

FWS-8500 with NIM-C13A

Intel® Coletto Creek 8925 2U Rackmount High Performance Network Appliance Supporting Max. 64 GbE Ports

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

2016-02-01

QE Manager

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Test Engineer

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Summary Table of DTS:

Defect No.	Category	Description

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 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-8500	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	2U Rackmount Network Platform	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel® Ivy Bridge-EP Xeon E5-2600 Series, LGA 2011	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chipset	Intel® Coletto Creek 8925 PCH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	16 x 284/288P DIMM (8 DIMM Per CPU) DDR4 1600/1866/2133 MHz RDIMM/UDIMM/ECC Up to 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGA controller	N/A, (VGA Module)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ethernet	Max.64 ports of GbE via NIM	<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 II ports on board	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Parallel Port	2x 16 characters LCM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Console Port	RJ45 Type x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Keyboard and Mouse	Reserved pin-header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Universal Serial Bus	4 x USB 2.0 - 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"/>	
Expansion Interface	1 x Mini-PCIe; 2 x PCIe [x8] slot (Optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GPIO	8-bit, BIOS default 4-bit input, 4-bit output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC	Internal RTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TPM	TPM v1.2 (9635)	<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	Internal 3.5" SATA HDD x 1 or 2.5" SATA HDD x 2 (Optional Swappable) CF socket x 1 Mini-card 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 24-pins ATX power connector compatible with 20 pin type 650W PSU 1 x 8-pin ATX 12V Power Connector 2 x 4-pin DC power out connector for HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler	5 x hot-swappable cooler with smart fan control. 1 x Internal cooler without smart fan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rear I/O panel	1 x AC Power Input 1 x Power Switch 2 x Rear Expansion Slot (Optional PCIe [x8])	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Front I/O panel	1 x Power LED 1 x Status LED 1 x HDD Active LED 2 x USB Ports 1 x RJ-45 Console 1 x parallel LCM display and 4 keypad 1 x Software Programmable Switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Color	Black	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chassis Dimension	440mm x 88mm x 600mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Linux	English Ubuntu 12.04 – Kernel 3.xxx	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Specifications

Item	Specification
Operating temperature	32 ~ 104°F (0 ~ 40°C)
Certification	CE / FCC Class A

Note: Please refer to Environment Test Report for detail information

Platform Information

Item	Device Information	Test Item
System Model/Version	FWS-8500 A0.3	1,2,3,4,5,6,7,8,9
Main Board	FWS-8500 Rev A1.0 with NIM-C13A Rev A0.2	1,2,3,4,5,6,7,8,9
BIOS / Version	FWS-8500 R2.0 (K850AM20) (12/17/2015)	1,2,3,4,5,6,7,8,9
CPU Type	Intel(R) Xeon(R) CPU E5-2609 v3 1.90GHz x 2pcs Intell XeonI CPU E5-2608L v3 2.00GHz x 2pcs	1,2,3,4,5,6,7,8,9
Memory Type	Innodisk 8GB DDR4 2133W/REG DIMM / SEC K4A4G045WD x16pcs ADATA AD4R2133W4G15-BHYM DDR4 2133(15) 4GX9 R-DIMM x4pcs ADATA AD4R2133W8G15-BHYM DDR4 2133(15) 8GX18 R-DIMM x8pcs	1,2,3,4,5,6,7,8,9
SATA HDD	WD Blue WD5000AAKS 500GB 16MB Cache SATA 3.0Gb/s 3.5" SATA HDD Toshiba MK1676GSX 160GB / SATA 3GB/s 5400rpm / 2.5" SATA HDD	1,2,3,4,5,6,7,8,9
SATA DVD-ROM	ASUS BW-16D1HT	N/A
USB DVD-ROM	BUFFALO BDXL-PC6U2	1,2,3,4,5,6,7,8,9
LCD Monitor	LG Flatron E2260 / 22" monitor 1920*1080 Asus PA238Q 23" monitor 1920*1080	1,2,3,4,5,6,7,8,9
LVDS	N/A	N/A
CF-IDE interface	Transcend Industrial Compact Flash 4GB	1,2,3,4,5,6,7,8,9
Operating System	<input checked="" type="checkbox"/> Ubuntu 12.04.5 / 64bit	6-1
Power Supply	Redundant PSU: ETASIS / EFRP-G657 / 650W InPut : AC100 ~ 240= 10A-5A, 47-63Hz OutPut : +12V / 53A, +5VSB/3A	1,2,3,4,5,6,7,8,9
Chipset Information with Ubuntu 12.04 English Version 64bit Driver Version		
Chipset Software	Ubuntu 12.04 default driver	
VGA Chipset	siliconmotion Linux driver	
Audio Chipset	N/A	
Ethernet Chipset	Intel igb-5.2.9.4 driver	

