

# AEC-6637

## Fanless Embedded controller with Intel Core i7-3610QE/Intel Core i5-3610ME

### 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

2012/09/05

Approval

Tom Lin

Test Engineer

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**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	
2012/0529	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 would be updated when re-test completed in product next change version.

## Specification Validation

### Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	AEC-6637	<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	GENE-QM77	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel Core i7-3610QE 2.3GHz processor Intel Core i5-3610ME 2.7GHz processor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test With Intel® Core™ i7-3610QE Processor(6M Cache, up to 3.30 GHz)
System Memory	DDR3 SODIMM x 1, supports DDR3 1066/1333/1600, Max. 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	CFast x 1 2.5' SATA 3(6.0Gb/s) HDD drive bayx 1 Supports RAID 0 & 1 (Optional with 2nd HDD kit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rear I/O panel	3-pin terminal block x1 DB-9 x1 for RS-232/422/485(auto flow) DB-9 x3 for RS-232 x 3 USB typeA(USB 3.0) x 2 DB-15 x 1 for VGA RJ-45 x 2 for 10/100/1000 base-T	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Front I/O panel	Power ON/OFF switch x 1 Power LED x 1 HDD LED x 1 Line-out x 1 USB typeA x 2 Antenna x 2 for Optional	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Expansion</b>	MINI card x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Mounting</b>	Wall-mount	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Power Supply</b>	ATX Power function DC Input 9-30V w/3-pin terminal block	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**O.S. Support**

Item	Specification	Confirmed Result			Refer Chapter
		Pass	Fail	N/A	
Microsoft Embedded	Windows CE 6.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. By customers 2. Standard image
	Windows Embedded Standard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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"/>	
Linux	Linux kernel 2.6.x or above	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Environmental Specifications**

Item	Specification
Operating temperature	14°F ~ 113°F (-10°C ~ 45°C) CFast 14°F ~ 122°F (-10°C ~ 50°C) HDD
Storage temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage humidity	5 ~ 95% @ 40C, non-condensing
Vibration	5g RMS / 5 ~ 500Hz / operation – CFAST 1g RMS / 5 ~ 500Hz / operation – HDD
Shock	50G peak acceleration (11 msec. duration) – CFAST 20G peak acceleration (11 msec. duration) – HDD
Drop	92cm (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-6637 Rev A1.0	1,2,3,4,5,6,7,8,9
PCB Board	GENE-QM77 Rev A1.0	1,2,3,4,5,6,7,8,9
Carrier Board	N/A	N/A
BIOS / Version	AEC-6637 R1.0(6637AM10) (08/15/2012)	1,2,3,4,5,6,7,8,9
CPU Type	Intel® Core™ i7-3610QE Processor (6M Cache, up to 3.30 GHz)	1,2,3,4,5,6,7,8,9
Memory Type	Transcend DDR3 1333 / 8GB CL9 Micron IWD27 D9PBC	1,2,3,4,5,6,7,8,9
SATA HDD	Toshiba MK1060GSC 2.5" 100G	1,2,3,4,5,6,7,8,9
SATA DVD-ROM	N/A	N/A
USB DVD-ROM	Aopen EDR8865U, ASUS SDRW-08D2S-U	1,2,3,4,5,6,7,8,9
LCD Monitor	Dell U2410E 1920*1200, LG E2260 1920*1080	1,2,3,4,5,6,7,8,9
LVDS	N/A	N/A
C-Fast	InnoDisk CFast D150Q 16GB	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"/> English Ubuntu 11.10-Kernel 3.0.0.12-generic	7-1
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32/64Bit	7-2
	<input checked="" type="checkbox"/> Windows XP Professional English SP3 32 Bit	7-3
Power Supply	ATX Power Supply : N/A	N/A
	AT Power Supply: N/A	N/A
	DC Adapter: FSP120-AAB DC OUTPUT:19V 6.32A	1,2,3,4,5,6,7,8,9
Battery Model	N/A	N/A
<b>Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version</b>		
Chipset Software	Intel® Chipset Device Software: 9.3.0.1019(2011/12/06)	
North Bridge	N/A	
PCH Bridge	Intel QM77 PCH	
Super IO Chipset	ITE IT8728	
Graphics Media	Intel® HD Graphics 4000 :8.15.10.2761(2012/05/21)	
Audio Driver	Realtek ALC892 High Definition Audio 6.0.1.6363 (2011/05/03)	
LAN Driver	Intel® 82579LM Gigabit Ethernet 11.16.96.0(2012/03/15)	
	Realtek® 8111E PCIe Gigabit LAN controller 7.50.1123.2011(2011/11/23)	
USB 3.0 Driver	Intel®USB 3.0 extensible Host Controller 1.0.4.220(2012/03)	

