

Report NO: 16IP010009

IBM-Q170A

Board Level Product P5 Test Report

Summary	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass with Deviation (Comment: 1. SUNIX PCI Express x 1 Giga LAN Card 2. Adaptec AAR-1430SA PCI-Express x4 RAID Card)			
	Test Results Category			
	Critical	Major	Minor	Enhancement
Defect Found	0	2	0	0
Defect Unsolved	0	0	0	0

Issue date

QE Manager

Test Engineer

2016/07/22

KJ Wang

Danny Chen

Summary Table of DTS:

Defect No.	Severity	Description
150102QEE17	Major	SUNIX PCI Express x 1 Giga LAN Card (NW-201303)
150102QEE18	Major	Adaptec AAR-1430SA PCI-Express x4 RAID Card

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..	
2014/10/03	P2P3-1401	1. Page 1 rename: Board Level Product P2-P3 Test Report. 2. Remove platform information\test item and add driver folder item. 3. Chapter2.1: add EDID check, DOS display, 3840*2160, hot plug. 4. Chapter2.2: modify from "dual display test" to "Multi display test." 5. Remove chapter 2.3 "Boot ROM to Novell 4.11 [RPL]" item 6. Chapter2.3.2: add "CPU information" 7. Chapter2.4: change from optional function to "Jumper and connector function test" 8. Chapter3.4: RS422/485 add test from G3 status. 9. Add chapter 4.10 Display port converter compatibility test. 10. Chapter7.1: remove "halt" test item. 11. Chapter7.2/7.3/7.4: add touch and TPM function test 12. Chapter9: update performance test program. 13. Add chapter 10. Negative Test.	

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	
System					
CPU	Intel® 5th Generation(Skylake-S) Core™ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel® Q170 Express Chipset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Memory	4 x DIMM, DDR4 (2133/1867 MHz, max. 64GB) non-ECC, un-buffered memory Dual channel memory architecture	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super I/O	NCT6791D+ F81216HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	1 x Intel® PHY i219LM Giga LAN (support Intel® AMT 11.0) 1 x Intel® i211AT Giga LAN, RJ45 x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	Header for 90-C1B0AU-00XBN0VZ (Infineon SLB9635 TT 1.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Slots	1 x PCIe 3.0/2.0[x16] Slot 1 x PCIe 3.0[x4] Slot (open edge) 1 x PCIe 3.0[x1] Slot (open edge) 1 x PCI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	1 x 128Mbit Flash ROM, AMI BIOS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
HW Monitor	Temperature Monitor on CPU/Chassis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Voltage Monitor on Vcore/5V/3.3V/12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Monitor on CPU/Chassis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WatchDog Timer	1~255 step by software program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Smart Fan Control	CPU Fan / Chassis Fan x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN / PXE	Yes (WOL / PXE)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power State	S3.S4.S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics					
Graphics Chipset	Intel® Graphics Media Accelerator DVI-Up to 1920 x 1200 @60Hz (DVI-I) HDMI-Up to 4096 x 2160 @24Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics Multi	DVI-I+HDMI, HDMI+HDMI, DVI-I+HDMI+HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power & ME					
Battery	Lithium battery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Requirement	1 x 24pin ATX connector 1 x 8 pin (2x4) ATX 12V Power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Compliance	Compliant with EuP / ErP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Back I/O					
Display	1 x DVI-I . 2 x HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB	10 x USB 3.0 ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	1 x RS-232/422/485 (COM1,	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	supports 5V/12V/RI optional)				
PS/2 Port	1 x PS/2 Combo Port (Keyboard & Mouse)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN	2 x LAN (RJ45) ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	3 x Audio Jack: Line-in, Mic-in, Line-out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internal I/O					
Storage	6 x SATA III (6.0Gb/s) ports, Supports RAID 0/1/5/10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB	2 x USB 2.0 connectors support additional 4 USB ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio I/O	1 x speaker header (Line-out)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	5 x RS-232 header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO	1 x 8-bit Digital I/O interface (In/Out programmable)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FAN	1 x CPU Fan connector(s) (4-pin) 2 x Chassis Fan connector(s) (4-pin)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power	1 x 24-pin EATX Power header 1 x 8-pin EATX 12V Power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other	1 x Chassis Intrusion 1 x TPM Header 1 x Front panel header 1 x Clear CMOS jumper	<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 32/64 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows 8 32/64 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux-Fedora	Linux Fedora	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Specifications

Item	Specification
Operation Temperature	32~140°F (0~60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0%~90%RH, non-condensing

