

NanoCOM-LN

Intel Atom N550 / N455 + ICH8M

P5 Test Report

Summary	<input type="checkbox"/> Pass <input type="checkbox"/> Fail Note : There are ___ defect(s) not list in the report, please check it in the DTS Website. <input checked="" type="checkbox"/> Pass with Deviation Comment: <u>PM agreed to the H/W engineers that the LAN performance issues are caused by carrier board , it is waiting clarify by ECB-916M Ver.B</u>			
	Test Result Summary			
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	Approval	Test Engineer
2011 / 1 / 28	Jansin Lee	Shu Lai

Test Suites Overall Results Summary

No.	Test Category	Test Results
1	Hardware Compatibility Test	PASS
2	Basic Function Test	PASS
3	Integration Test	PASS
4	Application Test	PASS
5	Power Consumption Test	PASS
6	Time Accuracy Test	PASS
7	O.S. Compatibility Test	PASS
8	BIOS Test	PASS
9	Performance Test	PASS

Platform Information

Item	Device Information	Test Item
PCB Model / Version	NanoCOM-LN Rev A0.2	1,2,3,4,5,6,7,8,9
CPU Board	NanoCOM-LN Rev A0.2	1,2,3,4,5,6,7,8,9
Carrier Board	ECB-916M Rev A2.1	1,2,3,4,5,6,7,8,9
BIOS / Version	NCLN_ 1.00 X64 (12/01/2010) 14:05:01	1,2,3,4,5,6,7,8,9
CPU Type	Onboard Intel Atom CPU N455 @1.66GHz / 45nm	1,2,3,4,5,6,7,8,9
Memory Type	Onboard DDR3 Memory Chip 667 1GB - SAMSUNG chip 028 K482G1646C-HCH9	1,2,3,4,5,6,7,8,9
SSD HDD	Onboard PATA SSD 4GB	
SATA HDD	Fujitsu SATA 2.5 HDD 80GB MHZ2080BH G2	1,2,3,4,5,6,7,8,9
SATA DVD-ROM	PIONEER SATA DVD-ROM DVR-217	1,2,3,4,5,6,7,8,9
USB DVD-ROM	LITEON RW DVD-ROM DX-20A4PU	1,2,3,4,5,6,7,8,9
LCD Monitor	CHIMEI 22SH-L	1,2,3,4,5,6,7,8,9
LVDS	11_AU M170XW01 V.1	1,2,3,4,5,6,7,8,9
Compact Flash	N/A	1,2,3,4,5,6,7,8,9
Daughter Board	N/A	1,2,3,4,5,6,7,8,9
Expansion Board	N/A	1,2,3,4,5,6,7,8,9
	N/A	1,2,3,4,5,6,7,8,9
Operating System	[X] LINUX Cent O.S 5.5 Kernel 2.6.18	7-1
	[] Fedora Core 10 Kernel 2.6.27 kernel	
	[X] Windows 7 Ultimate 64Bit	7-2
Power Supply	[X] Windows XP Professional English SP3 32 Bit	7-3
	ATX Power Supply : SEVENTEAM ST-500PCG 500W	1,2,3,4,5,6,7,8,9
	AT Power Supply: ZECK ZKS-300W	1,2,3,4,5,6,7,8,9
	DC Adapter : N/A	1,2,3,4,5,6,7,8,9
Battery Model	N/A	1,2,3,4,5,6,7,8
Chipset Information with XP Professional English SP3 32 Bit Driver Version		
Chipset Software	Intel® Chipset Device Software Rev : 1.1.19.0	
North Bridge	Intel Atom Host Bridge	
South Bridge	Intel ICH8-ME	
Super IO Chipset	Winbond W83627HF(On carrier board)	
VGA Chipset	Intel Graphics Media Accelerator 3150	
Audio Chipset	Realtek ALC888	
Ethernet Chipset	Intel 82567V & Intel 82573L(On carrier board)	

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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 specifications or no test equipment

The test report would be tested and updated after version changed.

