

Report NO:14P010005

AEC-6977

Intel Sandy Bridge / Ivy Bridge Fanless embedded controller With PBA-QM67/77(Embedded Controller Motherboard)

Bulletin 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	Approval	Test Engineer
2014/02/11	Tom Lin	Mike Lee

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	P2P3-1003	1. New Test Report	
2011/02/23	P2P3-1101	1. Re-composing test Items	
2011/03/04	P2P3-1102	1. Add Specification Validation	
2012/05/29	P2P3-1201	1. Add Summary Table of DTS	

Note :

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

- 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 will be updated when re-test completed in product next change version.

Specification Verification

Main Specification (Board level Specifications)

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	PBA-QM67/77	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel Core i7-3517UE + Celeron 847E Processors FCBGA1023 (disable turbo-boost)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCH Chipset	Intel Cougar Point (QM77)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	DDR3 SODIMM x 2, supports DDR3 1333/1600, Max. 16GB, ==> Channel a on the upper side ==> Channel b on the down side ==> 204-pin SODIMM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphic Controller	Intel processors integrated CRT: up to 2048 x 1536 (QXGA) @ 75 Hz HDMI/ DVI: 1920 x 1200 @ 60 Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shared Memory	Shared system memory above 512MB/ DVMT 5.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	BIOS AMI BIOS 64Mbit SPI ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O Chips	Fintek F81866D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	LAN1: Intel ® PHY WG82579 10/100/1000Mb LANs, RJ-45 X1 LAN2: Intel ® 82574 Giga LAN 10/100/1000Mb LANs, RJ-45 X1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	HD Audio Realtek ALC892 Codec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog Timer Chipset	Fintek F81866D: 1~255 levels programmable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hardware Monitor Chipset	Fintek F81866D: support System temp, Voltage, and Cooling fan status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Digital IO	1. 8-bit programmable 2. 2.5KV Isolation protection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM mode	Meet TPM v1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Display port	1 x DB-15 (VGA), 1 x DVI-D, 1 x HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Universal Serial Bus	USB connector(3.0 x4+2.0x4) via QM77 : 6 x USB on board , 1 x USB Pin header Reserve layout for future Ivy-bridge(connector co-lay USB 2.0/3.0 x 4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	Six COM ports: one onboard: 4 x DB-9 , 2 x Pin header COM 1/3~6: RS-232 (COM 5/6 jumper-select Ring /+5V /+12V)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	COM 2: RS-232/ RS-422/ RS-485 (+5V),RS-485 W/auto flow (COM1/COM2 design W/ 2.5KV isolation)				
SATA Interface	2 x SATA-III (SATA 0, 1),2 x SATA-II (SATA 2, 3),Support RAID 0,1,5,10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio I/O	3 x Audio Jack (Mic-in, Line-in, Line-out)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
K/B and Mouse	1 x PS/2 Port (KB +MS by Y-cable)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet I/O	2 x RJ45 w/ LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO connector	4 Isolated DI +4 Isolated DO+ GND + Power	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LED indicator	Power LED, HDD Status LED, LAN LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Button	Power Switch Button, Reset Button	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Interface	1 x PCI-E(x4) slot,1 x PCI slot(follow PCI 2.2/3.0), 2 x Mini-PCIe socket(1 with SIM Holder), 1 x CFast, 1 x TPM Module(Optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Supply Request	2 x SATA power with 4-pin wafer,1 x 3.3V/5V power source reserved Nominal: DC9-30V power input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Operating Temp.	-20°C ~ 65°C==> Please reserve the WT solution.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Main Specification (System level Specifications)

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	AEC-6977	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Construction	Rugged Aluminum Alloy Chassis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU Board	PBA-QM67/77	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel Core i 3rd generationProcessors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	DDR3 SODIMM x 2, supports DDR3 1066/1333, Max. 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	CFast Socket X 1 (front bezel) Removeable SATA 2.5" HDD bay x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Front I/O panel	Power button x 1 Reset button x 1 PS/2 x 1 USB 2.0 x 2 COM x 2 (COM1:RS-232, COM2:RS-232/422/485 W/2.5KV Isoaltion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	LED x 4 (Reserved) SYS LED x 1 HDD LED x 1 DIO x 1 W/2.5KV isolation (8DIO + 1 power + 1 GND on board) : * Input Channels Ch:10 (Sink) /Input Range: 5 ~ 40 VDC *Output ChannelsCh:10 (Sink) /Output Range:5 ~ 40 VDC ***Reserved I/O *** 1. SMA Connector Hole x 3(Reserved for Wireless, GPS, 3.5G antenna)				
Rear I/O panel	COM x 2 USB3.0 x 4 GbE LAN, RJ45 x 2 Line-out x 1 Line-in x 1 Mic-in x 1 HDMI x1 DVI-D x 1 VGA x 1 Power inlet x 1(3 pin)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
On board I/O Spec.	Box header x 2 for USB2.0 x 2 SATA-III x 2 (SATA 0, 2),SATA-II x 2(SATA 2, 3) Box header x 2 for COM5 /6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion	PCIe(x4) x 2 or PCIe(x4) x1/PCI x2 (follow PCI 2.2/3.0) Mini card slot x 1 with SIM holder, Mini card slot x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mounting	Wall-mount	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Supply	ATX Power function DC Input 9-30V (Phoenix connector 3 pin) Optional AC power adapter , input voltage range 100~240 V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows 32-bit XP Pro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows 7 32-bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows 7 64-bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microsoft Embedded	Windows XP Embedded	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. By customers 2. Standard image
Linux	Linux-Fedora	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Latest version

