

Report NO: 14I010014

# FWS-2350

## Intel Rangeley Soc

### Desktop x86 Network Appliances with Intel Atom C2000 Series Processor

#### System 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

2014/10/07

Approval

Tom Lin

Test Engineer

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**Version Released Records**

Date	Version	Change History	Note
2010/04/21	P3-1001	1. Re-composing test Items	
2010/06/01	P2P3-1001	1. New Test Report	
2010/06/21	P2P3-1002	1. Add BIOS -> SPI ROM Setting (South Bridge - GPIO)	
2010/12/02	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	

**Note :**

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

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

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

## Specification Validation

### Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	FWS-2350	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	Desktop x86 Network Appliances with Intel Atom C2000 Series Processor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	2-code Intel Atom TM Processor C2358 (1.7GHz, Default) 4-code Intel Atom TM Processor C2558 (2.4GHz, Optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	INTEL Rangeley SoC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	2 x DDR3 Long-DIMM Socket, Dual-channel DDR3/DDR3L 1333/1600MHz (ECC or non-ECC), up to 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA Controller	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	4 x INTEL i211(Optional 2x Intel i211), 4 x Marvell 88E1543	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Default LAN	8 x Gigabit Ethernet (Optional 2 pairs bypass, Optional 2 ports GbE LAN)	<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	1 x SATA II port on board (Optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Port	1 x RJ-45	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Keyboard and Mouse	Reserve pin-header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O Interface	1 x Reset Button 1 x RJ45 Console Port 2 x USB2.0 Type A 8 x Gigabit Ethernet (Optional 2 ports GbE LAN)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Audio	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion Interface	1 x Mini-Card socket (Full-size) with SIM socket	<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	1 x Type II CompactFlash™ socket (Default) or 1 x Cfast (Optional) 1 x 2.5" HDD bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GPIO	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Requirement	1 x 12V DC power in connector / 60W Power Adapter 2 x 4-pin DC power out connector for HDD (1 for Optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Front I/O LED's	1 x Power LED 1 x Status LED 1 x HDD Active LED 16 X LAN LEDs (Optional 4 x LAN LEDs) 2 x bypass LEDs (Optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows 7 64 bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux Fedora	Ubuntu 12.04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Yocto kenel 3.10.38-ltsi-yocto-standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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

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

## Platform Information

Item	Device Information	Test Item
Model Name	FWS-2350 A1.0	1,2,3,4,5,6,7,8,9
BIOS / Version	FWS-2350 R1.0(K235AM10) (09022014)	1,2,3,4,5,6,7,8,9,
CPU Type	Intel® Atom™ Processor C2358(1M Cache, 1.70 GHz) Intel® Atom™ Processor C2558(2M Cache, 2.40 GHz)	1,2,3,4,5,6,7,8,9,
Memory	Innodisk DDR3L 1600 8GB M3U0-8GHSALPC Hynix H5TC4G83AFR *2	1,2,3,4,5,6,7,8,9,
Compact Flash	Innodisk iCF9000 32GB Innodisk iCF9000 64GB	1,2,3,4,5,6,7,8,9,
USB DVD-ROM	Pioneer DVR-XD10T USB DVD	1,2,3,4,5,6,7,8,9,
SATA HDD	WD WD5000BPKX 500GB 2.5" SATA HDD	1,2,3,4,5,6,7,8,9,
CFast Card	innoDisk CFast Card 4GB (Optional)	1,2,3,4,5,6,7,8,9,
VGA monitor	ASUS VE228 "22" Dell U2713HM 27"	1,2,3,4,5,6,7,8,9,
Display Port	N/A	N/A
LVDS	N/A	N/A
Daughter Board	N/A	N/A
Operating System	<input checked="" type="checkbox"/> Ubuntu12.04 kernel 3.2.0-23-generic-pae	7-1
	<input checked="" type="checkbox"/> Yocto kenel 3.10.38-ltsi-yocto-standard	7-2
	<input checked="" type="checkbox"/> Windows 7 Ultimate 64Bit	7-3
Power Supply	ATX Power Supply : No Support	N/A
	AT Power Supply: No Support	N/A
	DC Adapter : DC 12V Power Adapter FSP060-DBAE1	1,2,3,4,5,6,7,8,9,
<b>Chipset Information with Win7 Ultimate English SP1 64bit Driver Version</b>		
Chipset Software	Intel ® Chipset Device Software 9.4.3.1011 (August/01/2013)	
VGA Chipset	Standard VGA Graphics Adapter 6.13.1.66 (12/11/2012)	
Ethernet Chipset	Intel ® I211 Gigabit Network Connection 12.7.28.0 (5/13/2013)	
	Intel ® Ethernet Connection I354 12.10.15.0 (7/24/2013)	

