

Report NO:17E010003

# EPIC-KBS7

## Intel 6 Skylake / Kabylake S Series EPIC Board

### Board / System Level Product P5

### Compatibility Test Report

Summary	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass with Deviation (Comment: _ Skylake S -> Target completed in Dec 2016 Kabylake S -> Start to prepare from P3 _)			
	Test Results Category			
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date

2017-04-26

QE Manager

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**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. 10. Add DDR4 SO-DIMM. 11. Update Linux to Ubuntu16.04 12. Add Stability Test \ Memory test.	
10/21/2016	C2	1. Remove Smartbits test item. 2. Update chapter7.2 \ LVDS type support. 3. Add chapter9.6. System stability after S3 / S4 / S5 cycles	

**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	EPIC Board (4")	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Skylake S -> Target completed in Dec 2016 i3-6100TE (2C) 2.7 GHz (TDP: 35W) i5-6500TE (4C) 2.3 GHz, up to 3.3 GHz (TDP: 35W) i7-6700TE (4C) 2.4 GHz, up to 3.4 GHz (TDP: 35W) Celeron/Xeon SKU: Depends on customer's request Kabylake S -> Start to prepare from P3 Intel roadmap: Jan 2017 launched i5 QS QKHG (4C) (TDP: 35W) i7 QS QKHE (4C) (TDP: 35W) *HW design is the same, BIOS should be backward compatible.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Skylake Series
System Memory	DDR4 (Non-ECC), 2133MHz, Up to 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	H110 (6W)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	UEFI (Support Legacy BIOS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN	Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog Timer	255 Levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	LAN x 2 (Real IO) (i211*2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Video Output	CRT/HDMI (Option: LVDS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	ALC892, no Amp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Port	USB3.0 x 4 (Real IO) USB2.0 x 2 (Internal)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	COM x 4 (Internal) (COM2: RS232/422/485, without 5V/12V/RING feature)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD Interface	SATAIII x 2, SATA Power (5V)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	mSATA x 1 (Default)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Slot	Mini-card x 1 (Share with mSATA by BOM)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FAN	4 pin x 1 (Including FAN_TAC/ FAN_CTL)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO	8bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Requirement	+12V (Option: Wide Voltage 9-24V)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Supply Type	AT/ ATX	<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"/>	
	Windows 8.1 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	ECD	
PCB Model / Version	EPIC-SKS7 A0.2	
BIOS / Version	EPIC-SKS7 R1.0(ESS7AM10)(03/29/2017)	
Driver folder	20160920	
CPU Type	Intel Core i3-6100TE 2.70GHz Intel Core i5-6500TE 2.30GHz Intel Core i7-6700TE 2.40GHz	Skylake Series
Memory Type	Crucial DDR4-2133 16GB(Micron 6BA77D9SRJ)	
SATA HDD	HGST 2.5" 320GB(HTE725032A7E630)	
USB DVD-ROM	Lite-on 8X(eNAU808)	
LCD Monitor	EIZO 23.5"(EV2335W)	
LVDS	AUO M215HW03 V1 / 21" / 1920*1080 / 48bit	
Operating System	<input checked="" type="checkbox"/> English Ubuntu16.04 Kernel 4.4.0-21-generic	
	<input checked="" type="checkbox"/> Windows 7 Ultimate SP1 32/64Bit	
	<input checked="" type="checkbox"/> Windows 8.1 Enterprise English Version 32/64Bit	
Power Supply	ATX Power Supply : Seventeam 500W(ST-500P-CG)	
<b>Chipset Information</b>		
PCH Bridge	Intel H110	
Super IO Chipset	Fintek F81866D	
Audio Chipset	Realtek ALC892	
Ethernet Chipset	Intel I211 Gigabit Network	

