

Report NO:16IP010017

# IMBM-H81B

## H81 Platform

### Board Level Product

### P5

## Compatibility Test Report

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

**Issue date**

2016-11-14

**QE Manager**

KJ Wang

**Test Engineer**

Aslen Hsieh

**Summary Table of DTS:**

<b>Defect No.</b>	<b>Severity</b>	<b>Description</b>	<b>Issue status</b>

**Version Released Records**

Date	Version	Change History	Note
5/26/2015	C0	1. Add UEFI,GPS,CANBUS,POE, Cold boot test item	
3/22/2016	C1	1. Add issue status 2. Update CTOS devices. 3. Add HDMI 5M cable compatibility test. 4. Modified boot up without display test. 5. Add Touch Function test. 6. Add DC adapter compatibility test 7. Add Windows10 compatibility test. 8. Update Benchmark tool. 9. Update DOS / Windows on/off test rule.	

**Note :**

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

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

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

## Specification Validation

### Main Specification

Item	Specification		Result			Note
			Pass	Fail	N/A	
Form Factor	Micro-ATX Form Factor, 9.6"x9.6" (244mmx244mm)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel® 4th Generation Core™ i7/ i5 /i3/Pentium/Celeron 22nm LGA 1150 socket Processor		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	2 x DIMM, Max. 16GB, DDR3 1333/1600 MHz Non-ECC, Un-buffered Memory Dual channel memory architecture		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel® H81 Express Chipset		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super I/O	Fintek F81866D (RS 232 COM1~6 & others) Fintek F81216HD (RS232-COM7~10)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Network	2 x Realtek PCIe Gb LAN 8111G, RJ45 x 2		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	6 x USB 3.0/2.0 ports, (4 port via ASM1042A, 2 port via H81)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	8 x USB 2.0 ports (Via H81)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	Realtek® ALC887		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Slots	1 x PCIe 3.0 [x16] Slot		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 x PCIe 2.0 [x1] Slot		<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 (3.3V colay 5V)		<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	Intel® Graphics Media Accelerator		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	VGA Up to 1920 x 1200 @60Hz		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DVI Up to 1920 x 1200 @60Hz		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics Multi Display	VGA+DVI-D, VGA+VGA		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	2 x SATA 6.0 Gb/s ports (7P, 180 degree connecotor)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 x SATA 6.0 Gb/s ports (7P, 180 degree connecotor)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Back I/O Placement	USB	6 x USB 3.0/2.0 ports, (4 port via ASM1042A, 2 port via H81)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		8 x USB 2.0 ports (Via H81)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PS/2 Port	1 x PS/2 Combo Keyboard/Mouse Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display	1 x DVI-I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Audio	3 x Audio Jack	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN	x LAN (RJ45) ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Internal I/O Connectors	Serial Port	1 x RS 232/422/485 (COM1, 10PIN 2.54mm, supports 5V/12V/RI optional))	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x RS-232 (COM2, 10PIN 2.54mm 間, supports 5V/12V/RI optional))	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		2 x RS-232 header (COM3~6, COM7~10, 40PIN , 2.54mm)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	FAN	1 x CPU Fan connector(s) (4-pin)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

		2 x Chassis Fan connector(s) (4-pin)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Compliance		1 x 24-pin EATX Power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x 4-pin ATX 12V Power connector(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other requirements		1 x Front panel pin header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		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 English 32/64 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows8.1 English 32/64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux	Kernel 2.6 above	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## Platform Information

Item	Device Information	Note
Product of department	IPC	
PCB Model / Version	IMBM-H81B Rev.1.01	
BIOS / Version	IMBM-H81B R1.0 (MH81BM10) (08/30/2016)	
Driver folder	X:\Products\IMBM-H81B\20160517	
CPU Type	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)	
Memory Type	Transcend DDR3 1600 8GB Hynix H5TC4G83AFR	
SATA HDD	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.	
SATA DVD-ROM	ASUS-BW-16D1HT	
USB DVD-ROM	BUFFALO BRXL-PC6U2	
LCD Monitor	LG Flatron E2260 / 1920*1080 / 22" monitor	
	Asus PA238Q / 1920*1080 / 23" monitor	
	BENQ BL2710 / WQHD 2560 x 1440 / 27" monitor	
Operating System	<input checked="" type="checkbox"/> English Ubuntu 14.04 Kernel 3.13.0-24-generic	
	<input checked="" type="checkbox"/> Windows 7 Ultimate SP1 32/64Bit	
	<input checked="" type="checkbox"/> Windows 8.1 Enterprise English Version 32/64Bit	
ATX Power Supply	Delta / GPS-550GB / 550W / ATX	
	be quiet Straight Power E7 Golden 550W	
<b>Chipset Information</b>		
North Bridge	Intel Haswell	
South Bridge	Intel® H81 Express Chipset	
Super IO Chipset	Fintek F81866D (RS 232 COM1~6 & others) Fintek F81216HD (RS232-COM7~10)	
Audio Chipset	Realtek® ALC887	
Ethernet Chipset	Realtek RTL8111G Gigabit Ethernet	