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# 1. OSD Control Function Test

## 1.1. OSD Control Test

OSD Control Function	Function			Note
	Pass	Fail	N/A	
Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MENU	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
UP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
POWER	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
EXIT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 1.2. OSD - On Screen Display Test

OSD - On Screen Display	Function			Note
	Pass	Fail	N/A	
Input Source	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PIP Enable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Auto Tune	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Backlight	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Brightness	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Contrast	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Color	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Position	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Language	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Recall	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Save Exit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cancel Exit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 1.3. OSD Light Test

OSD Control Function	Function			Note
	Pass	Fail	N/A	
Power off	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Power on	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Stand by	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 1.4. 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"/>	
CD-ROM drive included	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Floppy drive included	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lockable front-panel door	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Finger mouse	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
59 Data-entry&20/24 Function keys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 1.5. Mechanism construction check

Test Item	Result			Note
	Pass	Fail	N/A	
Case construction check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCMCIA construction check	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CF 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"/>	



## 2. Basic Function Test

### 2.1. Video Function Test

#### 2.1.1. Single Output Function Test

Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version										
CPU	Intel® Core™ i7-3610QE Processor(6M Cache, up to 3.30 GHz)									
Memory	Transcend DDR3 1333 / 8GB CL9 Micron IWD27 D9PBC									
SATA HDD	Toshiba MK1060GSC 2.5" 100G									
VGA	Dell U2410E 1920*1200 24"									
DVI	N/A									
TV	N/A									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			DVI			LVDS			Note
	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"/>	
800X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X720	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1366X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1400X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1440X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1600X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1600X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1600X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1792X1344	<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"/>	
1856X1392	<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"/>	
1920X1080	<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"/>	
1920X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
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"/>	
Rotation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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)

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Dual Display Clone	VGA + LVDS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	

### 2.1.4. Video Resolution Test [ X ] No Support

LVDS Model	Result			Note
	Pass	Fail	N/A	
1_ AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2_ AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3_ Data Image 7" / 800*480 / 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4_ AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)	<input 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 type="checkbox"/>	
6_ AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7_ AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	<input 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 type="checkbox"/>	
9_ Toshiba /12.1"/1280 x 768 x 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10_ AU M170EG01 V.D/ 17" / 1280*1024 / 48bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11_ AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12_ AUO T260XW02 / 26" / 1366x768 / 24bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13_ AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14_ AUO T370HW01 / 37" / 1920x1080 / 48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15_ AUO M190PW01 V0 / 19"/1440X900/48 bit	<input 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"/>	
CD_In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Line In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MICROPHONE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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-1210-16								
100MBps LAN HUB		HP J4095A 24 Ports								
10MBps LAN HUB		SVEC FD916H								
On Board LAN1		Intel(R)82579LM Gigabit Network Connection					MAC Address		00-07-32-1D-C7-EA	
On Board LAN2		Realtek PCIe GBE Family Controller					MAC Address		00-07-32-1D-C7-E9	
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"/>	S1,S3,S4,S5, DOS off	
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 10.10 Kernel 2.6.35-22
<input type="checkbox"/>	Red Hat

