

EMB-H81A

Intel H81 chipset Mini-ITX Board

P5 Verification Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation (Comment: _____)			
	Test Results Category			
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date

2013/10/31

Approval

Tom Lin

Test Engineer

Jack Huang

Version Released Records

Date	Version	Change History	Note
2010/04/21	P3-1001	1. Re-composing test Items	
2010/06/01	P2P3-1001	1. New Test Report	
2010/06/21	P2P3-1002	1. Add BIOS -> SPI ROM Setting (South Bridge - GPIO)	
2010/12/02	P2P2-1003	1. New Test Report	
2011/02/23	P2P3-1101	1. Re-composing test Items	
2011/03/04	P2P3-1102	1. Add Specification Validation	

Note :

For all test items in this report, 3 results have been defined and described as follow.

- Pass: Functionality work perfectly
- Fail: Functionality failed and must be resolved in the next version
- N/A: Functionality Not Applicable or Not Available

This test report would be updated when re-test completed in next version of the product.

Specification Validation Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	EMB-H81A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	Mini iTX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	IntelR Haswell 22nm LGA 1150 socket Processor, Max. 65W TDPs (Standard Size Heat Sink)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	204-pin DDR3 SODIMM x 1, DDR3L 1333/1600, Max 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel H81A PCH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	Plug & Play BIOS –64 Mbit flash	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	Realtek 8111F , RJ-45 x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	RealtekR ALC887 (Colay with ALC886)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O Chip	F81866	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	SATAII x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	SATAIII x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Interface	One Mini Card slots or mSATA(Optional) /PCI-E 4X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Digital I/O	8-bit Digital I/O (Programmable)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog Timer	F81866	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Supply Request	ATX 24P+4P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Display					
Chip	Intel Haswell processors integrated Support dual view / simultaneous display Support triple view for VGA plus 1xDVI-I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA	D-Sub 15 x1, Resolution: up to 1920 x 1200 (QXGA) @ 60 Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS LCD	Dual 18/24-bit dual channel LVDS LCDs , up to 3840x2160 @ 60 Hz (Pixel clock: 25-112 MHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI	Internal pin header ,Supports DVI x 1, 1920 x 1200 @ 60 Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O					
On-board connectors	CPU_FAN (4 pin CPU fan with PWM control) CHA_FAN 4 (3 pin chassis fan with Qfan) ATX12V*(4 pin, ATX +12V power connector) EATXPWR(24 pin, EPS12V power connector) BUZZER BATTERY AAFP (BLACK) CLRTC F_Panel (2x5 pin (K10), (IDE LED, Power LED,Power Switch, Reset) DIO connector x: 1 Invertor control connector x: 1 LVDS Panel connector x: 1 COM port (Box header) connector x: 4 USB2.0(2x5 pin , k9) x: 1 header (2 ports) Full size Mini PCIE socket x: 1 Half size Mini PCIE socket x: Co-lay SATA Gen2(3G/s) x: 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	SATA Gen3(6G/s) x: 2 1 x PCIe4 Slot ; 1 x Full/Half Size Mini Card slot (co-lay , default 上 Full Size) ; 1x USB2.0 Header (1 ports; 1x5 pin) .				
Back I/O connectors	KB/MS_USBxx LAN2_USBxx AUDIO Audio Jack x: 2 (Line-out , Mic-In) port LAN1_USB3_XX VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

O.S. Support

Item	Specification	Result	Note
Microsoft Windows	Windows 7(32 bit)	<input checked="" type="checkbox"/>	
	Windows 7(64 bit)	<input checked="" type="checkbox"/>	
	Windows 8(32 bit)	<input checked="" type="checkbox"/>	
	Windows 8(64 bit)	<input checked="" type="checkbox"/>	
Linux	Linux kernel 2.6.x or above	<input checked="" type="checkbox"/>	

Environmental Specifications

Item	Specification
Operating temperature	0°C ~ 60°C
Storage temperature	N/A
Operating Humidity	N/A
Power Compliance	+12V DC, AT or ATX (supports external +5V stand-by power input)
Vibration	N/A
Shock	N/A
Drop	N/A
EMI	CE & FCC Class A