●Version Released Records

Date	Version	Item	Note
2010/04/21	P3-1001	1. 調整文字表格前後對齊 2. Modify 新版首頁	
2010/06/01	P2P3-1001	1. New Test Report	
2010/06/21	P2P3-1002	1. Add BIOS -> SPI ROM Setting (South Bridge – GPIO)	
2010/09/02	P2P2-1003	1. Modify All Test Items	

1. Hardware Test

1-1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Onboard Intel Atom CPU N455 @1.66GHz / 45nm	X			Test by Windows XP
Onboard Intel Atom CPU N455 @1.66GHz / 45nm	X			Test by Windows 7
Onboard Intel Atom CPU N455 @1.66GHz / 45nm	X			Test by CENT5.5

1-2. Memory Compatibility Test

Memory Information	MEM V4.0			Note
	Pass	Fail	N/A	
Onboard DDR3 Memory Chip 667 1GB - SAMSUNG chip 028 K482G1646C-HCH9	X			DIMM at Slot 1/2/both

1-3. SATA (IDE) Compatibility Test

SATA Device Information	Result			Note
	Pass	Fail	N/A	
Fujitsu SATA 2.5 HDD 80GB MHZ2080BH G2	X			
Seagate SATA 2.5 HDD 120GB ST9120823AS	X			

SATA RAID Test		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1			X	
	2			X	
RAID-1 (HDDx2) Mirror Test	1			X	
	2			X	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1			X	
	2			X	
	3			X	
RAID-10 (HDDx3) Striping/Span Test Mirroring	1			X	
	2			X	
	3			X	
	4			X	

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
			X	
			X	
			X	
			X	

1-4. IDE Compatibility Test

IDE Device Information	Result			Note
	Pass	Fail	N/A	
			X	Slot at 1/2/3/4/OS
			X	
			X	
			X	

1-5. Compact Flash Compatibility Test

Compact Flash Information	Result			Note
	Pass	Fail	N/A	
			X	Test at Windows XP or Data Transfer (Read/Write) / Slot X
			X	Test at Windows XP or Data Transfer (Read/Write) / Slot X
			X	Test at Windows XP or Data Transfer (Read/Write) / Slot X

1-6. LVDS Compatibility Test

LVDS Model		Result			Note
		Pass	Fail	N/A	
LVDS	1_AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	X			
	2_AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)			X	
	3_Data Image 7" / 800*480 / 18bit (16:9)	X			
	4_AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)	X			
	5_AU B104SN02 V.0 / 10.4" / 800*600 / 18bit (4:3)	X			
	6_AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3)			X	
	7_AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	X			
	8_AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)			X	
	9_Toshiba /12.1"/1280 x 768 x 18bit (16:9)	X			
	10_AU M170EG01 V.D / 17" / 1280*1024 / 48bit (4:3)			X	
	11_AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)			X	
	12_AUO T260XW02 / 26" / 1366x768 / 24bit			X	
	13_AU M201UN02 V.5 / 20.1" / 1600x1200x48bit			X	
	14_AUO T370HW01 / 37" / 1920x1080 / 48bit			X	
	15_AUO M190PW01 V0 / 19"/1440X900/48 bit			X	

2. Basic Function Test

2-1. Video Function Test

2-1.1. Single Output Function Test

Note: Pay attention with Full Screen under POST screen and Text Mode.										
Interface	NanoCOM-LN									
VGA	CHIMEI 22SH-L									
DVI	N/A									
TV	N/A									
LVDS	11_AU M170XW01 V.1									
Color Quality	[X] 16bit [] 24bit [X] 32bit									
Resolution	VGA			DVI			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	X					X	X			
800X480	X					X	X			
800X600	X					X	X			
1024X768	X					X	X			
1280X600			X			X			X	
1280X720			X			X			X	
1280X768	X					X	X			
1280X960			X			X			X	
1280X1024			X			X			X	
1400X1050			X			X			X	
1600X900			X			X			X	
1600X1200			X			X			X	
1600X1050			X			X			X	
1792X1344			X			X			X	
1856X1392			X			X			X	
1920X1080			X			X			X	
1920X1200			X			X			X	
1920X1440			X			X			X	
2048X1536			X			X			X	
Rotation	X					X	X			Rotation (0 / 90 /180 /270)