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1. Hardware Test

1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel® Xeon® Processor E5-2609 v3 (15M Cache, 1.90 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Ubuntu12.04-64bit
Intel® Xeon® Processor E5-2608L v3 (15M Cache, 2.00 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test by Ubuntu12.04-64bit

1.2. Memory Compatibility Test

Memory Information	MEM V4.2			Note
	Pass	Fail	N/A	
InnoDisk DDR4-2133 8GB(SEC 416 BCPB K4A4G045WD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest86 V5.01
ADATA AD4R2133W4G15-BHYM DDR4 2133(15) 4GX9 R-DIMM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest86 V5.01
ADATA AD4R2133W8G15-BHYM DDR4 2133(15) 8GX18 R-DIMM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Memtest86 V5.01

1.3. SATA Compatibility Test

Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
TOSHIBA MK1676GSX / 160GB / 2.5" 5400rpm SATAII	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install Ubuntu 12.04
WD Blue WD5000AAKS 500GB 16MB Cache SATA 3.0Gb/s 3.5" SATA HDD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install Ubuntu 12.04

1.4. 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"/>	(ULTRA)
	Transcend 4GB (266x)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(266X)
	Apacer Compact Flash Industrial CFIII 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

2. Basic Function Test

2.1. Video Function Test

2.1.1. Single Output Function Test

Hardware Information with Ubuntu 12.04 English Version 64bit Driver Version										
CPU	Intel(R) Xeon(R) CPU E5-2609 v3 1.90GHz x2pcs									
Memory	Innodisk 8GB DDR4 2133W/REG DIMM / SEC K4A4G045WD ADATA AD4R2133W4G15-BHYM DDR4 2133(15) 4GX9 R-DIMM ADATA AD4R2133W8G15-BHYM DDR4 2133(15) 8GX18 R-DIMM									
SATA HDD	WD Blue WD5000AAKS 500GB 16MB Cache SATA 3.0Gb/s 3.5" SATA HDD									
VGA	Asus / PA238Q / 23" LCD monitor / 1920*1080 LG Flatron E2260 / 1920*1080 / 22" monitor									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			DVI			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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"/>	
1024X600	<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"/>	
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"/>	
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 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"/>	
1400X900	<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"/>	
1440X960	<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"/>	

Note: Pay attention to 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 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							
NIM-C13A LAN (Intel I350)		INTEL i350-AM4 Ethernet Controller					MAC Address		N/A	
NIM-C13A LAN (Intel 82580)		INTEL i82580 Ethernet Controller					MAC Address		N/A	
LAN Speed	Link / Speed LED	Active LED	LAN 01 ~ 32			LAN 33 ~ 64			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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Internet Browser (DHCP Server)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

2.3.1 LAN Bypass function Test

Test item	Test Software : Linux lanbypass tools	Result			Note
		Pass	Fail	N/A	
Bypass Lan 1~2 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 5~6 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 9~10 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 13~14 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 17~18 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 21~22 Function	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 25~26 Function	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 29~30 Function	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 33~34 Function	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 37~38 Function	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 41~42 Function	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 45~46 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Bypass Lan 49~50 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Power on PassTru		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power on Bypass		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power off PassTru		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power off Bypass		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WDT Bypass		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WDT Reset		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 53~54 Function		Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Bypass Lan 57~58 Function	Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Power on PassTru		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power on Bypass		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power off PassTru		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power off Bypass		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WDT Bypass		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WDT Reset		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bypass Lan 61~62 Function		Bypass LED On/ Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Power on PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off PassTru	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.3.2 Status LED Function Test

Test item		Result			Note
Test Software : Linux	Status LED tools	Pass	Fail	N/A	
Status LED Function	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"/>	

