

Report No: 17IP010018

IMBA-H110A

Board Level Product P5 Compatibility Test Report

Summary	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass with Deviation (Comment: Watchdog 10sec failed(Due to Super I/O limit to system reboot times about 12sec over test criteria)			
	Test Results Category			
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	QE Manager	Test Engineer
2017-12-11	KJ Wang	Mike Lee

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	
	C3	1. Modified PWB test item	

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		
CPU	Intel® 7th/ 6th Generation(Kaby Lake-S/ Skylake-S) Core™ i7/i5/i3/Pentium®/Celeron® 14nm LGA1151 Socket Processor, Max. 65W TDPs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
System Memory	2 x DIMM, DDR4 (2400*/2133/1867 MHz, max. 32GB) non-ECC, un-buffered memory *2400 MHz can only be reached when a Kaby Lake processor is used Dual channel memory architecture	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Chipset	Intel® H110 Express Chipset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Super I/O	NCT6791D+F81216HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Network	1 x Intel® PHY i219V Giga LAN 1 x Intel® i211AT Giga LAN, RJ45 x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
TPM	Nuvoton NPCT650ABBYX TPM2.0 onboard (option)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC (Colay ALC892/ALC886)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Expansion Slots	1 x PCIe 3.0/2.0[x16] Slot 1 x PCIe 2.0[x4] Slot (open edge) 4 x PCI 1 x M.2 M key (22 x 80mm) for SATA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
PC Health Monitoring	Temperature Monitor on CPU/Chassis Voltage Monitor on Vcore/5V/3.3V/12V Fan Monitor on CPU/Chassis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
WatchDog Timer	1~255 step by software program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Smart Fan Control	CPU Fan / Chassis Fan x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Wake On LAN / PXE	Yes (WOL / PXE)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power State	S3, S4, S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Graphics Chipset	Intel® Graphics Media Accelerator VGA support via RTD2168	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Graphics Multi Display	VGA+HDMI, VGA+DP, HDMI+DP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
VGA	Up to 1920 x 1200 @60Hz (via RTD2168)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
HDMI	Up to 4096 x 2304 @24Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
DP	Up to 4096 x 2304 @60Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Back I/O Placement	USB	4 x USB 3.0 ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		2 x USB 2.0 ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display	1 x VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x DP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial Port	1 x RS-232/422/485 (COM1, supports 5V/12V/RI optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	PS/2 Port	1 x PS/2 stack port (Keyboard & Mouse)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LAN	2 x LAN (RJ45) ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Audio	3 x Audio Jack: Line-in, Mic-in, Line-out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internal I/O Connectors	Storage	3 x SATA III (6.0Gb/s) ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x M.2 M key (22 x 80mm)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB	2 x USB 2.0 connectors support additional 4 USB ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Audio	1 x speaker header (Line-out)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial Port	5 x RS-232 header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO	1 x 8-bit Digital I/O interface (In/Out programmable)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	FAN	1 x CPU Fan connector(s) (4-pin)	<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	1 x 24-pin EATX Power header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x 8-pin EATX 12V Power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Others	1 x Chassis Intrusion	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1 x Front panel 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 32/64 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(not supported when a Kaby Lake processor is used)
	Windows 8.1 64 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(not supported when a Kaby Lake processor is used)
	Windows 10 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux	Linux Fedora 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Platform Information

