

Report NO:10E010024

EMB-9459T

P5 Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____				
	Test Result Summary				
	Critical	Major	Minor	Enhancement	
Defect Found	0	0	0	0	
Defect Unsolved	0	0	0	0	

Issue date

2010 / 09 / 29

Approval

Jansin Lee

Test Engineer

Anderson Lin

Platform Information:

Item	Device Information	Test Item
PCB Model / Version	EMB-9459T A 2.0	1,2,3,4,5,6,7,8
BIOS / Version	EMB-9459T-A20 BIOS Rev 2.0 (06/10/2010)	1,2,3,4,5,6,7,8
CPU Type	Intel(R) Atom(TM) CPU N270 1.6GHz	1,2,3,4,5,6,7,8
Memory Type	DSL 1GB DDR2 - 667(ELPIDA E5108AGBG-6E-E)	1,2,3,4,5,6,7,8
SATA HDD	FUJITSU 2.5" SATA MHY2080BH 80GB	1,2,3,4,5,6,7,8
SATA ODD	PIONEER DVR-215BK	1,2,3,4,5,6,7,8
Primary IDE Master	Seagate ST316815A 160GB	1,2,3,4,5,6,7,8
Primary IDE Slave	SONY DRU-840A	1,2,3,4,5,6,7,8
CRT	Viewsonic E653	1,2,3,4,5,6,7,8
LCD	AUO G065VN01 V.0 / 640x480x18bit / 6.5" / 3.3V LVDS Panel	1,2,3,4,5,6,7,8
Compact Flash	Transcend CF Card 4GB for Industrial TS4GCF45I-D	1,2,3,4,5,6,7,8
Backplane	N/A	1,2,3,4,5,6,7,8
Riser Card	PER-P16P	1,2,3,4,5,6,7,8
Expansion Board	N/A	1,2,3,4,5,6,7,8
Operating System	Fedora Core 11	1,2,3,4,5,6,7,8
	Windows 7 Ultimate English Version	1,2,3,4,5,6,7,8
	Windows XP Professional English Version V2002 Service Pack 3	1,2,3,4,5,6,7,8
Power Supply	AT Power Supply: ZECK ZKS-300W	1,2,3,4,5,6,7,8

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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 specifications or no test equipment

The test report would be tested and updated after version changed.

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	
SSD H.D 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 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			
SIR / 115.2 Kbps	X			
FIR / 4M bps	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			
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 / AV Terminal	X			ViewSonic VT2430 LCDTV
TV-out / S-Video	X			ViewSonic VT2430 LCDTV
Component Video : Y/ Pb /Pr			X	ViewSonic VT2430 LCDTV
DVI Function			X	ViewSonic VT2430 LCDTV
HDMI Output (Embedded Audio)			X	ViewSonic VT2430 LCDTV
Touch Screen – 8 Wire			X	
Touch Screen – 4/5 Wire			X	
DIMM Slots	X			
Watchdog IRQ n			X	
Watchdog Software Control	X			
FAN1 Connector	X			

FAN2 Connector			X	
Express card			X	
Speaker Connector			X	
DC in Connector			X	
Mini PCI Card	X			
Power Button	X			
Battery Connector			X	
HDD Power Connector (12V/5V)	X			
3Pin +12V Fan Connector	X			
LCD Inverter Connector	X			
SIM Card slot	X			
Front Panel (CN20)	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	
LCD INVERTER Voltage selection	X			JP1, JP7
LCD Voltage selection	X			JP3, JP5
COM2 +12V/+5V/RING Selection	X			JP2
CMOS Clear Selection	X			JP4
AT/ATX Selection	X			JP6
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 12V	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			Through riser card(PER-R16P)
PCI Express x4		X			Through riser card(PER-R16P)
Mini PCI Express card		X			
Express card				X	

2. Power Consumption Test (Run Prime95 Program)

Platform Information

PCB Model / Version	EMB-9459T A2.0
BIOS	EMB-9459T-A20 BIOS Rev 2.0 (06/10/2010)
Operating System	English Windows XP Professional Service Pack 3
CRT	ViewSonic E653
LCD	N/A
Compact Flash	N/A
Expansion Board	N/A
Power Supply	AT Power: ZECK ZKS-300W

Test			
Environment	ATX Power: N/A	AT Power: ZECK ZKS-300W	Note
Model			
CPU		Intel ATOM N270 1.6GHz	