2.3.3 LCM Display and 4 Keypad Button Function Test

Test item		Result			Note
Test Software : Linux LCM tools		Pass	Fail	N/A	
LCM Display Function	LCM On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LCM Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Set STRING	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Keypad Button Function	1:ESC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2:Down	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3:Up	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	4:Enter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Software Programmable Switch		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Integration Test

Hardware Information with Ubuntu 12.04 English Version 64bit Driver Version	
CPU	Intel(R) Xeon(R) CPU E5-2609 v3 1.90GHz x2pcs
Memory	Innodisk 8GB DDR4 2133W/REG DIMM / SEC K4A4G045WD ADATA AD4R2133W4G15-BHYM DDR4 2133(15) 4GX9 R-DIMM ADATA AD4R2133W8G15-BHYM DDR4 2133(15) 8GX18 R-DIMM
SATA HDD	WD Blue WD5000AAKS 500GB 16MB Cache SATA 3.0Gb/s 3.5" SATA HDD
Chipset Information with Ubuntu 12.04 English Version 64bit Driver Version	
Chipset Software	Ubuntu 12.04 default driver
VGA Chipset	Siliconmotion Linux driver
Ethernet Chipset	Intel igb-5.2.9.4 driver

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 DVD-ROM BUFFALO BRXL-PC6U2		<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 Transcend / TS-HUB3K / USB 3.0 _4Port HUB								
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.2. COM Port Integration Test

Test Item	Result			Note
	Pass	Fail	N/A	
COM0 for consol function	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support BIOS and DOS

3.3. Burn In Test

Under Room Temperature: 26 °C

Test Item	Result			Note
	Pass	Fail	N/A	
Burn In Test V3.2 for Linux	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ubuntu 12.04 English Version 64bit
iperf_Test_for Linux	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[./iperf_testing_tool -t 234000 -b 250M -d 3600 -c] [./iperf_testing_tool -t 50400 -b 500M -d 3600 -c] [./iperf_testing_tool -t 57600 -b 1000M -d 3600 -c]

4. Time Accuracy Test

4.1. 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"/>	

4.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	23.4	Sec	Period for "Beep" starts to Sound after pressing Power Button

4.3. Watchdog Timer Test

Use Function as below:

[] 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%	59.5	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
255 sec	+/-10%	250.5	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note : Under Room Temperature: 26 °C

5. O.S. Compatibility Test

5.1. English Ubuntu 12.04 – Kernel 3.13.0-32-generic-pae #57 (64bit)

Driver Information:

Chipset Software	Ubuntu 12.04 default driver
Graphics Media Driver	siliconmotion Linux driver
Audio Driver	N/A
LAN Driver	Intel igb-5.2.9.4 driver

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu 12.04 – Kernel 3.13.0-32-generic-pae #57 (64bit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA – Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1024*768
Network Function Test				
Connect to Internet – LAN 1~8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 9~16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 17~24	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 25~32	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 33~40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 41~48	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 49~56	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 57~64	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Base Function Test				
USB Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB
USB Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USB
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X Windows Application				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
Halt	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power Off Mode
ls / clear; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

6. BIOS Function Test

Hardware Information with Ubuntu 12.04 English Version 64bit Driver Version	
CPU	Intel(R) Xeon(R) CPU E5-2609 v3 1.90GHz x2pcs
Memory	Innodisk 8GB DDR4 2133W/REG DIMM / SEC K4A4G045WD ADATA AD4R2133W4G15-BHYM DDR4 2133(15) 4GX9 R-DIMM ADATA AD4R2133W8G15-BHYM DDR4 2133(15) 8GX18 R-DIMM
SATA HDD	WD Blue WD5000AAKS 500GB 16MB Cache SATA 3.0Gb/s 3.5" SATA HDD

6.1. Advanced Test

Test Item	Result			Note			
	Pass	Fail	N/A				
Restore AC Power Loss	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
SATA configuration	SATA Mode			AHCI / IDE / Disable mode			
USB configuration	Legacy USB Support			Enable/Disable			
Serial Port Console Redirection	COM0 Console Redirection						
Trusted Computing	TPM v1.2 Support			Enable/Disable			
Hardware Monitor	PC Health Status						
Smart FAN Function	Smart Fan 1	Full Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		Automatic mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Smart Fan 2	Full Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		Automatic mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Smart Fan 3	Full Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		Automatic mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Smart Fan 4	Same with FAN1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same with FAN1/2/3	
Smart Fan 5	Same with FAN2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same with FAN1/2/3		
Dynamic Digital IO	GPIO ~ GPI3 Direction			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	GPO0 ~ GPO3 Direction			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Bypass Configuration	LAN BYPASS by BIOS			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	WDT Mode Setting.			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	LAN Bypass LED Configuration			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power On/Off SETTING			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6.2. Chipset Test

