

P5 Verification Test Plan

Release No : 08P010023

Product Model	AEC-6410
Description	Fanless embedded controller with AMD Geode LX800
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB : EPIC-5536 A1.0 <input checked="" type="checkbox"/> BIOS : AEC-6410 BIOS Rev 1.0 (09/08/2008) <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> North Bridge : AMD Geode LX 800 <input checked="" type="checkbox"/> South Bridge : CS5536 <input checked="" type="checkbox"/> VGA Chipset : Integrated VGA <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC655 AC97 CODEC <input checked="" type="checkbox"/> Ethernet Chipset : Realtek 8100C 10/100Mb Chip <input checked="" type="checkbox"/> I/O Chipset : ITE8712F/KX-L + Fintek F81216DG <input checked="" type="checkbox"/> Remark : QE NPDP P5 Report for ACE-6410
Test Result Summary	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2008/12/24

Issue date

Wenyuan Yang

Manager

Danny Chen

Test Engineer

Summary Table of contents :

Summary Table of contents	2
Platform Information	3
1. I/O Peripheral Function Test	4
2. Power Connector Test	7
3. Timer Accuracy Test	7
4. Network HUB / LAN Connection Test	7
5. Hardware compatibility	8
6. O.S. Compatibility Test	13
7. BIOS Function Test	14
8. Performance Test	15

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	EPIC-5536 A1.0	
BIOS / Version	AEC-6410 BIOS Rev 1.0 (09/08/2008)	
CPU Type	Geode-LX 800 /500MHz	
Memory Type	ATP DDR333 SODIMM 512MB SAMSUNG K4H510838C-UCB3	
SATA HDD	N/A	
Primary IDE Master	N/A	
Primary IDE Slave	N/A	
CRT	ViewSonic E70"	
LCD	N/A	
Compact Flash	<u>Transcend CF card 4GB</u>	
PCI-104	N/A	
Backplane	N/A	
Operating System	[] Linux-RedHat 9.0 or [] Fedora Core 4.0 [X] Fedora Core 6.0	1,2,3,4,5,6,7,8
	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 3	1.2.3.4.5.6.7.8
	Windows XP Professional Simplified-Chinese Version V2002 Service Pack 3	N/A
	Windows XP Professional Japanese Version V2002 Service Pack 2	N/A
	Windows XP Professional English Version /Standard x64 Edition	N/A
	Windows 2000 Professional English Version V5.00.2195 Service Pack4	N/A
	Windows 2000 Professional Simplified-Chinese Version V5.00.2195 Service Pack4	N/A
	Windows 2000 Professional Japanese Version V5.00.2195 Service Pack4	N/A
	Windows Server 2000 English Version	N/A
	Windows 98SE English Version V4.10.2222A	N/A
	MS-DOS 6.22 English Version	N/A
Power Supply	ATX Power : N/A	N/A
	AT Power : N/A	N/A
	DC Power: EA-1050A-120 -12V	1.2.3.4.5.6.7.8

Test Result for Certification

1. I/O Peripheral Function Test

I/O Peripheral Function Test –I/O Function	Result		
	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		
LPT 2			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 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 Port			X
DVI Function			X

DIO Connector			X
Card Bus			X
PC/104			X
PC/104-Plus			X
PCI-104			X
CD-In Connector			X
TV-out / S Terminal			X
TV-out / AV Terminal			X
Touch Screen – 8 Wire			X
Touch Screen – 5 Wire			X
DIMM Slots			X
Watchdog IRQ n	X		
Watchdog Software Control	X		
FAN1 Connector			X
Speaker Connector			X
Power Button	X		
Front Panel	Result		
	Pass	Fail	N/A
Power On Button	X		
IDE LED	X		
External Buzzer			X
On Board Buzzer			X
Power LED	X		
Reset Switch			X
Jumpers Function	Result		
	Pass	Fail	N/A
ATX simulates AT			X
Audio Out Selection (W/O & W/ Amplifier)			X
LCD Power Select			X
COM1-Ring			X
COM2-Ring			X
COM3-Ring			X
COM4-Ring			X
Clear CMOS			X
Touch Screen Operating Mode Selection			X
Clock Shift of TFT LCD			X
Power Connector & Function	Result		
	Pass	Fail	N/A
DC 12V Power Connector	X		
ATX 24 Pin Power Connector			X
ATX Power Connector			X
ATX Power 12V Connector			X
AT Power 12V Connector			X
Big 4P Power Connector			X
Mini 4P Power Connector			X
External Power Connector(-12/-5V)			X

Option ATX Power Connector (PS-ON / +5VSB)				X
LAN Connector & Function		Result		
		Pass	Fail	N/A
LAN Speed LED	LAN1	X		
	LAN2	X		
	LAN3			X
LAN Active LED	LAN1	X		
	LAN2	X		
	LAN3			X
LAN Link LED	LAN1	X		
	LAN2	X		
	LAN3			X
LAN 10/100 Ethernet		X		
LAN 1G Ethernet				X
PCI Connector & Function		Result		
		Pass	Fail	N/A
Mini PCI Slots				X
PCI Slots				X
PCI Express				X

