

Report NO: 14CO010007

FSB-H81H

PICMG 1.3 Full-Size CPU card Board Level Product P5 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	Approval	Test Engineer
2014/09/05	Tom Lin	Danny Chen

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	
2012/05/29	P2P3-1201	1. Add Summary Table of DTS	
2013/12/6	P2P3-1301	1. Rename document : [Board Level Product P2-P3 Verification Test Plan & Report Template] 2. Chapter1:Memory compatibility add AAeon P/N 3. Chapter1:Add CFAST and m-SATA test item. 4. Chapter3:Add RS422 1.2KM/115200bps transmission test 5. Chapter3:BurninTest test add USB2.0/3.0. 6. Chapter5: Modify power consumption test item. 7. Chapter7: add Windows XP Professional English Version 32/64Bit and Windows 8 Pro English Version 32/64Bit test. 8. Chapter8: Change BIOS format from Award to AMI and add Hi-Safe, Hi-Manager test item. 9. Chapter9: Add SATA performance test and USB3.0 performance. 10. Remove Chapter10: Other Tests..	

Note :

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

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

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

Specification Validation

Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Form Factor	PICMG 1.3 Full-Size CPU card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel® Core™ i7/ i5/ i3 Haswell LGA1150 Processors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel® H81	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	240-pin DDR3/3L 1333/1600 Mhz DIMM, up to 16GB, Non-ECC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA/DVI/LCD Controller	Intel® Graphics Media Accelerator CRT: Up to 1920 x 1200 for CRT Resolution : Up to 1440 x 900 @60Hz, Single Channel 18/24 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	Realtek 8111E for 10/1000/1000Base-TX RJ-45 connector x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O Chips	Fintek 81866D-I Support 6 Serial ports, 8 Digital I/O , 1 PS/2 (KB/Mouse) pin header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	High Definition Codec Audio daughter board (optional,pin header)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA	SATA 6.0Gb/s x 2 + SATA 3.0Gb/s x 2 SATA 3 connectors x 2, SATA II connector x 2 (TBD) Two SATA 2 on backplane	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	Fintek 81866D-I Support 6 COM ports: (Box header 2.0mm x 6) COM 1~2 : RS-232/422/485 (Box header 2.0mm) COM 3~6 : RS/232 (Box header 2.0mm)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Parallel Port	Supports SPP/ EPP/ ECP modes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Universal Serial Bus	USB 2.0 port x 6 (x2 on pin header,x4 to backplane) USB 3.0 port x 2 (Onboard TYPE-A Connector x 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Digital I/O	8-bit Programmable Digital I/O	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog timer	Fintek 81866D-I , 1~255 step by software program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hardware Monitor	Supports Voltage, Fan Speed and Temperature Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PS/2 Interface	PS/2 K/B and Mouse x 1 pin header				
Power Supply Request	24 PIN ATX power	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Slots (BP-206VH-P2E2 Rev:A0.1)	1 x PCIe - x4 Slot 1 x PCIe – x16 Slot 2x PCI Slot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

O.S. Support

Item	Specification	Result	Note
Microsoft Windows	Windows 7 Ultimate English (32Bit)	<input checked="" type="checkbox"/>	
	Windows 7 Ultimate English (64Bit)	<input checked="" type="checkbox"/>	
	Windows 8 Pro English (32Bit)	<input checked="" type="checkbox"/>	
	Windows 8 Pro English (64Bit)	<input checked="" type="checkbox"/>	
Linux	Linux kernel 2.6.x	<input checked="" type="checkbox"/>	

Environmental Specifications

Item	Specification
Operating temperature	32~140°F (0~60°C)
Storage temperature	-4~158°F (-20~70°C)
Operating Humidity	10~80%, non-condensing
EMC	CE & FCC Class A