Item	Device Information	
Product of department	IPC	
PCB Model / Version	IMBA-H110A Rev 1.00	
BIOS / Version	R1.3 (AH11AM13)(11/21/2017)	
Driver folder	IMBA-H110A\20170831	
CPU Type	Intel ® Core™ i7-6700TE CPU @ 2.40GHz	
Memory Type	InnoDisk DDR4-2133 16GB(SEC 534 K4A8G08 5WB BCPB) x2	
SATA SSD	InnoDisk 2.5" SATA SSD 128GB 3MG2-P	
SATA DVD-ROM	LG SATA DVD ROM - GH20NS15	
USB DVD-ROM	AOpen EDR8865U Slim DVD ROM	
LCD Monitor	DELL U2713HM	
Operating System	<input checked="" type="checkbox"/>	English Ubuntu16.04.2 Kernel 4.8.0-36-generic #36
	<input checked="" type="checkbox"/>	Windows 7 Ultimate SP1 32/64Bit
	<input checked="" type="checkbox"/>	Windows 8.1 Enterprise English Version 64Bit
	<input checked="" type="checkbox"/>	Windows 10 Enterprise English Version 64Bit
Power Supply	SeaSonic SSR-450RM 450W 80plus Gold Seventeam ST-500P-CG 500W	
Chipset Information		
Chipset	Intel ® H110 Express Chipset	
Super IO Chipset	NCT6791D+F81216HD	
Audio Chipset	Realtek ® ALC887 6-Channel High Definition Audio CODEC (Colay ALC892/ALC886)	
Ethernet Chipset	1 x Intel ® PHY i219V Giga LAN 1 x Intel ® i211AT Giga LAN, RJ45 x 2	

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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 CPU @ 2.40GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i7-6700 CPU @ 3.40GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i7-7700 CPU @ 3.60GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i5-6500 CPU @ 3.20GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i5-7500 CPU @ 3.40GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i3-6100 CPU @ 3.70GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i3-7101E CPU @ 3.90GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Pentium® CPU G4400 @ 3.30GHz	<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	
DDR4 LONG-DIMM					
InnoDisk DDR4-2133 16GB(SEC 534 K4A8G08 5WB BCPB) x2	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR4-2133 8GB (SEC 446 BCPB K4A4G085WD) x2	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk DDR4-2133 8GB(SEC 446 BCPB K4A4G085WD) x2	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR4-2400 16GB - SEC 640 K4A8G08 5WB BCRC x2	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3. SATA Compatibility Test

1.3.1 Onboard SATA(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		
Main Board project test with 80~100cm SATA cable , typical #1709070800						
SATAII	TOSHIBA 2.5" SATA HDD 500GB - MK5076GSX		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAII	TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	WD 2.5" SATA HDD 500GB - WD5000LPVX		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	TOSHIBA 3.5" SATA HDD 1TB - DT01ACA100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	WD 3.5" SATA HDD 2TB - WD20EZRX		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	Seagate 3.5" SATA HDD 3TB - ST3000DM001		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD	LG SATA DVD ROM - GH20NS15		<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- SS968C016G3K	<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- 32GD81BC3DC-26	AP- SS968C032G1P	<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- 64GD81BC3QC-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- A28D81BC3QC-26	AP- SS968C128G1P	<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- B56D81BC3QC-26	AP- SS968C256G16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.4. M.2 Compatibility Test

M.2 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	
2280 size					
Transcend TS32GMTS800-AA 32GB, M.2 2280 SSD, SATA3, MLC	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend TS64GMTS800-AA 64GB, M.2 2280 SSD, SATA3, MLC	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend TS128GMTS800-AA 128GB, M.2 2280 SSD, SATA3, MLC	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend TS256GMTS800-AA 256GB, M.2 2280 SSD,SATA3, MLC	CTOS	<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"/>	
FSP AS-550 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"/>	
Seventeam ST-500P-CG 500W	<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	
VGA				
DELL U2713HM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS VP247H	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SAMSUNG SyncMaster BX2450	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI (Test with 5M HDMI cable/ Bravo-u)				
SAMSUNG U28D590D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS VP247H	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DELL P2415Qb	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Display port				
SAMSUNG U28D590D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DELL P2415Qb	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DELL U2713HM	<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 CPU @ 2.40GHz												
Memory	InnoDisk DDR4-2133 16GB(SEC 534 K4A8G08 5WB BCPB) x2												
Storage	Innodisk 2.5" SATA SSD 128GB - 3MG2-P												
VGA	DELL U2713HM												
HDMI	SAMSUNG U28D590D												
Display port	SAMSUNG U28D590D												
Operating system	Windows 10 64bit												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	VGA			DVI			HDMI			DP			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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X720	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1366X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1400X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1440X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1600X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1600X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1680X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1792X1344	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1856X1392	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1920X1080	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1920X1200	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1920X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2048X1152	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2048X1536	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2560X1440	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2560X1600	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2560X1920	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2560X2048	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EDID check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rotation(0/90/ 180/270)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DOS Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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