2. Power Connector Test

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		
	20 sec	X		
	120 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-1008D	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	
AMD Geode LX800		500MHz	V2414	X			
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
SAMSUNG	K4H510838C-UCB3	DDR333	512	V1.70	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
ADAPTEC Ultra160 SCSI ASC-29160	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
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HDD Seagate ST3120026AS 120GB	SATA 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

HDD Compatibility Test			
IDE / SATA Model	Result		
	Pass	Fail	N/A
Seagate ST340014A / Barracuda 7200.40GB			X
Seagate 8T380011A 80GB			X
Western Digital WD800BEVS-22RST0 80GB 2.5" SATA			X
Western Digital WD 1600AAJS-00PSA0 160GB			X
CD/DVD-ROM Compatibility Test			
Model	Result		
	Pass	Fail	N/A
ASUS DVD-E818A 18X DVD ROM			X
LITEON USB2.0 DVD-R/W	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			
Model	Pass	Fail	N/A
Mitsumi FLL3.5 D353GUE/FUE	X		
USB HDD 20GB	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	
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
PER-C20S SATA RAID MiniPCI Card (Silicon Image Sil3512ECTU128 QF7227.1-1)	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
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 6.0			X		
Windows Server 2003 English Version / Standard Edition 5.2.3790					X
Windows Server 2003 English Version /Standard x64 Edition					X
Windows Vista™ Ultimate English Version					X
Windows XP Professional English Version V2002 Service Pack 3			X		
Windows XP Professional English Version /Standard x64 Edition					X
Windows 2000 Professional English Version V5.00.2195 Service Pack4					X
Windows Server 2000 English Version					X
Windows 98SE English Version V4.10.2222A					X
DOS 6.22 English Version					X
Utility and Driver Test					
OS	Drivers Version		Result		
			Pass	Fail	N/A
Linux-Fedora Core 6.0	Chipset Software	Use Default Driver	X		
	Graphics Media	Use Default Driver	X		
	LAN Driver	Use Default Driver	X		
	Audio Driver	Use Default Driver	X		
Windows Server 2003 English Version Standard Edition 5.2.3790	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Vista™ Ultimate English Version	Chipset Software	N/A	X		
	Graphics Media	N/A	X		
	LAN Driver	N/A	X		
	Audio Driver	N/A	X		
Windows XP Professional English Version V2002 Service Pack 3	Chipset Software	Advanced Micro Devices Win XP Graphics Driver 11/22/2005 3.0.2.0	X		
	Graphics Media	Advanced Micro Devices Win XP Graphics Driver 11/22/2005 3.0.2.0	X		
	LAN Driver	Realtek RTL8139Family PCI Fast Ethemet NIC 7/1/2001 5.398.613.2003	X		
	Audio Driver	GeodeLX Audio Driver (WDM) 3/17/2006 2.3.0.0	X		
Windows XP Professional x64 Edition English Version Service Pack 2 V2002	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X

Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Server 2000 English Version	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows 98SE English Version V4.10.2222A	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			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			
AT Power Management Test			X
ATX 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		
CRT / LCD / 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
PC Health Status			
Voltage Monitor Test	X		
FAN Speed Monitor Test	X		
Temperature Monitor 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

CPU Board	EPIC-5536 A0.2
Carrier Board	N/A
BIOS	AEC-6410 BIOS Rev 1.0 (09/08/2008)
Operating System	Windows XP Professional V2002 Service Pack 2
CPU	AMD LX 800 Processor (500MHz)
Memory	ATP DDR333 SODIMM 512MB SAMSUNG K4H510838C-UCB3
SATA HDD	N/A
Primary IDE Master	N/A
Primary IDE Slave	N/A
CRT	ViewSonic E70
LCD	N/A
Compact Flash	Transcend CF card 4GB
Expansion Board	N/A
Chipset Software	Advanced Micro Devices Win XP Graphics Driver 11/22/2005 3.0.2.0
Graphics Media	Advanced Micro Devices Win XP Graphics Driver 11/22/2005 3.0.2.0
LAN Driver	Realtek RTL8139Family PCI Fast Ethernet NIC 7/1/2001 5.398.613.2003
Audio Driver	GeodeLX Audio Driver (WDM) 3/17/2006 2.3.0.0
Touchscreen Driver	N/A
Power Supply	DC Adapter : EA-1050A-120 -12V

Test result:

Testing Software	Result	Unit
PCMark2002		
CPU	611	
Memory	1622	
HDD	367	
Final Reality V1.01—BenchMark Test		
2D image	3.97	
3D	0.37	
Bus transfer	7.51	
Overall	2.61	Reality marks
3Dmark2001		
3DMark2001SE Build 330_Benchmark mode	N/A	

Test Result:

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

CPU Score	N/A	
-----------	-----	--