Note: Please refer Environment Test Report for detail information

Platform Information

Item	Device Information	Test Item
System Model / Version	FSB-H81H Rev 0.2	1,2,3,4,5,6,7,8,9
CPU Board	FSB-H81H Rev 0.2	1,2,3,4,5,6,7,8,9
Backplane	BP-206VH-P2E2 Rev : A0.1_0_0	1,2,3,4,5,6,7,8,9
BIOS / Version	FSB-H81H R1.0 (F81HAM10) (07/29/2014)	1,2,3,4,5,6,7,8,9
CPU Type	Intel® Core™ i7/ i5/ i3 Haswell LGA1150 Processors	1,2,3,4,5,6,7,8,9
Memory Type	Kingston (ELPIDA J2108BCSE) KVR1066D3N7 /4GB x 2	1,2,3,4,5,6,7,8,9
SATA HDD	TOSHIBA / MK1676GSX / 2.5" SATA HDD 160GB	1,2,3,4,5,6,7,8,9
SATA DVD-ROM	ASUS BW-16D1HT	1,2,3,4,5,6,7,8,9
USB DVD-ROM	Iomega DVDRW8X-U	1,2,3,4,5,6,7,8,9
LCD Monitor	LG Flatron E2260 / 22" monitor 1920*1080 Asus PA238Q 23" monitor 1920*1080	1,2,3,4,5,6,7,8,9
LVDS	N/A	1,2,3,4,5,6,7,8,9
Compact Flash	N/A	1,2,3,4,5,6,7,8,9
Daughter Board	N/A	1,2,3,4,5,6,7,8,9
Expansion Board	N/A	1,2,3,4,5,6,7,8,9
	N/A	1,2,3,4,5,6,7,8,9
Operating System	<input checked="" type="checkbox"/> Ubuntu 12.04 LTS–Kernel 3.2.0-64-generic-pae #97	7-1
	<input checked="" type="checkbox"/> Windows 7 Ultimate English 32 Bit / 64Bit	7-2
	<input checked="" type="checkbox"/> Windows 8 Pro English 32 Bit / 64Bit	7-3
Power Supply	ATX Power Supply	Seventeam ST-350BKV 350W FSP Aurum S Series AS-550 550W
	AT Power Supply: N/A	1,2,3,4,5,6,7,8,9
	DC Adapter : N/A	1,2,3,4,5,6,7,8,9
Battery Model	N/A	1,2,3,4,5,6,7,8,9
Chipset Information with Windows 7 Ultimate English SP1 32 Bit Driver Version		
Chipset Software	Intel(R) Chipset Device Software / 9.4.0.1027 (08/21/2013)	
North Bridge	Intel® Core™ i3/i5/i7 (Haswell)	
South Bridge	Intel® H81	
Super IO Chipset	Fintek 81866 D-I	
VGA Chipset	Intel HD Graphics / 9.18.10.3234 (07/09/2013)	
Audio Chipset	Realtek High Definition Audio 6.0.1.6873 (3/29/2013)	
	Intel® Display Audio 6.16.0.3112 (5/22/2013)	
Ethernet Chipset	Realtek PCIe GBE Family Controller / 7.86.508.2014 (5/8/2014)	

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1. Hardware Test

1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel Core i5-4590T 2.0GHz / 6MB L3 cache / Socket 1150 / TDP=65 W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Windows 7
Intel Core i5-4590S 3.0GHz / 6MB L3 cache / Socket 1150 / TDP=65 W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Windows 7/ 8
Intel Core i7-4790S 3.20GHz / 8MB L3 cache / Socket 1150 / TDP=65 W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Windows 7

1.2. Memory Compatibility Test (DDR3 & DDR3L)

Memory Information	AAEON P/N	MEM V5.01 For 3 loops			Note
		Pass	Fail	N/A	
Transcend DDR3-1066 / 4GB (ELPIDA J2108BDSE-DJ-F) 1.5V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3-1333 / 2GB (SAMSUNG SEC 246 BCH9 K4B1G0846G) 1.5V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADATA / DDR3-1333 / 2GB (ADATA / 3BCD-1509A PF1106E) 1.5V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01 (R3-201116, R3-201109)
Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B) 1.5V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01 (SD3-201259, SD3-201260)
Kingston DDR3-1333 / 4GB (U113V8CR9AFJ) 1.5V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01
Kingston DDR3- 1066 /4GB (U143V8CR6A8R) 1.5V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01
DSL DDR3L-1066 / 4GB (V73CBG04808RAJJ11) 1..35V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01
innDisk DDR3L – 1333 / 4GB (SEC 416 BYKO K4B4G08460) 1.35V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01
DSL DDR3L – 1066 / 2GB (Hynix H5TC2G83EFR) 1.35V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01
innDisk DDR3L – 1600 / 8GB (Hynix H5TC4G83AFR) 1.35V	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01
Transcend DDR3L – 1600 / 8GB (SEC 334 HYKO K4B4G0846Q)	XXXXXXXXXX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest 86+ V5.01