Note: Please refer to Environment Test Report for detail information

Platform Information

Item	Device Information	Test Item
PCB Model / Version	EMB-H81A REV.A1.02	1,2,3,4,5,6,7,8,9
BIOS / Version	EMB-H81A R1.2 (EH81AM12) (10/31/2013)	1,2,3,4,5,6,7,8,9
CPU Type	Intel® Core(TM) i7-4770S (3.10 GHz)	1,2,3,4,5,6,7,8,9
Memory Type	Transcend DDR3 1600/8GB SEC K4B4G0846B	1,2,3,4,5,6,7,8,9
SATA HDD	Seagate 3.5" 7200rpm 500GB (ST500DM002)	1,2,3,4,5,6,7,8,9
SATA DVD-ROM	LG H.L GH20 NS15 8X	1,2,3,4,5,6,7,8,9
USB DVD-ROM	ASUS SDRW-08D2S-U/DBLK/G/AS	1,2,3,4,5,6,7,8,9
LCD Monitor	Dell 2410U 24"	1,2,3,4,5,6,7,8,9
LVDS	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	1,2,3,4,5,6,7,8,9
Cfast	N/A	1,2,3,4,5,6,7,8,9
Daughter Board	N/A	N/A
Expansion Board	N/A	N/A
	N/A	N/A
Operating System	<input checked="" type="checkbox"/> ubuntu 12.04 Kernel 3.2.0 -23 –generic-pae #36-ubuntu	7-1
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32/64Bit	7-2
	<input checked="" type="checkbox"/> Windows 8 Pro English Version 32Bit/64Bit	7-3
Power Supply	ATX Power Supply : Zippy HG2-6400P 400W	1,2,3,4,5,6,7,8,9
	AT Power Supply: Zippy HG2-6400P 400W	1,2,3,4,5,6,7,8,9
	DC Adapter : N/A	N/A
Battery Model	N/A	N/A
Chipset Information with Windows 7 Ultimate English Version 32Bit Driver Version		
Chipset Software	Intel® Chipset Device Software: 9.4.0.1017(2013/01/11)	
PCH Bridge	Intel® H81	
Super IO Chipset	NUVOTON-NCT6791D	
VGA Chipset	Intel® HD Graphics 4600: 9.18.10.3131(2013/04/22)	
Audio Chipset	Realtek High Definition Audio: 6.0.1.6662(2012/06/19)	
Ethernet Chipset	Realtek PCIe GBE Family Controller 7.67.1226.2012 (2013/12/26)	

1. Hardware Test

1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel® Core™ i7-4770S Processor (8M Cache, up to 3.90 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i7-4770T Processor (8M Cache, up to 3.70 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i5-4570S Processor (6M Cache, up to 3.60 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i3-4330 Processor (4M Cache, up to 3.50 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.2. Memory Compatibility Test

Memory Information	MEM V4.2			Note
	Pass	Fail	N/A	
Transcend DDR3 1600/8GB SEC K4B4G0846B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS, Memtest4.2
Transcend DDR3 1600/4GB SEC K4B4G0846B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS, Memtest4.2
Transcend DDR3 1333/4GB CL9 SEC K4B2G0846C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest4.2
DSL DDR3 1600/8GB CL11 hynix H5TQ4G83MFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS, Memtest4.2
DSL DDR3 1333/4GB CL9 hynix H5TQ2G83BFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest4.2
DSL DDR3 1333/2GB CL9 hynix H5TQ2G83BFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Burnintest, Memtest4.2
Kingston DDR3 1333/2GB Kingston D9JRU-09WTB3-WV9VU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS, Memtest4.2
ADATA DDR3 1600/4G Micron 2PE72D9QBJ	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS, Memtest4.2
InnoDisk DDR3 1333/1GB hynix H5TQ1G83DFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Burnintest, Memtest4.2
Panram DDR3 1333/8GB CL9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest4.2