Test Item	Result			Note			
	Pass	Fail	N/A				
IntelRCSetup	Processor Configuration			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Memory Topology			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

6.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
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 DVD-ROM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Disabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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6.4. 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"/>	

6.5.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

6.6.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"/>	

6.7.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					
System temperature1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	56	°C	64	°C	
System temperature2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	52	°C	46	°C	
FAN1 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5625	RPM	6958	RPM	
FAN2 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5720	RPM	6887	RPM	
FAN3 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10227	RPM	7258	RPM	
FAN4 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5625	RPM	6750	RPM	
FAN5 Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5532	RPM	6683	RPM	
Core In	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.800	V	1.80	V	
DDQQ_AB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.188	V	1.20	V	
+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.952	V	11.95	V	
+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.930	V	4.91	V	
VIN5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.040	V	5.04	V	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.072	V	3.07	V	

6.8. BIOS Save and Exit Timer Test

Installation	Actual		Note
BIOS Save Changes and Exit Time	16.1	Sec	
Discard Changes and Exit Time	2.2	Sec	
BIOS Save Changes and Reset Time	30.7	Sec	
Discard Changes and Reset Time	1.6	Sec	

7. LAN Performance Test

7.1 DUT and Test Equipments

7.1.1. DUT Specification

Hardware:

- Model name: FWS-8500 A0.3
- CPU: Intel® Xeon® Processor E5-2609 v3 (15M Cache, 1.90 GHz) x2pcs
- RAM: Innodisk 8GB DDR4 2133W/REG DIMM / SEC K4A4G045WD x16pcs
- HDD: WD WD5000AAKS 500GB 7200RPM SATA 3 Gb/s 16MB Cache 3.5" SATA HDD
- NIM module: PER-C13A A0.2 (LAN: Intel 82580EB / i350-AM4 Gigabit Ethernet)

Software:

- BIOS: FWS-8500 R0.F (K850AM0F) (11/19/2014)
- Operating System: English Ubuntu 12.04 – Kernel 3.13.0-40-generic-pae #69(64bit)
- NIM LAN driver: Intel Gigabit Internet Network Driver 5.2.9.4

7.1.2. Test Equipments Specification

SPIRENT Smartbits

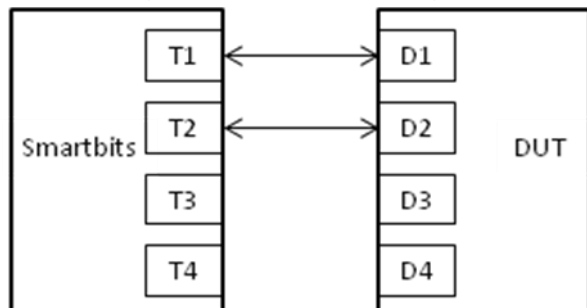
- Chassis: SPIRENT Smartbits 600B
- Chassis Version: 2.80.003 (Cur) 2.50.000
- Chassis Serial #: 06014047
- Library: 6.00-29
- API: 5.50.42.01
- File: 0550042
- Module: 2 * LAN-3324A SmartMetrics XD 4-Port 10/100/1000Base-T Gigabit Ethernet
- Test Software: SmartFlow5.50.42.1

7.2 RFC-2544 performance test (2 port)

7.2.1. Throughput test (2 port)

Test Description:

- In DUT System, set routing function enabled.
<# echo 1 > /proc/sys/net/ipv4/ip_forward>
- Test Configuration as below Figure.

