

EMB-Q77B

P5 Verification 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

2014/04/11

Approval

Tom Lin

Test Engineer

Mike Lee

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	P2P2-1003	1. New Test Report	
2011/02/23	P2P3-1101	1. Re-composing test Items	
2011/03/04	P2P3-1102	1. Add Specification Validation	

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 will be updated when re-test completed in product next change version.

Specification Validation

Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
CPU	LGA1155 socket for Intel® 3rd/2nd Generation Core™ i7/ i5/ i3/ Pentium® / Celeron® Processors (Supports Intel® CPU up to 95W)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel® Q77 Express Chipset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Memory	2 x DIMM, Max. 16GB, DDR3 1600 / 1333/1066 MHz Non-ECC, Un-buffered Memory Dual channel memory architecture	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics	Intel® Graphics Media Accelerator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O Chipset	NCT 6779D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	Intel® Q77 Express Chipset supported - 2 x SATA 6Gb/s ports (gray) - 2 x SATA 3Gb/s ports (blue) - mSATA on mini card slot Supports RAID 0/1/5/10 and AHCI model	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	1 x Intel 82579LM Gigabit LAN (Support Intel I AMT 8.X) 1 x Intel 82583V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	Realtek® ALC887	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	Infineon SLB9635 TT 1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Slots	1 x PCIe 3.0/2.0 x16 1 x Mini Card (USB+PCIe+mSATA) Half size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	128 Mbit Flash ROM, AMI BIOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
H/W Monitor	Temperature Monitor on CPU/Chassis Voltage Monitor on Vcore/5V/3.3V/12V Fan Monitor on CPU/Chassis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WatchDog Timer	1~255 step by software program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Smart Fan Control	CPU Fan / Chassis Fan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN / PXE	Yes (WOL / PXE)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power State	S3, S4, S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics Chipset	Intel® Graphics Media Accelerator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Graphics Multi Display	HDMI & VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA	Up to 1920 x 1200 @60 Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI	Up to 1920 x 1200 @60 Hz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	2 x SATA 6Gb/s ports (gray), 2 x SATA 3Gb/s ports (blue) RAID 0/1/10/5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB	4 x USB 3.0 / 2.0 ports (4 ports at back panel) 4 x USB 2.0 / 1.1 ports (4 ports at mid-board)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Display I/O	1 x HDMI, 1 x VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio I/O	Line-in, Mic-in, Line-out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN I/O	2 x RJ-45	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	1 x RS-232/422/485 supports 5V/12V/RI option (COM1, D-Sub 9) 1 x RS-232 (COM2, D-Sub 9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

PS/2 Port	keyboard / Mouse with PS/2 connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FAN	1 x CPU Fan connector(s) (4-pin) 1 x Chassis Fan connector(s) (4-pin)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Battery	Lithium battery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Requirement	1 x 24pin ATX connector 1 x 4pin ATX 12V Power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Compliance	Compliant with EuP / ErP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Operating Temperature	32~140 °F (0~60°C)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Operating Humidity	0%~90%RH, non-condensing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Certificate	CE & FCC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	Mini ITX Form Factor, 6.7"x 6.7" (170mmx170mm)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weight	1.1 lb (0.5 Kg)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Back Panel I/O Ports	2 x PS/2 Keyboard / mouse port(Purple / Green) 1 x HDMI 1 x VGA 2 x RJ45 port 2 x COM 4 x USB 3.0 3 x Audio jacks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internal I/O Connectors	1 x PCIe16 Slot 2 x USB 2.0 connectors support additional 4 USB 2.0 ports 2 x SATA6G connectors 2 x SATA3G connectors 1 x CPU Fan connector 1 x Chassis Fan connector 1 x Mini Card (Half size) 1 x 24-pin ATX Power connector 1 x 4-pin ATX 12V Power connector 1 x Chassis Intrusion 1 x Front Panel connector 1 x AT/ATX mode select jumper 1 x CMOS jumper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
OS Supported	Windows XP 32 bit Windows XP 64 bit Windows 7 32 bit Windows 7 64 bit Windows 8 Linux Fedora	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Accessories	2 x Serial ATA 6.0Gb/s cables I/O Shield Support DVD	<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 32 / 64 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux	Linux Fedora	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Specifications

Item	Specification
Operating Temperature	32~140 °F (0~60 °C)
Operating Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC

Note: Please refer to Environment Test Report for detail information

Platform Information

Item	Device Information	Test Item
PCB Model / Version	EMB-Q77B Rev 1.00	1,2,3,4,5,6,7,8,9
BIOS / Version	R0.5(EQ77BM05)(12/10/2013)	1,2,3,4,5,6,7,8,9
CPU Type	Intel ® Core™ i7-3770 CPU @ 3.40GHz	1,2,3,4,5,6,7,8,9
Memory Type	Transcend DDR3 1333U 2Rx8 8GB - SEC207HYK0 K4B4G0846B x2	1,2,3,4,5,6,7,8,9
	Panram DDR3-1333 CL9 4GB-hynix H5TQ2G83CFR H9C 139AK Panram DDR3-1333 CL9 4GB-hynix H5TQ2G83CFR H9C 137EA	
	DSL DDR3 1600 8GB CL11 - ELPIDA J4208BBBG-GN-F x2	
	ADATA 2GX16 DDR3 1333U - DIMM - ADATA 3BCD - 1509GNA1106C x2	
SATA HDD	WD 3.5" SATA3 HDD 2TB - WD20EZR	1,2,3,4,5,6,7,8,9
	TOSHIBA 2.5" SATA HDD 160GB - MK1665GSX	
	Hitachi 2.5" SATA HDD 250GB - HTS543225A7A384	
	TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	
	TOSHIBA 2.5" SATA HDD 500GB - MK5076GSX	
SATA DVD-ROM	LG GH22 Super Multi DVD Rewriter	1,2,3,4,5,6,7,8,9
USB DVD-ROM	Aopen EDR8865U	1,2,3,4,5,6,7,8,9
LCD Monitor	EIZO EV2335W 23.5"	1,2,3,4,5,6,7,8,9
	PHILIPS 244E2SB 24"	
Operating System	<input checked="" type="checkbox"/> English Fedora 13 Kernel 2.6.33.3 - 85.fc13.i686.PAE #1	7-1
	<input checked="" type="checkbox"/> Windows 7 Ultimate English Version 32/64Bit	7-2
	<input checked="" type="checkbox"/> Windows XP SP3/SP2 English Version 32/64Bit	7-3
	<input checked="" type="checkbox"/> Windows 8 Enterprise English Version 32/64Bit	7-4
Power Supply	Seasonic G-Series 450W(SSR-450RM)	1,2,3,4,5,6,7,8,9
	SEVENTEAM ST-450PCG 450W	
Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version		
Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (December/06/2011)	
South Bridge	Intel Q77 Express Chipset	
Super IO Chipset	NCT6779D	
VGA Chipset	Intel ® HD Graphics 4000 9.17.10.2884 (11/7/2012)	
Audio Chipset	Realtek High Definition Audio 6.0.1.6767 (10/30/2012)	
	Intel ® Display Audio 6.14.0.3097 (6/19/2012)	
Ethernet Chipset	Intel ® 82579LM Gigabit Network Connection 11.10.84.0 (2/8/2011)	
	Intel ® 82583V Gigabit Network Connection 11.7.32.0 (9/29/2010)	

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1. Hardware Test

1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel ® Core™ i7-3770 CPU @ 3.40GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Windows 7 Ultimate English Version 32/64Bit & English Fedora 13 Kernel 2.6.33.3 - 85.fc13.i686.PAE #1 & Ubuntu 10.10 Kernel 2.6.35 - 22 - generic #33
Intel ® Core™ i5-3550S CPU @ 3.00GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Win XP & Win 8

1.2. Memory Compatibility Test

Memory Information	MEM V4.20			Note
	Pass	Fail	N/A	
Transcend DDR3 1333U 2Rx8 8GB - SEC207HYK0 K4B4G0846B x2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Panram DDR3-1333 CL9 4GB-hynix H5TQ2G83CFR H9C 139AK Panram DDR3-1333 CL9 4GB-hynix H5TQ2G83CFR H9C 137EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3 1600 8GB CL11 - ELPIDA J4208BBBG-GN-F x2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADATA 2GX16 DDR3 1333U-DIMM - ADATA 3BCD-1509GNA1106C x2	<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	
Hitachi 2.5" SATA HDD 250GB - HTS543225A7A384	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA 2.5" SATA HDD 500GB - MK5076GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate 2.5" SATA HDD 160GB - ST9160412AS	<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 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

