

Report NO: 15IP010005

# EMB-BT4

## Compatibility 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
2015/1/26	KJ Wang	Max Chang

**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 would 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	Mini-iTX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Bay Trail-D / M / I colay: (1) Bay Trail-D (4C @ 2GHz CPU, 688/750 (Turbo) GFX, ~10W TDP) (2) Bay Trail-M (4C @ 1.86GHz CPU, 400/756 (Turbo) GFX, TDP: TBD) (3) Bay Trail-I Premium (4C @ 1.91GHz CPU, 542/792 (Turbo) GFX~10W TDP)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Atom J1900 , N2807
System Memory	Dual channel pure DIMM configuration DDR3 Speed and Type DDR3-1333 Type 204 pin SODIMM Non-ECC 2 x SO-DIMM (flat); max. 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N2807 support Dimm1 only
Chipset	Bay Trail-D/M	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bay Trail-D
Super I/O	Vendor / Model: Fintek F81866D-I COM X: 6 Support 5V/12V on pin9, selected by Jumper . @ COM: 1 (@ internal) Printer;PS/2 Kb/Ms controller;Hardware Monitor;DIO( 8pin) Programable;Watch Dog Timer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Network	1st LAN: Realtek 8111G GB LAN PCIe Manageability:WOL*(S3*.S4*.S5*) PXE* (must have)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	South Bridge: built-in SATA Gen2 (3G/s) x: 2 port SATA Gen3 (6G/s) x: 2 port 1x SATA power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	TPM Vendor/Model: Infineon SLB 1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB	Standard USB3.0/USB2.0 Number of ports USB 2.0 Ports: 3 PIN headers : 5 ports back panel: 2 ports USB 3.0 Ports: back panel: 1 ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	Codec IC: Realtek ALC887 Back IO 2 jack Line-out &Line-in;1x AAFP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Slots	Mini card Slots: Full size (PCIe;USB;mSATA;SIM Card ) Half size (PCIe USB)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PC Health Monitoring	Voltage:Vcore;5V;12V;3V Fan Speed: Chassis fan Temperature: CPU; Motherboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics	Max. resolution	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	<p>LVDS: Up to 1920x1080@60Hz,Daul Channel 18/24 bit (via CH7511)                  VGA: Up to 1920x1200@60Hz                  HDMI: Up to 1920 x 1200 @60 Hz</p>				
	<p>Graphics Multi Display: VGA+LVDS, VGA+HDMI, LVDS+HDMI.                  Backlight Control: Voltage / PWM</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	<p>Standards:                  Green*, PnP*, DMI v 2.0, Wfm2.0* SLP2.0                  Multi-language BIOS English                  Full screen logo option* ( 5K and above )                  USB Boot device( FDD / HDD / CDROM/ Thumb Drive...)                  Criteria support UUID recording                  DOS DMI tool support                  ERP Ready                  IPC BIOS porting request attached file</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<p>CPU temp controls Chassis FAN , selected by BIOS.Spread Spectrum preliminary :-0.5%</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Back I/O Placement	<p>On-board connectors                  ATX12V* (4 pin, ATX +12V power connector)                  BUZZER                  BATTERY                  AAFP (BLACK)                  CLRTC                  F_Panel (2x5 pin ), (IDE LED, Power LED,Power Switch, Reset)                  DIO connector x: 1                  Invertor control connector x: 1                  LVDS Panel connector x: 1                  COM port ( Box header ) connector x 5 (COM1 support RS232/422/485, COM3~6 support RS232 )                  USB2.0( 2x5 pin ) x: 2                  Full size Mini PCIE socket x: 1                  Half size Mini PCIE socket x: 1                  SATA Gen2(3G/s) x: 2                  SATA Gen3(6G/s) x: 2                  Back I/O connectors                  USB 2 port x: 1 (2 ports)                  AUDIO Jack x: 2 (Line out /Line in) port                  LAN (RJ45) x: 1                  USB3.0 x: 1                  VGA                  HDMI</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Onboard Connector	<p>4 Pin Chasis Fan support smart Fan function ;                  1x USB2.0 Header ( 1x5 Pin support 1 USB port ) ;                  1 x SIM Card Socket ;                  1 x PS/2 Keyboard Mouse 6 PIN</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Connector ; 1 x LVDS 3V /5V jumper ; 1 x LCD backlight 12V /5V jumper ; 1 x LCD DC / PWM mode jumper; 1 x LPT PIN header ; 1 x DC port (12V) Screw type ; 1x COM connector, COM2 support RS-232 (COM2 is optional )				
Jumpers, LED & BUZZER	A. Jumper CLRTC* (3 pin, Normal/Clear RTC,with tab) B. LED SB_PWR* (Green, stand-by power LED) C. BUZZER/ Speaker Header Buzzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Jumper : 1 x LVDS 3V /5V jumper ; 1 x LCD backlight 12V /5V jumper ; 1 x LCD DC / PWM mode jumper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake-up Functions	WOR by Ring* (Wake On Ring by external Modem from S3, S4, S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WOL/WOR by PME* (Wake On LAN/Ring by PME from S3, S4, S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
POWER MANAGEMENT	S3,S4,S5 ERP(default)/ DSW	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**O.S. Support**

