

Report NO: 15E010005

# AQ7-BT

## Intel BayTrail SoC Q7 CPU Module Board

### Board Level Product 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	Approval	Test Engineer
2015/05/04	KJ Wang	Jack Huang

## Version Released Records

Date	Version	Change History	Note
2010/04/21	P3-1001	1. Re-composing test Items	
2010/06/01	P2P3-1001	1. New Test Report	
2010/06/21	P2P3-1002	1. Add BIOS -> SPI ROM Setting (South Bridge - GPIO)	
2010/12/02	P2P2-1003	1. New Test Report	
2011/02/23	P2P3-1101	1. Re-composing test Items	
2011/03/04	P2P3-1102	1. Add Specification Validation	
2012/05/29	P2P3-1201	1. Add Summary Table of DTS	
2013/12/6	P2P3-1301	<ol style="list-style-type: none"> <li>1. Rename document : [Board Level Product P2-P3 Verification Test Plan &amp; Report Template]</li> <li>2. Chapter1:Memory compatibility add AAeon P/N</li> <li>3. Chapter1:Add CFast and m-SATA test item.</li> <li>4. Chapter3:Add RS422 1.2KM/115200bps transmission test</li> <li>5. Chapter3:BurninTest test add USB2.0/3.0.</li> <li>6. Chapter5: Modify power consumption test item.</li> <li>7. Chapter7: add Windows XP Professional English Version 32/64Bit and Windows 8 Pro English Version 32/64Bit test.</li> <li>8. Chapter8: Change BIOS format from Award to AMI and add Hi-Safe, Hi-Manager test item.</li> <li>9. Chapter9: Add SATA performance test and USB3.0 performance.</li> <li>10. Remove Chapter10: Other Tests..</li> </ol>	
2014/10/03	P2P3-1401	<ol style="list-style-type: none"> <li>1. Page 1 rename: Board Level Product P2-P3 Test Report.</li> <li>2. Remove platform information\test item and add driver folder item.</li> <li>3. Chapter2.1: add EDID check, DOS display, 3840*2160, hot plug.</li> <li>4. Chapter2.2: modify from "dual display test" to "Multi display test."</li> <li>5. Remove chapter 2.3 "Boot ROM to Novell 4.11 [RPL]" item</li> <li>6. Chapter2.3.2: add "CPU information"</li> <li>7. Chapter2.4: change from optional function to "Jumper and connector function test"</li> <li>8. Chapter3.4: RS422/485 add test from G3 status.</li> <li>9. Add chapter 4.10 Display port converter compatibility test.</li> <li>10. Chapter7.1: remove "halt" test item.</li> <li>11. Chapter7.2/7.3/7.4: add touch and TPM function test</li> <li>12. Chapter9: update performance test program.</li> <li>13. Add chapter 10. Negative Test.</li> </ol>	

**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 Validation

### Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Form Factor	Q7, 70mm x 70mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel® Atom™ SOC Processor E3845: Quad Core, 1.91G/10W E3815: Single core 1.46G/5W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	Onboard DDR3L 2 GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel® Atom SOC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super I/O	Intel® Atom SOC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Network	Intel® I211AT for 10/1000/1000Base-TX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	AMI BIOS, Legacy free BIOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN	Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
H/W Status Monitoring	Supports CPU Temperature Monitoring.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Requirement	Normal : + 5V,	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Consumption (Typical)	TBD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Board Size	70mm x 70mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gross Weight	0.44 lb (0.2 Kg)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Resolution	LCD: up to 1366x768 LVDS, 1ch HDMI or DP: Upto 1920 x 1080	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LCD Interface	18/24-bit single channel LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O					
Storage	SATA x 1, one SATA SSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	1x 4-wire UART	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB	USB2.0 x2, USB3.0 x1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	High definition audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Others	8-bit GPIO/LPC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Interface	PCI Express [x1] x3 SMBus x1, I2C x1 SPI x1 SDx1 DDIx1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog Timer	ITE IT8528VG	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows XP32/64bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Windows 7, 32bit /64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows 8.1 32bit/64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux	Linux-Kernel3.3.4-5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Environmental Specifications**

