

# FWS-7350

## Intel® 4th Gen Atom™ processor 4 LANs Network appliance

### 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

2014/07/29

Approval

Tom Lin

Test Engineer

Max Chang

## 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	
2012/11/30	P2P3-1202	1. Rename P2/P3 Test Plan & Report Template 2. Add 7.3. Windows XP Professional English Version 32/64Bit	
2013/12/2	P2P3-1301	1. Memory compatibility add AAeon P/N 2. Add CFast and m-SATA test item. 3. BurninTest test add USB2.0/3.0. 4. Add RS422 1.2KM/115200bps transmission test 5. Add 7.4. Windows 8 Pro English Version 32/64Bit 6. Change BIOS format from Award to AMI and add Hi-Safe Hi-Manager test item. 7. Add SATA performance test and USB3.0 performance. 8. Modify power consumption test item. 9. Remove Chapter10: Other Tests.	

**Note :**

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

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

**This test report will be updated when re-test completed in next version of the product.**

## Specification Validation

### Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	FWS-7350	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	Desktop 4-port Network Appliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Onboard Intel® 4th Gen Dual Core Atom™ processor 2.0GHz (2 Cores)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Rangeley Platform	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	240-pin Dual Channel DDR3(L) 1600MHz SODIMM slot x 4, up to 64GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA controller	NA, (VGA Module)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	4 x 10/100/1000Base-TX (Marvell PHY x 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOS	AMI BIOS ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial ATA	2 x SATA III ports 3 x SATA II ports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port	RS-232 w/ pin Header (optional) x1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console	RJ-45 Connector				
Keyboard and Mouse	Reserved pin-header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Universal Serial Bus	2 x USB for internal pin-header (optional) 2 x USB 2.0 Type A on I/O side	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Expansion Interface	1 x PCIe[x2] Slot. (Optional PCIe[x4] by 8 Cores Processor SKU) 1 x NIM slot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC	Internal RTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watchdog Timer	1~255 step by software programmable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	2.5" SATA HDD Bay up to 5 and CF socket x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Software Button	1 x GPIO Programmable push button	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Requirement	1 x ATX 100W PSU 2 x 4-pin DC power out for H.D.D(1 for optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rear I/O panel	1 x 100W AC Power Input 1 x Power Switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Front I/O panel	2 x USB Ports 4 x RJ-45 Ports (w/ LED indicator) 1 x DB-9 Connector 1 x Power LED 2 x Bypass LED (Optional) 1 x Status LED 1 x HDD Active LED 1 x Software Programmable Switch 1 x NIM Module	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Color	Black	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**O.S. Support**

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows XP Pro 32-bit/64-bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Windows 7 32-bit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Windows 7 64-bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux	Linux Kernel 2.6.X	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Yocto Project Linux 1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Wind River Linux* 5.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DOS	DOS 6.22	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Environmental Specifications**

Item	Specification
Operating temperature	32 ~ 104°F (0 ~ 40°C)
Storage temperature	-4 ~ 140°F (-20 ~ 60°C)
Operating humidity	10 ~ 80%
Storage humidity	10 ~ 80% @ 40C, non-condensing
Vibration	0.5G / 5 ~ 500Hz / operation (2.5" H.D.D) 1.5G / 5 ~ 500Hz / no operation
Shock	10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non operation
Drop	N/A
EMC	CE /FCC

