

# QE 【Mainboard】

## P5 Verification Test Plan

Release No : 08E010005

Product Model	<b>EMB-9458T</b>
Description	<b>Intel 945GM(Calistoga) + ICH7M HD Mini ITX Board</b>
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB : EMB-9458T A1.0 <input checked="" type="checkbox"/> BIOS : EMB-9458T BIOS Rev 1.0 (01/15/2008)  <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> North Bridge : Intel 945GM <input checked="" type="checkbox"/> South Bridge : Intel ICH7M HD <input checked="" type="checkbox"/> VGA Chipset : Intel 945GM <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC655 CODEC <input checked="" type="checkbox"/> Ethernet Chipset : Intel PC82573L LAN Chipset <input checked="" type="checkbox"/> I/O Chipset : IT-8712F-S <input checked="" type="checkbox"/> TV Chipset : Intel 945GM  <input checked="" type="checkbox"/> Remark : QE P5 Report for EMB-9458T A1.0
<b>Test Result Summary</b>	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation  Comment: _____ _____	

*2008/02/19*

Issue date

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Manager

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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	EMB-9458T A1.0	1,2,3,4,5,6,7,8,9,10
BIOS / Version	EMB-9458T BIOS Rev 1.0 (01/15/2008)	1,2,3,4,5,6,7,8,9,10
CPU Type	Intel(R) Celeron(R) M CPU 440 1.86MHz / FSB:533MHz	1,2,3,4,5,6,7,8,9,10
Memory Type	Transcend DDR2-800 1GB (0634SP V59C1512804QBF25)	1,2,3,4,5,6,7,8,9,10
SATA HDD	WD800BEVS-22RST0 80GB	1,2,3,4,5,6,7,8,9,10
Primary IDE Master	N/A	N/A
Primary IDE Slave	Pioneer DVD-ROM DVD-127A	1,2,3,4,5,6,7,8,9,10
CRT	ViewSonic E70	1,2,3,4,5,6,7,8,9,10
LCD	N/A	N/A
Compact Flash	N/A	N/A
Riser Card	PER-R01E A0.2	1,7,8,9
Backplane	N/A	N/A
SDVO Card	1. PER-V04B A0.1 ; Chipset: CHRONTEL CH7308A-TF 2. PER-V03B A0.1 ; Chipset: CHRONTEL CH7308C-DEF	1,7,8,9
Operating System	<input type="checkbox"/> Linux-RedHat 9.0 or <input type="checkbox"/> Fedora Core 4.0 <input checked="" type="checkbox"/> Fedora Core 7.0	8
	Windows Server 2003 English Version / Standard Edition 5.2.3790	N/A
	Windows Server 2003 English Version /Standard x64 Edition	N/A
	Windows XP Professional English Version V2002 Service Pack 2	1,2,3,4,5,6,7,8,9,10
	Windows XP Professional Simplified-Chinese Version V2002 Service Pack 2	8
	Windows XP Professional Japanese Version V2002 Service Pack 2	8
	Windows XP Professional English Version /Standard x64 Edition	N/A
	Windows 2000 Professional English Version V5.00.2195 Service Pack4	N/A
	Windows 2000 Professional Simplified-Chinese Version V5.00.2195 Service Pack4	N/A
	Windows 2000 Professional Japanese Version V5.00.2195 Service Pack4	N/A
	Windows Server 2000 English Version	N/A
	Windows 98SE English Version V4.10.2222A	N/A
	MS-DOS 6.22 English Version	N/A
Power Supply	ATX Power : AOpen FSP300-60ATV	1,2,3,4,5,6,7,8,9,10
	AT Power :	N/A

