

QE 【Mainboard】

Product Certification Report

Release No: 05E010025

Product Model	EMB-900M
Product Description	Intel 915GV+ICH6 Micro ATX Board
Test Reason	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB: EMB900M Rev:A0.2 <input checked="" type="checkbox"/> BIOS: EMB-900M BIOS Rev.1.0 For 24 Bit LVDS (06/21/2005) <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> CPU Type: Intel ®Pentium® 4 CPU 3.20GHz <input checked="" type="checkbox"/> North Bridge: Intel 915GV <input checked="" type="checkbox"/> South Bridge: ICH6 <input checked="" type="checkbox"/> Audio Chipset: Realtek ALC880 <input checked="" type="checkbox"/> Ethernet Chipset: Marvell 88E8053 <input checked="" type="checkbox"/> I/O Chipset: ITE 8712F <input checked="" type="checkbox"/> Remark : NPDP P5 External Report

2005/08/01

Wenyuan Yang

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Issue date

Manager

Test Engineer

Test Result for Certification

1. Dynamic / Boot_UP Burn_In Test		
Test Method	Test Condition	Result
Diagnostics Software Burn-In Test.	0°C~60°C, 48 hrs	PASS
Power On/Off Test.	0°C~60°C, 24hrs	PASS
2. Voltage Range Test		
Power On/Off Test in DOS-100V Power Function Test	10 times in Room Temperature	PASS
Power On/Off Test in DOS-210V Power Function Test	10 times in Room Temperature	PASS
KB Reset in Dos Mode-100V Power Function Test	20 times in Room Temperature	PASS
3. I/O Peripheral Function Test – I/O Function		Result
Floppy Connector / Driver A:		PASS
Primary IDE Master		PASS
Primary IDE Slave		PASS
SATA1 / Serial ATA Connector 1		PASS
SATA2 / Serial ATA Connector 2		PASS
SATA3 / Serial ATA Connector 3		PASS
SATA4 / Serial ATA Connector 4		PASS
Compact Flash - Type I		PASS
Compact Flash - Type II		PASS
DOM (Disk On Module) - 40 Pin		PASS
COM 1		PASS
COM 2-232		PASS
COM 2-422		PASS
COM 2-485		PASS
COM 2-Ring /+5V /+12V		PASS
COM 3		PASS
COM 4		PASS
Clear CMOS		PASS
PS/2 Mouse (External)		PASS
PS/2 Keyboard (External)		PASS
Audio Connector		PASS
Audio 5.1 Channel / S/P DIF		PASS
LPT 1		PASS
SIR / 115.2 Kbps		PASS
USB 1&2 Ports		PASS
USB 3&4 Ports		PASS
USB 5 Ports		PASS
USB 6 Ports		PASS
USB 2.0 1 & 2 Ports		PASS
USB 2.0 3 & 4 Ports		PASS
USB 2.0 5 Ports		PASS
USB 2.0 6 Ports		PASS
VGA Display		PASS
LCD / TFT		PASS
LCD / LVDS / Channel 1		PASS
LCD / LVDS / Channel 2		PASS
DIMM Slots		PASS
I/O Peripheral Function Test –Front Panel and Other connector		

Power On Button								PASS
IDE LED								PASS
On Board Buzzer								PASS
Power LED								PASS
Reset Switch								PASS
Ext. K/B Connector								PASS
CPU FAN Connector								PASS
I/O Peripheral Function Test – Power Connector & Function								Result
ATX Power Connector								PASS
ATX Power_12V Connector								PASS
Big 4P Power Connector								PASS
Mini 4P Power Connector								PASS
External Power Connector(-12/-5V)								PASS
Option ATX Power Connector (PS-ON / +5VSB)								PASS
I/O Peripheral Function Test – LAN Connector & Function								Result
LAN Speed LED	LAN1							PASS
	LAN2							PASS
LAN Active LED	LAN1							PASS
	LAN2							PASS
LAN Link LED	LAN1							PASS
	LAN2							PASS
LAN 10/100 Ethernet								PASS
LAN 1G Ethernet								PASS
I/O Peripheral Function Test – PCI Connector & Function								Result
PCI Slots								PASS
4. Power Consumption Test								
	ATX Power: ST-300BLV				AT Power:			
	CPU: Intel ®Pentium® 4 CPU 3.20GHz	CPU:	CPU:	CPU:	CPU:	CPU:	CPU:	CPU:
Normal Mode (+5V)	2.86	A		A		A		A
Suspend Mode (+5V)	2.58	A		A		A		A
5VSB in Power Off Mode (just for ATX)	0.4	A		A	-----	A	-----	A
Normal Mode (+12V)	6.12	A		A		A		A
Suspend Mode (+12V)	2.87	A		A		A		A
Normal Mode (+3.3V) (just for ATX)	0.4	A		A	-----	A	-----	A
Suspend Mode (+3.3V) (just for ATX)	0.38	A		A	-----	A	-----	A
Normal Mode (-12V)	0.4	A		A		A		A
Suspend Mode (-12V)	0.37	A		A		A		A
Normal Mode (-5V)	0.40	A		A		A		A
Suspend Mode (-5V)	0.39	A		A		A		A
5. Power Connector Test (110V/220V)		Voltage Range						Result
ATX Connector Power On/Off for 10 times in DOS								PASS
6. Timer Accuracy Test								
System Clock & RTC Clock Test								
Test Method	Margin for error							Result

