

P5 Verification Test Report

Release No : 09E010034

Product Model	EMB-9658T
Description	Intel GM965+ICH8M DH, supports Intel Core 2 Duo
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB : EMB-9658T A 1.0 <input checked="" type="checkbox"/> BIOS : EMB-9658T BIOS Rev 1.0(06/26/2008) <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> North Bridge : Intel GM965 <input checked="" type="checkbox"/> South Bridge : Intel ICH8M <input checked="" type="checkbox"/> VGA Chipset : Intel GM965 integrated VGA <input checked="" type="checkbox"/> Audio Chipset : VIA 1708B <input checked="" type="checkbox"/> Ethernet Chipset : Intel 82573L,82566MM LAN chipset x 2 for 10/100/1000 M LAN <input checked="" type="checkbox"/> I/O Chipset : ITE-8712+Fintek F81216D <input checked="" type="checkbox"/> TV Chipset : Intel GM965 integrated <input checked="" type="checkbox"/> Remark : QE NPDP P5 Report for EMB-9658T
Test Result Summary	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2009/08/05

Issue date

Wenyuan Yang

Manager

Anderson Lin

Test Engineer

Summary Table of contents :

Summary Table of contents	2
Platform Information	3
1. I/O Peripheral Function Test	3
2. Power Connector Test	7
3. Timer Accuracy Test	8
4. Network HUB / LAN Connection Test	8
5. Hardware compatibility	9
6. O.S. Compatibility Test	13
7. BIOS Function Test	14
8. Performance Test	14

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-9658T A1.0
Carrier Board	N/A
BIOS / Version	EMB-9658T BIOS Rev 1.0(06/26/2008)
CPU Type	Intel Mobile Core 2 Duo T7500@2.20GHz Processor
Memory Type	Samsung DDR2-800 2GB(M470T5663QZ3-CF7)
SATA	N/A
Primary IDE Master	Seagate ST316815A 160GB 3.5" IDE HDD
Primary IDE Slave	N/A
CRT	ViewSonic E653
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Expansion Board	N/A
Operating System	Fedora Core 8
	Windows XP Professional English Version Service Pack 3
	Windows Vista 32-bit
Power Supply	AT POWER: ZECK ZKS-300W

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	
RAID 0 Function Test	X			
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			Transcend / TS512MDOM40V / 512MB / IDE 40 Pin
DOM (Disk On Module) – 44 Pin	X			Transcend / TS512MDOM44V / 512MB / IDE 44 Pin
COM 1-232	X			
COM 2-232	X			
COM 3-232	X			
COM 4-232	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	X			
S/P DIF	X			
LPT 1	X			
SIR / 115.2 Kbps	X			
IrDA	X			
USB 1/2 Ports	X			
USB 3/4 Ports	X			
USB 5/6 Ports	X			
USB 2.0 1/2 Ports	X			
USB 2.0 3/4 Ports	X			

USB 2.0 5/6 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 – 4/5 Wire			X	
DIMM Slots	X			
Watchdog IRQ n			X	
Watchdog Software Control	X			
CPU FAN Connector	X			
System FAN Connector	X			
Express card			X	
LCD Backlight Power Connector			X	
DC in Connector			X	
PCI Express Mini Card			X	
Power Button			X	
Battery Connector			X	
SDVO Connector	X			
LCD Inverter Connector	X			
Front Panel (CN20)	Result			Notes
	Pass	Fail	N/A	
Power On Button	X			
IDE LED	X			
External Buzzer	X			
On Board Buzzer	X			
Power LED	X			
Reset Switch	X			
Keyboard Lock			X	

Jumpers Function		Result			Notes
		Pass	Fail	N/A	
LCD Inverter Voltage selection		X			JP1
COM2 +12V/+5V/RING Selection		X			JP2
LCD Voltage selection		X			JP3
Auto power button		X			JP4
Clear CMOS		X			JP5
AT/ATX Power Mode Selection		X			JP6
Power Connector & Function		Result			Notes
		Pass	Fail	N/A	
Standard AT Power Connector		X			
Standard ATX Power Connector		X			
HDD Power Connector (12V/5V)		X			
12V 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 x4		X			
Express card				X	

2. Power Consumption Test

Test Environment	ATX Power: N/A		AT Power: ZECK ZKS-300W		Note
Model					
CPU			INTEL Mobile CORE 2 DUO T7500 2.20GHz / 4M / 800MHz		
HDD			Seagate SATA 2 H.D 160G- ST3160815AS		
RAM			Samsung DDR2-800 2GB		
OS Environment			Windows XP Professional English Version Service Pack 3		
Normal Mode (+5V)		A	N/A	A	
Suspend Mode (+5V)		A	N/A	A	
5VSB in Power Off Mode (just for ATX)		A	N/A	A	
5VSB in Power On Mode (just for ATX)		A	N/A	A	
Normal Mode (+12V)		A	3.81	A	
Suspend Mode (+12V)		A	N/A	A	
Normal Mode (+3.3V) (just for ATX)		A	N/A	A	
Suspend Mode (+3.3V) (just for ATX)		A	N/A	A	
Normal Mode (-12V)		A	N/A	A	
Suspend Mode (-12V)		A	N/A	A	
Normal Mode (-5V)		A	N/A	A	
Suspend Mode (-5V)		A	N/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	±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	5 sec	X		
	10 sec	X		
	60 sec	X		
	255 sec	X		

4. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN 1 LED		Active LED				X		
		Link LED				X		
LAN 2 LED		Active LED				X		
		Link LED				X		
LAN 1	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
		D-Link DGS-1008T	100M	1GBps	1G	X		
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		
LAN 2	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
		D-Link DGS-1008T	100M	1GBps	1G	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		
Intel Mobile Core 2 Duo T7500@2.20GHz Processor	800	V25.90	X				
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
Kingston	512MB Memory	667	512MB	V2.01	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							

	Type	Voltage	Result		
			Pass	Fail	N/A
TFT LCD	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		
	Toshiba LTD12EX1S / 1280*768 / 18bit	3.3V	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
CHANTECH 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
SksKonnnect SK-9E21D 10/100/1000 Base-T Adapter PCI-Express x1 LAN 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

Mini PCI-Express Function Test

Model	Result

	Pass	Fail	N/A
Mini PCI-Express Test Card			X
SATA HD Compatibility Test			
Model	Result		
	Pass	Fail	N/A
Seagate ST380815AS 80GB 3.5" SATA 2 HDD	X		
CD/DVD-ROM Compatibility Test (USB DVD-ROM)			
Model	Result		
	Pass	Fail	N/A
ASUS DRW-1604P-D/WHT/G/ASUS	X		
LITEON DX-20A4PU USB DVD-ROM	X		
SONY USB2.0 DVD-R/W DRX-830UL	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
LITEON DX-20A4PU USB-DVD ROM	X		
Kingston USB Device	X		
USB Device Full Loading Test			
Model	Pass	Fail	N/A
Mitsumi FLL3.5 D353GUE/FUE			X
USB HDD 20GB			X
USB Card Reader			X
USB Mouse			X

USB Thumb drive- Kingston 8Gb				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	Interface	Result		
		Pass	Fail	N/A
Realtek RTL8180 Wireless Lan(MINI)PCI NIC	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		
COM3		X		
COM4		X		
LPT1		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
Windows XP Professional English Version Service Pack 3	X		
Windows Vista 32-bit	X		
Fedora Core 8	X		

7. BIOS Function Test

Test Item	Result		
	Pass	Fail	N/A
Memory Beep Test	X		
Standard CMOS Setup Test	X		
Boot Sequence Test	X		
Power Management Test			
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 (PXE)	X		
Supervisor / User Password Test	X		
Init Display First Function Test	X		
On-Chip Serial ATA Function Test	X		
SATA Mode-IDE/RAID Function Test	X		
LPT Address / IRQ Test	X		
BIOS AWDFLASH Program Test	X		

8. Performance Test

Platform Information

PCB Model / Version	EMB-9658T A1.0
Carrier Board	N/A
BIOS	EMB-9658T BIOS Rev 1.0(06/26/2008)
Operating System	English Windows XP Professional Service Pack 3
CPU	Intel Mobile Core 2 Duo T7500@2.20GHz Processor

Memory	Samsung DDR2-800 2GB(M470T5663QZ3-CF7)
SATA HDD	N/A
Primary IDE Master	Seagate ST316815A 160GB 3.5" IDE HDD
Primary IDE Slave	N/A
CRT	ViewSonicE653
LCD	N/A
Compact Flash	N/A
Expansion Board	N/A
Chipset Software	Intel(R) Chipset Device Software8.2.0.1014(3/5/2007)
Graphics Media	Mobile Intel(R) 965 ExpressChipset Family 6.14.10.4943(4/2/2008)
LAN Driver	Intel(R)82566MM Gigabit Network Connection 9.7.34.0(2/1/2007) Intel(R)82573L Gigabit Network Connection 9.7.34.0(2/1/2007)
Audio Driver	VIA VT1708B 6.0.1.1450(4/28/2008)
Touchscreen Driver	N/A
Power Supply	AT POWER: ZECK ZKS-300W

Test result:

Final Reality V1.01—BenchMark Test		
2D Image	54.33	
3D	4.41	
Bus transfer	90.94	
Overall	32.37	Reality marks
3Dmark2001SE Pro		
3DMark2001SE Build 330_Benchmark mode	3050	
3Dmark2003 v340		
3Dmark Score	1268	
CPU Score	787	
PCMark2002		
CPU	9487	
Memory	29042	
HDD	1536	
PCMark05		
PCMark	4051	
CPU	6108	
Memory	4587	
Graphics	1257	
HDD	4944	