1.3. SATA Compatibility Test

1.3.1 Onboard SATA Test

SATA Device Information	Result			Note
	Pass	Fail	N/A	
WD 1600BEKT / 160GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD 3200BEVT / 320GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Toshiba MK1676GSX / 160GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate MKST9120823AS / 120GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate (ST500DM002)/500GB 3.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD6402AAEX /640GB 3.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3.2 Onboard SATA (RAID) Test

SATA RAID Test		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1 WD WD6402AAEX /640GB 3.5"	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2 Seagate ST500DM002 /500GB 3.5"	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1 WD WD6402AAEX /640GB 3.5"	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2 Seagate ST500DM002 /500GB 3.5"	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-10 (HDDx3) Striping/Span Test	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Mirroring	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

1.3.3 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
WD 1600BEKT / 160GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hot-plug
Toshiba MK1676GSX / 160GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hot-plug
Seagate MKST9120823AS / 120GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hot-plug

1.4. CFast Compatibility Test

Compact Flash Information	Result			Note
	Pass	Fail	N/A	
InnoDisk 4GB(DC1T-04GT21W1D)Wide-Temp	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CF-201004
TDK-PQI CFast 16GB(ES)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Install Windows 7
Transcend CFast 16GB	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Install Windows 7
Apacer Cfast 32GB	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Install Windows 7

1.5. Touch Screen Test

Touch Screen	Result			Note
	Pass	Fail	N/A	
5 Wire Touch Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8 Wire Touch Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

1.6. Front Panel Test

Front Panel(JP9)	Result			Note
	Pass	Fail	N/A	
PWRBTN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDLED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SPEAKER	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PWRLED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RESET	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.7. m-SATA Compatibility Test

m-SATA Information	Result			Note
	Pass	Fail	N/A	
SanDisk SDSA5FK-032G-Q 32G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MemoRight MRV012A032GTIM1C 32G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
innoDisk D150Q 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Basic Function Test

2.1. Video Function Test

2.1.1. Single Output Function Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version												
CPU	Intel® Core(TM) i7-4770S (3.10 GHz)											
Memory	Transcend DDR3 1600/8GB SEC K4B4G0846B											
HDD	Seagate 3.5" 7200rpm 500GB (ST500DM002)											
VGA	Dell 2410U											
DVI	Dell 2410U											
HDMI	Dell 2410U											
TV	N/A											
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit											
Resolution	VGA			DVI-I(DVI)			DVI-I(VGA)			LVDS		
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
640X480	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
800X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1280X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1280X720	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1280X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1280X800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1280X960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1366X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1400X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1440X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1600X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1600X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1600X1050	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1680X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1792X1344	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1856X1392	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1920X1080	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1920X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1920X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2048X1536	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Rotation(0 / 90 /180 /270)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Note												

Note: Pay attention to Full Screen under POST screen and Text Mode.

2.1.2. Dual Output Function Test

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	VGA + DVI-I(DVI)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	VGA + DVI-I(VGA)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	VGA+LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	DVI-I(DVI) + DVI-I(VGA)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	DVI-I(DVI) + LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	DVI-I(VGA)+LV DS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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 the system is booting to Windows then check VGA driver and display
3. Check brightness level and screen behavior of the monitor connected VGA output. The phenomena, normal "Ghost Image" or "Flicker" should be watched carefully.

	Result			Note
	Pass	Fail	N/A	
In Windows Desktop	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.1.4. Video Resolution Test

LVDS Model		Result			Note
		Pass	Fail	N/A	
LVDS	1_AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2_AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3_Data Image 7" / 800*480 / 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	4_AU G104SN02 V.2 / 10.4" / 800*600 / 18bit (4:3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	5_AU B104SN02 V.0 / 10.4" / 800*600 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	6_AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	7_AU G121XN01 V.0 / 12" / 1024*768 / 18bit (4:3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	8_AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	9_Toshiba /12.1"/1280 x 768 x 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	10_AU M170EG01 V.D/ 17" / 1280*1024 / 48bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	11_AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	12_AUO G185XW01 V.0 / 18.5" / 1366x768 / 24bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	13_AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	14_AUO M215HW03 V.1 / 21.5" / 1920x1080 / 48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	15_AUO M190PW01 V0 / 19"/1440X900/48 bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	