Item	Specification
Operating temperature	32 °F ~ 140 °F (0 °C ~ 60 °C) -40 °F ~ 185 °F (-40 °C ~ 85 °C) by E3815
Storage temperature	-40 °F ~ 176 °F (-40 °C ~ 85 °C)
Operating humidity	0% ~ 90% relative humidity, non-condensing
EMC	CE & FCC Class B

**Note:** Please refer to Environment Test Report for detail information

## Platform Information

Item	Device Information	Test Item
PCB Model / Version	AQ7-BT A0.2	1,2,3,4,5,6,7,8,9,10
Carrier Board	ECD-970	1,2,3,4,5,6,7,8,9,10
BIOS / Version	AQ7-BT R1.0 (Q7BTAM10) (04/22/2015) x64	1,2,3,4,5,6,7,8,9,10
EC / Version	(Q7BTAE10)	N/A
CPU Type	Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz)	1,2,3,4,5,6,7,8,9,10
Memory Type	Onboard DDR3L 1600 Memory 2GB (-40°C~95°C) 1600/2GB	1,2,3,4,5,6,7,8,9,10
SATA HDD	TOSHIBA HDS721010DLE630 3.5" 1TB/7200rpm	1,2,3,4,5,6,7,8,9,10
SATA DVD-ROM	Pioneer DVR-217	1,2,3,4,5,6,7,8,9,10
USB DVD-ROM	ASUS-SDRW-08D2S-U	1,2,3,4,5,6,7,8,9,10
LCD Monitor	Dell U2410 1920*1200	1,2,3,4,5,6,7,8,9,10
	LG E2260 1920*1080	
	ASUS VG23AH 1920*1080	
Operating System	<input checked="" type="checkbox"/> Linux English Kernel 3.3.4	7-1
	<input checked="" type="checkbox"/> Windows 7 Ultimate SP1 English Version 32/64 Bit	7-2
	<input checked="" type="checkbox"/> Windows 8.1 Enterprise English Version 32/64Bit	7-3
Power Supply	ATX Power Supply : Zippy HG2-6400P 400W	1,2,3,4,5,6,7,8,9,10
Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version		
Chipset Software	Intel Chipset Device Utility 10.0 (04/24/2014)	
SOC Bridge	Intel® Bay Trail SoC	
VGA Chipset	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900 37.15.0.1091 (06/26/2014)	
Audio Chipset	Realtek High Definition Audio 6.0.1.7083 (11/05/2013)	
	Intel Display Audio 6.16.0.3145 (04/17/2014)	
Ethernet Chipset	Intel I211 Gigabit Network Connection 12.11.97.0 (03/11/2014)	

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# 1. Hardware Test

## 1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) 10W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Atom™ Processor E3815 (512K Cache, 1.46 GHz) 5W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.2. Memory Compatibility Test

Memory Information	Install OS			Note
	Pass	Fail	N/A	
Onboard DDR3L 1600 Memory 2GB (-40°C~95°C) 1600/2GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Passmark Memtest86 V5.0b5; CPU:E3845

## 1.3. SATA Compatibility Test

### 1.3.1 SATA-IDE/AHCI Mode Test

SATA IDE Mode		Result			Note
		Pass	Fail	N/A	
HDD	Seagate ST500DM002 SATAIII 3.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	TOSHIBA HDS721010DLE630 3.5" 1TB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	TOSHIBA MK3276GSX 2.5" 320GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	Hitachi HDS721050CLA362 3.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	Hitachi Z5K320-250 2.5" 250GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	WDC WD5000AAKX-22ERMA0 3.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	WDC WD20EZR-00DC0B0 3.5" 2TB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	WDC WD5000LPVT-22G33T0 2.5" 500GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Intel SSD 520 Series 120GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	KingSton SH103S3120G 120GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	ADATA SX800 128MB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8_64
DVD	Pioneer DVR-217	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD	ASUS BW-14D1XT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.3.2 Onboard SATA-AHCI Mode Test

SATA AHCI Test		Result			Note
		Pass	Fail	N/A	
HDD	Seagate ST500DM002 SATAIII 3.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8_64bit
HDD	TOSHIBA HDS721010DLE630 3.5" 1TB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8_64bit
HDD	TOSHIBA MK3276GSX 2.5" 320GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	Hitachi HDS721050CLA362 3.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	Hitachi Z5K320-250 2.5" 250GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	WDC WD5000AAKX-22ERMA0 3.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	WDC WD20EZR-00DC0B0 3.5" 2TB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	WDC WD5000LPVT-22G33T0 2.5" 500GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
SSD	Intel SSD 520 Series 120GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
SSD	KingSton SH103S3120G 120GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
DVD	Pioneer DVR-217	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS
DVD	ASUS BW-14D1XT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS

#### 1.4. Keyboard/Mouse Compatibility Test

Keyboard/mouse Information		Result			Note
		Pass	Fail	N/A	
PS/2 Keyboard	ATake KJ-118	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	GoodVision JSKJ-8831	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PS/2 Mouse	Genius NetScroll 120	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Kinyo KM-V2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Keyboard	Microsoft 1366	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Logitech K200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse	Microsoft 1113	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Logitech M-U0003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 1.5. Power Supply Compatibility Test

Power Supply Information		Result			Note
		Pass	Fail	N/A	
ATX	Zippy HG2-6400P 400W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ATX	Be quiet! E7-550W 550W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ATX	CWT Channel Well DSA400P-C 400W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ATX	Antec NEO ECO 520C 520W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ATX	Cooler Master RS-350-PCAR-I3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ATX	Seasonic SS-430GB Active PFC F3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 1.6. USB Compatibility Test

USB Information		Result			Note
		Pass	Fail	N/A	
DVD ROM	Pioneer DVR-XD11T	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD ROM	ASUS-SDRW-08D2S-U	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD ROM	Pioneer DVR XD10T	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Blu-Ray	Pioneer BDR-XD04T	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash	USB3.0 SanDisk Extreme 64GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash	USB3.0 Kingston DT Ultimate G2 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash	USB3.0 Transcend 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash	USB2.0 ADATA C802 2GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash	USB2.0 SanDisk 8GB	<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® Atom™ Processor E3845 (2M Cache, 1.91 GHz)												
Memory	Onboard DDR3L 1600 Memory 2GB (-40°C~95°C) 1600/2GB												
SATA HDD	TOSHIBA HDS721010DLE630 3.5" 1TB/7200rpm												
VGA	ASUS VG23AH 24" 1920*1200												
HDMI	LG E2260 1920*1080												
LVDS	AUO G185XW01 / 18" / 1366x768 / 24bit												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	VGA			DP			LVDS			DVI			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
800X600	<input 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1024X768	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1152X864	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X720	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X768	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X800	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1360X768	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1400X1050	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1680X1050	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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"/>	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1920X1080	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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"/>	
1920X1200	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1920X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2048X1152	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2560X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3840X2160	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
EDID check	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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"/>	
Hot plug	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Rotation ( 0 / 90 /180 /270)

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

### 2.1.2. Multi-Display Output Test

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	DP + LVDS	<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 to if it is normal, no "Ghost Image" / "Flicker"

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

### 2.1.4. Video Resolution Test

LVDS Model	Result			Note
	Pass	Fail	N/A	
1_AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2_AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3_Data Image 7" / 800*480 / 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4_AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5_AU B104SN02 V.0 / 10.4" / 800*600 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6_AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7_AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8_AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9_AUO G121XN01 V.0 / 12" 1024*768 / 18bit (4:3)	<input checked="" 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 checked="" type="checkbox"/>	
11_AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12_AUO G185XW01 / 18" / 1366x768 / 24bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13_AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
14_AUO T370HW01 / 37" / 1920x1080 / 48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
15_AUO M190PW01 V0 / 19"/1440X900/48 bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
16_AUO M215HW03 V1 21" 1920/1080/48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	







## 2.2. Audio Function Test

[ ] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line in recorder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone recorder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DP Audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6-channel mode for 5.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8-channel mode for 7.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 2.3. LAN Function Test

[ ] No Support

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times)										
1000MBps LAN HUB		D-Link DGS-1008D								
100MBps LAN HUB		HP J4095A 24 Ports								
10MBps LAN HUB		SVEC FD916H								
OnBoard LAN1		Intel I211 Gigabit LAN						MAC Address		00-11-A1-22-24-54
OnBoard LAN2		N/A						MAC Address		00-11-A1-22-24-55
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
100MBps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
10MBps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Wake On LAN			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	S1/S3/S4/S5/DOS	
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Internet Browser (DHCP Server)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