## Test Result for Certification

### 1. 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		

### 2. I/O Peripheral Function Test

I/O Peripheral Function Test –I/O Function	Result		
	Pass	Fail	N/A
Floppy Connector / Driver A:			X
IDE Channel 0 Master	X		
IDE Channel 1 Slave	X		
SATA Port 1 Device	X		
SATA Port 2 Device	X		
RAID 0 Function Test	X		
RAID 1 Function Test	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		
COM 2-232	X		
COM 2-422	X		
COM 2-485	X		
COM 2-Ring /+5V /+12V	X		
COM 3-232	X		
COM 4-232	X		
COM 5-GPS (Test on ACPI Mode)	X		
COM 6-232	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
IrDA	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		
SDVO Connector (PER-V04B A0.1 ; Chipset: CHRONTEL CH7308A-TF / PER-V03B A0.1 ; Chipset: CHRONTEL CH7308C-DEF)	X		
GPS Connector	X		
LCD Inverter Connector	X		
<b>Front Panel</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>
ATX simulates AT (JP6)	X		
Audio Out Selection (W/O & W/ Amplifier)			X
LCD Voltage Selection(JP4)	X		
COM2-Ring/5V/12V Selection(JP2)	X		

COM2 RS-232/422/485 Selection			X
Clear CMOS	X		
Touch Screen Operating Mode Selection			X
Clock Shift of TFT LCD			X
LCD Inverter Voltage Selection	X		
<b>Power Connector &amp; Function</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
5V only Power for Big 4P	X		
ATX Power Connector			X
ATX Power_12V Connector	X		
AT Power Connector			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	X	
	LAN2	X	
LAN Link LED	LAN1	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>
Mini PCI Slots	X		
PCI Slots (Riser Card :PER-R01E A0.2 )	X		
PCI Express (Riser Card :PER-R01E A0.2 )	X		

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

#### Platform Information

PCB Model / Version	EMB-9458T A1.0
BIOS	EMB-9458T BIOS Rev 1.0 (09/21/2007)
Operating System	Windows XP Professional V2002 Service Pack 2
CPU	Intel Core 2 Duo T7400 2.16 GHz
Memory	Transcend DDR2-800 1GB (0634SP V59C1512804QBF25)
SATA HDD	N/A
Primary IDE Master	Maxtor DiamondMax Plus 9 80GB

Primary IDE Slave	GENUINE GC-952B CD-ROM
CRT	Viewsonic E70
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	N/A
Graphics Media	Intel(R) Chipset Software Installation Utility 8.3.1.1009(7/26/2007)
LAN Driver	Mobile Intel(R) 945GM Express Chipset Family 6.14.10.4864 (8/24/2007)
Audio Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0 (7/26/2006)
Touchscreen Driver	Realtek AC'97 Audio 5.10.0.5820 (3/25/2005)

Test Environment	ATX Power: AOpen FSP300-60ATV		AT Power: LEMACS SP2-4300F 300W		Note
	CPU: CPU: Intel Core 2 Duo T7400 2.16 GHz	CPU:N/A	CPU: CPU: Intel Core 2 Duo T7400 2.16 GHz	CPU:N/A	
OS Environment	Windows XP Professional English Version V2002 Service Pack 2		Windows XP Professional English Version V2002 Service Pack 2		
Normal Mode (+5V)	3.13 A	A	3.22 A	A	
Suspend Mode (+5V)	0.03 A	A	2.22 A	A	ATX Power : Suspend to Windows (S3) ; AT Power : Suspend to DOS
5VSB in Power Off Mode (just for ATX)	0.17 A	A	----- A	----- A	
5VSB in Power On Mode (just for ATX)	0 A	A	----- A	----- A	
Normal Mode (+12V)	2.30 A	A	2.22 A	A	
Suspend Mode (+12V)	0 A	A	0.72 A	A	ATX Power : Suspend to Windows(S3) ; AT Power : Suspend to DOS
Normal Mode (+3.3V) (just for ATX)	0.83 A	A	----- A	----- A	
Suspend Mode (+3.3V) (just for ATX)	0 A	A	----- A	----- A	
Normal Mode (-12V)	N/A A	A	N/A A	A	
Suspend Mode (-12V)	N/A A	A	N/A A	A	
Normal Mode (-5V)	N/A A	A	N/A A	A	
Suspend Mode (-5V)	N/A A	A	N/A A	A	

#### 4. 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

#### 5. Timer Accuracy Test

System Clock & RTC Clock Test				
Test Method	Margin for error	Result		
		Pass	Fail	N/A
System Clock in Power On Mode	±3 second during 24 hours	X		
RTC Clock in Power On Mode	±3 second during 24 hours	X		
RTC Clock in Power Off Mode	±3 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		

