P5 Verification Test Report

Release No: 08I010015

Product Model	**FWS-7600**
Description	**8 port 1U Network Appliance**
Test Configuration	☑New product ☑System : FWS-7600 ☑PCB : FWB-7600 A0.2 ☑BIOS : FWS-7600 BIOS Rev.1.0 (05/15/2008) ☑LAN Module : PER-C31L A0.3 (2*Copper + 2*Fiber LAN) *2 ☑Expansion card : PER-C30L A0.1 (COM+USB+Copper LAN) ☑Chipset : ☑North Bridge : Intel 3010 ☑South Bridge : Intel 82801FB(ICH7R) ☑VGA Chipset : N/A ☑Audio Chipset : N/A ☑Ethernet Chipset : Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 * 4 (from PER-C30L A0.1 Copper LAN & PER-C31L A0.3 Copper LAN) Intel 82571EB PCI-Ex4 Fiber LAN SFP * 4 (Transceiver: DELTA & INTEL 850nm from PER-C31L A0.3 Fiber LAN) ☑I/O Chipset :Winbond 83627EHF ☑TV Chipset : N/A ☑Remark : QE NPDP P5 External Report

☑ **Pass**

☐ **Fail**

☐ **Pass with Deviation**

Comment: _____

_____

2008/06/24	*Wenyuan Yang*	*Tina Wang*
Issue date	**Manager**	**Test Engineer**

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There are 3 test results in this document; they are described as follows:

Pass: Function worked perfectly
Fail: Function failed and must be modified in the next version
N/A: Outside of specifications or no test equipment

The test report would be tested and updated after version changed.

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Platform Information:

System	FWS-7600
PCB Model / Version	FWB-7600 A0.2
BIOS	FWS-7600 BIOS Rev.1.0 (05/15/2008)
Operating System	Intel Quad Core Kentsfield CPU / X3230 / 2.66G / 1066 MHz / 8 MB / 65 nm / LGA775
CPU	Intel® Xeon® 2.12GHz LGA775 3050 Socket CPU
Memory	KINGMAX DDR2-533 SDRAM 512MB (KINGMAX KKEA88I4NAU-37XX)
VGA	XGI Volari Z7-Z9-Z9s-Z11 (PER-V05V mini PCI VGA card)
SATA HDD	Western Digital WD800BEVS-22RST0 80GB 2.5" SATA HDD
Primary IDE Master	N/A
Primary IDE Slave	N/A
LAN Module	PER-C31L A0.2 (2*Copper + 2*Fiber LAN) *2
Expansion card	PER-C30L A0.1 (COM+USB+Copper LAN)
CRT	ViewSonic E70
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	N/A
Graphics Media	N/A
LAN	LAN1→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C30L A0.1 Copper LAN)
	LAN2→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C30L A0.1 Copper LAN)
	LAN3→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C31L A0.3 Copper LAN)
	LAN4→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C31L A0.3 Copper LAN)
	LAN5→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
	LAN6→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
	LAN7→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
	LAN8→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
Audio Driver	N/A
Power Supply	EMACS P1A-6301P ATX Power Supply

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1. I/O Peripheral Function Test

The Result:

I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:			X	
Primary IDE Master	X			
Primary IDE Slave	X			
Secondary IDE Master	X			
Secondary IDE Slave	X			
Third IDE Master			X	
Third IDE Slave			X	
RAID 0 Function Test			X	
RAID 1 Function Test			X	
SATA1 / Serial ATA Connector 1	X			SATA1
SATA2 / Serial ATA Connector 2	X			SATA2
SATA3 / Serial ATA Connector 3			X	
SATA4 / Serial ATA Connector 4			X	
Compact Flash – Type I	X			PQI 2GB CF
Compact Flash – Type II			X	HITACHI/HMS360402D5CF00/2G
DOC (Disk On Chip)			X	
DOM (Disk On Module) – 40 Pin	X			Type: DOM-256-026P
DOM (Disk On Module) – 44 Pin			X	Type: DOM-064-426P
COM 1-232	X			Use for Console on COM1
COM 2-232	X			
COM 2-422			X	
COM 2-485			X	ADAM-4011
COM 2-Ring /+5V /+12V			X	
COM 3			X	
COM 4			X	
COM 5			X	
COM 6			X	
PS/2 Mouse & Keyboard (Internal)	X			
PS/2 Mouse & Keyboard (External)			X	
Audio Connector			X	No onboard audio chipset
Audio 5.1 Channel / S/P DIF			X	
LPT 1			X	Reserved for LCM
LPT 2			X	
SIR / 115.2 Kbps			X	
FIR / 4M bps			X	
USB 1/2 Ports	X			USB1 on front panel
USB 3/4 Ports	X			USB2 on pin header
USB 5/6 Ports	X			USB3 on pin header
USB 7 Ports			X	
USB 2.0 1/2 Ports	X			USB1 on front panel
USB 2.0 3/4 Ports	X			USB2 on pin header
USB 2.0 5/6 Ports	X			USB3 on pin header
USB 2.0 7 Ports			X	
DVI Function			X	
DIO Connector			X	
Card Bus			X	
PC/104			X	

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PC/104-Plus				X	
PCI-104				X	
TFT TTL LCD				X	
TFT LVDS LCD				X	
TV-out / S Terminal				X	
TV-out / AV Terminal				X	
Touch Screen – 8 Wire				X	
Touch Screen – 5 Wire				X	
DIMM Slots		X			
Watchdog IRQ n				X	
Watchdog Software Control		X			
LAN1 –LAN6 Active LED		X			
LAN1 –LAN6 Link LED		X			
LCM keypad		X			
Software reset button		X			
VGA Connector		X			
FAN1 connector		X			
FAN2 connector		X			
FAN3 connector		X			
Front Panel		Result			Notes
		Pass	Fail	N/A	
HDD LED		X			
Power LED		X			
Status LED		X			
LAN Bypass LED	Disable	X			Depends on BIOS
	Forced Mode	X			
	Watchdog Mode	X			
Power On Button		X			
External Buzzer				X	
On Board Buzzer		X			
Reset Switch		X			
Keyboard Lock				X	
Jumpers Function		Result			Notes
		Pass	Fail	N/A	
CF Card Master/Slave Selection				X	
ATX simulates AT				X	
Audio Out Selection (W/O & W/ Amplifier)				X	
LCD Voltage Selection				X	
COM2-Ring/5V/12V Selection				X	
COM2 RS-232/422/485 Selection				X	
Clear CMOS		X			
Touch Screen Operating Mode Selection				X	
Clock Shift of TFT LCD				X	
Power Connector & Function		Result			Notes
		Pass	Fail	N/A	
ATX Power Connector 20pin		X			ATX2
ATX Power Connector 24pin				X	
ATX Power_12V Connector		X			ATX1
AT Power Connector (P8 & P9)				X	
PWR1 (Mini4P)		X			
Big 4P Power Connector		X			

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Mini 4P Power Connector		X			
External Power Connector (-12/-5V)				X	
Option ATX Power Connector (PS-ON / +5VSB) CN1				X	
LAN Connector & Function		Result			Notes
		Pass	Fail	N/A	
LAN Speed LED	LAN1 ~ LAN4	X			
LAN Link / Active	LAN1 ~ LAN8	X			
LAN 10/100 Ethernet		X			
LAN 1G Ethernet		X			
PCI Connector & Function		Result			Notes
		Pass	Fail	N/A	
Mini PCI slot		X			
PCI Slots		X			
PCI Express		X			
PCI X		X			
Status LED Function		Result			Notes
		Pass	Fail	N/A	
Disable		X			Depends on BIOS
RED LED ON		X			
RED LED BLINK		X			
GREEN LED ON		X			
GREEN LED BLINK		X			

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2. Timer Accuracy Test

2-1. System Clock & RTC Clock Test

Test Points: 1. This test focuses on the accuracy of system clock and RTC
2. Check your local time to adjust system clock and RTC in BIOS setup menu to fit system
3. Check if the time is correct or not after 24 hours passed

Under Room Temperature: 25 °C

Item / Function	Time Interval	Margin for error	Actual		Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode	24 hrs	+/-3 sec	-1	Sec	X			Under DOS
RTC Clock in Power Off Mode	24 hrs	+/-3 sec	0	Sec	X			

2-2. Watchdog Timer Test

Test Points: 1. Setup every time-out interval to check if system can generate a reset while on setting time.
2. Please pay attention to which method we would use to make system reset, Watchdog-IRQ n or Software Programming or BIOS Setup

Use Function as below:

〔 〕Watchdog-IRQ n 〔X〕Software Programming.