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows 7 32 / 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows 8.1 32 / 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux	Linux Fedora	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## Platform Information

Item	Device Information	Note
PCB Model / Version	EMB-BT4 A1.00 (A1.01 / J1900 / mSATA)	1,2,3,4,5,6,7,8,9,10
Carrier Board	N/A	N/A
BIOS / Version	R1.1 (EBT4DM11)(10/30/2014) for J1900	1,2,3,4,5,6,7,8,9,10
	R1.1 (EBT4FM11)(10/30/2014) for N2807	1,2,3,4,5,6,7,8,9,10
EC / Version	N/A	N/A
CPU Type	Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)	1,2,3,4,5,6,7,8,9,10
	Intel® Celeron® CPU N2807(1M Cache, up to 2.16 GHz)	1,2,3,4,5,6,7,8,9,10
Memory Type	Transcend DDR3L 1600 8GB (SEC 419 XYKO K4B4G0846D)	1,2,3,4,5,6,7,8,9,10
SATA HDD	PLEXTOR M6S PX-128M6S 128GB	1,2,3,4,5,6,7,8,9,10
SATA DVD-ROM	LITE-ON iHAS324-07 WU	1,2,3,4,5,6,7,8,9,10
USB DVD-ROM	Pioneer DVR-XD11T	1,2,3,4,5,6,7,8,9,10
LCD Monitor	Dell U2713HM 2048*1152	1,2,3,4,5,6,7,8,9,10
	LG E2260 1920*1080	1,2,3,4,5,6,7,8,9,10
	View Sonic VT-2430-NT monitor 1920*1080	1,2,3,4,5,6,7,8,9,10
LVDS	AUO M215HW03 V1 1920*1080 48bit	1,2,3,4,5,6,7,8,9,10
Operating System	<input checked="" type="checkbox"/> English Ubuntu 14.04 Kernel 3.13.0-24-generic #46	7-1
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32/64Bit	7-2
	<input checked="" type="checkbox"/> Windows 8.1 Enterprise English 32/64 Bit	7-3
Power Supply	ATX Power Supply : FSP EVEREST 85PLUS 650W	1,2,3,4,5,6,7,8,9,10
	AT Power Supply: N/A	N/A
	DC Adapter : FSP060-DBAE1 12V/5A	1,2,3,4,5,6,7,8,9,10
<b>Chipset Information with Windows 8.1 Enterprise English Version 64 Bit Driver Version</b>		
Chipset Software	Intel Chipset Device Software 10.0.13.0 (2/26/2014)	
SOC Bridge	Intel Bay Trail-D	
Super IO Chipset	Fintek F81866D	
VGA Chipset	Intel HD Graphics 10.18.10.3993 (10/28/2014)	
Audio Chipset	Realtek High Definition Audio 6.0.1.7083 (11/05/2013)	
	Intel Display Audio 6.16.0.3154 (09/09/2014)	
Ethernet Chipset	Realtek PCIe GBE Family Controller 8.20.815.2013 (08/15/2013)	

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# 1. Hardware Test

## 1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Celeron® CPU N2807(1M Cache, up to 2.16 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.2. Memory Compatibility Test