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# 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 i7-6700TE 2.40GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel Core i5-6500TE 2.30GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel Core i3-6100TE 2.70GHz	<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. System should boot up and into OS normally.)	AAEON P/N	Result			Note
		Pass	Fail	N/A	
<b>DDR4 SO-DIMM</b>					
Innodisk DDR4 2133 4GB M4S0-4GSSNCRG-26 SEC K4A4G085WD	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR4 2133 16GB SEC K4A8G085WB	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR4 2133 8GB TS9AAESD00AA SEC K4A4G085WD	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR4 2133 4GB TS8AAESD00AA SEC K4A4G085WD	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR4 2400 16GB CL17 D4SS1G082SH24A-A SEC K4A8G085WB	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR4-2133 8GB (SEC K4A4G085WD)	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR4-2133 4GB (SEC K4A4G085WD)	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Crucial DDR4-2133 16GB(6BA77 D9SRJ)	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	
<b>(Test with 80~100cm SATA cable , typical #1709070800)</b>					
SATAIII Seagate 2.5" 500GB (ST500LT012)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII HGST 2.5" 320GB(HTE725032A7E630)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII WD 2.5" 320GB (WD3200BEVT)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII TOSHIBA 2.5" 500GB (MK5076GSX)		<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	2.5" .16GB 3MG2-P 15nm.SATA III MLC SSD.Innodisk MLC .0°C ~ +70°C.DGS25-16GD81BC3SC-26	AP-SS968C016 G3K	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	(TF)2.5".32GB 3MG2-P 15nm.SATA SSD MLC.0~70°C.HIGH IOPS.innodisk.DGS25-32GD81B C3DC-26	AP-SS968C032 G1P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	(TF)2.5".64GB.SATA MLC SSD .3MG2-P 15nm.0~70°C.HIGH IOPS.innodisk.DGS25-64GD81B C3QC-26	968C064G39	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	2.5' MLC SSD 128GB 3MG2-P 15nm.SATA 0°C~+70°C.InnoDisk.DGS25-A28 D81BC3QC-26	AP-SS968C128 G1P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	2.5".256GB.SATA MLC SSD 3MG2-P 15nm.0~70°C.HIGH IOPS.innodisk.DGS25-B56D81BC 3QC-26	AP-SS968C256 G16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 1.4. Flash Card Compatibility Test

m-SATA Information (a. Information and size should show correct value (b. R/W and HDD LED should work properly)	AAEON P/N	Result			Note
		Pass	Fail	N/A	
<b>Half Size</b>					
Transcend.TS32GMSM360 half size 32GB	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend.TS64GMSM360I half size 64GB	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend.TS128GMSM360I half size 128GB	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk half size mSATA.8GB 3ME3	AP-SS968C008 G1L	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk half size mSATA.16GB 3ME3	AP-SS968C016 G3M	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk half size mSATA.32GB 3ME3	AP-SS968C032 G3P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk half size mSATA.64GB 3ME3	AP-SS968C064 G3D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk half size mSATA.128GB 3ME3	AP-SS968C128 G1T	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Full Size</b>					
Transcend.TS16GMSA370 Full-size mSATA.16GB.MLC.	AP-SS968C016 G2Z	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend.TS32GMSA370 Full-size mSATA.32GB.MLC.	968C032G32	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend.TS64GMSA370 (TF)Full-size.64GB.mSATA.MLC	968C064G2K	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.8GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.16GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.32GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.64GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.128GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.5. 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	
VGA				
CHIMEI 22"(22SH-L)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	. (at least 3 monitors)
EIZO 23.5"(EV2335W)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BenQ 17"(Q7T4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI (Test with 5M HDMI cable / Bravo-u)				
*Samsung LU28D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Must test monitor (Tested 3 monitors at least)
CHIMEI 22"(22SH-L)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DELL 23"(UZ2315Hf)	<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 i7-6700TE 2.40GHz												
Memory	Crucial DDR4-2133 16GB(Micron 6BA77D9SRJ)												
SATA HDD	HGST 2.5" 320GB(HTE725032A7E630)												
VGA	EIZO 23.5"(EV2335W)												
HDMI	CHIMEI 22"(22SH-L)												
Operating system	Windows 8.1 Enterprise 64bit												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	VGA			HDMI			LVDS						Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1400X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1440X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1680X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1920X1080	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EDID check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rotation(0/90/180/270)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DOS Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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

