>
Humidity Test (Just for PPC)	40 °C/95%RH (48 Hours)			<b>X</b>
Cold Start Test (Just for PPC)	-5 °C (Doing 50 times Power On/Off)			<b>X</b>

## Dynamic / Boot\_UP Burn\_In Test

PCB Model / Version	GENE-9310 A0.2
BIOS	GENE-9310 BIOS Rev:0.5
Operating System	Windows XP Professional English Version V2002 Service Pack 2
CPU	Intel Celeron M 1.73GHz / L2: 1MB / FSB: 533MHz (Yonah 478 pin)
Memory	ELPDIA DDR2 SODIMM 512MB (E5108AE-5C-E)
Primary IDE Master	Seagate ST340014A 40GB
Primary IDE Slave	N/A
CRT	ViewSonic E773
LCD	N/A
Compact Flash	PQI 32MB
Backplane	N/A
Riser Card	N/A
System	N/A
Onboard Graphics Media	Intel 945GM Express Chipset Ver:6.14.10.4543
Onboard LAN Driver	Intel PRO/1000 PM Network Ver : 9.5.12.0
Onboard Audio Driver	Realtek AC97 Audio Ver : 5.10.0.6090
Onboard RAID Driver	N/A
Touchscreen Driver	N/A
Power Supply	ATX Power supply: Zippy AX2-5300FB-2S

### 1.2. ATX Power Supply:

Test Method	Test Condition	Result		
		Pass	Fail	N/A
Diagnostics Software Burn-In Test.	0°C ~60°C, 0%RH~90%RH, 48 hrs	X		
Power On/Off Test.	0°C ~60°C, 0%RH~90%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 (Connector on GENE-9310)	X		
SATA2 (Connector on GENE-9310)	X		
SATA3 (CN3, connector on expansion board: PER-T061)	X		
SATA4 (CN4, connector on expansion board: PER-T061)	X		
Compact Flash – Type I (Primary Slave channel reserved for CF Card)	X		
Compact Flash – Type II (Primary Slave channel reserved for CF Card)	X		
DOC (Disk On Chip)			X
DOM (Disk On Module) – 40 Pin			X
DOM (Disk On Module) – 44 Pin (Device failed)			X
COM 1-232 (CN11)	X		
COM 2-232 (CN9, Depends on BIOS)	X		
COM 2-422 (CN9, Depends on BIOS)	X		
COM 2-485 (CN9, Depends on BIOS)	X		
COM 2-Ring /+5V /+12V (JP3)	X		
COM 3 (CN14, Output from PER-T061 Expansion Board)	X		
COM 4 (CCN17, Output from PER-T061 Expansion Board)	X		
COM 5 (CN16, Output from PER-T061 Expansion Board)	X		
COM 6 (CN13, Output from PER-T061 Expansion Board)	X		
PS/2 Mouse & Keyboard (Internal)			X
PS/2 Mouse & Keyboard (External)	X		
Audio Connector (CN6)	X		
S/P DIF (CN28)	X		
LPT 1			X
LPT 2			X
SIR / 115.2 Kbps			X
FIR / 4M bps			X
USB 1/2 Ports (USB1 on GENE-9310)	X		
USB 3/4 Ports (CN20 on GENE-9310)	X		
USB 5 Ports (CN21 on PER-T061 Expansion Board)	X		
USB 6 Ports			X
USB 2.0 1/2 Ports (USB1 on GENE-9310)	X		
USB 2.0 3/4 Ports (CN20 on GENE-9310)	X		
USB 2.0 5 Ports (CN21 on PER-T061 Expansion Board)	X		
USB 2.0 6 Ports			X