Environmental Specifications

Item	Specification
Operating temperature	Without Airflow , with wide-temp storage& RAM -4~ 149°F (-20°C ~ 65°C) -17W TDP CPU .Not include Riser card
Storage temperature	-4 ~ 158° F (-30 ~ 70° C)
Storage humidity	5 ~ 90% @ 40C, non-condensing
Vibration	3g RMS / 5 ~ 500Hz / operation – CFast 1g RMS / 5~ 500Hz / operation – With HDD
Shock	50G peak acceleration (11 msec. duration) – CFast 20G peak acceleration (11 msec. duration) – With HDD
Drop	76cm (1 Corner, 3 Edge, 6 Surface)
EMC	CE /FCC class A

Note: Please refer to Environment Test Report for detail information

Platform Information

Item	Device Information	Test Item
System Model/Version	AEC-6977	1,2,3,4,5,6,7,8,9
PCB Board	PBA-QM67 A1.0_0_0_0	1,2,3,4,5,6,7,8,9
BIOS / Version	AEC-6977 R1.1 (A977AM11) (12/10/2013)	1,2,3,4,5,6,7,8,9
CPU Type	Intel ® Core™ i7-3517UE CPU @ 1.70GHz	1,2,3,4,5,6,7,8,9
Memory Type	Transcend DDR3L 1600 SO 2Rx8 8GB - SEC 231 HYK0 K4B4G0846B x2	1,2,3,4,5,6,7,8,9
	Transcend DDR3 1600 8GB - SODIMM CL11 - ELPIDA J4208BBBG - GN - F	
SATA HDD	TOSHIBA 2.5" SATA HDD 100GB - MK1060GSC FUJITSU 2.5" SATA HDD 80GB - MHZ2080BH G2	1,2,3,4,5,6,7,8,9
SATA DVD-ROM	LG SATA Super Multi DVD Rewriter GH22NS40	1,2,3,4,5,6,7,8,9
USB DVD-ROM	PIONEER DVR-XD11T	1,2,3,4,5,6,7,8,9
	Aopen EDR8865U	
LCD Monitor	EIZO EV2335W 23.5"	1,2,3,4,5,6,7,8,9
C-Fast Card	Transcend SATA II CFAST 16GB / TS16GCFX500	1,2,3,4,5,6,7,8,9
Operating System	<input checked="" type="checkbox"/> English Ubuntu 12.10 – Kernel 3.5.0-17 - generic #28	7-1
	<input checked="" type="checkbox"/> Windows 7 Ultimate SP1 English Version 32/64 Bit	7-2
	<input checked="" type="checkbox"/> Windows XP Professional English SP3 32 Bit	7-3
Power Supply	AC/DC Adapter FSP120-AAB AC Input:100-240V 2A 50-60Hz DC Output:19V 6.32A	1,2,3,4,5,6,7,8,9
Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version		
Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (December/06/2011)	
PCH Chipset	Intel Cougar Point (QM77)	
Super IO Chipset	Fintek F81866D	
VGA Chipset	Intel ® HD Graphics 4000 8.15.10.2656 (2/17/2012)	
Audio Chipset	Realtek High Definition Audio 6.0.1.6526 (12/13/2011)	
Ethernet Chipset	Intel ® 82579LM Gigabit Network Connection 11.15.12.0 (11/30/2011)	
	Intel ® 82574L Gigabit Network Connection 11.14.48.0 (10/13/2011)	

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1. OSD Control Function Test

1.1. Modular System Industrial Workstation Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
AC power outlet / inlet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power On / Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
H.D.D LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.2. Mechanism construction check