#### 6. 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
Onboard LAN1/LAN2	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 MBps	100M	X		
		D-Link DGS-1008T	100M	1GBps	1G	X		
		D-Link DES-1316 PoE Switch	100M	100 MBps	100M	X		
		Intel InBusiness 8 Port	100M	100 MBps	100M	X		
		Accton DeskTop-3005	100M	100 MBps	100M	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10M	X		

#### 7. Hardware Compatibility



CPU Compatible Test							
CPU Type		FSB	Prime95 Version	Result			
				Pass	Fail	N/A	
Intel (R) Core(TM)2 CPU T5500 1.66GHz			V2414	X			
Intel Core 2 Duo T7400 2.16 GHz			V2414	X			
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
Transcend DDR2-800 1GB	Transcend DDR2-800 1GB (0634SP V59C1512804QBF25)	800	1G	V1.65	X		
Kingston DDR2-800 512MB	Kingston DDR2-800 512MB (NANYA NT5TU64M8BE-25C)	800	512M	V1.65	X		
Transcend DDR2-667 2GB	Transcend DDR2-667 SDRAM 2GB (7GE12 D9HNL)	667	2G	V1.65	X		
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		AV Terminal			X		
PAL					X		
NTSC		S Terminal			X		

PAL			X		
<b>On Board LCD (CN11) and SDVO(PER-V04B A0.1) Function Test</b>					
TFT LCD	Type	Voltage	Result		
			Pass	Fail	N/A
LVDS	AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	3.3V	X		
	AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	3.3V	X		
	AU B104SN02 / 10.4" / 800*600 / 18bit (4:3)	3.3V	X		
	AU G150XG01 V.0 / 15" / 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		
	AUO T260XW02 / 26" / 1366x768 / 24bit		X		
	AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	5V	X		
	AUO T370HW01 / 37" / 1920x1080 / 48bit		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
<b>PCI Slot Function (PCI Adapter Card) Test (Riser Card : PER-R01E A0.2)</b>					
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			
3Com 3C905C-TXM ETHERLINK 10/100 PCI	LAN Card	X			
D-Link DWL-520+ Wireless LAN	LAN Card	X			
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	RAID Card	X			
LEMEL MD V1456VQH-P2 PCI MODEM Card	Modem Card	X			
D-Link DU-520 USB 2.0	USB Hub Card	X			
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HDD WD800JD-00LSA0 80GB SATA HDD	SATA Card	X			
<b>ISA Slot Function Test</b>			<b>Result</b>		
			Pass	Fail	N/A
Creative CT4170 Sound Blaster Sound Card					X
Adaptec AHA-1510/20/22B SCSI Card					X
<b>PCI-Express Function Test (Riser Card : PER-R01E A0.2)</b>					
Model			Result		
			Pass	Fail	N/A

