

P5 Verification Test Report

Release No : 10P010005

Product Model	AOP-9120
Description	AOP-9120 series OMNI Alpha Operator Panel with 12" TFT LCD
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB Board : EMB-9459T A1.0 <input checked="" type="checkbox"/> BIOS : AOP-9120 BIOS Rev 1.0(11/05/2009) <input checked="" type="checkbox"/> Carrier Board : N/A <input checked="" type="checkbox"/> Expansion Board : N/A <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> CPU : Intel(R) Atom(TM) CPU N270 1.6GHz <input checked="" type="checkbox"/> North Bridge : Intel 945GSE <input checked="" type="checkbox"/> South Bridge : Intel NH82801GBM(ICH7M) <input checked="" type="checkbox"/> VGA Chipset : Intel 945GSE integrated <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC655 <input checked="" type="checkbox"/> Ethernet Chipset : Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet <input checked="" type="checkbox"/> I/O Chipset : ITE 8712 <input checked="" type="checkbox"/> TV Chipset : N/A <input checked="" type="checkbox"/> Remark : QE P5 Report for AOP-9120
Test Result Summary	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2010/02/24

Issue date

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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
System	AOP-9120
PCB Model / Version	EMB-9459T A1.0
BIOS / Version	AOP-9120 BIOS Rev 1.0(11/05/2009)
CPU Type	Intel(R) Atom(TM) CPU N270 1.6GHz
Memory Type	DSL DDR2-533 512MB E5108AJBG-6E-E
SATA	Fujitsu MHZ20808H 80GB
Primary IDE Master	N/A
Primary IDE Slave	N/A
CRT	N/A
LCD	Onboard 12" VGA (1024*768) color TFT LCD
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Expansion Board	N/A
Operating System	Linux- Fedora 11
	Windows XP Professional English Version V2002 Service Pack 3
Power Supply	N/A

Test Result for Certification

1. OSD Control Function Test

OSD Control Function	Result			Note
	Pass	Fail	N/A	
Power off	X			
Power on	X			
Brightness for Day and Night			X	

2. 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	
DOM (Disk On Module) – 44 Pin			X	
COM 1-232	X			
COM 2-232	X			
COM 3-232	X			
COM 4-232	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	
IR			X	
USB 1/2 Ports	X			
USB 3/4 Ports	X			
USB 2.0 1/2 Ports	X			

USB 2.0 3/4 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			
FAN1 Connector			X	
FAN2 Connector			X	
Express card			X	
Speaker Connector			X	
LCD Backlight Power Connector			X	
DC in Connector			X	
PCI Express Mini Card			X	
Power Button	X			
Battery Connector			X	
Front Panel	Result			Notes
	Pass	Fail	N/A	
Power On Button			X	
IDE LED			X	
External Buzzer			X	
On Board Buzzer			X	
Power LED			X	
Battery LED			X	
Reset Switch			X	
Jumpers Function	Result			Notes
	Pass	Fail	N/A	
BIOS write protection Selection and boot Selection			X	
Backlight enable level Selection and LVDS Power Selection			X	
COM1 +12V/+5V/RING Selection			X	
COM2 +12V/+5V/RING Selection			X	
Auto Power button Selection and power on selection			X	
Power source selection			X	

FAN Power Selection				X	
CMOS Clear Selection		X			
LCD Brightness and speaker level Selection				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	
Mini PCI Express				X	
Express card				X	

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
LAN1 LED		Active LED				X		
		Link LED				X		
		Speed LED				X		
LAN2 LED		Active LED				X		
		Link LED				X		
		Speed LED				X		
LAN1	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
		D-Link DGS-1008T	100M	1GBps	100	Pass	Fail	N/A
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		
LAN2	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
		D-Link DGS-1008T	100M	1GBps	100	Pass	Fail	N/A
		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			Result		
					Pass	Fail	N/A
Intel(R) Atom(TM) CPU N270 1.6GHz		533MHz			X		
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
DSL	ELPIDA(E5108AJBG-6 E-E)	DDR2--533	512MB	V3.5	X		
Audio Basic Function Test					Result		
System Sound					X		
CD_In							X
CD_In Sound Recorder							X
Play Sound Recorder							X
Line Out					X		
Line In							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
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 B104SN05 / 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
	Toshiba LTD121EX1S / 12.1" / 1280x768 / 18bit (16:9)		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		5V		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
SB Sound Live ! 5.1 SB0100		Sound Card			X
ADAPTEC Ultra160 SCSI ASC-29160		SCSI Card			X
RTL 8139 10/100MB		LAN Card			X
ADAPTEC 1420SA RoHS 4-Port SATA II RAID		RAID 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	
HDD Compatibility Test				
Model	Result			
	Pass	Fail	N/A	
SATA FUJITSU 80G- MHZ20808H G2	X			
CD/DVD-ROM Compatibility Test				
Model	Result			
	Pass	Fail	N/A	
SONY DVD-RW DRU-840A IDE 40 pin			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			
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: 801H			X	
Output Address:801H			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/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		
LPT2					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		
Fedora 11	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 (RPL/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
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		

8. Performance Test Platform Information

System	AOP-9150
CPU Board	EMB-9459T A1.0
BIOS	AOP-9120 BIOS Rev 1.0(11/05/2009)
Operating System	English Windows XP Professional Service Pack 3
CPU	Intel(R) Atom(TM) CPU N270 1.6GHz
Memory	DSL 512MB DDR2 533(E5108AJBG-6E-E)
SATA HDD	Fujitsu MHZ20808H 80GB
Primary IDE Master	N/A
Primary IDE Slave	N/A
CRT	N/A
LCD	Onboard LCD
Compact Flash	N/A
Expansion Board	N/A
Chipset Software	Intel(R) Chipset Device software ver.9.0.0.1008 (5/01/2008)
Graphics Media	Intel(R) 945 Express Chipset Family ver.6.14.10.4926 (2/28/2008)
LAN Driver	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC ver.5.698.701.2008 (7/1/2008) X 2
Audio Driver	VIA High Definition Audio ver.6.0.1.1550 Date:10/22/2008
Touchscreen Driver	Touchscreen Utility ver.4.3.7.3321
Power Supply	N/A

Test result:

Testing Software	Result	Unit
PCMark2002		
CPU	1319	
Memory	4088	
HDD	1347	
Final Reality V1.01—BenchMark Test		
2D image	10.52	
3D	3.17	
Bus transfer	29.55	
Overall	9.33	Reality marks
3Dmark2001		

3DMark2001SE Build 330_Benchmark mode	1568	
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Test Result:

Testing Software	Result	Unit
PCMark05		
PCMark	771	PCMarks
CPU	596	
Memory	1506	
Graphics	337	
HDD	4659	
3Dmark2003 v360		
3Dmark Score	352	
CPU Score	115	

Remark: Please uses below two performance software to test mainboard if the chipset is new enough.
(ex. Intel Core 2 Duo CPU)