

Report NO:15P010008

BOXER-6357VS

**Railway Embedded Computer with
Intel® Core™ i7-3517UE processor**

**System Level Product
P5 Test Report Template**

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

2015/06/22

Approval

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Test Engineer

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Version Released Records

Date	Version	Change History	Note
2010/04/21	P3-1001	1. Re-composing test Items	
2010/06/01	P2P3-1001	1. New Test Report	
2010/06/21	P2P3-1002	1. Add BIOS -> SPI ROM Setting (South Bridge – GPIO)	
2010/12/02	P2P3-1003	1. New Test Report	
2011/02/23	P2P3-1101	1. Re-composing test Items	
2011/03/04	P2P3-1102	1. Add Specification Validation	
2012/05/29	P2P3-1201	1. Add Summary Table of DTS	
2013/12/6	P2P3-1301	<ol style="list-style-type: none"> 1. Rename document : [System Level Product P2-P3 Verification Test Plan & Report Template] 2. Chapter3:Add RS422 1.2KM/115200bps transmission test 3. Chapter3:BurninTest test add USB2.0/3.0. 4. Chapter5: Modify power consumption test item. 5. Chapter7: add Windows XP Professional English Version 32/64Bit and Windows 8 Pro English Version 32/64Bit test. 6. Chapter8: Change BIOS format from Award to AMI and add Hi-Safe, Hi-Manager test item. 7. Chapter9: Add SATA performance test and USB3.0 performance. 8. Remove Chapter10: Other Tests. 	
2014/10/03	P2P3-1401	<ol style="list-style-type: none"> 1. Rename document: [System Level Product P2-P3 Test report Template] 2. Remove platform information\test item and add driver folder. 3. Chapter2.1: add EDID check, DOS display, 3840*2160, hot plug. 4. Chapter2.2: modify from “dual display test” to “Multi display test. 5. Remove chapter 2.3 “Boot ROM to Novell 4.11 [RPL]” item 6. Chapter2.3.2: add “CPU information” 7. Chapter2.4 add test point. 8. Add chapter 4.10 Display port converter compatibility test. 9. Chapter7.1: remove “halt” test item. 10. Chapter7.2/7.3/7.4: add touch and TPM function test 11. Chapter9: update performance test program. 12. Add chapter 11. Negative Test. 	

Note :

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

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

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

Specification Validation

Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Processor	Intel® Core™ i7-3517UE (4M Cache, up to 2.80 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SBC	PBA-QM77 Rev.B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel QM77	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	DDRIII 1333/1600 SODIMM X 2 , Max.16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Display Interface	DB-15 x 1 for VGA DVI-I x 1 (DVI-A + DVI-D) Support Dual Independent display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage Device	CFast x 1 Easy access 2.5" SATA HDD bay x 2, support RAID 0, 1 Support Hot-plug / Hot-swap function Support HDD Pluggable LED Switch Optional for expand to HDD x 4 (Support RAID 0,1, 5 10)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rear I/O (I/O connector)	Isolation Digital Input x 6, Digital Output x 2 USB 3.0 x 2 (Type A) RS-232/422/485 x 2 (DB-9,non-Isolation) RS-232/422/485 x 1 (DB-9, Isolation) Line-out x 1,MIC-in x 1 Power input Connector (refer to below "Power Supply" item) Antennal holes x 3 (one for WiFi, one for GPS, one for 3G/4G)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Front I/O (I/O connector)	USB 2.0 x2 (M12, Female) RS-232/422/485 x1 (M12, Female) Giga LAN x 2 (M12, Female) VGA x1 DVI-I x 1 Power on/off LED Switch x1 Easy Access CFast slot x 1 (Covered) Easy Access SIM slot x 1 (Covered) Removable 2.5" HDD kit (SATA III-6.0 G) x 2 2-pin Remote Power on/off Switch (via cable) Optional 802.3af POE x4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internal Wafer	MiniCard x3 SIM slot x2 USB2.0 x1 USB3.0/2.0 x1 COM x2 LPC x1 SATA (SATA III-6.0 G) x 2 (signal and power for HDD) SATA (SATA II-3.0 G) x 2 (signal and power for HDD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Digital Input	Input Channels: 4, Source Type Input Voltage: 0 to 20VDC at 25Hz Dry Contacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Input Level Logic level 0: Close to GND Logic level 1: Open Wet Contacts Input Level Logic level 0: +3V max. Logic level 1: 5 ~ 20V				
Digital Output	Output Channels: 2, Sink Type On-state Voltage: open collector to 30 V 30 mA max. load Power Dissipation 150 mW	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion	Full-size Mini-card x 3 (1 on M/B & 2 on I/O board) SIM slot x3 (1 is easy access, 2 is internal)				
OS support	Windows 7 (32/64 bit), Windows Embedded Standard 7 (32/64 bit), Windows 8.1 (32/64 bit), Windows Embedded standard 8 (32/64 bit) Windows XP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Supply	Support ATX/AT mode, default ATX DC-in w/ M12 connector EN50155: PER-T292 Input: 16.5~75V or 43~160V Protection: Over-voltage protection Low-voltage protection Short circuit protection Reverse Protection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows XP Pro (32-bit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows 7 (32/64-bit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Windows 8 (32/64-bit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Specifications