### 2.3.2. Throughput Test

#### DUT Platform Information:

<input type="checkbox"/>	Fedora Core 14 – Kernel
<input type="checkbox"/>	Cent OS5.6
<input checked="" type="checkbox"/>	Ubuntu 12.04 Installation failed.
<input type="checkbox"/>	Red Hat

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

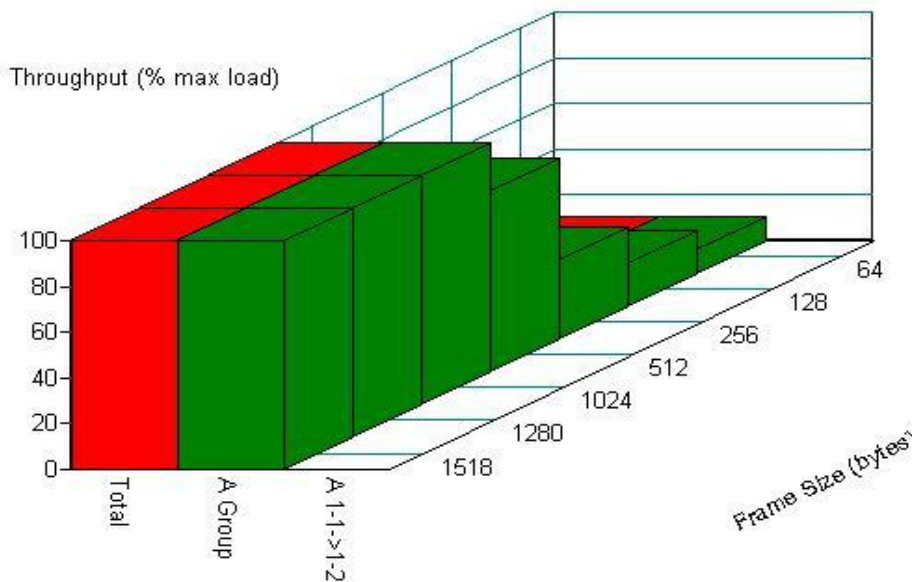
Graphics Media	Ubuntu12.04 Default setting
LAN	Ubuntu12.04 Default setting igb-4.1.2.tar (I211)
Audio Driver	Ubuntu12.04 Default setting

#### 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:

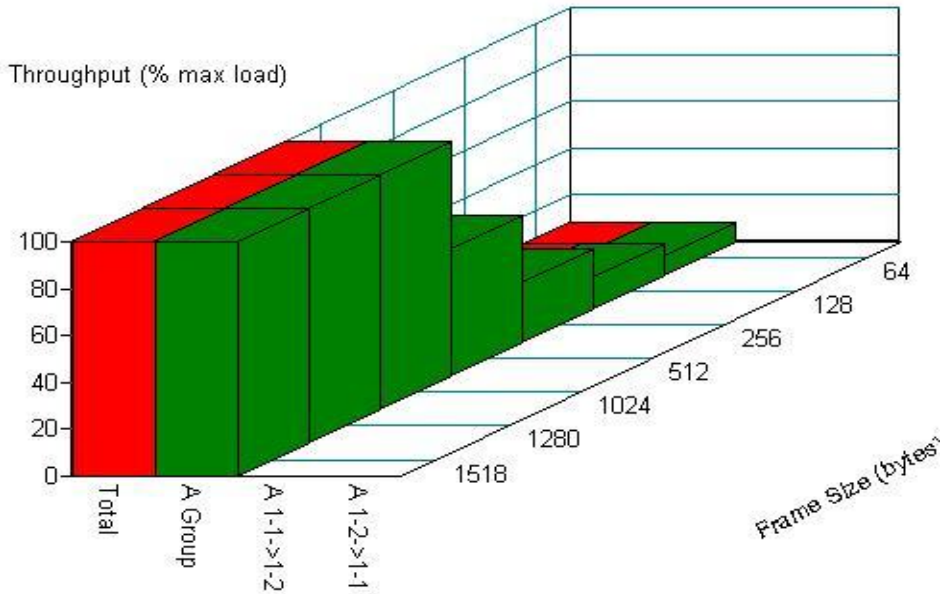
- Half Direction (LAN1: Intel GT Gigabit LAN → LAN2: Intel I211 Gigabit LAN)