**Note:** Please refer to Environment Test Report for detail information

## Platform Information

Item	Device Information	Test Item
System Model/Version	FWS-7350 A1.0	1,2,3,4,5,6,7,8
Main Board	FWS-7350 A0.2	1,2,3,4,5,6,7,8
Carrier Board	N/A	N/A
BIOS / Version	FWS-7350 R1.2 (K735AM12) (07/04/2014)	1,2,3,4,5,6,7,8
CPU Type	Intel ® Atom™ CPU C2758 @ 2.40GHz	1,2,3,4,5,6,7,8
Memory Type	Transcend 2Rx8 DDR3L 1600U 8GB - SEC 234 HYK0 K4B4G0846B	1,2,3,4,5,6,7,8
SATA HDD	TOSHIBA 2.5" SATA HDD 250GB - MK2576GSXZ	1,2,3,4,5,6,7,8
SATA DVD-ROM	N/A	N/A
USB DVD-ROM	ASUS SDRW-08D2S USB DVD RW	1,2,3,4,5,6,7,8
LCD Monitor	View Sonic VT-2430-NT monitor	1,2,3,4,5,6,7,8
LVDS	N/A	N/A
CF-IDE interface	Transcend Industrial Compact Flash 4GB	1,2,3,4,5,6,7,8
CF-SATA interface	Innodisk Industrial Compact Flash 32GB	1,2,3,4,5,6,7,8
Daughter Board	N/A	N/A
Operating System	<input checked="" type="checkbox"/> Yocto Project 1.3 – Poky 8.0	6-1
	<input type="checkbox"/> English Ubuntu11.04-Kernel 2.6.38-8-generic	N/A
	<input checked="" type="checkbox"/> Windows 7 Ultimate English SP1 64bit	6-3
	<input type="checkbox"/> Windows XP Professional English SP3 32bit/64bit	N/A
Power Supply	DC Adapter : FSP100-50LG	1,2,3,4,5,6,7,8
<b>Chipset Information with Windows 7 Ultimate English Version 64Bit Driver Version</b>		
Chipset Software	Intel ® Chipset Device Software 9.4.3.1011 ( 08/01/2013)	
VGA Chipset	N/A	
Audio Chipset	N/A	
Ethernet Chipset	Intel (R) I354 Gigabit Network Connection 12.10.15.0 (7/24/2013)	
	Intel (R) I354 Gigabit Network Connection #2 12.10.15.0 (7/24/2013)	
	Intel (R) I354 Gigabit Network Connection #3 12.10.15.0 (7/24/2013)	
	Intel (R) I354 Gigabit Network Connection #4 12.10.15.0 (7/24/2013)	

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# 1. Hardware Test

## 1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel® Atom™ CPU C2758 @ 2.40GHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Windows 7

## 1.2. Memory Compatibility Test

Memory Information	MEM V4.2			Note
	Pass	Fail	N/A	
Transcend 2Rx8 DDR3L 1600U 8GB - SEC 234 HYK0 K4B4G0846B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MemTest4.2+
ADATA DDR3L 1600 8GX18 – Micron 3LE77 D9QBJ	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MemTest4.2+

## 1.3. SATA Compatibility Test

### 1.3.1 Onboard SATA (IDE) Test

SATA Device Information	Result			Note
	Pass	Fail	N/A	
TOSHIBA MK2576GSXZ / 250GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA MQ01ABD032 / 320GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-1 (HDDx2) Mirror Test	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-5 (HDDx3) Striping/Span Test Rotation Parity	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RAID-10 (HDDx3) Striping/Span Test Mirroring	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

### 1.3.3 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
TOSHIBA 2.5" MK2576GSXZ 250GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA 2.5" MQ01ABD032 320GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate 3.5" ST3160318AS 160GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TOSHIBA 3.5" DT01ACA050 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.4. IDE Compatibility Test

[ X ] No Support

IDE Device Information	Result			Note
	Pass	Fail	N/A	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slot at 1/2/3/4/OS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.5. Compact Flash Compatibility Test

CF-SATA Information		Result			Note
		Pass	Fail	N/A	
CF-IDE interface	Transcend Industrial Compact Flash 4GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Fixed mode.)
	Transcend Industrial Compact Flash 2GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Fixed mode.)
	Transcend 4GB 266x	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Fixed mode.)
	Transcend 2GB 120x	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Fixed mode.)
	Transcend 4GB 133x	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Fixed mode.)
CF-SATA interface	Innodisk Industrial Compact Flash 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Innodisk Industrial Compact Flash 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