2-1.2. Dual Output Function Test

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	VGA + DVI			X	
Dual Display Twin				X	
Extended Desktop				X	
Dual Display Clone	VGA + LVDS	X			
Dual Display Twin				X	
Extended Desktop		X			

2-1.3. Video Resolution 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
3. Check VGA output Brightness is normal and it shows "Ghost Image" / "Flicker" or not

	Result			Note
	Pass	Fail	N/A	
In Windows Desktop	X			







2-2. Audio Function Test

[] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	X			
R (Right) Channel	X			
CD_In			X	
Line In	X			
MICROPHONE	X			
6-channel mode for 5.1 speaker output	X			
8-channel mode for 7.1 speaker output			X	
S/P DIF function Test	Input		X	
	Output		X	

2-3. LAN Function Test

[] No Support

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times)									
1000MBps LAN HUB		D-Link DGS-1008D							
100MBps LAN HUB		HP J4095A 24 Ports							
10MBps LAN HUB		SVEC FD916H							
OnBoard LAN1		Intel 82567V				MAC Address		00-07-32-0A-42-B5	
OnBoard LAN2		Intel 82573L				MAC Address		00-11-22-33-4E-5B	
LAN Speed	Link / Active LED	Speed LED	LAN 1			LAN 2			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000MBps			X			X			
100MBps			X			X			
10MBps			X			X			
Wake On LAN			X			X			
Boot ROM to Novell 4.11 [RPL]					X			X	
LAN Boot (PXE)			X			X			
Internet Browser (DHCP Server)			X			X			

2-3.2. SmartBits Test

DUT Platform Information:

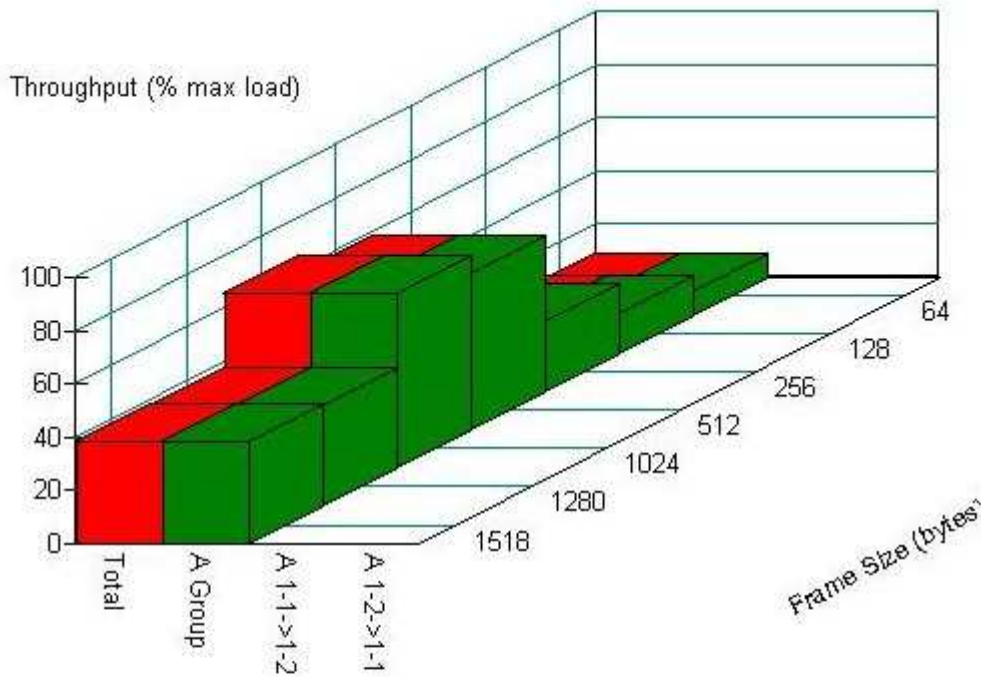
Graphics Media	Cent O.S 5.5 Default setting
LAN	LAN1→ Intel 82567V Ethernet: Cent O.S 5.5 Default setting
	LAN2→ Intel 82573L Ethernet: Cent O.S 5.5 Default setting
Audio Driver	Cent O.S 5.5 Default setting