## Summary Table of contents:

1. Hardware Compatibility.....	8
1.1. CPU Compatibility Test .....	8
1.2. Memory Compatibility Test.....	8
1.3. SATA Compatibility Test .....	8
1.5. Power Supply Compatibility Test.....	9
1.6. Monitor Compatibility Test .....	9
2. Basic Function Test.....	10
2.1. Video Function Test .....	10
2.2. Audio Function Test .....	11
2.3. LAN Function Test .....	11
2.4. COM Ports Test.....	13
2.5. RS-422 / RS-485 Test.....	14
2.7. Digital I/O Test.....	14
2.8. USB Port Integration Test.....	14
2.13. Jumper and Connector Function Test.....	14
3. Expansion card and Application Test .....	16
3.1. Expansion Slot Compatibility Test .....	16
3.2. Expansion Card Integration Test .....	16
4. Power Consumption Test .....	17
4.1. Power Consumption.....	17
4.2. PC Health Status .....	18
4.4. CMOS Battery Test .....	18
5. Time Accuracy Test.....	19
5.1. System Clock & RTC Clock Test.....	19
5.2. Booting Timer Test .....	19
5.3. Watchdog Timer Test .....	19
6. O.S. Compatibility Test .....	20
6.1. English Ubuntu 14.04 Kernel 3.13.0-24-generic .....	20
6.2. Windows 7 Ultimate English Version 32/64Bit .....	21
6.3. Windows 8.1 Enterprise English Version 32/64Bit .....	22
7. BIOS Function Test .....	23
7.1. Advanced Test .....	23
7.2. Chipset Test.....	24
7.3. Boot Test .....	24
7.4. CMOS Backup / Clear CMOS Test .....	25
7.5. AAEON Tag Check Utility.....	25
7.6. Supervisor / User Password Test .....	25
7.7. Hi-safe Test.....	25
7.9. Negative Test.....	26
8. Performance Test .....	27
8.1. System Performance Test.....	27
8.2. Storage Performance Test.....	28
9. Stability test.....	29
9.1. Run In Test.....	29
9.2. Reboot Test .....	30
9.3. ACPI G3 Cold Boot Test .....	31
9.4. ACPI S5 Cold Boot Test.....	31

# 1. Hardware Compatibility

## 1.1. CPU Compatibility Test

CPU Information (Information and frequency should show correct value)	Result			Note
	Pass	Fail	N/A	
Intel® Core™ i7-4770K Processor 3.40 GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i7-4790S Processor 3.20 GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i7-4770 Processor 3.40 GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.2. Memory Compatibility Test

Memory Information (a. Information and frequency should show correct value. b. Memtest result should not error or halt)	AAEON P/N	Result			Note
		Pass	Fail	N/A	
<b>DDR3L Long-DIMM</b>					
DSL DDR3L 1066 4GB ProMOS V73C8G04808RAJJ11	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Single side.
Innodisk DDR3L 1333 4GB M3U0-4GSSBLN9 SEC K4B4G0846D	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Single side.
Transcend DDR3L 1600 8GB SEC K4B4G0846Q	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>DDR3 Long-DIMM</b>					
Transcend TS256MLK64V3U DDR3 1333 2GB SEC K4B1G0846G	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1333 4GB SEC K4B2G0846C	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1600 8GB Hynix H5TC4G83AFR	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1600 8GB SEC K4B4G0846B	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1600 8GB ELPIDA J4208BBBG	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.3. SATA Compatibility Test

### 1.3.1 Onboard SATA (IDE / AHCI) Test

SATA Device Information (Information and size should show correct value with IDE and AHCI mode)		AAEON P/N	Result			Note
			Pass	Fail	N/A	
SATAII	TOSHIBA MK1665GSX / 160GB / 5400 RPM / 2.5" SATA HDD / SATA 1.5Gb/s	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAII	TOSHIBA MK1676GSX / 160GB / 5400 RPM / 2.5" SATA HDD / SATA 1.5Gb/s	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	Seagate ST9160412AS / 7200 RPM / 16MB Cache / SATA 3.0Gb/s 2.5" SATA HDD	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	WDC WD5000LPVX / SATAIII 2.5" SATA HDD / 500GB / 5400rpm	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Transcend TS32GSSD370 2.5".32GB.SATA III SSD MLC.	968C032G2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Transcend.TS64GSSD370 2.5".64GB. SATA III.SSD.MLC	968C64G003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



SSD	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.	968C128G0W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Intel® SSD 530 Series (120GB, 2.5in SATA 6Gb/s, 20nm, MLC)	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	OCZ / TRN100-25SAT3-240G 2.5" SATA 3 6Gb/s	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD	ASUS-BW-16D1HT	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.5. Power Supply Compatibility Test

Power Supply Information a. System boot to OS should work properly. b. System OS shutdown function should work properly.	Result			Note
	Pass	Fail	N/A	
SeaSonic SSR-450RM 450W 80plus Gold	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Must
FSP AS550 550W 80plus Gold	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler Master RS-750-AMAA-G1 750W 80plus Gold	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Delta / GPS-550GB / 550W / ATX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
be quiet Straight Power E7 Golden 550W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.6. Monitor Compatibility Test