2.1.2. Multi-Display Output Test

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	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 + DP	<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 + DP	<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. Power on without inserting any VGA/HDMI/DP connector until system reaches Windows desktop
2. Plug VGA/HDMI/DP connector into test machine while system reaches Windows then check Graphics driver and display
3. Check VGA/HDMI/DP output Brightness is normal and it shows "Ghost Image" / "Flicker" or not
4. Repeat step1~3 for VGA/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"/>	
	Display port	<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
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI Audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DP Audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.3. LAN Function Test

[] No Support

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times) Command: ping xxx.xxx.xx.xx -l 65500 -n 1000									
1000MBps LAN HUB		D-Link DGS-1008D							
100MBps LAN HUB		Accton Desktop-3005							
10MBps LAN HUB		SVEC FD916H							
OnBoard LAN1	Intel ® I211 Gigabit Network Connection					MAC Address	AC-22-0B-85-69-C1		
OnBoard LAN2	Intel ® Ethernet Connection (2) I219-V					MAC Address	88-88-88-88-87-88		
LAN Speed	Link / Speed LED	Active LED	LAN 1			LAN 2			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

100Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN (WOL should work properly when resume from S3/S4/S5)	S3		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S4		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Boot (PXE) (Boot from LAN should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internet Browser (DHCP Server) (Visit the website should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Access 1GB file from ftp (Access file should not stop or error)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Iperf \$sudo iperf3 -c xx.xx.xx.xx -i 1 -t 60 (Gigabit LAN bandwidth should > 900Mbps)			<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"/>	
Serial Modem Ring In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Modem
Serial Modem +12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
Serial Modem +5V	<input checked="" type="checkbox"/>	<input 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 3. Test baud rate is 115200bps
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 3. Test baud rate is 115200bps

2.6. Digital I/O Test

Test item	Result			Note
	Pass	Fail	N/A	
DIO VCC +5V	<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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash:	Apacer 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Transcend 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD ROM:	AOpen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB keyboard:	Microsoft keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB mouse:	Microsoft mouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB FDD:	Galileo FD-05PUB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB2.0 HUB:	Cliptec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Test item	Result			Note
	Pass	Fail	N/A	
USB3.0 ports with power in S3 mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB3.0 ports with power in S5 mode	<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		
COM1_V1 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"/>	CLRTC1	
Buzzer and 4 pin Speaker test	System boot: one short beep	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	No memory found: One long beep, two short beep, pause a period of time, and loop	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power button	One touch for power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	One touch for power off in BIOS manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	One touch for system shutdown in Windows environment (power manager need to set "press PWB for shutdown)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	> 4sec for H/W shutdown in Windows environment (power manager need to set "press PWB do nothing)	<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 behavior	S1(boot up): Power LED on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	S3: Power LED off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S4: Power LED off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S5: Power LED off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD LED, active when SATA/M.2 access	SATA: Active	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	M.2(SATA): Active	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU_FAN1	full speed can meet FAN specification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA_FAN1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA_FAN2		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMP_CON, AMP left / right channel work properly		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AMP should mute when audio jack plug-in
PS/2 KBMS, keyboard / mouse work properly under DOS and OS		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AT_ATX Jumper		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ATX mode→Pin 1.2 AT mode→Pin 2.3
SATA6G_1 / SATA6G_2 / SATA6G_3		<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 card	Result			Note
	Pass	Fail	N/A	
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D-Link DFE-530TX Rev-A1 10/100Mbps LAN card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel Pro/1000 GT Desktop Adapter 82541PI LAN card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D-Link DU-520 Rev:A1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADAPTEC 1210SA RAID Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Radeon 128MB DDR RAM VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x1	Result			Note
	Pass	Fail	N/A	
Intel GIGABIT CT DESKTOP ADAPTER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X16 Slot
Moxa multi serial card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X16 Slot
Broadcom BCM95721A211 - NetXtreme Gigabit Ethernet Adapter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X16 Slot
SUNIX SATA1414 eSATA & SATAII x1Express card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X16 Slot (GEN1)
Uptech USB3.0 4 Port – UTB242	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X4 Slot
DigiFusion GIGA LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X4 Slot
PCI-Express x4	Result			Note
	Pass	Fail	N/A	
SILVERSTONE Dual M.2 to PCI-E X4 and SATA 6G adapter card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel GIGABIT ET2 Quad Port Svr Adptr (E1G44ET2BLK)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Plextor PCIe SSD M6e 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bear Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x16	Result			Note
	Pass	Fail	N/A	
NVIDIA GEFORCE GT 740 PCI-Express x16 Graphics Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS R7250-1GD5 PCI-Express x16 Graphics Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bear Card	4X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	8X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	16X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3.2. Display port Converter Compatibility Test