## 2. Basic Function Test

### 2.1. Video Function Test

#### 2.1.1. Single Output Function Test

Hardware Information with Windows 7 Ultimate English Version 64Bit Driver Version													
CPU	Intel ® Atom™ CPU C2758 @ 2.40GHz												
Memory	Transcend 2Rx8 DDR3L 1600U 8GB - SEC 234 HYK0 K4B4G0846B												
SATA HDD	TOSHIBA 2.5" SATA HDD 250GB - MK2576GSXZ												
VGA	View Sonic VT-2430-NT monitor												
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit												
Resolution	VGA			DVI			LVDS			LVDS2			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
800X600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Graphics
1024X768	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X1024	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Rotation ( 0 / 90 / 180 / 270°)

Note: Pay attention to 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 type="checkbox"/>	
Dual Display Twin		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Extended Desktop		<input 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 the system is booting to Windows; then check VGA driver and display.
3. Check brightness level and screen behavior of the monitor connected VGA output. The phenomena, normal, Ghost Image or Flicker, should be watched carefully.

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







### 2.2. Audio Function Test

[ X ] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
R (Right) Channel	<input 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		Accton CheetahSwitch Desktop-3005							
10MBps LAN HUB		SVEC FD916H							
OnBoard LAN1	Intel® Ethernet Connection I354						MAC Address	00-A0-C9-00-00-00	
OnBoard LAN2	Intel® Ethernet Connection I354 #2						MAC Address	00-A0-C9-00-00-01	
OnBoard LAN3	Intel® Ethernet Connection I354 #3						MAC Address	00-A0-C9-00-00-02	
OnBoard LAN4	Intel® Ethernet Connection I354 #4						MAC Address	00-A0-C9-00-00-03	
LAN Speed	Link / Speed LED	Active LED	LAN 1/2			LAN 3/4			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"/>	S5
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"/>	
LAN1-LAN2 by pass function	Power on		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN3-LAN4 by pass function	Power on		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off		<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 5.6 2.6.18-238 el5PAE
<input checked="" type="checkbox"/>	Yocto Project 1.3
<input type="checkbox"/>	Red Hat

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

Graphics Media	N/A
LAN1	Yocto Project 1.3 default driver
LAN2	Yocto Project 1.3 default driver
LAN3	Yocto Project 1.3 default driver
LAN4	Yocto Project 1.3 default driver
Audio Driver	N/A

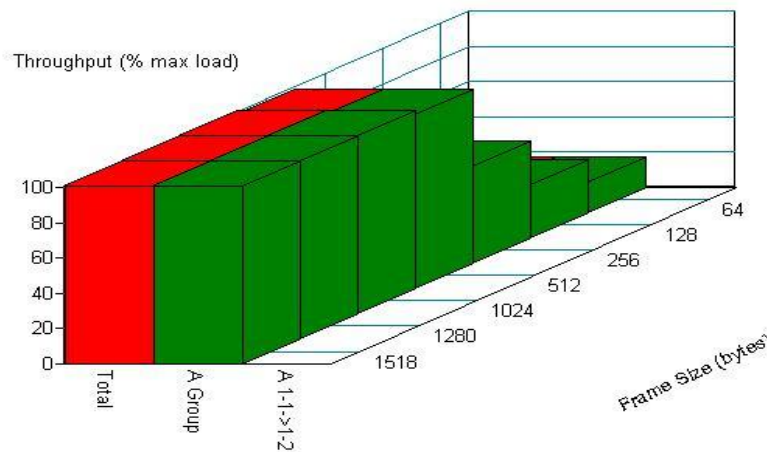
Note : ifconfig eth0 192.168.0.1 netmask 255.255.255.0

