

P5 Verification Test Plan

Release No : 08P010020

Product Model	AEC-7450
Description	Wide temperature embedded control PC
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> CPU Board : AEC-7450 A0.1 <input checked="" type="checkbox"/> BIOS : AEC-7450 BIOS 1.0 (2008/08/22) <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 : Onboard CPU Intel Pentium M 745 1.8GHz <input checked="" type="checkbox"/> North Bridge : Intel 82855GME <input checked="" type="checkbox"/> South Bridge : Intel 6300ESB <input checked="" type="checkbox"/> VGA Chipset : Intel 82855GME <input checked="" type="checkbox"/> Audio Chipset : NS LM4549 <input checked="" type="checkbox"/> Ethernet Chipset : Intel 82546GB <input checked="" type="checkbox"/> I/O Chipset : SMSC LPC47M107S-MC <input checked="" type="checkbox"/> TV Chipset : N/A <input checked="" type="checkbox"/> SDVO : N/A <input checked="" type="checkbox"/> Remark :P5 test Report for AEC-7450
Test Result Summary	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2008/12/03

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	Test Item
PCB Model / Version	AEC-7450	
Carrier Board	N/A	
BIOS / Version	AEC-7450 BIOS 1.0 (2008/08/22)	
CPU Type	Onboard CPU Intel Pentium M 745 1.8GHz	
Memory Type	Onboard DDR333 1024MB	
SATA	N/A	
Primary IDE Master	N/A	
Primary IDE Slave	N/A	
CRT	ViewSonic E70	
LCD	N/A	
Compact Flash	Transcend 4GB	
Backplane	N/A	
Riser Card	N/A	
Expansion Board	PER-V03B A0.1 (DVI Output via SDVO interface)	
	PER-V04B A0.1 (18/24bit LVDS output via SDVO interface)	
Operating System	[] Linux-RedHat 9.0 or [X] Fedora Core 5	6
	Windows Server 2003 English Version / Standard Edition 5.2.3790	N/A
	Windows Server 2003 English Version /Standard x64 Edition	N/A
	Windows XP Professional English Version V2002 Service Pack 2	1,,2,3,4,5,6,7,8
	Windows XP Professional English Version /Standard x64 Edition	N/A
	Windows 2000 Professional English Version V5.00.2195 Service Pack4	N/A
	Windows Server 2000 English Version	N/A
	Windows 98SE English Version V4.10.2222A	N/A
Power Supply	MS-DOS 6.22 English Version	N/A
	ATX Power Supply : N/A	N/A
	AT Power Supply: N/A	N/A
	DC Adapter : AC/DC Adapter FSP120-AAB	1,,2,3,4,5,6,7,8

Test Result for Certification

1. I/O Peripheral Function Test

I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:			X	
Removable Devices	X			
Hard Drive	X			
CD-ROM Drive	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 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 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 (CN34)	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	
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	
Express card				X	

2. Power Connector Test (110V / 220V)

Test Method	Result		
	Pass	Fail	N/A
DC Power Connector- Power On/Off for 10 times in DOS	X		
ATX Connector - Power On/Off for 10 times in DOS			X
AT Connector - Power On/Off for 10 times in DOS			X
5V Only - Power On/Off for 10 times in DOS			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
LAN1~2 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		
		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	
Onboard CPU Intel Pentium M 745 1.8GHz		400MHz	V24.1.4	X			
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
						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			
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			
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			
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
			X
			X
CD/DVD-ROM Compatibility Test			
Model	Result		
	Pass	Fail	N/A
			X
			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 5.0			X		
Windows XP Professional English Version V2002 Service Pack 3			X		
Utility and Driver Test					
OS	Drivers Version		Result		
			Pass	Fail	N/A
Linux Fedora Core 5 (2.6.15-1.2054_FC5)	Chipset Software	Default Setting	X		
	Graphics Media	Default Setting	X		
	LAN Driver	Default Setting	X		
	Audio Driver	N/A			X
Windows XP Professional English Version V2002 Service Pack 3	Chipset Software	Intel Chipset Software Utility 6.3.0.1007(11/24/2004)	X		
	Graphics Media	Intel 82852/82855 GM/GME Graphics Controller 6.14.10.4497(2/7/2006)	X		
	LAN Driver	Intel PRO/1000MT Dual Port Network Connection 8.7.1.0(4/27/2006)	X		
	Audio Driver	NSC 82801BA AC97 Audio 1.0.0.1(9/11/2001)	X		

7. Performance Test

Platform Information

CPU Board	AEC-7450
Carrier Board	N/A
BIOS	AEC-7450 BIOS 1.0 (2008/08/22)
Operating System	English Windows XP Professional Service Pack 2 V2002
CPU	Onboard CPU Intel Pentium M 745 1.8GHz
Memory	Onboard DDR333 1024MB
SATA HDD	N/A
Primary IDE Master	Please uses 160GB IDE HDD
Primary IDE Slave	N/A
CRT	ViewSonic E70 17"
LCD	N/A
Compact Flash	Transcend 4GB
Expansion Board	N/A

	N/A
Chipset Software	Intel Chipset Software Utility 6.3.0.1007(11/24/2004)
Graphics Media	Intel 82852/82855 GM/GME Graphics Controller 6.14.10.4497(2/7/2006)
LAN Driver	Intel PRO/1000MT Dual Port Network Connection 8.7.1.0(4/27/2006)
Audio Driver	NSC 82801BA AC97 Audio 1.0.0.1(9/11/2001)
Touchscreen Driver	N/A
Power Supply	AC/DC Adapter FSP120-AAB

Test result:

Testing Software	Result	Unit
PCMark2002		
CPU	6051	
Memory	10252	
HDD	96	
Final Reality V1.01—BenchMark Test		
2D image	35.83	
3D	7.60	
Bus transfer	40.57	
Overall	21.01	Reality marks
3Dmark2001		
3Dmark2001SE Build 330_Benchmark mode	2096	

Test Result:

Testing Software	Result	Unit
PCMark05		
PCMark	N/A	PCMarks
CPU	2903	
Memory	2215	
Graphics	N/A	
HDD	N/A	
3Dmark2003 v360		
3Dmark Score	102	
CPU Score	N/A	

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

(ex. Intel Core 2 Duo CPU)