## Summary Table of contents:

1. Hardware Test .....	7
1.1. CPU Compatibility Test .....	7
1.2. Memory Compatibility Test.....	7
1.3. SATA Compatibility Test .....	7
1.4. Compact Flash Compatibility Test .....	7
1.5. CFast Compatibility Test.....	8
2. Basic Function Test.....	9
2.1. Video Function Test .....	9
2.2. LAN Function Test .....	10
2.3. Jumper and connector function Test.....	16
3. Integration Test.....	17
3.1. USB Port Integration Test (USB 2.0 x 2 ).....	17
3.2. COM Port Integration Test .....	17
3.3. Burn In Test .....	17
4. Application Test .....	18
4.1. PCI-Express Function Test.....	18
4.2. SSD Modules Compatibility Test .....	18
5. Power Consumption Test .....	19
5.1. Power Consumption.....	19
5.2. PC Health Status .....	19
6. Time Accuracy Test.....	20
6.1. System Clock & RTC Clock Test.....	20
6.2. Booting Timer Test .....	20
6.3. Watchdog Timer Test .....	20
7. O.S. Compatibility Test .....	21
7.1. English Ubuntu 12.04 Kernel 3.2.0-23-generic-pae .....	21
7.2. Yocto Linux mohonpeak32 3.10.38-ltsi-yocto-standard .....	22
7.3. Windows 7 Ultimate English Version 64Bit.....	23
8. BIOS Function Test .....	24
8.1. Advanced Test .....	24
8.2. Chipset Test.....	25
8.3. Boot Sequence Test .....	25
8.4. CMOS Backup / Clear CMOS Test .....	26
8.5. AAEON Tag Check Utility.....	26
8.6. Supervisor / User Password Test .....	26
8.7. Hi-safe Test.....	26
9. Performance Test .....	28

# 1. Hardware Test

## 1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel ® Atom ™ C2358 CPU @ 1.74 GHz (2code)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prime95
Intel ® Atom ™ C2558 CPU @ 2.74 GHz (4code)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.2. Memory Compatibility Test

Memory Information	MEM V4.2			Note
	Pass	Fail	N/A	
Transcend DDR3 1333MHz 2GB SEC K4B2G0846C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*2
Transcend DDR3 1600MHz 4GB SEC K4B4G0846D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*2
Transcend DDR3 1600MHz 8GB SEC K4B4G0846B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*2
Transcend DDR3L 1600MHz 8GB SEC K4B4G0846Q	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Apacer DDR3L 1600MHz 2G RAM - 1.35V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADATA DDR3L 1600MHz 8G RAM – 1.35V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk DDR3L 1600 8GB M3U0-8GHSALPC Hynix H5TC4G83AFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*2

## 1.3. SATA Compatibility Test

### 1.3.1 Onboard SATA (IDE Mode) Test

SATA Device Information	Result			Note
	Pass	Fail	N/A	
WD WD5000BPKX 500GB 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD10JPVX 1TB 2.5 SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD3200BEVT 320GB 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Toshiba MK1060GSC 2.5" 100GB SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Toshiba MK2576GSXZ 2.5" 250GB SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.3.3 Onboard SATA (AHCI Mode) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
WD WD5000BPKX 500GB 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD10JPVX 1TB 2.5 SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD10SPCX 1TB 2.5 SATAIII HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD3200BEVT 320GB 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD1600BEVT 160GB 2.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD ADATA SX900 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.4. Compact Flash Compatibility Test

Compact Flash Information	Result			Note
	Pass	Fail	N/A	
Innodisk iCF9000 32GB /Sequential R/W (MB/sec, max.): 100/65	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support Linux
Innodisk iCF9000 64GB/Sequential R/W (MB/sec, max.): 100/65	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend Industrial 2GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend CF200I 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk iCF8000 4GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	64.95MB/s(Linux)

Innodisk iCF4000 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.37MB/s(Linux)
Transcend Industrial Ultra 4GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.99MB/s(Linux)
Transcend CF 266x 4GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	42.91MB/s(Linux)

### 1.5. CFast Compatibility Test

Compact Flash Information	Result			Note
	Pass	Fail	N/A	
Transcend CFast 16GB TS16GCFX500 (AHCI mode)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Read: 117MB/s Write 68MB/s
Innodisk CFast 3SE series 32GB SLC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Read: 250MB/s Write 225MB/s
Innodisk CFast 3ME series 64GB MLC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Read: 243MB/s Write 150MB/s
Innodisk D150Q	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Read: 133MB/s Write 123MB/s



## 2. Basic Function Test

### 2.1. Video Function Test

#### 2.1.1. Single Output Function Test

Hardware Information with Windows7 Ultimate English SP1 64 Bit Driver Version										
CPU	Intel @ Atom™ C2358 CPU @ 1.74 GHz									
Memory	Transcend DDR3 1600MHz 8G RAM									
Compact Flash	WD WD5000BPKX 500GB 2.5" SATA HDD									
VGA	ASUS VE228 "22"									
D-Port	N/A									
LVDS	N/A									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			D-Port			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"/>	
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"/>	
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"/>	
1152X864	<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"/>	
1280X600	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X720	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X768	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X800	<input 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"/>	
1280X960	<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"/>	
1360X768	<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"/>	
1366X768	<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"/>	
1400X1050	<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"/>	
1440X900	<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"/>	
1600X900	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 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 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"/>	Rotation ( 0 / 90 /180 /270)

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

#### 2.1.2. Video Resolution Test

Test points:







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

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

## 2.2. LAN Function Test

[ ] No Support

### 2.2.1. Throughput Test

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 5 Ports							
10Mbps LAN HUB		SVEC FD916H							
OnBoard LAN1	Intel® Ethernet Connection I354						MAC Address	00-01-22-33-44-74	
OnBoard LAN2	Intel® Ethernet Connection I354						MAC Address	00-01-22-33-44-73	
OnBoard LAN3	Intel® Ethernet Connection I354						MAC Address	00-01-22-33-44-72	
OnBoard LAN4	Intel® Ethernet Connection I354						MAC Address	00-01-22-33-44-71	
OnBoard LAN5	Intel® I211Gigabit Network Connection						MAC Address	00-01-22-33-44-17	
OnBoard LAN6	Intel® I211Gigabit Network Connection						MAC Address	00-01-22-33-44-16	
OnBoard LAN7	Intel® I211Gigabit Network Connection						MAC Address	00-01-22-33-44-15	
OnBoard LAN8	Intel® I211Gigabit Network Connection						MAC Address	00-01-22-33-44-14	
LAN Speed	Link / Speed LED	Active LED	LAN 1/2/3/4			LAN 5/6/7/8			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/DOS off
LAN Boot (PXE)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LAN1/LAN2 support PXE only.
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"/>	
	AC loss		<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"/>	
	AC loss		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**2.2.2. Throughput Test [ ] No Support**