1.3. SATA Compatibility Test

1.3.1 Onboard SATA (IDE) Test

SATA IDE Mode		Result			Note
		Pass	Fail	N/A	
HDD	TOSHIBA / MK1676GSX / 160GB / 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS (Windows 7)
HDD	TOSHIBA / MK1665GSX / 160GB / 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	WD / WD5000BPKX / 2.5' SATA HDD 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	Seagate / ST9160412AS / 2.5' SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	Western Digital / WD1600BEVT/ 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	HGST / HTS721010A9E630 / 1TB 2.5' SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
SSD	Intel /SSDSC2CW120A 400i / 2.5" SATA SSD 120GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
SATA DVD	ASUS BW-16D1HT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W

1.3.2 Onboard SATA (RAID) Test

[X] No Support

SATA RAID Test		Result			Note
		Pass	Fail	N/A	
RAID-0 (HDDx2) Striping/Span Test	1 HITACHI 2.5" 160GB(Z5K320-160)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 Seagate 2.5" 160GB(5VH6RWZV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1 HITACHI 2.5" 160GB(Z5K320-160)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 Seagate 2.5" 160GB(5VH6RWZV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1 HITACHI 2.5" 160GB(Z5K320-160)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 Seagate 2.5" 160GB(5VH6RWZV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 Seagate 2.5" 160GB(5VH6RWZV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAID-10 (HDDx3) Striping/Span Test Mirroring	1 HITACHI 2.5" 160GB(Z5K320-160)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2 Seagate 2.5" 160GB(5VH6RWZV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 Seagate 2.5" 160GB(5VH6RWZV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	4 TOSHIBA 2.5" 320GB(MK3276GSX)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3.3 Onboard SATA (AHCI) Test [] No Support

SATA AHCI Test		Result			Note
		Pass	Fail	N/A	
HDD	TOSHIBA / MK1676GSX / 160GB / 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	TOSHIBA / MK1665GSX / 160GB / 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS (Windows 7)
HDD	WD / WD5000BPKX / 2.5" SATA HDD 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS (Windows 8)
HDD	Seagate / ST9160412AS / 2.5" SATA HDD 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
HDD	Western Digital / WD1600BEVT/ 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS (Windows 7)
HDD	HGST / HTS721010A9E630 / 1TB 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS (Ubuntu 12.04)
SSD	Intel /SSDSC2CW120A 400i / 2.5" SATA SSD 120GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W
SATA DVD	ASUS BW-16D1HT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R/W

1. 4. Keyboard/Mouse Compatibility Test

Keyboard/mouse Information		Result			Note
		Pass	Fail	N/A	
USB Keyboard / Mouse	Microsoft 1366	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Microsoft 1113	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.5. Power Supply Compatibility Test

Power Supply Information		Result			Note
		Pass	Fail	N/A	
ATX	FSP Aurum S Series AS-550 550W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ATX	Seventeam ST-350BKV 350W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ATX	Seventeam ST-500PCG 500W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.6. CFast Compatibility Test

[X] No Support

Cfast Information	AAEON P/N	ATTO R/W			Note
		Pass	Fail	N/A	
Transcend 500 series CFast 16GB	XXXXXXXXXX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk D150Q standard 32GB	XXXXXXXXXX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk DC1T-04GT21W1D Wide-Temp 4GB	XXXXXXXXXX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.7. m-SATA Compatibility Test

[X] No Support

m-SATA Information	AAEON P/N	ATTO R/W			Note
		Pass	Fail	N/A	
SanDisk SDSA5FK-032G-Q 32G	XXXXXXXXXX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install OS (Windows 7)
innoDisk D150Q 32GB	XXXXXXXXXX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.8.USB Compatibility Test

