

Report NO: 14CO010009

# NANOCOM-BT

## Intel Bay Trail-M/I COM Express CPU Module Board Level Product P5 Test Report

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

Issue date	Approval	Test Engineer
2014/12/05	Vincent Chen	Danny Chen

**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	1. Rename document : [Board Level Product P2-P3 Verification Test Plan & Report Template] 2. Chapter1:Memory compatibility add AAeon P/N 3. Chapter1:Add CFast and m-SATA test item. 4. Chapter3:Add RS422 1.2KM/115200bps transmission test 5. Chapter3:BurninTest test add USB2.0/3.0. 6. Chapter5: Modify power consumption test item. 7. Chapter7: add Windows XP Professional English Version 32/64Bit and Windows 8 Pro English Version 32/64Bit test. 8. Chapter8: Change BIOS format from Award to AMI and add Hi-Safe, Hi-Manager test item. 9. Chapter9: Add SATA performance test and USB3.0 performance. 10. Remove Chapter10: Other Tests..	

**Note :**

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

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

**This test report would be updated when re-test completed in product next change version.**

**Specification Validation**

**Main Specification**

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	NanoCOM-BT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	COM Express, Pin-out Type 10 (type 1 support by request) 84mm x 55mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Thickness of PCB	2.0mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	BAG type, CPU to up 10W Bay trail M: N2930 (7.5W), N2807 (4.5W) Bay trail I: E3815 (5W), E3845 (10W)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel Atom SOC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	On board DDR3 memory (x16) 2GB.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA/LCD Controller	Intel Atom SOC processors integrated LVDS: up to 1920 x 1200@24bit (single channel) DDI: up to 2560x1600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LCD Interface	Up to 24-bit Single-channel LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Digital Display	Digital Display Interface x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shared Memory	Shared system memory above 512MB/ DVMT 5.0 (TBC w/Intel)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	Intel I211AT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
I/O Chips	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
K/B and Mouse	From LPC interface on carrier board	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog Timer Chipset	Embedded Controller iTE8528	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hardware Monitor Chipset	Embedded Controller iTE8528	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Interface	PCI-Express [x1] x 3 LPC bus x 1 SMBus x 1 UART x 2 (TX, RX)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	SPI type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EEPROM	Fremont FT24C02A-5SR-T (appendix 2) ==> SOP 8, 2Kb, Serial EEPROM ==> Save BIOS and configuration data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake on LAN	Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BBS ( BIOS Boot Spec )	Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	High definition audio interface	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Interface	SATA 2.0 port x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Floppy Driver Interface	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Parallel Port	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Serial Port	from LPC to EC , then to Carrier board (ECx2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GPIO	Up to 4 input and 4 output share with SDIO ==> Signals from iTE 8528	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Universal Serial Bus	USB 2.0 x 6, USB3.0 x1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
OS	Windows 7 32/64-bit Windows 8 32/64-bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Fedora core 18 Timesys				
Power Supply Request	Normal: +12V Wide DC: 7.5~20V 5V optional (by Request)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**O.S. Support**

Item	Specification	Result	Note
Microsoft Windows	Windows 7 32/64-bit	<input checked="" type="checkbox"/>	
	Windows 8 32/64-bit	<input checked="" type="checkbox"/>	
Linux	Fedora core 18	<input checked="" type="checkbox"/>	

**Environmental Specifications**

Item	Specification
Operating Temp.	32oF ~ 140oF (0oC ~ 60oC)
Storage Temperature	-40oF ~ 176oF (-40oC ~ 80oC)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Operating Temp.	0°C ~ 60°C