Note: Please refer Environment Test Report for detail information

Platform Information

Item	Device Information	Note
Product of department	IPC	
Mode Name	IMBM-Q170A	
BIOS / Version	R1.6 (MQH0AM16)(03/03/2016)	
Driver folder	20160428	
CPU Type	Genuine Intel® CPU XXXX @ 2.20GHz Genuine Intel® CPU XXXX @ 2.30GHz Genuine Intel® CPU XXXX @ 2.60GHz Intel® Core™ i5-6500 CPU @ 3.20GHz	
Memory Type	InnoDisk DDR4 2133 8GB DIMM(M4U0-8GSSJCRG-26)	
SATA HDD	WD WD10SPCX 2.5" SATA HDD 1TB	
USB BD-ROM	Pioneer Blu-ray Disc BD ROM	
SATA DVD-ROM	LITE-ON SATA DVD-ROM Mode:HAS124	From NCR Component
HDMI Monitor	ViewSonic VP2770-LED	
HDMI Monitor	SAMSUNG U28D590-LED	
DVI Monitor	DELL U2713HM-LED	
Daughter Board	N/A	
Expansion Board	N/A	
Operating System	<input checked="" type="checkbox"/> Ubuntu 14.10 Kernel 3.16.0-23-generic #31	
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32/64Bit	
	<input checked="" type="checkbox"/> Windows 8.1 Enterprise English Version 32/64Bit	
Power Supply	ATX Power Supply : FSP AURUM S Series AS-550 / 550W	
	AT Power Supply:	
	DC Adapter :	
Chipset Information		
SOC Bridge	Intel PCH Q170	
Super IO Chipset	NCT6791D + F81216HD	
VGA Chipset	Intel® Graphics Media Accelerator	
Audio Chipset	Realtek® ALC887	
Ethernet Chipset	Intel I211 + Intel I219	

NCR Component Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
DELTA DPS-300AB-9 / 300W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DELTA GPS-4000AA-104A / 400W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DDR4 2133 4GB DIMM (SEC-K4A4G085WD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate ST500DM002 3.5" SATA 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU FAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LITE-ON SATA DVD-ROM Mode:HAS124	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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1. Hardware Test

1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Genuine Intel® CPU XXXX @ 2.20GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prime 95 / Ver 279
Genuine Intel® CPU XXXX @ 2.30GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Genuine Intel® CPU XXXX @ 2.60GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i5-6500 CPU @ 3.20GHz	<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	
InnoDisk DDR4 2133 4GB DIMM (M4U0-4GSSKCRG-26)	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
InnoDisk DDR4 2133 8GB DIMM (M4U0-8GSSJCRG-26)	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR4 2133 8GB DIMM (SEC-K4A4G085WD)	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR4 2133 4GB DIMM (SEC- K4A4G085WD)	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DDR4 2133 4GB DIMM (SEC-K4A4G085WD)	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From NCR Component NCR 006-862420

1.3. SATA Compatibility Test

1.3.1 Onboard SATA (IDE) Test

[x] Not Support

SATA Device Information	Result			Note
	Pass	Fail	N/A	
	<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"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3.2 Onboard SATA (RAID) Test

SATA RAID Test		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1 TOSHIBA MK3276GSX 2.5" SATA HDD 320GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA MK3276GSX 2.5" SATA HDD 320GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1 WD WD5000LPVX 2.5" SATA HDD 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 WD WD5000LPVX 2.5" SATA HDD 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1 TOSHIBA MK1665GSX 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA MK1665GSX 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 TOSHIBA MK1665GSX 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-10 (HDDx4) Striping/Span Test	1 TOSHIBA MK1665GSX 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Mirroring	2 TOSHIBA MK1665GSX 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 TOSHIBA MK1665GSX 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	4 TOSHIBA MK1665GSX 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3.3 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
TOSHIBA MK1676GSX SATAII 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA DT01ACA050 SATA 3.5 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate ST500DM002 SATA 3.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HGST CCHD5KZS SATAIII 2.5" 1TB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD10SPCX SATAIII 2.5" 1TB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PLEXTOR PX-128M6S 2.5" SATA SSD 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Crucial M550 2.5" SATA SSD 256GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD5000BPKX 2.5" SATAIII 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD3200BEVT SATAIII 3.5 320GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate ST9160412AS 2.5" SATA 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate ST500DM002 3.5" SATA 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From NCR Component

1.4. Power Supply Compatibility Test

Power Supply Information	AAEON P/N	Result			Note
		Pass	Fail	N/A	
FSP AURUM S Series AS-550 / 550W		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DELTA DPS-300AB-9 / 300W		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From NCR Component
DELTA GPS-4000AA-104A / 400W		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	From NCR Component
Seasonic SSR-450RM / 450W		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AcBel PCA014 iPower650 / 650W		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler Master RS-750-AMAA-G /750W		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Basic Function Test