DUT Platform Information:

<input type="checkbox"/>	Fedora Core 18
<input type="checkbox"/>	Cent 5.5
<input checked="" type="checkbox"/>	Ubuntu12.04 kernel 3.2.0-23-generic-pae
<input type="checkbox"/>	Red Hat

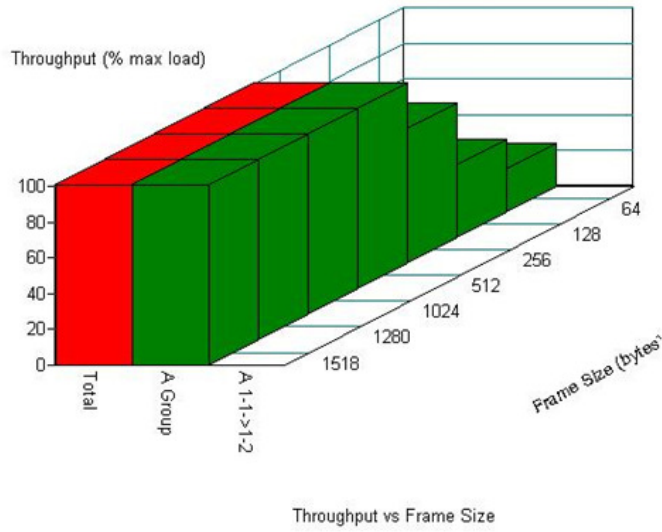
Note : Connection-Level Performance (Interaction Constants Duration Time Set to 60 Sec.)

CPU	Intel® Atom™ C2558 CPU @ 2.74 GHz (4code)
Graphics Media	Ubuntu 12.04 Kernel 2.6.38-8-generic
LAN1-4	LAN1→ Intel® Ethernet Connection I354 <Intel gigabit ethernet network driver 5.0.6>
	LAN2→ Intel® Ethernet Connection I354 <Intel gigabit ethernet network driver 5.0.6>
	LAN3→ Intel® Ethernet Connection I354 <Intel gigabit ethernet network driver 5.0.6>
	LAN4→ Intel® Ethernet Connection I354 <Intel gigabit ethernet network driver 5.0.6>
LAN5-8	LAN5→ Intel® I211Gigabit Network Connection <Intel gigabit ethernet network driver 5.0.6>
	LAN6→ Intel® I211Gigabit Network Connection <Intel gigabit ethernet network driver 5.0.6>
	LAN7→ Intel® I211Gigabit Network Connection <Intel gigabit ethernet network driver 5.0.6>
	LAN8→ Intel® I211Gigabit Network Connection <Intel gigabit ethernet network driver 5.0.6>

SMB Platform Information:

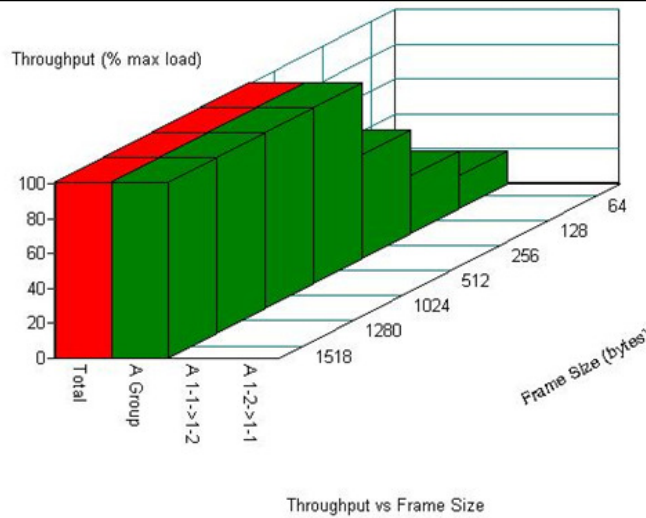
Chassis	SPIRENT Smartbits 600B
Chassis Version	2.80.003 (Cur) 2.50.000
Chassis Serial #	06014047
Library	6.00-29
API	5.50.42.01
File	0550042
Module	2 * LAN-3324A SmartMetrics XD 4-Port 10/100/1000Base-T Gigabit Ethernet
Test Software	SmartFlow5.50.42.1

Half Direction (LAN1: Intel ® Ethernet Connection I354 → LAN2: Intel ® Ethernet Connection I354)