#### SMB Platform Information:

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

#### Test Result:

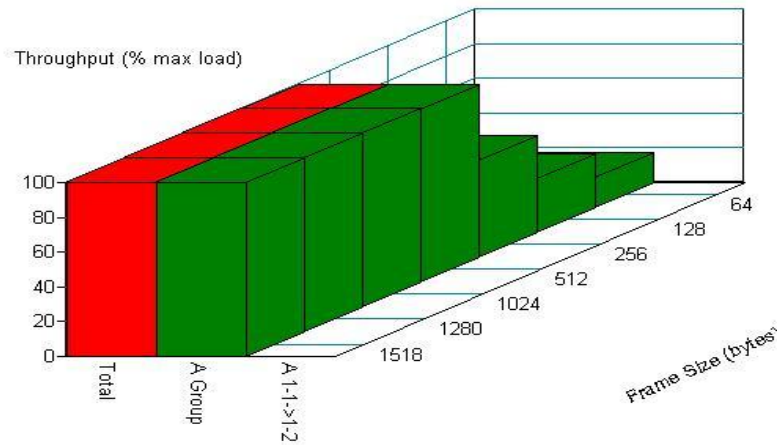
- Half Direction(LAN1 : Marvell Giga Ethernet ⇔ LAN2 : Marvell Giga Ethernet)



Throughput vs Frame Size

Name/Frame size	64	128	256	512	1024	1280	1518
Total	17.2421875	29.6171875	54.3671875	98.453125	100	100	100
A Group	17.2421875	29.6171875	54.3671875	98.453125	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

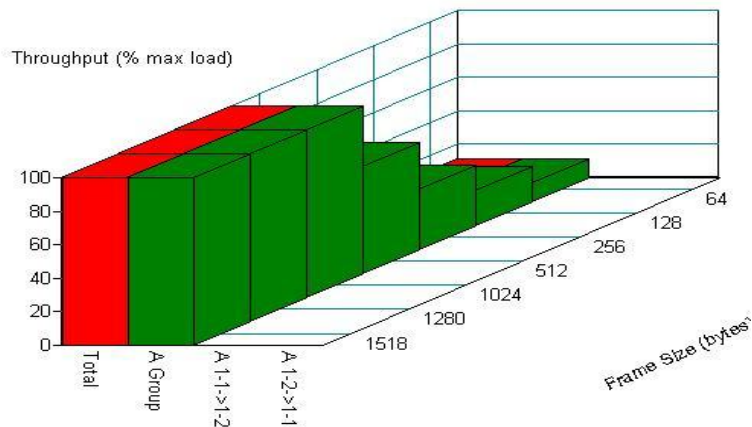
2. Half Direction(LAN3 : Marvell Giga Ethernet ⇨ LAN4 : Marvell Giga Ethernet)



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	17.2421875	30.390625	55.140625	99.2265625	100	100	100
A Group	17.2421875	30.390625	55.140625	99.2265625	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

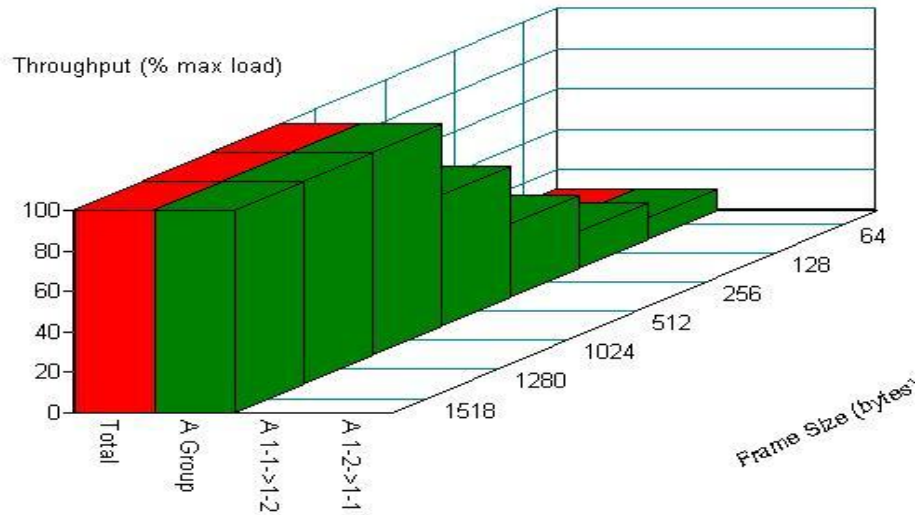
3. Binary Direction(LAN1 : Marvell Giga Ethernet ⇔ LAN2 : Marvell Giga Ethernet)