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

### Platform Information

Item	Device Information	Test Item
Model Name	NanoCOM-BT	1,2,3,4,5,6,7,8,9,10
CPU Board	NANOCOM-BT Rev A0.3	1,2,3,4,5,6,7,8,9,10
Carrier Board	ECB-920A R1.0	1,2,3,4,5,6,7,8,9,10
CPU Type	Intel ® Celeron ® CPU N2807 @ 1.58GHz Intel ® Celeron ® CPU N2930 @ 1.83GHz Intel® Atom™ Processor E3815 @ 1.46GHz Intel® Atom™ Processor E3845 @ 1.91GHz	1,2,3,4,5,6,7,8,9,10
BIOS / Version	NANOCOM –BT R1.1 ( NCBTAM11) (11/17/2014) x64	1,2,3,4,5,6,7,8,9,10
Memory Type	Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0	1,2,3,4,5,6,7,8,9,10
SATA HDD	WD WD50000BPKX 2.5" 54000rpm / 500GB	1,2,3,4,5,6,7,8,9,10
USB DVD-ROM	Pioneer DVR-XD10T USB DVD ROM	1,2,3,4,5,6,7,8,9,10
DP Monitor	ViewSonic VP2770-LED	1,2,3,4,5,6,7,8,9,10
LVDS	AUO T260XW02 / 26" / 1366x768 / 24bit	1,2,3,4,5,6,7,8,9,10
Compact Flash	N/A	1,2,3,4,5,6,7,8,9,10
Daughter Board	N/A	1,2,3,4,5,6,7,8,9,10
Expansion Board	N/A	1,2,3,4,5,6,7,8,9,10
Operating System	<input checked="" type="checkbox"/> Fedora 18 – Kernel 3.6.10-4 – fc18.i686	7-1
	<input type="checkbox"/> Windows XP Professional English SP3 32 Bit	7-2
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32/64Bit	7-3
	<input checked="" type="checkbox"/> Windows 8 Pro English Version 32/64Bit	7-4
Power Supply	ATX Power Supply : AURUM Series AS-550 " ATX Power 550W	1,2,3,4,5,6,7,8,9,10
	AT Power Supply: N/A	1,2,3,4,5,6,7,8,9,10
	DC Adapter : N/A	1,2,3,4,5,6,7,8,9,10
<b>Chipset Information with Windows 8.1 Enterprise English SP1 32 Bit Driver Version</b>		
Chipset Software	Intel(R) Chipset Device Software / 10.0 ( 2014/04/24)	
South Bridge	Intel Atom SOC	
Super IO Chipset	ITE8528E	
VGA Chipset	Intel ® HD Graphics 10.18.10.3958 (9/26/2014)	
Ethernet Chipset	Intel ® I211 Gigabit Network Connection 12.11.97.0 (5/15/2014)	

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# 1. Hardware Test

## 1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel® Celeron® Processor N2930(2M Cache, up to 2.16 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Celeron® Processor N2807(1M Cache, up to 2.16 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Atom™ Processor E3815 @ 1.46GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Atom™ Processor E3845 @ 1.91GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.2. Memory Compatibility Test

Memory Information	AAEON P/N	MEM V5.01 For 3 loops			Note
		Pass	Fail	N/A	
Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.3. SATA Compatibility Test

### 1.3.1 Onboard SATA (IDE) Test

SATA Device Information	Result			Note
	Pass	Fail	N/A	
TOSHIBA MK3276GSX 2.5" 5400rpm / 320GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win7_32
HGST KCC-REM-HTB 2.5" 7200rpm /1TB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8.1_32
TOSHIBA MK1665GSX 2.5" 5400rpm/160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8.1_64
WD WD5000BPKX 2.5" 5400rpm / 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA DT01ACA050 7200rpm / 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
STATIII WD WD20EZR3 3.5" 7200rpm/2TB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.3.2 Onboard SATA (RAID) Test [ x ] No Support

SATA RAID Test		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-10 (HDDx3) Striping/Span Test Mirroring	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.3.3 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
STATIII WD WD20EZR 3.5" 7200rpm/2TB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8.1_32
WD WD5000BPKX 2.5" 5400rpm / 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win7_64
TOSHIBA SATA III 3.5" 7200rpm/500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win7_32
TOSHIBA MK1665GSX 2.5" 5400rpm/160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8.1_64
HGST KCC-REM-HTB 2.5" 7200rpm /1TB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA DT01ACA050 7200rpm / 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