Memory Information	Result			Note
	Pass	Fail	N/A	
DSL DDR3L 1333 4GB CL9 1.35V (Skyhynix H5TC4G83AFR-PBA)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3L 1600 4GB CL11 1.35V (PROMOS V73CBG04808RAJJ11)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3L 1600 4GB CL11 1.35V (SEC 231 HYKO K4B4G0846B)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk DDR3L 1333 8GB M3S0-8GHSDLN9 (Skhynix H5TC4G83AFR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3L 1600 8GB (SEC 419 XYKO K4B4G0846D)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3L 1600 4GB (SEC 407 XYKO K4B4G0846D)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Kingston KVR16LS6/2 1.35V 2GB (Kingston D2516EC4BXGGB)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Kingston KVR16LS11/4 1.35V 4GB (Kingston D5128ED1FPGGNU)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Kingston KVR16LS11/8 1.35V 8GB (Kingston D5128ED1FPGGNU)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADATA ADS1600W2G11-BMIK DDR3L 1600 2GX8 (Micron 41K77 D9PSH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADATA ADS1600W4G11-BMIE DDR3L 1600 4GX8 (Micron 3YE17 D9QBJ)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADATA ADS1600W8G11-BMIE DDR3L 1600 8GX16 (Micron 3KE77 D9QBJ)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.3. SATA Compatibility Test

### 1.3.1 Onboard SATA (IDE) Test (SATA3G\_1 & 2)

SATA Device Information	Result			Note
	Pass	Fail	N/A	
HDD   WD WD5000BPKX 2.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD   WD WD10SPCX SATAIII 2.5" 1TB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD   TOSHIBA MK3276GSX SATAII 2.5" 320GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD   PLEXTOR M6S PX-128M6S 128GB SSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DOM   Mach Xtreme MXSSD2MJTD4G-H 4GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.3.2 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
HDD   WD WD20EZR X SATAIII 3.5" 2TB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 8.1 64 bit
HDD   TOSHIBA DT01AC050 SATAIII 3.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD   WD WD10SPCX SATAIII 2.5" 1TB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



HDD	WD WD5000BPKX 2.5" 500GB/7200rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ubuntu 14.04
HDD	TOSHIBA MK3276GSX SATAII 2.5" 320GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 32bit
HDD	WD WD3200BEVT SATAII 2.5" 320GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD	HITACHI HTS543216A7A384 SATAII 2.5" 160GB/5400rpm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 64 bit
SSD	PLEXTOR M6S PX-128M6S 128GB SSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 8.1 32 bit
SSD	CRUCIAL M550 SATAIII 2.5" 256GB SSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 8.1 64 bit
SSD	OCZ Vector 150 SATA III 2.5" 120GB SSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 1.4. m-SATA Compatibility Test

m-SATA Information	Result			Note
	Pass	Fail	N/A	
Innodisk mSATA D150Q 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 32bit
Innodisk mini 3SE DEMSM-32GD07SWADB-26 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
Innodisk 3SE DEMSR-32GD06SWBQB-26 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 8.1 32 bit
Memo Right MS-500 seris MRMAJ5A128GC7M2C00 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 8.1 64 bit
Memo MSE-H series MRV012A032GT1M1C 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
Transcend TS8GMSA500 8GB SATAII	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
Transcend TS64GMSA740 64GB SATAIII	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
Sandisk SDSA5FK-032G-Q 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 64 bit

## 2. Basic Function Test

### 2.1. Video Function Test

#### 2.1.1. Single Output Function Test

Hardware Information with Windows 8.1 Enterprise English 64 Bit Driver Version													
CPU	Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)												
	Intel® Celeron® CPU N2807(1M Cache, up to 2.16 GHz)												
Memory	Transcend DDR3L 1600 8GB (SEC 419 XYKO K4B4G0846D)												
SATA HDD	PLEXTOR M6S PX-128M6S 128GB												
VGA	DELL U2713HM												
HDMI	View Sonic VT-2430-NT monitor												
LVDS	AUO M215HW03 V1 1920*1080 48bit												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	VGA			HDMI			LVDS			DP(Optional)			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 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 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 type="checkbox"/>	
1280X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	
1280X800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	
1280X960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	
1366X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	
1440X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1400X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1600X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1680X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 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 type="checkbox"/>	
1920X1080	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1920X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 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 type="checkbox"/>	
2048X1152	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EDID check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rotation(0/90/180/270)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DOS Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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

### 2.1.3. Video Resolution Test

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while system reaches Windows then check VGA driver and display
3. Check VGA output Brightness is normal and it shows "Ghost Image" / "Flicker" or not

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

### 2.1.4. Video Resolution Test

LVDS Model		Result			Note
		Pass	Fail	N/A	
LVDS	1_AU G104SN02 V.2 PWM 800X600/18bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2_AUO M215HW03 V1 1920*1080 48bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	