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	11.0546875	20.3359375	35.8046875	63.6484375	100	100	100
A Group	11.0546875	20.3359375	35.8046875	63.6484375	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4. Binary Direction(LAN3 : Marvell Giga Ethernet ⇔ LAN4 : Marvell Giga 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	10.28125	18.015625	35.8046875	64.421875	100	100	100
A Group	10.28125	18.015625	35.8046875	64.421875	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## 2.4. Jumper and connector function Test

[ ] No Support

Function Test	Result			Note
	Pass	Fail	N/A	
JP1 Auto PWRBTN Selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AT/ATX
JP2 CF POWER Selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.3V/5V
CMOS1 CMOS Setting Selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SYS FAN1 4 PIN Fan Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SYS FAN2 4 PIN Fan Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU FAN4 PIN Fan Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN18 PS/2 Keyboard / mouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA1/2/3/4/5 Port	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN 3/5/7/8/9 SATA Power	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN10 Mini PCI-E socket	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN17 CF CARD SOCKET	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SW1 Software reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN1Power switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN2 Reset switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB1 USB2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 3. Integration Test

	<b>Hardware Information with Windows 7 Ultimate English Version 64Bit Driver Version</b>
<b>CPU</b>	Intel ® Atom™ CPU C2758 @ 2.40GHz
<b>Memory</b>	Transcend 2Rx8 DDR3L 1600U 8GB - SEC 234 HYK0 K4B4G0846B
<b>SATA HDD</b>	TOSHIBA 2.5" SATA HDD 250GB - MK2576GSXZ
	<b>Chipset Information with Windows 7 Ultimate English Version 64Bit Driver Version</b>
<b>Chipset Software</b>	Intel ® Chipset Device Software 9.4.3.1011 ( August / 01 / 2013)
<b>VGA Chipset</b>	N/A
<b>Audio Chipset</b>	N/A
<b>Ethernet Chipset</b>	Intel (R) I354 Gigabit Network Connection 12.10.15.0 (7/24/2013)
	Intel (R) I354 Gigabit Network Connection #2 12.10.15.0 (7/24/2013)
	Intel (R) I354 Gigabit Network Connection #3 12.10.15.0 (7/24/2013)
	Intel (R) I354 Gigabit Network Connection #4 12.10.15.0 (7/24/2013)

#### 3.1. USB Port Integration Test

Item	USB Port	Boot			Function(Win7)			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"/>	
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. Digital I/O Port Test

DIO Address ()	Result			Note
	Pass	Fail	N/A	
DIO VCC +3.3V	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

#### 3.3. COM Port Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
Serial Modem Dial Out	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Serial Modem	Ring In	<input type="checkbox"/>	<input type="checkbox"/>	Test with Modem
	+12V	<input type="checkbox"/>	<input type="checkbox"/>	Test with Multimeter
	+5V	<input type="checkbox"/>	<input type="checkbox"/>	Test with Multimeter

## 3.4. RS-422 / RS-485 Test

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Use loopback and WINSSD.exe to test RS-422 in Windows
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The communication between the RS-422 port of two boards is linked with one 1.2km cable on Windows Terminal
RS-485 for COM2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The communication between the RS-485 port of two boards is linked with one 1.2km and 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 Ultimate English Version 64

Note: COM PORT Baud Rate is set to 115200.