1.4. IDE Compatibility Test [ x ] No Support

IDE Device Information	Result			Note
	Pass	Fail	N/A	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slot at 1/2/3/4/OS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.5. Compact Flash Compatibility Test [ x ] No Support

Compact Flash Information	Result			Note
	Pass	Fail	N/A	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test at Windows 7 or Data Transfer (Read/Write) / Slot
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.6. CFast Compatibility Test [ x ] No Support

Cfast Information	AAEON P/N	ATTO R/W			Note
		Pass	Fail	N/A	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.7. m-SATA Compatibility Test [ x ] No Support

m-SATA Information	AAEON P/N	ATTO R/W			Note
		Pass	Fail	N/A	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 2. Basic Function Test

### 2.1. Video Function Test

#### 2.1.1. Single Output Function Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version										
CPU	Intel® Celeron® Processor N2930(2M Cache, up to 2.16 GHz)									
Memory	Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0									
HDD	WD WD50000BPKX 2.5" 54000rpm / 500GB									
Display Port	ViewSonic VP2770-LED									
LVDS	AUO T260XW02 / 26" / 1366x768 / 24bit									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	Display Port			HDMI			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
800X600	<input 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"/>	
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X600	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X768	<input 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"/>	
1280X800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1366X768	<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"/>	
1440X900	<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"/>	
1600X900	<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"/>	
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"/>	
1600X1050	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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"/>	
1680X1050	<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"/>	
1920X1080	<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 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"/>	
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"/>	
2560X1440	<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 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"/>	Rotation ( 0 / 90 /180 /270)

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

#### 2.1.2. Dual Output Function Test

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	DP + 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	DP + HDMI	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**2.1.3. Video Resolution Test**

Test points:

1. Power on without inserting any "Display Port" connector until system reaches Windows desktop
2. Plug "Display Port" 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_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_Toshiba /12.1"/1280 x 768 x 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	10_AU M170EG01 V.D/ 17" / 1280*1024 / 48bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	11_AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	12_AUO T260XW02 / 26" / 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"/>	







## 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"/>	
Line In RECORD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MIC PHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MIC RECORD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6-channel mode for 5.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8-channel mode for 7.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
S/P DIF function Test	Input	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 2.3. LAN Function Test

[ ] No Support

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times)										
1000MBps LAN HUB		D-Link DGS-1008D								
100MBps LAN HUB		Accton Desktop-3005								
10MBps LAN HUB		SVEC FD916H								
OnBoard LAN1		Intel® I211 Gigabit Network Connection					MAC Address		00-01-A1-22-24-41	
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	
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.
<input type="checkbox"/>	Red Hat

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

Graphics Media	Fedora Default setting
LAN	LAN1→
	LAN2→
Audio Driver	Fedora 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

### 2.4. Optional Function Test

[ X ] No Support

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

### 3. Integration Test

	<b>Hardware Information with Windows 8.1 Enterprise English SP1 32 Bit Driver Version</b>
<b>CPU</b>	Intel® Celeron® Processor N2930(2M Cache, up to 2.16 GHz)
<b>Memory</b>	Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0
<b>HDD</b>	WD WD5000BPKX 2.5" 5400rpm / 500GB
	<b>Chipset Information with Windows 8.1 Enterprise English SP1 32 Bit Driver Version</b>
<b>Chipset Software</b>	Intel(R) Chipset Device Software / 10.0 ( 2014/04/24)
<b>South Bridge</b>	Intel Atom SOC
<b>Super IO Chipset</b>	ITE8528E
<b>VGA Chipset</b>	Intel ® HD Graphics 10.18.10.3958 (9/26/2014)
<b>Ethernet Chipset</b>	Intel ® I211 Gigabit Network Connection 12.11.97.0 (5/15/2014)

#### 3.1. USB Port Integration Test \_ USB2.0 x 6 / USB3.0 x 1

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"/>	Input:3.3V / Output (H):3.3V / Output (L):0V DIO test complete during DOS mode