USB Information		Result			Note
		Pass	Fail	N/A	
DVD ROM	Iomega DVDRW8X-U	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash	TDK Media Trans-It Drive USB Device USB2.0 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Flash	Apacer USB 3.0 Flash Device 16GB	<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 SP1 32 Bit Driver Version										
CPU	Intel Core i7-4790S 3.20GHz									
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)									
HDD	WD / WD5000LPVX / 2.5" 500GB / 7200rpm									
VGA /DVI Monitor	LG Flatron E2260 / 22" monitor 1920*1080 Asus PA238Q 23" monitor 1920*1080									
LVDS	N/A									
TV	N/A									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			DVI			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	<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"/>	
800X480	<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"/>	
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"/>	
1600X1050	<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"/>	
1920X1200	<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"/>	
1920X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2048X1152	<input 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"/>	
2048X1536	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2560X1440	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 with Full Screen under POST screen and Text Mode.

2.1.2. Dual Output Function Test

[X] No Support

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

Dual Display Clone	DVI + LVDS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Extended Desktop		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

[X] No Support

LVDS Model	Result			Note
	Pass	Fail	N/A	
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_AU / G121XN01 V.0 / 12.1" / 1024*768 / 18bit	<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"/>	
16_AUO LG185XW010 / 18.5" / 1366X768 /24bit (16:9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
17_AUO LM215HW030 / 21.5" / 1920X1080/48bit (16:9)	<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"/>	Audio jacks / AAFP
R (Right) Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio jacks / AAFP
CD_In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Line In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio jacks
MICROPHONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio jacks / AAFP
MIC REC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8-channel mode for 7.1 speaker output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
S/P DIF function Test	Input	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Output	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2.3. LAN Function Test

[] 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	Accton Desktop-3005									
10MBps LAN HUB	SVEC FD916H									
OnBoard LAN1	Realtek PCIe GBE Family Controller (Realtek 8111E)						MAC Address	00-E0-4C-68-00-05		
OnBoard LAN2	Realtek PCIe GBE Family Controller (Realtek 8111E)						MAC Address	00-E0-4C-68-00-04		
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 Mode	
Boot ROM to Novell 4.11 [RPL]			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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:

[] No Support

<input type="checkbox"/>	Fedora 15
<input type="checkbox"/>	Cent 5.5
<input checked="" type="checkbox"/>	Ubuntu 12.04 LTS– Kernel 3.2.0-23-generic
<input type="checkbox"/>	Red Hat

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

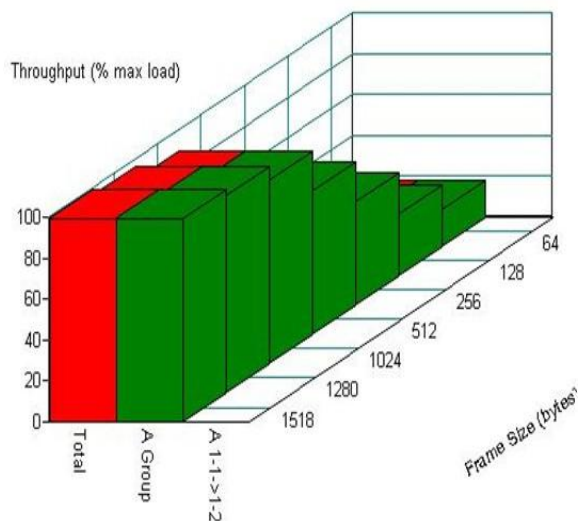
Graphics Media	Ubuntu 12.04Default setting
LAN	LAN1→Ethernet: Fedora Default setting Ethernet: r8168-8.037.00
	LAN2→Ethernet: Fedora Default setting Ethernet: r8168-8.037.00
Audio Driver	Ubuntu 12.04Default setting

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:

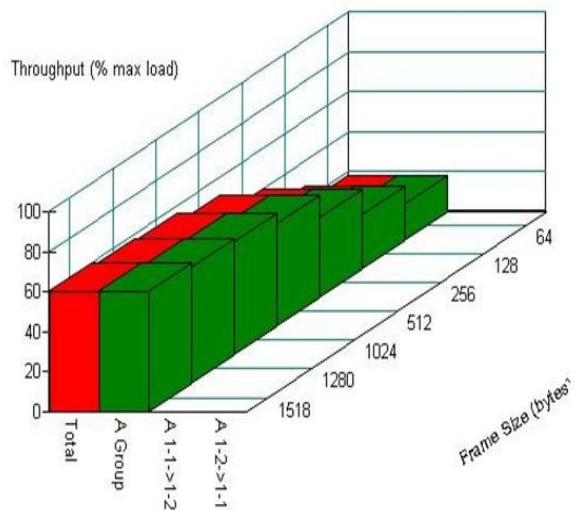
1. Half Direction (LAN1: Realtek PCIe GBE Family Controller (Realtek 8111E) 10/100/1G Ethernet)_ LAN2: Realtek PCIe GBE Family Controller (Realtek 8111E) 10/100/1G Ethernet)



Throughput vs Frame Size

Name/Frame size	64	128	256	512	1024	1280	1518
Total	18.015625	29.6171875	49.7265625	69.8359375	89.171875	96.1328125	99.2265625
A Group	18.015625	29.6171875	49.7265625	69.8359375	89.171875	96.1328125	99.2265625
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Binary Direction (LAN1: Realtek PCIe GBE Family Controller (Realtek 8111E) 10/100/1G Ethernet) ↔ LAN2: Realtek PCIe GBE Family Controller (Realtek 8111E) 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	18.015625	26.5234375	39.671875	50.5	55.9140625	57.4609375	59.78125
A Group	18.015625	26.5234375	39.671875	50.5	55.9140625	57.4609375	59.78125
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 i7-4790S 3.20GHz
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)
HDD	WD / WD5000LPVX / 2.5" 500GB / 7200rpm
Chipset Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
Chipset Software	Intel(R) Chipset Device Software / 9.4.0.1027 (08/21/2013)
PCH Bridge	Intel® Core™ i3/i5/i7 (Haswell)
South Bridge	Intel® H81
Super IO Chipset	Fintek 81866 D-I
VGA Chipset	Intel HD Graphics 4600 / 9.18.10.3234 (07/09/2013)
Audio Chipset	Realtek High Definition Audio 6.0.1.6873 (03/29/2013)
Ethernet Chipset	Realtek PCIe GBE Family Controller / 7.86.508.2014 (5/8/2014)

3.1. USB Port Integration Test _ USB3.0 x2 / USB2.0 x6

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"/>	
Iomega DVDRW8X-U		<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"/>	Input: 5V / Output (H):5V / (L):0V

3.3. COM Port Integration Test [] No Support

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 [] No Support

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM1 / 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"/>	The communication between the RS-485 port of two boards is linked by one 1200m cable on Windows Terminal
RS-485 for COM1 / 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"/>	The communication between the RS-485 port of two boards is linked by one 1200m cable on Windows Terminal

3.5. LPT Port Test

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

3.6. Burn In Test

Under Room Temperature: 26 °C

Test Item	Result			Note
	Pass	Fail	N/A	
Burn In Test V7.1 Pro (1017)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 Ultimate English SP1 32 Bit

Note: COM PORT Speed Set to 115200.

4. Application Test

4.1. PCI Slot Function (PCI Adapter Card) Test

No Support

Adapter Sound Card	Play Sound			Note
	Pass	Fail	N/A	
Creative Sound BLASTER Live5.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter COM Port Card	Connect to CCD			Note
	Pass	Fail	N/A	
Uptech UT420 2-Port RS-232 PCI 32-bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter LAN Card	Connect to Internet			Note
	Pass	Fail	N/A	
INTEL PWLA8391GTBLK Pro/1000 Giga LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dlink DFE-530TX 10/ 100 LAN Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter I/O Card	SATA Function Test			Note
	Pass	Fail	N/A	
Tekram TR-822 Sil3112A 2-Port SATA RAID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adaptec 1210SA 2-Port SATA RAID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DLink DU-520 USB 2.0 / 5-Port PCI Adapter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4.2. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
Intel GIGABIT CT DESKTOP ADAPTER PCI-Express X1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Uptech UTB230 USB3.0 PCI-Express X1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MOXA CP-118EL-A_8 Port RS-232 PCI-E Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Adaptec AAR-1430SA SATAII Host RAID Controllers PCI-Express x4 RAID Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel ®Gigabit ET2 Quad Port Svr Adptr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
GIGABYTE GV-R567OC-1GI PCI-Express x16 VGA Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MSI Radeon X1650 Series PCI-Express x16 VGA Card	<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 i7-4790S 3.20GHz
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)
HDD	WD / WD5000LPVX / 2.5" 500GB / 7200rpm