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

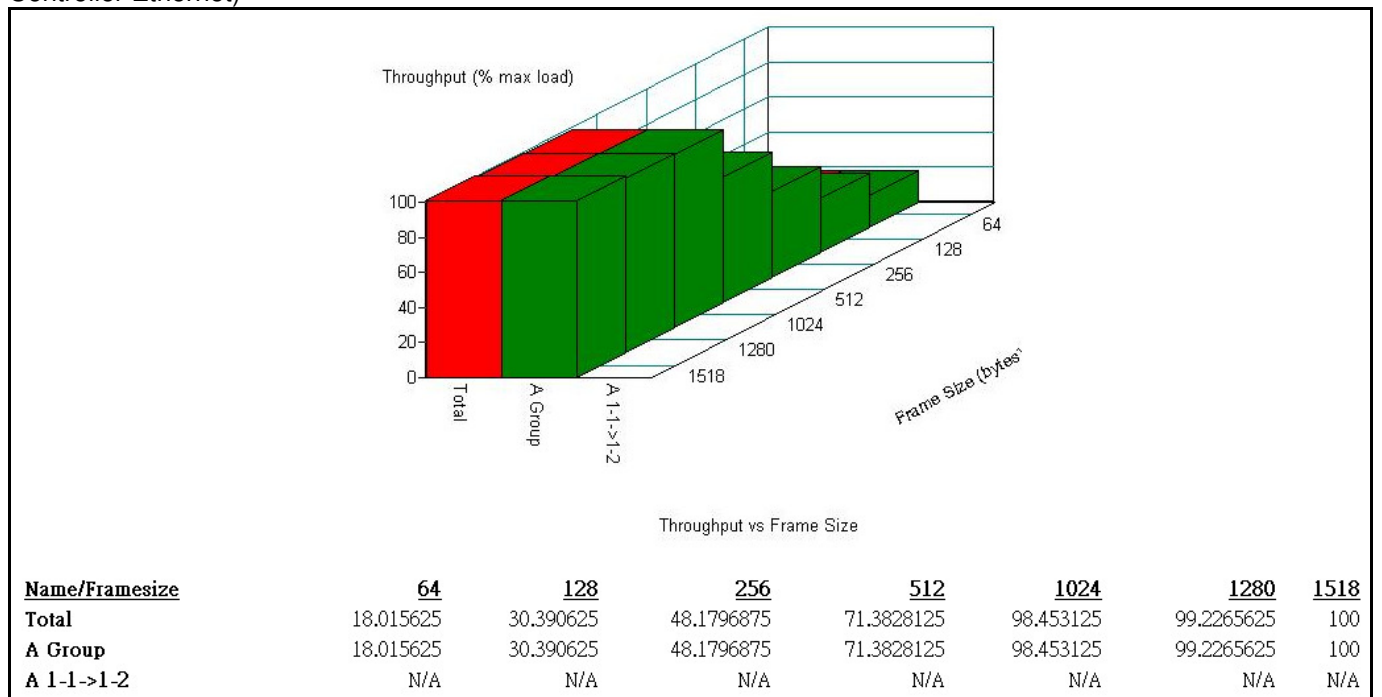
Graphics Media	Ubuntu Default setting
LAN	LAN1 → Intel 82579LM Gigabit Ethernet: 1.3.10a
	LAN2 → Realtek PCIe GBE Family Ethernet: 8.023.00
Audio Driver	Ubuntu Default setting

SMB Platform Information:

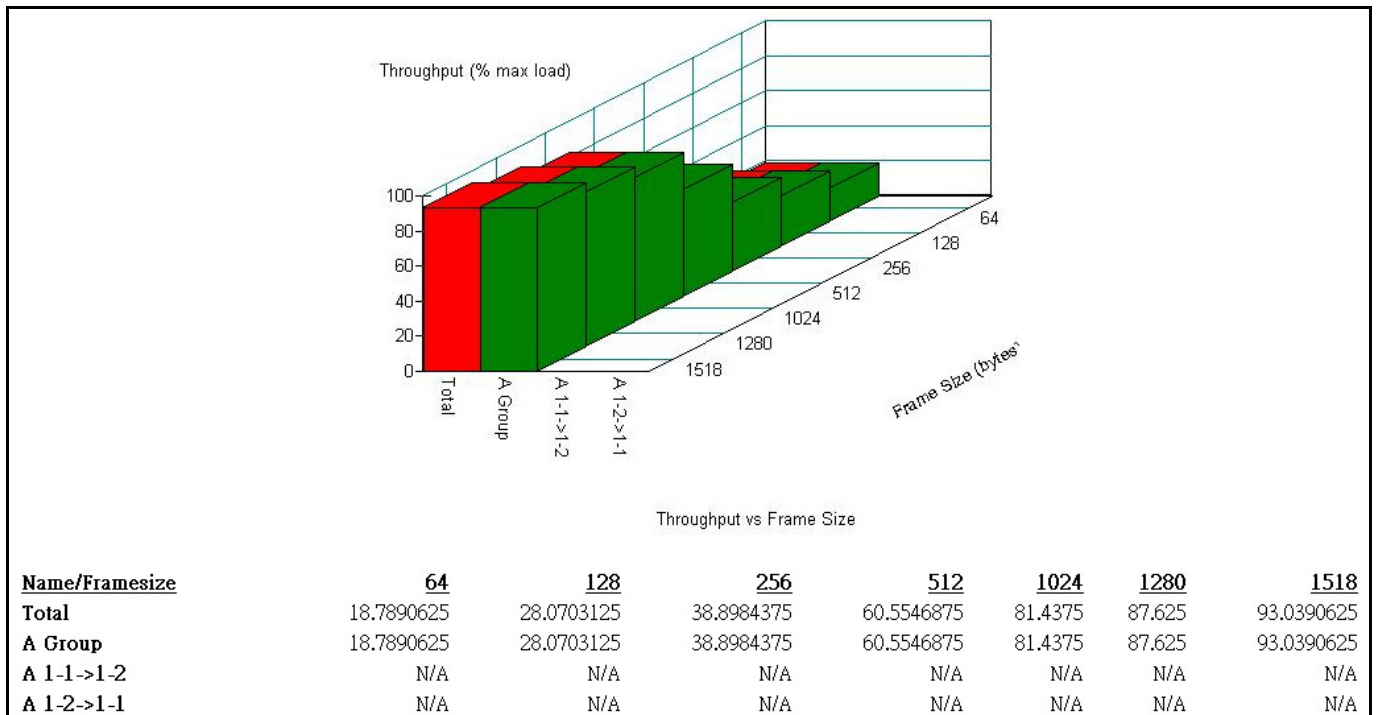
Chassis	SPIRENT Smartbits 600B
Chassis Version	2.80.003 (Cur) 2.50.000
Chassis Serial #	06014047
Library	6.00-29
API	5.50.42.01
File	0550042
Module	2 * LAN-3324A SmartMetrics XD 4-Port 10/100/1000Base-T Gigabit Ethernet
Test Software	SmartFlow5.50.42.1

