

P5 Verification Test Plan

Release : 09E010010

Product Model	EMB-6908T
Description	Ati M690T+SB600 Mini-ITX Board
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB : EMB-6908T A1.1 <input checked="" type="checkbox"/> BIOS : EMB-6908T BIOS Rev.1.0 (09/23/2008) <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> North Bridge : ATI M690T <input checked="" type="checkbox"/> South Bridge : SB600 <input checked="" type="checkbox"/> VGA Chipset : ATI M690T integrated <input checked="" type="checkbox"/> Audio Chipset : VIA VT1708B <input checked="" type="checkbox"/> Ethernet Chipset : Intel 82573L <input checked="" type="checkbox"/> I/O Chipset : ITE IT-8712F-A/IX-L <input checked="" type="checkbox"/> TV Chipset : ATI M690T integrated <input checked="" type="checkbox"/> Remark : P5 Report for EMB-6908T A1.1
Test Result Summary	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2009/03/12

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
PCB Model / Version	EMB-6908T A1.1
BIOS / Version	EMB-6908T BIOS Rev.1.0 (09/23/2008)
CPU Type	AMD Athlon 64 3000+ 1.8GHz
Memory Type	Transcend 512MB DDR2 667 (ELPIDA E5108AGBG -6E -E
SATA HDD	N/A
Primary IDE Master	Seagate IDE 40 pin 3.5" ST3160815A 160GB
Primary IDE Slave	N/A
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
CRT	ViewSonic E653
Compact Flash	N/A
Operating System	Windows XP Professional English Version Service Pack 3
Power Supply	ATX Power Supply : SS-330GB Active PFC F3

BIOS Released Description

1. FIRST RELEASE

Test Result for Certification

1. I/O Peripheral Function Test

I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:			X	
Primary IDE Master	X			
Primary IDE Slave	X			
Secondary IDE Master			X	
Secondary IDE Slave			X	
Third IDE Master			X	
Third IDE Slave			X	
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			
COM 2-232	X			
COM 3-232	X			
COM 4-232	X			
COM 5-232	X			
COM 6-232	X			
COM 2-422	X			
COM 2-485	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 Port	X			
USB 5&6 Port	X			
USB 7 Port	X			
USB 2.0 1 & 2 Ports	X			
USB 2.0 3 & 4 Port	X			
USB 2.0 5 & 6 Port	X			
USB 2.0 7 Port	X			
DVI Function	X			
DIO Connector	X			

Card Bus			X	
Touch Screen – 5 Wire			X	
CD-In Connector	X			
LCD Inverter Connector	X			
IrDA Connector	X			
Front Panel (CN10)	Result			Notes
	Pass	Fail	N/A	
Power On Button	X			
IDE LED	X			
External Buzzer	X			
Power LED	X			
Reset Switch	X			
Jumpers Function	Result			Notes
	Pass	Fail	N/A	
AT/ATX Selection (JP1)			X	
COM2 Ring/+5V/+12V Selection(JP2)	X			
LVDS Panel +5V/+3.3V Select(JP3)	X			
Simulate AT Selection (JP4)			X	
Clear CMOS (JP5)	X			
Power Connector & Function	Result			Notes
	Pass	Fail	N/A	
Standard AT Power Connector			X	
Standard ATX Power Connector	X			
5V Only Power Connector			X	
DC Adapter			X	
LAN Connector & Function	Result			Notes
	Pass	Fail	N/A	
LAN Link / Speed LED	LAN1	X		
	LAN2	X		
LAN Active LED	LAN1	X		
	LAN2	X		
LAN 10/100 Ethernet	X			
LAN 1G Ethernet	X			
PCI Connector & Function	Result			Notes
	Pass	Fail	N/A	
Mini PCI Slot	X			
PCI Slot			X	
PCI Express x1			X	
Express card			X	

2. Power Consumption Test

PCB Model / Version	EMB-6908T A1.0
BIOS	EMB-6908T BIOS Rev 0.C (08/27/2007)
Operating System	Windows XP Professional English Version V2002 Service Pack 2
CPU	AMD Athlon 64 ADD3000IAA4CN 1.8GHz AMD Athlon 64 X2 ADD3400IAA5CU 1.8GHz
Memory	Transcend 2GB DDR2 667 ECC SDRAM (7KE12D9HNL) , X 2