〔 〕BIOS Setup. [ ]No Support.

Under Room Temperature: 25℃ / DOS Mode .

I/O Chipset: Winbond W83627HG-AW

Time-out interval	IRQ	Reset	Margin for error	Actual		Result			Note
						Pass	Fail	N/A	
1 sec		X	+/- 20%	1	Sec	X			Software provided by 7600WDT S/W
60 sec			+/- 20%		Sec			X	
255 sec		X	+/- 20%	255	Sec	X			
60 sec	10		+/- 20%		Sec			X	
60 sec	11		+/- 20%		Sec			X	
60 sec	15		+/- 20%		Sec			X	

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3. Network HUB / LAN Connection Test

3-1. LAN LED Function Test :

Test Points: 1. Active LED→ It shows flickering orange color while LAN is access
2. Link LED→ It shows green color that is always on while LAN speed is 10/100 MBps
→It shows red-orange color that is always on while LAN speed is 1000 MBps (Gigabit)

OnBoard LAN 1：LED Indicator Lights Function Test〔 〕No Support
Intel 82573L 10/100/1000MBps LAN

Test Item	Active LED (Flickering Orange Color)	Link LED (10/100: Green Color) (Gigabit: Red-Orange Color)	Speed LED	Note
Pass	X	X		
Fail				
N/A			X	

OnBoard LAN 2：LED Indicator Lights Function Test〔 〕No Support
Intel 82573L 10/100/1000MBps LAN

Test Item	Active LED (Flickering Orange Color)	Link LED (10/100: Green Color) (Gigabit: Red-Orange Color)	Speed LED	Note
Pass	X	X		
Fail				
N/A			X	

OnBoard LAN 3：LED Indicator Lights Function Test〔 〕No Support
Intel 82573L 10/100/1000MBps LAN

Test Item	Active LED (Flickering Orange Color)	Link LED (10/100: Green Color) (Gigabit: Red-Orange Color)	Speed LED	Note
Pass	X	X		
Fail				
N/A			X	

OnBoard LAN 4：LED Indicator Lights Function Test〔 〕No Support
Intel 82573L 10/100/1000MBps LAN

Test Item	Active LED (Flickering Orange Color)	Link LED (10/100: Green Color) (Gigabit: Red-Orange Color)	Speed LED	Note
Pass	X	X		
Fail				
N/A			X	

Fiber 1：LED Indicator Lights Function Test〔 〕No Support
Intel 82571 850 nm (Multi mode) 1.25GBps LAN

Test Item	Active LED / Link LED	Speed LED	Note
Pass	X		
Fail			
N/A		X	

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Fiber 2：LED Indicator Lights Function Test〔 〕No Support
Intel 82571 850 nm (Multi mode) 1.25GBps LAN

Test Item	Active LED / Link LED	Speed LED	Note
Pass	X		
Fail			
N/A		X	

Fiber 3：LED Indicator Lights Function Test〔 〕No Support
Intel 82571 850 nm (Multi mode) 1.25GBps LAN

Test Item	Active LED / Link LED	Speed LED	Note
Pass	X		
Fail			
N/A		X	

Fiber 4：LED Indicator Lights Function Test〔 〕No Support
Intel 82571 850 nm (Multi mode) 1.25GBps LAN

Test Item	Active LED / Link LED	Speed LED	Note
Pass	X		
Fail			
N/A		X	

3-2. Network HUB / LAN Connects Test:

Test Point: 1. A represents QE Win2000 Server / B represents Tested machine (Under Windows)
2. A ⟷ B means to connect two computer each other by using "Ping" instruction
3. Use category 5 network cable with RJ-45 connector to test
4. Allow failure rate under 1/1000.

LAN1 Port Test : [X]10 , [X]100 , [X]1000 Mbps
Intel 82573L 10/100/1000MBps LAN

Network HUB / HUB Speed		Transfer Mode	Cable Length	Function Test					Note
				Packet in Byte	Send	Onboard LAN Speed	Received	N/A	
HP J4095A 24 Ports	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
D-Link DGS-1008T	1GBps	A ⟷ B	100 M	8192	1000	1000	999		
Intel InBusiness 8 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
LEMEL LM-S5 5 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
Accton DeskTop-3005	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
SVEC FD916H (10 Mbps HUB)	10 MBps	A ⟷ B	100 M	8192	1000	10	999		

LAN2 Port Test : [X]10 , [X]100 , [X]1000 Mbps
Intel 82573L 10/100/1000MBps LAN

Network HUB / HUB Speed		Transfer Mode	Cable Length	Function Test					Note
				Packet in Byte	Send	Onboard LAN Speed	Received	N/A	
HP J4095A 24 Ports	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
D-Link DGS-1008T	1GBps	A ⟷ B	100 M	8192	1000	1000	999		
Intel InBusiness 8 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
LEMEL LM-S5 5 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
Accton DeskTop-3005	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
SVEC FD916H (10 Mbps HUB)	10 MBps	A ⟷ B	100 M	8192	1000	10	999		

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LAN3 Port Test : [X]10 , [X]100 , [X]1000 Mbps
Intel 82573L 10/100/1000MBps LAN

Network HUB / HUB Speed		Transfer Mode	Cable Length	Function Test					Note
				Packet in Byte	Send	Onboard LAN Speed	Received	N/A	
HP J4095A 24 Ports	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
D-Link DGS-1008T	1GBps	A ⟷ B	100 M	8192	1000	1000	999		
Intel InBusiness 8 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
LEMEL LM-S5 5 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
Accton DeskTop-3005	100 MBps	A ⟷ B	100 M	8192	1000	100	1000		
SVEC FD916H (10 Mbps HUB)	10 MBps	A ⟷ B	100 M	8192	1000	10	999		

LAN4 Port Test : [X]10 , [X]100 , [X]1000 Mbps
Intel 82573L 10/100/1000MBps LAN

Network HUB / HUB Speed		Transfer Mode	Cable Length	Function Test					Note
				Packet in Byte	Send	Onboard LAN Speed	Received	N/A	
HP J4095A 24 Ports	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
D-Link DGS-1008T	1GBps	A ⟷ B	100 M	8192	1000	1000	999		
Intel InBusiness 8 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
LEMEL LM-S5 5 Port	100 MBps	A ⟷ B	100 M	8192	1000	100	1000		
Accton DeskTop-3005	100 MBps	A ⟷ B	100 M	8192	1000	100	999		
SVEC FD916H (10 Mbps HUB)	10 MBps	A ⟷ B	100 M	8192	1000	10	999		

3-3. SmartBits Test:

DUT Platform Information:

System	FWS-7600
PCB Model / Version	FWB-7600 A0.2
BIOS	FWS-7600 BIOS Rev.1.0 (05/15/2008)
Operating System	Fedora Core 5.0 / Kernel 2.615-1.2054 (Linux Fedora 5.0)
CPU	Intel® Xeon® 2.12GHz LGA775 3050 Socket CPU
Memory	KINGMAX DDR2-533 SDRAM 512MB (KINGMAX KKEA88I4NAU-37XX)
SATA HDD	Western Digital WD800BEVS-22RST0 80GB 2.5” SATA HDD
Primary IDE Master	N/A
Primary IDE Slave	N/A
LAN Module	PER-C31L A0.3 (2*Copper + 2*Fiber LAN) *2
Expansion card	PER-C30L A0.1 (COM+USB+Copper LAN)
CRT	ViewSonic E70
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Chipset Software	N/A
Graphics Media	N/A
LAN	LAN1→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C30L A0.1 Copper LAN)
	LAN2→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C30L A0.1 Copper LAN)
	LAN3→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C31L A0.3 Copper LAN)
	LAN4→ Intel 82573L PCI-Ex1 10/100/1000Mb RJ-45 (from PER-C31L A0.3 Copper LAN)
	LAN5→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-

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	1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
	LAN6→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
	LAN7→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
	LAN8→ Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd; Intel Model: 874223 TXN3115D200000 850nm)
Audio Driver	N/A
Power Supply	EMACS P1A-6301P ATX Power Supply

SMB Platform Information:

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

Test Purpose:
1. To determine the DUT throughput as defined in RFC 1242.
2. All tests must be complied with RFC-2544 & RFC-1242

Test Procedure:
Send a specific number of frames at a specific rate through the DUT and then count the frames that are transmitted by the DUT. If the count of offered frames is equal to the count of received frames, the fewer frames are received than were transmitted, the rate of the offered stream is reduced and the test is rerun (Defined in RFC 2544)

Test Key Point:
Minimum LAN requirement: 2 port
Frame size: 64, 128, 256, 512, 1024, 1280, 1518 bytes
Direction: Half, Dual
Tolerable packet loss rate: 0%
Iteration constants: 30 sec
DUT environment: Fedora Core Router Mode

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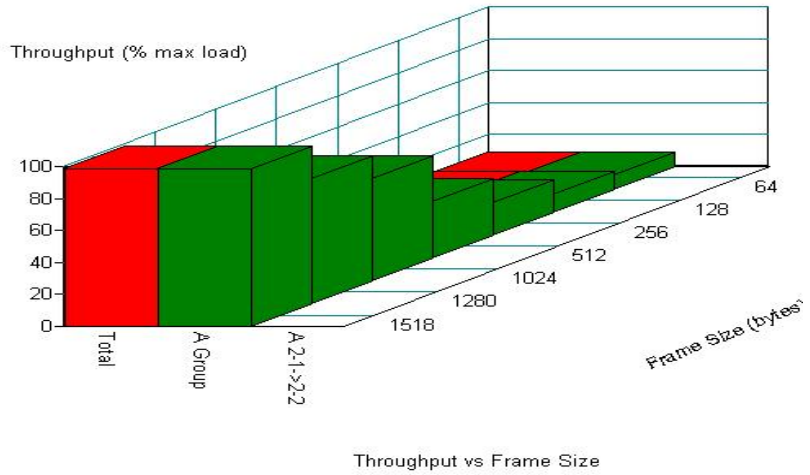
Test Result:

1. Half Direction (LAN1: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C30L A0.1 Copper LAN→ LAN2: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C30L A0.1 Copper LAN)

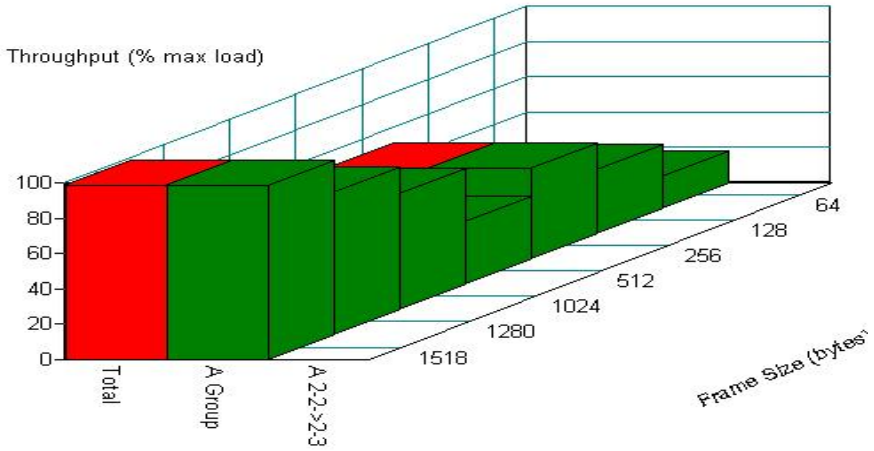


Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	8.734375	11.0546875	19.5625	35.03125	63.6484375	77.5703125	98.453125
A Group	8.734375	11.0546875	19.5625	35.03125	63.6484375	77.5703125	98.453125
A 2-1→2-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Half Direction (LAN2: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C30L A0.1 Copper LAN→ LAN3: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C31L A0.3 Copper LAN)



Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	18.015625	35.8046875	50.5	35.03125	65.1953125	79.890625	98.453125
A Group	18.015625	35.8046875	50.5	35.03125	65.1953125	79.890625	98.453125
A 2-2→2-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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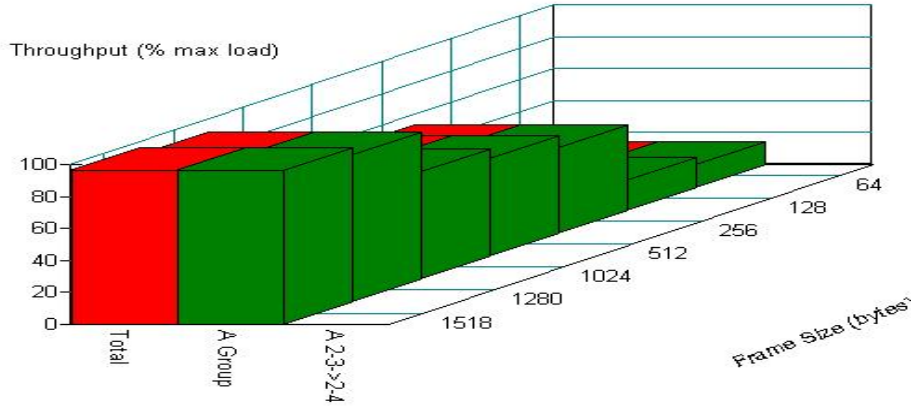
3. Half Direction (LAN3: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C31L A0.3 Copper LAN → LAN4: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C31L A0.3 Copper LAN)

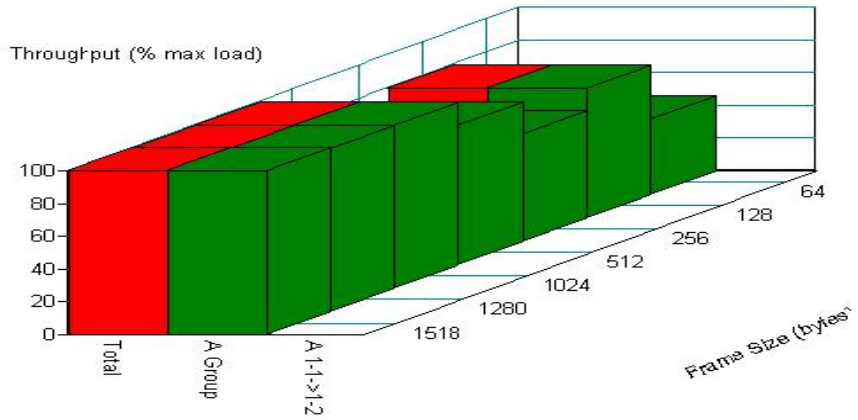


Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	14.1484375	18.7890625	52.8203125	60.5546875	66.7421875	91.4921875	96.1328125
A Group	14.1484375	18.7890625	52.8203125	60.5546875	66.7421875	91.4921875	96.1328125
A 2-3→2-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4. Half Direction (LAN5: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (Intel Model: 874223 TXN3115D200000 850nm) → LAN6: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd)



Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	45.859375	78.34375	65.1953125	84.53125	99.2265625	99.2265625	100
A Group	45.859375	78.34375	65.1953125	84.53125	99.2265625	99.2265625	100
A 1-1→1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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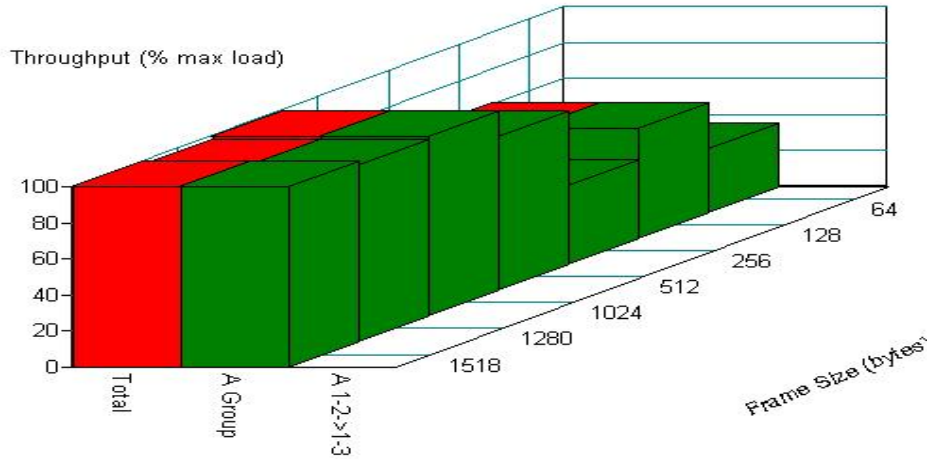
5. Half Direction (LAN6:Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (Intel Model: 874223 TXN3115D200000 850nm) → LAN7: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd)

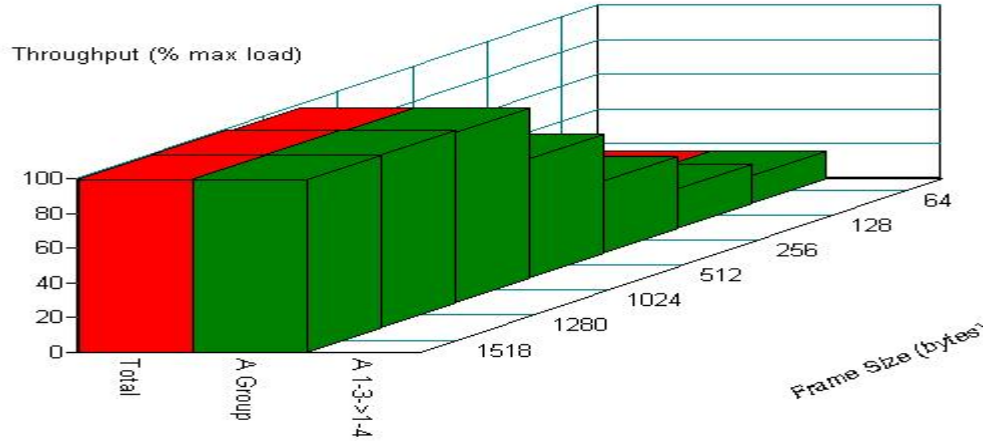


Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	35.03125	60.5546875	43.5390625	84.53125	99.2265625	97.6796875	100
A Group	35.03125	60.5546875	43.5390625	84.53125	99.2265625	97.6796875	100
A 1-2→1-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A

6. Half Direction (LAN7: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (Intel Model: 874223 TXN3115D200000 850nm) → LAN8: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd)



Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	15.6953125	21.8828125	41.21875	68.2890625	97.6796875	99.2265625	99.2265625
A Group	15.6953125	21.8828125	41.21875	68.2890625	97.6796875	99.2265625	99.2265625
A 1-3→1-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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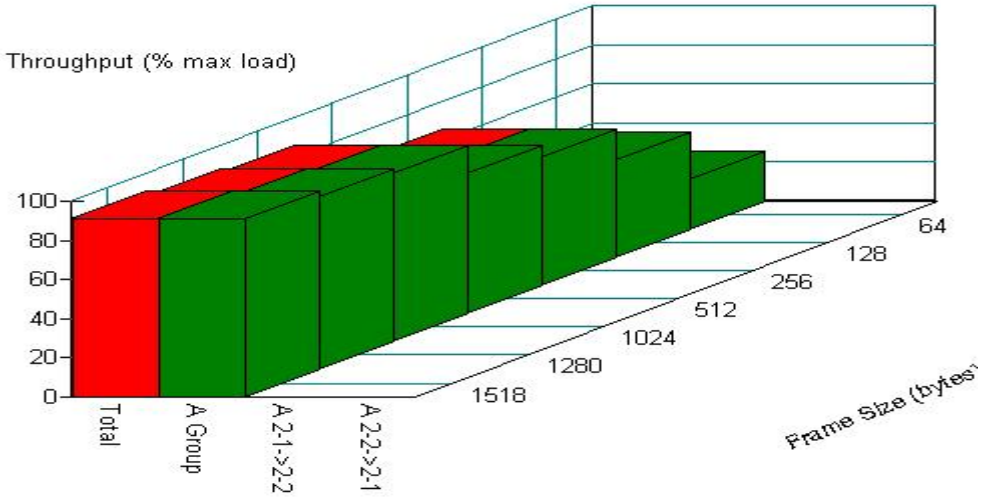
7. Binary Direction (LAN1: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C30L A0.1 Copper LAN→ LAN2: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C30L A0.1 Copper LAN)

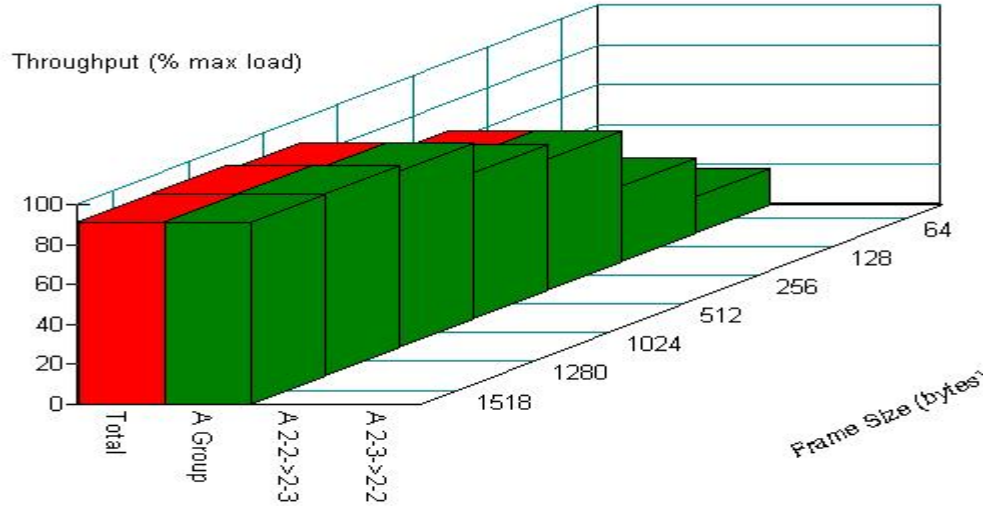


Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	24.9765625	48.953125	65.1953125	71.3828125	85.3046875	87.625	90.71875
A Group	24.9765625	48.953125	65.1953125	71.3828125	85.3046875	87.625	90.71875
A 2-1→2-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 2-2→2-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