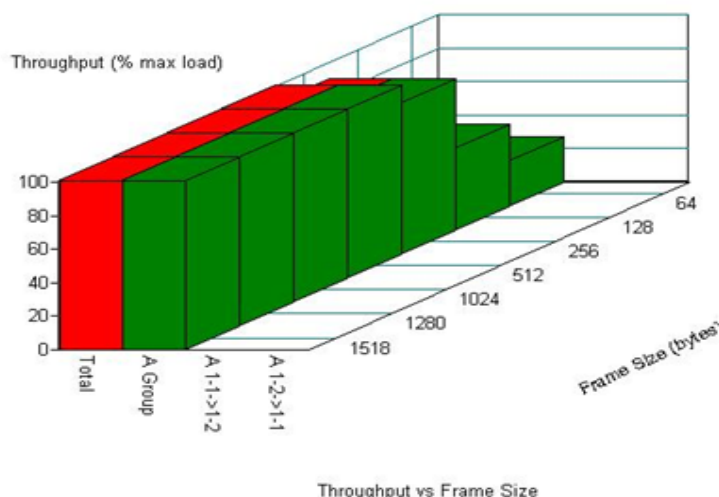


- Smartflow\Test Group to add port1<->port2 with Bi-directional,
- The tester set loading traffic from 1% to 100% and the traffic step is 50%.
- Interaction Constants Duration Time Set to 60 Sec.
- Test all LAN ports performance.

Test Result:

Test Group: <LAN1-LAN2 bi-directional>

Speed: 1000_Full	Frame Size(bytes)						
LAN ports	64	128	256	512	1024	1280	1518
1 - 2	26.5234375	48.1796875	89.9453125	100	100	100	100



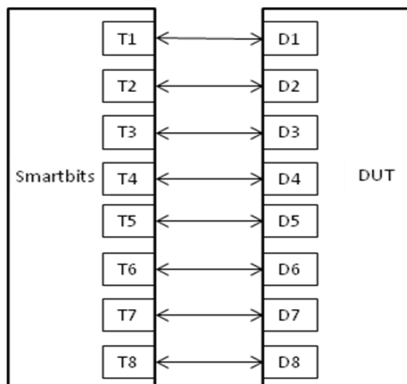
<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
Total	26.5234375	48.1796875	89.9453125	100	100	100	100
A Group	26.5234375	48.1796875	89.9453125	100	100	100	100
A 1-1->1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2->1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7.3 RFC-2544 performance test (8 ports)

7.3.1. Throughput test

Test Description:

- In DUT System, set routing function enabled.
<# echo 1 > /proc/sys/net/ipv4/ip_forward>
- Test Configuration as below Figure.

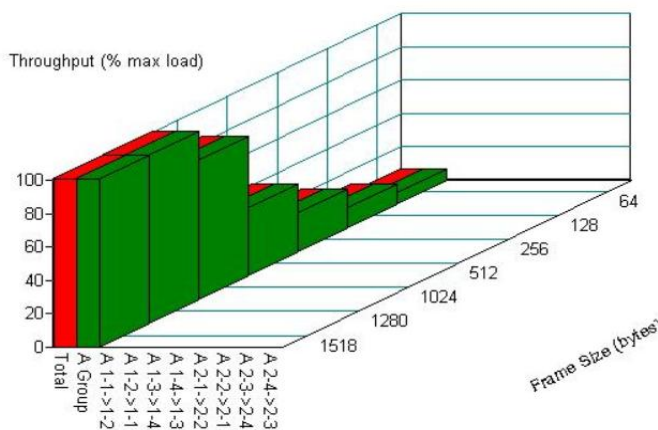


- Smartflow\Test Group to add port1<->port2 with Bi-directional, port3<->port4 with Bi-directional, port5<->port6 with Bi-directional, port7<->port8 with Bi-directional.
- The tester set loading traffic from 1% to 100% and the traffic step is 50%.
- Interaction Constants Duration Time Set to 60 Sec.
- Test all LAN ports performance.

Test Result:

Test Group: <LAN1-LAN2 bi-directional> ; <LAN3-LAN4 bi-directional>
<LAN5-LAN6 bi-directional> ; <LAN7-LAN8 bi-directional>

Speed: 1000_Full	Frame Size(bytes)						
LAN ports	64	128	256	512	1024	1280	1518
1 ~8	6.4140625	11.828125	22.65625	40.4453125	82.984375	100	100



Throughput vs Frame Size

Name/Framesize	64	128	256	512	1024	1280	1518
Total	6.4140625	11.828125	22.65625	40.4453125	82.984375	100	100
A Group	6.4140625	11.828125	22.65625	40.4453125	82.984375	100	100