SATA HDD	Seagate ST3160815AS 160GB
Primary IDE Master	N/A
Primary IDE Slave	N/A
CRT	ViewSonic E70
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	ATI SMBus 5.10.1000.6(12/2/2005)
Graphics Media	ATI Radeon Xpress 1200 Series 8.31.0.0(10/3/2006)
LAN Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0(7/26/2006)
Audio Driver	Realtek High Definition Audio 5.10.0.5433 (6/14/2007) ATI HDMI Audio 5.10.0.5413(5/14/2007)
Touchscreen Driver	N/A
Power Supply	AOpen FSP300-60ATV 300W

Test Equipment:

Equipment	AC/DC Clamp Meter
Manufacturer	PROVA
Model name	CM-01
Standard	Reference to CE EN 61010 Test Procedure Reference to UL Test Procedure

Equipment Certified Calibration:

Calibrated Company	IPE (儀寶)
S/N	00004072 (DM215)
Report No	6118P016
Calibration Date	19, January, 2007
Next Calibration Date	18, January, 2008
Test By	Mick

- Test Point:**
1. Power on machine and boot into Windows environment
 2. Run test software: Prime95 to make system heavy loading in order to measure its maximum current
 3. Use Prova EN61010(set as 40A) to measure each current of system different mode

Environment Model	Test	ATX Power: AOpen FSP300-60ATV 300W				AT Power:N/A				Note
		CPU: AMD Athlon 64 ADD3000IAA4CN 1.8GHz		CPU: CPU: AMD Athlon 64 X2 ADD3400IAA5CU 1.8GHz		CPU:		CPU:		
Normal Mode (+5V)		2.74	A	2.99	A		A		A	
Suspend Mode (+5V)		0.02	A	0	A		A		A	
5VSB in Power Off Mode (just for ATX)		0.16	A	0.15	A	-----	A	-----	A	
5VSB in Power On Mode (just for ATX)		0	A	0	A	-----	A	-----	A	
Normal Mode (+12V)		3.68	A	4.46	A		A		A	
Suspend Mode (+12V)		0	A	0	A		A		A	
Normal Mode (+3.3V) (just for ATX)		0	A	0	A	-----	A	-----	A	
Suspend Mode (+3.3V) (just for ATX)		0	A	0	A	-----	A	-----	A	
Normal Mode (-12V)		0	A	0	A		A		A	
Suspend Mode (-12V)		0	A	0	A		A		A	
Normal Mode (-5V)		0	A	0	A		A		A	
Suspend Mode (-5V)		0	A	0	A		A		A	

3. 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		

4. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN 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
		D-Link DGS-1008T	100M	1GBps	100	X		
		D-Link DES-1316 PoE Switch	100M	100 MBps	100	X		
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		

5. Hardware Compatibility

CPU Compatible Test							
CPU Type		FSB	Prime95 Version	Result			
				Pass	Fail	N/A	
AMD Athlon 64 X2 ADD3400IAA5CU 1.8GHz		800MHz	V24.1.4	X			
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
Kingston DDR2-533 ECC SDRAM	KVR533D2E4/1G(Hynix HY5PS12821C FP-Y5)	533	1G	V1.70	X		
KINGMAX 1GB DDR2-533	hynix HY5PS12821 F-C4	533	1G	V1.70	X		
Transcend DDR2 667 ECC SDRAM	7KEI2D9HNL,7KE22D9HNL	667	2G	V1.70	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		
On Board LCD Function Test							

TFT LCD	Type	Voltage	Result		
			Pass	Fail	N/A
LVDS	Data Image 7" / 800*480 / 18bit (16:9)	3.3V			X
	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	5V			X
	AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	5V	X		
AUO T370HW01 / 37" / 1920x1080 / 48bit	26V	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
CHAINTECH NVIDIA GeForce4 MX440-8X	VGA Card	X		
SC3000 CMI8738/C3DX	Sound Card	X		
Takram DC-395U V1.02	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		
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		

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
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

