

# P5 Verification Test Plan

Release No : 09P010018

Product Model	<b>AEC-6821</b>
Description	Fanless embedded controller with AMD Geode LX800
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> CPU Board : GENE-5315A A1.0 <input checked="" type="checkbox"/> BIOS : AEC-6821 BIOS Rev 1.0(2009/05/08) <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 : AMD Geode LX800 500MHz <input checked="" type="checkbox"/> North Bridge : AMD LX800 <input checked="" type="checkbox"/> South Bridge : AMD CS5536 <input checked="" type="checkbox"/> VGA Chipset : AMD LX800 <input checked="" type="checkbox"/> Audio Chipset : AMD LX800 <input checked="" type="checkbox"/> Ethernet Chipset : Realtek RTL8139DL <input checked="" type="checkbox"/> I/O Chipset : Winbond W83627HG-AW <input checked="" type="checkbox"/> TV Chipset : N/A <input checked="" type="checkbox"/> SDVO : N/A  <input checked="" type="checkbox"/> Remark : P5 Report for AEC-6821
<b>Test Result Summary</b>	
<input checked="" type="checkbox"/> Pass  <input type="checkbox"/> Fail  <input type="checkbox"/> Pass with Deviation  Comment: _____  _____	

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Issue date

Wenyuan Yang

Manager

Jerry Tsai

Test Engineer

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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	GENE-5315A A1.0	
Carrier Board	N/A	
BIOS / Version	AEC-6821 BIOS Rev 1.0(2009/05/08)	
CPU Type	AMD Geode LX800 500MHz	
Memory Type	DSL DDR333 512MB	
SATA	N/A	
Primary IDE Master	FUJITSU 40GB 2.5" IDE HDD	
Primary IDE Slave	N/A	
CRT	ViewSonic E70	
LCD	AUO G065VN01 V.0 / 640x480x18bit / 6.5" / 3.3V LVDS Panel	
Compact Flash	N/A	
Backplane	N/A	
Riser Card	N/A	
Expansion Board	PER-V03B A0.1 (DVI Output via SDVO interface)	N/A
	PER-V04B A0.1 (18/24bit LVDS output via SDVO interface)	N/A
Operating System	[ ] Linux-RedHat 9.0 or [ ] Fedora Core 6	N/A
	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
	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
MS-DOS 6.22 English Version	N/A	
Power Supply	ATX Power Supply : N/A	N/A
	AT Power Supply: N/A	N/A
	DC Adapter : MPU50-105	

## Test Result for Certification

### 1. I/O Peripheral Function Test

I/O Function	Result			Note
	Pass	Fail	N/A	
<b>Floppy Connector / Driver A:</b>			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 I/O 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 Adanter		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. Timer Accuracy Test

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

## 3. 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						
Location	Speed	HUB Type	Cable	HUB	Onboard	Result		

		Length	Speed	LAN Speed	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		

#### 4. Hardware Compatibility

CPU Compatible Test							
CPU Type		FSB	Prime95 Version	Result			
				Pass	Fail	N/A	
AMD Geode LX 800 500MHz		33	V 25.90	X			
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
DSL	ELPIDA E5108AGBG-6E-E	333	512MB	V2.10	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					
TFT LCD	Type	Voltage	Result		
			Pass	Fail	N/A
LVDS	Sharp LQ12S1LG61 /12"/800*600	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
Model LVDS	CLAA170EA TFT LCD 17"- 1280*1024	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	
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	
D-Link DWL-520+ Wireless LAN	LAN Card			X	
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	RAID 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	



<b>HDD Compatibility Test</b>			
Model	Result		
	Pass	Fail	N/A
FUJITSU MHW2080AT IDE 2.5' H.D			X
			X
<b>CD/DVD-ROM Compatibility Test</b>			
Model	Result		
	Pass	Fail	N/A
LITE-ON LITEON DX-20A4PU (USB DVD-ROM)			X
SONY USB2.0 DVD-R/W DRX-830UL (USB DVD-ROM)			X
ASUS DRW-1604P-D/WHT/G/ASUS (USB DVD-ROM)			X
<b>IDE Cable Function test</b>			
IDE Model	Result		
	Pass	Fail	N/A
40 Pin Cable ATA66			X
44 Pin Cable ATA33			X
80 Pin Cable ATA100			X
<b>USB Function Test</b>			
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 – TOSHIBA USB H.D 2G	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	
<b>Peripheral Compatibility-Storage Device</b>					
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			
<b>Digital I/O Connector Test</b>		Result			
		Pass	Fail	N/A	
Input Address:				X	
Output Address:				X	
VCC: (5V)				X	
DIO-1 Function Test				X	
DIO-2 Function Test				X	
<b>Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules</b>					
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
<b>On-Board RAID Function Test</b>					
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	
<b>COM Function Test</b>		Result			
		Pass	Fail	N/A	
COM Port Burn In Test overnight –COM1		X			
COM Port Burn In Test overnight –COM2		X			
COM Port Burn In Test overnight –COM3		X			
COM Port Burn In Test overnight –COM4		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		
RS-232 for 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	