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 Result:

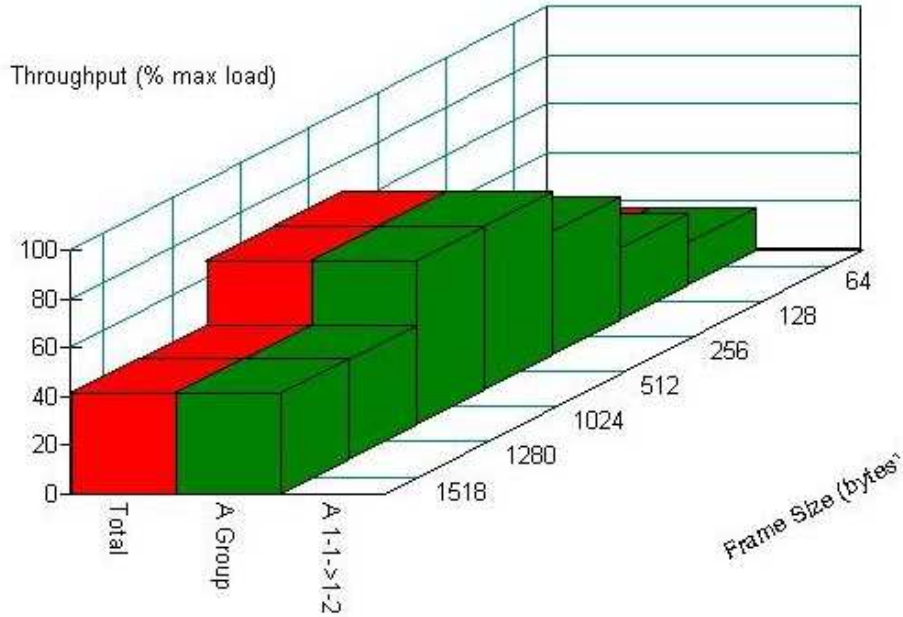
1. Half Direction (LAN1: Intel 82567V 10/100/1G Ethernet → LAN2: Intel 82573L 10/100/1G Ethernet)



Throughput vs Frame Size

<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	8.734375	14.921875	25.75	58.234375	65.1953125	37.3515625	38.125
A Group	8.734375	14.921875	25.75	58.234375	65.1953125	37.3515625	38.125
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Binary Direction (LAN1: Intel 82567V 10/100/1G Ethernet → LAN2: Intel 82573L 10/100/1G Ethernet)



Throughput vs Frame Size

<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	17.2421875	28.84375	49.7265625	66.7421875	66.7421875	40.4453125	41.21875
A Group	17.2421875	28.84375	49.7265625	66.7421875	66.7421875	40.4453125	41.21875
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2-4. Others Function Test

[X] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
3G Module (.....)				
GPRS (.....)				
Wireless LAN (.....)				
Bluetooth (.....)				