RAID-10 (HDDx4) Striping/Span Test Mirroring	1 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	4 TOSHIBA 2.5" SATA HDD 160GB - MK1676GSX	<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	
WD 3.5" SATA3 HDD 2TB - WD20EZRX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA 2.5" SATA HDD 160GB - MK1665GSX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate 2.5" SATA HDD 160GB - ST9160412AS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.4. mSATA Compatibility Test

mSATA Device Information	Result			Note
	Pass	Fail	N/A	
MemoRight MSE-H Series mSATA 32GB MLC - MRV012A032GTIM1C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	mSATA
SanDisk mSATA 32GB - SDSA5FK-032G-Q	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	mSATA

2. Basic Function Test

2.1. Video Function Test

2.1.1. Single Output Function Test

Hardware Information with 7 Ultimate SP1 English Version 32 Bit Driver Version										
CPU	Intel® Core™ i7-3770 CPU @ 3.40GHz									
Memory	Transcend DDR3 1333U 2Rx8 8GB - SEC207HYK0 K4B4G0846B x2									
SATA HDD	Hitachi 2.5" SATA HDD 250GB - HTS543225A7A384									
VGA	EIZO EV2335W 23.5"									
HDMI	PHILIPS 244E2SB 24"									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			HDMI			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
800X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 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"/>	
1280X720	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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"/>	
1360X765	<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"/>	
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"/>	
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"/>	
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"/>	
Rotation	<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)

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

2.1.2. Dual Output Function Test

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

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"/>	







2.2. Audio Function Test

No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.3. LAN Function Test

No Support

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times)										
1000MBps LAN HUB			D-Link DGS-1008D							
100MBps LAN HUB			HP J4095A 24 Ports							
10MBps LAN HUB			SVEC FD916H							
OnBoard LAN1		Intel @ 82579LM Gigabit Network Connection					MAC Address		88-88-88-88-87-88	
OnBoard LAN2		Intel @ 82583V Gigabit Network Connection					MAC Address		00-1F-C6-00-01-01	
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"/>		
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 Core 13
<input type="checkbox"/>	Cent 5.5
<input checked="" type="checkbox"/>	Ubuntu 10.10 Kernel 2.6.35 - 22 - generic #33
<input type="checkbox"/>	Red Hat

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

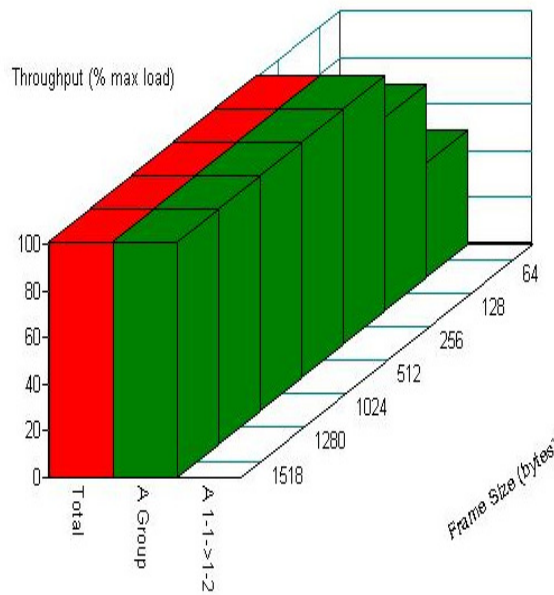
Graphics Media	Ubuntu Default setting
LAN	LAN1→ Intel @ 82579LM Gigabit Network Connection Ethernet: Ubuntu Default setting
	LAN2→ Intel @ 82583V Gigabit Network Connection Ethernet: Ubuntu Default setting
Audio Driver	Ubuntu Default setting

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:

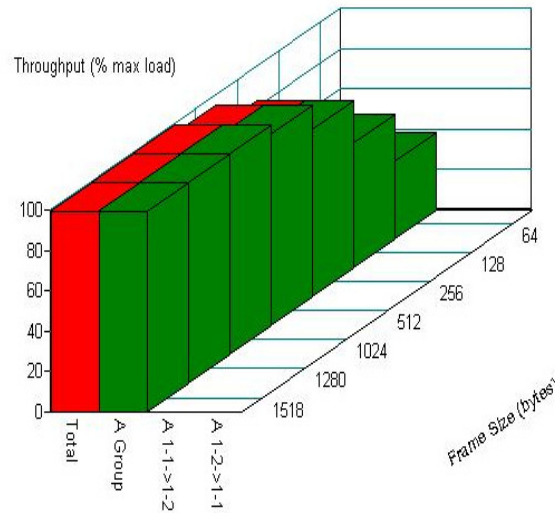
1.Half Direction (LAN1: Intel ® 82579LM 10/100/1G Ethernet → LAN2: Intel ® 82583V 10/100/1G Ethernet)