## 4. Application Test

### 4.1. PCI Slot Function (PCI Adapter Card) Test [ X ] No Support

Adapter VGA Card	Set Simultaneous Display and Reboot			Note
	Pass	Fail	N/A	
ATI R9250LPCI Graphic card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter Sound Card	Play Sound			Note
	Pass	Fail	N/A	
Creative Sound BLASTER Live5.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter SCSI Card	Copy files to SCSI HDD			Note
	Pass	Fail	N/A	
ADAPTEC AHA-2940AU SCSI card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter Image Capture Card	Connect to CCD			Note
	Pass	Fail	N/A	
I-VIEW CP-1400AS (with Age STD-477FAI CCD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter LAN Card	Connect to Internet			Note
	Pass	Fail	N/A	
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
INTEL PWLA8391GTBLK Pro/1000 Giga LAN Card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter RAID Card	SATA Function Test			Note
	Pass	Fail	N/A	
ADAPTEC AAR-1420SA 4-Port SATA II RAID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter USB Card	Connect to Internet			Note
	Pass	Fail	N/A	
D-Link DU-520 A1 NEC USB card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adapter Modem Card	Connect to Internet			Note
	Pass	Fail	N/A	
MD-56KVP modem card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 4.2. PCI-Express Function Test [ ] No Support

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
DigiFusion PCI-E RS232 & Parallel card (PETRR02A)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intel GIGABIT CT DESKTOP ADAPTER PCI-Express X1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NW-201102
Uptech UTB230 USB3.0 PCI-E card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x4	Function Test			Note
	Pass	Fail	N/A	
Intel PRO/1000 PF DUAL PORT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PCI-Express x16	Function Test			Note
	Pass	Fail	N/A	
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
WINFAST PX6200 TC TDH PCI-Express x16 VGA Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Express card	Function Test			Note
	Pass	Fail	N/A	
SUNIX SATA II Express card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SunBox 34mm Giga LAN Express Card	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
GD-SM750 GPU mini card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ralink RT2571WF WLAN Mini Card (USB Interface)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Aether COM-ME232S2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 5. Time Accuracy Test

### 5.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

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

### 5.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	22.3	Sec	Period for "Beep" starts to Sound after pressing Power Button

### 5.3. Watchdog Timer Test

Use Function as below:

[ ] No Support.

Time-Out Interval	Criteria	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+/-10%	10.3	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+/-10%	60.5	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/-10%	254.6	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C

## 6. O.S. Compatibility Test

### 6.1. Yocto Project 1.3 - Poky 8.0

#### Driver Information:

Chipset Software	Yocto Project 1.3 default driver
Graphics Media	Yocto Project 1.3 default driver
Audio Driver	Yocto Project 1.3 default driver
LAN Driver	Yocto Project 1.3 default driver

#### Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Linux rangeley32 3.4.18-Yocto-standard #1 SMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

#### Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Display Function Test</b>				
VGA – Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDMI – Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping 168.95.1.1
Connect to Internet – LAN 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Base Function Test</b>				
Mouse Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	USB, PS/2
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB ,PS/2
<b>Command Test On Text Mode: Attention Delay Phenomenon</b>				
/etc/init.d/qat_service status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QAT open
insmod /lib/modules/3.4.18-yocto-standard/ kernel/drivers/cpa_sample_code.k o signOfLife=1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QAT Test

## 6.2. English Ubuntu 11.04– Kernel 2.6.38-8-generic

[ X ] No Support

Driver Information:

Chipset Software	Ubuntu 11.04 default driver
Graphics Media	Ubuntu 11.04 default driver
Audio Driver	Ubuntu 11.04 default driver
LAN Driver	Ubuntu 11.04 default driver

