

Report NO: 16E010014

COM-QM77 Rev.B20

Intel Ivy Bridge+QM77 COM Express CPU Module

Board Level Product Bulletin Compatibility Test Report

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

Issue date

2016-09-09

QE Manager

KJ Wang

Test Engineer

Louie 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.	

Note :

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

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

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

Specification Validation

Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	COM-QM77	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	COM Express, Basic Module, Pin-out Type VI: 125mm x 95mm (4.92" x 3.75")	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Thickness of PCB	2.0mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel QM77 PCH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Process	Intel Ivy Bridge processors BGA1023 Low Power (17W) Dual Core	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	SODIMM x 2 supports DDRIII 1333/1600, Max. 16GB (per DIMM 8GB max) ==> Channel 0 on the upper side ==> Channel 1 on the down side ==> 204-pin SODIMM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA/LCD Controller	Intel Ivy Bridge processors integrated CRT: up to 2048 x 1536 (QXGA) LCD: up to 2048 x 1536 (QXGA)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LCD Interface	Up to 24-bit dual-channel LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Digital Display	HDMIx 1, DVI x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shared Memory	Shared system memory above 512MB/ DVMT 5.0 (TBC w/Intel))	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	Meet TPM v1.2 (optional)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Ethernet	Intel 82579LM, Gigabit Ethernet PHY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O Chips	QM77 (Winbond SIO on the carrier board)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
K/B and Mouse	From LPC interface on carrier board	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog Timer Chipset	Embedded Controller iTE8518 ==> LPC interface	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hardware Monitor Chipset	Embedded Controller iTE8518	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Interface	PCI-Express [x16] x 1 (Gen 3.0) LPC bus x 1 SMBus x 1 UART x 2 I2C x 1 via EC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	SPI type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EEPROM	Atmel AT24C02 (Ref) ==> SOP 8, 2Kb, Serial EEPROM ==> Save BIOS and configuration data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake on LAN	Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BBS (BIOS Boot Spec.)	Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	High definition audio interface	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA Interface	SATA port x 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	TX/RX x2 ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GPIO	Up to 4 input and 4 output ==> Signals from iTE 8518	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Universal Serial Bus	USB 2.0 x 8 (include USB 3.0 x 4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Default disable XHCI (USB3.0 function)
----------------------	-----------------------------------	-------------------------------------	--------------------------	--------------------------	--

O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows 7 English 32/64 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows8.1 English 32/64bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Windows10 English 32/64bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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	COM-QM77 B2.0	
CPU Board	COM-QM77 B2.0	
Carrier Board	ECB-917 A1.0	
BIOS / Version	COM-QM77 R1.4 (V014MM14) (02/04/2016)	
EC / Version	V015PE11 (08/24/2016)	
Driver folder	\\nas1\SAP-Ship\Products\COM-QM77 Rev B	
CPU Type	Intel® Core™ i7-3517UE Processor(4M Cache, up to 2.80 GHz) Intel® Core™ i3-3217UE Processor(3M Cache, 1.60 GHz)	
Memory Type	DSL DDR3 1600 8GB Hynix H5TQ4G83MFR x2	
SATA HDD	ADATA SX900 128GB	
SATA DVD-ROM	ASUS BW-14D1XT	
USB DVD-ROM	ASUS SBW-06D2X-U	
VGA	Dell U2713HM 2048x1152	
DVI	Philips U288P 1920x1080	
HDMI	Philips U288P 1920x1080	
LVDS	M215HW03 V1(48bit 1920x1080)	
Compact Flash	N/A	
Daughter Board	N/A	
Expansion Board	N/A	
Operating System	<input checked="" type="checkbox"/> English Ubuntu14.04 LTS Kernel 3.13.0-24-generic	
	<input checked="" type="checkbox"/> Windows 7 Ultimate SP1 32/64Bit	
	<input type="checkbox"/> Windows 8.1 Enterprise English Version 32/64Bit	
	<input type="checkbox"/> Windows 10 Enterprise English Version 32/64Bit	
Power Supply	ATX Power Supply : Antec NEO ECO 520W	
	AT Power Supply: N/A	
	DC Adapter : N/A	
Battery Model	N/A	
Chipset Information		
PCH	Intel QM77	
Super IO Chipset	iTE8518	
Audio Chipset	Carrier board	
Ethernet Chipset	Intel 82579	