System Clock in Power On Mode		+-1 second during 24 hours		PASS
RTC Clock in Power On Mode		+-1 second during 24 hours		PASS
RTC Clock in Power Off Mode		+-1 second during 24 hours		PASS
Watchdog Timer Test				Result
Time-out Interval		10 sec		PASS
		60 sec		PASS
		255 sec		PASS
7. Network HUB / LAN Connection Test				Result
On Board LAN1 LED		Active LED		PASS
		Link LED		PASS
		Speed LED		PASS
On Board LAN2 LED		Active LED		PASS
		Link LED		PASS
		Speed LED		PASS
LAN Location	LAN Speed	HUB Type	HUB Speed	Result
LAN1	10/100 Mbps	HP J4095A 24 Ports	100 Mbps	PASS
		D-Link DGS-1008T	1Gbps	PASS
		Intel In Business 8 Ports	10 Mbps	PASS
		LEMEL LM-S5 5 Ports	100 Mbps	PASS
		Acc ton Desktop-3005	100 Mbps	PASS
		SVEC FD916H	10 Mbps	PASS
	1Gbps	D-Link DGS-1008T	1Gbps	PASS
		D-Link DGS-1008T	1Gbps	PASS
LAN Location	Speed	Type	Speed	Result
LAN2	10/100 Mbps	HP J4095A 24 Ports	100 Mbps	PASS
		D-Link DGS-1008T	1Gbps	PASS
		Intel In Business 8 Ports	10 Mbps	PASS
		LEMEL LM-S5 5 Ports	100 Mbps	PASS
		Acc ton Desktop-3005	100 Mbps	PASS
		SVEC FD916H	10 Mbps	PASS
	1Gbps	D-Link DGS-1008T	1Gbps	PASS
		D-Link DGS-1008T	1Gbps	PASS
8. Hardware Compatibility				
CPU Compatible Test				
Type	Speed	FSB	Run HCT Version	Result
Intel ®Pentium® 4 CPU	3.20GHz		9.5	PASS
Memory Compatibility Test				
Brand	Chipset	Frequency	Size	Result
KINGMAX	1GB/DDR2-533	533	1GB	PASS
ELPIDA	E5108AB-5C-E/DDR2-533	533	512MB	PASS
NEC	D45128841G5-A75 / PC133	133	256MB	PASS
Hyundai	HY57V658020 TC-10/PC-100	100	128MB	PASS
On Board Audio Function Test				
1. Audio Basic Function Test				Result
System Sound				PASS
Play CD_IN				PASS
Play Sound Recorder				PASS
Line Out				PASS
Line In				PASS
Line In Sound Record				PASS
MIC Speaker		Dynamic		PASS
		Condenser		PASS
MIC Sound Recorder		Dynamic		PASS
		Condenser		PASS