### 2.2. Audio Function Test

[ ] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CD_In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AAFP
HDMI 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	Accton Desktop-3005									
10MBps LAN HUB	SVEC FD916H									
OnBoard LAN1	Realtek 8111G PCIe GBE Family Controller						MAC Address	00-E0-4C-68-00-3D		
OnBoard LAN2	N/A						MAC Address	N/A		
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"/>	S3/S4/S5/DOS	
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**

〔 X 〕 No Support

DUT Platform Information:

<input type="checkbox"/>	Fedora 15
<input type="checkbox"/>	Cent 5.5
<input type="checkbox"/>	Ubuntu 10.1
<input type="checkbox"/>	Red Hat

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

Graphics Media	Fedora Default setting
LAN	LAN1→ Ethernet: Fedora Default setting
	LAN2→ Ethernet: Fedora Default setting
Audio Driver	Fedora Default setting
CPU information	Intel® Celeron® CPU J1900 @ 1.99GHz

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 82578DM 10/100/1G Ethernet → LAN2: Intel 82574L 10/100/1G Ethernet)
2. Binary Direction (LAN1: Intel 82578DM 10/100/1G Ethernet → LAN2: Intel 825 L 10/100/1G Ethernet)

**2.4. Jumper and Connector Function Test**

〔 〕 No Support

Function Test	Result			Note
	Pass	Fail	N/A	
J1 COM1_VSET 12V/5V/RI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
J2 Inverter voltage 5V/12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
J3 Brightness control PWM/DC mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
J4 LVDS voltage 3.3V/5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CLRTC1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F_PANEL Power button/reset button/power LED/HDD LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA FAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AAFP1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
KBMS1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 3. Integration Test

Hardware Information with Windows 8.1 Enterprise English 64 Bit Driver Version	
CPU	Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)
	Intel® Celeron® CPU N2807(1M Cache, up to 2.16 GHz)
Memory	Transcend DDR3L 1600 8GB (SEC 419 XYKO K4B4G0846D)
HDD/CFD	PLEXTOR M6S PX-128M6S 128GB

#### 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 3.3. COM Port Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
Serial Modem Dial Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Modem	Ring In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by Modem S3/S4/S5 DOS off
	+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
	+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter

#### 3.4. RS-422 / RS-485 Test

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Use loopback and WINSSD.exe to test RS-422 in Windows
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. The communication between the RS-422 port of two boards is linked by one 1.2km cable on Windows Terminal. 2. Confirm RS422 can work properly from G3 status
RS-485 for COM2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. The communication between the RS-485 port of two boards is linked by one 1.2km cable on Windows Terminal 2. Confirm RS485 can work properly from G3 status

### 3.5. LPT Port Test

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

### 3.6. Burn In Test

Under Room Temperature: 26 °C

OS: Windows 8.1 Enterprise English 64Bit

Test Item	Result			Note	
	Pass	Fail	N/A		
Burn In Test V8.0 Pro (1025) Duty: 100 Time: over 12 hours	CPU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	COM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Video	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sound	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Network	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Parallel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB	2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note: COM PORT Speed Set to 115200.

## 4. Application Test

### 4.1. PCI-Express Function Test

Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
HUAWEI EM680 3G Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(full size)
SATA Sii3132ME	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM-ME232s2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ralink RAK-RT3092 Mini Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ralink RT3593 Mini Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AzureWave AW-NB037H(PCI-e Wireless+ USB Bluetooth)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AzureWave AW-NB041H(PCI-e Wireless+ USB Bluetooth)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AzureWave AW-NB100H(PCI-e Wireless+ USB Bluetooth)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 5. Power Consumption Test

Hardware Information with Windows 8.1 Enterprise English 64 Bit Driver Version	
CPU	Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)
Memory	Transcend DDR3L 1600 8GB (SEC 419 XYKO K4B4G0846D)
HDD/CFD	PLEXTOR M6S PX-128M6S 128GB