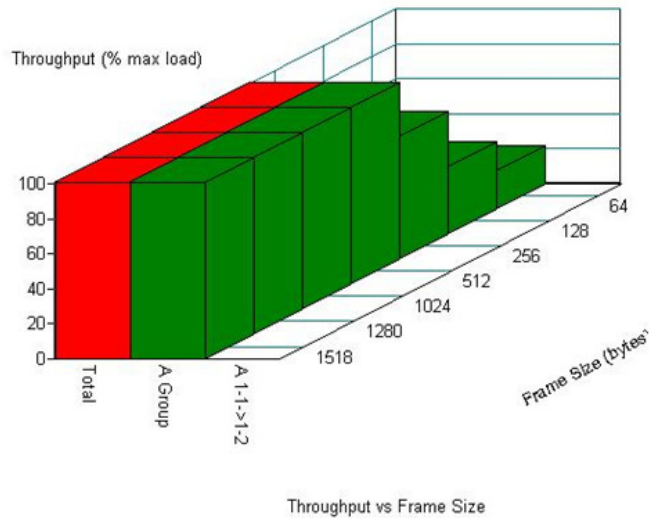
<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	23.4296875	40.4453125	74.4765625	100	100	100	100
A Group	23.4296875	40.4453125	74.4765625	100	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Binary Direction(LAN1: Intel ® Ethernet Connection I354 → LAN2: Intel ® Ethernet Connection I354)



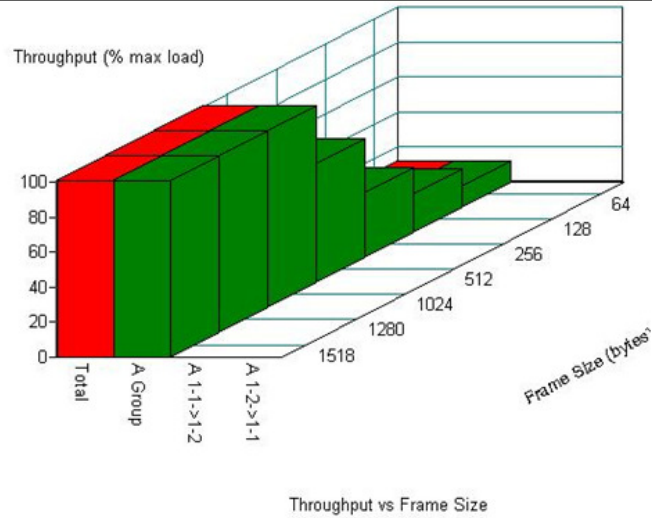
<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	18.7890625	32.7109375	59.0078125	100	100	100	100
A Group	18.7890625	32.7109375	59.0078125	100	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Half Direction (LAN3: Intel ® Ethernet Connection I354 → LAN4: Intel ® Ethernet Connection I354)



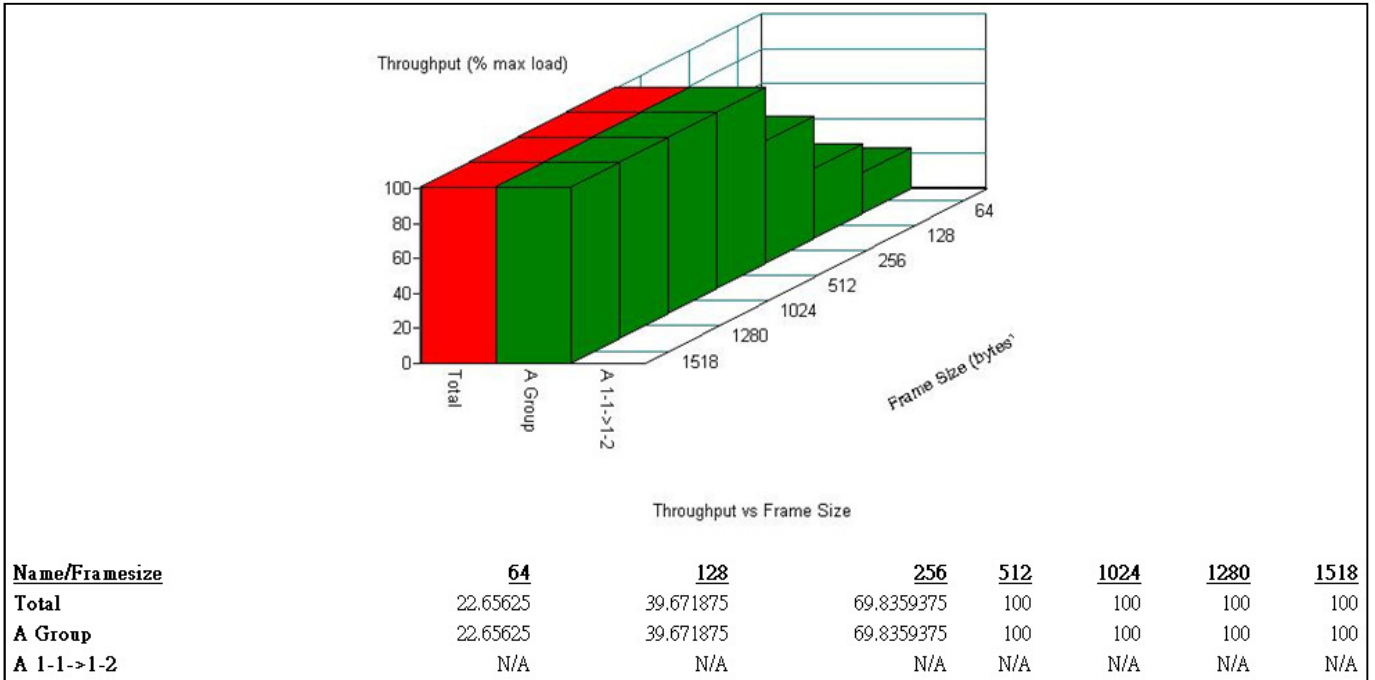
<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	21.109375	38.125	69.8359375	100	100	100	100
A Group	21.109375	38.125	69.8359375	100	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Binary Direction (LAN3: Intel ® Ethernet Connection I354 → LAN4: Intel ® Ethernet Connection I354)