HDD		Seagate ST316815A 160GB	
RAM		DSL 1GB DDR2 - 667(ELPIDA E5108AGBG-6E-E)	
OS Environment		English Windows XP Professional Service Pack 3	
Normal Mode (+5V)	A		A
Suspend Mode (+5V)	A	-----	A S1
5VSB in Power Off Mode (just for ATX)	A	-----	A
5VSB in Power On Mode (just for ATX)	A	-----	A
5VSB in S1 Suspend Mode (just for ATX)	A	-----	A Can't over 5VSB in Power On & Off current.
Normal Mode (+12V)	A	0.61	A
Suspend Mode (+12V)	A	-----	A S1
Normal Mode (+3.3V) (just for ATX)	A		A
Suspend Mode (+3.3V) (just for ATX)	A	-----	A S1
Normal Mode (-12V)	A		A
Suspend Mode (-12V)	A	-----	A
Normal Mode (-5V)	A		A
Suspend Mode (-5V)	A	-----	A

3. Timer Accuracy Test

System Clock & RTC Clock Test				
Test Method	Margin for error	Result		
		Pass	Fail	N/A
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		

4. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN1 LED		Link / Speed LED				X		
		Active LED				X		
LAN2 LED		Link / Speed LED				X		
		Active LED				X		
Location	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
Onboard LAN1	10/100/1000 Mbps	D-Link DGS-1008T	100M	1GBps	1000	X		
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		
Onboard LAN2	10/100/1000 Mbps	D-Link DGS-1008T	100M	1GBps	1000	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(R) Atom(TM) CPU N270 1.6GHz	533 MHz	V25.9	X				
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
Kingston	HYB18T512800BF3S	DDR2-667	512MB	V 4.00	X		
Kingston	D6408TR7CGL25U	DDR2-800	1GB	V 4.00	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			Condenser		X		
MIC Sound Recorder			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		
8-channel mode for 7.1 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	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		
	Data Image 7" / 800*480 / 18bit (16:9)	3.3V	X		
	AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)	3.3V			X
	AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (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)	5V			X
	Toshiba /12.1"/1280 x 768 x 18bit (16:9)	5V	X		
	AU M170EG01 V.D/ 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	12V	X		
	AUO M190PW01 V0 / 19"/1440X900/48 bit	5V	X		

PCI Slot Function (PCI Adapter Card) Test

Model	Type	Result		
		Pass	Fail	N/A
CHAINTECH NVIDIA GeForce4 MX440-8X	VGA Card	X		
Creative Sound BLASTER Live5.1(Through Riser Card PER-R16P)	Sound Card	X		
ADAPTEC Ultra160 SCSI ASC-29160	SCSI Card	X		
ASUS NX1101 32-Bit 1000Mbps Gigabit Network Adapter(Through Riser Card PER-R16P)	LAN Card	X		
INTEL PWLA8391GTBLK Pro/1000 Giga LAN Card(Through Riser Card PER-R16P)	LAN Card	X		
ADAPTEC 1420SA RoHS 4-Port SATA II RAID(Through Riser Card PER-R16P)	RAID Card	X		

ISA Slot Function Test

	Result		
	Pass	Fail	N/A
NE2000 Compatible LAN Card (RTL8019AS)			X
Adaptec AHA-1510/20/22B SCSI Card			X

PCI-Express Function Test

Model	Result		
	Pass	Fail	N/A
SUNIX SATA1414 eSATA & SATAII x1Express card(Through Riser Card PER-R16P)	X		
Syskonnect SK-9E21D 10 /100/1000 Base-T Adapter PCI-Express x1 LAN Card(Through Riser Card PER-R16P)	X		

Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card(Through Riser Card PER-R16P)		X		
Ralink RT2571WF WLAN Mini Card (USB Interface)		X		
Sil3132 Mini PCI-E Function Test Card (USB Interface)		X		
HDD Compatibility Test				
Model	Result			
	Pass	Fail	N/A	
Seagate ST3160815AS 160GB 3.5" SATA HDD		X		
Seagate ST316815A 160GB3.5" IDE HDD		X		
Transcend SSD 16G - TS16GSSD25S		X		
IDE Cable Function test				
IDE Model	Result			
	Pass	Fail	N/A	
40 Pin Cable ATA100				X
44 Pin Cable ATA33		X		
80 Pin Cable ATA100				X
USB Function Test				
USB Basic Function Test		Result		
		Pass	Fail	N/A
Mitsumi FLL3.5 D353GUE/FUE		X		
USB HDD 20GB		X		
USB Card Reader		X		
USB Mouse		X		
Sandisk Flash drive 8GB		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		
Peripheral Compatibility-Storage Device				
Model	Interface	Result		
		Pass	Fail	N/A
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-3600	Lan Module			X
PC/104+	AAEON PCM-3430	SCSI Module			X
PCI-104	AAEON PCM-3730	Intel 82559 LAN Module			X
PCI/104 Express	AAEON PER-123				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