Monitor Information a. Monitor should display under DOS and OS environment. b. Monitor should not appear ghost or ripples.	Result			Note
	Pass	Fail	N/A	
<b>VGA</b>				
LG Flatron E2260 / 1920*1080 / 22" monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Asus PA238Q / 1920*1080 / 23" monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BENQ BL2710 / WQHD 2560 x 1440 / 27" monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>DVI</b>				
Asus PA238Q / 1920*1080 / 23" monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Philips Brilliance 288P / 3840 x 2160 @ 60Hz / 28" monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BENQ BL2710 / WQHD 2560 x 1440 / 27" monitor	<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

Configuration													
CPU	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)												
Memory	Transcend / SEC K4B4G0846Q / DDR3L-1600 / 8GB * 2pcs												
SATA HDD	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.												
VGA	LG Flatron E2260 / 1920*1080 / 22" monitor												
DVI	BENQ BL2710 / WQHD 2560 x 1440 / 27" monitor												
	Asus PA238Q / 1920*1080 / 23" monitor												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	VGA			DVI			HDMI1/HDMI2			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
800X600	<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"/>	<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 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X720	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	
1280X800	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X960	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X1024	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1360X768	<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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1400X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	
1400X900	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1600X900	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1680X1050	<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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1920X1200	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2048X1152	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2560X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3840 X 2160	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
EDID check	<input 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

#### 2.1.2. Multi-Display Output Test

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	VGA + DVI-I(DVI)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	VGA + DVI-I(VGA)	<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. Boot up Without Display Test

Process step:

1. BIOS disable LVDS.
2. Power on without inserting any VGA/DVI/HDMI/DP connector until system reaches Windows desktop
3. Plug VGA connector into test machine while system reaches Windows then check Graphics driver and display.
4. Check VGA output Brightness is normal and it shows "Ghost Image" / "Flicker" or not
5. Repeat step2~4 for DVI / HDMI / DP testing.

Test item		Result			Note
		Pass	Fail	N/A	
Display should working normal in Windows Desktop	VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	







### 2.2. Audio Function Test

[ ] No Support

Function Test		Result			Note
		Pass	Fail	N/A	
L (Left) Channel		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMP (Left and Right)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AMP should mute when Audio jack plug in
CD_In		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Line In		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MICROPHONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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)										
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		Realtek RTL8111G Gigabit Ethernet					MAC Address		00-07-32-33-49-8E	
OnBoard LAN2		Realtek RTL8111G Gigabit Ethernet					MAC Address		00-07-32-33-49-8F	
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"/>	S3/S4/S5	

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"/>	
Access 1GB file. Download from ftp http://172.16.14.126/	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 2.3.2. Throughput Test

DUT Platform Information:

<input type="checkbox"/>	Fedora 15 Kernel 2.6.27
<input type="checkbox"/>	Cent 5.5 kernel
<input checked="" type="checkbox"/>	Ubunut14.04.1 Kerne3.13.0-32-generic

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

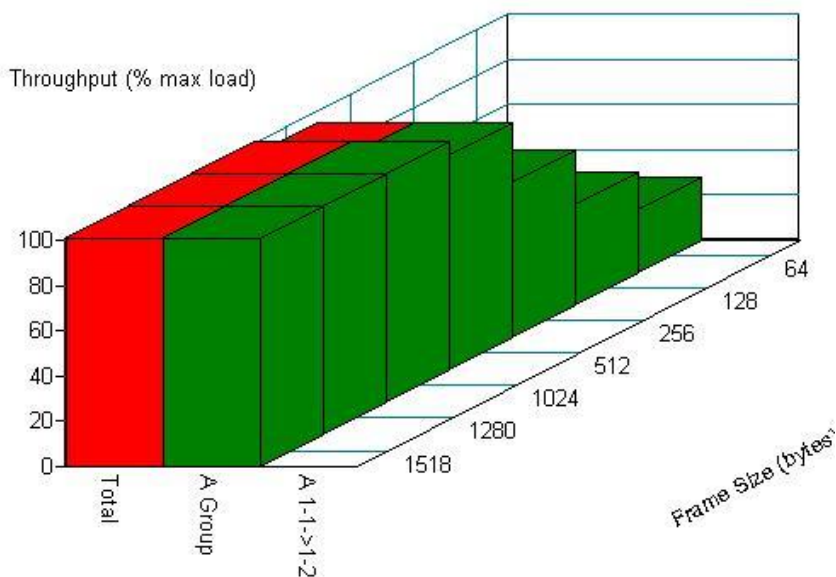
Graphics Media	Fedora Default setting
LAN	LAN1→ Realtek RTL-8168 Gigabit Ethernet driver 8.039.00-NAPI LAN2→ Realtek RTL-8168 Gigabit Ethernet driver 8.039.00-NAPI
Audio Driver	Fedora Default setting
CPU information	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)