Test Item	Result			Note		
	Pass	Fail	N/A			
DP to HDMI converter: LPC-1504	DOS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	OS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max resolution
DP to DVI converter: LPC-1503	DOS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	OS display	Full screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max resolution

4. Power Consumption Test

Configuration	
CPU	Intel® Core™ i7-6700 CPU @ 3.40GHz
Memory	Transcend DDR4-2400 16GB - SEC 640 K4A8G08 5WB BCRC x2
Storage	Innodisk 2.5" SATA SSD 128GB - 3MG2-P
O.S	Windows 10 (64bit)

4.1. Power Consumption

Test Equipment					
Equipment	AC/DC Digital Clamp meter				
Manufacturer	KYORITSU				
Model name	2010				
Test Environment					
Power supply	SeaSonic SSR-450RM 450W 80plus Gold				
Power Supply	Current		P		Note
(Full Loading Mode) Windows 10 with Prime 95 Full Loading Test	(+12V)	6.40	A	76.8	Prime95 Version 279
	(+5V)	1.60		8	
	(+3.3V)	0.31		1.023	
	(5VSB)	0.21		1.05	
Full Loading Total Watt	86.873 (W)				
S3 mode: Measure the current value when system in S3 mode of windows and without running any	(+12V)	0.02	A	0.24	W
	(+5V)	0.01		0.05	
	(+3.3V)	0.01		0.033	
	(5VSB)	0.06		0.3	
Suspend Total Watt	0.623 (W)				
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12V)	0.82	A	9.84	W
	(+5V)	0.52		2.6	
	(+3.3V)	0.31		1.023	
	(5VSB)	0.18		0.9	
Idle Total Watt	14.363 (W)				
S5 mode: Measure the current value when system in S5 mode of windows and without running any	(+12V)	0.01	A	0.12	W
	(+5V)	0.01		0.05	
	(+3.3V)	0.01		0.033	
	(5VSB)	0.06		0.3	
Suspend Total Watt	0.503 (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

H/W monitor	Result			BIOS	Actual		Note
	Pass	Fail	N/A				
VCORE Actual and monitor must be ±5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.976	V	0.96	V
(+) 12V Actual and monitor must be ±5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.288	V	12.14	V
(+) 5V Actual and monitor must be ±5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.060	V	5.03	V
3VSB Actual and monitor must be ±5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.424	V	3.38	V
(+) 3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.392	V	3.36	V

Actual and monitor must be ±5%								
VBAT Actual and monitor must be ±5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.120	V	3.09	V	
Chassis Fan 1 Speed Actual and monitor must be ±10%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4403	rpm	4396	rpm	
CPU Fan Speed Actual and monitor must be ±10%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4398	rpm	4352	rpm	
Chassis Fan 2 Speed Actual and monitor must be ±10%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4363	rpm	4322	rpm	
System Temp Actual and monitor must be ±5°C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29	°C	33	°C	
CPU Temp (PECI) Actual and monitor must be ±15°C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35	°C	42	°C	

4.3. 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 > 3 V 2. Calculated result should be > 5 years	3.05	V	5.0	uA	5.1	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:26°C

Function	Item	Time Interval	Criteria	Actual	Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode		24 hrs	+/-2 sec	-1 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC Clock in Power Off Mode		24 hrs	+/-2 sec	0 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

5.2. Booting Timer Test

Installation	Actual	Note
System Booting Time	5.78 Sec	Press the Power Button till "Beep" Sound appears