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	48.1796875	82.2109375	100	100	100	100	100
A Group	48.1796875	82.2109375	100	100	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Binary Direction (LAN1: Intel ® 82579LM 10/100/1G Ethernet → LAN2: Intel ® 82583V 10/100/1G 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	38.125	61.328125	82.2109375	94.5859375	99.2265625	99.2265625	99.2265625
A Group	38.125	61.328125	82.2109375	94.5859375	99.2265625	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 7 Ultimate SP1 English Version 32 Bit Driver Version
CPU	Intel ® Core™ i7-3770 CPU @ 3.40GHz
Memory	DSL DDR3-1600 8GB CL11 - ELPIDA J4208BBBG-GN-F x2
SATA HDD	Hitachi 2.5" SATA HDD 250GB - HTS543225A7A384
	Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version
Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (December/06/2011)
South Bridge	Intel Q77 Express Chipset
Super IO Chipset	NCT6779D
VGA Chipset	Intel ® HD Graphics 4000 9.17.10.2884 (11/7/2012)
Audio Chipset	Realtek High Definition Audio 6.0.1.6767 (10/30/2012) Intel ® Display Audio 6.14.0.3097 (6/19/2012)
Ethernet Chipset	Intel ® 82579LM Gigabit Network Connection 11.10.84.0 (2/8/2011) Intel ® 82583V Gigabit Network Connection 11.7.32.0 (9/29/2010)

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 HP FD-05PUB		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD-ROM Aopen EDR8865U		<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. 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
	+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
	+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Multimeter
Wake On Ring (COM1)	S3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by external Modem
	S4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On Ring (COM2)	S3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.3. RS-422 / RS-485 Test

Test Item		Result			Note
		Pass	Fail	N/A	
RS-422 for COM1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use loopback and WINSSD.exe to test RS-422 in Windows
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-422 port of two boards is linked by one 1.2km cable on Windows Terminal
RS-485 for COM1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-485 port of two boards is linked by one 1.2km cable on Windows Terminal

3.4. Burn In Test

Under Room Temperature: 26 °C

Test Item	Result			Note
	Pass	Fail	N/A	
Burn In Test V7.1 Pro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 Ultimate SP1 English Version 32 Bit

Note: COM PORT Speed Set to 115200. / Network Performance set to 99%

4. Application Test

4.1. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
Intel ® GIGABIT CT DESKTOP ADAPTER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Uptech UTB230 USB3.0 Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Intel (R) Gigabit ET2 Quad Port Svr Adptr PCI-Express x4 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
ASUS GTX680-2GD5 (Nvidia Chipset) PCI-Express x16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ASUS GT620-1GD3-L-V2 PCI-Express x16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
MemoRight MSE-H Series mSATA 32GB MLC - MRV012A032GTIM1C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	mSATA
SanDisk mSATA 32GB - SDSA5FK-032G-Q	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	mSATA
Ralink RT3092 802.11b/g/n wireless LAN card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

5. Power Consumption Test

Hardware Information with 7 Ultimate SP1 English Version 32 Bit Driver Version	
CPU	Intel® Core™ i7-3770 CPU @ 3.40GHz
Memory	Transcend DDR3 1333U 2Rx8 8GB - SEC207HYK0 K4B4G0846B x2
SATA HDD	Hitachi 2.5" SATA HDD 250GB - HTS543225A7A384