#### 2.1.2. Multi-Display Output Test

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

#### 2.1.3. 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"/>	
	HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 2.1.4. LCD Panel Test

LVDS Panel Model (LVDS display should full screen and no flicker)			Result			Note
			Pass	Fail	N/A	
18bit	800x600	AUO G084SN05 V.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard
	1024x768	AUO LED backlight G121XN01-V0 1024*768 18bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IPC_Bu and standard
	1280x768	Toshiba /12.1"/1280 x 768 x 18bit (16:9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard
24bit	1366x768	AUO G185XW01 V0 / 18" / 1366x768 / 24bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard
48bit	1920x1080	AUO M215HW03 V1 / 21"/ 1920*1080 / 48bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IPC_BU and standard







## 2.2. Audio Function Test

[ ] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MICROPHONE	<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 Ethernet					MAC Address		00-0B-51-40-00-02	
OnBoard LAN2		Intel I211 Gigabit Ethernet					MAC Address		00-0B-51-40-00-03	
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://xxx.xx.14.125/			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

## 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"/>	COM1/2/3/4
Serial Modem Ring In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Modem COM1/2/3/4
Transmission Test <115200bps / 15M>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM1/2/3/4

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

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM2	<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"/>	<ol style="list-style-type: none"> <li>1. The communication between the RS-422 port of two boards is linked by one 1.2km cable on Windows Terminal.</li> <li>2. Confirm RS422 can work properly from G3 status</li> <li>3. Test baud rate is 115200bps</li> </ol>
RS-485 for COM2	<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"/>	<ol style="list-style-type: none"> <li>1. The communication between the RS-485 port of two boards is linked by one 1.2km cable on Windows Terminal</li> <li>2. Confirm RS485 can work properly from G3 status</li> <li>3. Test baud rate is 115200bps</li> </ol>

### 2.6. 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"/>	

### 2.7. 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash:	Transcend JetFlash 790	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Transcend JetFlash 810	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD ROM:	Lite-on eNAU808	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB keyboard:	Logitech K200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB mouse:	Logitech M-U0026	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB FDD:	HP FD-05PUB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB3.0 HUB:	Transcend USB 3.0 4 port HUB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 2.8. Jumper and Connector Function Test

[ ] No Support

Test item	Result			Note
	Pass	Fail	N/A	
CPU1 CPU Socket	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIMM1 RAM Socket1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BZ1 PC Buzzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
U18 BOIS Socket	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
JP4 LVDS power Select CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
JP5 Backlight power select CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
JP6 Clean C-MOS PIN Header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

JP7 AT/ATX CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
JP9 Front Panel PIN Header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN1 Backlight CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN2 2 PIN DC IN connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN3 LVDS CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN4 3 PIN SB Power IN connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN5 AUDIO connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN6 RTC Battery CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN7 SATA Power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN8 USB2.0 CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN9 USB2.0 CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN10 SATA CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN11 Mini-card CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN12 SIM card CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN13 SATA CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN14 External FAN PIN Heater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN15 LPC connector for debug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN16 RS232 CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN17 RS232/422/485 CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN18 RS232 CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN19 Giga LAN RJ45 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN20 Giga LAN RJ45 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN21 USB 3.0 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN22 USB 3.0 Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN23 HDMI CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN24 DIO CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN25 VGA CONN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN26 RS232 CONN	<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.