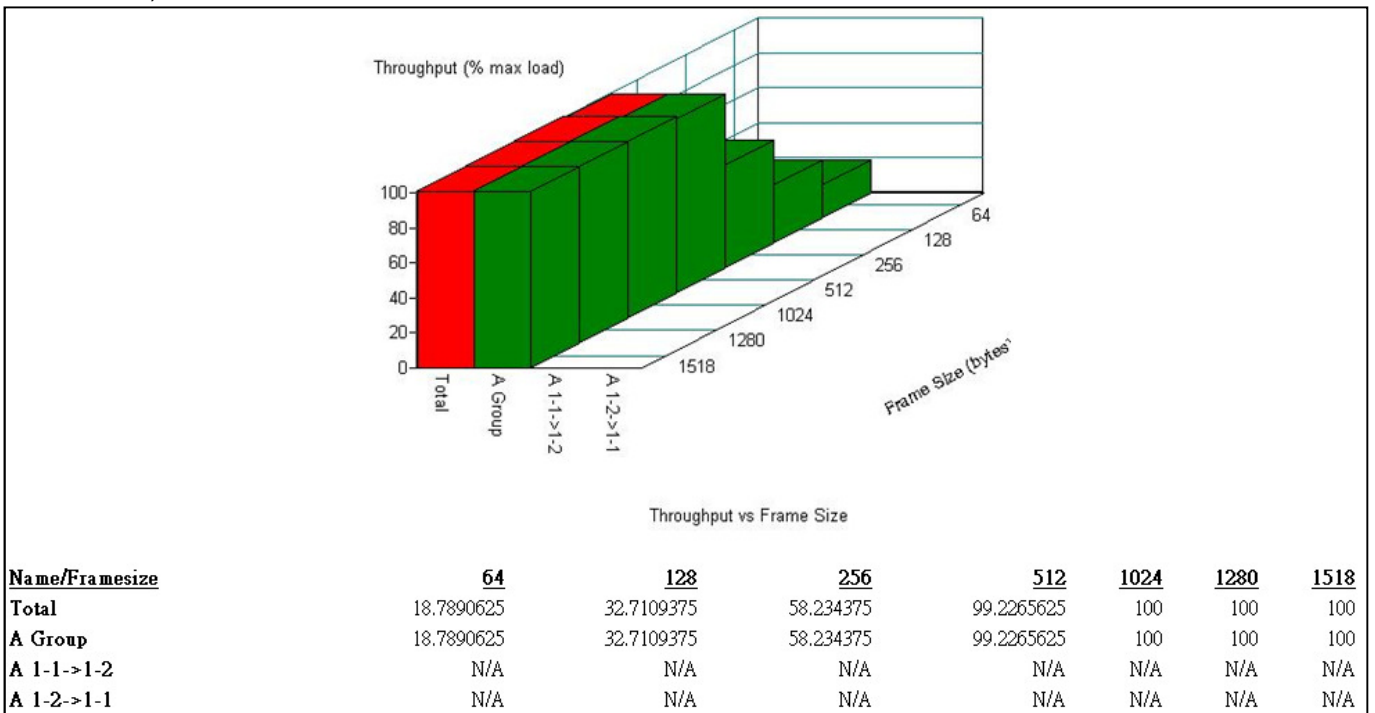


<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	11.828125	21.109375	36.578125	67.515625	100	100	100
A Group	11.828125	21.109375	36.578125	67.515625	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

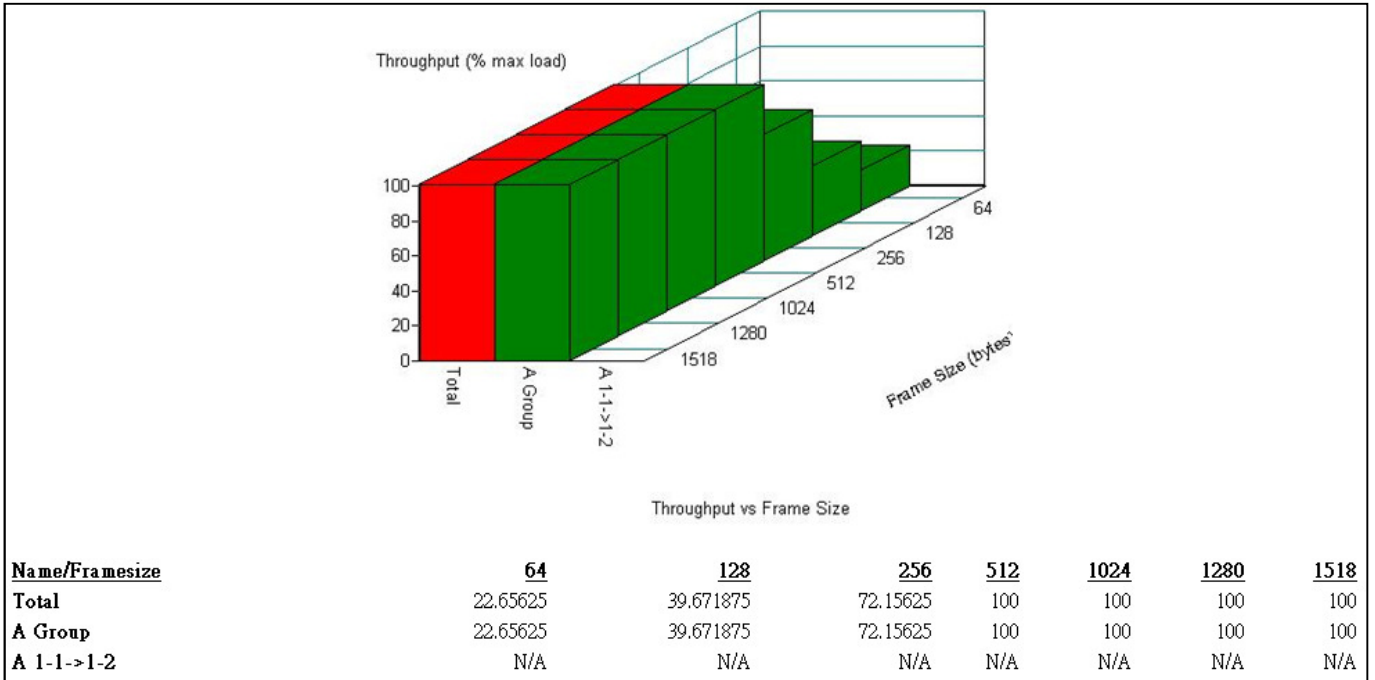
Half Direction (LAN5: Intel® I211Gigabit Network Connection → LAN6: Intel® I211Gigabit Network Connection)