Summary Table of contents:

1. Hardware Compatibility.....	7
1.1. CPU Compatibility Test	7
1.2. Memory Compatibility Test.....	7
1.3. SATA Compatibility Test.....	7
1.4. Monitor Compatibility Test	8
2. Basic Function Test.....	10
2.1. Video Function Test	10
2.2. Audio Function Test.....	12
2.3. LAN Function Test	12
2.4. COM Ports Test.....	14
2.5. Digital I/O Test.....	14
2.6. USB Port Integration Test.....	14
2.7. EC I2C Test	15
2.8. Jumper and Connector Function Test.....	15
3. Expansion card and Application Test	16
3.1. Expansion Slot Compatibility Test	16
3.2. Expansion Card Integration Test	16
4. Power Consumption Test	17
4.1. Power Consumption.....	17
4.2. PC Health Status	17
4.3. CMOS Battery Test	18
5. Time Accuracy Test.....	19
5.1. System Clock & RTC Clock Test.....	19
5.2. Booting Timer Test	19
5.3. Watchdog Timer Test	19
6. O.S. Compatibility Test	20
6.1. English Ubuntu14.04 LTS Kernel3.13.0-24-generic.....	20
6.2. Windows 7 Ultimate English Version 32/64Bit	21
7. BIOS Function Test	22
7.1. Advanced Test.....	22
7.2. Chipset Test.....	22
7.3. Boot Test.....	23
7.4. CMOS Backup / Clear CMOS Test	23
7.5. AAEON Tag Check Utility.....	23
7.6. Supervisor / User Password Test	24
7.7. Hi-safe Test.....	24
7.8. Hi-Manager Test	24
7.9. Negative Test.....	25
8. Performance Test	26
8.1. System Performance Test.....	26
8.2. Storage Performance Test.....	27
9. Stability test.....	28
9.1. Run In Test.....	28
9.2. Reboot Test	28
9.3. ACPI G3 Cold Boot Test	28
9.4. ACPI S5 Cold Boot Test.....	29
9.5. Memory Test.....	29

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™ i7-3517UE Processor(4M Cache, up to 2.80 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel® Core™ i3-3217UE Processor(3M Cache, 1.60 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.2. Memory Compatibility Test

Memory Information (a. Information and frequency should show correct value. b. System should boot up and into OS normally.)	AAEON P/N	Result			Note
		Pass	Fail	N/A	
DDR3 SO-DIMM					
Transcend DDR3 1066 2GB SEC K4B1G0846G	14D6B02G2F	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3 1066 4GB CL7 ELPIDA J2108BDBG-DJ-F	14D6C04G01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3 1066 4GB CL7 SEC K4B2G0846D	14D6C04G02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1333 1GB SEC K4B1G0846G	AP-DR14D6A01 G49	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1333 4GB SEC K4B2G0846D	AP-DR14D6A04 G0D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3 1600 4GB SEC K4B4G0846B	AP-SS968D3004 GA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk DDR3 1600 4GB 512MB x 8 (SEC K4B4G04846E)	968D304G00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk DDR3 1600 8GB 512Mx8 (SEC K4B4G0846E)	968D308G01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3 1600 8GB Hynix H5TQ4G83MFR	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	
(Test with 80~100cm SATA cable , typical #1709070800)					
SATAII Seagate Barracuda 7200.9 / 160G (ST3160811AS)	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAII Seagate Momentus 7200.2 /120G (ST9120823AS)	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAII TOSHIBA MK1676GSX /160G	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII WD WD6402AAEX / 640GB	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII Seagate Barracuda 7200.12 / 1TB (ST31000524AS)	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII WD WD20EZR X 7200/2TB	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII Seagate ST3000DM001 7200/3TB	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD ASUS BW-14D1XT	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