Mini PCI Express Card		Result			Note
		Pass	Fail	N/A	
Full size	Quectel UC20 3G Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If M/B support SIM slot
Full size	Sierra Wireless AirPrime MC7304 Qualcomm 4G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If M/B support SIM slot 1. Ping 168.95.1.1 for 1000 clcyes, loss<2 times. 2. Download 1GB file from website.
Full size	AAEON PER-C11L Gigabit LAN card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Full size	AAEON PER-C41C-A10 4 port RS-232	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Half size	AzureWave AW-NB159H 802.11b/g/n RTL8723BE combo module	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	v
Half size	AzureWave AW-CB161H 802.11a/b/g/n/ac(PCI-e Wireless+ USB Bluetooth) Realtek RTL8821AE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	v
Half size	Bointec DPE909-AA WIFI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	v

#### 3.2. Expansion Card Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
1. Connect devices to all of expansion slots. 2. No error during OS and driver installation 3. All of expansion cards should work normal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 4. Power Consumption Test

Configuration	
CPU	Intel Core i7-6700TE 2.40GHz
Memory	Crucial DDR4-2133 16GB(Micron 6BA77D9SRJ)
Storage	HGST 2.5" 320GB(HTE725032A7E630)
O.S	Windows 8.1 Enterprise 64Bit

### 4.1. Power Consumption

Test Equipment						
Equipment	DC Power Supply					
Manufacturer	Chroma					
Model name	62012P-600-8					
Test Environment						
ATX Power Model	Seventeam 500W(ST-500P-CG)					
Power Supply		Current		P		Note
(Full Loading Mode) Windows 7 with Prime 95 Full Loading Test	(+12V)	3.50	A	49.8	W	Prime95 Version 289
Full Loading Total Watt	49.8(W)					
S3 mode: Measure the current value when system in S3 mode of windows and without running any	(+12V)	0.21	A	2.76	W	
Suspend Total Watt	2.76(W)					
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12V)	1.41	A	13.92	W	
Idle Total Watt	13.92(W)					
S5 mode: Measure the current value when system in S5 mode of windows and without running any	(+12V)	0.19	A	2.64	W	Erp Disable
Suspend Total Watt	2.64(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 (V)	Actual (V)	Note
	Pass	Fail	N/A			
Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.976	0.97	
V12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.056	12.01	
V5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.003	5.05	
Vdimm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.216	1.21	
Fan1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4225 RPM	4203 RPM	
System temperature1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29 ° c	22.4 ° c	
System temperature2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28 ° c	23 ° c	

### 4.3. Wide Voltage Test

#### 4.3.1. Wide Voltage Test

Test Point:

Test voltage range is follow specification.

Test Environment (a. System should boot properly (b. System wasn't halt in following status. )	DC Power (9V~24V)	Current		Note
Windows 8.1 with Prime 95 Full Loading Test	(+9V)	4.70	A	
	(+12V)	3.50	A	
	(+19V)	2.22	A	
	(+24V)	1.81	A	
Windows 8.1 Without running any Software	(+9V)	1.85	A	
	(+12V)	1.41	A	
	(+19V)	0.95	A	
	(+24V)	0.78	A	

#### 4.3.2. DC Adapter Compatibility Test

Test Point:

Confirm each adapter can be compatible with wide voltage design.

Adapter Information (a. System boot to OS should work properly.)			AAEON P/N	Result			Note
				Pass	Fail	N/A	
9V	MEAN WELL SE-100-9 100W		XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12V	FSP084-DIBAN2 84W		1255900841	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12V	FSP084-DMAA1 84W		1757908403	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19V	FSP120-ABAN2 120W		1255901202	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19V	FSP120-AAB 120W		1757912005	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24V	SINPRO MPU100-108 100W		XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 4.4. CMOS Battery Test

Test Point: Calculated result should be > 5 years.