COM Port Burn In Test overnight	Result		
	Pass	Fail	N/A
	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
Mini PCI.10/100 Base-Tx LAN (W/Intel.82551QM .A1.0) (Model:PER-C10L)	LAN	X		
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	WLAN	X		
RTL8180L Wireless lan card	WLANb			X

COM/LPT Ports & RS-232/422/485 Function Test

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	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 Typell 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 V2002 Service Pack 3	X		
Windows 7 Ultimate English Version	X		
Fedora11	X		

Utility and Driver Test

OS	Drivers Version		Result		
			Pass	Fail	N/A
Windows XP Professional English Version V2002 Service Pack 3	Chipset Software	Intel(R) Chipset Device Software 9.0.0.1008(2008/5/1)	X		
	Graphics Media	Mobile Intel(R) 945 Express Chipset Family 6.14.10.4926(2/28/2008)	X		
	LAN Driver	Realtek RTL8168C(P)/8111C(P) PCI	X		
Realtek RTL8168C(P)/8111C(P) PCI		X			

	Audio Driver	VIA VT1708B 6.50a 6.0.1.1550(2008/10/22)	X		
Windows 7 Ultimate English Version	Chipset Software	Intel(R) 5 Series / 3400 Chipset Device Software ~ 9.1.1.1019 ~ 08/18/2009	X		
	Graphics Media	Mobile Intel(R) 945 Express Chipset Family ~ 8.15.10.1930 ~ 09/23/2009	X		
	LAN Driver	Realtek PCIe GBE Family Controller ~ 7.18.322.2010 ~ 03/22/2010	X		
		Realtek PCIe GBE Family Controller ~ 7.18.322.2010 ~ 03/22/2010	X		
	Audio Driver	VIA High Definition Audio ~ 6.0.1.7300 ~ 7/10/2009	X		
Fedora11	Chipset Software	Fedora 11 Default Driver	X		
	Graphics Media	Fedora 11 Default Driver	X		
	LAN Driver	Fedora 11 Default Driver	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			
ATX Power Management Test	X		
AT 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 (RPL/PXE)	X		
Supervisor / User Password Test	X		
CRT / LCD / TV / DVI 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		
USB Onboard Device Function Test	X		
BIOS AWDFLASH Program Test	X		

8. Performance Test

Platform Information

CPU Board	EMB-9459T A 2.0
Carrier Board	N/A
BIOS	EMB-9459T-A20 BIOS Rev 2.0 (06/10/2010)
Operating System	English Windows XP Professional Service Pack 3
CPU	Intel(R) Atom(TM) CPU N270 1.6GHz
Memory	DSL 1GB DDR2 - 667(ELPIDA E5108AGBG-6E-E)
SATA HDD	N/A
Primary IDE Master	Seagate ST316815A 160GB
Primary IDE Slave	N/A
CRT	ViewSonic E653
LCD	N/A
Compact Flash	N/A
Expansion Board	N/A
Chipset Software	Intel(R) Chipset Device Software 9.0.0.1008(2008/5/1)
Graphics Media	Mobile Intel(R) 945 Express Chipset Family 6.14.10.4926(2/28/2008)
LAN Driver	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC 5.732.629.2009(6/29/2009) x 2
Audio Driver	VIA VT1708B 6.50a 6.0.1.1550(2008/10/22)
Power Supply	AT Power: ZECK ZKS-300W

Test Result:

Testing Software	Result	Unit
PCMark2002		
CPU	2659	
Memory	667	
HDD	785	
Final Reality V1.01—BenchMark Test		
2D image	19.54	Reality marks
3D	4.04	
Bus transfer	34.39	
Overall	13.24	
3Dmark2001		

3DMark2001SE Build 330_Benchmark mode

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Test Result:

Testing Software	Result	Unit
PCMark05		
PCMark	1348	PCMarks
CPU	1484	
Memory	2362	
Graphics	390	
HDD	3369	
3Dmark2003 v360		
3Dmark Score	703	
CPU Score	245	