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:

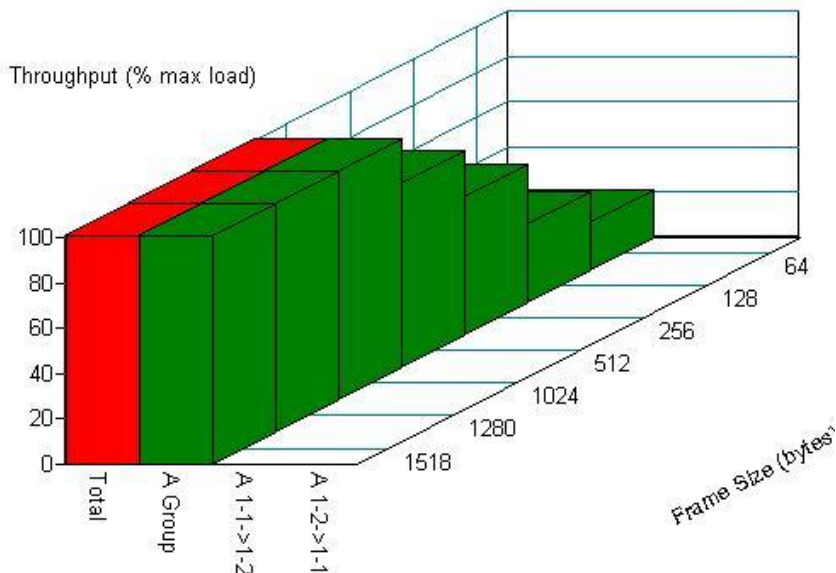
1.Half Direction (LAN1: Realtek RTL8111G Gigabit Ethernet → LAN2: Realtek RTL8111G Gigabit Ethernet)



Throughput vs Frame Size

<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	27.296875	44.3125	68.2890625	94.5859375	100	100	100
A Group	27.296875	44.3125	68.2890625	94.5859375	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Binary Direction (LAN1: Realtek RTL8111G Gigabit Ethernet → LAN2: Realtek RTL8111G Gigabit Ethernet)



Throughput vs Frame Size

<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	20.3359375	34.2578125	60.5546875	80.6640625	100	100	100
A Group	20.3359375	34.2578125	60.5546875	80.6640625	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2.4. COM Ports Test

Test Item	Result			Note
	Pass	Fail	N/A	
Serial Modem Dial Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Modem	Ring In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by Modem
	+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
	+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
Transmission Test <115200bps / 15M>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 2.5. 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

### 2.7. Digital I/O Test

Test item	Result			Note
	Pass	Fail	N/A	
DIO VCC +5V or +3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS mode

### 2.8. USB Port Integration Test

Item	USB Port	USB2.0 ports (under OS)			USB3.0 ports (under OS)			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD:	Transcend TS500GSJ25D3 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash:	Sandisk cruzer 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Kingston USB3.0 DT Ultimate G2 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PNY USB3.0 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD ROM:	BUFFALO BDXL-PC6U2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Defect No. W160101QEE04
USB keyboard:	Logitech Y-U0011	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB mouse:	Logitech M-U0003	<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"/>	
USB2.0 HUB:	Mini 4ports HUB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 2.13. Jumper and Connector Function Test

{ } No Support

Test item		Result			Note
		Pass	Fail	N/A	
COM_VSET jumper support 12V / 5V / RI		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear CMOS will clear CMOS date , time , setting , password.		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power button	One touch for power on or power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	> 4sec for power off when system halt.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Reset button, system reset under DOS or Windows.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power LED, active when system boot.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HDD LED, active when SATA/CF/CFast/mSATA access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Chassis Intruder (Case open function)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Defect No. W160101QEE12</b>
CPU FAN	full speed can meet FAN specification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA FAN	full speed can meet FAN specification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	AAFP, line out / microphone work properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 3. Expansion card and Application Test

#### 3.1. Expansion Slot Compatibility Test

Test point: Make sure expansion slots are compatible with expansion cards.