2.1. Video Function Test

2.1.1. Single Output Function Test

Hardware Information with Windows 8.1Enterprise English Version 64 Bit													
CPU	Intel ® Core™ i5-6500 CPU @ 3.20GHz												
Memory	InnoDisk DDR4 2133 8GB DIMM(M4U0-8GSSJCRG-26)												
SATA HDD	WD WD10SPCX 2.5" SATA HDD 1TB												
DVI	ViewSonic VP2770-LED												
HDMI 1	DELL U2713HM-LED												
HDMI 2	SAMSUNG U28D590-LED												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	DVI			HDMI 1			HDMI 2			DVI to CRT			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
800X600	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	
1280X720	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1366X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1600X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1600X1200	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1680X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	
1856X1392	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1920X1200	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1920X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2048X1152	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2560X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3840 X 2160	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" 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	DVI + 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	HDMI + HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	DVI + HDMI +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"/>	DVI / HDMI 1 /HDMI 2 connector

2.1.4. Video Resolution Test

[x] Not Support

LVDS Model	Result			Note
	Pass	Fail	N/A	
1_AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2_AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3_Data Image 7" / 800*480 / 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4_AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5_AU B104SN02 V.0 / 10.4" / 800*600 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6_AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7_AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8_AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9_Toshiba /12.1"/1280 x 768 x 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10_AU M170EG01 V.D/ 17" / 1280*1024 / 48bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11_AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12_AUO T260XW02 / 26" / 1366x768 / 24bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13_AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14_AUO T370HW01 / 37" / 1920x1080 / 48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15_AUO M215HW03 V1 / 21" / 1920*1080 / 48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	







2.2. Audio Function Test

[] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
Back Panel I/O Ports				
L (Left) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MICROPHONE Record	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI 1 & 2				
Audio Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMP				
Audio Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.3. LAN Function Test

[] No Support

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times) Command: ping xxx.xxx.xx.xx -l 65500 -n 1000										
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		AC-22-0B-85-69-8A	
OnBoard LAN2		Intel ® Ethernet Connection I219-V					MAC Address		88-88-88-88-87-88	
LAN Speed	Link / Speed LED	Active LED	LAN 1			LAN 2			Note	
			Pass	Fail	N/A	Pass	Fail	N/A		
1000Mbps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
100Mbps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10Mbps			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Wake On LAN			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
LAN Boot (PXE)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Internet Browser (DHCP Server)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Download file			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Download 400MB file above	

2.3.2. Throughput Test

DUT Platform Information:

<input type="checkbox"/>	Fedora Core 14 – Kernel
<input type="checkbox"/>	Cent OS5.6
<input checked="" type="checkbox"/>	Ubuntu 14.10 Kernel 3.16.0-23-generic
<input type="checkbox"/>	Red Hat

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

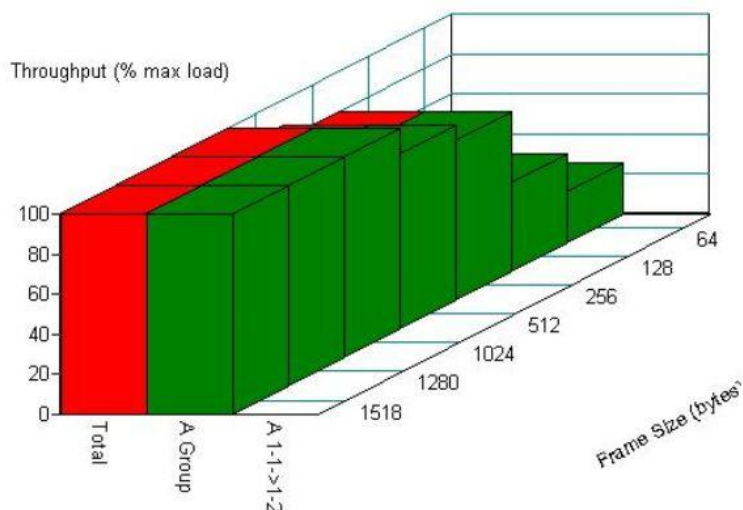
CPU	Intel ® Core ™ i5-6500 CPU @3.20GHz
Graphics Media	Ubuntu14.10 Default setting
LAN	Intel I211 Igb-5.2.13-K / Intel I219 e1000e 3.2.4.2
Audio Driver	Ubuntu14.10 Default setting

SMB Platform Information:

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

Test Result:

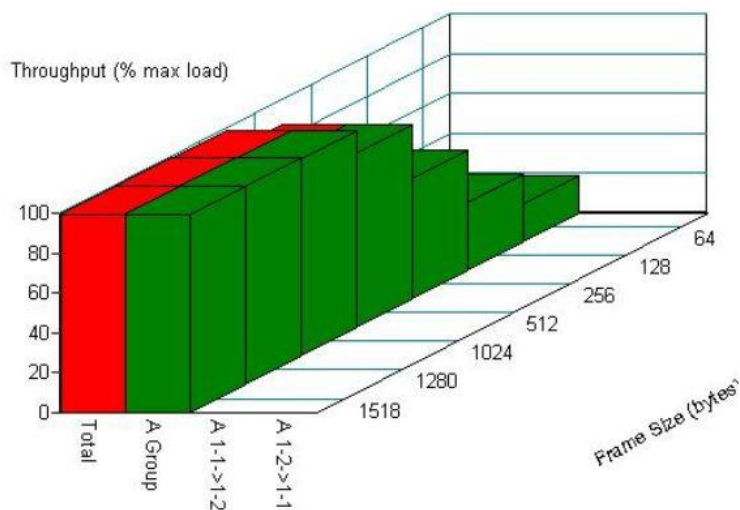
1. Half Direction (LAN1: Intel ® I211 Gigabit Network Connection → LAN2: Intel ® Ethernet Connection I219LM)



Throughput vs Frame Size

Name/Frame size	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	24.9765625	44.3125	79.1171875	86.8515625	100	100	100
A Group	24.9765625	44.3125	79.1171875	86.8515625	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Binary Direction (LAN1: Intel® I211 Gigabit Network Connection → LAN2: Intel® Ethernet Connection I219LM)



Throughput vs Frame Size

<u>Name/Framesize</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	18.7890625	33.484375	59.78125	86.8515625	98.453125	99.2265625	99.2265625
A Group	18.7890625	33.484375	59.78125	86.8515625	98.453125	99.2265625	99.2265625
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2.3. Jumper and Connector Function Test

[] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
Clear CMOS Switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CLRTC1
RTC Battery Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Battery1
CPU FAN Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA FAN1 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA FAN2 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII -1 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII -2 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII -3 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII -4 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII -5 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII -6 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DDR4 DIMM Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DIMM A1
DDR4 DIMM Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DIMM A2
DDR4 DIMM Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DIMM B1
DDR4 DIMM Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DIMM B2
EATX Power1 Connector (24 pin)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EATX Power2 Connector (8 pin)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM1 RI & Voltage Jumper (5V /12V /Ring)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM2~COM6 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F_Panel
Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F_Panel
HDD LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F_Panel
Power LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F_Panel
TPM Module Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB2.0 x 2 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMP Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x 16 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x 4 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x 1 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Integration Test

Hardware Information with Windows 8.1 Enterprise English SP1 64 Bit	
CPU	Intel® Core™ i5-6500 CPU @ 3.20GHz
Memory	InnoDisk DDR4 2133 8GB DIMM(M4U0-8GSSJCRG-26)
HDD	WD WD10SPCX 2.5" SATA HDD 1TB

3.1. USB Port Integration Test

Item	USB Port	Boot			Function			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"/>	USB2.0 x 4 USB3.0 x 10
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:5V / Output H:5V / Output L:0V DOS Mode

3.3. COM Port Integration Test

Test Item	Result			Note	
	Pass	Fail	N/A		
Serial Modem	Ring In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Modem / Power On By Ring S3.S4.S5.DOS / COM1 ~COM6
	+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
	+5V	<input checked="" 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-422 for COM1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use loopback and WINSSD.exe to test RS-422 in Windows
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 COM1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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
RS-232 for COM1 ~ COM6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. COM Port Mouse 2. BurnIN Test COM Port set 300/9600/115200 (Kbits/Sec)

4. Application Test

4.1. PCI Slot Function (PCI Adapter Card) Test

Adapter VGA Card	Set Simultaneous Display and Reboot			Note
	Pass	Fail	N/A	
Radeon9250 DDR 128MB PCI VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter Sound Card	Play Sound			Note
	Pass	Fail	N/A	
Creative Sound BLASTER Live5.1	<input checked="" 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 checked="" type="checkbox"/>	
USB2.0 x 4 Ports Extend Card	Connect to USB			Note
	Pass	Fail	N/A	
D-Link DU520 USB2.0 x 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.DU-001
Adapter LAN Card	Connect to Internet			Note
	Pass	Fail	N/A	
Intel 82541_PRO/1000 GT Desktop Ethernet Adapter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.NW-201301
Intel 82541_PRO/1000 MT Desktop Ethernet Adapter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NW-200901
D-Link DFE-530TX PCI Fast Ethernet Adapter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Reatek RTL8139 PCI Family Fast Ethernet NIC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter COM Ports Card	Function Test			Note
	Pass	Fail	N/A	
Uptech UT420 COM Port Extend Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.RS232 & LPT-201301