Test Result:

1. Half Direction (LAN1: Intel(R)82579LM Gigabit Network Connection Ethernet → LAN2: Realtek PCIe GBE Family Controller Ethernet)



2. Binary Direction (LAN1: Intel(R)82579LM Gigabit Network Connection Ethernet → LAN2: Realtek PCIe GBE Family Controller Ethernet)



## 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 type="checkbox"/>	
GPS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wireless LAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bluetooth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 3. Integration Test

Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version	
CPU	Intel® Core™ i7-3610QE Processor(6M Cache, up to 3.30 GHz)
Memory	Transcend DDR3 1333 / 8GB CL9 Micron IWD27 D9PBC
SATA HDD	Toshiba MK1060GSC 2.5" 100G
Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version	
Chipset Software	Intel® Chipset Device Software: 9.3.0.1019(2011/12/06)
North Bridge	N/A
PCH Bridge	Intel QM77 PCH
Super IO Chipset	ITE IT8728
Graphics Media	Intel® HD Graphics 4000 :8.15.10.2761(2012/05/21)
Audio Driver	Realtek ALC892 High Definition Audio 6.0.1.6363 (2011/05/03)
LAN Driver	Intel® 82579LM Gigabit Ethernet 11.16.96.0(2012/03/15) Realtek® 8111E PCIe Gigabit LAN controller 7.50.1123.2011(2011/11/23)
USB 3.0 Driver	Intel®USB 3.0 extensible Host Controller 1.0.4.220(2012/03)

#### 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"/>	
SONY USB2.0 DVD-R/W DRX-830UL		<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	<input type="checkbox"/>	Test with Modem
Serial Modem +12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with Multimeter
Serial Modem +5V	<input checked="" type="checkbox"/>	<input 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 in Windows
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-422 port of two boards is linked with 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 with one 1.2km cable on Windows Terminal

### 3.5. LPT Port Test

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

### 3.6. Burn In Test

Under Room Temperature: 26 °C

Test Item	Result			Note
	Pass	Fail	N/A	
BurnIn Test V7.0 Pro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 Ultimate SP1 English Version 32 bit & 64bit

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	
SUNIX SATA1414 eSATA & SATAII x1Express card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Sysconnect SK-9E21D 10 /100/1000 Base-T Adapter PCI-Express x1 LAN Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
WINFAST PX6200 TC TDH 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 AW-NE768H Mini PCIe b/g/n WiFi Card(half card)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test under Windows7



Mini PCIe SATA 2 Module(SATA Sil3132)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test under Windows7
AZUREWAVE AW-NB037 Mini PCIe b/g/n WiFi + BT Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test under Windows7

#### 4.3. Mini PCI Card Compatibility Test [ X ] No Support

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 type="checkbox"/>	
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADLINK mPCI-8750 ATI Rage XL Mini PCI VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input 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	Result			Note
		Pass	Fail	N/A	
SCSI Card Adaptec AHA-1520B SCSI Card	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	[NW-014]
VGA Card CIRRUS LOGIC 5429 FCC ID:ICUVGA-GWV27A	<input type="checkbox"/>	<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 [ X ] No Support