PCI-Express x1		Result			Note
		Pass	Fail	N/A	
Intel GIGABIT CT DESKTOP ADAPTER		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Broadcom BCM5721 (BCM95721A211) NetXtreme Gigabit Ethernet Adapter PCIe		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DigiFusion SATAIII 6G card PES311A		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DigiFusion Realtek RTL8111G Giga LAN		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SUNIX SATA1414 eSATA & SATAII x1Express card		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS select GEN1 <b>Defect No. W160101QEE08</b>
Sunix Marvell 88e8053 Gigabit LAN		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS select GEN1 <b>Defect No. W160101QEE08</b>
Uptech UTB242 USB3.0 4port		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Moxa 8-port PCI Express serial board (CP-118EL-A V1.0)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x16 <H81 support GEN2>		Result			Note
		Pass	Fail	N/A	
16x	ASUS GTX680-2GD5 GEN3 (ATI Chipset )PCI-Express x16 Graphics Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ASUS GT620-1GD3-L-V2 PCI-e2.0 (NVIDIA Chipset) PCI-Express x16 Graphics Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	EVGA Geforce GT740SC PCI-e x16 Graphics card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8x	ASUS Radeon R7 250 PCI-e x8 Graphics card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4x	Intel Gigabit ET2 Quad Port Svr Adptr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAID AAR-1430SA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PLEXTOR PX-AG128M6e PCI-e SSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	SilverStone SST-ECM20; NGFF M.2 SSD M-Key to PCIe 4X & B-Key to SATA 6G adapter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1x	Intel GIGABIT CT DESKTOP ADAPTER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WOL passed
	DigiFusion SATAIII 6G card PES311A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DigiFusion Realtek RTL8111G Giga LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	SUNIX SATA1414 eSATA & SATAII x1Express card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS select GEN1 <b>Defect No. W160101QEE09</b>
	Sunix Marvell 88e8053 Gigabit LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS select GEN1 <b>Defect No. W160101QEE09</b>
	Uptech UTB242 USB3.0 4port	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS need select "Detect Non-compliance device"
Bear Card	4X GEN2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	8X GEN2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	16X GEN2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 3.2. Expansion Card Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
1. Connect devices to all of expansion slots.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. No error during OS and driver installation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



## 4. Power Consumption Test

Configuration	
CPU	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)
Memory	Transcend DDR3 1600 8GB Hynix H5TC4G83AFR
Storage	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.
O.S	Windows8.1 Enterprise 64bit

### 4.1. Power Consumption

Test Equipment					
Equipment	AC/DC Digital Clamp Meter				
Manufacturer	KYORITSU				
Model name	2010				
Test Environment					
AT Power Model	N/A				
ATX Power Model	be quiet Straight Power E7 Golden 550W				
Power Supply	Current		P		Note
(Full Loading Mode) Windows 7 with Prime 95 Full Loading Test	(+12V)	1.28	A	15.36	Prime95 Version 259
	(+5V)	0.55		2.75	
	(+3.3V)	0.75		2.475	
	(-12V)	0.02		-0.24	
	(5VSB)	0.46		2.3	
Full Loading Total Watt	22.645 (W)				
S3 mode: Measure the current value when system in S3 mode of windows and without running any	(+12V)	0.11	A	1.32	W
	(+5V)	0.10		0.5	
	(+3.3V)	0.10		0.33	
	(-12V)	0.10		-1.2	
	(5VSB)	0.25		1.25	
Suspend Total Watt	2.2 (W)				
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12V)	0.66	A	7.92	W
	(+5V)	0.52		2.6	
	(+3.3V)	0.70		2.31	
	(-12V)	0.05		-0.6	
	(5VSB)	0.50		2.5	
Idle Total Watt	14.73 (W)				
S5 mode: Measure the current value when system in S5 mode of windows and without running any	(+12V)	0.10	A	1.2	W
	(+5V)	0.10		0.53	
	(+3.3V)	0.10		0.33	
	(-12V)	0.10		-1.2	
	(5VSB)	0.24		1.2	
Suspend Total Watt	2.06 (W)				

### 4.2. PC Health Status

Test Point:

Voltage deviation: ±5%.

Fan speed deviation: ±10%

CPU DTS Temp deviation: ±15°C

System Temp deviation: ±5°C

Voltage Monitoring Test	Result			BIOS	unit	Actual	unit	Note
	Pass	Fail	N/A					
CPU Temperature (DTS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	39	°C	38	°C	
Chassis Temperature1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38	°C	38	°C	
Chassis Temperature2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36	°C	36	°C	
CPU FAN speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2824	RPM	4500	RPM	
Chassis Fan1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4580	RPM	4500	RPM	
Chassis Fan2 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4580	RPM	4500	RPM	
(+) Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.752	V	1.74	V	
(+) 5VSB_ATX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.045	V	5.0	V	
(+) 5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.087	V	5.07	V	
(+) 12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.232	V	12.17	V	
(+) 3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.360	V	3.34	V	
(+) 3VSB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.424	V	3.4	V	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.168	V	3.18	V	

### 4.4. CMOS Battery Test

Test Point: Calculated result should be > 5 years.

Battery: CR2032

Capacity 225mA

Check item	Measured Voltage		Measured Current		Calculate Result		Result			Note
	Pass	Fail	N/A	Pass	Fail	N/A				
Battery leakage 1. Voltage should be >3V. 2. Calculated result should be > 5 years.	3.2	V	2.0	uA	12.8	years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Calculate result=225mA/measured current / 365days/24hours

## 5. Time Accuracy Test

### 5.1. System Clock & RTC Clock Test

Under Room Temperature:

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"/>	

### 5.2. Booting Timer Test

Installation	Actual	Note
System Booting Time	7.5 Sec	Press the Power Button till "Beep" Sound appears

### 5.3. Watchdog Timer Test

Use Function as below: Hi-Safexxxx

[ ] No Support.

Time-Out Interval	Criteria	Actual	Result			Note
			Pass	Fail	N/A	
10 sec	+/- 10%	11 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Defect No. W160101QEE10</b>
60 sec	+/- 10%	65 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	270 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature.