4.2. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
PX84HH PCI-Express x 1 VGA Card (HDMI Model)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SUNIX PCI Express x 1 Giga LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.NW-201303 DTS No. EE17
MOXA CP-118EL-A PCI-Express x 1 COM Port Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.RS232PCIE-201401
DigiFusion PCI-Express x1 RS232 & Parallel Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.RS232&LPT 201302
DigiFusion PCI-Express x1 USB 3.0 Port x2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.USB30-201401
Uptech PCI-Express x 1 USB 3.0 Port x4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.USB30-201402
Realtek Gigabit PCI-Express LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.NW-201501
Intel ® Gigabit CT Desktop Adapter PCI-Express LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.NW-201001
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.RA-200801 DTS No. EE18
PLEXTOR M6e SSD 128GB PCI-Express x 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.PCISSD-201401
Intel ® Gigabit ET2Quad 4 Ports PCI-Express x4 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel ® Gigabit CT Desktop Adapter PCI-Express x1 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x1 Card insert PCI-E x4 connect Test

Realtek Gigabit PCI-Express x1 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x1 Card insert PCI-E x4 connect Test QE No.NW-201501
Uptech PCI-Express x 1 USB 3.0 Port x4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x1 Card insert PCI-E x4 connect Test QE No.USB30-201402
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
PCIE x 16 Bell GEN2 Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EVGA GEFORCE GT740 /GDR5 1GB PCI-Express x16 VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.VC-201502
ASUS RADEON R7 250 /GDDR5 1GB PCI-Express x16 VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.VC-201501
ASUS GEFORCE GTX680-2GD5 / DDR3 2GB PCI-Express x16 VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS GEFORCE GT620 / DDR3 1GB PCI-Express x16 VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.VC-201201
GIGABYTE GV-R5670C-1GI PCI-Express x16 VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QE No.VC201002
Uptech PCI-Express x 1 USB 3.0 Port x4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x1 Card insert PCI-E x4 connect Test QE No.USB30-201402
Intel ® Gigabit CT Desktop Adapter PCI-Express x1 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x1 Card insert PCI-E x16 connect Test
Realtek Gigabit PCI-Express x1 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x1 Card insert PCI-E x16 connect Test QE No.NW-201501
PLEXTOR M6e SSD 128GB PCI-Express x 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x4 Card insert PCI-E x16 connect Test
Intel ® Gigabit ET2Quad 4 Ports LAN Card PCI-Express x4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-E x4 Card insert PCI-E x16 connect Test

4.3. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

Cable Type: IDE SATA2 MLC SLC

Test Item	Result			Note
	Pass	Fail	N/A	
PLEXTOR 2.5" SSD HDD 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Crucial M550 2.5 SSD HDD 256GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PLEXTOR M6e SSD 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PCI-Express x 4 / Install Win8.1 OS

4.4. DVI port to CRT Converter Compatibility Test

Test Item			Result			Note
			Pass	Fail	N/A	
DVI to CRT converter:	DOS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	OS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max resolution / 2048x1152

5. Power Consumption Test

Hardware Information with Windows 8.1 Enterprise English SP1 64 Bit	
CPU Board	IMBM-Q170 R1.00
CPU	Genuine Intel® CPU XXXX @ 2.60GHz (QHQF)
Memory	InnoDisk DDR4 2133 8GB DIMM (M4U0-8GSSJCRG-26) X 4
SATA HDD	WD WD5000BPKX 2.5" SATAIII 500GB