SSD	Transcend TS32GSSD370 2.5".32GB.SATA III SSD MLC.	968C032G2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Transcend.TS64GSSD370 2.5".64GB. SATA III.SSD.MLC	968C64G003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.	968C128G0W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	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"/>	
SSD	ADATA SX900 SATAIII 128GB	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3.2 Onboard SATA (RAID) Test

SATA RAID Test (RAID function should work properly)		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Custom BIOS not support
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-10 (HDDx4) Striping/Span Test Mirroring	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

1.4. 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"/>	(at least 3 monitors)
Philips 288P		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ViewSonic VA703b		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Philips 244E4SB		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS VE228		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

DVI				
*BenQ BL2710	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Must test monitor (Tested 3 monitors at least)
Dell U2713HM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Philips 288P	<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)
Dell U2713HM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Philips 288P	<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™ i3-3217UE Processor(3M Cache, 1.60 GHz)												
Memory	DSL DDR3 1600 8GB Hynix H5TQ4G83MFR												
SATA HDD	ADATA SX900 SATAIII 128GB												
VGA	Dell U2713HM 2048x1152												
DVI	Philips U288P 1920x1080												
HDMI	Philips U288P 1920x1080												
LVDS	M215HW03 V1(48bit 1920x1080)												
Operating system	Windows 7 Ultimate 64bit English.												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	VGA			DVI			HDMI1			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
800X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1280X600	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X720	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X768	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1600X900	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1600X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1680X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1920X1080	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1920X1200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2048X1152	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2560X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3840 X 2160	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
EDID check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hot plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rotation(0/90/180/270)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DOS Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 + DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	VGA+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	DVI+HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Extended Desktop		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dual Display Clone	DVI+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"/>	

2.1.3. Boot up Without Display Test

Process step:

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

Test item		Result			Note
		Pass	Fail	N/A	
Display should working normal in Windows Desktop	VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display port	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 G104SN02 V.2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	For IPC_BU
	800x600	AUO G084SN05 V.7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Standard
24bit	1024x768	AU M150XN07 V.2 / 15" / 1024x768 /	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Standard
	1366x768	AUO G185XW01 V0 / 18" / 1366x768 /	<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"/>		
AMP (Left and Right)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AMP should mute when Audio jack plug in	
CD_In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
HDMI Line Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6-channel mode for 5.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
8-channel mode for 7.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
S/P DIF function Test	Input	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

2.3. LAN Function Test

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 82579LM Gigabit LAN						MAC Address	00-07-32-3c-0D-5A	
OnBoard LAN2	Intel 82583V Gigabit LAN						MAC Address	00-07-32-21-56-96	
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.xxx.14.125			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.3.2. Throughput Test

DUT Platform Information:

<input type="checkbox"/>	Fedora 15 Kernel 2.6.27
<input type="checkbox"/>	Cent 5.5 kernel
<input checked="" type="checkbox"/>	English Ubuntu14.04 LTS Kernel 3.13.0-24-generic