## 6. O.S. Compatibility Test

### 6.1. English Ubuntu 14.04 Kernel 3.13.0-24-generic

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	System default
LAN Driver	Realtek RTL-8168 Gigabit Ethernet driver 8.039.00-NAPI

Install OS to SATA HDD/ mSATA Card:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu14.04 kernel 3.13.0-24-generic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Display Function Test</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2048*1152
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1680*1050
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Audio Function Test</b>				
Play Audio Function Test	<input 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 & PS/2
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB & PS/2
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"/>	
USB 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>X Windows Application</b>				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
<b>Command Test On Text Mode: Attention Delay Phenomenon</b>				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
ls / clear .....; cd /dev / ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

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

32bit Driver Information	
Chipset Software	Intel Chipset Device Software 10.1.1 (06/03/2015)
Graphics Media	Intel HD Graphics 4600 10.18.14.4332 (11/20/2015)
Audio Driver	Realtek High Definition Audio 6.0.1.7765 (03/09/2016)
LAN Driver	Realtek PCIe GBE Family Controller 7.98.107.2016 (1/7/2016)
64bit Driver Information	
Chipset Software	Intel Chipset Device Software 10.1.1 (06/03/2015)
Graphics Media	Intel HD Graphics 4600 10.18.14.4332 (11/20/2015)
Audio Driver	Realtek High Definition Audio 6.0.1.7765 (03/09/2016)
LAN Driver	Realtek PCIe GBE Family Controller 7.98.107.2016 (1/7/2016)

### Install OS to SATA HDD/ mSATA:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Defect No. W160101QEE06 Defect No. W160101QEE07

### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA + DVI -- 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>				
Usable memory	32bit: 3.43GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	64bit: 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Removable Devices	USB2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	USB3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Safe to remove icon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>LAN Function Test</b>				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Audio Function Test</b>				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Start Menu</b>				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sleep (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"/>	

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

32bit Driver Information	
Chipset Software	Intel Chipset Device Software 10.1.1 (06/03/2015)
Graphics Media	Intel HD Graphics 4600 10.18.14.4332 (11/20/2015)
Audio Driver	Realtek High Definition Audio 6.0.1.7765 (03/09/2016)
LAN Driver	Realtek PCIe GBE Family Controller 8.44.107.2016 (1/7/2016)
64bit Driver Information	
Chipset Software	Intel Chipset Device Software 10.1.1 (06/03/2015)
Graphics Media	Intel HD Graphics 4600 10.18.14.4332 (11/20/2015)
Audio Driver	Realtek High Definition Audio 6.0.1.7765 (03/09/2016)
LAN Driver	Realtek PCIe GBE Family Controller 8.44.107.2016 (1/7/2016)

#### Install OS to SATA HDD/ mSATA Card:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows8.1 Enterprise 32bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
English Windows8.1 Enterprise 64bit UEFI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Please use 64bit for UEFI mode installation.

#### Test Results:

Test Item	Result			Note		
	Pass	Fail	N/A			
<b>Single Display</b>						
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
VGA + VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
VGA + DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<b>Boot – Windows8.1 Enterprise Advanced Options Menu</b>						
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. msconfig 2. safe boot.		
<b>Basic Function Test</b>						
Usable memory	32bit	3.43GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	64bit	8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 Removable Devices	USB2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	USB3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Safe to remove icon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<b>LAN Function Test</b>						
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<b>Audio Function Test</b>						
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<b>Start Menu</b>						
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sleep (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Defect No. W160101QEE05		
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

## 7. BIOS Function Test

Configuration	
CPU	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)
Memory	Transcend DDR3 1600 8GB Hynix H5TC4G83AFR
Storage	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.
O.S	Windows 8.1 Enterprise 64bit

Test Point:  
Confirm BIOS control items are working correctly.

### 7.1. Advanced Test

Test Item		Result			Note
		Pass	Fail	N/A	
ACPI settings	ACPI Sleeps State (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU configuration	Hyper-threading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Intwl Virtualization Technology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dynamic Digital IO	DIO Port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
	DIO Port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
	DIO Port 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
	DIO Port 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
	DIO Port 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
	DIO Port 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
	DIO Port 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
	DIO Port 8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output
	Output Level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High / Low
SATA configuration	SATA Controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	SATA Mode Selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Port 6G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Port 3G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
USB configuration	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
F81866 Super IO Configuration	Serial port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RS232/422/485	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F81216 Super IO	Serial port 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Configuration	Serial port 3		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial port 4		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Smart FAN	CPU_FAN1	Manual RPM mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2000: 2013 rpm
		Manual duty mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100: 4587 rpm ; 50: 2487 rpm: 1: 1174 rpm
		Auto rpm mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Auto Duty-cycle mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	CHA_FAN1	Manual RPM mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2000: 3211 rpm
		Manual duty mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100: 4559 rpm ; 50: 4000 rpm; 0: 3211 rpm
		Auto rpm mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Auto Duty-cycle mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	CHA_FAN2	Manual RPM mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2000: 4132rpm
		Manual duty mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100: 3225 rpm ; 50: 4000 rpm; 0:4587 rpm
		Auto rpm mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Auto Duty-cycle mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
S5 RTC wake setting	Wake system with fixed time		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Wake system with Dynamic time		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 7.2. Chipset Test