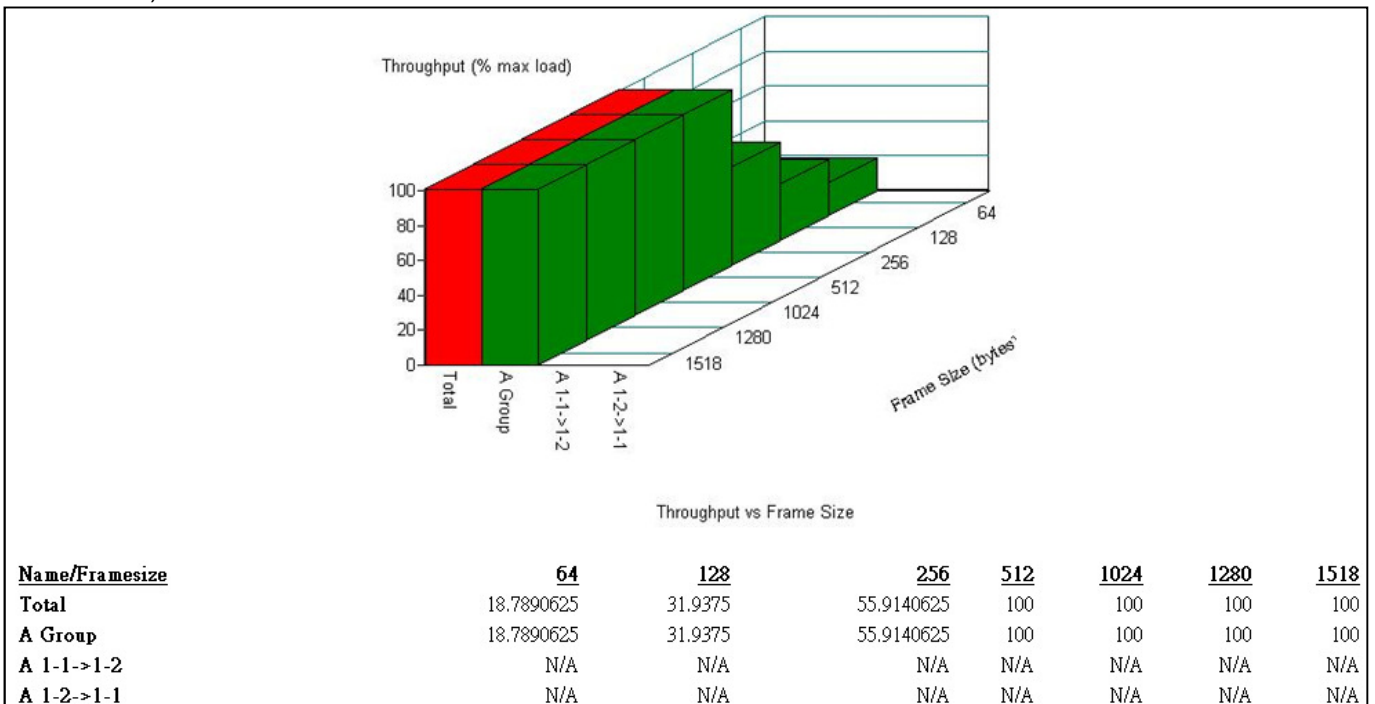
Binary Direction (LAN5: Intel® I211Gigabit Network Connection → LAN5: Intel® I211Gigabit Network Connection)



Half Direction (LAN7: Intel® I211Gigabit Network Connection → LAN8: Intel® I211Gigabit Network Connection)



Binary Direction (LAN7: Intel® I211Gigabit Network Connection → LAN8: Intel® I211Gigabit Network Connection)



## 2.3. Jumper and connector function Test

Function Test	Result			Note
	Pass	Fail	N/A	
CMOS1--CMOS Setting Selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
JP1-- CF POWER Selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.3V/5V
JP2 --Auto PWRBTN selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PWR Button	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Reset Button (Program)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with AAEON FWS2350 Bypass test tool.
Front Panel Connector (CN5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PWR BT, HDD LED, external speaker, PWR HDD, Reset BT
PS/2 Keyboard/mouse (CN7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CN8/9/10/11 SATA Power	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA3G 1/2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA6G 1/2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SYSFAN1 4 PIN Fan Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SYSFAN2 4 PIN Fan Connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN LED1~LED8 Link/ACT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN LED1~LED8 100/1000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass LED*2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HDD LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CF, SATA
Status LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