8. Binary Direction (LAN2: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C30L A0.1 Copper LAN→ LAN3: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C31L A0.3 Copper LAN)



Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	18.015625	37.3515625	65.1953125	72.9296875	87.625	90.71875	90.71875
A Group	18.015625	37.3515625	65.1953125	72.9296875	87.625	90.71875	90.71875

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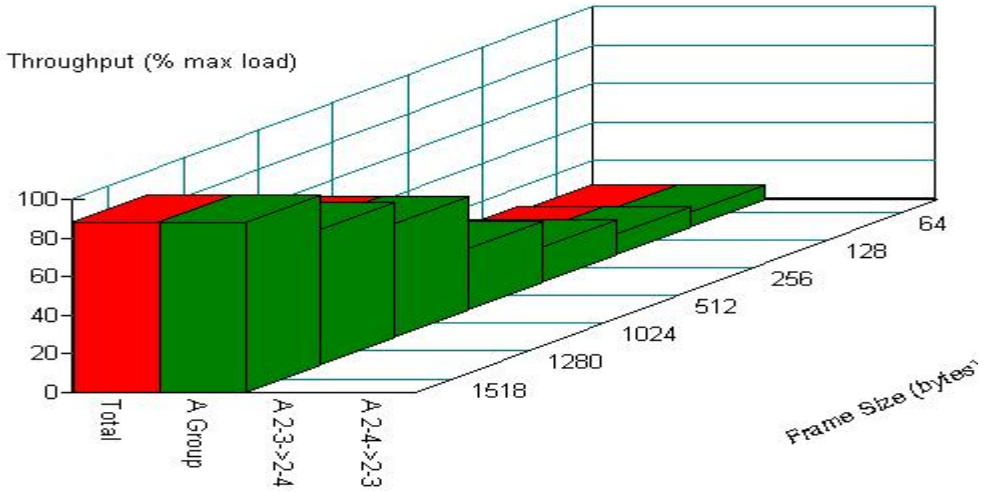
A 2-2→2-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 2-3→2-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. Binary Direction (LAN3: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C31L A0.3 Copper LAN → LAN4: Intel 82573L PCI-Ex1 10/100/1000Mb from PER-C31L A0.3 Copper LAN)

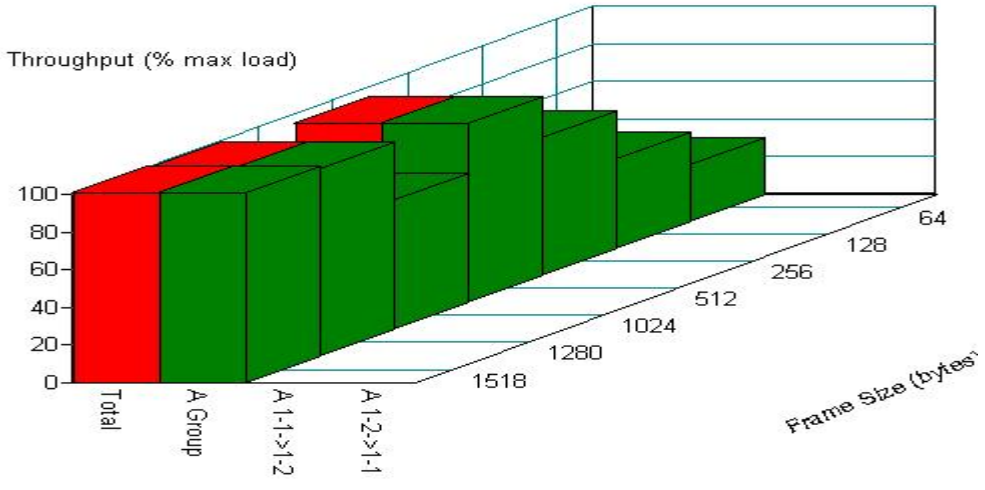


Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	7.1875	10.28125	18.015625	31.1640625	58.234375	69.8359375	87.625
A Group	7.1875	10.28125	18.015625	31.1640625	58.234375	69.8359375	87.625
A 2-3→2-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 2-4→2-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A

10. Binary Direction (LAN5: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (Intel Model: 874223 TXN3115D200000 850nm) → LAN6: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd)



Throughput vs Frame Size

Throughput Table

Framesize	64	128	256	512	1024	1280	1518

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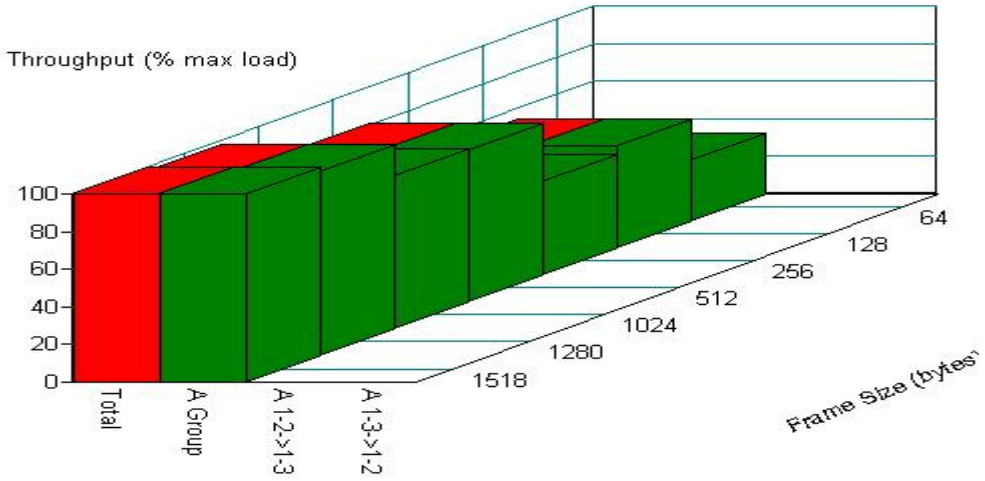
Name							
Total	29.6171875	46.6328125	72.9296875	94.5859375	68.2890625	99.2265625	100
A Group	29.6171875	46.6328125	72.9296875	94.5859375	68.2890625	99.2265625	100
A 1-1→1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-2→1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

11. Binary Direction (LAN6: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (Intel Model: 874223 TXN3115D200000 850nm) → LAN7: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd)



Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	31.9375	53.59375	48.953125	79.890625	80.6640625	97.6796875	97.6796875
A Group	31.9375	53.59375	48.953125	79.890625	80.6640625	97.6796875	97.6796875
A 1-2→1-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-3→1-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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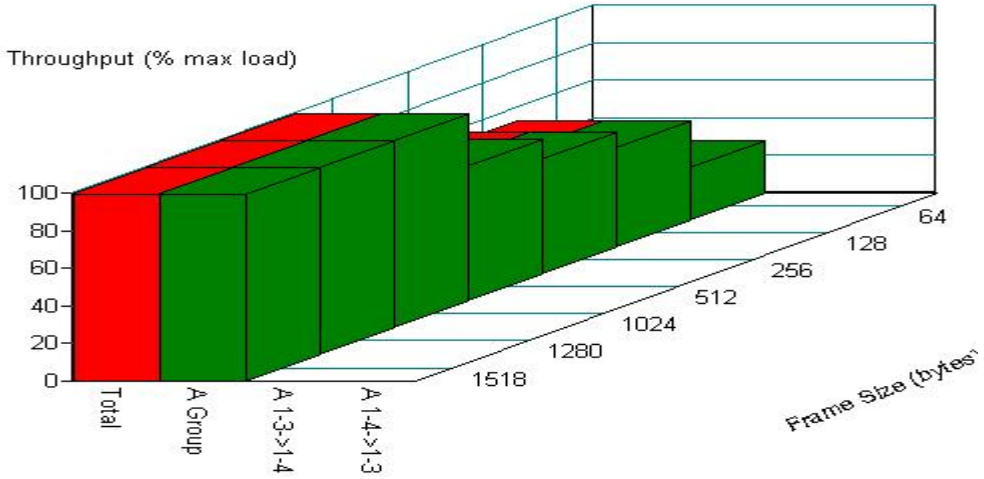
12. Binary Direction (LAN7: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (Intel Model: 874223 TXN3115D200000 850nm) → LAN8: Intel 82571 PCI-Ex4 Fiber LAN SFP from PER-C31L A0.3 Fiber LAN (DELTA LCP-1250A4FSR 850nm 1.25GBd)



Throughput vs Frame Size

Throughput Table

Framesize / Name	64	128	256	512	1024	1280	1518
Total	**27.296875**	**52.046875**	**60.5546875**	**71.3828125**	**99.2265625**	**99.2265625**	**99.2265625**
A Group	**27.296875**	**52.046875**	**60.5546875**	**71.3828125**	**99.2265625**	**99.2265625**	**99.2265625**
A 1-3→1-4	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
A 1-4→1-3	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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4. Firewall Hardware Compatibility

4-1. LAN Bypass Function Test

Test Step:

1. LAN Bypass function only supports LAN1 and LAN2
2. Use bypass LAN port: LAN1 and LAN2 connectors to be a HUB when it works
3. Check LAN bypass LED works fine or not?

Test Result:

LAN Bypass Function Test				
Test Item	Result			Note
	Pass	Fail	N/A	
Disable	X			1. Bypass LED is always off. 2. Bypass function was always disabled 3. Watchdog function works fine
Force mode	X			1. Bypass LED is on when power on 1. Bypass function was always enabled 3. Watchdog function works fine
Watch Dog Mode	X			1. Bypass LED will turn on when WDT time up 2. Bypass function will enable when WDT time up 3. System will not restart when WDT time up

4-2. Status LED Test

Test Step: 1. Status LED will work when power on
2. Check if status LED works fine

Status LED Function	Result			N/A
	Pass	Fail		
Disable	X			
RED LED ON	X			
RED LED BLINK	X			
GREEN LED ON	X			
GREEN LED BLINK	X			

4-3. Console Redirection Function Test

Test Step:

1. We can control firewall system by console redirection, include display and PS/2 keyboard/mouse
2. First you need to connect PC and firewall system with COM cable
3. Enable “Console Redirection” and “Agent after Boot” items in firewall system BIOS
4. PC must open “Hyper terminal” and set the same baud rate with firewall system (Baud rate default value in BIOS is 19200)
5. Press “Tab” key to get control while firewall wall POST

Test Result:

Console Redirection Function Test				
Test Item	Result			Note
	Pass	Fail	N/A	
Control by PS/2 keyboard	X			
Control by PS/2 mouse	X			
Show in PC display	X			

4-4. Software Reset Function Test

Test Step:

1. Software reset button is near COM1(console) and it is controlled by ICH5 GPIO7

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2. It shows pull low while you press the software reset button
3. Use ADU2.08, the value of IO space port set to 400H to check if the function of software reset button works fine or not

Test Result:

Software Reset Function Test					
Test Item		Result			Note
		Pass	Fail	N/A	
ADU3.13	Release software reset button	X			BB
	Press software reset button	X			FB

4-5. LCM Function Test

Test Step: 1. Use application software:LCM01, LCM02, LCM03 made by AAEON Software team to test LCM function in DOS mode

KeyPad Function Test	Result			Note
	Pass	Fail	N/A	
Turning the display off	X			
Turning the display on	X			
Press any key to test keypad	X			

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5. O.S. Compatibility Test

5-1. English-[ ] Linux RedHat 9.0 , [X]Fedora Core 5

〔 〕No Support

Driver Information:

Chipset Software	Default driver
Graphics Media	Default driver
LAN Driver	Default driver
Audio Driver	Default driver

Install OS to [ ]IDE [X]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Linux Fedora Core 5 Ver :2.615-1.2054	X			

VGA Resolution Test:

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [ ] 256 [ ] 16bits: Thousands of Colors [X] 32bits: Millions of Colors

Resolution	CRT			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480			X			X			X	
800X600	X					X			X	
1024X768	X					X			X	
1280X1024	X					X			X	
1600X1200			X			X			X	

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Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Install From IDE CD-ROM				
Install to SATA 3.5" HDD			X	
Base Function Test				
VGA Setup	X			
Soundcard Setup			X	
LAN & Modem Setup	X			
Printer Setup			X	
Mouse Setup	X			
Keyboard Setup	X			
Mount Floppy			X	
Mount USB Mouse	X			
Mount USB Keyboard	X			
Mount CD-ROM	X			
Mount USB Floppy	X			
Mount USB CD-ROM	X			
Mount USB HDD	X			
Consoles (COM1)	X			
Display Function Test				
CRT -- Full Screen	X			
LCD -- Full Screen			X	
DVI -- Full Screen			X	
DVI + LCD			X	
CRT + LCD			X	
CRT + DVI			X	
Touch Screen Function Test				
8 Wire			X	
5 Wire			X	
Network Function Test				
Connect to Internet	X			
Ping IP Address	X			Ping
Telnet IP Address	X			telnet
Audio Function Test				
Play Audio Function Test			X	
MIC Function Test			X	
X Windows Application				
Start Button→Office	X			Office function
X-Window	X			Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon.				
uname –a	X			Show information
Log Out	X			
Shutdown	X			Init 0 or shutdown –h now
Restart the Computer	X			Init 6 or shutdown –r now
Halt	X			Power Off Mode
ls / clear ……; cd /dev /ls –l	X			Command instruction

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5-2. Windows Server 2003 English Version

〔 〕No Support

Driver Information:

Chipset Software	N/A
Graphics Media	N/A
LAN Driver	N/A
Audio Driver	N/A

CPU Information:

CPU Type	Intel Quad Core Kentsfield CPU / X3230 / 2.66G / 1066 MHz / 8 MB / 65 nm / LGA775

Install OS to [ ]IDE [X]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows Server 2003 Standard Edition Service Pack 1 ACPI Mode	X			Install from IDE CD-ROM
English Windows Server 2003 Standard Edition Service Pack 1 APM Mode	X			Install from IDE CD-ROM

Onboard RAID Function Test:

Installation	Result			Note
	Pass	Fail	N/A	
Set 2 SATA HDDs as RAID 0 and install Windows Server 2003 Standard Edition Service Pack 1 ACPI Mode			X	
Set 2 SATA HDDs as RAID 1 and install Windows Server 2003 Standard Edition Service Pack 1 ACPI Mode			X	

Test Points: 1. Before starting every test, you must install all drivers completely first

VGA Resolution Test

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [ ] 256 [X] 16bit [ ] 24bit [X] 32bit

Resolution	CRT			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480			X			X			X	
800X600	X					X			X	
1024X768	X					X			X	
1280X1024	X					X			X	
1600X1200			X			X			X	

Test Results:

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Test Item	Pass	Fail	N/A	Note
Install From IDE CD-ROM				
Install to SATA 3.5" HDD	X			Western Digital WD1600JD-00HBB0 160GB
Display Function Test				
CRT -- Full Screen	X			
LCD -- Full Screen			X	
DVI --- Full Screen			X	
TV ---- Full Screen			X	
DVI + LCD			X	
CRT + LCD			X	
CRT + DVI			X	
CRT + TV			X	
CRT + LCD + TV			X	
Boot - Windows Server 2003 Advanced Options Menu				
Safe Mode	X			
Safe Mode with Networking	X			
Safe Mode with Command Prompt	X			
Enable Boot Logging	X			
Enable VGA Mode	X			
Last known Good Configuration (your most recent settings that works)	X			
Directory Services Restore Mode (windows domain controllers only)	X			
Debugging Mode	X			
Disable automatic restart on system failure	X			
Start Windows Normal	X			
Reboot	X			
Return to OS Choices Menu	X			
Basic Function Test				
IDE Primary Master	X			
IDE Primary Slave	X			
IDE Secondary Master	X			IDE1
IDE Secondary Slave	X			
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
LAN Function Test				
LAN1-LAN6 (Intel 82541PI)	X			
Audio Function Test				
Audio 5.1 Channel / S/P DIF Test			X	
Play Audio Function Test			X	
Microphone Function Test			X	
Start Menu				
Log off User	X			
Shut down	X			
Standby	X			
Restart	X			
Hibernate	X			

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5-3. Windows XP Professional English Version

〔 〕No Support

Driver Information:

Chipset Software	Intel® Chipset Software Installation Utility 8.1.1.1010
Graphics Media	Intel® 82865G Graphics Controller 6.14.10.3943 11/2/2004
LAN Driver	Intel 82573L/82571: Intel® PRO1000 MT Network Connection 9.5.12.0 07/26/2006
Audio Driver	N/A

CPU Information:

CPU Type	Intel Quad Core Kentsfield CPU / X3230 / 2.66G / 1066 MHz / 8 MB / 65 nm / LGA775

Install OS to [ ]IDE [X]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional Service Pack 2 V2002 ACPI Mode	X			Install from IDE CD-ROM
English Windows XP Professional Service Pack 2 V2002 APM Mode	X			Install from USB 2.0 CD-ROM: ASUS DRW-1604P-D/WHT/G/ASUS (USB3 up port in front panel)

Onboard RAID Function Test:

Installation	Result			Note
	Pass	Fail	N/A	
Set 2 SATA HDDs as RAID 0 and install Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	
Set 2 SATA HDDs as RAID 1 and install Windows XP Professional Service Pack 2 V2002 ACPI Mode			X	

Test Points: 1. Before starting every test, you must install all drivers completely first

VGA Resolution Test

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [X] 256 [X] 16bit [ ] 24bit [X] 32bit

Resolution	CRT			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480			X			X			X	
800X600	X					X			X	
1024X768	X					X			X	
1280X1024	X					X			X	
1600X1200			X			X			X	

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Test Results:

Test Item	Pass	Fail	N/A	Note
Install From CD-ROM				
Install to 2.5” SATA HDD	X			Seagate ST98823AS 80GB
Install to 3.5” SATA HDD	X			Western Digital WD1600JD-00HBB0 160GB
Display Function Test				
CRT -- Full Screen	X			
LCD -- Full Screen			X	
DVI --- Full Screen			X	
TV ---- Full Screen			X	
DVI + LCD			X	
CRT + LCD			X	
CRT + DVI			X	
CRT + TV			X	
CRT + LCD + TV			X	
External VGA Card Test (Dual Display)				
CHAINTECH NVIDIA GeForce4 MX440-8X	X			
Boot - Windows XP Professional Advanced Options Menu				
Safe Mode	X			
Safe Mode with Networking	X			
Safe Mode with Command Prompt	X			
Enable Boot Logging	X			
Enable VGA Mode	X			
Last known Good Configuration	X			
Directory Services Restore Mode (windows XP domain controllers only)	X			
Debugging Mode	X			
Disable automatic restart on system failure	X			
Start Windows Normally	X			
Reboot	X			
Return to OS Choices Menu	X			
Basic Function Test				
IDE Primary Master	X			
IDE Primary Slave	X			
IDE Secondary Master	X			IDE1
IDE Secondary Slave	X			
PS/2 Mouse and Keyboard	X			
USB Mouse and Keyboard	X			
LAN Function Test				
LAN1-LAN6	X			
Audio Function Test				
Audio 5.1 Channel / S/P DIF Test			X	
Play Audio Function Test			X	
Microphone Function Test			X	
Start Menu				
Log off User	X			
Shut down	X			
Standby	X			
Restart	X			
Hibernate	X			

5-4. Windows Vista Ultimate English Version

〔 〕**No Support**

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Driver Information:

Chipset Software	N/A
Graphics Media	N/A
LAN Driver	N/A
Audio Driver	N/A

Install OS to [ ]IDE [X]SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows Vista™ Ultimate ACPI Mode	X			Install form IDE CD-ROM
English Windows Vista™ Ultimate APM Mode			X	Install form IDE CD-ROM

Onboard RAID Function Test:

Installation	Result			Note
	Pass	Fail	N/A	
Set 2 SATA HDDs as RAID 0 and install Windows 2000 Professional Service Pack 4 / 5.00.2195 / ACPI Mode			X	
Set 2 SATA HDDs as RAID 1 and install Windows 2000 Professional Service Pack 4 / 5.00.2195 / ACPI Mode			X	

Test Points: 1. Before starting every test, you must install all drivers completely first

VGA Resolution Test

Note: Pay attention to LCD Full Screen under Text Mode.

Color : [ ] 256 [ ] 16bit [ ] 24bit [X] 32bit

Resolution	CRT			TTL			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480			X			X			X	
800X600	X					X			X	
1024X768	X					X			X	
1280X1024			X			X			X	
1600X1200			X			X			X	

Test Results:

Test Item	Pass	Fail	N/A	Note
Install From IDE CD-ROM				
Install to 3.5” SATA HDD	X			Western Digital WD1600JD-00HBB0 160GB
Display Function Test				
CRT -- Full Screen	X			
LCD -- Full Screen			X	
DVI --- Full Screen			X	
TV ---- Full Screen			X	
DVI + LCD			X	
CRT + LCD			X	
CRT + DVI			X	
CRT + TV			X	
CRT + LCD + TV			X	
External VGA Card Test (Dual Display)				
CHAINTECH NVIDIA GeForce4 MX440-8X			X	

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Boot - Windows 2000 Professional Advanced Options Menu				
Safe Mode			**X**	
Safe Mode with Networking			**X**	
Safe Mode with Command Prompt			**X**	
Enable Boot Logging			**X**	
Enable VGA Mode			**X**	
Last known Good Configuration			**X**	
Directory Services Restore Mode (windows 2000 domain controllers only)			**X**	
Debugging Mode			**X**	
Start Windows Normally			**X**	
Reboot			**X**	
Return to OS Choices Menu			**X**	
Basic Function Test				
IDE Primary Master			**X**	
IDE Primary Slave	**X**			
IDE Secondary Master			**X**	**IDE1**
IDE Secondary Slave			**X**	
PS/2 Mouse and Keyboard	**X**			
USB Mouse and Keyboard	**X**			
LAN Function Test				
LAN1-LAN6 (Intel 82541PI)			**X**	
Audio Function Test				
Audio 5.1 Channel / S/P DIF Test			**X**	
Play Audio Function Test			**X**	
Microphone Function Test			**X**	
Start Menu				
Log off User			**X**	
Shut down	**X**			
Standby			**X**	
Restart	**X**			
Hibernate			**X**	