Battery: CR2032

Capacity 225mAh

Check item	Measured Voltage		Measured Current		Calculate Result		Result			Note
							Pass	Fail	N/A	
Battery leakage 1. Voltage should be >3V. 2. Calculated result should be > 5 years.	3.02	V	2.2	uA	11	years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Calculate result=225mAh/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	13	Sec	Press the Power Button till "Beep" Sound appears

### 5.3. Watchdog Timer Test

Use Function as below: Hi-Safe20170126

[ ] 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"/>	
60 sec	+/- 10%	61	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	258	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature:

## 6. O.S. Compatibility Test

### 6.1. English Ubuntu16.04 Kernel 4.4.0-21-generic x86\_64

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	System default
LAN Driver	5.3.0-k

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu16.04 Kernel 4.4.0-21-generic x86_64	<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"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA + HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA + LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI + LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Play Audio Test
HDMI / DP audio function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Base Function Test</b>				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD-ROM Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<IDE / SATA / USB >
USB 3.0/2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>X Windows Application</b>				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
<b>Command Test On Text Mode: Attention Delay Phenomenon</b>				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
ls / clear .....; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

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

32bit Driver Information	
Chipset Software	Intel(R) Chipset Device Software 10.1.1 2015-06-03
Graphics Media	Standard VGA Graphics Adapter 6.1.7600.16385 6/21/2006
Audio Driver	High Definition Audio Device 6.1.7601.17514 11/19/2010 Realtek High Definition Audio 6.0.1.7541 6/18/2015
LAN Driver	Intel(R) I211 Gigabit Network Connection 12.11.97.0 3/11/2014 Intel(R) I211 Gigabit Network Connection #2 12.11.97.0 3/11/2014
64bit Driver Information	
Chipset Software	Intel(R) Chipset Device Software 10.1.1 2015-06-03
Graphics Media	Intel(R) HD Graphics 530 21.20.16.4565 12/10/2016
Audio Driver	Intel(R) Display Audio 6.16.0.3197 5/10/2016 Realtek High Definition Audio 6.0.1.7541 6/18/2015
LAN Driver	Intel(R) I211 Gigabit Network Connection 12.11.97.0 3/11/2014 Intel(R) I211 Gigabit Network Connection #2 12.11.97.0 3/11/2014

### Install OS to SATA HDD:

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

### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Multi display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VGA/HDMI
<b>Basic Function Test</b>				
Usable memory	32bit: 2.19GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Total: 16GB
	64bit: 16GB	<input checked="" 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"/>	Win7 64bit
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 2015-06-03
Graphics Media	Microsoft Basic Display Adapter 6.3.9600.16384 6/21/2006
Audio Driver	High Definition Audio Device 6.3.9600.16384 8/21/2013 Realtek High Definition Audio 6.0.1.7541 6/18/2015
LAN Driver	Intel(R) I211 Gigabit Network Connection 12.6.47.1 3/28/2013 Intel(R) I211 Gigabit Network Connection #2 12.6.47.1 3/28/2013
64bit Driver Information	
Chipset Software	Intel Chipset Device Software 10.1.1 2015-06-03
Graphics Media	Intel(R) HD Graphics 530 21.20.16.4565 12/10/2016
Audio Driver	Intel(R) Display Audio 10.22.1.97 12/1/2016 Realtek High Definition Audio 6.0.1.7541 6/18/2015
LAN Driver	Intel(R) I211 Gigabit Network Connection 12.11.97.0 3/11/2014 Intel(R) I211 Gigabit Network Connection #2 12.11.97.0 3/11/2014

#### Install OS to SATA HDD:

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"/>	

#### Test Results:

Test Item	Result			Note	
	Pass	Fail	N/A		
<b>Single Display</b>					
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Multi display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VGA/HDMI	
<b>Basic Function Test</b>					
Usable memory	32bit: 2.19GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total:16GB
	64bit: 16GB	<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"/>		

## 7. BIOS Function Test

Configuration	
CPU	Intel Core i7-6700TE 2.40GHz
Memory	Crucial DDR4-2133 16GB(Micron 6BA77D9SRJ)
Storage	HGST 2.5" 320GB(HTE725032A7E630)
O.S	Windows 8.1 Enterprise 64Bit

Test Point:

Confirm BIOS control items are working correctly.