2.2. Audio Function Test

[] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6-channel mode for 5.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8-channel mode for 7.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
S/P DIF function Test	Input	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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® Ethernet Connection I217-LM					MAC Address		00-E0-5C-77-B0-04	
OnBoard LAN2		Intel® I211 Gigabit Network Connection					MAC Address		00-E0-4C-68-01-04	
LAN Speed	Link / Speed LED	Active LED	LAN 1			LAN 2			Note	
			Pass	Fail	N/A	Pass	Fail	N/A		
1000MBps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
100MBps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10MBps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Wake On LAN			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Boot ROM to Novell 4.11 [RPL]			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
LAN Boot (PXE)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Internet Browser (DHCP Server)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

2.3.2. Throughput Test

DUT Platform Information:

<input type="checkbox"/>	Fedora Core 13
<input type="checkbox"/>	Cent 5.5
<input checked="" type="checkbox"/>	Ubuntu 12.04 Kernel 2.6.35-22
<input type="checkbox"/>	Red Hat

Note : Connection-Level Performance (Interaction Constants Duration Time Set to 60 Sec.)

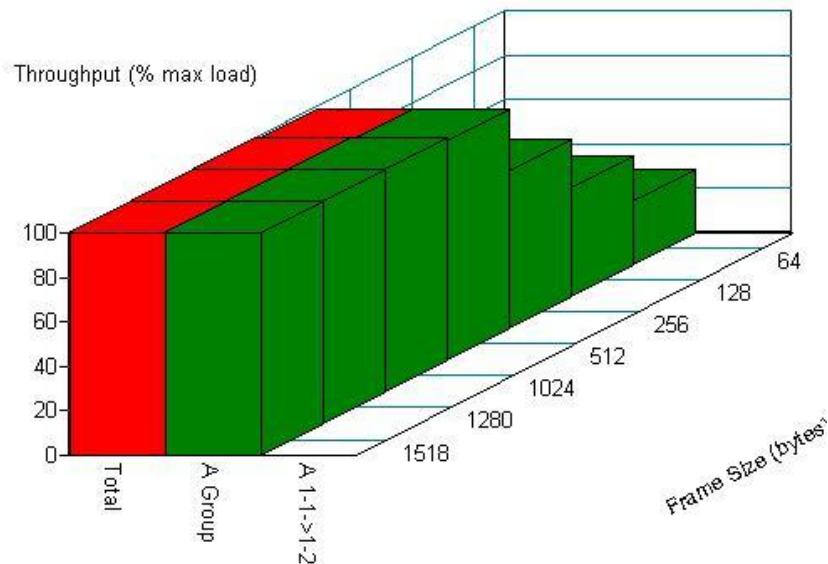
Graphics Media	Ubuntu Default setting
LAN	LAN1→ Realtek RTL 8111F 10/100/1000MB Ethernet: 8.035.00-NAPI
	LAN2→ Realtek RTL 8111F 10/100/1000MB Ethernet: 8.035.00-NAPI
Audio Driver	Ubuntu Default setting

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:

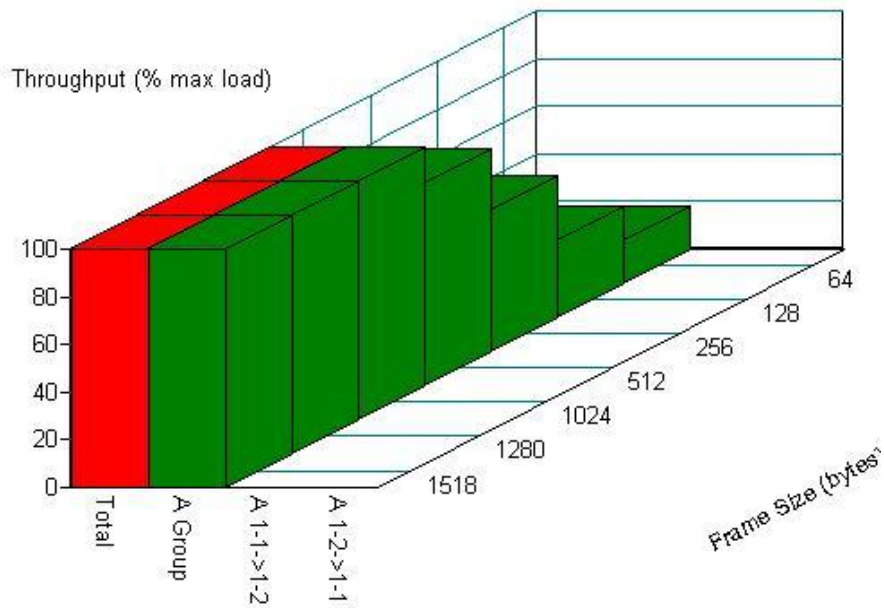
1. Half Direction (LAN1: Realtek RTL 8111F 10/100/1000MB Ethernet → LAN2: Realtek RTL 8111F 10/100/1000MB Ethernet)



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	28.0703125	48.1796875	70.609375	98.453125	100	100	100
A Group	28.0703125	48.1796875	70.609375	98.453125	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: Realtek RTL 8111F 10/100/1000MB Ethernet ⇔ LAN2: Realtek RTL 8111F 10/100/1000MB Ethernet)



Throughput vs Frame Size

<u>Name/Framesize</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	18.015625	31.9375	59.0078125	84.53125	100	100	100
A Group	18.015625	31.9375	59.0078125	84.53125	100	100	100
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

2.4. Optional Function Test

[X] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
3G Module	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
GPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wireless LAN	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bluetooth	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

3. Integration Test

	Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version
CPU	Intel® Core(TM) i7-4770S (3.10 GHz)
Memory	Transcend DDR3 1600/8GB SEC K4B4G0846B
HDD	Seagate 3.5" 7200rpm 500GB (ST500DM002)

3.1. USB Port Integration Test

Item	USB Port	Boot			Function(Win 7)			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB FDD Mitsumi D353GUE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Asus SDRW-08D2S-U USB2.0 DVD-R/W 8X		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend 32GB USB3.0		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend 8GB USB3.0		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.2. Digital I/O Port Test

DIO Address (___)	Result			Note
	Pass	Fail	N/A	
DIO VCC +5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use tool (Hi-Safe EMB-H81A 20130902)

3.3. COM Port Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
Serial Modem Dial Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Modem	Ring In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Tested with Modem
	+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test with Multimeter
	+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test with Multimeter

3.4. RS-422 / RS-485 Test

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use loopback and WINSSD.exe to test RS-422 port in Windows
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-485 ports of two boards is linked with one 1200M cable on Windows Terminal
RS-485 for COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-485 ports of two boards is linked with one 1200M cable on Windows Terminal

3.5. LPT Port Test

Test Item	Result			Note
	Pass	Fail	N/A	
XEROX Phaser 3124 Laser Printer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.6. Burn In Test

Under Room Temperature: 26 °C

Test Item	Result			Note
	Pass	Fail	N/A	
Burn In Test V7.1 Pro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 Ultimate SP1 English Version 32Bit

Note: COM PORT Speed Set to 115200.