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu11.04-Kernel 2.6.38-8-generic	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Display Function Test</b>				
VGA – Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1024*768
HDMI – Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Connect to Internet – LAN 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Connect to Internet – LAN 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Connect to Internet – LAN 4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Audio Function Test</b>				
Play Audio Function Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Play Audio Test
<b>Base Function Test</b>				
Mouse Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	USB, PS/2
Keyboard Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	USB ,PS/2
Console Redirection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	minicom
CD-ROM Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	USB
USB 2.0 Removable Devices	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>X Windows Application</b>				
Start Button Office	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Office function
X-Window	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Startx – Desktop in Linux
<b>Command Test On Text Mode: Attention Delay Phenomenon</b>				
uname -a	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Show information
Shutdown	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Init 6 or shutdown -r now
Halt	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Power Off Mode
ls / clear .....; cd /dev /ls -l	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Command instruction

### 6.3. Windows 7 Ultimate English Version 64Bit

[ X ] x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 9.4.3.1011 ( August / 01 / 2013)
Graphics Media	N/A
Audio Driver	N/A
LAN Driver	Intel (R) I354 Gigabit Network Connection 12.10.15.0 (7/24/2013)
	Intel (R) I354 Gigabit Network Connection #2 12.10.15.0 (7/24/2013)
	Intel (R) I354 Gigabit Network Connection #3 12.10.15.0 (7/24/2013)
	Intel (R) I354 Gigabit Network Connection #4 12.10.15.0 (7/24/2013)

Install OS to SATA HDD:

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

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA – Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mini PCIe Graphics card
<b>Boot – Windows 7 Ultimate Advanced Options Menu</b>				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Basic Function Test</b>				
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"/>	
CF Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 -- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I354
LAN2 -- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I354
LAN3 -- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I354
LAN4 -- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I354
<b>Audio Function Test</b>				
Line Out Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Line In Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Microphone Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Start Menu</b>				
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 6.4. Windows XP Professional English Version 32/64Bit

{ X } No Support

{ } x32 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

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

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

### Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Single Display</b>				
VGA -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
DVI -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LVDS -- Full Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Boot - Windows XP Professional Advanced Options Menu</b>				
Safe Mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Basic Function Test</b>				
PS/2 Mouse and Keyboard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB Mouse and Keyboard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
COM Port Mouse detect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LPT1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB 2.0 Removable Devices	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>LAN Function Test</b>				
LAN1 --- Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LAN2 --- Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LAN3 --- Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LAN4 --- Auto	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Audio Function Test</b>				
Line Out Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Line In Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Microphone Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
S/P DIF Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Start Menu</b>				
Log off User	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Shut down (S5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Standby	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Restart	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hibernate (S4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 7. BIOS Function Test

Hardware Information with Windows 7 Ultimate English Version 64Bit Driver Version	
CPU	Intel ® Atom™ CPU C2758 @ 2.40GHz
Memory	Transcend 2Rx8 DDR3L 1600U 8GB - SEC 234 HYK0 K4B4G0846B
SATA HDD	TOSHIBA 2.5" SATA HDD 250GB - MK2576GSXZ

### 7.1. Advanced Test

Test Item		Result			Note
		Pass	Fail	N/A	
USB configuration	Legacy USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Super IO Configuration	Serial Port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Serial Port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hardware Monitor	Smart Fan Function	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Manager	S5 RTC Wake Setting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Bypass Status LED configuration	LED off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RED LED on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RED LED Blink	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RED LED Fast Blink	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Green LED on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Green LED Blink	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Green LED Fast Blink	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Bypass configuration	LAN Bypass kit 1Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LAN Bypass kit 1Power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LAN Bypass kit 2Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LAN Bypass kit 2Power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT	Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Serial Port Console Redirection		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM1

### 7.2. Chipset Test

Test Item		Result			Note
		Pass	Fail	N/A	
SATA Configuration	Disabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	AHCI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA 3 Configuration	Disabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	AHCI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
North Bridge	Memory Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
South Bridge	IQAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB Support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