Item	Specification
Operating temperature	-40°C to 70°C, 85°C for 10 minutes
humidity	conforms to EN 50155/EN50125-1 Test method EN 60068-2-30 (variant 1)
Shocks and vibrations	Test method EN 61373 (random vibration)
EMC	compliant with EN50121 standard, EN55022/ EN55024

Note: Please refer Environment Test Report for detail information

Platform Information

Item	Device Information	Note
Product of department	PAA	
PCB Model / Version	PBA-QM77 C.02	
Carrier Board	N/A	
BIOS / Version	BOXER-6357 R1.2(B357AM12)(06/08/2015)	
Driver folder	\\nas3\SAP-BETA\Products\BOXER-6357VS\20150224	
CPU Type	Intel® Core™i7-3517UE Processor(4M Cache ,up to 2.80GHz)	
Memory Type	Transcend 4G 2RX8 DDR3 1333 (SEC 249 XYKO K4B2G0846D)	
SATA HDD	Seagate ST9160412AS SATAII 2.5" 160GB/7200rpm	
SATA DVD-ROM	N/A	
USB DVD-ROM	Pioneer DVR-XD11T	
DVI Monitor	Philips 244E2SB/96 24"	
VGA Monitor	View Sonic VT-2430-NT monitor	
LVDS	N/A	
CFast card	INNODISK 3ME 32GB	
POE Board	PER-T301 A0.1	
Power Board	PER-T292 A0.2	
Expansion Board	N/A	
Operating System	<input checked="" type="checkbox"/> English Ubuntu 14.04 Kernel 3.13.0-24-generic #46	
	<input checked="" type="checkbox"/> Windows XP Professional English SP3 32 Bit	
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32/64Bit	
	<input checked="" type="checkbox"/> Windows 8.1 Enterprise English 32/64 Bit	
Power Supply	ATX Power Supply : N/A	
	AT Power Supply: N/A	
	DC Adapter : FSP180-AAAN2 24V /7.5A	
	DC POWER SUPPLY : Chroma 62012P-600-8	
Battery Model	N/A	
Chipset Information		
Chipset Software	Intel Chipset Device Software 10.0 (01/14/2014)	
PCH Bridge	Intel QM77	
Super IO Chipset	Fintek F81866D	
Audio Chipset	Realtek High Definition Audio 6.0.1.7246 (5/14/2014)	
VGA Chipset	Intel® HD Graphics 4000 10.18.10.4061 (12/18/2014)	
Ethernet Chipset	Intel® 82579LM Gigabit Network Connection 12.10.29.0 (5/2/2014)	
	Intel® 82574L Gigabit Network Connection 12.7.27.0 (5/16/2013)	
	Realtek USB GBE Family Controller 7.8.218.2014 (2/18/2014)	