### 7.1. Advanced Test

Test Item (Following item should work properly)		Result			Note	
		Pass	Fail	N/A		
* CPU configuration	Hyper-threading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Virtualization Technology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
* SATA configuration	SATA controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	AHCI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Super IO configuration	Serial port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Serial port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	RS232	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	RS422	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	RS485	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Serial port3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Serial port4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Smart FAN	CPU_FAN1	Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5084rpm
		Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~100 100: 5084rpm; 50: 4559rpm; 1: 0rpm
		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"/>	
USB configuration	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Dynamic Digital IO	DIO0~7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test under Dos and OS	
* Power Mode	ATX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	AT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
* Restore AC Power Loss	Always On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Always Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Last State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
* S5 RTC Wake up	Wake system with Dynamic time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Wake system with fixed time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

### 7.2. Chipset Test

Test Item (Following item should work properly)		Result			Note	
		Pass	Fail	N/A		
System Agent (SA) 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"/>	
	Boot Display	VBIOS Default	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		CRT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	*Memory Configuration		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LVDS	Enabled/Disabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Panel Type	640x480	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		800x480	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		800x600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1024x600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1024x768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1280x768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1280x800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1280x1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1366x768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1440x900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1600x1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1920x1080	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1920x1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Backlight Type	Normal/Inverted	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Backlight Level	0~100%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCH-IO Configuration	HD Audio		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Auto/Enabled/Disabled
	PCIe/mSATA Switch		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Mini-Card Gen Speed		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 7.3. Boot Test

Test Item (Following item should work properly)	Result			Note
	Pass	Fail	N/A	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch Intel I211 PXE OpROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From CD-ROM	<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"/>	
Disabled	<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, time, setting, password
Clear CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear date, time, setting, password

### 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"/>	
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### 7.7. Hi-safe Test

Test Item (Following item should work properly)	Result			Note	
	Pass	Fail	N/A		
Version(20170126)	<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"/>	
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 61sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 258sec
	Auto Reload	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SMBus	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CPU, SYS, SYS2
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Speed control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Off Speed TMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Full Speed TMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Backlight Controller	Brightness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 7.8. 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"/>	

#### 7.8.2 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HDMI audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.8.3 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 i7-6700TE 2.40GHz
Memory	Crucial DDR4-2133 16GB(Micron 6BA77D9SRJ)
Storage	HGST 2.5" 320GB(HTE725032A7E630)
O.S	Windows 8.1 Enterprise English Version 32/64Bit

### 8.1. System Performance Test

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

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark 8 (Creative)</b>			Windows 8.1 (64bit)
PCMarks	3743		PCMarks
Web Browsing-Jungle Pin	0.315s		
Web Browsing-Azononia	0.138s		
Video Group Chat v2- Video Group Chat playback1 v2	30.0fps		
Video Group Chat v2- Video Group Chat playback2 v2	30.0fps		
Video Group Chat v2- Video Group Chat playback3 v2	30.0fps		
Video Group Chat v2- Video Group Chat encoding v2	56.7ms		
Photo Editing v2	0.219s		
Batch Photo Editing v2	19.3s		
Video Editing 1 v2	12.7s		
Video Editing 2 v2	38.9s		
Mainstream Gaming part 1	9.5FPS		
Mainstream Gaming part 2	4.9FPS		
Video To Go part 1	9.8s		
Video To Go part 2	12.6s		
Music To Go	38.62s		
Benchmark duration	1h 1min 34s		

Testing Software	Scope		Note
	AAEON	Ref.	
<b>3DMark2006 v120</b>			
3DMark Score	7338	-	
SM2.0 Score	2616	-	
HDR/SM3.0 Score	2863	-	
CPU Score	4927	-	
Benchmark (B)		-	
Average Efficiency		-	

<b>3DMark11 Professional Edition</b>			
<b>Performance 1280*720 (Default)</b>			
3DMark 11 Score	P1626	-	
Graphics Score	1470	-	
Physics Score	4951	-	
Combined Score	1345	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Performance Test 8.0</b>			
PassMark Rating	1972.8	-	
CPU Mark	6424	-	
2D Graphics Mark	611	-	
3D Graphics Mark	927	-	
Memory Mark	1901	-	
Disk Mark	666	-	
CD Mark	-	-	