Test Item		Result			Note	
		Pass	Fail	N/A		
PCH-IO Configuration	Power Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Resume on PCIe	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Resume on Ring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Azalia HD Audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Auto / Enable/Disable	
System Agent (SA) Configuration	Primary IGFX Boot Display	VBIOS Default	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PEG>IGFX
		CRT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		DVI-I (DVI)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		DVI-I (VGA)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 7.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch RTL8111G PXE OpROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From CDROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB Floppy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB CD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



Boot from LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 7.4. CMOS Backup / Clear CMOS Test

Test Item (Following item should work properly)	Result			Note
	Pass	Fail	N/A	
CMOS Backup	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date and time
Clear CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date

### 7.5. AAEON Tag Check Utility

Test Item (Following item should work properly)	Result			Note
	Pass	Fail	N/A	
Check AAEON BIOS OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AONCHECK.EXE

### 7.6. Supervisor / User Password Test

Test Item (Following item should work properly)	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"/>	

### 7.7. Hi-safe Test

Test Item (Following item should work properly)	Result			Note	
	Pass	Fail	N/A		
Version(2016.06.03)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Defect No. W160101QEE10</b>	
System Information	CPU Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Model Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support single DIMM
H/W Monitor	Info	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO	DIO1~4 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO1~4 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO5~8 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO5~8 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WatchDog	10sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 11 sec
	1min	<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 270sec
	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,A4h
	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"/>	CPU, SYS, SYS2
	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"/>	

## 7.9. Negative Test

### 7.9.1 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"/>	

### 7.9.2 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, USB ports, HDMI/DP audio can work properly.	RS232/422/485	<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"/>	
	USB ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DP/HDMI audio	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

### 7.9.3 UEFI Mode Negative Test

Methods	Result			Note
	Pass	Fail	N/A	
1. Install Windows with UEFI mode. 2. Clear CMOS. 3. Confirm BIOS\Boot device was not loss "Windows boot manager" and should boot into Windows properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 8. Performance Test

Configuration	
CPU	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)
Memory	Transcend DDR3 1600 8GB Hynix H5TC4G83AFR
Storage	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.
O.S	Windows 8.1 Enterprise 64bit

### 8.1. System Performance Test

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

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark 8 _v2.3.293 (Creative) ( Run Conventional)</b>			<b>Windows 8.1 (64bit)</b>
PCMarks	3309		
Web Browsing-Jungle Pin	0.312 s		
Web Browsing-Amazonia	0.135 s		
Video Group Chat v2- Video Group Chat playback1 v2	30.0 fps		
Video Group Chat v2- Video Group Chat playback2 v2	30.0 fps		
Video Group Chat v2- Video Group Chat playback3 v2	30.0 fps		
Video Group Chat v2- Video Group Chat encoding v2	54.0 ms		
Photo Editing v2	0.430 s		
Batch Photo Editing v2	31.2 s		
Video Editing 1 v2	10.7 s		
Video Editing 2 v2	126.6 s		
Mainstream Gaming part 1	8.4 FPS		
Mainstream Gaming part 2	4.0 FPS		
Video To Go part 1	5.7 s		
Video To Go part 2	8.1 s		
Music To Go	9.75 s		
Benchmark duration	47min 26s		

Testing Software	Scope		Note
	AAEON	Ref.	
<b>3Dmark2006 v121</b>			
3Dmark Score	8891	-	
SM2.0 Score	2951	-	
HDR/SM3.0 Score	3526	-	
CPU Score	9030	-	
Benchmark (B)	-		
Average Efficiency	-		
<b>3Dmark11 Professional Edition _ v1.05 Performance 1280*720 (Default)</b>			<b>Windows 8.1 (64bit)</b>
3Dmark 11Score	P1531		
Graphics Score	1320		
Physics Score	8542		
Combined Score	1489		

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Performance Test 8.0</b>			
PassMark Rating	2692	-	
CPU Mark	7680	-	
2D Graphics Mark	726	-	
3D Graphics Mark	699	-	
Memory Mark	1762	-	
Disk Mark	2900	-	
CD Mark		-	

## 8.2. Storage Performance Test

SATA Performance				
SATA SSD	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.			
CPU	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)			
Memory	Transcend DDR3 1600 8GB Hynix H5TC4G83AFR			
OS	Windows 8.1 Enterprise 64bit			
Item	Comment / (unit)	Software	Score	Note
SATA6G_1	Maximum Read	ATTO Disk Benchmark	221.8 MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write	ATTO Disk Benchmark	39.4 MB/s	
SATA6G_2	Maximum Read	ATTO Disk Benchmark	223.2 MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write	ATTO Disk Benchmark	39.7 MB/s	
SATA3G_1	Maximum Read	ATTO Disk Benchmark	222.3 MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write	ATTO Disk Benchmark	39.7 MB/s	
SATA3G_2	Maximum Read	ATTO Disk Benchmark	222.2 MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write	ATTO Disk Benchmark	41.0 MB/s	