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

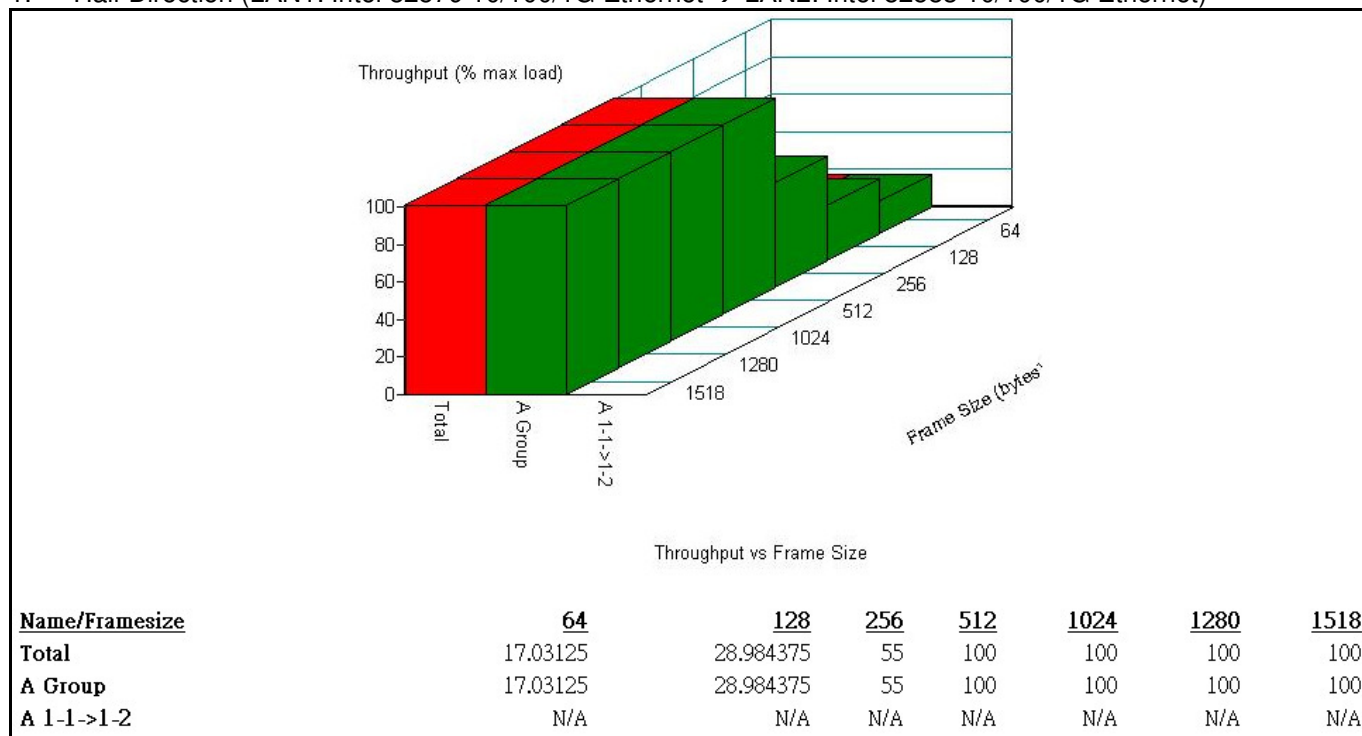
Graphics Media	Ubuntu14.04 Default setting
LAN	LAN1→Intel 82579 Gigabit Ethernet: Ubuntu14.04 Default setting
	LAN2→ Intel 82583 Gigabit Ethernet: Ubuntu14.04 Default setting
Audio Driver	Ubuntu14.04 Default setting
CPU information	Intel® Core™ i7-3517UE Processor(4M Cache, up to 2.80 GHz)

SMB Platform Information:

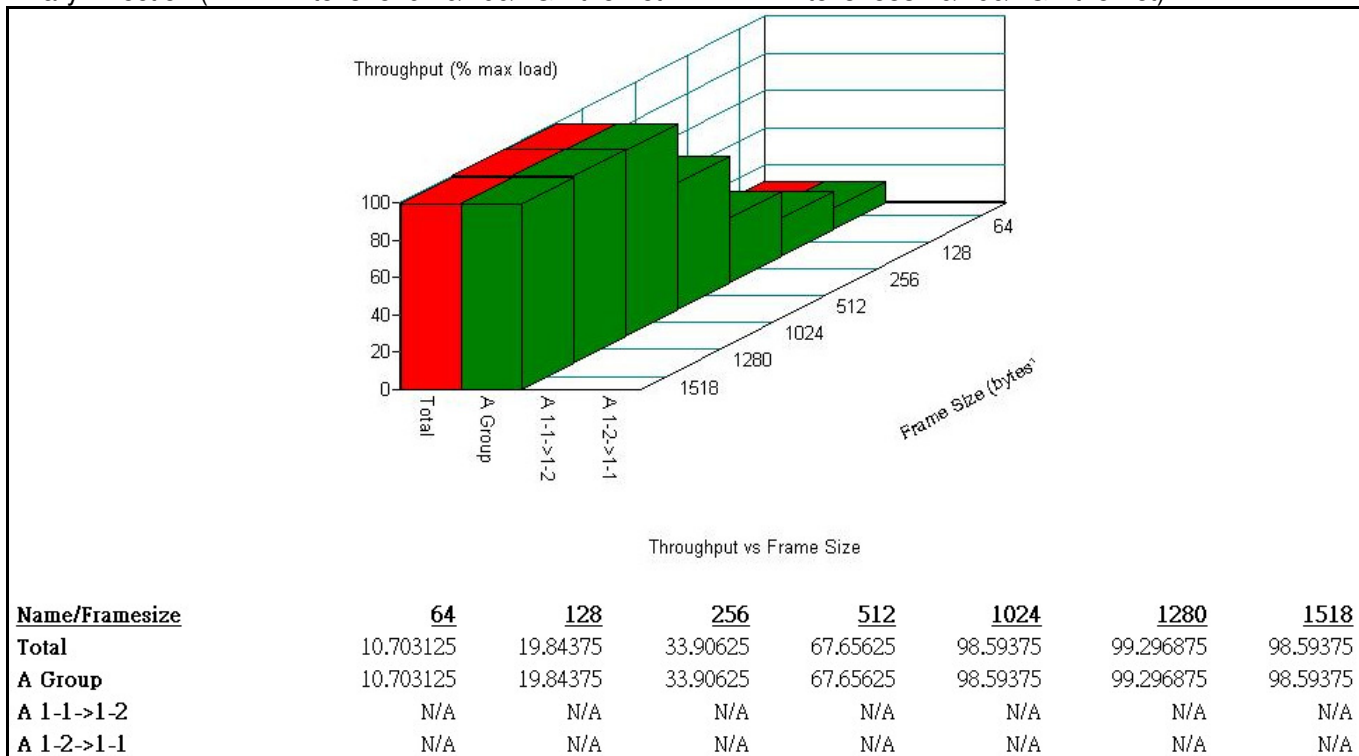
Chassis	SPIRENT Smartbits 600B
Chassis Version	2.80.003 (Cur) 2.50.000
Chassis Serial #	06014047
Library	6.00-29
API	5.50.42.01
File	0550042
Module	2 * LAN-3324A SmartMetrics XD 4-Port 10/100/1000Base-T Gigabit Ethernet
Test Software	SmartFlow5.50.42.1

Test Result:

- Half Direction (LAN1: Intel 82579 10/100/1G Ethernet → LAN2: Intel 82583 10/100/1G Ethernet)



2. Binary Direction (LAN1: Intel 82579 10/100/1G Ethernet → LAN2: Intel 82583 10/100/1G Ethernet)



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
Serial Modem Ring In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Modem , COM1,2
Serial Modem +12V	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test by Multimeter
Serial Modem +5V	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test by Multimeter
Transmission Test <115200bps / 15M>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM1,2,3,4

2.5. 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"/>	

2.6. USB Port Integration Test

Item	USB Port	USB2.0 ports (under OS)			USB3.0 ports (under OS)			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD:	Transcend TS500GSJ25D3 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB Flash:	PNY USB3.0 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Kingston Ultimate G2 USB3.0 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

	SanDisk cruzer USB2.0 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB DVD ROM:	ASUS SBW-06D2X-U	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB keyboard:	Microsoft 1366	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB mouse:	Microsoft 1113	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB FDD:	HP FD-05PUB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

2.7. EC I2C Test

Test item	Result			Note
	Pass	Fail	N/A	
Battery Information check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Execute EC_Bat.EXE under DOS, test result will show Battery Information

2.8. Jumper and Connector Function Test

[] No Support

Test item	Result			Note	
	Pass	Fail	N/A		
Clear CMOS will clear CMOS date , time , setting , password.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Custom BIOS not support	
Auto power button, System boot up when insert AC power cord.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
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 or power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	> 4sec for power off when system halt.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Reset button, system reset under DOS or Windows.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power LED, active when system boot.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
HDD LED, active when SATA/CF/CFast/mSATA access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sys FAN1	full speed can meet FAN specification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sys FAN2	full speed can meet FAN specification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Expansion card and Application Test