2. Audio 5.1 Channel with S/P DIF Function Test			Result
Speaker configuration			PASS
2-channel mode for stereo speaker output			PASS
4-channel mode for 4 speaker output			PASS
6-channel mode for 5.1 speaker output			PASS
S/P DIF function Test	Input		PASS
	Output		PASS
On Board LCD Function Test			
TFT LCD	Type	Voltage	Result
LVDS	AU B104SN02 / 10.4" / 800*600 / 18bit	3.3V	PASS
	Hyundai HT12X11-200 / 12.1" / 1024*768 / 18bit	3.3V	PASS
	Samsung LTM150XH-L04 / 1024*768 / 24bit	3.3V	PASS
	AU M170EN05 / 17" / 1280*1024 / 48bit	5V	PASS
TFT	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit	5V	PASS
	Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit	3.3V	PASS
	Samsung LTM150XS-T01 / 15" / 1024*768 / 36bit	3.3V	PASS
PCI Slot Function (PCI Adapter Card) Test			
Model	Type	S/N	Result
EP-P80P Rev:0.1: PCI Debug Card	Debug Card		PASS
Matrox G450	VGA Card		PASS
CHAINTECH NVIDIA GeForce4 MX440-8X	VGA Card		PASS
SC3000 CMI8738/C3DX	Sound Card		PASS
Takram DC-395U V1.02	SCSI Card		PASS
D-Link FE-530TX Fast Ethernet Adapter	LAN Card		PASS
Intel SB82559 (10/100Mbps)	LAN Card		PASS
D-Link DGE-530T 1000BASE-T Gigabit Ethernet Adapter	LAN Card		PASS
D-Link DWL-520+ Wireless LAN	LAN Card		PASS
Genuine GM56-AMI2019	Modem Card		PASS
ABIT HotRod 100 Pro	RAID Card		PASS
D-Link DU-520 USB 2.0	Other Card		PASS
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HAA Seagate ST312 0026AS 120GB [ID-200305]	Other Card		PASS
HDD Compatible Test			
Model		S/N	Result
Hitachi / HDS722525VLAT80 / 250GB / ATA-100			PASS
IBM / DTLA-307045 / 46.1GB / ATA-100			PASS
FUJITSU / MPE 3136AH / 13.6GB / ATA-66			PASS
Maxtor / 4G160J8 / 160GB / ATA-133			PASS
Quantum / Fireball Plug AS / 30GB / ATA-100			PASS
Seagate / ST310210A / 10.2GB / ATA-66			PASS
Western / WD400BB-75DEA0 / 40GB / ATA-100			PASS
Seagate / ST3120026AS / 120GB / ATA-100 / S-ATA			PASS
CD/DVD-ROM Compatibility Test			
Model		S/N	Result
Acer DVPI640A / 16X / DVD-ROM			PASS
Creative DVD1240E / 12X / DVD-ROM			PASS
IBM HL-DT-ST / GCR-8480B / 48X / CD-ROM			PASS
Pioneer / DVD-121 / 16X / DVD-ROM			PASS
PHILIPS CDD5301 / PBC03210G / 32X10X40 / 12X DVD / CD-RW / DVD-ROM			PASS
SAMSUNG / SH-W08 / DVD+R 8X / DVD-R 8X / CD-R 32X			PASS
NEC / ND-2500A / DVD R/RW / +R8X-R8X			PASS
TEAC / CD-540E / 40X / CD-ROM			PASS

IDE Cable Function test			
IDE Model		Result	
40 Pin Cable ATA33		PASS	
USB Function Test			
1. USB Basic Function Test			Result
USB Controller			PASS
USB 2.0 Controller			PASS
USB Keyboard Support			PASS
USB Mouse Support			PASS
K-2.1 USB 1.1 Compatible Test			Result
USB 1.1 Compatible Test			PASS
2 USB 2.0 Compatible Test			Result
USB 2.0 Compatible Test			PASS
3. USB 2.0 Function Test			Result
Use High Speed Device USB2.0 CD-R/WBenQ / 4824W1-ON2 to play Nero CD/DVD Speed			PASS
4. USB Extention Devices Function Test			
Model	S/N	Type	Result
CyberLink Power DVD XP4.0		Remote Control	PASS
BENQ 4824WI-ON2		CD-RW	PASS
PLEXTOR PX-S88TU		CD-RW	PASS
USB HDD IBM DARA-206000 6GB [ID-200401] (include USB2.0 2.5" External USB Box)		HDD	PASS
IOMEGA ZIP 100MB		ZIP	PASS
Mitsumi FL3.5D353GUE/FUE		Floppy	PASS
IOMega ZIP100		ZIP	PASS
Floppy Disk Controller Function Test			Result
Copy and compare file between C: and A / B:			PASS
Change Floppy to None value			PASS
Swap FDD			PASS
Peripheral Compatibility-Storage Device			
Model	S/N	Interface	Result
IOmega zip 100 parallel port		Parallel	PASS
IOmega zip 100MB Internal ATAPI Drive		IDE	PASS
PQI FC512 512MB		Type-I CF Card	PASS
HITACHI / HMS360402D5CF00		Type- II CF Card	PASS
COM Port Send / Receive Test			Result
1. Use software program: COMTEST.exe			PASS
2. Use software program: LL5.exe			PASS
Disk On Module [DOM] Compatibility Test			
Model	S/N	Interface	Result
DOM-256-026P Rev: A1K20		IDE 40 Pin	PASS
Mini PCI Card Compatibility Test			
Model	Interface		Result
RTL-8180L Mini PCI Card	Wireless LAN		PASS
AAEON PER-C100 Mini PCI Card	RTL-8100C 10/100M	LAN Module	PASS
	RTL-8100S 10/100/1000M	LAN Module	PASS
	Intel 82551QM 10/100M	LAN Module	PASS
	Intel 82541G1 10/100/1000M	LAN Module	PASS
AAEON PER-C200 Mini PCI Card	USB Module		PASS
COM/LPT Ports & RS-232/422/485 Function Test			Result
RS-422 for COM2			PASS
RS-485 for COM2			PASS
COM1			PASS
COM2			PASS