USB3.0/2.0 Performance				
USB Flash	SanDisk CZ80 Extreme / 64GB USB3.0			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB2.0_1	Maximum Read	ATTO Disk Benchmark	41.1 MB/s	
	Maximum Write	ATTO Disk Benchmark	39.0 MB/s	
USB2.0_2	Maximum Read	ATTO Disk Benchmark	41.4 MB/s	
	Maximum Write	ATTO Disk Benchmark	38.9 MB/s	
USB2.0_3	Maximum Read	ATTO Disk Benchmark	41.2 MB/s	
	Maximum Write	ATTO Disk Benchmark	38.7 MB/s	
USB2.0_4	Maximum Read	ATTO Disk Benchmark	41.1 MB/s	
	Maximum Write	ATTO Disk Benchmark	39.3 MB/s	
USB2.0_5	Maximum Read	ATTO Disk Benchmark	41.2 MB/s	
	Maximum Write	ATTO Disk Benchmark	38.7 MB/s	
USB2.0_6	Maximum Read	ATTO Disk Benchmark	41.2 MB/s	
	Maximum Write	ATTO Disk Benchmark	38.6 MB/s	

USB2.0_7	Maximum Read	ATTO Disk Benchmark	41.2 MB/s	
	Maximum Write	ATTO Disk Benchmark	39.1 MB/s	
USB2.0_8	Maximum Read	ATTO Disk Benchmark	41.3 MB/s	
	Maximum Write	ATTO Disk Benchmark	38.6 MB/s	
USB3.0_1	Maximum Read	ATTO Disk Benchmark	255.0 MB/s	
	Maximum Write	ATTO Disk Benchmark	162.3 MB/s	
USB3.0_2	Maximum Read	ATTO Disk Benchmark	255.6 MB/s	
	Maximum Write	ATTO Disk Benchmark	163.6 MB/s	
USB3.0_3	Maximum Read	ATTO Disk Benchmark	252.0 MB/s	
	Maximum Write	ATTO Disk Benchmark	170.9 MB/s	
USB3.0_4	Maximum Read	ATTO Disk Benchmark	253.2MB/s	
	Maximum Write	ATTO Disk Benchmark	168.4MB/s	
USB3.0_5	Maximum Read	ATTO Disk Benchmark	253.2MB/s	
	Maximum Write	ATTO Disk Benchmark	172.8MB/s	
USB3.0_6	Maximum Read	ATTO Disk Benchmark	252.6MB/s	
	Maximum Write	ATTO Disk Benchmark	163.8MB/s	

## 9. Stability test

Configuration

CPU	Intel® Core™ i7-4770K Processor(8M Cache, up to 3.90 GHz)
Memory	Transcend DDR3 1600 8GB Hynix H5TC4G83AFR
Storage	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.
O.S	Windows 8.1 Enterprise 64bit

### 9.1. Run Burn In Test

Under Room Temperature:

OS: Windows 8.1 Enterprise English 64bit

Test Item	Result			Note	
	Pass	Fail	N/A		
Burn In Test V8.1( 1013 ) Duty: 100 Time: over 12 hours  <System should not error or hang during testing.>	CPU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	COM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Video	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sound	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Network <Advanced>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	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.

### 9.2. Reboot Test

Under Room Temperature:

OS: Windows 8.1 Enterprise English 64bit

Test Tool: Passmark rebooter.exe

Test item	Result			Note
	Pass	Fail	N/A	
Reboot test for 500 cycles <System should not error or hang during testing.>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Defect No. W160101QEE02</b> <b>Defect No. W160101QEE13</b>

### 9.3. ACPI G3 Cold Boot Test

Under Room Temperature:

OS: DOS b

Test Point:

1. Make sure system boot up is stable.
2. Make sure boot function support AC power restored in short time.

Test item	Result			Note
	Pass	Fail	N/A	
G3(AC loss) cold boot over 1000 cycles Setting: Power on- 40sec ; Power off-- 20sec. <loss rate: 0 /1000 times>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> BIOS select " power on" or <input type="checkbox"/> Jumper setting auto power button
G3(AC loss) cold boot over 20 cycles Setting: Power on- 40sec ; Power off- 5sec. <loss rate: 0 /20 times>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	H/W [auto power button] need to set enable..

### 9.4. ACPI S5 Cold Boot Test

Under room temperature:

OS: Windows 8.1 Enterprise English 64bit

Test item	Result			Note
	Pass	Fail	N/A	
S5(standby power) cold boot over 500 cycles < System should complete 500 cycles without any error or hang.>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. "PassMark Rebooter" set 500 cycles / delay 30sec and enable "auto load Rebooter at startup". 2. On/off fixture cycle time to set 150sec. <b>Defect No. W160101QEE03</b>