

QE Verification Test Plan

Release No : 06P010010

Product Model	AEC-6800
Description	Embedded Control PC
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB : GENE-5312 Rev:A1.0 <input checked="" type="checkbox"/> BIOS : AEC-6800 BIOS Rev:1.0(09/18/2006) <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> North Bridge : AMD Geode™GX series <input checked="" type="checkbox"/> South Bridge : CS5535 <input checked="" type="checkbox"/> VGA Chipset : AMD Geode™GX1 533/500/466 integrated graphic <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC655 <input checked="" type="checkbox"/> Ethernet Chipset : Realtek RTL8100BL <input checked="" type="checkbox"/> I/O Chipset : ITE / IT8712F-A <input checked="" type="checkbox"/> Remark : QE NPDP P5 External Report
Test Result Summary	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2006/11/06

Issue date

Wenyuan Yang

Manager

Andrew Ku

Test Engineer

Summary Table of contents :

Summary Table of contents	2
Platform Information	3
1. Dynamic / Boot_UP Burn_In Test	4
2. Power On and Reset Test	4
3. I/O Peripheral Function Test	4
4. Power Consumption Test	6
5. Power Connector Test	7
6. Timer Accuracy Test	7
7. Network HUB / LAN Connection Test	7
8. Hardware compatibility	8
9. O.S. Compatibility Test	13
10. BIOS Function Test	13
11. Performance Test	14

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-5312 Rev:A1.1	1,2,3,4,5,,6,7,8,9,10,11
BIOS / Version	AEC-6800 BIOS Rev.1.0 (09/18/2006)	1,2,3,4,5,,6,7,8,9,10,11
CPU Type	Geode GX2 333MHz	1,2,3,4,5,,6,7,8,9,10,11
Memory Type	HYNIX / HY5DU121622A / DDR333 /512MB	1,2,3,4,5,,6,7,8,9,10,11
Primary IDE Master	FUJITSU / MHT2020AT / 20.0GB/ATA-33	1,2,3,4,5,,6,7,8,9,10,11
Primary IDE Slave	N/A	
CRT	ViewSonic E773	1,2,3,4,5,,6,7,8,9,10,11
LCD	N/A	
Compact Flash	N/A	
Riser Card	N/A	
Backplane	N/A	
Operating System	[<input checked="" type="checkbox"/>] Linux-RedHat 9.0 or [<input type="checkbox"/>] Fedora Core 4	9
	Windows Server 2003 English Version / Standard Edition 5.2.3790	N/A
	Windows XP Professional English Version V2002 Service Pack 2	9
	Windows 2000 Professional English Version V5.00.2195 Service Pack 4	1,2,3,4,5,,6,7,8,9,10,11
	Windows 98SE English Version V4.10.2222A	N/A
	Windows NT Workstation 4.0 English Version Service Pack 6	N/A
	MS-DOS 6.22	1,2,3,4,5,,6,7,8,9,10,11
	Power Supply	DC Power :EDCA / EA1050F-120 /12V
	AT Power :	N/A

Test Result for Certification

1. Dynamic / Boot_UP Burn_In Test

Test Method	Test Condition	Result		
		Pass	Fail	N/A
Diagnostics Software Burn-In Test.	0°C ~60°C, 30%RH~80%RH, 48 hrs	X		
Power On/Off Test.	0°C ~60°C, 30%RH~80%RH, 24hrs			X

2. Power On and Reset Test

Test Method	Test Condition	Result		
		Pass	Fail	N/A
Power On/Off Test in DOS Mode-100V Power Function Test	10 times in Room Temperature			X
Power On/Off Test in DOS Mode-210V Power Function Test	10 times in Room Temperature			X
KB Reset in Dos Mode-110V Power Function Test	20 times in Room Temperature			X
Hardware Reset in Dos Mode-110V Power Function Test	20 times in Room Temperature			X

3. 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
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	X		
COM 2-232	X		
COM 2-422	X		
COM 2-485	X		
COM 2-Ring /+5V /+12V			X
COM 3			X
COM 4			X