4. Application Test

4.1. PCI Slot Function (PCI Adapter Card) Test

[X] No Support

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

4.2. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
Intel GIGABIT CT DESKTOP ADAPTER PCI-Express X1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NW-2010001
Uptech UTB230 USB3.0 card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DigiFusion PES311A SATAIII card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SUNIX SATA1414 eSATA & SATAII x1Express card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gen1
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel @Gigabit ET2 Quad Port Svr Adptr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bear Card PCIE x4 test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command: PCI-XP P1X4
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
AX4650 1GB BBR2 (ATI Chipset) PCI-Express x16 VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Gigabyte R567OC-1GI ATI/1GB GDDR5 PCI-Express x16 VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Express card	Function Test			Note
	Pass	Fail	N/A	
SUNIX SATA II Express card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SunBox 34mm Giga LAN Express Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
AZUREWAVE WF-NB041H Mini PCIe b/g/n WiFi w/ Bluetooth Card(half card)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AZUREWAVE WF-NB100H Mini PCIe b/g/n WiFi w/ Bluetooth Card(half card)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mini PCIe SATA 2 Module(SATA Sil3132)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sierra Wireless HSPA MC8790 Network Adapter (3G)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Aether COM-ME232s2 serial port (PCI-E interface)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ADLINK mPCI-8750 ATI Rage XL Mini PCI VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4.4. CardBus (PCMCIA) Compatibility Function Test

[X] No Support

Device Item	Bit	Function Test			Note
		Pass	Fail	N/A	
Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)	Slot 1 (Up)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[PC-200200]
	Slot 2 (Down)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Kingston datapack DP-PCM2 / 2GB (PC Card TypeII HDD)	Slot 1 (Up)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[PC-200201]
	Slot 2 (Down)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 1 (Up)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[PC-200502]
	Slot 2 (Down)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 2 (Down)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[PC-200502]

4.5. ISA Slot Function Test

[X] No Support

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

4.6. Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104

4.6.1. Device List: PC/104 Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PCM-3660	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4.6.2. Device List: PC/104+ Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PCM-FA00	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	With MINI PCI Card(RT2561ST)

4.6.3. Device List: PCI-104 Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PCM-3794	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	PI-200702

4.6.4. Device List: PCI/104 Express Module

Test Item	Result			Notes
	Pass	Fail	N/A	
AAEON PER-123	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SATA2 SLC
Intel SSD 520 Series	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SATA3 MLC

4.8. Peripheral Compatibility- Storage Device Test

4.8.1. Disk on Chip (DOC) Test

[X] No Support

Test Item		Result			Notes
		Pass	Fail	N/A	
DOC 2000 Model	16MB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	M-System / MD2200-D16
DOC 2000 Onboard Address	CC00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	D000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	D400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	D800	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DC00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

4.8.2. Disk on module (DOM) Test

Test Item	Result			Notes
	Pass	Fail	N/A	
Transcend / TS512MDOM40V / 512MB / IDE 40 Pin	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Transcend / TS512MDOM44V / 512MB / IDE 44 Pin	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4.9. Riser Card Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
LAN	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PCI Slot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PCI-e Slot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Power Consumption Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel® Core(TM) i7-4770S (3.10 GHz)
Memory	Transcend DDR3 1600/8GB SEC K4B4G0846B
HDD	Seagate 3.5" 7200rpm 500GB (ST500DM002)

5.1. AT/ATX Power Consumption

Test Equipment	
Equipment	Programmable power supply
Manufacturer	GW INSTEK
Model name	PSH-3630

Test Environment					
Power Model	Zippy HG2-6400P 400W				
Keyboard	USB Microsoft 1366				
Mouse	USB Microsoft 1113				
24Pin ATX Mode	Voltage(V)	Current(A)		Total Watt(W)	Note
Power on (Max)	+12V	3.01	A	47.84 (W)	
	+5V	1.65			
	+3.3V	0.87			
	5VSB	0.12			
Windows 7 SP1 32bit Idle mode	+12V	0.98	A	20.01 (W)	
	+5V	1.16			
	+3.3V	0.61			
	5VSB	0.09			
Suspend in Window7 (S3)	+12V	0	A	1.2(W)	
	+5V	0			
	+3.3V	0			
	5VSB	0.24			
(Full Loading Mode) Windows 7 SP1 with Prime 95 Full Loading Test	+12V	5.45	A	74 (W)	Prime95 Version 259 1.26
	+5V	1.14			
	+3.3V	0.72			
	5VSB	0.10			
5VSB in Power Off	5VSB	0.02	A	0.1(W)	BIOS Erp Enable ErP/EuP 2.0 < 0.5W
5VSB in Power Off	5VSB	0.16	A	0.6(W)	BIOS Erp Disabled