DVI Function (CN11 on PER-T061 Expansion Board)	X		
DIO Connector (CN2, I/O address is 801H)	X		
Card Bus			X
PC/104			X
PC/104-Plus			X
PCI-104			X
TFT TTL LCD			X
TFT LVDS LCD (CN12 on GENE-9310 just support for 18/36 Bit LVDS)	X		
TFT LVDS LCD (CN10 on expansion board: PER-T061 just support for 24/48 Bit LVDS)	X		
TV-out / S Terminal (CN3)	X		
TV-out / AV Terminal (CN3)	X		
Touch Screen – 8 Wire			X
Touch Screen – 5 Wire			X
DIMM Slots	X		
Watchdog IRQ n			X
Watchdog Software Control	X		
FAN Connector (CN15)	X		
Onboard Standby LED (LED3)	X		
Onboard Power LED (LED2)	X		
<b>Front Panel (CN23)</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Power On Button	X		
IDE LED	X		
External Buzzer	X		
On Board Buzzer			X
Power LED	X		
Reset Switch	X		
Keyboard Lock			X
<b>Jumpers Function</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Buzzer Header (JP8)	X		
ATX Power simulates AT (JP7)	X		
Audio Out Selection			X
LVDS(1)-LCD(CN12) Voltage Selection (JP1) (Jumper on GENE-9310)	X		
LVDS(2)-LCD(CN10) Voltage Selection (JP2) (Jumper on expansion board: PER-T061)	X		
COM2-Ring/+5V/+12V Selection (JP3)	X		
Clear CMOS (JP6)	X		
<b>Power Connector &amp; Function</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
DC12V Power Connector (CN19) (Used for AC adapter)	X		
5V only Power for Big 4P			X
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
<b>LAN Connector &amp; Function</b>		<b>Result</b>		
		<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
LAN Speed LED	LAN1			X
	LAN2			X
LAN Active LED	LAN1 (LED on RJ-45)	X		
	LAN2			X
LAN Link LED	LAN1 (LED on RJ-45)	X		
	LAN2			X
LAN 10/100 Ethernet		X		
LAN 1G Ethernet		X		
<b>PCI Connector &amp; Function</b>		<b>Result</b>		
		<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
PCI Slots				X
PCI Express				X

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

Test Environment Model	ATX Power: SHARK /SPC5110-250ATZ2 250W		AT Power: LEMACS/SP2-4300F 300W		Note
	CPU: Intel Core Duo T2600 / 2.16GHz / L2: 2MB / FSB: 667MHz	CPU: Intel Core Duo T2300 / /L2: 2MB / FSB: 667MHz 1.66GHz	CPU: Intel Core Duo T2300 / 1.66GHz / L2: 2MB / FSB: 667MHz	CPU: Intel Core Duo T2600 / 2.16GHz / L2: 2MB / FSB: 667MHz	
Os Environment	WIN XP	WIN XP	WIN XP	WIN XP	
Normal Mode (+12V)	1.97 A	2.00 A	2.01 A	1.98 A	
Suspend Mode (+12V)	1.89 A	1.98 A	1.97 A	1.88 A	

Remark: GENE-9310 only needs 12V power because that it uses AC adapter as its power supply

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

Test Method	Result		
	Pass	Fail	N/A
ATX Connector - Power On/Off for 10 times in DOS (Use ATX power to simulate AC adapter)	X		
AT Connector - Power On/Off for 10 times in DOS(Use AT power to simulate AC adapter)	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



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		
<b>Watchdog Timer Test</b>		<b>Result</b>		
		<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
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 on RJ-45				X		
		Link LED on RJ-45				X		
		Speed LED on RJ-45						X
		LAN1 Active LED						X
Location	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
Onboard LAN1	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		

## 8. Hardware Compatibility

CPU Compatible Test							
Type		Clock Speed	FSB	Prime95 Version	Result		
					Pass	Fail	N/A
Intel Core Duo T2600 / L2: 2MB		2.16GHz	667MHz	V2414	X		
Intel Core Duo T2300 / L2: 2MB		1.66GHz	667MHz	V2414	X		
Memory Compatibility Test							
Brand / Memory Size	Chipset	Frequency	MemTest86 Version	Result			
				Pass	Fail	N/A	
KINGMAX SODIMM / 512MB	ELPIDA/E5108AB-5C-E	DDR2-533	V1.65	X			
Transcend SODIMM / 256MB	SAMSUNG/K4T56083QF-GCD5	DDR2-533	V1.65	X			
Transcend SODIMM / 512MB	hynix HY5PS12821B FP-C4	DDR2-533	V1.65	X			
Kingston SODIMM / 1GB	hynix HY5PS12821B FP-C4	DDR2-533	V1.65	X			