COM 5			X
COM 6			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 Ports			X
USB 6 Ports			X
USB 2.0 1 & 2 Ports			X
USB 2.0 3 & 4 Ports			X
USB 2.0 5 Ports			X
USB 2.0 6 Ports			X
DVI Function			X
DIO Connector	X		
Card Bus			X
PC/104	X		
PC/104-Plus			X
PCI-104			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 – 5 Wire			X
DIMM Slots	X		
Watchdog IRQ n			X
Watchdog Software Control	X		
CPU FAN Connector			X
System FAN Connector			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		
Keyboard Lock			X

Jumpers Function		Result		
		Pass	Fail	N/A
ATX simulates AT				X
Audio Out Selection (W/O & W/ Amplifier)				X
LCD Voltage Selection				X
COM2-Ring/5V/12V Selection				X
COM2 RS-232/422/485 Selection				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 Power Connector		X		
ATX Power_12V Connector				X
AT Power Connector (P8 & P9)				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
I/O Peripheral Function Test – LAN Connector & Function		Result		
		Pass	Fail	N/A
LAN Speed LED	LAN1	X		
	LAN2	X		
LAN Active LED	LAN1	X		
	LAN2	X		
LAN Link LED	LAN1	X		
	LAN2	X		
LAN 10/100 Ethernet		X		
LAN 1G Ethernet				X
I/O Peripheral Function Test – PCI Connector & Function		Result		
		Pass	Fail	N/A
PCI Slots				X
PCI Express				X

4. Power Consumption Test (Run Prime95 Program)

Mode	Test Environment	DC Power: EDCA / EA1050F-120 /12V		AT Power:	
		CPU: Geode GX2 333MHz	CPU:	CPU:	CPU:
OS Environment	WIN XP				
Normal Mode (+5V)		A	A	A	A
Suspend Mode (+5V)		A	A	A	A
5VSB in Power Off Mode (ATX Mode)		A	A	----- A	----- A
5VSB in Power On Mode (ATX Mode)		A	A	----- A	----- A
Normal Mode (+12V)	0.44	A	A	A	A
Suspend Mode (+12V)		A	A	A	A

Normal Mode (+3.3V) (ATX Mode)	A	A	-----	A	-----	A
Suspend Mode (+3.3V) (ATX Mode)	A	A	-----	A	-----	A
Normal Mode (-12V)	A	A		A		A
Suspend Mode (-12V)	A	A		A		A
Normal Mode (-5V)	A	A		A		A
Suspend Mode (-5V)	A	A		A		A

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

Test Method	Result		
	Pass	Fail	N/A
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

6. 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		

7. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
OnBoard LAN1 LED		Active LED				X		
		Link LED				X		
		Speed LED				X		
OnBoard LAN2 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
LAN1	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	100	X		
		Intel InBusiness 8 Ports	100M	100 Mbps	100	X		
		LEMEL LM-S5 5 Ports	100M	100 Mbps	100	X		

Location	Speed	Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
		Accton Desktop-3005	100M	100 Mbps	100	X		
		SVEC FD916H	100M	10 Mbps	10	X		
LAN2	10/100/1000 Mbps	HP J4095A 24 Ports	100M	100 Mbps	100	X		
		D-Link DGS-1008T	100M	1Gbps	100	X		
		Intel InBusiness 8 Ports	100M	100 Mbps	100	X		
		LEMEL LM-S5 5 Ports	100M	100 Mbps	100	X		
		Accton Desktop-3005	100M	100 Mbps	100	X		
		SVEC FD916H	100M	10 Mbps	10	X		