## 5. O.S. Compatibility Test

Installation Operation System Compatibility Test		Result		
		Pass	Fail	N/A
Linux-Red-Hat 9.0 Kernel 2.4.20-8				X
Fedora Core 2.6.15-1.2054 FC5				X
Windows Server 2003 English Version / Standard Edition 5.2.3790				X
Windows XP Professional English Version V2002 Service Pack 3		X		
Windows 2000 Professional English Version V5.00.2195 Service Pack 4				X
Windows 98SE English Version V4.10.2222A				X
Windows XP Professional English Standard Version x64 Edition				X
Windows Vista™ Ultimate x64 Edition English Version				X
Utility and Driver Test				
OS	Drivers Version	Result		
		Pass	Fail	N/A

Fedora Core 2.6.15-1.2054 FC5	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN 1 Driver	N/A			X
	LAN 2 Driver	N/A			X
	Audio Driver	N/A			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 XP Professional English Version V2002 Service Pack 3	Chipset Software	AMD Geode LX Processor Win XP AES 2.01.00(12/20/2005)	X		
	Graphics Media	Advanced Micro Device Win XP Graphics 3.0.2.0(11/22/2005)	X		
	LAN Driver	Realtek RTL 8139/810x 5.505.1004.2002(10/4/2002)	X		
	Audio Driver	Geode LX Audio 2.3.0.0(3/17/2006)	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 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
Windows XP Professional English Standard Version x64 Edition	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Vista™ Ultimate x64 Edition English Version	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X

## 6. 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 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
<b>PC Health Status</b>			
Voltage Monitor Test	X		
FAN Speed Monitor Test			X
Temperature Monitor Test	X		
USB Onboard Device Function Test	X		
COM Address / IRQ Test	X		
LPT Address / IRQ Test			X
BIOS AMI Program Test	X		

## 7. Performance Test

### Platform Information

CPU Board	GENE-5315A A1.0
Carrier Board	N/A
BIOS	AEC-6821 BIOS Rev 1.0(2009/05/08)
Operating System	English Windows XP Professional Service Pack 3 V2002
CPU	AMD Geode LX 800 500MHz
Memory	DSL DDR333 512MB
SATA HDD	N/A
Primary IDE Master	FUJITSU 40GB 2.5" IDE HDD
Primary IDE Slave	N/A
CRT	ViewSonic E70 17"
LCD	N/A
Compact Flash	N/A
Expansion Board	N/A
	N/A
Chipset Software	AMD Geode LX Processor Win XP AES 2.01.00(12/20/2005)
Graphics Media	Advanced Micro Device Win XP Graphics 3.0.2.0(11/22/2005)
LAN Driver	Realtek RTL 8139/810x 5.505.1004.2002(10/4/2002)

Audio Driver	Geode LX Audio 2.3.0.0(3/17/2006)
Touchscreen Driver	N/A
Power Supply	MPU50-105

**Test result:**

Testing Software	Result	Unit
<b>PCMark2002</b>		
CPU	605	
Memory	1493	
HDD	588	
<b>Final Reality V1.01—BenchMark Test</b>		
2D image	3.72	
3D	0.47	
Bus transfer	6.94	
Overall	2.41	Reality marks
<b>3Dmark2001</b>		
3Dmark2001SE Build 330_Benchmark mode	N/A	

**Test Result:**

Testing Software	Result	Unit
<b>PCMark05</b>		
PCMark	N/A	PCMarks
CPU	300	
Memory	508	
Graphics	N/A	
HDD	2345	
<b>3Dmark2003 v360</b>		
3Dmark Score	N/A	
CPU Score	N/A	