5.3. Watchdog Timer Test

Use Function as below: Hi-Safe V2.2017.7.26

[] No Support

Time-Out Interval	Criteria	Actual	Result			Note
			Pass	Fail	N/A	
10 sec	+/- 10%	12.56 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SIO limitation
60 sec	+/- 10%	65.45 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	269.65 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature:26°C

6. O.S. Compatibility Test

6.1. English Ubuntu16.04.2 Kernel 4.8.0-36-generic #36

Driver Information:

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

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu16.04.2 Kernel 4.8.0-36-generic #36	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
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"/>	
DP -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA + DP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA + HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI + DP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Network Function Test				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Play Audio Function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Play Audio Test
HDMI / DP audio function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Base Function Test				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PS2 / USB
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PS2 / USB
DVD-ROM Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SATA / USB
USB 2.0/3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X Windows Application				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
ls / clear; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

6.2. Windows 7 Ultimate English Version 32/64Bit

32bit Driver Information	
Chipset Software	Intel @ Chipset Device Software 10.1.1 (2015-06-03)
Graphics Media	Intel @ HD Graphics 530 20.19.15.4416 (3/23/2016)
Audio Driver	Realtek High Definition Audio 6.0.1.7541 (6/18/2015)
	Intel @ Display Audio 6.16.0.3191 (12/1/2015)
LAN Driver	Intel @ I211 Gigabit Network Connection 12.13.27.0 (6/5/2015)
	Intel @ Ethernet Connection (2) I219-V 12.13.17.4 (6/18/2015)
64bit Driver Information	
Chipset Software	Intel @ Chipset Device Software 10.1.1 (2015-06-03)
Graphics Media	Intel @ HD Graphics 510 21.20.16.4590 (1/18/2017)
Audio Driver	Realtek High Definition Audio 6.0.1.7541 (6/18/2015)
	Intel @ Display Audio 6.16.0.3197 (5/10/2016)
LAN Driver	Intel @ I211 Gigabit Network Connection 12.13.27.0 (6/5/2015)
	Intel @ Ethernet Connection (2) I219-V 12.13.17.7 (8/13/2015)

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		
Single Display					
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"/>		
DP -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Multi display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Basic Function Test					
Usable memory	32bit:	2.94GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Max TOLUD 3.5GB
	64bit:	32.0GB	<input checked="" 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"/>	
TPM2.0 detection (not support BitLocker)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
LAN Function Test					
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Audio Function Test					
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
AMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Start Menu					
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
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 64Bit

64bit Driver Information	
Chipset Software	Intel ® Chipset Device Software 10.1.1 (2015-06-03)
Graphics Media	Intel ® HD Graphics 530 21.20.16.4590 (1/18/2017)
Audio Driver	Realtek High Definition Audio 6.0.1.7541 (6/18/2015)
	Intel ® Display Audio 10.22.1.97 (12/1/2016)
LAN Driver	Intel ® I211 Gigabit Network Connection 12.14.7.0 (6/18/2015)
	Intel ® Ethernet Connection (2) I219-V 12.13.17.7 (8/13/2015)

Install OS to M.2:

Installation	Result			Note
	Pass	Fail	N/A	
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	
Single Display				
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"/>	
DP -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Multi display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
Usable memory 64bit: 32.0GB	<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"/>	
	USB3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Safe to remove icon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
TPM2.0 BitLocker (support UEFI only)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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"/>	

6.4. Windows 10 Enterprise English Version 64Bit

64bit Driver Information	
Chipset Software	Intel ® Chipset Device Software 10.1.1 (2015-06-03)
Graphics Media	Intel ® HD Graphics 530 21.20.16.4590 (1/18/2017)
Audio Driver	Realtek High Definition Audio 6.0.1.7541 (6/18/2015)
	Intel ® Display Audio 10.22.1.97 (12/1/2016)
LAN Driver	Intel ® I211 Gigabit Network Connection 12.12.226.0 (5/4/2015)
	Intel ® Ethernet Connection (2) I219-V 12.13.17.7 (8/13/2015)