3.1. Expansion Slot Compatibility Test

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

PCI-Express x1	Result			Note
	Pass	Fail	N/A	
DigiFusion SATAIII 6G card PES311A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sunix Marvell 88e8053 Gigabit LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS select GEN1
Moxa multi serial card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel GIGABIT CT DESKTOP ADAPTER (EXPI9301CTBLK)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Uptech UTB242 USB3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x4	Result			Note
	Pass	Fail	N/A	
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"/>	
Intel Pro/1000 PF Dual port	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x16	Result			Note
	Pass	Fail	N/A	
ASUS GTX680-2GD5 GEN3 (ATI Chipset)PCI-Express x16 Graphics Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS GT620-1GD3-L-V2 PCI-e2.0 (NVIDIA Chipset) PCI-Express x16 VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GIGABY GV-R5670C-IG1 PCI-E X16 Graphic card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bear Card	4X GEN2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	8X GEN2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	16X GEN2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3.2. Expansion Card Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
1. Connect devices to all of expansion slots. 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™ i7-3517UE Processor(4M Cache, up to 2.80 GHz)
Memory	Innodisk DDR3 1600 8GB SEC K4B4G0846E x2
Storage	ADATA SX900 SATAIII 128GB
O.S	Windows 7 Ultimate 64bit English version.

4.1. Power Consumption

Test Equipment						
Equipment	AC/DC Digital Clamp meter					
Manufacturer	KYORITSU					
Model name	2010					
Test Environment						
AT Power Model	Enhance ENH-0620 200W					
Keyboard	USB keyboard Logitech K200					
Mouse	USB mouse Logitech M-U0003					
CPU	Intel® Core™ i7-3517UE Processor(4M Cache, up to 2.80 GHz)					
Memory	Innodisk DDR3 1600 8GB SEC K4B4G0846E x2					
Power Supply	ATX Power					Note
(Full Loading Mode) Windows 7 with Prime 95 Full Loading Test	(+12V)	1.52	A	18.24	W	Prime95 Version 259
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12V)	0.78	A	9.36	W	
Power off (S5 mode)	(5VSB)	0.08	A	0.4	W	
S3 mode: Measure the current value when system in S3 mode of windows and without running any	(5VSB)	0.16	A	0.8	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

On Module H/W Monitor Voltage Monitoring Test	Result			BIOS (V)	Actual (V)	Note
	Pass	Fail	N/A			
VAC_IN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.035	12.29	
V5A2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.164	5.01	
V3.3S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.296	3.3	
V1.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.534	1.502	
V5A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.047	5.01	
Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.847	0.841	
CPU temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	61°C	50°C	
SYS temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38°C	39°C	
System Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2678 RPM	2580 RPM	

W83627DHG HW Monitor Voltage Monitoring Test	Result			BIOS (V)	Actual (V)	Note
	Pass	Fail	N/A			
12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.94	12.29	
5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.122	5.01	
VSB5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.096	4.94	
AVCC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.456	3.23	
VCC3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.456	3.23	
VSB3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.360	3.23	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.328	3.25	
System temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37°C	33°C	
Module temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	45°C	50°C	
System Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2678 RPM	2580 RPM	

4.3. CMOS Battery Test

Test Point: Calculated result should be > 5 years.

Battery: CR2032

Capacity 225mA

Check item	Measured Voltage		Measured Current		Calculate Result		Result			Note
							Pass	Fail	N/A	
Battery leakage 1. Voltage should be >3V. 2. Calculated result should be > 5 years.	3.0	V	1.8	uA	14.2	years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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

5. Time Accuracy Test

5.1. System Clock & RTC Clock Test

Under Room Temperature:

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

5.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	8	Sec	Press the Power Button till "Beep" Sound appears

5.3. Watchdog Timer Test

Use Function as below: Hi-Safexxxx

[] No Support.

Time-Out Interval	Criteria	Actual	Result			Note
			Pass	Fail	N/A	
10 sec	+/- 10%	10.1 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+/- 10%	60 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	253 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature.