5.1. AT/ATX Power Consumption

Test Equipment						
Equipment	AC/DC Digital Clamp meter					
Manufacturer	KYORITSU					
Model name	2010					
Test Environment						
ATX Power Model	Seasonic G-Series 450W(SSR-450RM)					
Power Supply	ATX Power					Note
(Full Loading Mode)	(+12.17V)	7.32	A	89.0844	W	Prime95 Version 279
Windows 7 with Prime 95 Full Loading Test	(+5.04V)	0.16	A	0.8064	W	
	(+3.37V)	0.68	A	2.2916	W	
Full Loading Total Watt	92.1824 (W)					
Win. Idle mode: Measure the current value when system in windows mode and without running any program	(+12.17V)	1.41	A	17.1597	W	
	(+5.04V)	0.08	A	0.4032	W	
	(+3.37V)	0.65	A	2.1905	W	
Idle Total Watt	19.7534 (W)					
Power on - Boot sequency: Measure the maximum current value of between system power on and boot-up to O.S.	(+12.17V)	3.16	A	38.4572	W	
	(+5.04V)	0.18	A	0.9072	W	
	(+3.37V)	0.68	A	2.2916	W	
Power On Total Watt	41.656 (W)					
5VSB in Power off	5VSB	0.01	A	0.05	W	BIOS Erp Enable
5VSB in Power off	5VSB	0.09	A	0.45	W	ErP/EuP 2.0 <0.5 W BIOS ErP Disabled

5.2. 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			
System Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+30°C	29.2°C	
CPU Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+35°C	34°C	
System Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4470 RPM	4490 RPM	
CPU Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4383 RPM	4349 RPM	
VCORE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+1.000V	0.99V	
12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+12.288V	12.15V	
5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+5.080V	5.04V	
VCC3.3V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+3.408V	3.20V	

6. Time Accuracy Test

6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

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

6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	3.06	Sec	Press the Power Button till "Beep" Sound appears

6.3. Watchdog Timer Test

Use Function as below: Hi-Safe v20131204

[] No Support.

Time-Out Interval	Margin for error	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+ / - 10 %	12.26	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+ / - 10 %	64.83	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+ / - 10 %	269.51	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C

7. O.S. Compatibility Test

7.1. English Fedora 13 Kernel 2.6.33.3 - 85.fc13.i686.PAE #1

[] No Support

Driver Information:

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

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Fedora 13 Kernel 2.6.33.3 - 85.fc13.i686.PAE #1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA+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"/>	82579LM OS : Fedora 16
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 OS : Fedora 16
Base Function Test				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PS2 / USB
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PS2 / USB
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
Halt	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power Off Mode
ls / clear; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

7.2. Windows 7 Ultimate English Version 32/64Bit

[] No Support

[X] x32 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (December/06/2011)
Graphics Media	Intel ® HD Graphics 4000 9.17.10.2884 (11/7/2012)
Audio Driver	Realtek High Definition Audio 6.0.1.6767 (10/30/2012)
	Intel ® Display Audio 6.14.0.3097 (6/19/2012)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 11.10.84.0 (2/8/2011)
	Intel ® 82583V Gigabit Network Connection 11.7.32.0 (9/29/2010)

[] No Support

[X] x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (December/06/2011)
Graphics Media	Intel ® HD Graphics 4000 9.17.10.2884 (11/7/2012)
Audio Driver	Realtek High Definition Audio 6.0.1.6767 (10/30/2012)
	Intel ® Display Audio 6.14.0.3097 (6/19/2012)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 11.10.84.0 (2/8/2011)
	Intel ® 82583V Gigabit Network Connection 11.7.32.0 (9/29/2010)

Install OS to SATA HDD / mSATA:

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

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA+HDMI	<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				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
mSATA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Function Test				
LAN1 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio Function Test				
Line Out Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line In Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Microphone Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI Audio 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	<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 XP SP3/SP2 English Version 32/64Bit

[] No Support

[X] x32 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (12/06/2011)
Graphics Media	Intel ® HD Graphics 6.14.10.5412 (5/13/2012)
Audio Driver	Intel ® Display Audio 5.14.0.3090 (12/6/2011)
	Realtek High Definition Audio 5.10.0.6767 (10/30/2012)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 11.10.84.0 (2/8/2011)
	Intel ® 82583V Gigabit Network Connection 11.7.32.0 (9/29/2010)

[] No Support

[X] x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1019 (12/06/2011)
Graphics Media	Intel ® HD Graphics 6.14.10.5412 (5/13/2012)
Audio Driver	Intel ® Display Audio 5.14.0.3090 (12/6/2011)
	Realtek High Definition Audio 5.10.0.6767 (10/30/2012)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 11.10.84.0 (2/8/2011)
	Intel ® 82583V Gigabit Network Connection 11.7.32.0 (9/29/2010)

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP SP3 32bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDE Mode
English Windows XP SP2 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AHCI Mode

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows XP Ultimate Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 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"/>	
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 Audio 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	<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 Enterprise English Version 32/64Bit