5.2. PC Health Status

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

Voltage Monitoring Test	Result			In Bios(V)	Actual(V)	Note
	Pass	Fail	N/A			
CPU temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	47 C	38.2C	
System temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	34 C	34.5C	
CPU Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2343 RPM	N/A RPM	
Chassis Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2389 RPM	N/A RPM	
VCORE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.728	1.73	
12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.288	12.14	
5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.040	4.99	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.248	3.21	

6. Time Accuracy Test

6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

Item Function	Time Interval	Criteria	Actual		Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode	24 hrs	+/-2 sec	-1	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC Clock in Power Off Mode	24 hrs	+/-2 sec	-0.6	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	3.8	Sec	Period for "Beep" starts to Sound after pressing Power Button.

6.3. Watchdog Timer Test

Use Function as below: Hi-Safe

[] No Support.

Time-Out Interval	Criteria	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+/-10%	12.0	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hi-Safe for EMB-H81A (Hi-Safe EMB-H81A 20130902)
60 sec	+/-10%	64.8	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/-10%	268.8	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C / DOS Mode

7. O.S. Compatibility Test

7.1. English ubuntu 12.04 Kernel 3.2.0 -23 –generic-pae #36-ubuntu

[] No Support

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	System default
LAN Driver	Realtek RTL 8111F 10/100/1000MB Ethernet: 8.036.00
	Realtek RTL 8111F 10/100/1000MB Ethernet: 8.036.00

Install OS to IDE HDD/SATA HDD/ CF Card:

Installation	Result			Note
	Pass	Fail	N/A	
ubuntu 12.04 Kernel 3.2.0 -23 –generic-pae #36-ubuntu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1024*768
DVI-I(VGA) -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1024*768
DVI-I(DVI) -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1024*768
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1024*768
Network Function Test				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Play Audio Function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Play Audio Test
Base Function Test				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Redirection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CD-ROM Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X Windows Application				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
Halt	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power Off Mode
ls / clear; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

7.2. Windows 7 Ultimate English Version 32/64Bit

No Support

x32 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1027(2013/08/21)
Graphics Media	Intel® HD Graphics 4600: 9.18.10.3234(2013/7/9)
Audio Driver	Realtek High Definition Audio: 6.0.1.6873(2012/03/29)
LAN Driver	Realtek PCIe GBE Family Controller 7.75.827.2013 (2013/08/27)
	Realtek PCIe GBE Family Controller 7.75.827.2013 (2013/08/27)

No Support

x64 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1027(2013/08/21)
Graphics Media	Intel® HD Graphics 4600: 9.18.10.3234(2013/7/9)
Audio Driver	Realtek High Definition Audio: 6.0.1.6873(2012/03/29)
LAN Driver	Realtek PCIe GBE Family Controller 7.75.827.2013 (2013/08/27)
	Realtek PCIe GBE Family Controller 7.75.827.2013 (2013/08/27)

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA-- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI-I(VGA) -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI-I(DVI) -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI Line Out Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby(S1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby(S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.3. Windows 8 Pro English Version 32Bit/64Bit

No Support

x32 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1027(2013/08/21)
Graphics Media	Intel® HD Graphics 4600: 9.18.10.3234(2013/7/9)
Audio Driver	Realtek High Definition Audio: 6.0.1.6873(2012/03/29)
LAN Driver	Realtek PCIe GBE Family Controller 8.20.815.2013 (2013/08/15)
	Realtek PCIe GBE Family Controller 8.20.815.2013 (2013/08/15)

No Support

x64 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1027(2013/08/21)
Graphics Media	Intel® HD Graphics 4600: 9.18.10.3234(2013/7/9)
Audio Driver	Realtek High Definition Audio: 6.0.1.6873(2012/03/29)
LAN Driver	Realtek PCIe GBE Family Controller 8.20.815.2013 (2013/08/15)
	Realtek PCIe GBE Family Controller 8.20.815.2013 (2013/08/15)