Test Item	Result			Note
	Pass	Fail	N/A	
Case construction check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C-Fast Card construction check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Component check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3. SATA Compatibility Test

1.3.1 Onboard SATA (RAID) Test

SATA RAID Test		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-10 (HDDx4) Striping/Span Test Mirroring	1 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	4 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<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 7 Ultimate SP1 English Version 32 Bit Driver Version										
CPU	Intel® Core™ i7-3517UE CPU @ 1.70GHz									
Memory	Transcend DDR3L 1600 SO 2Rx8 8GB - SEC 231 HYK0 K4B4G0846B x2									
SATA HDD	FUJITSU 2.5" SATA HDD 80GB - MHZ2080BH G2									
VGA	EIZO EV2335W 23.5"									
DVI	EIZO EV2335W 23.5"									
HDMI	PHILIPS 244E2SB 24"									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			DVI			HDMI			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
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"/>	
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"/>	
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"/>	
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"/>	
1280X800	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	
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"/>	
1360X765	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	
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"/>	
1440X900	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	
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"/>	
Rotation	<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"/>	Rotation (0 / 90 / 180 / 270)

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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	VGA+HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	DVI+HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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							
On Board LAN1		Intel @ 82579LM Gigabit Network Connection				MAC Address		00-07-32-18-15-34	
On Board LAN2		Intel @ 82574L Gigabit Network Connection				MAC Address		00-07-32-27-14-FB	
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"/>	
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 checked="" type="checkbox"/>	CentOS 6.2 - kernel 2.6.32-220.7.1
<input type="checkbox"/>	Ubuntu 10.1
<input type="checkbox"/>	Red Hat

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

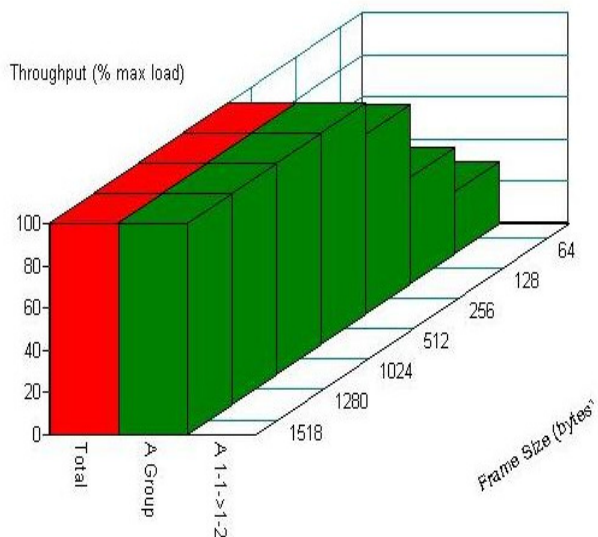
Graphics Media	CentOS Default setting
LAN	LAN1 → Intel ® 82579LM Gigabit Network Connection Ethernet: CentOS Default setting
	LAN2 → Intel ® 82574L Gigabit Network Connection Ethernet: CentOS Default setting
Audio Driver	CentOS Default setting

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:

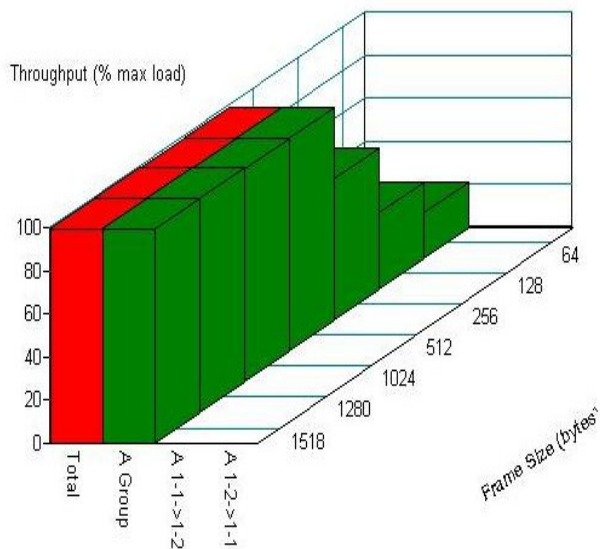
1.Half Direction (LAN1: Intel ® 82579LM 10/100/1G Ethernet → LAN2: Intel ® 82574L 10/100/1G Ethernet)



Throughput vs Frame Size

Name/Framesize	64	128	256	512	1024	1280	1518
Total	28.84375	49.7265625	84.53125	100	100	100	100
A Group	28.84375	49.7265625	84.53125	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 © 82579LM 10/100/1G Ethernet → LAN2: Intel © 82574L 10/100/1G 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	20.3359375	35.03125	65.1953125	98.453125	98.453125	99.2265625	99.2265625
A Group	20.3359375	35.03125	65.1953125	98.453125	98.453125	99.2265625	99.2265625
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