#### 3.3. COM Port Integration Test

[ x ] No Support

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

#### 3.4. RS-232 / RS-422 / RS-485 Test

Test Item	Result			Note
	Pass	Fail	N/A	
RS-232 for "COM9" "COM10"	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From ECB-920A Test speed 300 / 9600 / 115200 bit/sec
RS-232 for "COM1" "COM2"	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From SIO Card Test speed 300 / 9600 / 115200 bit/sec
RS-422 for "COM1" "COM2"	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The communication between the RS-422 port of two boards is linked by one 1200m cable on Windows Terminal
RS-485 for "COM1" "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"/>	The communication between the RS-485 port of two boards is linked by one 1200m cable on Windows Terminal

### 3.5. LPT Port Test

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

### 3.6. Burn In Test

Under Room Temperature: 26 °C

OS: Windows 7 Ultimate English SP1

Test Item	Result			Note	
	Pass	Fail	N/A		
Burn In Test V7.1(1009) Duty: 100 Time: over 12 hours	CPU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N2930
	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 Slot Function (PCI Adapter Card) Test

[ x ] No Support

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

### 4.2. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
UTB230 USB 3.0 PCI-Express x 1 card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UTB230
MOXA CP-118EL PCI-Express x 1 Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel Gigabit CT Desktop 10 /100/1000 Base-T Adapter PCI-Express x1 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NW-201001
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
WINFAST PX6200 TC TDH PCI-Express x16 VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Express card	Function Test			Note
	Pass	Fail	N/A	
SUNIX SATA II Express card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SunBox 34mm Giga LAN Express Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
Ralink RT2571WF WLAN Mini Card (USB Interface)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Sil3132 Mini PCI-E Function Test Card (USB Interface)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



### 4.3. Mini PCI Card Compatibility Test

[ x ] No Support

Device Item	Function Test			Note
	Pass	Fail	N/A	
Mini PCI.10/100 Base-Tx LAN (W/Intel.82551QM .A1.0) (Model:PER-C10L)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADLINK mPCI-8750 ATI Rage XL Mini PCI VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 4.4. CardBus (PCMCIA) Compatibility Function Test

[ x ] No Support

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

### 4.5. ISA Slot Function Test

[ X ] No Support

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

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

#### 4.6.1. Device List: PC/104 Module [ x ] No Support

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

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

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

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

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

#### 4.6.4. Device List: PCI/104 Express Module [ x ] No Support

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

### 4.7. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

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

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

### 4.8. Peripheral Compatibility- Storage Device Test

#### 4.8.1. Disk on Chip (DOC) Test [ x ] No Support

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

**4.8.2. Disk on module (DOM) Test**

[ x ] No Support

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

**4.9. Riser Card Function Test**

Test Item		Result			Note
		Pass	Fail	N/A	
PCI-E Slot 0	UTB230 USB 3.0 PCI-Express x 1 card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	PCI-Ex4 to 4* PCI-Ex1Riser Card
PCI-E Slot 1	MOXA CP-118EL PCI-Express x 1 Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-E Slot 2	Intel Gigabit CT Desktop 10 /100/1000 Base-T Adapter PCI-Express x1 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 5. Power Consumption Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel® Celeron® CPU N2930 @ 1.83GHz
Memory	Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0
HDD	TOSHIBA SATA III 3.5" 7200rpm/500GB

### 5.1. AT/ATX Power Consumption

Test Equipment						
Equipment	AC/DC Digital Clamp meter					
Manufacturer	KYORITSU					
Model name	2010					
Test Environment						
ATX Power Model	AURUM Series AS-550 " ATX Power 550W					
Power Supply	ATX Power				Note	
(Full Loading Mode) Windows 7 with Prime 95 Full Loading Test	(+12V)	0.65	A	7.8	W	Prime95 Version 259
Full Loading Total Watt	7.8 (W)					
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12V)	0.38	A	4.56	W	
Idle Total Watt	4.56 (W)					
Power on - Boot sequency: Measure the maximum current value of between system power on and boot-up to O.S.	(+12V)	0.69	A	8.28	W	
Power On Total Watt	8.28 (W)					
S3 mode: Measure the current value when system in S3 mode of windows and without running any	(+12V)	0.05	A	0.6	W	
Suspend Total Watt	0.6 (W)					
S5 mode: Measure the current value when system in S5 mode of windows and without running any	(+12V)	0.05	A	0.6	W	
Suspend Total Watt	0.6 (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			
(+) 3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.258	3.312	
(+) 12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.183	12.357	
(+) 5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.128	5.062	
VMEM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.480	1.421	
5VSB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.057	5.011	
VCORE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.862	0.832	
System Fan1 Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		RPM	RPM
System Fan2 Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		RPM	RPM
CPU Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	46°C	55°C	
SYS Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38°C	46°C	

