

P5 Verification Test Report

Release No: 08P010015

Product Model	POP-100
Description	10.2" Open frame Panel PC, Ethernet Operator Panel
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> System : POP-100 A1.0 <input checked="" type="checkbox"/> PCB : GENE-8310 A1.11 <input checked="" type="checkbox"/> BIOS : POP-100 BIOS Rev A1.0(07/30/2008) <input checked="" type="checkbox"/> LCD : CPT CLAA102NA01CW 10.2" TFT LCD 1024*600 Resolution <input checked="" type="checkbox"/> Touch Panel : Abon 5-wire USB interface resistive touch screen <input checked="" type="checkbox"/> M/B Chipset <input checked="" type="checkbox"/> North Bridge : Intel 8552GM <input checked="" type="checkbox"/> South Bridge : Intel ICH4 <input checked="" type="checkbox"/> VGA Chipset : Intel 852GM integrated VGA <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC655 2CH <input checked="" type="checkbox"/> Ethernet Chipset : Intel 82562 10/100Mb Chip <input checked="" type="checkbox"/> I/O Chipset : ITE 8712IX <input checked="" type="checkbox"/> TV Chipset : Chronitel CH7009B <input checked="" type="checkbox"/> Remark : POP-100 A1.0 QE NPDP P5 External Report
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____	

2008/08/14

Issue date

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Manager

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Test Engineer

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Platform Information:

Item	Device Information
System	POP-100 A1.0
PCB Model / Version	GENE-8310 A1.11
BIOS / Version	POP-100 BIOS Rev A1.0(07/30/2008)
CPU Type	Intel ULV Celeron-M 1.5GHz
Memory Type	DSL DDR333 512MB (Hynix HY5DU121622DTP- J KOR)
SATA	N/A
Primary IDE Master	FUJITSU MHV2040AC 40GB 2.5" PATA
Primary IDE Slave	N/A
CRT	ViewSonic E70
LCD	CPT CLAA102NA01CW 10.2" TFT LCD 1024*600 Resolution
Touch Panel	Abon 5-wire USB interface resistive touch screen
Compact Flash	N/A
Riser Card	N/A
Inverter	ATBEL Inverter AB-A301.V.03S
Daughter Board	N/A
I/O Board	N/A
Operating System	Windows XP Professional English Version V2002 Service Pack 2
	Windows 2000 Professional English Version V5.00.2195 Service Pack4
Power Supply	SINPRO MPU100-108 24V / 4.16A

1. I/O Peripheral Function Test

The Result:

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	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 2-422	X			
COM 2-485	X			ICP CON I-7044D D/IO Module
COM 2-Ring /+5V /+12V			X	
COM 3-232			X	
COM 4-232			X	
COM 5-232			X	
COM 6-232			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 7/8 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 7/8 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	SHARP LCDTV LC-20S5T
TV-out / AV Terminal			X	SHARP LCDTV LC-20S5T
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			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	
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			Notes
	Pass	Fail	N/A	
ATX 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	
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			

PCI Connector & Function	Result			Notes
	Pass	Fail	N/A	
LAN 1G Ethernet			X	HUB:D-Link DGS-1008T
Mini PCI Slot	X			
PCI Slot			X	
PCI Express			X	NW-200503 / NW-200504

2. Timer Accuracy Test

2-1. System Clock & RTC Clock Test

- Test Points: 1. This test focuses on the accuracy of system clock and RTC
 2. Check your local time to adjust system clock and RTC in BIOS setup menu to fit system
 3. Check if the time is correct or not after 24 hours passed

Under Room Temperature: 25 °C

Item Function	Time Interval	Margin for error	Actual	Result			Note
				Pass	Fail	N/A	
RTC Clock in Power On Mode	24 hrs	+/-3 sec	-2 Sec	X			
RTC Clock in Power Off Mode	24 hrs	+/-3 sec	+1 Sec	X			

2-2. Watchdog Timer Test

- Test Points: 1. Setup every time-out interval to check if system can generate a reset while on setting time.
 2. Please pay attention to which method we would use to make system reset, Watchdog-IRQ n or Software Programming or BIOS Setup

Use Function as below:

Watchdog-IRQ n Software Programming.

BIOS Setup. No Support.

Under Room Temperature: 25°C / DOS Mode .