### 3. Integration Test

Hardware Information with Windows7 Ultimate English SP1 64 Bit Driver Version	
CPU	Intel® Atom™ C2358 CPU @ 1.74 GHz
Memory	Transcend DDR3 1600MHz 8G RAM
HDD	WD WD5000BPKX 500GB 2.5" SATA HDD

#### 3.1. USB Port Integration Test (USB 2.0 x 2 )

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

#### 3.2. COM Port Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
Serial Modem Ring In	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test by Modem (COM2)
Serial Modem +12V	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test by Multimeter
Serial Modem +5V	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test by Multimeter
Serial Modem Dial Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM2
Transmission with 115200bps/15M cable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Console and COM2

#### 3.3. Burn In Test

Under Room Temperature: 26 °C

OS: Windows 7 Ultimate English SP1 64bit

Test Item	Result			Note	
	Pass	Fail	N/A		
Burn In Test V7.1(1001) Duty: 100 Time: over 12 hours	CPU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	COM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM2
	Video	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3D	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Disk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sound	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Network	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Parallel	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	USB	2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Note: COM PORT Speed Set to 115200.

## 4. Application Test

### 4.1. PCI-Express Function Test

Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
Graphics card GD-SM750 v1.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Huawie Gobi 3000 HS-USB Moble Broadband Driver(USB)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with SIM card

### 4.2. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

Cable Type:  IDE  SATA2  MLC  SLC

Test Item	Result			Note
	Pass	Fail	N/A	
ADATA SX900 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test on SATA6G1: max read: 556MB/s Max write: 521MB/s

## 5. Power Consumption Test

	Hardware Information with Windows7 Ultimate English SP1 64 Bit Driver Version
CPU	Intel® Atom™ C2358 CPU @ 1.74 GHz
Memory	Transcend DDR3 1600MHz 8G RAM
HDD	WD WD5000BPKX 500GB 2.5" SATA HDD

### 5.1. Power Consumption

Please refer FWS-2350 Power Supply Electronics Test Report

### 5.2. PC Health Status

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

Voltage Monitoring Test	Result			BIOS (V)	Note
	Pass	Fail	N/A		
CPU Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	52°C	
System Temp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40°C	
FAN Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3609 RPM	Spec 3500+-15%
FAN1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3609 RPM	Spec 3500+-15%
VCORE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.852V	
DDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.392V	
12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.048V	
5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.019V	
5VSB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.019V	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.216V	

## 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	12	Sec	Press the Power Button till "Beep" Sound appears

### 6.3. Watchdog Timer Test

Use Function as below: Hi-safe 20140714

[ ] No Support.

Time-Out Interval	Criteria	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+/-10%	9.6	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60 sec	+/-10%	59	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/-10%	254	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26°C /

## 7. O.S. Compatibility Test

### 7.1. English Ubuntu 12.04 Kernel 3.2.0-23-generic-pae

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	N/A
LAN Driver	Intel gigabit ethernet network driver 5.0.6

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Ubuntu12.04 kernel 3.2.0-23-generic-pae	<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"/>	1024*768
<b>Network Function Test</b>				
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"/>	
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"/>	
Connect to Internet – LAN 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Base Function Test</b>				
USB Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	minicom –s <console port>
<b>X Windows Application</b>				
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
<b>Command Test On Text Mode: Attention Delay Phenomenon</b>				
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-P	<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. Yocto Linux mohonpeak32 3.10.38-ltsi-yocto-standard

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	N/A
LAN Driver	Intel Gigabit ethernet network driver 5.0.3-k

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Yocto kernel 3.10.38-ltsi-yocto-standard	<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"/>	Text mode
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
Connect to Internet – LAN 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
Connect to Internet – LAN 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
Connect to Internet – LAN 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
Connect to Internet – LAN 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
Connect to Internet – LAN 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
Connect to Internet – LAN 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
Connect to Internet – LAN 8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ping Hinet: ping 168.95.1.1
<b>Base Function Test</b>				
USB Mouse Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
USB Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Test	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	minicom -s <console port>
<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 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-P	<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

### 7.3. 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	Standard VGA Graphics Adapter 6.13.1.66 (12/11/2012)
LAN Driver	Intel @ I211 Gigabit Network Connection 12.7.28.0 (5/13/2013) Intel @ Ethernet Connection I354 12.10.15.0 (7/24/2013)

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SATA set to IDE mode
English Windows 7 Ultimate 64bit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SATA set to 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"/>	
<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>				
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Under BIOS & DOS Mode
COM port mouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM2
USB 2.0 Removable Devices	<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"/>	
LAN2 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN3 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN4 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN5 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN6 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN7 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN8 --- Auto	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 (S3)	<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"/>	

## 8. BIOS Function Test

Hardware Information with Windows7 Ultimate English SP1 64 Bit Driver Version	
CPU	Intel ® Atom ™ C2358 CPU @ 1.74 GHz
Memory	Transcend DDR3 1600MHz 8G RAM
HDD	WD WD5000BPKX 500GB 2.5" SATA HDD