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1. OSD Control Function Test

1.1. OSD Control Test

OSD Control Function	Function			Note
	Pass	Fail	N/A	
Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MENU	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
UP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
POWER	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
EXIT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

1.2. OSD - On Screen Display Test

OSD - On Screen Display	Function			Note
	Pass	Fail	N/A	
Input Source	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	OSD Control by system
PIP Enable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Auto Tune	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Backlight	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Brightness	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Contrast	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Color	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Position	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Language	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Recall	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Save Exit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cancel Exit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

1.3. OSD Light Test

OSD Control Function	Function			Note
	Pass	Fail	N/A	
Power off	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Power on	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Stand by	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Into S1 / S3 and see light function

1.4. Modular System Industrial Workstation Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
AC power outlet / inlet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power On / Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power on/off LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
H.D.D LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CD-ROM drive included	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Floppy drive included	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lockable front-panel door	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Finger mouse	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
59 Data-entry&20/24 Function keys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

1.5. Mechanism construction check

Test Item	Result			Note
	Pass	Fail	N/A	
Case construction check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCMCIA construction check	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CFast Card construction check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Component check	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3. SATA Compatibility Test

1.3.1 Onboard SATA (IDE) Test

SATA Device Information	Result			Note
	Pass	Fail	N/A	
Seagate ST9160412AS 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD5000BPKX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3.2 Onboard SATA (RAID) Test

SATA RAID Test		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1 TOSHIBA MK1676GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA MK1665GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1 TOSHIBA MK1676GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA MK1665GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1 TOSHIBA MK1676GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA MK1665GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 Seagate ST9160412AS 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-10 (HDDx3) Striping/Span Test Mirroring	1 TOSHIBA MK1676GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA MK1665GSX 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 WD WD5000BPKX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	4 WD WD5000BPKX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3.3 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
Seagate ST9160412AS 2.5" 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD5000BPKX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Basic Function Test

2.1. Video Function Test

2.1.1. Single Output Function Test

Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version										
CPU	Intel® Core™ i7-3517UE Processor(4M Cache ,up to 2.80GHz)									
Memory	Transcend 4G 2RX8 DDR3 1333 (SEC 249 XYKO K4B2G0846D)									
SATA HDD	Seagate ST9160412AS SATAII 2.5" 160GB/7200rpm									
VGA	View Sonic VT-2430-NT monitor									
DVI	Philips 244E2SB/96 24"									
Color Quality	<input type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			DVI			HDMI			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1152X864	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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"/>	
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"/>	
1280X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1360X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1366X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1400X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1440X900	<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"/>	
1600X900	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1600X1200	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1680X1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1792X1344	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1856X1392	<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"/>	
1920X1080	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hot plug	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rotation(0/90/180/270)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DOS Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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"/>	

2.1.3. Video Resolution Test

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while system reaches Windows then check VGA driver and display
3. Check VGA output Brightness is normal and it shows "Ghost Image" / "Flicker" or not

	Result			Note
	Pass	Fail	N/A	
In Windows Desktop	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.1.4. Video Resolution Test

LVDS Model		Result			Note
		Pass	Fail	N/A	
LVDS	1_AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2_AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3_Data Image 7" / 800*480 / 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	4_AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	5_AU B104SN02 V.0 / 10.4" / 800*600 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	6_AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	7_AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	8_AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	9_Toshiba /12.1"/1280 x 768 x 18bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	10_AU M170EG01 V.D/ 17" / 1280*1024 / 48bit (4:3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	11_AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	12_AUO T260XW02 / 26" / 1366x768 / 24bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	13_AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	14_AUO T370HW01 / 37" / 1920x1080 / 48bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	15_AUO M190PW01 V0 / 19"/1440X900/48 bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	Line-out
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CD_In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Line In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.3. LAN Function Test