Time-out interval	IRQ	Reset	Margin for error	Actual	Result			Note
					Pass	Fail	N/A	
10 sec			+/- 20%	10 Sec	X			Software provided by Aaeon S/W
60 sec			+/- 20%	62 Sec	X			
255 sec			+/- 20%	277 Sec	X			
60 sec	10		+/- 20%	Sec				
60 sec	11		+/- 20%	Sec				
60 sec	15		+/- 20%	Sec				

3. Network HUB / LAN Connection Test

3-1. LAN LED Function Test :

- Test Points: 1. Active LED→ It shows flickering orange color while LAN is access
 2. Link LED→ It shows green color that is always on while LAN speed is 10/100 MBPs
 →It shows red-orange color that is always on while LAN speed is 1000 MBPs (Gigabit)

OnBoard LAN 1 : LED Indicator Lights Function Test [] No Support

Test Item	Active LED (Flickering Orange Color)	Link / Speed LED (10/100: Green Color) (Gigabit: Red-Orange Color)	Note
Pass	X	X	
Fail			
N/A			

3-2. Network HUB / LAN Connects Test:

- Test Point: 1. A represents QE Windows XP Pro / B represents Tested machine (Under Windows)
 2. A ↔ B means to connect two computers each other by using “Ping” instruction
 3. Use CAT.6 network cable with RJ-45 connector to test
 4. Allow failure rate under 1/1000.

LAN1 Port Test : [X]10 , [X]100 , []1000 Mbps

Network HUB / HUB Speed		Transfer Mode	Cable Length	Function Test					Note
				Packet in Byte	Send	Onboard LAN Speed	Received	N/A	
HP J4095A 24 Ports	100 MBps	A ↔ B	100 M	8192	1000	100	999		
D-Link DGS-1008D	1GBps	A ↔ B	100 M	8192	1000	100	999		
D-Link DES-1316 PoE Switch	100 MBps	A ↔ B	100 M					X	
Intel InBusiness 8 Port	100 MBps	A ↔ B	100 M					X	
Accton DeskTop-3005	100 MBps	A ↔ B	100 M					X	
SVEC FD916H (10 Mbps HUB)	10 MBps	A ↔ B	100 M	8192	1000	10	999		

3-3. SmartBits Test:

DUT Platform Information:

System	POP-100 A1.0
PCB Model / Version	GENE-8310 A1.11
BIOS	POP-100 BIOS Rev A0.1 (04/23/2008)
Operating System	English Linux Fedora Core 5 Ver :2.615-1.2054
CPU	Intel ULV Celeron-M 1.5GHz
Memory	DSL DDR333 512MB (Hynix HY5DU121622DTP- J KOR)
SATA HDD	N/A
Primary IDE Master	FUJITSU MHV2040AC 40GB 2.5" PATA
Primary IDE Slave	N/A
LAN Module	PER-C10L 10/100 With INTEL 82551QM Mini PCI LAN Card
Expansion card	N/A
CRT	ViewSonic E70
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
LAN	LAN1→ Intel 82562 10/100Mb RJ45 Copper Ethernet LAN LAN2→ PER-C10L 10/100 With INTEL 82551QM Mini PCI LAN Card
Power Supply	SINPRO MPU100-108 24V / 4.16A

SMB Platform Information:

Chassis	SPIRENT Smartbits 600B
Chassis Version	2.80.003 (Cur) 2.50.000
Chassis Serial #	06014047
Library	6.00-29
API	5.50.42.01
File	0550042
Module	2 * LAN-3324A SmartMetrics XD 4-Port 10/100/1000Base-T Gigabit Ethernet
Test Software	SmartFlow5.50.42.1

Test Purpose:

1. To determine the DUT throughput as defined in RFC 1242.
2. All tests must be complied with RFC-2544 & RFC-1242

Test Procedure:

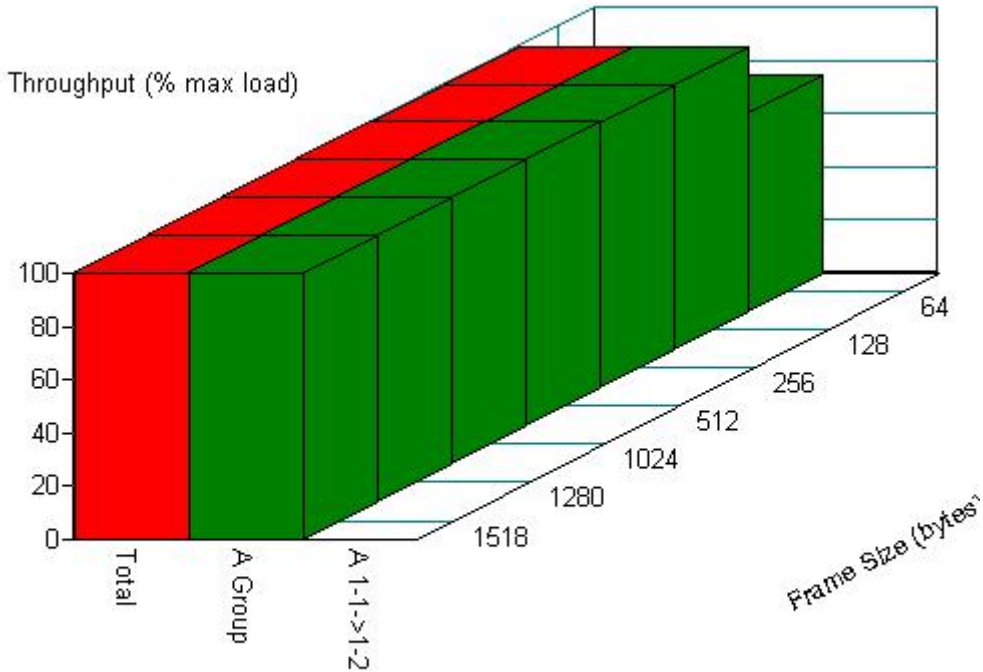
Send a specific number of frames at a specific rate through the DUT and then count the frames that are transmitted by the DUT. If the count of offered frames is equal to the count of received frames, the fewer frames are received than were transmitted, the rate of the offered stream is reduced and the test is rerun (Defined in RFC 2544)