6. O.S. Compatibility Test

6.1. English Ubuntu14.04 LTS Kernel3.13.0-24-generic

Driver Information:

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

Install OS to SATA HDD/ mSATA Card:

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

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2048*1152
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920*1080
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920*1080
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA + DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA + HDMI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVI + HDMI	<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 Audio	<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"/>	USB
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB
Console Redirection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM1~4
DVD-ROM Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 9.3.0.1019 (12/6/2011)
Graphics Media	Intel HD Graphics 4000 8.15.10.2656 (2/17/2012)
Audio Driver	Intel Display Audio 6.14.0.3090 (12/6/2011) Realtek High Definition Audio 6.0.1.6526 (12/13/2011)
LAN Driver	Intel 82579LM Gigabit Network Connection 11.15.12.0 (11/30/2011) Intel 82583V Gigabit Network Connection 11.14.48.0 (10/13/2011)
64bit Driver Information	
Chipset Software	Intel Chipset Device Software 9.3.0.1019 (12/06/2011)
Graphics Media	Intel HD Graphics 4000 8.15.10.2656 (2/17/2012)
Audio Driver	Intel Display Audio 6.14.0.3090 (12/6/2011) Realtek High Definition Audio 6.0.1.6526 (12/13/2011)
LAN Driver	Intel 82579LM Gigabit Network Connection 11.15.12.0 (11/30/2011) Intel 82583V Gigabit Network Connection 11.14.48.0 (10/13/2011)

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"/>	2048x1152	
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920x1080	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920x1080	
LVDS -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920x1080	
Basic Function Test					
Usable memory	32bit: 3.48GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	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"/>	COM1,2	
UART TX-RX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM3,4	
USB Removable Devices	USB2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X6
	USB3.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Safe to remove icon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM Function	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>		
HDMI Line Out	<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™ i7-3517UE Processor(4M Cache, up to 2.80 GHz)
Memory	Innodisk DDR3 1600 8GB SEC K4B4G0846E x2
Storage	ADATA SX900 SATAIII 128GB
O.S	Windows 7 Ultimate 64bit English version.

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			
Dynamic Digital IO	DIO0~7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test under Dos and OS	
* S5 RTC Wake up	Wake system with Dynamic time	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Wake system with fixed time	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trusted Computing	TPM SUPPORT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Clear TPM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
* CPU configuration	Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	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"/>		
	IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	RAID mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Hot plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
AMT Configuration	Intel AMT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/disable	
	Un-configure ME	<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"/>		
On-Module 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"/>		
	* Restore AC Power Loss	Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Power Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Last State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
On-Module H/W monitor	SmartFAN	Full	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5183rpm
		Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100:5183rpm / 50:3369rpm / 0:0rpm
		Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
W83627DHG super IO configuration	Serial port0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Serial port1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
W83627DHG H/W monitor	SmartFAN	Manual	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	255:5192rpm / 127:
		Thermal cruise mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
		FAN speed cruise mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	
	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"/>	
		DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		CRT+LVDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LCD panel type		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Panel color depth		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18/24
Active LFP		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Backlight level		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~100% , PWM ok, not support DC mode.	
*Memory Configuration		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
PEG0 GEN speed		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with bear card	
PCH-IO Configuration	PCH Azalia Configuration		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Azalia Internal HDMI codec		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	*Power Mode	ATX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		AT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PCH LAN controller		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Wake on LAN		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	For 82579
PCI-e config	1 x4 port 2~4 disable	<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 82579LM PXE OpROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch Intel 82583V PXE OpROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From CDROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB Floppy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB CD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot from LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.4. CMOS Backup / Clear CMOS Test

Test Item (Following item should work properly)	Result			Note
	Pass	Fail	N/A	
CMOS Backup	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	By customization
Clear CMOS Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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. Supervisor / User Password Test

Test Item (Following item should work properly)	Result			Note
	Pass	Fail	N/A	
Administrator Password	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
User Password	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.7. Hi-safe Test

Test Item (Following item should work properly)	Result			Note	
	Pass	Fail	N/A		
Version(20160801)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	V014M	
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 10.13sec
	1min	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 60sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 253sec
	Auto Reload	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SMBus	SMBus IO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMBus Address 0xF040
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slave Address A0h
	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"/>	
	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	DC mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not support
	PWM mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not support

7.8. Hi-Manager Test

Test Item (Following item should work properly)	Result			Note	
	Pass	Fail	N/A		
Version(2016)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not support	
Power control	Power on	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Power off	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Reset	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Power on from G3 state	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Group Management	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Event log	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Alarm Clock	Set Alarm Time	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Recurring Alarm	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Remote Recovery	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Remote Reboot/ Reboot from CD ROM/Reboot from ISO	