[] No Support

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times)										
Command: ping xxx.xxx.xx.xx -l 65500 -n 1000										
1000Mbps LAN HUB			D-Link DGS-1008D							
100Mbps LAN HUB			Accton Desktop-3005							
10Mbps LAN HUB			SVEC FD916H							
On Board LAN1		Intel® 82579LM Gigabit Network Connection					MAC Address		88-88-88-88-87-88	
On Board LAN2		Intel® 82574L Gigabit Network Connection					MAC Address		00-07-32-27-15-0A	
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 DOS	
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"/>		

2.3.2. Throughput Test

DUT Platform Information:

<input type="checkbox"/>	Fedora 15
<input type="checkbox"/>	Cent 5.5
<input checked="" type="checkbox"/>	Ubuntu14.04 kernel 3.13.0-32-generic
<input type="checkbox"/>	Red Hat

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

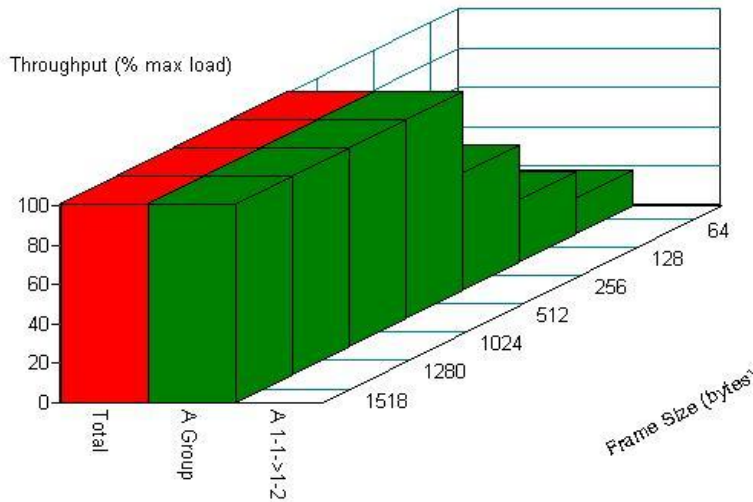
Graphics Media	Ubuntu14.04 Default setting
LAN	LAN1 → Intel® 82579LM Gigabit Network Connection
	LAN2 → Intel® 82574L Gigabit Network Connection
Audio Driver	Ubuntu14.04 Default setting
CPU information	Intel® Core™ i7-3517UE Processor(4M Cache ,up to 2.80GHz)

SMB Platform Information:

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

Test Result:

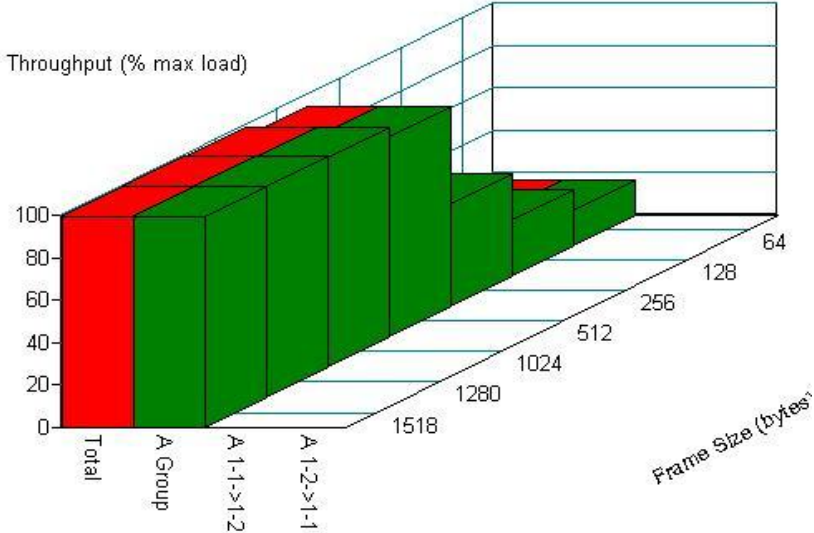
1. Half Direction (LAN1: Intel® 82579LM Gigabit Ethernet → LAN2: Intel® 82574L Gigabit Ethernet)