5.1. ATX Power Consumption

Test Equipment						
Equipment	AC/DC DIGITAL CLAMP METER					
Manufacturer	KYORITSU					
Model name	2010					
Test Environment						
ATX Power Model	FSP AURUM S Series AS-550 / 550W					
Keyboard/Mouse	USB Keyboard: Microsoft 1366; USB mouse: Microsoft MSK-1113					
Power Supply		ATX Power				Note
(Full Loading Mode) Windows 8.1 with Prime 95 Full Loading Test	+12V	7.20	A	86.4	W	Prime95 Version 279
Full Loading Total Watt	86.4 (W)					
S3 mode: Measure the current value when system in S3 mode of windows and without running any	+12V	0.01	A	0.12	W	
Suspend Total Watt	0.12 (W)					
Win. Idle mode: Measure the current value when system in windows mode and without running any program	+12V	1.84	A	22.08	W	
Idle Total Watt	23.40 (W)					
S5 mode: Measure the current value when system in S5 mode of windows and without running any	+12V	0.014	A	0.168	W	Erp disable
Suspend Total Watt	0.168 (W)					
S5 mode: Measure the current value when system in S5 mode of windows and without running any	+12V	0.007	A	0.084	W	Erp Enable
Suspend Total Watt	0.084 (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			
VCORE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+1.216V	+1.21V	
+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+12.192V	+12.15V	
+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+5.060V	+5.04V	
+3VSB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+3.440V	+3.41V	
+3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+3.392V	+3.36V	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+3.200V	+3.16V	
CPU Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2518	RPM	2543 RPM
Chassis Fan 1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3958	RPM	3912 RPM
Chassis Fan 2 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2011	RPM	2077 RPM

System Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+30°C	31°C	
CPU Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+34°C	38°C	

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	-1 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	11	Sec	Press the Power Button till "Beep" Sound appears

6.3. Watchdog Timer Test

Use Function as below: Hi-Safe 20151124

[] 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"/>	
60 sec	+/- 10%	60 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	255 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C

7. O.S. Compatibility Test

7.1. English Ubuntu 14.10 Kernel 3.16.0-23-generic #31

[] No Support

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	System default
LAN Driver	Intel I211 lgb-5.2.13-K / Intel I219 e1000e 3.2.4.2

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu14.10 kernel 3.16.0-23-generic #31	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
HDMI -- 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"/>	
Network Function Test				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Play Audio Function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Base Function Test				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Keyboard Test	<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 DVD-ROM
USB 2.0 / 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X Windows Application				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
ls / clear; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

7.2. Windows 7 Ultimate English Version 32/64Bit

[] No Support

[X] x32 Driver Information:

Chipset Software	Intel® Chipset Device Software 10.1.1 (2015/06/03)
Graphics Media	Intel® HD Graphics 530 20.19.15.4416 (3/23/2016)
Audio Driver	Intel® Display Audio 6.16.0.3180 (8/3/2015) Realtek High Definition Audio 6.0.1.7541 (06/18/2015)
LAN Driver	Intel® Ethernet Connection I219-LM 12.13.17.7 (8/13/2015) Intel® I210 Gigabit Network Connection 12.13.27.0 (6/5/2015)

[X] x64 Driver Information:

Chipset Software	Intel® Chipset Device Software 10.1.1 (2015/06/03)
Graphics Media	Intel® HD Graphics 530 20.19.15.4416 (3/23/2016)
Audio Driver	Intel® Display Audio 6.16.0.3180 (8/3/2015) Realtek High Definition Audio 6.0.1.7541 (06/18/2015)
LAN Driver	Intel® Ethernet Connection I219-LM 12.13.17.7 (8/13/2015) Intel® I210 Gigabit Network Connection 12.13.27.0 (6/5/2015)

Install OS to SATA HDD :

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

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920 x 1080
HDMI 1 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3840 x 2160
HDMI 2 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3840 x 2160
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 / 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCIE x 1 / x4 / x16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mic Record	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.3. Windows 8.1 Enterprise English Version 32/64Bit

{ X } No Support

{ } x32 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

{ X } x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 10.1.1 (2015/06/03)
Graphics Media	Intel ® HD Graphics 530 20.19.15.4416 (3/23/2016)
Audio Driver	Intel ® Display Audio 6.16.0.3180 (8/3/2015) Realtek High Definition Audio 6.0.1.7541 (06/18/2015)
LAN Driver	Intel ® Ethernet Connection I219-LM 12.13.17.7 (8/13/2015) Intel ® I210 Gigabit Network Connection 12.14.7.0 (6/18/2015)

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Windows8.1 Enterprise 32bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Skylake platform didn't support 32bit
English Windows8.1 Enterprise 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AHCI Mode

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920 x 1080
HDMI 1 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3840 x 2160
HDMI 2 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3840 x 2160
Boot – Windows8.1 Enterprise Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. msconfig 2. safe boot.
Basic Function Test				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LPT1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Phaser 3124 Printer
USB 2.0 / 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCIE x 1 / x4 / x16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I211
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I219
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mic Record	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby (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"/>	

7.4. Windows 10 Enterprise English Version 32/64Bit

No Support

x32 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 10.1.1 (2015/06/03)
Graphics Media	Intel ® HD Graphics 530 20.19.15.4416 (3/23/2016)
Audio Driver	Intel ® Display Audio 8.20.0.541 (8/5/2015) Realtek High Definition Audio 6.0.1.7541 (06/18/2015)
LAN Driver	Intel ® Ethernet Connection I219-LM 12.13.17.7 (8/13/2015) Intel ® I210 Gigabit Network Connection 12.12.226.0 (5/4/2015)