SUNIX SATA1414 VER 1.1 PCI-Express x1 SATA Card	X		
SksKonnnect SK-9E21D 10/100/1000 Base-T Adapter PCI-Express x1 LAN Card	X		
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card			X
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA 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>
Seagate ST3400620A 400GB 3.5" IDE HDD	X		
Seagate ST315320A 15.3GB ATA33 3.5" IDE HDD	X		
FUJITSU MPE 3136AH 13.6GB ATA66 3.5" IDE HDD	X		
Western Digital WD1600JB-00REA0 160GB 3.5" IDE HDD	X		
Quantum Fireball Plug AS 30GB ATA100 3.5" IDE HDD	X		
Seagate ST340016A 40G 3.5" IDE HDD	X		
Seagate ST3120026AS 120GB 3.5" SATA-I HDD	X		
Seagate ST3160811AS 160GB 3.5" SATA-II HDD	X		
Seagate ST98823AS 80GB 2.5" SATA HDD	X		
Seagate ST380815AS 80GB 3.5" SATA II HDD	X		
<b>CD-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 / DVD-ROM DVD-127A / DVD ROM	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>			
<b>USB Basic Function Test</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
USB 1.1 Compatible Test	Result		
	Pass	Fail	N/A
USB 1.1 Compatible Test	X		
USB 2.0 Compatible Test	Result		
	Pass	Fail	N/A
USB 2.0 Compatible Test	X		
USB 2.0 Function Test	Result		
	Pass	Fail	N/A
Install Windows XP Professional from HighSpeed Device: USB2.0 DRW-1604P-D/WHT/G/ASUS	X		
USB Device Full Loading Test	Result		
Model	Pass	Fail	N/A
USB Mouse	X		
USB Keyboard	X		
BENQ 4824WI-ON2	X		
D-Link DU-H4	X		
USB HDD	X		
Kingston DTI/2GB FE	X		
ADATA PD4 USB2.0 Flash Drive / 512MB	X		
Transcend 256MB	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
FUJITSU MCB3064SS	SCSI		X
IOMega ZIP 100 parallel port	Parallel	X	
IOMega ZIP100MB Internal ATAPI Drive	IDE		X
DOC			X
Type-I CF	Fix / PIO Mode	X	
Type-I CF	Fix / UDMA Mode	X	
Digital I/O Connector Test	Result		
	Pass	Fail	N/A
Input Address: 2A1	X		
Output Address: 2A1	X		

VCC: (5V)		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-FA00	Mini-PCI Converter			X
	AAEON PCM-3794	SCSI Module			X
	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>On-Board RAID Function Test</b>					
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 Function Test</b>		Result			
COM Port Burn In Test overnight		Pass	Fail	N/A	
		X			
<b>Disk On Module [DOM] Compatibility Test</b>					
Model	Interface	Result			
		Pass	Fail	N/A	
Transcend / TS512MDOM40V / 512MB	IDE 40 Pin	X			
Transcend / TS512MDOM44V / 512MB	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)	LAN	X			

GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	LAN	X		
PER-C20S SATA RAID MiniPCI Card (Silicon Image Sil3512ECTU128 QF7227.1-1)	SATA	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(For GPS Module)		X		
COM6		X		
LPT1		X		
LPT2				X
Card Bus(PCMCIA) Compatibility Function Test				
Model		Result		
		Pass	Fail	N/A
Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)				X
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

## 8. O.S. Compatibility Test

Installation Operation System Compatibility Test		Result		
		Pass	Fail	N/A
[ ] Linux-RedHat 9.0 or [ ] Fedora Core 4.0 [ X ] Fedora Core 7.0		X		
Windows Vista™ Ultimate English Version		X		
Windows Vista™ Ultimate X64 English Version		X		
Windows Server 2003 English Version / Standard Edition 5.2.3790				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
DOS 6.22 English Version				X
DOS 6.22 Japanese Version				X
Utility and Driver Test				

OS	Drivers Version		Result		
			Pass	Fail	N/A
Linux Fedora Core 7	Chipset Software	Default driver	X		
	Graphics Media	Default driver	X		
	LAN Driver	Default driver	X		
	Audio Driver	Default driver	X		
Windows Vista™ Ultimate English Version	Chipset Software	Intel(R) Chipset Software Installation Utility 8.3.1.1009(7/26/2007)	X		
	Graphics Media	Mobile Intel(R) 945 Express Chipset Family 7.14.10.1364 (10/31/2007)	X		
	LAN Driver (Default Driver)	Intel(R) PRO/1000 PL Network Connection 9.6.8.0(6/21/2006)	X		
	Audio Driver	Realtek AC'97 Audio 6.0.1.6251(8/14/2006)	X		
Windows Vista™ Ultimate X64 English Version	Chipset Software	Intel(R) Chipset Software Installation Utility 8.3.1.1009(7/26/2007)	X		
	Graphics Media	Mobile Intel(R) 945GM/GU Express Chipset Family 7.14.10.1244 (3/30/2007)	X		
	LAN Driver (Default Driver)	Intel(R) PRO/1000 PL Network Connection 9.6.8.0(6/21/2006)	X		
	Audio Driver	Realtek AC'97 Audio 6.0.1.6251(8/14/2006)	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 English Version Standard x64 Edition	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows XP Professional English Version V2002 Service Pack 2	Chipset Software	Intel(R) Chipset Software Installation Utility 8.3.1.1009(7/26/2007)	X		
	Graphics Media	Mobile Intel(R) 945GM Express Chipset Family 6.14.10.4864 (8/24/2007)	X		
	LAN Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0 (7/26/2006)	X		