5.1. AT/ATX Power Consumption

Test Equipment	
Equipment	Programmable power supply
Manufacturer	GW INSTEK
Model name	PSH-3630

Test Environment					
Power Model	FSP Aurum S Series AS-550 550W				
Keyboard	USB Microsoft 1366				
Mouse	USB Microsoft 1113				
24Pin ATX Mode	Voltage(V)	Current(A)		Total Watt(W)	Note
Power on - Boot sequence: Measure the maximum current value of between system power on and boot-up to O.S.	+12V	1.37	A	25.33 (W)	
	+5V	0.92			
	+3.3V	1.30			
	5VSB	0			
Win. Idle mode: Measure the current value when system in windows mode and without running any program	+12V	0.20	A	10.6 (W)	
	+5V	0.73			
	+3.3V	1.38			
	5VSB	0			
S3 mode: Measure the current value when system in S3 mode of windows and without running any	+12V	0.01	A	5.07(W)	
	+5V	0.01			
	+3.3V	0.01			
	5VSB	0.01			
(Full Loading Mode) Windows 7 SP1 with Prime 95 Full Loading Test	+12V	2.55	A	45.17 (W)	Prime95 Version 279
	+5V	2.07			
	+3.3V	1.28			
	5VSB	0			
S5 mode: Measure the current value when system in S5 mode of windows and without running any	5VSB	0.10	A	0.5(W)	

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			
12V Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.320	12.21	
V5 Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.045	4.99	
DDR Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.536	1.388	
Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.760	1.752	
Fan1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5882 RPM	5928 RPM	
Fan2 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3722 RPM	3797 RPM	
CPU Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33°C	37°C	
SYS Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40°C	42°C	

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	+2 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC Clock in Power Off Mode		24 hrs	+/-2 sec	+0 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	5.2	Sec	Press the Power Button till "Beep" Sound appears

6.3. Watchdog Timer Test

Use Function as below:

No Support.

Time-Out Interval	Criteria	Actual	Result			Note
			Pass	Fail	N/A	
10 sec	+/- 10%	10.2 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+/- 10%	60.2 Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/- 10%	256 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 12.04 LTS– Kernel 3.2.0-64-generic-pae #97

[] 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 Ubuntu 12.04 LTS – Kernel 3.2.0-64-generic-pae #97	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lsb_release -a 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"/>	
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X Windows Application				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
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 SP1 English Version 32/64Bit

[X] x32 Driver Information:

Chipset Software	Intel(R) Chipset Device Software / 9.4.0.1027 (08/21/2013)
Graphics Media	Intel HD Graphics 4600 / 9.18.10.3234 (07/09/2013)
Audio Driver	Realtek High Definition Audio 6.0.1.6873 (03/29/2013)
LAN Driver	Realtek PCIe GBE Family Controller / 7.86.508.2014 (5/8/2014)

[X] x64 Driver Information:

Chipset Software	Intel(R) Chipset Device Software / 9.4.0.1027 (08/21/2013)
Graphics Media	Intel HD Graphics 4600 / 9.18.10.3234 (07/09/2013)
Audio Driver	Realtek High Definition Audio 6.0.1.6873 (03/29/2013)
LAN Driver	Realtek PCIe GBE Family Controller / 7.86.508.2014 (5/8/2014)

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate SP1 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 Port -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Follow PM mail not test
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"/>	
USB 3.0 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"/>	
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(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"/>	

7.3. Windows 8 Pro English Version 32/64Bit

[X] x32 Driver Information:

Chipset Software	Intel(R) Chipset Device Software / 9.4.0.1027 (08/21/2013)
Graphics Media	Intel HD Graphics 4600 / 9.18.10.3234 (07/09/2013)
Audio Driver	Realtek High Definition Audio 6.0.1.6873 (03/29/2013)
LAN Driver	Realtek PCIe GBE Family Controller / 8.32.508.2014 (5/8/2014)

[X] x64 Driver Information:

Chipset Software	Intel(R) Chipset Device Software / 9.4.0.1027 (08/21/2013)
Graphics Media	Intel HD Graphics 4600 / 9.18.10.3234 (07/09/2013)
Audio Driver	Realtek High Definition Audio 6.0.1.6873 (03/29/2013)
LAN Driver	Realtek PCIe GBE Family Controller / 8.32.508.2014 (5/8/2014)

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 8 Pro 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 Port -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Follow PM mail not test
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"/>	
USB 3.0 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"/>	
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(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"/>	

8. BIOS Function Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel Core i7-4790S 3.20GHz
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)
HDD	WD / WD5000LPVX / 2.5" 500GB / 7200rpm

8.1. Advanced Test

Test Item		Result			Note
		Pass	Fail	N/A	
ACPI settings	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
Digital I/O configuration	GP20 ~ GP27	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Input / Output Hi /Low
SATA configuration	SATA -ATA controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	AHCI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB configuration	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable/Auto
	USB 3.0 Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
F81866 Super IO configuration	Serial Port 1~ 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Serial port 1 Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RS-232 / RS-422 / RS- 485
	Serial port 2 Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RS-232 / RS-422 / RS- 485
	Parallel Port configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
S5 RTC wake Settings	Wake system with Fixed Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
	Wake system with Dynimic Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable

8.2. Chipset Test

Test Item		Result			Note
		Pass	Fail	N/A	
Power mode		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ATX Type / AT Type
Restore AC Power Loss		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power off / Power on / Last State
HP89 PCIe RTL8111E #1 #2		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
Graphics Configuration	Primary Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Internal Graphics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.3. Hardware Monitor Test

Test Item		Result			Note
		Pass	Fail	N/A	
Smart Fan Function		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fan1 Smart Fan Control	Manual RPM Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Manual Duty Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Auto RPM Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Auto Duty-Cycle Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fan2 Smart Fan Control	Manual RPM Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Manual Duty Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Auto RPM Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Auto Duty-Cycle Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.4. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot up Numlock State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From Hard Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From CDROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB Floppy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB CD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot from Network	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.5. 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"/>	

8.6. 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

8.7. 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"/>	

8.8. Hi-safe Test

Test Item	Result			Note
	Pass	Fail	N/A	
Version(20140327)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Information	CPU Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Model Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Display Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	RAM Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H/W Monitor	Info	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DIO	DIO1~4 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIO1~4 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIO5~8 High	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIO5~8 Low	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WatchDog	10sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1min	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	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"/>
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Read Word	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Result / Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Actual 10.2 sec
				Actual 60.2ec
				Actual 256ec
				SMBus Address 0xF040
				Slave Address A0h,A2h,A4h

9. Performance Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel Core i7-4790S 3.20GHz
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)
	Transcend DDR3-1066 / 4GB (ELPIDA J2108BDSE-DJ-F)
HDD	WD / WD5000LPVX / 2.5" 500GB / 7200rpm

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
CPU Mark99			Windows 7
Scores	572	-694	
PCMark2005			Windows 7
PCMark	12535	-12837	PCMarks
CPU	14569	-14204	
Memory	12084	12082	
Graphics	9695	9461	
HDD	5886	-5572	
Benchmark (B)	-		
Average Efficiency	-		
PCMark7			Windows 7
PCMark	2356	-3461	PCMarks
Lightweight Score	1751	-2433	
Productivity Score	1541	-2058	
Benchmark (B)	-		
Average Efficiency	-		

Testing Software	Scope		Note
	AAEON	Ref.	
3Dmark2006 v121			Windows 7
3Dmark Score	8211	-6442	
SM2.0	2711	-2195	
HDR/SM3.0	3290	-2427	
CPU Score	7077	-7388	
3Dmark11 v120			Windows 7
3Dmark Score	X315	-X306	
Graphics Score	278	271	
Physics Score	7524	7826	
Combined Score	355	340	
Benchmark (B)			