Throughput vs Frame Size

<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	10.28125	18.7890625	34.2578125	78.34375	100	100	100
A Group	10.28125	18.7890625	34.2578125	78.34375	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 GT Gigabit LAN → LAN2: Intel I211 Gigabit LAN)



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	7.9609375	13.375	24.9765625	53.59375	100	100	100
A Group	7.9609375	13.375	24.9765625	53.59375	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

### 3. Integration Test

Hardware Information with Windows8 Pro English Version 64 Bit Driver Version	
<b>CPU</b>	Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) 10W
<b>Memory</b>	Onboard DDR3L 1600 Memory 2GB (-40°C~95°C) 1600/2GB
<b>SATA HDD</b>	TOSHIBA HDS721010DLE630 3.5" 1TB/7200rpm
Chipset Information with Windows8 Pro English 64Bit Driver Version	
<b>Chipset Software</b>	Intel Chipset Device Utility 10.0 (04/24/2014)
<b>SOC Bridge</b>	Intel® Bay Trail SoC
<b>Super IO Chipset</b>	N/A
<b>VGA Chipset</b>	Intel HD Graphics 10.18.10.3958(09/26/2014)
<b>Audio Chipset</b>	Realtek High Definition Audio 6.0.1.7083 (11/05/2013) Intel Display Audio 6.16.0.3145 (04/17/2014)
<b>Ethernet Chipset</b>	Intel I211 Gigabit Network Connection 12.11.97.0 (03/11/2014)

#### 3.1. USB Port Integration Test

Item	USB Port	Boot			Function(Win 8)			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB FDD Mitsumi D353GUE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS SDRW-08D2S-U		<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 +3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 4. Application Test

### 4.1. PCI Slot Function (PCI Adapter Card) Test

Adapter VGA Card	Set Simultaneous Display and Reboot			Note
	Pass	Fail	N/A	
NVIDIA Geforce 6200 128MB	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Adapter Sound Card	Play Sound			Note
Pass	Fail	N/A		
SC3000 Audio card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Win7 no Driver, detect test only
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 checked="" type="checkbox"/>	Win7 no Driver
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 checked="" 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 checked="" type="checkbox"/>	00-04-AC-8B-59-9E Windows7
IBM 10/100 Etherjet PCI management Adapter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
D-Link DFE-530TX DL10030 9941CD 10/100 LAN Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Windows7
RTL8139D 10/100 LAN card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Windows7
Adapter RAID Card	SATA Function Test			Note
Pass	Fail	N/A		
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Windows7
USB Card	Function Test			Note
Pass	Fail	N/A		
D-Link DU-520 A1 NEC D7200100AGM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Windows7
SENSE UHA205 NEC D720101GJ	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Windows7
Modem card	Function Test			Note
Pass	Fail	N/A		
MD V1456VQH-P2 Modem card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Win7 no Driver, detect test only

### 4.2. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
SUNIX SATA1414 eSATA & SATAII x1Express card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gen1
Intel GIGABIT CT DESKTOP ADAPTER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	68-05-CA-02-61-C3
Uptech UTB242/ USB3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DigiFusion PTU302A / USB3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DigiFusion SATAIII 6G card PES311A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1x Graphics card: SFPX84 A8.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 4.3. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

Cable Type:  IDE  SATA2  MLC  SLC

Test Item	Result			Note
	Pass	Fail	N/A	
Intel 520 120G SSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MLC
Intel 530 120G SSD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MLC Win8.1 Not supply

### 4.4. Peripheral Compatibility- Storage Device Test

Disk on module (SATA-DOM) Test

Test Item	Result			Note
	Pass	Fail	N/A	
Innodisk SATADOM-SV 3ME (DESSV-16GD07SC1SC-E93)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 4.5. Display port Converter Compatibility Test

Test Item			Result			Note
			Pass	Fail	N/A	
DP to HDMI converter: LPC-1504	DOS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	OS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max resolution:
DP to DVI converter: LPC-1503	DOS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	OS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max resolution:



## 5. Power Consumption Test

Hardware Information with Windows 8 Ultimate English Version 64 Bit Driver Version	
CPU	Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) 10W
Memory	Onboard DDR3L 1600 Memory 2GB (-40°C~95°C) 1600/2GB
SATA HDD	TOSHIBA HDS721010DLE630 3.5" 1TB/7200rpm