	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(Reboot to BIOS no support)
KVM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

7.9. Negative Test

7.9.1 USB Keyboard Negative Test

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

7.9.2 Suspend S3 Negative Test

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

7.9.3 UEFI Mode Negative Test

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

8. Performance Test

Configuration	
CPU	Intel® Core™ i7-3517UE Processor(4M Cache, up to 2.80 GHz)
Memory	Innodisk DDR3 1600 8GB SEC K4B4G0846E x2
Storage	ADATA SX900 SATAIII 128GB
O.S	Windows 7 Ultimate 64bit English version.

8.1. System Performance Test

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark Vantage			
PCMark	8884	-	PCMarks
Memories	5402	-	
TV and Movies	4075	-	
Gaming	6776	-	
Music	9925	-	
Communications	8608	-	
Productivity	12458	-	
HDD	43606	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2006 v120			
3Dmark Score	1634	-	
SM2.0 Score	540	-	
HDR/SM3.0 Score	625	-	
CPU Score	2118	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

3Dmark11 Professional Edition			
Performance 1280*720 (Default)			
3Dmark 11Score	P235	-	
Graphics Score	197	-	
Physics Score	2401	-	
Combined Score	264	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 8.0			
PassMark Rating	1032	-	
CPU Mark	2520	-	
2D Graphics Mark	343	-	
3D Graphics Mark	165.3	-	
Memory Mark	1502	-	
Disk Mark	3905	-	

CD Mark	-	-	
---------	---	---	--

8.2. Storage Performance Test

SATA Performance				
SATA SSD	ADATA SX900 SATAIII 128GB			
CPU	Intel® Core™ i3-3217UE Processor(3M Cache, 1.60 GHz)			
Memory	DSL DDR3 1600 8GB Hynix H5TQ4G83MFR			
OS	Windows 7 Ultimate 64bit			
Item	Comment / (unit)	Software	Score	Note
SATAIII	Maximum Read	ATTO Disk Benchmark	555MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write	ATTO Disk Benchmark	527MB/s	
SATAII	Maximum Read	ATTO Disk Benchmark	283MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write	ATTO Disk Benchmark	268MB/s	

USB3.0/2.0 Performance				
USB Flash	Sony USB3.0 32GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0	Maximum Read	ATTO Disk Benchmark	MB/s	
	Maximum Write	ATTO Disk Benchmark	MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	34MB/s	
	Maximum Write	ATTO Disk Benchmark	27MB/s	

mSATA Performance				
mSATA Flash	Transcend TS64GMSA740 64G			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
mSATA	Maximum Read	ATTO Disk Benchmark	283MB/s	
	Maximum Write	ATTO Disk Benchmark	156MB/s	

9. Stability test

Configuration	
CPU	Intel® Core™ i3-3217UE Processor(3M Cache, 1.60 GHz)
Memory	DSL DDR3 1600 8GB Hynix H5TQ4G83MFR
Storage	ADATA SX900 SATAIII 128GB
O.S	Windows 7 Ultimate 64bit English version.

9.1. Run In Test

Under Room Temperature:

OS: Windows 7 Ultimate 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"/>	Pass with 9600bps
	Video	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sound	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Network <Advanced>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Parallel	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	USB	2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.0		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Note: COM PORT Speed Set to 115200.

9.2. Reboot Test

Under Room Temperature:

OS: Windows 7 Ultimate English 64bit

Test Tool: Passmark rebooter.exe

Test item	Result			Note
	Pass	Fail	N/A	
Reboot test for 500 cycles <System should not error or hang during testing.>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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 ;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> BIOS select " power on" or

Power off-- 20sec. <loss rate: 0 /1000 times>				<input type="checkbox"/> Jumper setting auto power button
--	--	--	--	---

9.4. ACPI S5 Cold Boot Test

Under room temperature:
OS: Windows 7 Ultimate 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: Innodisk DDR3 1600 8GB SEC K4B4G0846E x2 (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]