8. Hardware Compatibility

CPU Compatible Test						
Type	Clock Speed	FSB	Prime95 Version	Result		
				Pass	Fail	N/A
Geode GX2 333MHz			V2414	X		
Memory Compatibility Test						
Brand / Memory Size	Chipset	Frequency	MemTest86 Version	Result		
				Pass	Fail	N/A
HYNIX // DDR333 /512MB	HY5DU121622A		V1.65	X		
On Board Audio Function Test						
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	AU B104SN02 / 10.4" / 800*600 / 18bit	3.3V			X
	Hyundai HT12X11-200 / 12.1" / 1024*768 / 18bit	3.3V			X
	Samsung LTM150XH-L04 / 1024*768 / 24bit	3.3V			X
	AU M170EG01 / 17" / 1280*1024 / 48bit	5V			X
TTL	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit	5V			X
	Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit	3.3V			X
	Fujitsu FLC38XGC6V-06 / 15" / 1024*768 / 36bit	3.3V			X

PCI Slot Function (PCI Adapter Card) Test				
Model	Type	Result		
		Pass	Fail	N/A
Matrox G450	VGA Card			X
CHAINTECH NVIDIA GeForce4 MX440-8X	VGA Card			X
SC3000 CMI8738/C3DX	Sound Card			X
Takram DC-395U V1.02	SCSI Card			X
Adaptec Ultra160 SCSI ASC-29160	SCSI Card			X
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	LAN Card			X
Realtek RTL8139B Ethernet	LAN Card			X
D-Link DGE-530T 1000BASE-T Gigabit Ethernet Adapter	LAN Card			X
D-Link DWL-520+ Wireless LAN	LAN Card			X
Genuine GM56-AMI2019	Modem Card			X
ABIT HotRod 100 Pro	RAID Card			X
D-Link DU-520 USB 2.0	Other Card			X
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HAA Seagate ST312 0026AS 120GB [ID-200305]	Other Card			X

PCI-Express Function Test			
Model	Result		
	Pass	Fail	N/A
SksKonnnect SK-9E21D 10/100/1000Base-T Adapter PCI-Express X1 LAN Card			X
WinFast PX6200 TC TDH PCI-Express X16 VGA Card			X

HDD Compatibility Test			
Model	Result		
	Pass	Fail	N/A
FUJITSU / MHT2020AT / 20.0GB/ATA-33	X		
IBM / DTLA-307045 / 46.1GB / ATA-100			X

FUJITSU / MPE 3136AH / 13.6GB / ATA-66			X
Maxtor / 4G160J8 / 160GB / ATA-133			X
Quantum / Fireball Plug AS / 30GB / ATA-100			X
Seagate / ST310210A / 10.2GB / ATA-66			X
Western / WD400BB-75DEA0 / 40GB / ATA-100			X
Seagate / ST3120026AS / 120GB / ATA-100 / S-ATA			X
CD/DVD-ROM Compatibility Test			
Model	Result		
	Pass	Fail	N/A
Acer DVP1640A / 16X / DVD-ROM			X
Pioneer / DVR-A11FXC1 / 8X DVD-RW / 6X DVD-RW			X
IBM HL-DT-ST / GCR-8480B / 48X / CD-ROM			X
Pioneer / DVD-121 / 16X / DVD-ROM			X
SAMSUNG / SH-W08 / DVD+R 8X / DVD-R 8X / CD-R 32X			X
NEC / ND-2500A / DVD R/RW / +R8X-R8X			X
IDE Cable Function test			
IDE Model	Result		
	Pass	Fail	N/A
40 Pin Cable ATA33			X
44 Pin Cable ATA33	X		
80 Pin Cable ATA100			X
USB Function Test			
USB Basic Function Test (USB1/2 on USBRJ1 connector)	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
Use High Speed Device USB2.0 CD-R/W Ben-Q / 4824W1-ON2 to play Nero CD/DVD Speed			X
USB Device Full Loading Test			
USB Device Full Loading Test			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	
IO-Mega zip 100 parallel port	Parallel			X	
IO-Mega zip 100MB Internal ATAPI Drive	IDE			X	
DOC2000 M-System / MD2200-D16				X	
PQI FC512 512MB	Type-I CF Card			X	
HITACHI / HMS360402D5CF00	Type- II CF Card			X	
Digital I/O Connector Test		Result			
		Pass	Fail	N/A	
Input Address: (801)		X			
Output Address: (801)		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-3730	Intel 82559 LAN Module			X
On-Board SCSI Function Test					
Model	Interface	Result			
		Pass	Fail	N/A	
RICOH MP7060S	SCSI-CDROM 24X			X	
Fujitsu MCB3064SS	SCSI-MO Device			X	
Seagate 32155W	SCSI-HDD 2.15GB			X	
IBM DNES-309170	SCSI-HDD 9GB			X	
Seagate ST39205LW/P	9GB / Ultra160 / LVD			X	
COM Port Send / Receive Test		Result			
		Pass	Fail	N/A	
Use software program: COMTEST.exe		X			
Use software program: LL5.exe		X			
Disk On Module [DOM] Compatibility Test					
Model	Interface	Result			
		Pass	Fail	N/A	
DOM-256-026P Rev: A1K20	IDE 40 Pin			X	