Test Key Point:

Minimum LAN requirement: 2 port
 Frame size: 64, 128, 256, 512, 1024, 1280, 1518 bytes
 Direction: Half, Dual
 Tolerable packet loss rate: 0%
 Iteration constants: 30 sec
 DUT environment: Fedora Core Router Mode

Test Result:

1. Half Direction (LAN1: Intel 82562 10/100Mb RJ45 Copper Ethernet LAN → LAN2: PER-C10L 10/100 With INTEL 82551QM Mini PCI LAN Card)

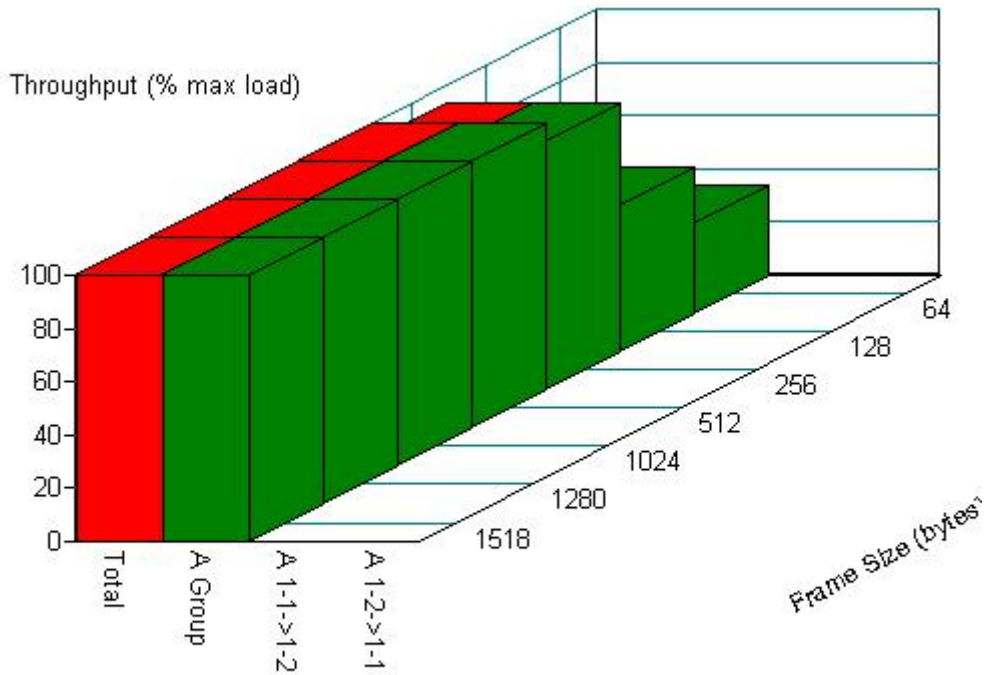


Throughput vs Frame Size

Throughput Table

Framesize	64	128	256	512	1024	1280	1518
Name							
Total	73.703125	99.2265625	99.2265625	100	100	100	100
A Group	73.703125	99.2265625	99.2265625	100	100	100	100
A 1-1 → 1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Binary Direction (LAN1: Intel 82562 10/100Mb RJ45 Copper Ethernet LAN → LAN2: PER-C10L 10/100 With INTEL 82551QM Mini PCI LAN Card)



Throughput vs Frame Size

Throughput Table

Framesize	64	128	256	512	1024	1280	1518
Name							
Total	33.484375	54.3671875	93.0390625	100	100	100	100
A Group	33.484375	54.3671875	93.0390625	100	100	100	100
A 1-1→1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4. Hardware Compatibility

4-1. CPU Compatibility Test

- Test Points: 1. This test focuses on the CPU compatibility
2. Run Prime95 Under Windows for 8 hours