3. Integration Test

Hardware Information with 7 Ultimate SP1 English Version 32 Bit Driver Version	
CPU	Intel® Core™ i7-3517UE CPU @ 1.70GHz
Memory	Transcend DDR3L 1600 SO 2Rx8 8GB - SEC 231 HYK0 K4B4G0846B x2
SATA HDD	FUJITSU 2.5" SATA HDD 80GB - MHZ2080BH G2
Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version	
Chipset Software	Intel® Chipset Device Software 9.3.0.1019 (December/06/2011)
PCH Chipset	Intel Cougar Point (QM77)
Super IO Chipset	Fintek F81866D
VGA Chipset	Intel® HD Graphics 4000 8.15.10.2656 (2/17/2012)
Audio Chipset	Realtek High Definition Audio 6.0.1.6526 (12/13/2011)
Ethernet Chipset	Intel® 82579LM Gigabit Network Connection 11.15.12.0 (11/30/2011)
	Intel® 82574L Gigabit Network Connection 11.14.48.0 (10/13/2011)

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 HP FD-05PUB		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD-ROM Aopen EDR8865U		<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"/>	

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"/>	Test by Modem
	+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
	+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by 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 in Windows
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-422 port of two boards is linked by one 1.2km 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 port of two boards is linked by one 1.2km cable on Windows Terminal

3.5. Burn In Test

Under Room Temperature: 26 °C

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

Note: COM PORT Speed Set to 115200.

4. Application Test

4.1. Riser Card Function Test

PCI & PCI-E Connector Function	Result		
	Pass	Fail	N/A
Riser Card PER-T227 Rev A0.2 (PCI Slot x2)			
Intel 10/100Mbps 82559 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IBM 10/100 Ether Jet PCI Management Adapter Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Riser Card PER-T229 Rev A0.2 (PCI-E x4 Slot x2)			
Intel ® Gigabit ET2 Quad Port Svr Adptr(4 port)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adaptec PCI-Express x4 AAR-1430SA SATAII HostRAID Controllers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uptech USB 3.0 Card - UTB230 (PCI-E x1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intel GIGABIT CT DESKTOP ADAPTER (PCI-E x1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Power Consumption Test

	Hardware Information with 7 Ultimate SP1 English Version 32 Bit Driver Version
CPU	Intel ® Core™ i7-3612QE CPU @ 2.10GHz
Memory	DSL DDR3 1600 8GB CL11 - 1305ZVH V73CBG04808RAJJ11I x2
SATA HDD	TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX

5.1. PC Health Status

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

Voltage Monitoring Test	Result			BIOS (V)	Note
	Pass	Fail	N/A		
CPU temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+75°C	
System temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+51°C	
Fan1 Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	- RPM	
Fan2 Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	- RPM	
Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+0.808V	
5Vdual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+5.063V	
5Vsb	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+5.075V	
12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+11.684V	
VCC3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+3.360V	
VS3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+3.360V	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+3.344V	

6. Time Accuracy Test

6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

Function	Item	Time Interval	Margin for error	Actual	Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode		24 hrs	+/-2 sec	0 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC Clock in Power Off Mode		24 hrs	+/-2 sec	-1 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6.2. Booting Timer Test

Installation	Actual	Note
System Booting Time	6.70 Sec	Press the Power Button till "Beep" Sound appears

6.3. Watchdog Timer Test

Use Function as below: Hi-Safe (20130627)

[] No Support.

Time-Out Interval	Margin for error	Actual	Result			Note
			Pass	Fail	N/A	
10 sec	+ / - 10 %	10.77 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+ / - 10 %	61.06 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+ / - 10 %	256.83 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C

7. O.S. Compatibility Test

7.1. English Ubuntu 12.10 – Kernel 3.5.0-17 - generic #28

[] No Support

Driver Information:

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

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu 12.10 – Kernel 3.5.0-17 - generic #28	<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"/>	
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				
PS2 / USB Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PS2 / USB Keyboard Test	<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"/>	
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
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

[X] x32 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (December/06/2011)
Graphics Media	Intel ® HD Graphics 4000 8.15.10.2656 (2/17/2012)
Audio Driver	Realtek High Definition Audio 6.0.1.6526 (12/13/2011)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 11.15.12.0 (11/30/2011) Intel ® 82574L Gigabit Network Connection 11.14.48.0 (10/13/2011)