Throughput vs Frame Size

Name/Framesize	64	128	256	512	1024	1280	1518
Total	18.015625	31.1640625	59.0078125	100	100	100	100
A Group	18.015625	31.1640625	59.0078125	100	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Binary Direction (LAN1: Intel® 82579LM Gigabit Ethernet ↔ LAN2: Intel® 82574L Gigabit Ethernet)



Throughput vs Frame Size

<u>Name/Framesize</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	16.46875	25.75	47.40625	93.8125	98.453125	99.2265625	99.2265625
A Group	16.46875	25.75	47.40625	93.8125	98.453125	99.2265625	99.2265625
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3. Integration Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel® Core™ i7-3517UE Processor(4M Cache ,up to 2.80GHz)
Memory	Transcend 4G 2RX8 DDR3 1333 (SEC 249 XYKO K4B2G0846D)
HDD/CFD	Seagate ST9160412AS SATAII 2.5" 160GB/7200rpm
Chipset Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
Chipset Software	Intel Chipset Device Software 10.0 (01/14/2014)
PCH Bridge	Intel QM77
Super IO Chipset	Fintek F81866D
Audio Chipset	Realtek High Definition Audio 6.0.1.7246 (5/14/2014)
VGA Chipset	Intel® HD Graphics 4000 10.18.10.4061 (12/18/2014)
Ethernet Chipset	Intel® 82579LM Gigabit Network Connection 12.10.29.0 (5/2/2014)
	Intel® 82574L Gigabit Network Connection 12.7.27.0 (5/16/2013)
	Realtek USB GBE Family Controller 7.8.218.2014 (2/18/2014)

3.1. USB Port Integration Test

Item	USB Port	Boot			Function(Win 7)			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB FDD Mitsumi D353GUE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SONY USB2.0 DVD-R/W DRX-830UL		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Hub Test (Connect USB Device) HUB Port1: USB Keyboard / HUB Port2: USB Mouse / HUB Port3: USB HDD								
USB 2.0 HUB PowerSync / USB 2.0 4 Port HU-155					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.2. Digital I/O Port Test

DIO Address (___)	Result			Note
	Pass	Fail	N/A	
DIO VCC +5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO VCC +20V (Wet)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.3. COM Port Integration 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

3.4. RS-422 / RS-485 Test

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use loopback and WINSSD.exe to test RS-422 in Windows
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ol style="list-style-type: none"> The communication between the RS-422 port of two boards is linked by one 1.2km cable on Windows Terminal Confirm RS422 can work properly from G3 status
RS-485 for COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ol style="list-style-type: none"> The communication between the RS-485 port of two boards is linked by one 1200m cable on Windows Terminal Confirm RS485 can work properly from G3 status

3.5. LPT Port Test

Test Item	Result			Note
	Pass	Fail	N/A	
XEROX Phaser 3124 Laser Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

3.6. Burn In Test

Under Room Temperature: 26 °C

OS: Windows 7 Ultimate English SP1

Test Item	Result			Note	
	Pass	Fail	N/A		
Burn In Test V8.0 Pro (1025) Duty: 100 Time: over 12 hours	CPU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	COM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Video	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sound	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Network	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Parallel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB	2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note: COM PORT Speed Set to 115200.

4. Application Test

4.1. PCI-Express Function Test

Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
HUAWEI Gobi3000 3G WCDMA MODULE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sierra Wireless AirPrime MMC7304 QUALCOMM 4G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ralink RAK-RT3092 Mini Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Atheros WPEA-152GN(BT)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AzureWave AW-NB041H(PCI-e Wireless+ USB Bluetooth)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AzureWave AW-NB100H(PCI-e Wireless+ USB Bluetooth)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

4.2. PoE port Test

Test Item		Result			Note
		Pass	Fail	N/A	
ETROVISION	EV8782Q-BD 3MP Bullet Camera * 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IP Camera	EV8581U-BL 2M Fixed dome Camera * 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

5. Power Consumption Test

	Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version
CPU	Intel® Core™ i7-3517UE Processor(4M Cache ,up to 2.80GHz)
Memory	Transcend 4G 2RX8 DDR3 1333 (SEC 249 XYKO K4B2G0846D)
HDD/CFD	Seagate ST9160412AS SATAII 2.5" 160GB/7200rpm