### 5.1. AT/ATX Power Consumption

Test Equipment						
Equipment	Digital Multimeter					
Manufacturer	HOLA					
Model name	DM-1240					
Test Environment						
ATX Power Model	FSP EVEREST 85PLUS 650W					
Power Supply	AT/ATX Power					Note
(Full Loading Mode) Windows 7 with Prime 95 Full Loading Test	(+12V)	0.96	A	11.52	W	Prime95 Version 259
Full Loading Total Watt	(W)					
S3 mode: Measure the current value when system in S3 mode of windows and without running any	(+12V)	0.06	A	0.72	W	
Suspend Total Watt	(W)					
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12V)	0.68	A	8.16	W	
Idle Total Watt	(W)					
S5 mode: Measure the current value when system in S5 mode of windows and without running any	(+12V)	0.06	A	0.72	W	Erp disable
Suspend Total Watt	(W)					
S5 mode: Measure the current value when system in S5 mode of windows and without running any	(+12V)	0.03	A	0.36	W	Erp Enable
Suspend Total Watt	(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 (DTS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	42°C	38.2°C	
System Temperature1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31°C	30°C	
System Temperature2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29°C	27.8°C	
CHA_Fan1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4983 RPM	4940 RPM	
Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.832	0.70	
+3VS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.411	3.34	
+5VS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.087	5.02	
+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.056	11.9	
VCC3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.392	3.33	
VSB3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.376	3.34	
VSB5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.088	5.02	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.184	3.16	

## 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"/>	
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	6.39	Sec	Press the Power Button till "Beep" Sound appears

### 6.3. Watchdog Timer Test

Use Function as below:

Test with Hi-Safe1224

Time-Out Interval	Criteria	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+/- 10%	10.82	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+/- 10%	60.51	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	255.23	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C

## 7. O.S. Compatibility Test

### 7.1. English Ubuntu 14.04 Kernel 3.13.0-32-generic

Driver Information:

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

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

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu14.04 kernel 3.13.0-32-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"/>	
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<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
<b>Base Function Test</b>				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Redirection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DVD-ROM 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"/>	
<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
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

[ ] x32 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (02/03/2014)
Graphics Media	Intel Atom Processor E3800 Series/Intel Celeron Processor N2920/J1900 36.15.0.1073 (02/19/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/05/2013)
	Intel Display Audio 6.16.0.3135 (01/15/2014)
LAN Driver	Realtek PCIe GBE Family Controller 7.77.1126.2013 (11/26/2013)
TPM Package	4.3.100.3287

[ ] x64 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (02/03/2014)
Graphics Media	Intel Atom Processor E3800 Series/Intel Celeron Processor N2920/J1900 36.15.0.1073 (02/19/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/05/2013)
	Intel Display Audio 6.16.0.3135 (01/15/2014)
LAN Driver	Realtek PCIe GBE Family Controller 7.77.1126.2013 (11/26/2013)
TPM Package	4.3.100.3287

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

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

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI-- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LPT1	<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"/>	
TPM Function	<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"/>	
<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"/>	AAFP
HDMI 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

[ ] x32 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0.13.0 (2/26/2014)
Graphics Media	Intel HD Graphics 10.18.10.3993 (10/28/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/5/2013)
	Intel Display Audio 6.16.0.3154 (09/09/2014)
LAN Driver	Realtek PCIe Family Controller 8.20.815.2013 (8/15/2013)
TPM Package	4.3.100.3287

[ ] x64 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0.13.0 (2/26/2014)
Graphics Media	Intel HD Graphics 10.18.10.3993 (10/28/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7083 (11/5/2013)
	Intel Display Audio 6.16.0.3154 (09/09/2014)
LAN Driver	Realtek PCIe Family Controller 8.20.815.2013 (8/15/2013)
TPM Package	4.3.100.3287

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

Installation	Result			Note
	Pass	Fail	N/A	
English Windows8.1 Enterprise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Boot – Windows8.1 Enterprise 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LPT1	<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"/>	
TPM Function	<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"/>	
<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"/>	AAFP
HDMI 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 8.1 Enterprise English 64 Bit Driver Version	
CPU	Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)
Memory	Transcend DDR3L 1600 8GB (SEC 419 XYKO K4B4G0846D)
HDD/CFD	PLEXTOR M6S PX-128M6S 128GB

### 8.1. Advanced Test

Test Item		Result			Note	
		Pass	Fail	N/A		
Power Management	Power Mode	ATX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		AT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ERP Function		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Restore AC Power Loss	Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Power Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Last State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Suspend Disable		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sleeps state (S3)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Resume on PCIE/XHCI/RING		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Wake system from S5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fixed Time		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dynamic Time		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
CPU configuration	CPU Information		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Virtualization Technology		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super IO Configuration	Serial port 1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 2		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 3		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 4		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 6		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dynamic Digital IO		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Trusted Computing		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
USB configuration	Legacy USB Support		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hardware Monitor		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
CHASSIS FAN	Auto by RPM		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Auto by Duty-Cycle		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Manual by RPM		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Manualby Duty-Cycle		<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"/>	
ASmedia Operation	AHCI mode		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 8.2. Chipset Test