DOM-064-426P Rev: A2A11		IDE 44 Pin			X
Mini PCI Card Compatibility Test					
Model		Interface	Result		
			Pass	Fail	N/A
GM-100 WLAN 11g Mini PCI Card (Model: Sky Thru GC-100)		Wireless LAN			X
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)		Wireless LAN			X
AAEON	RTL-8100C 10/100M	LAN Module			X
PER-C100 Mini PCI Card	RTL-8110S 10/100/1000M	LAN Module			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
COM5					X
COM6					X
LPT1					X
LPT2					X
Card Bus(PCMCIA) Compatibility Function Test					
Model		Result			
		Pass	Fail	N/A	
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	

9. 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 4					X
Windows Server 2003 English Version / Standard Edition 5.2.3790					X
Windows XP Professional English Version V2002 Service Pack 2			X		
Windows 2000 Professional English Version V5.00.2195 Service Pack 4					X
Windows 98SE English Version V4.10.2222A					X
Windows NT Workstation 4.0 English Version Service Pack6					X
MS-DOS 6.22			X		
Utility and Driver Test					
OS	Drivers Version		Result		
			Pass	Fail	N/A
Linux-Red-Hat 9.0 / Kernel 2.4.20-8	Graphics Media	Default	X		

	LAN1 Driver	Default	X		
	LAN2 Driver	Default	X		
	Audio Driver	Default	X		
Windows Server 2003 English Version / Standard Edition 5.2.3790	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows XP Professional English Version V2002 Service Pack 2	Graphics Media	Advanced Micro Devices Windows Graphic Driver Ver.2.0.1.0	X		
	LAN1 Driver	Realtek RTL8139 Family PCI Fast Ethernet Ver.5.396.530.2001	X		
	LAN2 Driver	Realtek RTL8139 Family PCI Fast Ethernet Ver.5.396.530.2001	X		
	Audio Driver	Geode –GX2 WDM Audio Driver Ver.1.4.1.0	X		
Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows 98SE English Version V4.10.2222A	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows NT Workstation 4.0 English Version 4.00.1381 Service Pack6	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X

10. 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
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		

11. Performance Test

English Windows 2000 Professional with SP4 5.00.2195 + 1024x768x32bit / 60Hz + Direct 9.0		
ZD WinBench 99 V2.0		Unit
Business Disk WinMark99	4770	Thousand bytes/sec
High-End Disk WinMark99	594	Thousand bytes/sec
Business Graphics WinMark99	18600	
High-End Graphics WinMark99	131	
Final Reality V1.01—BenchMark Test (Reality Marks)		
2D Image	3.59	
3D	0.38	
Bus transfer	4.69	
Overall	1.99	Reality marks
ZD 3D Winbench 2000 V1.1		
3D WinMark 2000	N/A	Frames / sec
ZD Multimedia Content Creation Winstone 2004 V1.0.1		
Multimedia Content Creation Winstone 2004	N/A	
3Dmark2001SE Pro (Demo version)		
3DMark2001SE Build 330_Benchmark mode	N/A	
English Windows XP Professional with SP2 V2002 + 1024x768x32bit / 60Hz + Direct 9.0		
Business Winstone 2004 v1.0.1		
Business Winstone2004	N/A	