Run Prime95 for 8 hours

OS	CPU Type	FSB	Result			Note
			Pass	Fail	N/A	
Windows Environment	Intel ULV Celeron-M 1.5GHz	100	X			

4-2. Memory Compatibility Test

- Test Points: 1. "DIMM 2(1)" means to insert DIMM item 1 in DIMM slot 2
2. Power on machine then boot into DOS environment run "Memory Test Software"
3. Run MemTest overnight in DOS mode for each item

Memory List:

Item	Memory Brand	Memory Chipset	Frequency	Size (MB)	Note
01	DSL DDR333	Hynix HY5DU121622DTP- J KOR	166MHz	512MB	
02					
03					
04					
05					
06					
07					

Test Result:

Environment Configuration	MemTest Version	Result			Note
		Pass	Fail	N/A	
DIMM 1(1)	V1.70	X			
DIMM 2(1)				X	
DIMM 1(1) + DIMM 2(1)				X	
DIMM 1(2)				X	
DIMM 2(2)				X	
DIMM 1(2) + DIMM 2(2)				X	
DIMM 1(3)				X	
DIMM 2(3)				X	
DIMM 1(3) + DIMM 2(3)				X	
DIMM 1(4)				X	
DIMM 2(4)				X	
DIMM 1(4) + DIMM 2(4)				X	
DIMM 1(5)				X	
DIMM 2(5)				X	
DIMM 1(5) + DIMM 2(5)				X	
DIMM 1(6)				X	
DIMM 2(6)				X	
DIMM 1(6) + DIMM 2(6)				X	
DIMM 1(7)				X	
DIMM 2(7)				X	
DIMM 1(7) + DIMM 2(7)				X	

4-3. On Board Audio Function Test

4-3.1. Audio Basic Function Test

- Test Points: 1. Check if the sound driver can be installed correctly in Windows
 2. Use the AP program supplied by sound driver to test sound function
 3. Please pay attention to Left / Right sound output

The Result:

Function Test		Result			Note
		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	Dynamic microphone [DP-2003002]
	Condenser			X	Condenser Microphone [DP-2003001]
MIC Sound Recorder	Dynamic			X	Dynamic microphone [DP-2003002]
	Condenser			X	Condenser Microphone [DP-2003001]

4-4. On Board LCD Function Test

- Test Point: 1. Please pay more attention to panel color, resolution, and shift issue when you test LCD
 2. Check LCD display in POST and Windows mode

Test Result:

TFT LCD Model		Result			Note
		Pass	Fail	N/A	
LVDS	CPT CLAA102NA01CW / 10.2" / 1024x600 18bit (16:9)	X			PAA system panel
	AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)			X	LM-200604 / 3.3V
	AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)			X	LM-200608 / 3.3V
	AU B104SN02 / 10.4" / 800*600 / 18bit (4:3)			X	LM-200113 / 3.3V
	AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)			X	LM-200703 / 3.3V
	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)			X	LM-200115 / 3.3V
	AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)			X	LM-200603 / 3.3V
	AU M170EG01 V.D / 17" / 1280*1024 / 48bit (4:3)			X	LM-200601 / 5V
	AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)			X	LM-200704 / 5V
	AUO T260XW02 / 26" / 1366x768 / 24bit			X	LM-200702 / 5V
	AU M201UN02 V.5 / 20.1" / 1600x1200x48bit			X	LM-200607 / 5V
	AUO T370HW01 / 37" / 1920x1080 / 48bit			X	LM-200701 / 5V
TTL	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit (4:3)			X	LM-200100 / 5V
	NEC NL8060AC31-12 / 12.1" / 800*600 / 18bit (4:3)			X	LM-200101 / 3.3/5V
	Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit (4:3)			X	LM-200102 / 3.3V
	LG LM151X2-C2TH / 15.1" / 1024x768 / 18bit (4:3)			X	LM-200605 / 3.3V
	Fujitsu FLC38XGC6V-06 / 15" / 1024*768 / 36bit (4:3)			X	LM-200602 / 5V

4-5. USB Function Test

Test Points: 1. Enable/Disabled USB Function in BIOS then check if the result is fine or not Under Windows or DOS.