Test Item		Result			Note	
		Pass	Fail	N/A		
North Bridge	Memory Information		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Max TOLUD		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2G~3G
	Primary IGFX Boot Display		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LVDS		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	LVDS Panel Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Backlight Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~100% PWM 20%(0.73V) / 50%(1.71V) / 100%(3.38V)	
	Backlight Invert	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal/inverted	
South Bridge	XHCI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	USB 2.0(EHCI) Support	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	PCI Express	Port0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SATA6G_1 & 2 / MINI_CARD1 & 2 / LAN2
		Gen1/Gen2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Port1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SATA6G_1 & 2
		Gen1/Gen2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Port2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAN2
		Gen1/Gen2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Port3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MINI_CARD2
Gen1/Gen2		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

### 8.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot up Numlock State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch Intel 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 Date and time
Clear CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date

### 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(20141224)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EMB-BT4
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support single DIMM
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 10.82 sec
	1min	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 60.51sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 255.23sec
	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 A2h
	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	SMBUS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMBus Address 0xE000
	Inverter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AD_5247_0x5c
	0~100%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



## 9. Performance Test

Hardware Information with Windows 8.1 Enterprise 64 Bit Driver Version	
CPU	Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)
Memory	Transcend DDR3L 1600 8GB (SEC 419 XYKO K4B4G0846D)
HDD/CFD	PLEXTOR M6S PX-128M6S 128GB

### 9.1. Performance Test

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

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark2005</b>			
PCMark	N/A	-	
CPU	4895	-	
Memory	4482	-	
Graphics	1551	-	
HDD	39797	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	
<b>PCMark Vantage</b>			
PCMarks	7670	-	
Memories	4958	-	
TV and Movies	N/A	-	
Gaming	6064	-	
Music	7896	-	
Communications	5477	-	
Productivity	7758	-	
HDD	23445	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>3Dmark2006 v120</b>			
3Dmark Score	1913	-	
SM2.0 Score	649	-	
HDR/SM3.0 Score	719	-	
CPU Score	2350	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

<b>3Dmark11 Professional Edition</b>			
<b>Performance 1024*600</b>			
3Dmark 11Score	E435	-	
Graphics Score	367	-	
Physics Score	1661	-	
Combined Score	371	-	

3Dmark11 Professional Edition			
Performance 1280*720 (Default)			
3Dmark 11Score	P268	-	
Graphics Score	228	-	
Physics Score	1670	-	
Combined Score	289	-	
Performance 1920*1080(1080P)			
3Dmark 11Score	X95	-	
Graphics Score	85	-	
Physics Score	1666	-	
Combined Score	96	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 7.0			
PassMark Rating	681.1	-	
CPU Mark	1589.5	-	
2D Graphics Mark	179.6	-	
3D Graphics Mark	173.3	-	
Memory Mark	437.3	-	
Disk Mark	2988.6	-	
CD Mark		-	

Testing Software	Scope		Note
	AAEON	Ref.	
Windows experience index			
Processor	6.8	-	
Memory	5.5	-	
Graphics	5.0	-	
Gaming graphics	4.4	-	
Primary hard disk	8.05	-	

SATA Performance				
SATA HDD	PLEXTOR M6S PX-128M6S 128GB (SATAIII)			
	Seagate ST3160318AS 160GB (SATAII)			
	Innodisk mini 3SE DEMSM-32GD07SWADB-26 32GB (mSATA)			
CPU	Intel® Celeron® CPU J1900 (2M Cache, up to 2.42 GHz)			
Memory	Transcend DDR3L 1600 8GB SEC 419 XYKO K4B4G0846D			
OS	Windows 7 Ultimate SP1 English Version 32 Bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (SATA port 1) SATAIII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.1 ms	
	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	268.5MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	309.9MB/s	SATAII 150~300MB SATAIII up 300M/B
Single HDD (SATA port 2) SATAII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	15.0ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	94.9MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	209.8MB/s	SATAII 150~300MB SATAIII up 300M/B
Single HDD (mSATA port ) SATAII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.1ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	4%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	208.9MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	204.8MB/s	SATAII 150~300MB SATAIII up 300M/B

USB3.0 Performance				
USB Flash	Sony USB3.0 32GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0	Maximum Read	ATTO Disk Benchmark	85.547 MB/s	
	Maximum Write	ATTO Disk Benchmark	29.322 MB/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 Suspend S3 Negative Test

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