### 8.1. Advanced Test

Test Item		Result			Note	
		Pass	Fail	N/A		
S5 RTC Wake up	Wake system with Dynamic time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Wake system with fixed time	<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"/>		
IT8728F Super IO configuration	Serial port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Serial port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Parallel Port	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Smart FAN	SYS_FAN1	Full Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS:4354 rpm / Actual: 4449 rpm
		Manual Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~255 BIOS (255): 4383 rpm / Actual : 4480 rpm BIOS :(100): 1885 rpm / Actual : 1899 rpm BIOS : (0):1040 rpm / Actual :1059 rpm
		Auto Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS:2014 rpm / Actual: 2060 rpm
	SYS_FAN2	Full Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS:4223 rpm / Actual: 4412 rpm
		Manual Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0~255 BIOS (255): 4354 rpm / Actual : 4413 rpm BIOS :(100): 1859 rpm / Actual : 1882 rpm BIOS : (0):1046 rpm / Actual :1067 rpm
		Auto Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BIOS:2001 rpm / Actual: 2033 rpm
LED Bypass Status LED	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 FASTBLINK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
LAN Bypass Kit	PWR ON PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	PWR ON Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		



	PWR OFF PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	PWR OFF Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reset/By pass
Serial Port Console Redirection		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable

## 8.2 Chipset Test

Test Item		Result			Note	
		Pass	Fail	N/A		
Processor Configuration		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
SATA Configuration	SATA Controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	SATA mode(IDE /AHCI)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Hot plug	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	SATA3 controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	SATA mode(IDE/AHCI)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	SATA3 speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GEN3: read max 550MB/s GEN2: read max 281MB/s GEN1: read max 141MB/s	
	Hot plug	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
North Bridge Chipset configuration	Memory information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ECC support.	
South Bridge chipset configuration	IQAT		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	USB support		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power Failure	Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Power Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Last State		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

## 8.3. Boot Sequence Test

Test Item		Result			Note
		Pass	Fail	N/A	
Quiet Boot		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bootup Numlock State		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Launch Intel PXE OpROM		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAN1/LAN2
Boot From Hard Disk		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB HDD		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB Floppy		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot From USB CD-ROM		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot from LAN		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disable		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 8.4. CMOS Backup / Clear CMOS Test

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

## 8.5. AAEON Tag Check Utility

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

## 8.6. Supervisor / User Password Test

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

## 8.7. Hi-safe Test

Test Item	Result			Note	
	Pass	Fail	N/A		
Version(20140714)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	K235A	
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"/>	9.6sec
	60sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	59sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	254sec
	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 0xE000
	Read Byte	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slave Address A0h
	Read Word	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Result / Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Smart FAN	Chipset	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IT8728F
	Fan Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Temperature	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CPU / SYS

	Speed control	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Off Speed TMP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Full Speed TMP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

## 9. Performance Test

Hardware Information with Windows7 Ultimate English SP1 64 Bit Driver Version	
CPU	Intel® Atom™ Processor G2558(2M Cache, 2.40 GHz)
Memory	Innodisk DDR3L 1600 8GB M3U0-8GHSALPC Hynix H5TC4G83AFR *2
HDD	WD WD10SPCX 1TB 2.5 SATAIII HDD

### 9.1. Performance Test

Test Result: Display set: 1024\*768

Testing Software	Scope		Note
	AAEON	Ref.	
<b>PCMark2005</b>			Windows 7_64
PCMark	-	-	PCMarks
CPU	4806	-	
Memory	4519	-	
Graphics	-	-	
HDD	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Performance Test 7.0</b>			Windows 7_64
PassMark Rating	1081.3	-	
CPU Mark	2235.2	-	
2D Graphics Mark	246.9	-	
Memory Mark	1787.8	-	
Disk Mark	695.7	-	
Benchmark (A)	-	-	

Testing Software	Scope		Note
	AAEON	Ref	
<b>Windows experience index</b>			Windows 7_64
Processor	6.4		
Memory	7.4		
Graphics	1.0		
Gaming graphics	1.0		
Primary hard disk	5.9		

SATA Performance				
CPU	Intel® Atom™ Processor C2558(2M Cache, 2.40 GHz)			
Memory	Innodisk DDR3L 1600 8GB M3U0-8GHSALPC Hynix H5TC4G83AFR *2			
SATAII HDD	WD WD10SPCX 1TB 2.5 SATAIII HDD			
CFast Card	Innodisk CFast 3SE series 32GB SLC (Optional)			
CF Card	Innodisk iCF9000 64GB			
OS	Windows 7 Ultimate SP1 64bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (SATA3G1/2) SATAII	CPU usage	HD Tach3.0.4	0%	SATAII 150~300MB SATAIII up 300M/B
	Burst speed / (MB/s)		247.9MB/s	
	Read Speed / (MB/s) Average		84.3MB/s	
Single HDD (SATA6G 1/2) SATAIII	CPU usage	HD Tach3.0.4	4%	SATAII 150~300MB SATAIII up 300M/B
	Burst speed / (MB/s)		330.1MB/s	
	Read Speed / (MB/s) Average		89.8MB/s	
CFast Card	Max Read speed(MB/s)	ATTO	250MB/s	
	Max Write speed(MB/s)	ATTO	225MB/s	
CF Card test under Windows7	Max Read speed(MB/s)	ATTO	4MB/s	
	Max Write speed(MB/s)	ATTO	4MB/s	
CF Card test under Linux12.04	Read speed(MB/s)	#hdparm -t /dev/sda1	82.21MB/s	
	Write speed(MB/s)	#time dd if=/dev/zero of=/var/test bs=2k count=1000000	53.2MB/s	
USB2.0 Performance				
USB Flash	Sony USB3.0 32GB			
(USB port ) USB2.0	Max Read speed(MB/s)	ATTO	29.2MB/s	
	Max Write speed(MB/s)	ATTO	12.6MB/s	