4-5.1. USB Basic Function Test :

USB In BIOS Setup Test :

In BIOS Setup Menu					
USB Port	USB 1 / 2	USB 3 / 4	USB 5 / 6	USB 7 / 8	Note

Test Item		Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
USB Controller	Enable	X					X			X			X	Under Windows
	Disable	X					X			X			X	Under Windows
USB 2.0 Controller	Enable	X					X			X			X	Under Windows
	Disable	X					X			X			X	Under Windows
USB Keyboard Support	Enable	X					X			X			X	Under DOS 6.22
	Disable	X					X			X			X	Under DOS 6.22
USB Mouse Support	Enable	X					X			X			X	Under DOS 6.22
	Disable	X					X			X			X	Under DOS 6.22

USB System Booting Test :

- Test Points: 1. Set following devices as the first boot device in BIOS setup menu
2. Restart and check if system could boot from them

System Booting Test														
Item	USB Port	USB 1 / 2			USB 3 / 4			USB 5 / 6			USB 7 / 8			Note
		Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD		X					X			X			X	Please use USB thumb device to boot
USB FDD Mitsumi D353GUE		X					X			X			X	[FL-200201] Max 5V / 500mA
USB2.0 DRW-1604P-D/WHT/G/ASUS		X					X			X			X	[CD-200501]

4-5.2. USB Compatible Test :

- Test Points: 1. Test Read and Write function for the following devices

[X] USB 1.1 [X] USB 2.0 Compatible Test

Item	USB Port	USB 1 / 2			USB 3 / 4			USB 5 / 6			USB 7 / 8			Note
		Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
USB 2.0 HUB ATEN/ 4 Port UH-204		X					X			X			X	[HB-200201]
USB FDD Mitsumi D353GUE		X					X			X			X	[FL-200201] Max 5V / 500mA
USB2.0 DRW-1604P-D/WHT/G/ASUS		X					X			X			X	[CD-200501]
USB HDD IBM IC25N020ATCS04-0 / 20GB / 4200RPM		X					X			X			X	1394b + USB2.0 External Box (MP-FBHUB20P-V2.0 E10-7073161D60)

4-5.3. Install Windows XP Professional from USB CD-ROM Device

- Test Points: 1. This test focuses on whether we can install OS from USB devices or not
2. Install Windows XP Professional by High Speed USB2.0 CD/DVD-ROM

	Pass	Fail	N/A	Note
Install Windows XP Professional by HighSpeed Device: USB2.0 DRW-1604P-D/WHT/G/ASUS	X			Set it as first boot device in BIOS Setup Menu

4-6. COM Port Function Test

4-6.1. COM Port Burn In Test

- Test Point: 1. Use BurnIn Test V5.1 Pro to test COM port reliability
2. Add all COM port of test machine into “COM Ports Selected” table and set “detect and loopback test” in Set Preferences→Serial Ports
 3. Attach COM port loopbacks to each COM connector then burn in overnight
 4. Com port status must be error free after finish test

BurnIn Test V5.1 Pro	Result			Note
	Pass	Fail	N/A	
COM1	X			
COM2	X			
COM3			X	
COM4			X	
COM5			X	
COM6			X	

4-7. Mini PCI Card Compatibility Test

Test Result:

Device Item	Detect Message		Function Test		N/A	Note
	Pass	Fail	Pass	Fail		
GM-100 WLAN 11g Mini PCI Card (Model: Sky Thru GC-100)					X	MI-200601
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)					X	MI-200602
PER-C20L MiniPCI LAND Card (Intel 82551QM rEV A1.0)	X		X			

4-8. COM/LPT Ports & RS-232/422/485 Function Test

Test Result:

Basic Function Test						
Test Item		Result			Note	
		Pass	Fail	N/A		
RS-422 for COM2		X			Use loopback and WINSSD.exe to test RS-422 in Windows	
RS-485 for COM2		X			Use ICP CON I-7044D D/IO Module in Windows	
COM1	Serial Mouse	X				
	Serial Modem	X				
COM2	Serial Mouse	X				
	Serial Modem	X				
COM3	Serial Mouse			X		
	Serial Modem			X		
COM4	Serial Mouse			X		
	Serial Modem			X		
COM5	Serial Mouse			X		
	Serial Modem			X		
COM6	Serial Mouse			X		
	Serial Modem			X		
LPT1				X	Epson Stylus C61 Printer	
LPT2				X	Epson Stylus C61 Printer	

4-9. Modular System Industrial Workstation Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
AC power outlet / inlet	X			
Power On / Off	X			
CD-ROM & Floppy drive included			X	
Lockable front-panel door			X	
Finger mouse			X	
Front USB Port	X			
59 Data-entry&20/24 Function keys			X	
Digital brightness controller			X	
OSD Function Test			X	
Remote LCD Function Test			X	

4-10. Mechanism construction check

Test Item	Result			Note
	Pass	Fail	N/A	
Panel construction check	X			
Case construction check	X			
PCMICA construction check			X	
I/O Port connector check	X			Serial port / Parallel port / PS2 connector
USB connector check	X			
Component check	X			

5. O.S. Compatibility Test

5-1. Windows XP Professional English Version

[] No Support

Driver Information:

Chipset Software	Intel(R) Chipset Software Installation Utility 6.0.1.1002
Graphics Media	Intel(R) 82852/82855 GM/GME Graphics Controller 6.14.10.4020 (1/23/2005)
LAN Driver	Intel(R) PRO/100 VE Network Connection 7.1.12.0 (2/10/2004)
Audio Driver	Realtek AC'97 Audio 5.10.0.5630 (7/1/2004)
Touch Screen	USB Touchscreen Ver: 4.3.7.3203 Date: 08/03/2006

Install OS to [X]IDE []SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	
English Windows XP Professional Service Pack 2 V2002 APM Mode	X			

Onboard RAID Function Test:

Installation	Result			Note
	Pass	Fail	N/A	
Set 2 SATA HDDs as RAID 0 and install Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	
Set 2 SATA HDDs as RAID 1 and install Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	

Test Points: 1. Before starting every test, you must install all drivers completely first

VGA Resolution Test

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [] 16bit [X] 32bit

Resolution	CRT (Please use CTX PR-960F to Test)			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480			X			X			X	
800X600	X					X			X	
1024X768	X					X			X	
1280X1024			X			X			X	
1600X1200			X			X			X	

CRT Model Name: CTX PR-960F (Max Resolution 1600x1200)

TTL Panel:

LVDS Panel:

Display Function Test:

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while system reaches Windows then check VGA driver and display

	Check VGA driver			Check Display			
	Pass	Fail	N/A	Pass	Fail	N/A	
In Windows Desktop			X			X	

Test Results:

Test Item	Pass	Fail	N/A	Note
Install From USB CD-ROM				
Install to HDD	X			
Display Function Test				
CRT -- Full Screen			X	
LCD -- Full Screen			X	
DVI --- Full Screen			X	
TV ---- Full Screen			X	
DVI + LCD			X	
CRT + LCD			X	
CRT + DVI			X	
CRT + TV			X	
CRT + LCD + TV			X	
External VGA Card Test (Dual Display)				
CHANTECH NVIDIA GeForce4 MX440-8X			X	
Boot - Windows XP Professional Advanced Options Menu				
Safe Mode			X	
Safe Mode with Networking			X	
Safe Mode with Command Prompt			X	
Enable Boot Logging			X	
Enable VGA Mode			X	
Last known Good Configuration			X	
Directory Services Restore Mode (windows XP domain controllers only)			X	
Debugging Mode			X	
Disable automatic restart on system failure			X	
Start Windows Normally	X			
Reboot			X	
Return to OS Choices Menu			X	
Basic Function Test				
IDE Primary Master	X			
IDE Primary Slave	X			
IDE Secondary Master			X	
IDE Secondary Slave			X	
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
LAN Function Test				
LAN1 --- Auto	X			
LAN2 --- Auto			X	
Audio Function Test				
Audio 5.1 Channel Test			X	
S/P DIF Test			X	
Play Audio Function Test	X			
Start Menu				
Log off User	X			
Shut down	X			
Standby			X	
Restart	X			
Hibernate			X	

5-2. Windows 2000 Professional English Version

[] No Support

Driver Information:

Chipset Software	Intel(R) Chipset Software Installation Utility 6.0.1.1002
Graphics Media	Intel(R) 82852/82855 GM/GME Graphics Controller 6.14.10.4020 (1/23/2005)
LAN Driver	Intel(R) PRO/100 VE Network Connection 7.1.12.0 (2/10/2004)
Audio Driver	Realtek AC'97 Audio 5.10.0.5630
Touch Screen	USB Touchscreen Ver: 4.3.7.3203 Date: 08/03/2006

Install OS to [X]IDE []SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 2000 Professional Service Pack 4 V5.00.2195 ACPI Mode			X	
English Windows 2000 Professional Service Pack 4 V5.00.2195 / APM Mode	X			

Test Points: 1. Before starting every test, you must install all drivers completely first

VGA Resolution Test

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [] 16bit [X] 32bit

Resolution	CRT (Please use CTX PR-960F to Test)			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	X					X			X	
800X600	X					X			X	
1024X768	X					X			X	
1280X1024			X			X			X	
1600X1200			X			X			X	

CRT Model Name: CTX PR-960F (Max Resolution 1600x1200)

TTL Panel:

LVDS Panel:

Display Function Test:

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while system reaches Windows then check VGA driver and display

	Check VGA driver			Check Display			
	Pass	Fail	N/A	Pass	Fail	N/A	
In Windows Desktop	X			X			

Test Results:

Test Item	Pass	Fail	N/A	Note
Install From IDE CD-ROM				
Install to HDD	X			
Display Function Test				
CRT -- Full Screen			X	
LCD -- Full Screen			X	
DVI --- Full Screen			X	
TV ---- Full Screen			X	
DVI + LCD			X	
CRT + LCD			X	
CRT + DVI			X	
CRT + TV			X	
CRT + LCD + TV			X	
External VGA Card Test (Dual Display)				
CHAINTECH NVIDIA GeForce4 MX440-8X			X	
Boot - Windows 2000 Professional Advanced Options Menu				
Safe Mode			X	
Safe Mode with Networking			X	
Safe Mode with Command Prompt			X	
Enable Boot Logging			X	
Enable VGA Mode			X	
Last known Good Configuration			X	
Directory Services Restore Mode (windows 2000 domain controllers only)			X	
Debugging Mode			X	
Start Windows Normally	X			
Reboot			X	
Return to OS Choices Menu			X	
Basic Function Test				
IDE Primary Master	X			
IDE Primary Slave			X	
IDE Secondary Master			X	
IDE Secondary Slave			X	
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
LAN Function Test				
LAN1 --- Auto	X			
LAN2 --- Auto			X	
Audio Function Test				
Play Audio Function Test	X			
COM Port Function				
COM 1 mouse	X			
COM 2 mouse	X			
Start Menu				
Log off User			X	
Shut down	X			
Standby			X	
Restart	X			
Hibernate			X	

6. BIOS Function Test

6-1. Memory Beep Test

Test Item	Function		N/A	Note
	Pass	Fail		
Check if there is beep sound during power on inserting no memory	X			

6-2. Standard CMOS Features

Test Item	Setting		Function		N/A	Note
	Pass	Fail	Pass	Fail		
Data (mm:dd:yy)	X		X			
Time (hh:mm:ss)	X		X			
IDE Primary Master	X		X			
IDE Primary Slave	X		X			
IDE Secondary Master					X	
IDE Secondary Slave					X	
Drive A (Floppy)					X	1.44M,3.5 in. / None
Drive B (Floppy)					X	1.44M,3.5 in. / None

6-3. Boot Sequence Test

Test Item	Result			Note
	Pass	Fail	N/A	
Floppy			X	
Hard Disk	X			
Removable (All Device Priority)			X	For Product BIOS Request
HDD-0:	X			
SCSI			X	
CDROM			X	
HDD-1:			X	
HDD-2:			X	
USB HDD	X			
USB Floppy	X			
USB CD-ROM	X			
LAN [Boot From LAN First]	X			
First Boot Device	X			First Boot Device must be set to HDD in first edition SAP
Second Boot Device	X			
Third Boot Device	X			
Boot Other Device	X			
Disable			X	

6-4. Power Management Test

6-4.1. APM Power Management Test

Test Item	Setting Test	Result			Note
		Pass	Fail	N/A	
Normal Mode	Normal Mode	X			
HDD Power Down	Function Test	X			
Suspend Mode	Function Test	X			
Power Button	Delay 4 Sec			X	Soft-Off By PWRBTN
Power Button	Instant-Off			X	Soft-Off By PWRBTN

6-5. CMOS Backup / Clear CMOS Test

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Backup	X			
Clear CMOS Test	X			

6-6. Boot ROM Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot ROM to Novell 4.11 [RPL]	X			HUB : HP J4095A
Boot ROM to WinNT 4.0 [PXE]	X			HUB : HP J4095A

6-7. CRT / LCD / TV Function Test

Test Point: Boot display must be set to CRT+LCD in BIOS setup menu

Test Item	Result			Note
	Pass	Fail	N/A	
Boot Display -CRT	X			
Boot Display -LCD	X			
Boot Display -CRT+LCD			X	
Boot Display -DVI			X	
Boot Display -TV			X	
Boot Display -CRT+TV			X	
Boot Display -CRT+DVI			X	

6-8. PC Health Status

Voltage Monitoring Test	Result			Actual (V)	Note
	Pass	Fail	N/A		
(+) Vccp	X			1.05	
(+) Vcore	X			1.13	
(+) 1.5V			X		
(+) CPUVcore			X		
(+) 2.6V			X		
(+) 3.3V	X			3.28	
(+) 5V	X			5.05	
(+) 12V			X		
(-) 12V			X		
(-) 5V			X		
(+) 3.3VSB			X		
(+) 5VSB			X		
Voltage Battery (Above 3V)	X			3.21	
CPU Fan Speed	X			7336	RPM
System Fan Speed			X		RPM
Current CPU Temp.	X			55°C	
System Temp.	X			49°C	
MCH Temp.			X		

6-9. USB Onboard Device Function Test :

Test Item	Result			Note
	Pass	Fail	N/A	
USB Controller	X			

USB 2.0 Controller	X			Run Nero CD-DVD Speed V2.10
USB Keyboard Support	X			
USB Mouse Support	X			