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Windows10 Enterprise 32bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Skylake platform didn't support 32bit
English Windows10 Enterprise 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AHCI Mode

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920 x 1080
HDMI 1 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3840 x 2160
HDMI 2 -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3840 x 2160
Boot – Windows10 Enterprise Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. msconfig 2. safe boot.
Basic Function Test				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LPT1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB 2.0 / 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCIE x 1 / x4 / x16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I211
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I219
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mic Record	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby (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 SP1 64 Bit	
CPU	Intel® Core™ i5-6500 CPU @ 3.20GHz
Memory	InnoDisk DDR4 2133 8GB DIMM (M4U0-8GSSJCRG-26) X 4
HDD	WD WD5000BPKX 2.5" SATAIII 500GB

8.1. Advanced Test

Test Item	Result			Note	
	Pass	Fail	N/A		
CPU Configuration					
CPU	Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Intel Vir Technology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
Trusted Computing					
Security Device Support		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
TPM State		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
Pending operation		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear
Device Select		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TPM1.2 / TPM 2.0 /Auto
SATA Configuration					
SATA Controller	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Mode	AHCI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Port 0	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Port 1	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Port 2	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Port 3	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Port 4	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Port 5	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMT Configuration					
Intel AMT	Enable / Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super IO Configuration					
NCT6791D + F81216HD Super IO configuration	Serial port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable / 3F8h IRQ=4
	RS-232	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RS-422	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RS-485	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable / 2F8h IRQ=3
	Serial port 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable / 3E8h IRQ=11
	Serial port 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable / 2E8h IRQ=11
	Serial port 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable / 2D0h IRQ=11
	Serial port 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable / 2C0h IRQ=11
NCT6791D HW Monitor					
Smart Fan Configuration					
CPU Smart Fan		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manual Mode / Thermal Cruise Mode / Speed Cruise Mode / Smart Fan Mode
CHA1 Smart Fan		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA2 Smart Fan		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Temp		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FAN Speed		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dynamic Digital IO					
DIO	DIO1 ~ DIO8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output H / Output L
USB Configuration					

Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable/Auto
Power Management				
EUP / ERP Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
Power Mode	ATX Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	AT Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restore AC Power Loss	Always off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Always on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Last State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RTC Wake System from S5	Disabled	<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"/>

8.2. Chipset Test

System Agent Configuration		Result			Note
		Pass	Fail	N/A	
Memory Frequency		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Total Memory		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIMM0 Size		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIMM1 Size		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIMM2 Size		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIMM3 Size		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics Configuration					
Primary Display	Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	IGFX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PEG	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PCIE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Primary IGFX Boot Display	VBIOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HDMI1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HDMI2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	CRT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCH-IO Configuration					
HD Audio	Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Enable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCH LAN Controller	Enable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disable	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch PXE OpROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From 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 and Password
Clear CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date and Password

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(20151124)	<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 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"/>	
WatchDog	10sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 10sec
	60sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 65 sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 270 sec
	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 0xF040
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slave Address A0h / 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"/>	
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"/>	
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"/>	

8.8. Hi-Manager Test

Test Item	Result			Note	
	Pass	Fail	N/A		
Version(20150205)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power control	Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on from G3 state	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Group Management		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Event log		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Alarm Clock	Set Alarm Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Recurring Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Remote Recovery		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remote Reboot/ Reboot from CD ROM/Reboot from ISO (Reboot to BIOS no support)
KVM		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with i5-6550
Schedule		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Performance Test

	Hardware Information with Windows 7 Ultimate English SP1 64 Bit
	Hardware Information with Windows 8.1 Enterprise English SP1 64 Bit
CPU	Genuine Intel® CPU XXXX @ 2.30GHz
Memory	InnoDisk DDR4 2133 8GB DIMM (M4U0-8GSSJCRG-26) X 4
HDD	WD WD5000BPKX 2.5" SATAIII 500GB

9.1. Performance Test

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark2005 V120			Windows 8.1 64bit
PCMark		-	PCMarks
CPU	11775	-	
Memory	9105	-	
Graphics	3612	-	
HDD	6761	-	
Benchmark (B)		-	
Average Efficiency		-	
PCMark Vantage V101			Windows 7 64bit
PCMarks	7389	-	PCMarks
Memories	4452	-	
TV and Movies	4693	-	
Gaming	5961	-	
Music	5516	-	
Communications	10478	-	
Productivity	5936	-	
HDD	3457	-	
Benchmark (B)		-	
Average Efficiency		-	