### 5.3. DC Input Power 7.5V ~ 20V

Test Environment	DC Power Output Switch	Result	Note
(Normal Mode) Windows 7 with BurnIN Test Full Loading Test	(+7.5V)	<input checked="" type="checkbox"/>	
	(+9V)	<input checked="" type="checkbox"/>	
	(+11V)	<input checked="" type="checkbox"/>	
	(+13V)	<input checked="" type="checkbox"/>	
	(+15V)	<input checked="" type="checkbox"/>	
	(+17V)	<input checked="" type="checkbox"/>	
	(+19V)	<input checked="" type="checkbox"/>	
	(+20V)	<input checked="" type="checkbox"/>	

## 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"/>	N2930
RTC Clock in Power Off Mode		24 hrs	+/-2 sec	+1 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N2807

### 6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	3.2	Sec	Press the Power Button till "Beep" Sound appears

### 6.3. Watchdog Timer Test

Use Function as below:

[ ] No Support.

Time-Out Interval	Criteria	Actual	Result			Note
			Pass	Fail	N/A	
10 sec	+/- 10%	10 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hi-Safe 2014.10.01
60 sec	+/- 10%	61 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	261 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 Fedora 18 – Kernel 3.6.10-4 – fc18.i686

[ ] No Support

Driver Information:

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

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Fedora 18 - Kernel 3.6.10-4 - fc18.i686	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	uname -a

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"/>	
DVI -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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>				
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
DVD-ROM 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"/>	
<b>X Windows Application</b>				
Start Button Office	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Fedora 18
<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 -P	<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 XP Professional English Version 32/64Bit

[ ] x32 Driver Information:

[ X ] No Support

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

[ ] x64 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

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

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional ACPI Mode	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Boot - Windows XP Professional Advanced Options Menu</b>				
Safe Mode	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Basic Function Test</b>				
PS/2 Mouse and Keyboard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LPT1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Audio Function Test</b>				
Line Out Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
S/P DIF Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Start Menu</b>				
Log off User	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



### 7.3. Windows 7 Ultimate English Version 32/64Bit

[ ] No Support

[X] x32 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (2014-04-24)
Graphics Media	Intel® Atom™ Processor E3800 Series / Intel® Celeron Processor N2920 /J1900 35.15.0.1091 (6/26/2014)
LAN Driver	Intel® I211 Gigabit Network Connection 12.11.97.0 (5/15/2014)
USB3.0 Driver	Intel® USB 3.0 Host Controller 3.0.0.33 (5/23/2014)

[X] x64 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (2014-04-24)
Graphics Media	Intel® Atom™ Processor E3800 Series / Intel® Celeron Processor N2920 /J1900 37.15.0.1091 (6/26/2014)
LAN Driver	Intel® I211 Gigabit Network Connection 12.11.97.0 (5/15/2014)
USB3.0 Driver	Intel® USB 3.0 Host Controller 3.0.0.33 (5/23/2014)

### Install OS SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win7_32bit_IDE
English Windows 7 Ultimate ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win7_64bit_AHCI

### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DP-- 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"/>	From SIO Card
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"/>	From SIO Card
LPT1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From SIO Card
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<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"/>	
S/P DIF Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Start Menu</b>				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby	<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"/>	

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

[ ] No Support

[X] x32 Driver Information:

Chipset Software	Intel(R) Chipset Device Software / 10.0 ( 2014/04/24)
Graphics Media	Intel ® HD Graphics 10.18.10.3958 (9/26/2014)
LAN Driver	Intel ® I211 Gigabit Network Connection 12.11.97.0 (5/15/2014)
USB3.0 Driver	Intel ® USB 3.0 Host Controller 6.3.9600.17031 (2/21/2014)

[X] x64 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (2014-04-24)
Graphics Media	Intel ® HD Graphics 10.18.10.3958 (9/30/2014)
LAN Driver	Intel ® I211 Gigabit Network Connection 12.11.97.0 (5/15/2014)
USB3.0 Driver	Intel ® USB 3.0 Host Controller 6.3.9600.17031 (2/21/2014)

### Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 8.1 Enterprise ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8.1_32bit_AHCI
English Windows 8.1 Enterprise ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Win8.1_64bit_IDE

### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DP -- 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"/>	From SIO Card
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"/>	From SIO Card
LPT1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From SIO Card
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<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"/>	
S/P DIF Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Start Menu</b>				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby (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

	<b>Hardware Information with Windows 8.1 Enterprise English SP1 32 Bit Driver Version</b>
CPU	Intel® Celeron® CPU N2930 @ 1.83GHz
Memory	Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0
HDD	TOSHIBA SATA III 3.5" 7200rpm/500GB

### 8.1. Advanced Test

Test Item	Result			Note		
	Pass	Fail	N/A			
ACPI settings	Suspend Disable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Enable/Disable	
	Sleeps state (S1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Sleeps state (S3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Dynamic Digital IO	DIO0~7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test under Dos and OS	
S5 RTC Wake up	Wake system with Dynamic time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Wake system with fixed time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Trusted Computing	TPM SUPPORT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Clear TPM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
CPU configuration	EIST	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Virtualization Technology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
SATA configuration	SATA controller	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Enable/Disable	
	AHCI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	RAID mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
AMT Configuration	Intel AMT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Enable/disable	
	Un-configure ME	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
USB configuration	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power Mode	AT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	ATX	<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"/>		
IT8528E-L Super IO configuration	Serial port 9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Serial port 10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
W83627DHG super IO configuration	Serial port1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Serial port2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	PS2 KB/MS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Parallel Port	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
IT8528E Smart FAN	CPU_FAN1	Disable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Rpm
		Manual	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0~255 255: rpm;127:rpm; 0:rpm
		Thermal Cruise mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
		Smart FAN IV mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	CHA_FAN1	Disable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
		Manual	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0~255 255: rpm;127:rpm; 0:0rpm
		Thermal Cruise mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer System temperature
		Smart FAN IV mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Refer System temperature

### 8.2. Chipset Test

Test Item		Result			Note
		Pass	Fail	N/A	
System Agent (SA) Configuration	Primary IGFX Boot Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Second IGFX Boot Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Memory Configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LVDS Panel Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Color Depth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18 / 24bit
	Panel Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Single / Dual Channel
	LVDS Backlight Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0%~100%
PCH-IO Configuration	Audio Controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Azalia Internal HDMI codec	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Enable/disable
	Resume on Ring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Enable /disable
	ERP/EUP mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Enable /disable

### 8.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot up Numlock State	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch Intel I217 PXE OpROM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Launch Intel I211 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 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(20141001)	<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"/>
H/W Monitor	Info	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fan Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
	60sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	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"/>
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Fan Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Temperature	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Speed control	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Off Speed TMP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Full Speed TMP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 8.8. Hi-Manager Test

[ x ] No Support

Test Item	Result			Note	
	Pass	Fail	N/A		
Version(20130819)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power control	Power on	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Reset	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on from G3 state	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Group Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Event log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Alarm Clock	Set Alarm Time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Recurring Alarm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Remote Recovery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remote Reboot/ Reboot from CD ROM/Reboot from ISO (Reboot to BIOS no support)	
KVM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with i7-4770T	
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