3. Integration Test

3-1. USB Port Integration Test

Item	USB Port	Boot			Function(XP)			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD		X			X			
USB FDD Mitsumi D353GUE		X			X			
SONY USB2.0 DVD-R/W DRX-830UL		X			X			
USB Hub Test (Connect USB Device) HUB Port1: USB Keyboard / HUB Port2: USB Mouse / HUB Port3: USB HDD								
USB 2.0 HUB PowerSync / USB 2.0 4 Port HU-155					X			

3-2. Digital I/O Port Test

DIO Address (___)	Result			Notes
	Pass	Fail	N/A	
DIO VCC +5V	X			

3-3. COM Port Integration Test

Test Item	Result			Notes
	Pass	Fail	N/A	
Serial Modem Dial Out	X			
Serial Modem Ring In	X			Test by Modem
Serial Modem +12V	X			Test by Multimeter
Serial Modem +5V	X			Test by Multimeter
BurnIn Test V5.3 Pro	X			

3-4. RS-422 / RS-485 Test

Test Item	Result			Notes
	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(Support Auto flow control)
	X			The communication between the RS-485 pots of two boards is linked by one 100m cable on Windows Terminal

3-5. LPT Port Test

Test Item	Result			Notes
	Pass	Fail	N/A	
XEROX Phaser 3124 Laser Printer	X			

4. Application Test

4-1. PCI Slot Function (PCI Adapter Card) Test

Adapter VGA Card	Set Simultaneous Display and Reboot			Note
	Pass	Fail	N/A	
CHAINTECH NVIDIA GeForce4 MX440-8X			X	
Adapter Sound Card	Play Sound			Note
	Pass	Fail	N/A	
Creative Sound BLASTER Live5.1			X	
Adapter SCSI Card	Copy files to SCSI HDD			Note
	Pass	Fail	N/A	
ADAPTEC Ultra160 SCSI ASC-29160			X	
Adapter Image Capture Card	Connect to CCD			Note
	Pass	Fail	N/A	
I-VIEW CP-1400AS (with Age STD-477FAI CCD)			X	
Adapter LAN Card	Connect to Internet			Note
	Pass	Fail	N/A	
Intel GD82559 10/100 Mbps Fast Ethernet Adapter			X	
INTEL PWLA8391GTBLK Pro/1000 Giga LAN Card			X	
Adapter RAID Card	RAID 0 , 1 , 10 Function Test			Note
	Pass	Fail	N/A	
ADAPTEC 1420SA RoHS 4-Port SATA II RAID			X	

4-2. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
SUNIX SATA1414 eSATA & SATAII x1Express card	X			
Syskonnect SK-9E21D 10 /100/1000 Base-T Adapter PCI-Express x1 LAN Card	X			
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Adaptec AAR-1430SA SATAII HostRAID Controllers			X	
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card			X	
WINFAST PX6200 TC TDH PCI-Express x16 VGA Card			X	
Express card	Function Test			Note
	Pass	Fail	N/A	
SUNIX SATA II Express card	X			
SunBox 34mm Giga LAN Express Card	X			
Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
Ralink RT2571WF WLAN Mini Card (USB Interface)	X			
Sil3132 Mini PCI-E Function Test Card (USB Interface)	X			

4-3. Mini PCI Card Compatibility Test

Device Item	Function Test			Note
	Pass	Fail	N/A	
Mini PCI.10/100 Base-Tx LAN (W/Intel.82551QM .A1.0) (Model:PER-C10L)			X	
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)			X	
ADLINK mPCI-8750 ATI Rage XL Mini PCI VGA Card			X	

4-4. CardBus (PCMCIA) Compatibility Function Test

Device Item	Bit	Function Test			Note
		Pass	Fail	N/A	
Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)	Slot 1 (Up)			X	[PC-200200]
	Slot 2 (Down)			X	
Kingston datapack DP-PCM2 / 2GB (PC Card Typell HDD)	Slot 1 (Up)			X	[PC-200201]
	Slot 2 (Down)			X	
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 1 (Up)			X	[PC-200502]
	Slot 2 (Down)			X	
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 2 (Down)			X	[PC-200502]

4-5. ISA Slot Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
SCSI Card Adaptec AHA-1520B SCSI Card			X	[SS-002]
LAN Card NE2000 Compatible LAN Card (RTL8019AS)			X	[NW-014]
VGA Card CIRRUS LOGIC 5429 FCC ID:ICUVGA-GWV27A			X	[VC-008]

4-6. Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules

4-6.1. Device List: PC/104 Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PCM-3660			X	