6-10. COM Address / IRQ Test

COM Port Mouse : Logitech M-MM43

Test Item	BIOS Adjust		Function		Boot into Windows		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail		
COM 1								
3F8 / IRQ4	X		X		X			
2F8 / IRQ3							X	
3E8 / IRQ4							X	
2E8 / IRQ3							X	
AUTO (3F8 / IRQ4)							X	
Disable							X	
COM 2								
3F8 / IRQ4							X	
2F8 / IRQ3	X		X		X			
3E8 / IRQ4							X	
2E8 / IRQ3							X	
AUTO (2F8 / IRQ3)							X	
Disable							X	
COM 3								
3F8 / 2F8 / 3E8 / 2E8 ; IRQ3							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ4							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ5							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ7							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ10							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ11							X	
Disable							X	
COM 4								
3F8 / 2F8 / 3E8 / 2E8 ; IRQ3							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ4							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ5							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ7							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ10							X	
3F8 / 2F8 / 3E8 / 2E8 ; IRQ11							X	
Disable							X	
COM 5								
4F8 / IRQ 10							X	
/ IRQ							X	
COM 6								
4E8 / IRQ 11							X	
/ IRQ							X	

6-11. LPT Address / IRQ Test

Printer Type : EPSON Stylus C61

Test Item	BIOS Adjust		Function		Boot into Windows		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail		
LPT 1								
Disabled							X	
LPT1 Mode(378 / IRQ 7)								

SPP								X	
EPP								X	
ECP / DMA1								X	
ECP / DMA3								X	
ECP+EPP / DMA 1								X	
ECP+EPP / DMA 3								X	
LPT1 Mode(278 / IRQ 5)									
SPP								X	
EPP								X	
ECP / DAM1								X	
ECP / DMA3								X	
ECP+EPP / DMA 1								X	
ECP+EPP / DMA 3								X	
LPT1 Mode(3BC / IRQ 7)									
SPP								X	
ECP / DAM1								X	
ECP / DMA3								X	
LPT 2									
Disabled								X	
LPT2 Mode(3BC / IRQ7)									
SPP								X	
ECP / DMA 1								X	
ECP / DMA 3								X	
LPT2 Mode(378 / IRQ7)									
SPP								X	
EPP / EPP 1.7								X	
EPP / EPP 1.9								X	
ECP / DMA 1								X	
ECP / DMA 3								X	
ECP/EPP / DMA 1 / EPP 1.7								X	
ECP/EPP / DMA 1 / EPP 1.9								X	
ECP/EPP / DMA 3 / EPP 1.7								X	
ECP/EPP / DMA 3 / EPP 1.9								X	
LPT2 Mode(278 / IRQ5)									
SPP								X	
EPP / EPP 1.7								X	
EPP / EPP 1.9								X	
ECP / DMA 1								X	
ECP / DMA 3								X	
ECP/EPP / DMA 1 / EPP 1.7								X	
ECP/EPP / DMA 1 / EPP 1.9								X	
ECP/EPP / DMA 3 / EPP 1.7								X	
ECP/EPP / DMA 3 / EPP 1.9								X	

6-12. BIOS AWDFLASH Program Test

Test Points: 1. All we have to do is just type instruction: awdf flash.exe XXX.BIN in DOS, and other parameter is no need
If it can not be run, then we can say the test is fail

BIOS BIN file	P100_A03.BIN		
	Result		
Award Flash Tools Version	Pass	Fail	N/A
888	X		

7. Performance Test

Platform Information:

PCB Model / Version	GENE-8310 A1.11
BIOS	POP-100 BIOS Rev A1.0(07/30/2008)
Operating System	Windows XP Professional V2002 Service Pack 2
CPU	Intel ULV Celeron-M 1.5GHz
Memory	DSL DDR333 512MB (Hynix HY5DU121622DTP- J KOR)
SATA HDD	N/A
Primary IDE Master	FUJITSU MHV2040AC 40GB 2.5" PATA
Primary IDE Slave	N/A
CRT	ViewSonic E70
LCD	CPT CLAA102NA01CW 10.2" TFT LCD 1024*600 Resolution
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	Intel(R) Chipset Software Installation Utility 6.0.1.1002
Graphics Media	Intel 82852/82855 GM/GME Graphics Controller 6.14.10.4020 (1/23/2005)
LAN Driver	Intel(R) PRO/100 VE Network Connection 7.1.12.0 (2/10/2004)
Audio Driver	Realtek AC'97 Audio 5.10.0.5630 (7/1/2004)
Touchscreen Driver	Touch Screen Utility Date :08/03/2006 Ver:4.3.7.3203
Power Supply	SINPRO MPU100-108 24V / 4.16A

Test Result:

Testing Software	Result	Unit
Final Reality V1.01—BenchMark Test		
2D image	19.32	
3D	6.40	
Bus transfer	24.76	
Overall	13.03	Reality marks
3Dmark2001SE Pro (Demo version)		
3Dmark2001SE Build 330_Benchmark mode	1079	
PCMark02		
CPU	4978	PCMarks
Memory	3362	
HDD	596	

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	52	

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