5.1. PC Health Status

Test Point: The value between Actual Voltage and Voltage Monitor must be + /- 5%

Voltage Monitoring Test	Result			BIOS (V)	Actual (V)	Note
	Pass	Fail	N/A			
CPU temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	44°C	38.8°C	
System temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	44°C	39.1°C	
Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.832V	0.84	
5Vdual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.146V	5.10	
5Vsb	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.116V	5.09	
12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.946V	11.93	
VCC3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.360V	3.26	
VSB3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.344V	3.25	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.184V	3.03	

5.2. DC Power Switch

Test Environment	Switch	DC Power(43V~160V)		Note
(Normal Mode) Windows 7 with Prime 95 Full Loading Test	(+40.8V)	0.57	A	
	(+80V)	0.31	A	
	(+120V)	0.21	A	
	(+168V)	0.16	A	
Suspend in Windows 7 (S3)	(+40.8V)	0.06	A	
	(+80V)	0.04	A	
	(+120V)	0.02	A	
	(+168V)	0.02	A	
Max rush current during boot to Windows	(+40.8V)	0.62	A	
	(+80V)	0.32	A	
	(+120V)	0.23	A	
	(+168V)	0.17	A	
Windows 7 Without running any Software	(+40.8V)	0.34	A	
	(+80V)	0.19	A	
	(+120V)	0.14	A	
	(+168V)	0.11	A	

5.3. Power Status

Chroma PROGRAMMABLE DC POWER SUPPLY Model :62012P-600-8

Test Point: Voltage + /- 5%

Test Item	Result			Note
	Pass	Fail	N/A	
43V (40.8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
80V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
120V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
160V (168)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6. Time Accuracy Test

6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

Function	Item	Time Interval	Margin for error	Actual	Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode		24 hrs	+/-2 sec	0.5 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC Clock in Power Off Mode		24 hrs	+/-2 sec	2 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6.2. Booting Timer Test

	Actual	Note
System Booting Time	4.05 Sec	Press the Power Button till "Beep" Sound appears

6.3. Watchdog Timer Test

Use Function as below:

[] No Support.

Time-Out Interval	Margin for error	Actual	Result			Note
			Pass	Fail	N/A	
10 sec	+/- 10%	10.79 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+/- 10%	60.93 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	256.06 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C / DOS Mode

7. O.S. Compatibility Test

7.1. English Ubuntu 14.04 Kernel 3.13.0-24-generic #46

[] No Support

Driver Information:

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

Install OS to IDE HDD/SATA HDD/ CF Card:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu14.04 kernel 3.13.0-32-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"/>	
DVI -- Full Screen	<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"/>	
POE Port --Auto	<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
Base Function Test				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Redirection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD-ROM Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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

7.2. Windows XP Professional English Version 32Bit

{ } No Support

{ } x32 Driver Information:

Chipset Software	
Graphics Media	Intel® HD Graphics 4000 6.14.10.5437 (2/4/2013)
Audio Driver	Realtek High Definition Audio 5.10.0.7111 (12/10/2013)
LAN Driver	Intel® 82579LM Gigabit Network Connection 12.6.45.0 (2/22/2013)
	Intel® 82574L Gigabit Network Connection 12.7.27.0 (3/27/2013)
	Realtek USB GBE Family Controller 5.6.218.2014 (2/18/2014)

Install OS to IDE HDD/SATA HDD/ CF Card:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional ACPI Mode	<input 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"/>	
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows XP Professional Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<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"/>	
POE Port --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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Microphone Test	<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 (S3/S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.3. Windows 7 Ultimate English Version 32/64Bit

{ } No Support

{ } x32 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (01/14/2014)
Graphics Media	Intel® HD Graphics 4000 10.18.10.4061 (12/18/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7246 (5/14/2014)
LAN Driver	Intel® 82579LM Gigabit Network Connection 12.10.29.0 (5/2/2014)
	Intel® 82574L Gigabit Network Connection 12.7.27.0 (5/16/2013)
	Realtek USB GBE Family Controller 7.8.218.2014 (2/18/2014)