4-6.2. Device List: PC/104+ Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PCM-3430			X	

4-6.3. Device List: PCI-104 Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PCM-3730			X	

4-6.4. Device List: PCI/104 Express Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PER-123			X	

4-7. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

Cable Type: IDE SATA2 MLC SLC

Test Item	Result			Notes
	Pass	Fail	N/A	
Transcend SSD 16G - TS16GSSD25S	X			

4-8. Peripheral Compatibility- Storage Device Test

4-8.1. Disk on Chip (DOC) Test

Test Item		Result			Notes
		Pass	Fail	N/A	
DOC 2000 Model	16MB			X	M-System / MD2200-D16
	CC00			X	
	D000			X	
	D400			X	
	D800			X	
	DC00			X	
	Disable			X	
DOC 2000 Onboard Address					

4-8.2. Disk on module (DOM) Test

Test Item	Result			Notes
	Pass	Fail	N/A	
Transcend / TS512MDOM40V / 512MB / IDE 40 Pin			X	
Transcend / TS512MDOM44V / 512MB / IDE 44 Pin			X	

5. Power Consumption Test

5-1. AT/ATX Power Consumption

Test Equipment					
Equipment	AC/DC Digital Clamp meter				
Manufacturer	KYORITSU				
Model name	NanoCOM-LN Rev A0.2				
Test Environment					
AT Power Model	N/A				
ATX Power Model	SEVENTEAM ST-500PCG 500W				
CPU	Onboard Intel Atom CPU N550 @1.50GHz / FSB 667MHz /45nm				
Memory	Onboard DDR3 Memory Chip 667 1GB - SAMSUNG chip 028 K482G1646C-HCH9				
HDD	N/A				
Power Supply	ATX Power	AT Power	Note		
(Full Loading Mode) Windows XP SP3 with Prime 95 Full Loading Test	(+5V)	0.39 A	-----	A	
	(+12V)	1.36 A	-----	A	
	(-5V)	-----	-----	A	
	(-12V)	-----	-----	A	
	(+3.3V)	-----	A	No Support 3.3V	
Full Loading Total Watt	18.27(W)				

Suspend in XP (S1)	(+5V)	0.22 A	-----	A	
	(+12V)	0.85 A	-----	A	
	(-5V)	-----	-----	A	
	(-12V)	-----	-----	A	
	(+3.3V)	-----	A	No Support 3.3V	
Suspend Total Watt	11.3(W)				

5VSB in Power Off Mode (just for ATX)	0.18 A	No Support	
5VSB in Power On Mode (just for ATX)	0 A	5VSB	
5VSB in S1 Suspend Mode (just for ATX)	0 A		
5VSB Total Watt	0.9(W)		

5-2. PC Health Status

Test Point: The value between Actual Voltage and Voltage Monitor must be +/- 5%

Voltage Monitoring Test	Result			BIOS(V)	Actual(V)	Note
	Pass	Fail	N/A			
(+) 3.3V	X			+3.504	+3.42	
(+) 12V	X			+12.096	+12.02	
(+) 5V	X			+5.232	+5.04	
(+) 5V AUX	X			+5.187	+5.04	
Onboard Fan Speed	X			477	RPM	
CPU Temp	X			+42	°C	+47 °C
System Temp 1	X			+23	°C	+29 °C
System Temp 2	X			+23	°C	+29 °C
System Temp 3	X			+23	°C	+29 °C

6. Timer Accuracy Test

6-1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

Item Function	Time Interval	Margin for error	Actual	Result			Note
				Pass	Fail	N/A	
RTC Clock in Power On Mode	24 hrs	+/-2 sec	-1 Sec	X			
RTC Clock in Power Off Mode	24 hrs	+/-2 sec	0 Sec	X			

6-2. Booting Timer Test

Installation	Actual		Note
System Booting Time	10	Sec	Press the Power Button till "Beep" Sound appears

6-3. Watchdog Timer Test

Use Function as below: F75111W4

[] No Support.