### 5.1. AT/ATX Power Consumption

Test Equipment						
Equipment	AC/DC Digital Clamp meter					
Manufacturer	KYORITSU					
Model name	2010					
Test Environment						
ATX Power Model	EMACS HG2-6400P 400W					
Keyboard/Mouse	PS/2 keyboard Kinyo VKB-768; PS/2 Mouse Genius NetScroll 120					
Note	Power consumption does not include HDD consumption. (AQ7-BT + ECB-970)					
Power Supply	AT/ATX Power					Note
(Full Loading Mode) Windows 7 with Prime 95 Full Loading Test	(+12V)	0.19	A	2.28	W	Prime95 Version 259
	(+5V)	1.83		9.15		
	(+3.3V)	0.31		1.023		
	(-12V)	0.03		0.36		
	(5VSB)	0.08		0.4		
Full Loading Total Watt	13.213 (W)					
S3 mode: Measure the current value when system in S3 mode of windows and without running any	(+12V)	0	A	0	W	
	(+5V)	0		0		
	(+3.3V)	0		0		
	(-12V)	0		0		
	(5VSB)	0.24		1.2		
Suspend Total Watt	1.2 (W)					
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12V)	0.17	A	2.04	W	
	(+5V)	1.13		5.65		
	(+3.3V)	0.30		0.99		
	(-12V)	0.03		0.36		
	(5VSB)	0.06		0.3		
Idle Total Watt	9.34 (W)					
S5 mode: Measure the current value when system in S5 mode of windows and without running any	(+12V)	0	A	0	W	
	(+5V)	0		0		
	(+3.3V)	0		0		
	(-12V)	0		0		
	(5VSB)	0.18		0.9		
Suspend Total Watt	0.9 (W)					

## 5.2. PC Health Status

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

Voltage Monitoring Test	Result			BIOS (V)	Actual (V)	Note
	Pass	Fail	N/A			
CPU Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	47°C	44.2°C	
System Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30°C	29°C	
Vcore	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.777V	0.75V	
+3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.375V	3.34V	
VMEM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.341V	1.36V	
5VSB	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.901V	4.92V	

## 6. Time Accuracy Test

### 6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

Function	Item	Time Interval	Criteria	Actual	Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode		24 hrs	+/-2 sec	-1 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	E3845
RTC Clock in Power Off Mode		24 hrs	+/-2 sec	-0.5 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	E3845

### 6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	9.2	Sec	Press the Power Button till "Beep" Sound appears

### 6.3. Watchdog Timer Test

Use Function as below:

[ ] No Support. Hi-safe

Time-Out Interval	Margin for error	Actual	Actual	Result			Note
				Pass	Fail	N/A	
10 sec	+ / - 10 %	10.4	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+ / - 10 %	60.9	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+ / - 10 %	256.4	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 Ubuntu14.04

[ ] No Support

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	System default
LAN Driver <I210>	igb-4.1.2.tar

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu14.04 (3.13.0-32-generic)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a AHCI

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Display Function Test</b>				
DP -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920*1080
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1366*768
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	I211
<b>Audio Function Test</b>				
Play Audio Function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Play Audio Test
<b>Base Function Test</b>				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Support com1/com2 <minicom -s>
<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

[ X ] x32 Driver Information:

Chipset Software	Intel Chipset Device Utility 10.0 (04/24/2014)
Graphics Media	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900 37.15.0.1091 (06/26/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/05/2013) Intel Display Audio 6.16.0.3145 (04/17/2014)
LAN Driver	Intel I211 Gigabit Network Connection 12.11.97.0 (03/11/2014)

[ X ] x64 Driver Information:

Chipset Software	Intel Chipset Device Utility 10.0 (04/24/2014)
Graphics Media	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900 37.15.0.1091 (06/26/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/05/2013) Intel Display Audio 6.16.0.3145 (04/17/2014)
LAN Driver	Intel I211 Gigabit Network Connection 12.11.97.0 (03/11/2014)

### Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate ACPI Mode	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32bit IDE mode; 64bit AHCI mode

### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
DP -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920*1080
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1366*768
<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>				
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0/3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SD Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM function	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I211
<b>Audio Function Test</b>				
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"/>	
DP Audio Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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(S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 7.3. Windows 8.1 Enterprise English Version 32/64Bit

[ X ] x32 Driver Information:

Chipset Software	Intel Chipset Device Utility 10.0 (04/24/2014)
Graphics Media	Intel HD Graphics 10.18.10.3958(09/26/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/05/2013) Intel Display Audio 6.16.0.3154 (09/09/2014)
LAN Driver	Intel I211 Gigabit Network Connection 12.11.97.0 (03/11/2014)

[ X ] x64 Driver Information:

Chipset Software	Intel Chipset Device Utility 10.0 (04/24/2014)
Graphics Media	Intel HD Graphics 10.18.10.3958(09/26/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/05/2013) Intel Display Audio 6.16.0.3154 (09/09/2014)
LAN Driver	Intel I211 Gigabit Network Connection 12.11.97.0 (03/11/2014)

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
windows 8.1 Enterprise ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	64bit/32bit AHCI mode

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
DP -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920*1080
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1366*768
<b>Boot - Windows 8 Ultimate Advanced Options Menu</b>				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Basic Function Test</b>				
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0/3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB2.0*3; USB3.0*1
SD Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM function	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Audio Function Test</b>				
Front Lint out	<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"/>	
DP Audio Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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(S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 8. BIOS Function Test

Hardware Information with Windows 7 Ultimate English Version 32Bit Driver Version	
CPU	Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) 10W
Memory	Onboard DDR3L 1600 Memory 2GB (-40°C~95°C) 1600/2GB
SATA HDD	Intel 520 120G 2.5" SSD

### 8.1. Advanced Test

Test Item		Result			Note
		Pass	Fail	N/A	
ACPI settings	Suspend Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Sleeps state (S1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Sleeps state (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Enable Hibernation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Enable ACPI Auto Configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO	Pin1~Pin8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU configuration	CPU information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IDE configuration	Enable/Disable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	AHCI/IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	SATA port0 & port1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot plug	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Power Management	Power Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AT/ATX
	AC Power Loss	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Last State / Always on / Always off
	(S5 RTC Wake up) Wake system with Dynamic time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Defect No. C140905QEE11
	(S5 RTC Wake up) Wake system with fixed time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Defect No. C140905QEE11
	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable/Auto
USB configuration	XHCI Hand-off	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	EHCI Hand-off	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
On-Module H/W Monitor		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SIO Configuration		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 8.2. Chipset Test

Test Item		Result			Note	
		Pass	Fail	N/A		
North Bridge	Display Control Configuration	Boot Display	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		LVDS Enable/Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Panel Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	640*480,800*480,800*600,1024*600,1024*768,1280*768,1366*768,1440*900
		Channel Select	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Single/Dual
		Backlight Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~100% DC: 100%=4.96V; 50%=2.39V; 0%=0.02V PWM: 100%=3.24V; 50%=1.67V; 0%=0.03V
		Backlight Invert	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal/inverted
		Color Depth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18/24bit
	Memory information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
South Bridge	Audio Controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	

## 8.3. Boot Test

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

## 8.4. CMOS Backup / Clear CMOS Test

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

## 8.5. AAEON Tag Check Utility

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

## 8.6. Supervisor / User Password Test

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



## 8.7. Hi-safe Test

Test Item		Result			Note
		Pass	Fail	N/A	
Version(20141216)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Information	CPU Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Model Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM Information	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Onboard RAM Not Support
H/W Monitor	Info	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO	DIO1~4 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO1~4 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO5~8 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO5~8 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WatchDog	10sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 10.4 sec
	1min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 60.9sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 256.4sec
	Auto Reload	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SMBus	SMBus IO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMBus Address 0xE000
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slave Address 2Eh,5Ch,
	Read Word	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Result / Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Smart FAN	Chipset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Speed control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Off Speed TMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Full Speed TMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BackLight Controller		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 9. Performance Test

	Hardware Information with Windows 8 Ultimate English Version 64 Bit Driver Version
CPU	Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) 10W
Memory	Onboard DDR3L 1600 Memory 2GB (-40°C~95°C) 1600/2GB
SATA HDD	WD WD5000AAKX 3.5" 500GB/7200rpm