{ } x64 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (01/14/2014)
Graphics Media	Intel® HD Graphics 4000 10.18.10.4061 (12/18/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7246 (5/14/2014)
LAN Driver	Intel® 82579LM Gigabit Network Connection 12.10.29.0 (5/2/2014)
	Intel® 82574L Gigabit Network Connection 12.7.27.0 (5/16/2013)
	Realtek USB GBE Family Controller 7.8.218.2014 (2/18/2014)

Install OS to IDE HDD/SATA HDD/ CF Card:

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"/>	1920X1080
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1920X1080
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0/3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
POE Port	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
Log off User	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shut down (S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby (S1/S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7.4. Windows 8.1 Enterprise English Version 32/64Bit

[] No Support

[] x32 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (01/14/2014)
Graphics Media	Intel® HD Graphics 4000 10.18.10.4061 (12/18/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7246 (5/14/2014)
LAN Driver	Intel® 82579LM Gigabit Network Connection 12.10.29.0 (5/2/2014)
	Intel® 82574L Gigabit Network Connection 12.6.47.1 (3/28/2013)
	Realtek USB GBE Family Controller 8.11.225.2014 (2/25/2014)

[] x64 Driver Information:

Chipset Software	Intel Chipset Device Software 10.0 (01/14/2014)
Graphics Media	Intel® HD Graphics 4000 10.18.10.4061 (12/18/2014)
Audio Driver	Realtek High Definition Audio 6.0.1.7246 (5/14/2014)
LAN Driver	Intel® 82579LM Gigabit Network Connection 12.10.29.0 (5/2/2014)
	Intel® 82574L Gigabit Network Connection 12.6.47.1 (3/28/2013)
	Realtek USB GBE Family Controller 8.11.225.2014 (2/25/2014)

Install OS to IDE HDD/SATA HDD/ CF Card:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 8.1 Enterprise 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"/>	
DVI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 /3.0Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
POE Port	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Microphone Test	<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 (S3/S5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. BIOS Function Test

	Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version
CPU	Intel® Core™ i7-3517UE Processor(4M Cache ,up to 2.80GHz)
Memory	Transcend 4G 2RX8 DDR3 1333 (SEC 249 XYKO K4B2G0846D)
HDD/CFD	Seagate ST9160412AS SATAII 2.5" 160GB/7200rpm

8.1. Advanced Test

Test Item	Result			Note	
	Pass	Fail	N/A		
ACPI settings	Suspend Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	S1 only (CPU Stop Clock)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S3 only (Suspend to RAM)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU configuration	Hyper-threading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Virtualization Technology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA configuration	SATA controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AMT Configuration	Intel AMT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	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"/>	Smart Auto
	XHCI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super IO configuration	Serial port 1~4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	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"/>	
H/W Monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Digital IO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

8.2. Chipset Test

Test Item	Result			Note		
	Pass	Fail	N/A			
PCH-IO Configuration	Power Mode	ATX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		AT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Restore AC Power Loss	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"/>	
	PCH LAN Controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	82579LM	
	Wake on LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Deep S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Mini PCIe Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
System Agent (SA) Configuration	Primary	VBIOS Default	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		IGFX Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display	CRT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		CRT2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		DVI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch Intel I82579LM PXE OpROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch Intel I82574LPXE OpROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Boot From USB HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB Floppy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB CD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot from LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.4. CMOS Backup / Clear CMOS Test

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Backup	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date and time
Clear CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clear Date

8.5. AAEON Tag Check Utility

Test Item	Result			Note
	Pass	Fail	N/A	
Check AAEON BIOS OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AONCHECK.EXE

8.6. Supervisor / User Password Test

Test Item	Result			Note
	Pass	Fail	N/A	
Administrator Password	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
User Password	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.7. Hi-safe Test