[] No Support

[X] x32 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1021 (7/04/2012)
Graphics Media	Intel ® HD Graphics 9.17.10.2884 (11/7/2012)
Audio Driver	Intel ® Display Audio 6.14.0.3097 (6/19/2012)
	Realtek High Definition Audio 6.0.1.6767 (10/30/2012)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 12.1.77.0 (7/12/2012)
	Intel ® 82583V Gigabit Network Connection 12.1.77.0 (7/10/2012)

[] No Support

[X] x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.3.0.1021 (7/04/2012)
Graphics Media	Intel ® HD Graphics 9.17.10.2884 (11/7/2012)
Audio Driver	Intel ® Display Audio 6.14.0.3097 (6/19/2012)
	Realtek High Definition Audio 6.0.1.6767 (10/30/2012)
LAN Driver	Intel ® 82579LM Gigabit Network Connection 12.1.77.0 (7/12/2012)
	Intel ® 82583V Gigabit Network Connection 12.1.77.0 (7/10/2012)

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
Windows 8 Enterprise English Version 32bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDE Mode
Windows 8 Enterprise English Version 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AHCI Mode

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows 8 Enterprise Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic Function Test				
PS/2 Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse detect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 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"/>	
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 Audio Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
Shut down (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 7 Ultimate SP1 English Version 32 Bit Driver Version	
CPU	Intel ® Core ™ i7-3770 CPU @ 3.40GHz
Memory	Transcend DDR3 1333U 2Rx8 8GB - SEC207HYK0 K4B4G0846B
SATA HDD	Hitachi 2.5" SATA HDD 250GB - HTS543225A7A384

8.1. Boot Sequence Test

Test Item	Result			Note
	Pass	Fail	N/A	
Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA DVD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Floppy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN [Boot From LAN First]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.2. Power Management Test

8.2.1. ACPI Power Management Test

Test Item	Result			Note
	Pass	Fail	N/A	
ACPI - S3 (STR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Suspend Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.3. Power On after Power Failure Test

Test Item	Result			Note
	Pass	Fail	N/A	
Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Former-Sts (Auto)	<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 CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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. TPM Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
No Change	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.7. IAMT / Hi-Manager Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
IAMT Function	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hi-Manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.8. SATA Mode Selection

Test Item	Result			Note
	Pass	Fail	N/A	
Disabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IDE Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation OS
AHCI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation OS
RAID Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation OS

8.9. Administrator / 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"/>	

9. Performance Test

Hardware Information with 7 Ultimate SP1 English Version 32 Bit Driver Version	
CPU	Intel ® Core™ i7-3770 CPU @ 3.40GHz
Memory	DSL DDR3-1600 8GB CL11 - ELPIDA J4208BBBG-GN-F x2
SATA HDD	WD 3.5" SATA3 HDD 2TB - WD20EZR

9.1. Performance Test

Test Result: (Display set 1920x1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark2002			Only for Windows 7
CPU	N/A	-	
Memory	62036	-	
HDD	3900	-	
Benchmark (A)	-	-	
PCMark2005			Windows 7
PCMark	13650	-	PCMarks
CPU	13373	-	
Memory	10820	-	
Graphics	7483	-	
HDD	10046	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2003 v360			Only for Windows 7
3Dmark Score	7727	-	
CPU Score	2957	-	
Benchmark (A)	-	-	
3Dmark2006 v120			Windows 7
3Dmark Score	5295	-	
CPU Score	7189	-	
SM2.0 Score	1729	-	
HDR/SM3.0 Score	2038	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Final Reality V1.01—BenchMark Test			Windows 7
2D image	76.60	-	Reality marks
3D	7.58	-	
Bus transfer	67.22	-	
Overall	37.23	-	
Benchmark (A)	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark7			
PCMark	3758	-	
CPU	-	-	
Memory	-	-	
HDD	-	-	
Benchmark (A)	-	-	
PCMark Vantage			
PCMarks	11645	-	PCMarks
TV and Movies	7097	-	
Memories	6484	-	
Gaming	7761	-	
Music	10001	-	
Communications	13170	-	
Productivity	8361	-	
HDD	5948	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 7.0			
PassMark Rating	1928.1	-	
CPU Mark	8376.3	-	
2D Graphics Mark	466.2	-	
3D Graphics Mark	562.3	-	
Memory Mark	1417.9	-	
Disk Mark	959.3	-	
Benchmark (A)	-	-	