[X] x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (December/06/2011)
Graphics Media	Intel ® HD Graphics 4000 8.15.10.2656 (2/17/2012)
Audio Driver	Realtek High Definition Audio 6.0.1.6526 (12/13/2011)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 11.15.12.0 (11/30/2011) Intel ® 82574L Gigabit Network Connection 11.14.48.0 (10/13/2011)

Install OS to SATA HDD / C-Fast Card:

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 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA+DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA+HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI+HDMI	<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 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"/>	
C-Fast Card	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	
Stand by	<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 XP SP3 English Version 32Bit

- [] No Support
- [X] x32 Driver Information:

Chipset Software	Intel © Chipset Device Software 9.3.0.1019 (December/06/2011)
Graphics Media	Intel © HD Graphics 4000 6.14.10.5400 (2/22/2012)
Audio Driver	Realtek High Definition Audio 5.10.0.6526 (12/13/2011)
LAN Driver	Intel © 82579LM Gigabit Network Connection 11.15.12.0 (11/30/2011)
	Intel © 82574L Gigabit Network Connection 11.14.48.0 (10/13/2011)

Install OS to SATA HDD / C-Fast Card:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP SP3 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 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA+DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA+HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI+HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows XP 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 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"/>	
C-Fast Card	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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	<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 7 Ultimate SP1 English Version 32 Bit Driver Version	
CPU	Intel® Core™ i7-3517UE CPU @ 1.70GHz
Memory	Transcend DDR3L 1600 SO 2Rx8 8GB - SEC 231 HYK0 K4B4G0846B x2
SATA HDD	FUJITSU 2.5" SATA HDD 80GB - MHZ2080BH G2

8.1. Boot Sequence Test

Test Item	Result			Note
	Pass	Fail	N/A	
Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Floppy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN [Boot From LAN First]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.2. Power Management Test

8.2.1. ACPI Power Management Test

Test Item	Result			Note
	Pass	Fail	N/A	
ACPI - S1 (POS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Resume from PS/2 Keyboard / Mouse Resume from USB Keyboard / Mouse Resume Power button
ACPI - S3 (STR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Suspend Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.3. Power On after Power Failure Test

Test Item	Result			Note
	Pass	Fail	N/A	
Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Former-Sts (Auto)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.4. 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

8.5. TPM Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
No Change	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.6. IAMT Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
IAMT Function	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.7. Administrator / 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 7 Ultimate SP1 English Version 32 Bit Driver Version	
CPU	Intel ® Core™ i7-3517UE CPU @ 1.70GHz
Memory	Transcend DDR3L 1600 SO 2Rx8 8GB - SEC 231 HYK0 K4B4G0846B x2
SATA HDD	TOSHIBA 2.5" SATA HDD 100GB - MK1060GSC

9.1. Performance Test

Test Result: (Display set 1920x1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark2002			Only for Windows 7
CPU	N/A	-	
Memory	46742	-	
HDD	1187	-	
Benchmark (A)	-	-	
PCMark2005			Windows 7
PCMark	7244	-	PCMarks
CPU	8568	-	
Memory	7627	-	
Graphics	4529	-	
HDD	4191	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2003 v360			Only for Windows 7
3Dmark Score	6990	-	
CPU Score	1704	-	
Benchmark (A)	-	-	
3Dmark2006 v120			Windows 7
3Dmark Score	4066	-	
CPU Score	3176	-	
SM2.0 Score	1386	-	
HDR/SM3.0 Score	1608	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Final Reality V1.01—BenchMark Test			Windows 7
2D image	47.61	-	Reality marks
3D	5.74	-	
Bus transfer	47.64	-	
Overall	24.58	-	
Benchmark (A)	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark7			
PCMark	2277	-	
CPU	-	-	
Memory	-	-	
HDD	-	-	
Benchmark (A)	-	-	
PCMark Vantage			
PCMarks	6147	-	PCMarks
TV and Movies	3985	-	
Memories	3714	-	
Gaming	3617	-	
Music	5464	-	
Communications	8061	-	
Productivity	4293	-	
HDD	2523	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 7.0			
PassMark Rating	950.7	-	
CPU Mark	3082.7	-	
2D Graphics Mark	297.3	-	
3D Graphics Mark	413.8	-	
Memory Mark	997.2	-	
Disk Mark	288.7	-	
Benchmark (A)	-	-	

9.2. Memory Compatibility Test

Memory Information	MEM V4.20			Note
	Pass	Fail	N/A	
Transcend DDR3L 1600 SO 2Rx8 8GB - SEC 231 HYK0 K4B4G0846B x2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1600 8GB - SODIMM CL11 - ELPIDA J4208BBBG - GN - F	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	