## 8.2. Storage Performance Test

SATA Performance				
SATA SSD	OCZ 120GB(Vector 150)			
CPU	Intel Core i7-6700TE 2.40GHz			
Memory	Transcend DDR4 2133 16GB SEC K4A8G085WB			
OS	Windows 8.1 Enterprise 64bit			
Item	Comment / (unit)	Software	Score	Note
SATAIII	Maximum Read	ATTO Disk Benchmark	556MB/s	SATAII 150~300MB SATAIII up 300M/B CN10
	Maximum Write	ATTO Disk Benchmark	444MB/s	
SATAIII	Maximum Read	ATTO Disk Benchmark	556MB/s	SATAII 150~300MB SATAIII up 300M/B CN13
	Maximum Write	ATTO Disk Benchmark	444MB/s	

USB3.0/2.0 Performance				
USB Flash	Transcend 64GB(JetFlash 790)			
Item	Comment / (unit)	Item	Comment / (unit)	Item
USB3.0	Maximum Read	ATTO Disk Benchmark	94MB/s	CN21_A
	Maximum Write	ATTO Disk Benchmark	78MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	97MB/s	CN21_B
	Maximum Write	ATTO Disk Benchmark	90MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	97MB/s	CN22_A
	Maximum Write	ATTO Disk Benchmark	90MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	97MB/s	CN22_B
	Maximum Write	ATTO Disk Benchmark	91MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	40MB/s	CN8
	Maximum Write	ATTO Disk Benchmark	28MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	40MB/s	CN9
	Maximum Write	ATTO Disk Benchmark	29MB/s	

mSATA Performance				
mSATA	Transcend 32GB(TS32GMSA370)			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
mSATA	Maximum Read	ATTO Disk Benchmark	223MB/s	

	Maximum Write	ATTO Disk Benchmark	40MB/s	
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## 9. Stability test

Configuration	
CPU	Intel Core i7-6700TE 2.40GHz
Memory	Crucial DDR4-2133 16GB(Micron 6BA77D9SRJ)
Storage	HGST 2.5" 320GB(HTE725032A7E630)
O.S	Windows 8.1 Enterprise English Version 32/64Bit

### 9.1. Run 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( 1015 above ) 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"/>	
	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 <Advanced>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB	2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.0		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note: COM PORT Speed Set to 115200.

### 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 <a. System should not error or hang during testing.> <b. Device manager should not loss any devices or yellow bang >	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 9.3. ACPI G3 Cold Boot Test

Under Room Temperature:

OS: DOS

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 checked="" 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.

### 9.5. Memory Test

Under room temperature:

OS: DOS

Tool: Memtest86+ V5.01 above

Memory information: Transcend DDR4 2133 16GB x 1 (SPEC max support size).

Test item	Result			Note
	Pass	Fail	N/A	
Memory Test for 3 loops. < Memtest result should not error or hang..>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remark: If system support UEFI mode only, the test tool is [Memtest86 Version 5.0 Experimental UEFI Beta]

### 9.6. System stability after S3 / S4 / S5 cycles

Under Room Temperature:

OS: Windows 8.1 Enterprise English 64bit

Test item	Criteria	Result			Note
		Pass	Fail	N/A	
System stability after S3 cycles <Perform S3 cycles 5 times>	1.SUT boots to OS successfully . 2. No yellow bang observed if all the drivers are installed 3.SUT does S3-resume cycles successfully without any issues	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System stability after S4 cycles <Perform S4 cycles 5 times>	1.SUT boots to OS successfully . 2. No yellow bang observed if all the drivers are installed 3.SUT does S4-resume cycles successfully without any issues	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System stability after S5 cycles <Perform S5 cycles 5 times>	1.SUT boots to OS successfully . 2. No yellow bang observed if all the drivers are installed 3.SUT does S5-resume cycles successfully without any issues	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	