Under Room Temperature: 26°C / DOS Mode

Time-out interval	Margin for error	Actual	Result			Note
			Pass	Fail	N/A	
5 sec	+/- 10%	5.5 Sec	X			
10 sec	+/- 10%	10.8 Sec	X			
60 sec	+/- 10%	65 Sec	X			
256 sec	+/- 10%	271 Sec	X			

7. O.S. Compatibility Test

7-1. English CENT O.S 5.5 – Kernel 2.6.18

[] No Support

Driver Information:

Chipset Software	System default
Graphics Media	System default
LAN Driver	System default
Audio Driver	System default

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Please fill in OS version ex: English Linux Redhat 2.6.27-117.fc10.i686	X			Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA -- Full Screen	X			
DVI -- Full Screen			X	
LVDS -- Full Screen			X	
VGA + DVI			X	
VGA + LVDS			X	
DVI + LVDS			X	
Network Function Test				
Connect to Internet – LAN 1	X			
Connect to Internet – LAN 2	X			
Audio Function Test				
Play Audio Function Test			X	Play Audio Test
Base Function Test				
Mouse Test	X			
Keyboard Test	X			
CD-ROM Test	X			
USB 2.0 Removable Devices	X			
X Windows Application				
Start Button Office	X			Office function
X-Window	X			Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon.				
uname -a	X			Show information
Shutdown	X			Init 0 or shutdown -h now
Restart the Computer	X			Init 6 or shutdown -r now
Halt	X			Power Off Mode
ls / clear; cd /dev /ls -l	X			Command instruction

7-2. Windows 7 Ultimate English Version 32/64Bit

- No Support
 x32 Driver Information:

Chipset Software	
Graphics Media	
LAN Driver	
Audio Driver	

- x64 Driver Information:

Chipset Software	Intel Chipset Device Software – 9.1.1.1025 – 12/14/2009
Graphics Media	Intel Graphics Media Accelerator 3150 – 8.14.10.2117 – 04/19/2010
LAN Driver	Intel 82567V-3 Gigabit Network connection -10.1.9.0 – 04/07/2010 Intel PRO/1000 PL Network connection – 9.13.41.0 – 03/26/2010
Audio Driver	Realtek High Definition Audio – 6.1.7600.16385 -07/13/2009

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate ACPI Mode	X			

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	X			
DVI -- Full Screen			X	
LVDS -- Full Screen	X			
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	X			
Basic Function Test				
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
COM Port Mouse detect	X			
LPT1			X	
USB 2.0 Removable Devices	X			
LAN Function Test				
LAN1 --- Auto	X			
LAN2 --- Auto	X			
Audio Function Test				
Audio 8.1 Channel Test	X			
S/P DIF Test			X	
Start Menu				
Log off User	X			
Shut down	X			
Standby	X			
Restart	X			
Hibernate	X			

7-2. Windows XP Ultimate English Version 32/64Bit

No Support

x32 Driver Information:

Chipset Software	Intel Chipset Device Software – 9.1.1.1009 – 03/09/2009
Graphics Media	Intel Graphics Media Accelerator 3150 – 6.14.10.5182 -11/11/2009
LAN Driver	Intel 82567V-3 Gigabit Network connection -10.1.9.0 – 04/07/2010 Intel PRO/1000 PL Network connection – 9.13.41.0 – 03/26/2010
Audio Driver	Realtek High Definition Audio – 5.10.0.5672 -07/24/2008

x64 Driver Information:

Chipset Software	
Graphics Media	
LAN Driver	
Audio Driver	

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional Service Pack 3 V2002 ACPI Mode	X			
English Windows XP Professional Service Pack 3 V2002 APM Mode	X			

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	X			
DVI -- Full Screen			X	
LVDS -- Full Screen	X			
Boot - Windows XP Ultimate Advanced Options Menu				
Safe Mode	X			
Basic Function Test				
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
COM Port Mouse detect	X			
LPT1	X			
USB 2.0 Removable Devices	X			
LAN Function Test				
LAN1 --- Auto	X			
LAN2 --- Auto	X			
Audio Function Test				
Audio 8.1 Channel Test			X	
S/P DIF Test	X			
Start Menu				
Log off User	X			
Shut down	X			
Standby	X			
Restart	X			
Hibernate	X			