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Windows 8 Pro English ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI-I(VGA) -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI-I(DVI) -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows 8 Pro Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Msconfig.exe
Basic Function Test				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI Line Out Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby(S1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby(S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. BIOS Function Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel® Core(TM) i7-4770S (3.10 GHz)
Memory	Transcend DDR3 1600/8GB SEC K4B4G0846B
HDD	Seagate 3.5" 7200rpm 500GB (ST500DM002)

8.1. Advanced Test

Test Item		Result			Note
		Pass	Fail	N/A	
ACPI settings	Suspend Disablen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sleeps state (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Trusted Computing		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU configuration	Hyper-threading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Turbo Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
SATA configuration	SATA controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	AHCI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB configuration	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super IO configuration	Serial port 1~6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	RS232	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RS422	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RS485	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Parallel Port Configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Eup/Erp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dynamic Digital IO configuration		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Management	Power Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(ATX/AT)
	Power Failure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Always off) (Always on) (Last State)
	Resume from RI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
S5 RTC Wake Settings		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.2. Chipset Test

Test Item		Result			Note
		Pass	Fail	N/A	
PCH-IO configuration	PCIe Mini Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Azalia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
System Agent (SA) Configuration	Graphics Configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PEG0-GEN X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot up Numlock State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fast Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From CDROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB Floppy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB CD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot from LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.4. CMOS Backup / Clear CMOS Test

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Backup	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date and time
Clear CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date and time

8.5. AAEON Tag Check Utility

Test Item	Result			Note
	Pass	Fail	N/A	
Check AAEON BIOS OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AONCHECK.EXE

8.6. Supervisor / User Password Test

Test Item	Result			Note
	Pass	Fail	N/A	
Administrator Password	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
User Password	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Performance Test

Hardware Information with Windows 7 Ultimate English Version 32Bit Driver Version	
CPU	Intel® Core™ i7-4770S Processor (8M Cache, up to 3.90 GHz)
Memory	Transcend DDR3 1600 8GB SEC K4B4G0846B
HDD	Seagate 3.5" 7200rpm 500GB (ST500DM002)

9.1. Performance Test

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
CPU Mark99			Win7
Scores	673	-	
PCMark2005			Windows 7
PCMark	12951	-	PCMarks
CPU	14273	-	
Memory	10743	-	
Graphics	8169	-	
HDD	7120	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	
PCMark Vantage			Windows 7
PCMark	9810	-	PCMarks
Memories	5852	-	
TV and movies	6528	-	
Gaming	6988	-	
Music	7348	-	1024*768
Communications	12779	-	
Productivity	8117	-	
HDD	4466	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2006 v120			Windows 7
3Dmark Score	6690	-	
SM2.0	2278	-	
HDR/SM3.0	2539	-	Select All(1920*1080)
CPU Score	7222	-	
3Dmark 11			Windows 7
3Dmark Score	X293	-	
Graphics Score	258	-	
Physics Score	7939	-	Select All(Extreme 1920*1080)
Combined Score	345	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Final Reality V1.01—BenchMark Test			Windows 7
2D image	57.89	-	Reality marks
3D	3.37	-	
Bus transfer	45.53	-	
Overall	28.25	-	
Benchmark (A)	-		

Testing Software	Scope		Note
	AAEON	Ref.	
Performance7			Windows 7
PassMark Rating	1785.3	-	
CPU Mark	8845.4	-	
2D Graphics Mark	422.3	-	
3D Graphics Mark	707.5	-	
Memory Mark	1357.3	-	
Disk Mark	765.1	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Windows experience index			Windows 7
Processor	7.7	-	
Memory	7.7	-	
Graphics	6.7	-	
Gaming graphics	6.7	-	
Primary hard disk	5.9	-	

9.2. Memory Test

Test Item	Result			Note
	Pass	Fail	N/A	
MEM v4.20 Overnight Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	