### 9-1. Performance Test

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

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark2005</b>			Windows 7_32
PCMark	3851		PCMarks
CPU	3912		
Memory	3101		
Graphics	2530		
HDD	7947		
Benchmark (B)			
Average Efficiency	-		
<b>PCMark Vantage</b>			
PCMarks	4239		PCMarks
Memories	2696		
TV and Movies	2919		
Gaming	3059		
Music	4076		
Communications	4542	-	
Productivity	3218	-	
HDD	5128	-	
Benchmark (B)		-	
Average Efficiency		-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>CPUmark99</b>			Windows 7_32
CPU mark99	165	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>3Dmark2006 v120</b>			Windows 7_32
3Dmark Score	1527		
SM2.0 Score	533		
HDR/SM3.0 Score	558		
CPU Score	1901		
Benchmark (B)		-	
Average Efficiency		-	

3Dmark11 Professional Edition			Windows 7_32
<b>Extreme 1920*1080</b>			
3Dmark 11Score	-	-	Not Support
Graphics Score	-	-	
Physics Score	-	-	
Combined Score	-	-	
<b>Performance 1280*720</b>			
3Dmark 11Score	-	-	Not Support
Graphics Score	-	-	
Physics Score	-	-	
Combined Score	-	-	
<b>Entry 1024*600</b>			
3Dmark 11Score	E397		
Graphics Score	338		
Physics Score	1418		
Combined Score	331		

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Final Reality V1.01—BenchMark Test</b>			Windows 7_32
2D image	25.30		Reality marks
3D	5.87		
Bus transfer	16.61		
Overall	13.31		
Benchmark (A)	-		

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Performance Test 7.0</b>			
PassMark Rating	538.4		
CPU Mark	1342.1		
2D Graphics Mark	152.3		
3D Graphics Mark	143.1		
Memory Mark	334.6		
Disk Mark	842.0		
CD Mark	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Windows experience index</b>			<b>Windows 7_32</b>
Processor	5.1		
Memory	5.5		
Graphics	4.2		
Gaming graphics	5.7		
Primary hard disk	5.9		

SATA Performance				
SATA HDD	WD WD6402AAEX 3.5" 640MB/7200rpm			
Onboard SSD	NanoSSD 3SE 16G			
CPU	Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) 10W			
Memory	Onboard DDR3L 1600 Memory 2GB (-40°C ~95°C) 1600/2GB			
OS	Windows7 Pro 32bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (SATA port 0) SATAII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	13.1ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	8%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	106.9MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	168.6MB/s	
Single HDD Onboard SSD	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.2ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	8%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	185.1MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	197.7MB/s	

USB3.0/2.0 Performance				
USB Flash	Transcend JF700 USB3.0 8GB (Transcend Spec 52 MB/S)			
Item	Comment / (unit)	Software	Score	Note
Single HDD (Rear I/O USB3.0) USB3.0	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.8ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	9%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	54.0MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	55.4MB/s	
Single HDD (1. USB2.0) USB2.0	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.8ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	6%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	37.9MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	36.8MB/s	
Single HDD (2. USB2.0) USB2.0	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.8ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	6%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	36.4MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	41.7MB/s	
Single HDD (3. USB2.0) USB2.0	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.8ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	6%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	36.8MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	31.8MB/s	
Single HDD (4. USB2.0) USB2.0	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.8ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	6%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	36.6MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	37.8MB/s	
Single HDD (5. USB2.0) USB2.0	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.8ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	5%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	36.7MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	43.5MB/s	

## 10. Negative Test

### 10.1 USB Keyboard Negative Test

Methods	Result			Note
	Pass	Fail	N/A	
1. Boot into BIOS setup manual. 2. Press NumLock or ScrLk and press arrow key. 3. confirm arrow key function are normally	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 10.2 Power Supply Negative Test

Methods	Result			Note
	Pass	Fail	N/A	
1. Test with ATX connector models. 2. Boot with ATX power supply "SeaSonic SSR-450RM" 3. Confirm SATA HDD can work properly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 10.3 Suspend S3 Negative Test

Methods		Result			Note
		Pass	Fail	N/A	
1. Resume from S3. 2. Confirm com ports(RS232/422/485), DIO, smartfan, LVDS backlight control can work properly.	RS232/422/485	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	DIO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	SmartFan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	LVDS Backlight control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	