	Audio Driver	Realtek AC'97 Audio 5.10.0.5820 (3/25/2005)	X		
Windows XP Professional Simplified-Chinese Version V2002 Service Pack 2	System	Intel(R) Chipset Software Installation Utility 8.3.1.1009(7/26/2007)	X		
	Graphics Media	Mobile Intel(R) 945GM Express Chipset Family 6.14.10.4864 (8/24/2007)	X		
	LAN Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0 (7/26/2006)	X		
	Audio Driver	Realtek AC'97 Audio 5.10.0.5820 (3/25/2005)	X		
Windows XP Professional Japanese Version V2002 Service Pack 2	System	Intel(R) Chipset Software Installation Utility 8.3.1.1009(7/26/2007)	X		
	Graphics Media	Mobile Intel(R) 945GM Express Chipset Family 6.14.10.4864 (8/24/2007)	X		
	LAN Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0 (7/26/2006)	X		
	Audio Driver	Realtek AC'97 Audio 5.10.0.5820 (3/25/2005)	X		
Windows XP Professional x64 Edition English Version Service Pack 2 V2002	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				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows 2000 Professional Simplified-Chinese Version V5.00.2195 Service Pack4	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows 2000 Professional Japanese Version V5.00.2195 Service Pack4	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows Server 2000 English Version	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

## 9. 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 (Off / On)	X		
CMOS Backup / Clear CMOS Test	X		
Boot ROM Test (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		
TPM Support 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		

## 10. Performance Test

### Platform Information

PCB Model / Version	EMB-9458T A0.1
BIOS	EMB-9458T BIOS Rev 0.4 (07/16/2007) for 18S/D LVDS
Operating System	Windows XP Professional V2002 Service Pack 2
CPU	Intel Core 2 Duo T7400 2.16 GHz
Memory	Transcend DDR2-667 SDRAM 2GB (7GE12 D9HNL)
SATA HDD	Seagate ST3120026AS/P 120GB
Primary IDE Master	N/A
Primary IDE Slave	LITE-ON LTN-527T 52X CD-ROM
CRT	Viewsonic E70
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	Intel(R) Chipset Software Installation Utility 7.2.1006
Graphics Media	Mobile Intel(R) 945GM Express Chipset Family 6.14.10.4704 (10/6/2006)
LAN Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0 (7/26/2006)
Audio Driver	Realtek AC'97 Audio 5.10.0.5820 (3/25/2005)
Touchscreen Driver	N/A
Power Supply	PRT PRM400 ATX power supply

**Test result:**

Testing Software	Result	Unit
ZD WinBench 99 V2.0		
Business Disk WinMark99	8340	Thousand bytes/sec
High-End Disk WinMark99	25800	Thousand bytes/sec
Business Graphics WinMark99	406	
High-End Graphics WinMark99	1320	
Final Reality V1.01—BenchMark Test		
2D image	47.59	
3D	7.10	
Bus transfer	76.04	
Overall	29.59	Reality marks
ZD 3D Winbench 2000 V1.1		
3D WinMark 2000	130	Frames / sec
ZD Multimedia Content Creation Winstone 2004 V1.0.1 (Up Pentium III 800 MHZ CPU)		
Multimedia Content Creation Winstone 2004	38.4	
Business Winstone 2004 v1.0.1 (Up Pentium III 800 MHZ CPU)		
Business Winstone2004	20.2	
PCMark05		
PCMark	3506	PCMarks
CPU	5527	
Memory	4240	
Graphics	890	
HDD	4520	
3Dmark2003 v360		
3Dmark Score	1162	
CPU Score	644	

Remark: Please uses below two performance software to test mainboard if the chipset is new enough.

(ex. Intel Core 2 Duo CPU)