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

##### 4.6.2. Device List: PC/104+ Module [ X ] No Support

Test Item	Result			Note
	Pass	Fail	N/A	
AAEON PCM-3430	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

##### 4.6.3. Device List: PCI-104 Module [ X ] No Support

Test Item	Result			Note
	Pass	Fail	N/A	
AAEON PCM-3730	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**4.6.4. Device List: PCI/104 Express Module [ X ] No Support**

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

**4.7. SSD Modules Compatibility Test**

SSD HDD Compatibility Test:

Cable Type: [ ] IDE [ ] SATA2 [ ] MLC [ ] SLC [ X ] No Support

Test Item	Result			Note
	Pass	Fail	N/A	
Transcend SSD 16G - TS16GSSD25S	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**4.8. Peripheral Compatibility- Storage Device Test****4.8.1. Disk on Chip (DOC) Test [ X ] No Support**

Test Item		Result			Note
		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 [ X ] No Support**

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

**4.9. Riser Card Function Test [ X ] No Support**

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

## 5. Power Consumption Test

Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version	
CPU	Intel® Core™ i7-3610QE Processor(6M Cache, up to 3.30 GHz)
Memory	Transcend DDR3 1333 / 8GB CL9 Micron IWD27 D9PBC
SATA HDD	Toshiba MK1060GSC 2.5" 100G

### 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"/>	85°C	
PCH Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	77°C	
System Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	69°C	
CPU_VCORE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.84V	
VCC_DIMM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.524V	
12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.971V	
5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.11V	
3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.276V	
5VSB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.020V	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.216V	

## 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	-1	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC Clock in Power Off Mode		24 hrs	+/-2 sec	+0	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	4.0	Sec	Press the Power Button till "Beep" Sound appears

### 6.3. Watchdog Timer Test

Use Function as below: GQM67WDT.EXE

[ ] No Support.

Time-Out Interval	Margin for error	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+ / - 10 %	9.7	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+ / - 10 %	60.03	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+ / - 10 %	255	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 11.10 – Kernel 3.0.0.12-generic

[ ] No Support

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	System default
LAN1 Driver	System default Intel PRO/1000 Network Driver 1.3.10-k2
LAN2 Driver	Realtek RTL-8168 Gigabit Ethernet Driver 8.031.00-NAPI

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu 11.10-Kernel 3.0.0.12-generic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Display Function Test</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Network Function Test</b>				
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"/>	
<b>Audio Function Test</b>				
Play Audio Function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Play Audio Test For Line out
<b>Base Function Test</b>				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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"/>	
Serial port 1~4--minicom	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	# sudo apt-get update # sudo apt-get install minicom
<b>X Windows Application</b>				
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
<b>Command Test On Text Mode: Attention Delay Phenomenon</b>				
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

[ X ] x32 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.3.0.1019(2011/12/06)
Graphics Media	Intel® HD Graphics 4000 :8.15.10.2761(2012/05/21)
Audio Driver	Realtek ALC892 High Definition Audio 6.0.1.6363 (2011/05/03)
LAN Driver	Intel® 82579LM Gigabit Ethernet 11.16.96.0(2012/03/15)
	Realtek® 8111E PCIe Gigabit LAN controller 7.50.1123.2011(2011/11/23)
USB 3.0 Driver	Intel®USB 3.0 extensible Host Controller 1.0.4.220(2012/03)

[ X ] x64 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.3.0.1019(2011/12/06)
Graphics Media	Intel® HD Graphics 4000 :8.15.10.2761(2012/05/21)
Audio Driver	Realtek ALC892 High Definition Audio 6.0.1.6363 (2011/05/03)
LAN Driver	Intel® 82579LM Gigabit Ethernet 11.16.96.0(2012/03/15)
	Realtek® 8111E PCIe Gigabit LAN controller 7.50.1123.2011(2011/11/23)
USB 3.0 Driver	Intel®USB 3.0 extensible Host Controller 1.0.4.220(2012/03)

### 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"/>	AHCI mode

### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Boot - Windows 7 Ultimate Advanced Options Menu</b>				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Basic Function Test</b>				
PS/2 Mouse and Keyboard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
LPT1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Audio Function Test</b>				
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
S/P DIF Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Start Menu</b>				
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 XP SP3 English Version 32/64Bit