Testing Software	Scope		Note
	AAEON	Ref.	
Final Reality V1.01—BenchMark Test			Windows 7
2D image	25.46	-	
3D	3.43	-	
Bus transfer	7.91	-	
Overall	10.71	-	
Benchmark (A)	-		

Testing Software	Scope		Note
	AAEON	Ref.	
Performance7			Windows 7
PassMark Rating	1428.5	-	
CPU Mark	4938.3	-	
2D Graphics Mark	387.3	-	
3D Graphics Mark	631.4	-	
Memory Mark	978.3	-	
Disk Mark	597.4	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Windows experience index			Windows 7
Processor	7.4	-	
Memory	7.6	-	
Graphics	6.7	-	
Gaming graphics	6.7	-	
Primary hard disk	5.9	-	

SATA Performance				
SATA HDD	WD / WD5000LPVX / 2.5" 500GB / 7200rpm			
CPU	Intel Core i7-4790S 3.20GHz			
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)			
OS	Windows 7 Ultimate SP1 English Version 32bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (CN19) SATAIII port	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	18.9ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	84.0MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	345.4MB/s	
Single HDD (CN20) SATAIII port	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	36.5ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	83.1MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	316.1MB/s	
Single HDD (CN16) SATAII port	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	17.9ms	
	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	85.5MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	226.3MB/s	
Single HDD (CN17)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	19.6ms	

SATAII port	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	2%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	82.0MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	199.3MB/s	

SATA SSD Performance				
SATA SSD	Intel /SSDSC2CW120A 400i / 2.5" SATA SSD 120GB			
CPU	Intel Core i7-4790S 3.20GHz			
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)			
OS	Windows 7 Ultimate SP1 English Version 32bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (CN19) SATAIII port	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	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	356.8MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	336.1MB/s	
Single HDD (CN20) SATAIII port	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	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	324.5MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	395.6MB/s	
Single HDD (CN16) SATAII port	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.2ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	199.5MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	203.7MB/s	
Single HDD (CN17) SATAII port	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	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	189.2MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	228.2MB/s	

USB3.0 Performance				
USB Flash	Apacer USB 3.0 Flash Device 16GB			
CPU	Intel Core i7-4790S 3.20GHz			
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)			
OS	Windows 7 Ultimate SP1 English Version 32bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (Rear I/O USB3.0)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.4ms	

USB3.0(CN18)	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	5%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	64.8MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	70.1MB/s	
Single HDD (Rear I/O USB3.0) USB3.0(CN21)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.3ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	5%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	64.6MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	81.6MB/s	
Single HDD (Rear I/O USB2.0) USB2.0(CN9_1)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.5ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	39.1MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	45.5MB/s	
Single HDD (Rear I/O USB2.0) USB2.0(CN9_2)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.4ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	3%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	39.1MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	44.8MB/s	

USB2.0 Performance				
USB Flash	TDK Media Trans-It Drive USB Device USB2.0 32GB (Transcend Spec 52 MB/S)			
CPU	Intel Core i7-4790S 3.20GHz			
Memory	Transcend DDR3-1333 / 8GB (SAMSUNG SEC 207 HYK0 K4B4G0846B)			
OS	Windows 7 Ultimate SP1 English Version 32bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (Rear I/O USB3.0) USB3.0(CN18)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	1.3ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	2%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	17.5MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	18.4MB/s	
Single HDD (Rear I/O USB3.0) USB3.0(CN21)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	1.3ms	
	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	17.5MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	18.8MB/s	
Single HDD (Rear I/O USB2.0)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	1.2ms	

USB2.0(CN9_1)	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	2%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	17.8MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	18.9MB/s	
Single HDD (Rear I/O USB2.0) USB2.0(CN9_2)	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	1.2ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	2%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	17.8MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	19.9MB/s	

9.2. Memory Test

Test Item	Result			Note
	Pass	Fail	N/A	
Memtest 86+ V5.01 Overnight Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	