<b>External Daughter Board Audio Function Test (PER-U00A)</b>						
<b>Audio Basic Function Test</b>				<b>Result</b>		
				<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
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>				<b>Result</b>		
				<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
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		
<b>On Board TV Function Test</b>				<b>Result</b>		
				<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
NTSC		Component (AV)		X		
PAL				X		
NTSC		Composite (S)		X		
PAL				X		
<b>On Board LCD Function Test</b>						
(CN12 on GENE-9310 just support for 18/36 Bit LVDS)						
(CN10 on expansion board: PER-T061 just support for 24/48 Bit LVDS)						
<b>TFT LCD</b>	<b>Type</b>	<b>Voltage</b>	<b>Result</b>			
			<b>Pass</b>	<b>Fail</b>	<b>N/A</b>	
LVDS	AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3) (Output from onboard NB)	3.3V	X			
	AU B104SN02 / 10.4" / 800*600 / 18bit (4:3) (Output from onboard NB)	3.3V	X			
	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3) (Output from onboard NB)	3.3V	X			
	AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3) (Output from CHRONTEL CH3708A-TF on expansion board)	3.3V	X			
	AU M170EG01 / 17" / 1280*1024 / 48bit (4:3) (Output from CHRONTEL CH3708A-TF on expansion board)	5V	X			
	AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9) (Output from CHRONTEL CH3708A-TF on expansion board)	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
Matrox G450	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 DFE-530TX	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**

Model	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
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
3.5" Hitachi / HDS722525VLAT80 / 250GB / ATA-100	X		
3.5" IBM / DTLA-307045 / 46.1GB / ATA-100	X		
3.5" FUJITSU / MPE 3136AH / 13.6GB / ATA-66	X		
3.5" Seagate / ST340014A / 40GB / Barracuda 7200.7	X		
3.5" Quantum / Fireball Plug AS / 30GB / ATA-100	X		
3.5" Seagate / ST310210A / 10.2GB / ATA-66	X		
3.5" Western / WD400BB-75DEA0 / 40GB / ATA-100	X		

3.5" Seagate / ST3120026AS / 120GB / ATA-100 / SATA	X		
3.5" Seagate / ST3120026AS 120GB / ATA-100 / SATA	X		
3.5" Seagate / ST3120827AS 120GB / ATA-100 / SATA	X		
2.5" Seagate / ST98823AS 80GB / ATA-100 / SATA	X		
<b>CD/DVD-ROM Compatibility Test</b>			
<b>Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Pioneer DVD-ROM DVD-126D CD 40X / DVD 16X	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 ATA33			X
44 Pin Cable ATA33	X		
80 Pin Cable ATA100			X
<b>USB Function Test</b>			
(USB1and CN20 connectors on GENE-9310 support for DOS and Windows and it's speed depends on BIOS)			
(CN21 USB2.0 connector on expansion board: PER-T061 only supports for Windows)			
<b>USB Basic Function Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
USB Controller (Just for USB1and CN20 connectors on GENE-9310)	X		
USB 2.0 Controller (Just for USB1and CN20 connectors on GENE-9310)	X		
USB Keyboard Support (Just for USB1and CN20 connectors on GENE-9310)	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>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
BENQ 4824WI-ON2	X		
Mitsumi FLL3.5 D353GUE/FUE	X		

USB HDD		X			
USB Thumb drive Transcend 256MB		X			
<b>Floppy Disk Controller Function Test</b>	<b>Result</b>				
		<b>Pass</b>	<b>Fail</b>	<b>N/A</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>					
<b>Model</b>	<b>Interface</b>	<b>Result</b>			
		<b>Pass</b>	<b>Fail</b>	<b>N/A</b>	
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 128MB	Type-I CF Card	X			
Transcend 2GB for Industrial		X			
HITACHI / HMS360402D5CF00	Type- II CF Card	X			
<b>Digital I/O Connector Test</b> (CN2, I/O address is 801H)	<b>Result</b>				
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>		
Input Address: (fixed at 801H)		X			
Output Address: (fixed at 801H)		X			
VCC: (5V)		X			
DIO Function Test		X			
<b>Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules</b>					
<b>Interface</b>	<b>Model</b>	<b>Type</b>	<b>Result</b>		
			<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
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
<b>On-Board SCSI Function Test</b>					
<b>Model</b>	<b>Interface</b>	<b>Result</b>			
		<b>Pass</b>	<b>Fail</b>	<b>N/A</b>	
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	COM1 (CN11, Output from onboard connector)	X			
	COM2 (CN9, Output from onboard connector)	X			

	COM3 (CN14, Output from PER-T061 Expansion Board)			X
	COM4 (CN17, Output from PER-T061 Expansion Board)			X
	COM5 (CN16, Output from PER-T061 Expansion Board)			X
	COM6 (CN13, Output from PER-T061 Expansion Board)			X
Use software program: LL5.exe	COM1 (CN11, Output from onboard connector)	X		
	COM2 (CN9, Output from onboard connector)	X		
	COM3 (CN14, Output from PER-T061 Expansion Board)			X
	COM4 (CN17, Output from PER-T061 Expansion Board)			X
	COM5 (CN16, Output from PER-T061 Expansion Board)			X
	COM6 (CN13, Output from PER-T061 Expansion Board)			X