### 7.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Quiet Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
Launch PXE ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable
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 DVD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot from LAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 7.4. 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"/>	

### 7.5. 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

### 7.6. Supervisor / User Password Test

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

### 7.7. PC Health Status

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

Voltage Monitoring Test	Result			BIOS		Actual		Note
	Pass	Fail	N/A					
CPU temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	41	°C	39.2	°C	
System temperature1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32	°C	30.2	°C	
FAN1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1180	RPM	1192	RPM	
FAN2 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3013	RPM	3075	RPM	
FAN3 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3082	RPM	3070	RPM	
VCORE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.996	V	0.99	V	
DDR 1.5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.344	V	1.35	V	DDR3L
+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.904	V	11.93	V	
+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.898	V	4.91	V	
+5VSB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.979	V	4.99	V	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.192	V	3.15	V	

## 7.8. Hi-safe Test

Test Item		Result			Note
		Pass	Fail	N/A	
Version(20131218)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	K735A
System Information	CPU Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Model Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Display Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support single DIMM
H/W Monitor	Info	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WatchDog	10sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 10.3 sec
	1min	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 60.5sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 254.6sec
	Auto Reload	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SMBus	SMBus IO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMBus Address 0xE00
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slave Address A4h
	Read Word	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Result / Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Smart FAN	Chipset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test With 4-pin FAN
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Speed control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Off Speed TMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Full Speed TMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 8. Performance Test

Hardware Information with Windows 7 Ultimate English Version 64Bit Driver Version	
CPU	Intel ® Atom™ CPU C2758 @ 2.40GHz
Memory	Transcend 2Rx8 DDR3L 1600U 32GB - SEC 234 HYK0 K4B4G0846B
SATA HDD	TOSHIBA 2.5" SATA HDD 250GB - MK2576GSXZ

### 8.1. Performance Test

Test Result: (Display set 1280x1024 test)

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark2002</b>			<b>Windows 7</b>
CPU	N/A	-	
Memory	14961	-	
HDD	1750	-	
Benchmark (A)	-		

Testing Software	Scope		Note
	AAEON	Ref.	
<b>CPUmark99</b>			<b>Windows 7</b>
CPU mark99	206	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Performance Test 7.0</b>			<b>Windows 7</b>
PassMark Rating	1317.6	-	
CPU Mark	4295.2	-	
2D Graphics Mark	265.5	-	
3D Graphics Mark	N/A	-	
Memory Mark	3213.8	-	
Disk Mark	483.9	-	
CD Mark	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Windows experience index</b>			<b>Windows 7</b>
Processor	7.0	-	
Memory	7.1	-	
Graphics	1.0	-	
Gaming graphics	1.0	-	
Primary hard disk	5.6	-	

SATA Performance				
SATA HDD	Toshiba DT01ACA050 3.5" 7200rpm 500GB			
Item	Comment / (unit)	Software	Score	Note
Single HDD (SATA port 1) SATA3.0	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	15.6ms	
	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	133.0MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	382.6MB/s	

CF-IDE and CF-SATA Performance				
SATA interface	Innodisk iCF9000 32GB			
Item	Comment / (unit)	Software	Score	Note
CF-SATA	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.9ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	0%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	4MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	4.1MB/s	
IDE interface	Transcend ULTRA 4GB			
Item	Comment / (unit)	Software	Score	Note
CF	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	0.9ms	
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.4.0 free	0%	
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.4.0 free	4MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	4.1MB/s	

USB2.0 Performance				
USB Flash	Kingston DT Ultimate G2 32GB			
Item	Comment / (unit)	Software	Score	Note
USB1/USB2/USB3	Long bench(32mb zones)-Random access / (ms) (smaller is better)	HD Tach version 3.0.4.0 free	1.0ms	
	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	26.2MB/s	
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.4.0 free	33.1MB/s	