COM3			PASS
COM4			PASS
LPT1			PASS
Front Panel & Function Test			Result
Power On Button			PASS
IDE LED			PASS
On Board Buzzer			PASS
Power LED			PASS
Reset Switch			PASS
Ext. K/B Connector			PASS
CPU FAN Connector			PASS
IDE Cable Function Test			Result
40 Pin ATA33 Cable			PASS
9 . O.S. Compatibility Test			
Installation Operation System Compatible Test			Result
Linux-Red Hat 9.0 / Kernel 2.4.20-8			PASS
Windows XP Professional English Version V2002 with Service Pack 2			PASS
Windows 2000 Professional English Version V5.00.2195 with Service Pack 4			PASS
Utility and Driver Test			
OS	Drivers Version		Result
Linux-Red Hat 9.0 / Kernel 2.4.20-8	VGA		PASS
	AUDIO		PASS
	LAN		PASS
Windows XP Professional English Version V2002 with Service Pack 2	VGA		PASS
	AUDIO		PASS
	LAN		PASS
Windows 2000 Professional English Version V5.00.2195 with Service Pack 4	VGA		PASS
	AUDIO		PASS
	LAN		PASS
10. BIOS Function Test			Result
A. Standard CMOS Setup Test			PASS
B. Boot Sequence Test			PASS
C. Power Management Test			
C-2. ACPI Power Management Test			PASS
D. Power On Function Test			PASS
E. Wake Up Event Test			PASS
F. Power On after Power Failure Test			PASS
G. CMOS Backup / Clear CMOS Test			PASS
H. Boot ROM Test (RPL/PXE)			PASS
I. Supervisor / User Password Test			PASS
J. CRT / LCD Function Test			PASS
L. Init Display First Function Test			PASS
M. On-Chip Serial ATA Function Test			PASS
N. SATA Mode-IDE/RAID Function Test			PASS
O. PC Health Status			
O-1. Voltage Monitor Test			PASS
O-2. FAN Speed Monitor Test			PASS
O-3. Temperature Monitor Test			PASS
P. Swap Floppy Drive & Boot up Floppy Seek Function Test			PASS
Q. USB Onboard Device Function Test			PASS
R. COM Address / IRQ Test			PASS
S. LPT Address / IRQ Test			PASS
T. BIOS AWDFLASH Program Test			PASS
Touch Screen LCD for Serial Ports Test			Result
COM1	Address	IRQ	PASS
	3F8	IRQ4	

COM2	2F8	IRQ3	PASS
COM3	3E8	IRQ10	PASS
COM4	2E8	IRQ11	PASS
11. Performance Test			
English Windows 2000 Professional with SP4 5.00.2195 + 1280x1024x32bit / 60Hz + Direct 9.0			
ZD Win Bench 99 V2.0			Unit
Business Disk WinMark99		365	Thousand bytes/sec
High-End Disk WinMark99		817	Thousand bytes/sec
Business Graphics WinMark99		11700	
High-End Graphics WinMark99		45600	
Final Reality V1.01—Bench Mark Test (Reality Marks)			
2D image		31.56	
3D		5.53	
Bus transfer		63.35	
Overall		22.02	Reality marks
ZD 3D Win bench 2000 V1.1			
3D Win Mark 2000		817	Frames / sec
ZD Multimedia Content Creation Win stone 2004 V1.0.1 (Up Pentium III 800 MHZ CPU)			
Multimedia Content Creation Win stone 2004		2.3	
3Dmark2001SE Pro (Demo version)			
3DMark2001SE Build 330_Benchmark mode		2.44	
13. System Integrated Application Test			Result
A. System Integrated Application Test (Burn-In 8 Hrs):			PASS