8. BIOS Function Test

8-1. Memory Beep Test

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

8-2. Boot Sequence Test

Test Item	Result			Note
	Pass	Fail	N/A	
Floppy			X	
Hard Disk	X			
Removable (All Device Priority)	X			
CDROM	X			
USB HDD	X			
USB Floppy	X			
USB CD-ROM	X			
LAN [Boot From LAN First]	X			
Disable			X	
Check "Halt on" item – All error but K/B			X	

8-3. Power Management Test

8-3.1. APM Power Management Test

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

8-3.2. ACPI Power Management Test

Test Item	Result			Note
	Pass	Fail	N/A	
Enable ACPI Auto Configuration	X			
Enable Hibernation	X			From Windows 7
ACPI - S1 (POS)	X			Resume from PS/2 keyboard or mouse.
	X			Resume from USB keyboard or mouse.
ACPI - S3 (STR)	X			
Suspend Disable	X			

8-4. Power On Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
Password			X	
Hot KEY			X	
MOUSE Move & Click			X	
MOUSE Click			X	
Any KEY			X	
BUTTON ONLY			X	

8-5. Power On after Power Failure Test

Test Item	Result			Note
	Pass	Fail	N/A	
Off	X			
On	X			
Former-Sts (Auto)	X			

8-6. CMOS Backup / Clear CMOS Test

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Backup	X			
Clear CMOS Test	X			Only Changed date and time

8-6-1. After Clear CMOS , Display will show " CMOS Checksum Error"

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Checksum Error			X	

8-7. AAEON Tag Check Utility

Test Item	Result			Note
	Pass	Fail	N/A	
Check AAEON BIOS OK	X			AONCHECK.EXE

8-8. TPM Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
No Change			X	
Clear			X	
Enable & Active			X	
Disable & Disactive			X	Detect TPM device under Windows.

8-9. IAMT Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
IAMT Function			X	

8-10. BIOS SPI ROM

Test Item	Result			Note
	Pass	Fail	N/A	
Set South Bridge GPIO (LOW)			X	no battery bios test
Clear CMOS Disable			X	Load Optimized Defaults Disable

8-11. Supervisor / User Password Test

Test Item	Result			Note
	Pass	Fail	N/A	
Administrator Password	X			
User Password	X			

9. Performance Test

9-1. Performance Test

Test Result: (Display set 1024*768 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark2002			Only for XP
CPU	2495	----	
Memory	6357	----	
HDD	301	----	
Benchmark (A)	----		Banchmark scope = 1-AAEON/Ref.
PCMark2005			XP and Windows 7
CPU	11835	----	
Memory	2306	----	
HDD	1050	----	
Benchmark (B)	----		Banchmark scope = 1-AAEON/Ref.
Average Efficiency	----		Average (A,B,.....)

Testing Software	Scope		Note	
	AAEON	Ref.		
3Dmark2001			Only for XP	
3Dmark Score	2785	----		
Benchmark (A)	----			Banchmark scope = 1-AAEON/Ref.
3Dmark2003				XP and Windows 7
CPU	269	----		
3Dmark Score	840	----		
Benchmark (B)	----		Banchmark scope = 1-AAEON/Ref.	
Average Efficiency	----		Average (A,B,.....)	

Testing Software	Scope		Note
	AAEON	Ref.	
Final Reality V1.01—BenchMark Test			XP and Windows 7
2D image	18.74	----	
3D	3.82	----	
Overall	13.68	----	
Overall	13.68	----	
Benchmark (A)	----		Banchmark scope = 1-AAEON/Ref.

9-2. Memory Test

Test Item	Result			Note
	Pass	Fail	N/A	
MEM v4.10 Overnight Test	X			