SATA HD Compatibility Test

Model	Result		
	Pass	Fail	N/A
Seagate 80G(ST380815AS)	X		
WD 80G(WDC WD800BEVS-22RST0)	X		
CD/DVD-ROM Compatibility Test			
Model	Result		
	Pass	Fail	N/A
LITE-ON LITEON DX-20A4PU (USB DVD-ROM)	X		
ASUS-DVD E818A(CD-200707)	X		
IDE Cable Function test			
IDE Model	Result		
	Pass	Fail	N/A
40 Pin Cable ATA66	X		
44 Pin Cable ATA33			X
80 Pin Cable ATA100	X		
USB Function Test			
USB Basic Function Test	Result		
	Pass	Fail	N/A
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		
	Pass	Fail	N/A
Model			
Mitsumi FLL3.5 D353GUE/FUE	X		
USB HDD 20GB	X		
USB Card Reader	X		
USB Mouse	X		
USB Thumb drive Sandisk 1G	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	
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:		X			
Output Address:		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-FA00	Mini-PCI Converter			X
	AAEON PCM-3794	SCSI Module			X
	AAEON PCM-3730	Intel 82559 LAN Module			X
On-Board RAID Function Test					
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	
COM Function Test		Result			
		Pass	Fail	N/A	
COM Port Burn In Test overnight		X			
Disk On Module [DOM] Compatibility Test					
Model	Interface	Result			
		Pass	Fail	N/A	
Transcend / TS512MDOM40V / 512MB	IDE 40 Pin	X			

Transcend / TS512MDOM44V / 512MB	IDE 44 Pin			X
Mini PCI Card Compatibility Test				
Model (Use PCI-104 transform board: MBC-1TM Rev.A1.0)	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
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		
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	

6. 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 8.0			X		
Windows Server 2003 English Version / Standard Edition 5.2.3790					X
Windows Server 2003 English Version /Standard x64 Edition					X
Windows Vista 32-bit					X
Windows Vista 64-bit			X		
Windows XP Professional English Version V2002 Service Pack 3			X		
Windows XP Professional English Version /Standard x64 Edition					X
Windows 2000 Professional English 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
Utility and Driver Test					
OS	Drivers Version		Result		
			Pass	Fail	N/A
Fedora Core 8.0	Chipset Software	Use Default Driver	X		
	Graphics Media	Use Default Driver	X		
	LAN Driver	Use Default Driver	X		
	Audio Driver	Use Default Driver	X		
Windows Server 2003 English Version Standard Edition 5.2.3790	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Server 2003 English Version Standard x64 Edition	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Vista 32-bit	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Vista 64-bit	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows XP Professional English Version V2002 Service Pack 3	Chipset Software	ATI SMBus 5.10.1000.6(12/2/2005)	X		
	Graphics Media	ATI Radeon Xpress 1200 Series 8.31.0.0(10/3/2006)	X		
	LAN Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0(7/26/2006)	X		

	Audio Driver	Realtek High Definition Audio 5.10.0.5433 (6/14/2007) ATI HDMI Audio 5.10.0.5413(5/14/2007)	X		
Windows XP Professional English Version /Standard x64 Edition	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Server 2000 English Version	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows 98SE English Version V4.10.2222A	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X

7. Performance Test Platform Information

PCB Model / Version	EMB-6908T A1.1
BIOS	EMB-6908T BIOS Rev.1.0 (09/23/2008)
Operating System	Windows XP Professional V2002 Service Pack 2
CPU	AMD Athlon 64 X2 ADD3400IAA5CU 1.8GHz
Memory	Kingston KVR533D2E4/1G(Hynix HY5PS12821C FP-Y5)
SATA HDD	Western Digital WD1200JS-00MHB0 120GB SATA HDD
Primary IDE Master	N/A
Primary IDE Slave	BenQ DVD-ROM 1650V
CRT	ViewSonic E70 17"
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	ATI SMBus 5.10.1000.6(12/2/2005)
Graphics Media	ATI Radeon Xpress 1200 Series 8.31.0.0(10/3/2006)
LAN Driver	Intel(R) PRO/1000 PL Network Connection 9.5.12.0(7/26/2006)
Audio Driver	Realtek High Definition Audio 5.10.0.5433 (6/14/2007) ATI HDMI Audio 5.10.0.5413(5/14/2007)
Touchscreen Driver	N/A
Power Supply	AOpen AO400-12AHN ATX Power

Test Result:

Testing Software	Result	Unit
PCMark2002		
CPU	N/A	
Memory	N/A	
HDD	N/A	
Final Reality V1.01—BenchMark Test		
2D image	31.27	
3D	7.01	
Bus transfer	19.58	
Overall	16.18	Reality marks
3Dmark2001SE Pro (Demo version)		
3DMark2001SE Build 330_Benchmark mode	N/A	

Test Result:

Testing Software	Result	Unit
PCMark05		
PCMark	920	PCMarks
CPU	3621	
Memory	2974	
Graphics	958	
HDD	N/A	
3Dmark2003 v360		
3Dmark Score	1352	
CPU Score	642	

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