## 9. Performance Test

Hardware Information with Windows 8.1 Enterprise English Version 32 Bit Driver Version	
CPU	Intel® Celeron® Processor N2930(2M Cache, up to 2.16 GHz)
Memory	Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0
SATA HDD	STATIII WD WD20EZR 3.5" 7200rpm/2TB

### 9-1. Performance Test

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

Testing Software	Scope			Note
	N2930	-	-	
<b>PCMark2005</b>				Windows 8.1_32bit
PCMark	3994	-	-	PCMarks
CPU	4380	-	-	
Memory	4286	-	-	
Graphics	1397	-	-	
HDD	7854	-	-	
<b>PCMark Vantage</b>				Window7_32bit
PCMarks	3924	-	-	
Memories	2628	-	-	
TV and Movies	2953	-	-	
Gaming	2990	-	-	
Music	3828	-	-	
Communications	3504	-	-	
Productivity	3266	-	-	
HDD	3979	-	-	
Benchmark (B)	-	-	-	
Average Efficiency	-	-	-	

Testing Software	Scope			Note
	N2930			
<b>CPUmark99</b>				Windows 8.1_32bit
CPU mark99	185			

Testing Software	Scope			Note
	N2930	-	-	
<b>3Dmark2006 v121</b>				Windows 8.1_32bit
3Dmark Score	1568	-	-	
SM2.0 Score	540	-	-	
HDR/SM3.0 Score	575	-	-	
CPU Score	2130	-	-	
Benchmark (B)	-	-	-	
Average Efficiency	-	-	-	

Testing Software	Scope			Note
	N2930			
<b>Final Reality V1.01—BenchMark Test</b>				Windows 8.1_32bit
2D image	8.9	-	-	Reality marks
3D	3.58	-	-	
Bus transfer	18.83	-	-	
Overall	7.47	-	-	
Benchmark (A)	-	-	-	

Testing Software	Scope			Note
	N2930	-	-	
<b>Performance Test 7.0</b>				
PassMark Rating	596.3	-	-	
CPU Mark	1407.8	-	-	
2D Graphics Mark	180.8	-	-	
3D Graphics Mark	145.7	-	-	
Memory Mark	390.5	-	-	
Disk Mark	1035.1	-	-	
CD Mark	-	-	-	

Testing Software	Scope			Note
	N2930			
<b>Windows experience index</b>				Test under Windows7_32bit
Processor	5.6	-	-	
Memory	5.5	-	-	
Graphics	4.1	-	-	
Gaming graphics	5.7	-	-	
Primary hard disk	5.9	-	-	

SATA Performance				
SATA HDD	STATIII WD WD20EZR3 3.5" 7200rpm/2TB			
CPU	Intel® Celeron® Processor N2930(2M Cache, up to 2.16 GHz)			
Memory	Onboard DDR3L 1333 2GB Samsung K4B4G1646D-BYK0			
OS	Windows 8.1 Enterprise English Version 32 Bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (SATA port 1) SATAII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	17.3ms	
	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	117.1MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	179.4MB/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	19.2ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	0%	



	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	117.6MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	202.3MB/s	SATAII 150~300MB SATAIII up 300M/B

USB2.0/3.0 Performance				
USB Flash	Transcend USB3.0 / 16GB			
USB Flash	Kingston USB2.0 / 4GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
CN4 USB3.0	Maximum Read	ATTO Disk Benchmark	70.4MB/s	
	Maximum Write	ATTO Disk Benchmark	19.4MB/s	
CN4 USB2.0	Maximum Read	ATTO Disk Benchmark	21.6MB/s	
	Maximum Write	ATTO Disk Benchmark	7.1MB/s	
CN5 USB2.0	Maximum Read	ATTO Disk Benchmark	21.6MB/s	
	Maximum Write	ATTO Disk Benchmark	7.1MB/s	
CN6 USB2.0	Maximum Read	ATTO Disk Benchmark	21.7MB/s	
	Maximum Write	ATTO Disk Benchmark	7.2MB/s	
CN42 USB2.0	Maximum Read	ATTO Disk Benchmark	21.4MB/s	
	Maximum Write	ATTO Disk Benchmark	7.1MB/s	