Test Item	Result			Note	
	Pass	Fail	N/A		
Version(20150226)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BOXER-6357	
System Information	CPU Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Model Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support single DIMM
H/W Monitor	Info	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DIO	DIO1~4 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO1~4 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO7~8 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIO7~8 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WatchDog	10sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 10.79 sec
	1min	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 60.93 sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 256.06sec
	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 A4h
	Read Word	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Result / Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.8. Hi-Manager Test

Test Item	Result			Note	
	Pass	Fail	N/A		
Version(20150205)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power control	Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on from G3 state	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Group Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Event log	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Alarm Clock	Set Alarm Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Recurring Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Remote Recovery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remote Reboot/ Reboot from CD ROM/Reboot from ISO (Reboot to BIOS no support)	
KVM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Schedule	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

9. Performance Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel ® Core™i7-3517UE Processor(4M Cache ,up to 2.80GHz)
Memory	Transcend 4G 2RX8 DDR3 1333 (SEC 249 XYKO K4B2G0846D)
HDD/CFD	Seagate ST9160412AS SATAII 2.5" 160GB/7200rpm

9.1. Performance Test

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark2005			Windows 7
PCMark	N/A	-	PCMarks
CPU	5387	-	
Memory	6202	-	
Graphics	1286	-	
HDD	14758	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	
PCMark Vantage			
PCMarks	7196	-	PCMarks
Memories	4044	-	
TV and Movies	N/A	-	
Gaming	5653	-	
Music	7070	-	
Communications	8599	-	
Productivity	7576	-	
HDD	14082	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2006 v120			Windows 7
3Dmark Score	1621	-	
SM2.0 Score	530	-	
HDR/SM3.0 Score	624	-	
CPU Score	2151	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

3Dmark11 Professional Edition			Windows 7
Performance 1280*720 (Default)			
3Dmark 11Score	P257	-	
Graphics Score	220	-	
Physics Score	2064	-	
Combined Score	249	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 7.0			Windows 7
PassMark Rating	798.8	-	
CPU Mark	2281.5	-	
2D Graphics Mark	223.3	-	
3D Graphics Mark	161.1	-	
Memory Mark	638.8	-	
Disk Mark	955.9	-	
CD Mark		-	

Testing Software	Scope		Note
	AAEON	Ref.	
Windows experience index			Windows 7
Processor	6.4	-	
Memory	7.1	-	
Graphics	4.5	-	
Gaming graphics	4	-	
Primary hard disk	6.95	-	

SATA Performance

SATA HDD	Seagate ST9160412AS SATAII 2.5" 160GB/7200rpm			
	TOSHIBA MK3276GSX SATAII 2.5" 320GB/5400rpm			
CFAST card	INNODISK 3ME 32GB			
CPU	Intel® Core™ i7-3517UE Processor(4M Cache ,up to 2.80GHz)			
Memory	Transcend 4G 2RX8 DDR3 1333 (SEC 249 XYKO K4B2G0846D)			
OS	Windows 7 Ultimate English SP1 32 Bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (SATA port 1) SATAII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	17.4ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	4%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	65.6MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	221.8MB/s	SATAII 150~300MB SATAIII up 300M/B
Single HDD (SATA port 2) SATAII	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	18.2ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	0%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	69.4MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	214.8MB/s	SATAII 150~300MB SATAIII up 300M/B
Single HDD CFAST card	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.1ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	4%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	204.4MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	240.1MB/s	SATAII 150~300MB SATAIII up 300M/B

USB3.0 Performance

USB Flash	JetFlash Transcend 32GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0	Maximum Read	ATTO Disk Benchmark	82.978MB/s	
	Maximum Write	ATTO Disk Benchmark	30.131MB/s	

USB2.0 Performance

USB Flash	JetFlash Transcend 32GB (USB3.0)			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB2.0	Maximum Read	ATTO Disk Benchmark	25.935MB/s	
	Maximum Write	ATTO Disk Benchmark	14.262MB/s	

10. Negative Test

10.1 USB Keyboard Negative Test

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

10.2 Suspend S3 Negative Test

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