**Disk On Module [DOM] Compatibility Test**

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		

**Mini PCI Card Compatibility Test**

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		
AAEON PER-C100 Mini PCI Card	RTL-8100C 10/100M	X		
	RTL-8110S 10/100/1000M	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 (CN11, Output from onboard connector)	X		
COM2 (CN9, Output from onboard connector)	X		
COM3 (CN14, Output from PER-T061 Expansion Board, it supports for DOS and Windows)	X		
COM4 (CN17, Output from PER-T061 Expansion Board, it supports for DOS and Windows)	X		
COM5 (CN16, Output from PER-T061 Expansion Board, it supports for DOS and Windows)	X		
COM6 (CN13, Output from PER-T061 Expansion Board, it supports for DOS and Windows)	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
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## 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
English Windows Server 2003 Standard x64 Edition Service Pack 1 (Award says that 64bit OS does not support APM Mode)					X
Windows XP Professional English Version V2002 Service Pack 2			X		
English Windows XP Professional x64 Edition with Service Pack 2 V2002 (Award says that 64bit OS does not support APM Mode)					X
Windows 2000 Professional English Version V5.00.2195 Service Pack 4			X		
English Windows 2000 Professional Service Pack 4 / 5.00.2195 (Server)					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
Fedora Core 4	Chipset Software	Default	X		
	Graphics Media	Default	X		
	LAN Driver	Default	X		
	Audio Driver	Default	X		
Windows Server 2003 English Version / Standard Edition 5.2.3790	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows Server 2003 Standard x64 Edition Service Pack 1 English Version	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows XP Professional English Version V2002 Service Pack 2	Chipset Software	Intel ® Chipset Software Installation Utility 8.1.1.1001	X		
	Graphics Media	Mobile Intel® 945GM Express Chipset Family 6.14.10.4704 10/6/2006	X		
	LAN Driver	Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	Realtek AC97 Audio 5.10.0.6180 10/13/2006	X		
	External SATA Driver	Silicon Image Sil 3132 SATALink Controller	X		
Windows XP Professional x64 Edition with Service Pack 2 V2002 English Version	Chipset Software				X
	Graphics Media				X
	LAN Driver				X



	Audio Driver				X
Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software	Intel ® Chipset Software Installation Utility 8.1.1.1001	X		
	Graphics Media	Mobile Intel® 945GM Express Chipset Family 6.14.10.4704 10/6/2006	X		
	LAN Driver	Intel® PRO/1000 PL Network Connection 9.5.12.0 7/26/2006	X		
	Audio Driver	Realtek AC97 Audio 5.10.0.6180	X		
	External SATA Driver	Silicon Image Sil 3132 SATA Link Controller	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 (Just supports for onboard COM1, COM2, WOL)	X		
Power On after Power Failure Test	X		
CMOS Backup / Clear CMOS Test	X		
Boot ROM Test (Just for 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

### 11-1. Environment

O.S.	English Windows 2000 Professional SP4 5.00.2195
Memory	256MB
Resolution / Depth	1280x71024x32bit / 60Hz
DirectX	9.0

#### Test Result:

CPU Type	Genuine Intel T2600@2.16GHz	Unit
<b>Testing Software</b>		
<b>ZD WinBench 99 V2.0</b>		
Business Disk WinMark99	8120	Thousand bytes/sec
High-End Disk WinMark99	25900	Thousand bytes/sec
Business Graphics WinMark99	351	
High-End Graphics WinMark99	1100	
<b>Final Reality V1.01—BenchMark Test</b>		
2D image	34.75	
3D	6.37	
Bus transfer	41.83	
Overall	20.20	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 (Up Pentium III 800 MHZ CPU)</b>		
Multimedia Content Creation Winstone 2004	27.8	
<b>3DMark2001SE Pro (Demo version)</b>		
3DMark2001SE Build 330 Benchmark mode	4158	

It must be run "3D Quality" item before run 3D WinMark 2000 benchmark software.

### 11-2. Environment

O.S.	English Windows XP Professional SP2 V2002
Memory	At least 256MB
Resolution / Depth	1280x1024x32bit / 60Hz
DirectX	9.0

#### Test Result:

CPU Type	Genuine Intel T2600@2.16GHz	Unit
<b>Testing Utility</b>		
<b>Business Winstone 2004 v1.0.1 (Up Pentium III 800 MHZ CPU)</b>		
Business Winstone2004	N/A	