Install OS to SATA SSD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows10 Enterprise 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
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"/>	
DP -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Multi display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
Usable memory 64bit: 32.0GB	<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"/>	
	USB3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Safe to remove icon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
TPM2.0 BitLocker Feature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 CPU @ 2.40GHz
Memory	InnoDisk DDR4-2133 16GB(SEC 534 K4A8G08 5WB BCPB) x2
Storage	Innodisk 2.5" SATA SSD 128GB - 3MG2-P
O.S	Windows 10 (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					
Intel (VMX) Virtualization Technology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
Active Processor Cores	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Trusted Computing					
Security Device Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
SATA Configuration					
SATA Controller(s)	<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"/>	AHCI	
Hot Plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
SIO Configuration					
Serial Port 1	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 Port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Serial Port 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Serial Port 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Serial Port 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Serial Port 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
NCT6791D HW Monitor					
PC Health Status	<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"/>	4258rpm
	Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~255 255: 4258rpm;127:2265rpm; 0:1000rpm
	Thermal Cruise mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Smart FAN IV mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHA_FAN1	Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4299rpm
	Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~255 255: 4272rpm;127:2393rpm; 0:0rpm
	Thermal Cruise mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Refer System temperature
	Smart FAN IV mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Refer System temperature
CHA_FAN2	Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4258rpm
	Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~255 255: 4245rpm;127:2393rpm; 0:0rpm
	Thermal Cruise mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Refer System temperature
	Smart FAN IV mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Refer System temperature
USB configuration					
Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enabled/Disabled/Auto	
Digital IO Port Configuration					
DIO Port1~8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power Management					
Power Mode	ATX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	AT	Auto power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	PWB no function	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disable S3/S4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PWR LED and FAN still running when S5 shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Support UEFI and legacy mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restore AC Power Loss	Last State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Always On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Always Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC wake system from S5	Disabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fixed Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Dynamic Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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"/>	
		PEG	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		PCI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Primary IGFX Boot display	VBIOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		DP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Memory Configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	PCIEX16_1 GEN speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with bear card	
Max TOLUD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dynamic 1GB~3.5GB		
PCH-IO Configuration	HD Audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enabled/Disabled/Auto	
	PCIEX4_1 Gen Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with bear card	

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 PXE ROM	<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 DVD-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 DVD-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. Clear CMOS and Load Default Test

Test Item (Following item should work properly)	Result			Note	
	Pass	Fail	N/A		
Clear CMOS by jumper (under G3 status)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear date, time, setting, password	
Clear CMOS by remove battery(under G3 status)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear date, time, setting, password	
Load default	Date, time, password should be kept	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	BIOS setting should	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	be restored to default				
	Boot option priorities should restore from disable to default	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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. Administrator / 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		
VersionV2.2017.7.26	<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"/>	
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 12.56 sec SIO limitation
	1min	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 65.45 sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 269.65 sec
	Auto Reload	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SmartFan	Speed Adjust	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fan0 / Fan1 / Fan2
SMBus	Device Address	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0xA0 / 0xA4
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Read Word	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Result / Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.8. Negative Test

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

normally				
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7.8.2 Suspend S3 Negative Test

Methods		Result			Note
		Pass	Fail	N/A	
1. Resume from S3	RS232/422/485	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Confirm com ports(RS232/422/485), DIO, SmartFan, USB ports, DP/HDMI audio can work properly	DIO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	SmartFan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DP/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™ i7-7700 CPU @ 3.60GHz
Memory	Transcend DDR4-2400 16GB(SEC 640 K4A8G08 5WB BCRC) x2
Storage	Innodisk 2.5" SATA SSD 128GB - 3MG2-P
O.S	Windows 10 (64bit)

8.1. System Performance Test

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark 8 (Creative)			Windows 10 (64bit)
PCMarks	3892	-	PCMarks
Web Browsing-Jungle Pin	0.307s	-	
Web Browsing-Amazonia	0.134s	-	
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	47.0ms	-	
Photo Editing v2	0.329s	-	
Batch Photo Editing v2	22.1s	-	
Video Editing 1 v2	10.2s	-	
Video Editing 2 v2	115.9s	-	
Mainstream Gaming part 1	12.2FPS	-	
Mainstream Gaming part 2	6.2FPS	-	
Video To Go part 1	5.9s	-	
Video To Go part 2	8.0s	-	
Music To Go	6.86s	-	
Benchmark duration	43min40s	-	