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2006 V121			Windows 8.1 64bit
3Dmark Score	7601	-	
SM2.0 Score	2615	-	
HDR/SM3.0 Score	2966	-	
CPU Score	6171	-	
Benchmark (B)		-	
Average Efficiency		-	

3Dmark11 Professional Edition			Windows 8.1 64bit
Performance 1280*720 (Default)			
3Dmark 11Score	1333	-	
Graphics Score	1149	-	
Physics Score	6672	-	
Combined Score	1340	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 7.0 Build 1025			Windows 8.1 64bit
PassMark Rating	2112.6	-	
CPU Mark	9020.5	-	
2D Graphics Mark	434.9	-	
3D Graphics Mark	687.1	-	
Memory Mark	3280.8	-	
Disk Mark	796.0	-	
CD Mark		-	

Testing Software	Scope		Note
	AAEON	Ref.	
Windows experience index			Windows 7 64bit
Processor	5.8	-	
Memory	7.9	-	
Graphics	6.7	-	
Gaming graphics	6.7	-	
Primary hard disk	5.9	-	

SATA3 Performance				
CPU	Genuine Intel ® CPU XXXX @ 2.30GHz			
Memory	InnoDisk DDR4 2133 8GB DIMM (M4U0-8GSSJCRG-26) X 4			
OS	Windows 8.1 Enterprise 64bit SP1			
Item	Comment / (unit)	Software	Score	Note
SATA1 HDD :Crucial CT256M550S 2.5" SATAIII SSD 256GB				
Single HDD (SATA port 1) SATAIII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.1ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	2.0%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	335.8MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	418.9MB/s	SATAII 150~300MB SATAIII up 300M/B
SATA2 HDD : WD WD5000BPKX 2.5" SATAIII HDD 500GB				
Single HDD (SATA port 2) SATAIII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	16.9ms	
	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	94.4MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	354.9MB/s	SATAII 150~300MB SATAIII up 300M/B

SATA3 Performance	
CPU	Genuine Intel ® CPU XXXX @ 2.30GHz

Memory	InnoDisk DDR4 2133 8GB DIMM (M4U0-8GSSJCRG-26) X 4			
OS	Windows 8.1 Enterprise 64bit SP1			
Item	Comment / (unit)	Software	Score	Note
SATA3 HDD : HGST HTS721010A9 2.5" SATAIII HDD 1TB				
Single HDD (SATA port 3) SATAIII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	15.4ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	1%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	111.3MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	384.0MB/s	SATAII 150~300MB SATAIII up 300M/B

USB3.0 Performance				
USB Flash	Kingston USB3.0 32GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0	Maximum Read	ATTO Disk Benchmark	158.5MB/s	
	Maximum Write	ATTO Disk Benchmark	26.5MB/s	
USB Flash	Transcend USB3.0 128GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0	Maximum Read	ATTO Disk Benchmark	95.7MB/s	
	Maximum Write	ATTO Disk Benchmark	68.5MB/s	

USB2.0 Performance				
USB Flash	Kingston USB2.0 4GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB2.0	Maximum Read	ATTO Disk Benchmark	21.2MB/s	
	Maximum Write	ATTO Disk Benchmark	5.6MB/s	

10. Negative Test

10.1 USB Keyboard Negative Test

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

10.2 Power Supply Negative Test

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

10.3 Suspend S3 Negative Test

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

11. Stability test

11.1. Run In Test

Under Room Temperature: 26 °C

OS: Windows 8.1 Enterprise 64bit English SP1

Test Item	Result			Note	
	Pass	Fail	N/A		
Burn In Test V8.0 (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"/>	
	GPU	<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"/>	Set to 99%
	Parallel	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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.

11.2. Reboot Test

Under Room Temperature: 26 °C

OS: Windows 8.1 Enterprise SP1 64bit

Reboot Test	Result			Note
	Pass	Fail	N/A	
Reboot test for 1000 cycles (AP: Passmark rebooter.exe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

11.3. ACPI G3 Cold Boot Test

Under Room Temperature: 26 °C

OS: DOS

Test item	Result			Note
	Pass	Fail	N/A	
G3 (AC loss) cold boot over 1000 cycles <loss rate: 0 /1000 times>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jumper setting auto power button for AT mode or BIOS select " power on"

11.4. ACPI S5 Cold Boot Test

Under Room Temperature: 26 °C

OS: Windows8.1 Enterprise 64bit

Test item	Result			Note
	Pass	Fail	N/A	
S5(standby power) cold boot over 500 cycles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

< System should complete 500 cycles without any error or hang.>				
--	--	--	--	--