No Support

x32 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.3.0.1019(2011/12/06)
Graphics Media	Intel® HD Graphics 4000 :6.14.10.5415(2012/06/05)
Audio Driver	Realtek High Definition Audio 5.10.0.6363 (2011/05/03)
LAN Driver	Intel® 82579LM Gigabit Ethernet 11.16.96.0(2012/03/15) Realtek® 8111E PCIe Gigabit LAN controller 5.792.1208.2011(2011/12/08)

No Support

x64 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

#### Install OS to SATA HDD/ C-Fast:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP SP3 ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AHCI mode

#### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Boot - Windows XP Ultimate Advanced Options Menu</b>				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Basic Function Test</b>				
PS/2 Mouse and Keyboard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
LPT1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Audio Function Test</b>				
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
S/P DIF Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Start Menu</b>				
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"/>	Wake by keyboard/mouse
Standby (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wake by power button.
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 Version 32 Bit Driver Version	
CPU	Intel® Core™ i7-3610QE Processor(6M Cache, up to 3.30 GHz)
Memory	Transcend DDR3 1333 / 8GB CL9 Micron IWD27 D9PBC
SATA HDD	Toshiba MK1060GSC 2.5" 100G

### 8.1. Advanced Test

Test Item		Result			Note
		Pass	Fail	N/A	
ACPI settings	Enable Hibernation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Suspend Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sleeps state (S1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sleeps state (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Wake on Ring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RTC Wake Settings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Trusted Computing	TPM SUPPORT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CPU configuration	Hyper-threading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Active processor cores	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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"/>	
	RAID mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMT Configuration	Intel AMT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
USB configuration	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB3.0 Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super IO configuration	Serial port 1~4	<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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Restore AC Power Loss	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power on/power off/ last state
	Eup power Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial port console redirection	Console redirection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Enable/ disable Support text mode.
Digital IO Port configuration		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

### 8.2. Chipset Test

Test Item		Result			Note
		Pass	Fail	N/A	
Onboard device	On board HD audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HDMI audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Intel LAN controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Realtek LAN controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Touch Device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PCH-IO	AT/ATX mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Mini PCI-E	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/disable
Graphic configuration	Primary IFGX Boot Display	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Onboard LVDS1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Onboard LVDS2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



## 8.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot up Numlock State	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fast Boot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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. 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Clear	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Enable & Active	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Disable & Disactive	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Detect TPM device under Windows.

## 8.6. IAMT Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
Remote Control: Turn power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Remote Control: Cycle power off and on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Remote Control: Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Remote Control after G3 state	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 8.7. Supervisor / User Password Test

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

## 8.8. Hi-manager and Hi-save Test

Test Item	Result			Note
	Pass	Fail	N/A	
Hi-Manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AAEON SDK
Hi-save	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AAEON SDK 1.0.1

## 9. Performance Test

Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version	
CPU	Intel® Core™ i7-3610QE Processor(6M Cache, up to 3.30 GHz)
Memory	Transcend DDR3 1333 / 8GB CL9 Micron IWD27 D9PBC
SATA HDD	Toshiba MK1060GSC 2.5" 100G

### 9-1. Performance Test

Test Result: (Display set 1920\*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark2002</b>			Only for Windows 7
CPU	N/A	-	
Memory	54518	-	
HDD	1325	-	
Benchmark (A)	-	-	
<b>PCMark2005</b>			Windows 7
PCMark	8660	-	PCMark2005
CPU	11917	-	
Memory	9777	-	
Graphics	5082	-	
HDD	4054	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>3Dmark2003 v360</b>			Only for Windows 7
3Dmark Score	4465	-	
CPU Score	2006	-	
Benchmark (A)	-	-	
<b>3Dmark2006 v120</b>			Windows 7
3Dmark Score	3364	-	
CPU Score	6116	-	
SM2.0 Score	1082	-	
HDR/SM3.0 Score	1283	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Final Reality V1.01—BenchMark Test</b>			Windows 7
2D image	58.48	-	Reality marks
3D	6.23	-	
Bus transfer	48.85	-	
Overall	28.30	-	
Benchmark (A)	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark Vantage</b>			
PCMarks	7163	-	PCMark Vantage Default resolution 1024*768
TV and Movies	5336	-	
Memories	3962	-	
Music	6833	-	
Communications	9583	-	
Productivity	5661	-	
HDD	2627	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Performance Test 7.0</b>			
PassMark Rating	1141.9	-	
CPU Mark	6771.4	-	
2D Graphics Mark	332.7	-	
3D Graphics Mark	348.1	-	
Memory Mark	1217.6	-	
Disk Mark	312.9	-	
Benchmark (A)	-	-	