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2006 v121			
3Dmark Score	10362	-	
SM2.0 Score	3636	-	
HDR/SM3.0 Score	3928	-	
CPU Score	9076	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

3Dmark11 Professional Edition		
Performance 1280*720 (Default)		
3Dmark 11Score	P2035	-
Graphics Score	1769	-
Physics Score	9453	-
Combined Score	1948	-

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 8.0			
PassMark Rating	3828	-	
CPU Mark	11326	-	
2D Graphics Mark	858	-	
3D Graphics Mark	1249	-	
Memory Mark	2942	-	
Disk Mark	2903	-	

8.2. Storage Performance Test

SATA Performance				
SATA SSD	Innodisk 2.5" SATA SSD 128GB - 3MG2-P			
CPU	Intel @ Core™ i7-6700TE CPU @ 2.40GHz			
Memory	InnoDisk DDR4-2133 16GB(SEC 534 K4A8G08 5WB BCPB) x2			
O.S	Windows 10 (64bit)			
Item	Comment / (unit)	Software	Score	Note
SATA6G_1	Maximum Read	ATTO Disk Benchmark	530MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write	ATTO Disk Benchmark	187MB/s	
SATA6G_2	Maximum Read	ATTO Disk Benchmark	507MB/s	
	Maximum Write	ATTO Disk Benchmark	186MB/s	
SATA6G_3	Maximum Read	ATTO Disk Benchmark	512MB/s	
	Maximum Write	ATTO Disk Benchmark	184MB/s	

USB3.0/2.0 Performance				
USB Flash	Transcend USB3.0 128GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0	Maximum Read	ATTO Disk Benchmark	95MB/s	
	Maximum Write	ATTO Disk Benchmark	70MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	95MB/s	
	Maximum Write	ATTO Disk Benchmark	69MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	95MB/s	
	Maximum Write	ATTO Disk Benchmark	70MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	95MB/s	
	Maximum Write	ATTO Disk Benchmark	70MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	39MB/s	
	Maximum Write	ATTO Disk Benchmark	37MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	40MB/s	
	Maximum Write	ATTO Disk Benchmark	37MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	39MB/s	
	Maximum Write	ATTO Disk Benchmark	37MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	39MB/s	

	Maximum Write	ATTO Disk Benchmark	37MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	39MB/s	
	Maximum Write	ATTO Disk Benchmark	37MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	40MB/s	
	Maximum Write	ATTO Disk Benchmark	37MB/s	

M.2 (SATA interface) performance				
M.2 (SATA interface)	Transcend 256GB - TS256GMTS800			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
M.2 (SATA interface)	Maximum Read	ATTO Disk Benchmark	543MB/s	
	Maximum Write	ATTO Disk Benchmark	312MB/s	

9. Stability test

Configuration	
CPU	Intel® Core™ i7-6700TE CPU @ 2.40GHz
Memory	InnoDisk DDR4-2133 16GB(SEC 534 K4A8G08 5WB BCPB) x2
Storage	Innodisk 2.5" SATA SSD 128GB - 3MG2-P
O.S	Windows 10 (64bit)

9.1. Run In Test

Under Room Temperature: 26°C

OS: Windows 10 Enterprise English 64bit

Test Item	Result			Note	
	Pass	Fail	N/A		
Burn In Test V8.1(1020 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"/>	X6
	GPGPU	<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"/>	
	GPGPU	<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"/>	X4

Note: COM PORT Speed Set to 115200

9.2. Reboot Test

Under Room Temperature: 26°C

OS: Windows 10 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:26°C

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 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: 26°C

OS: Windows 10 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:26°C

OS: DOS

Tool: Passmark Memtest86 version7.4 UEFI

Memory information: Innodisk DDR4 2133 8GB x2 / Innodisk DDR4 2133 16GB x2

Test item	Result			Note
	Pass	Fail	N/A	
Memory Test for 4 loops <Memtest result should not error or hang>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9.6. System stability after S3 / S4 / S5 cycles

Under Room Temperature: 26°C

OS: Windows 10 Enterprise English 64bit

Test item	Criteria	Result			Note
		Pass	Fail	N/A	
System stability after S3 cycles <Perform S3 cycles 3 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 3 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 3 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"/>	