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6. BIOS Function Test

6-1. Memory Beep Test

Test Item	Function		N/A	Note
	Pass	Fail		
Check if there is beep sound during power on inserting no memory	X			

6-2. Standard CMOS Features

Test Item	Setting		Function		N/A	Note
	Pass	Fail	Pass	Fail		
Data (mm:dd:yy)	X		X			
Time (hh:mm:ss)	X		X			
IDE Channel 0 Master	X		X			
IDE Channel 0 Slave	X		X			
IDE Channel 1 Master	X		X			IDE1
IDE Channel 1 Slave	X		X			
Drive A (Floppy)					X	1.44M,3.5 in. / None
Drive B (Floppy)					X	1.44M,3.5 in. / None

6-3. Boot Sequence Test

Test Item	Result			Note
	Pass	Fail	N/A	
Floppy	X			
Hard Disk	X			
Removable (All Device Priority)			X	For Product BIOS Request
HDD-0:			X	
SCSI			X	Takram DC-395U SCSI Card
CDROM	X			
HDD-1:			X	
HDD-2:			X	
ZIP 100	X			
USB HDD			X	
USB Floppy	X			
USB CD-ROM	X			
LAN [Boot From LAN First]	X			
First Boot Device	X			First Boot Device must be set to HDD
Second Boot Device	X			
Third Boot Device	X			
Boot Other Device	X			
Disable	X			

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6-4. Power Management Test

6-4.1. APM Power Management Test

Test Item	Setting Test	Result			Note
		Pass	Fail	N/A	
Normal Mode	Normal Mode	X			
HDD Power Down	Function Test			X	
Suspend Mode	Function Test			X	
Power Button	Delay 4 Sec	X			Soft-Off By PWRBTN
Power Button	Instant-Off	X			Soft-Off By PWRBTN

6-4.2. ACPI Power Management Test

Test Point:

1. **While setting S1(POS) in BIOS ACPI option, boot into Windows then choice standby item to let system suspend. It must be resumed back correctly by moving PS/2 Keyboard or mouse**
2. **While setting S3(STR) in BIOS ACPI option, boot into Windows then choice standby item to let system suspend. It must be resumed back correctly by pressing power button**

Test Item	Result			Note
	Pass	Fail	N/A	
Enable	X			
Disable	X			
ACPI - S1 (POS)			X	
ACPI - S3 (STR)			X	FWS-7600 default S3
ACPI - S1 & S3			X	

6-5. Power On Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
Password			X	Only support APCI Mode
Hot KEY			X	Only support APCI Mode
MOUSE Move			X	Only support APCI Mode
Keyboard 98			X	Only support APCI Mode
Any KEY			X	Only support APCI Mode
BUTTON ONLY			X	Only support APCI Mode

6-6. Wake Up Event Test

Test Item		Result			Note
		Pass	Fail	N/A	
Power On by Ring / COM 1 (Console)	Ring	X			Test by Modem
	+12V			X	Test by Multimeter
	+5V			X	Test by Multimeter
Power On by Ring / COM 2	Ring	X			Test by Modem
	+12V			X	Test by Multimeter
	+5V			X	Test by Multimeter
Power On by Ring / COM 3	Ring			X	Test by Modem
	+12V			X	Test by Multimeter
	+5V			X	Test by Multimeter
Power On by Ring / COM 4	Ring			X	Test by Modem
	+12V			X	Test by Multimeter
	+5V			X	Test by Multimeter
Wake On LAN (Wake up by PCI Card)				X	
Wake On RTC (Resume by Alarm)				X	

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Remark: BIOS does not support wake on MODEM function

6-7. Power On after Power Failure Test

Test Points: 1. Power on after power failure function only support ACPI mode
2. Power failure means that we turn off power by unplugging power cord or turn off power supply directly without pressing power button
3. Off→ Power failure function always off no matter shutdown normally or power failure
4. On→ Power failure function always on no matter shutdown normally or power failure
5. Auto→ Power failure function off while shutdown normally, and function on while power failure

Test Item	Result			Note
	Pass	Fail	N/A	
Off	X			
On	X			1.Directly turn off then on power supply for 10 times, each time for 1 seconds
	X			2. Directly turn off then on power supply for 5 times, each time for 1 minutes
Former-Sts (Auto)	X			1.Directly turn off then on power supply for 10 times, each time for 1 seconds
	X			2. Directly turn off then on power supply for 5 times, each time for 1 minutes

6-8. CMOS Backup / Clear CMOS Test

Test Item (CN2)	Result			Note
	Pass	Fail	N/A	
CMOS Backup	X			
Clear CMOS Test	X			

6-9. Boot ROM Test

Test Item	Result			Note
	Pass	Fail	N/A	
Boot ROM to Novell 4.11 [RPL]			X	
Boot ROM to WinNT 4.0 [PXE]	X			

6-10. Supervisor / User Password Test

Test Item	Result			Note
	Pass	Fail	N/A	
Supervisor Password	X			
User Password	X			

6-11. CRT / LCD / TV Function Test

Test Point: Boot display must be set to CRT+LCD in BIOS setup menu

Test Item	Result			Note
	Pass	Fail	N/A	
Boot Display –CRT			X	
Boot Display –LCD			X	
Boot Display –CRT+LCD			X	
Boot Display –DVI			X	
Boot Display –TV			X	
Boot Display –CRT+TV			X	
Boot Display –CRT+DVI			X	

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6-12. TV Standard Function Test

Function Test		Result			Note
		Pass	Fail	N/A	
NTSC	S terminal			X	SHARP LCDTV LC-20S5T
PAL				X	
NTSC	AV Terminal			X	KONKA / T3731A / AC220V /50Hz
PAL				X	S port = Composite , AV port = Component

6-13. Init Display First Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
PCI Slot	X			VC-200200
On Board / AGP			X	
PCIEx			X	

6-14. On-Chip Serial ATA Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
Auto	X			
Combined Mode			X	
Enhanced Mode			X	
SATA Only			X	
Disable			X	

6-15. SATA Mode – IDE / RAID Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
IDE			X	
RAID (Only support Enhanced Mode)			X	

6-16. PC Health Status

Voltage Monitoring Test	Result			Actual	Note
	Pass	Fail	N/A		
(+) Vccp			X		
(+) Vcore			X		
(+) 1.5V	X			1.50	
(+) 1.8V	X			1.82	
(+) CPUVcore			X		
(+) 2.6V			X		
(+) 3.3V	X			3.40	
(+) 5V	X			4.91	
(+) 12V	X			12.71	
(-) 12V			X		
(-) 5V			X		
(+) 3.3VSB			X		
(+) 5VSB			X		
Voltage Battery (Above 3V)			X		
Fan 1 Speed	X			8544	RPM
Fan 2 Speed	X			8231	RPM

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Fan 3 Speed	X			8653	RPM
Current CPU Temp.	X			35℃	
System Temp.	X			38℃	
MCH Temp.			X		

6-17. Swap Floppy Drive & Boot up Floppy Seek Function Test

Test Item		Result			Note
		Pass	Fail	N/A	
Swap Floppy Drive	Enabled			X	
	Disabled			X	
Boot up Floppy Seek	Enabled			X	
	Disabled			X	

6-18. USB Onboard Device Function Test :

Test Item	Result			Note
	Pass	Fail	N/A	
USB Controller	X			
USB 2.0 Controller	X			
USB Keyboard Support	X			
USB Mouse Support	X			

6-19. COM Address / IRQ Test

Test Item	BIOS Adjust		Function		Boot into Windows		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail		
COM 1								
3F8 / IRQ4	X		X		X			
Disable							X	
COM 2								
2F8 / IRQ3	X		X		X			
Disable							X	
COM 3								
3E8 / IRQ10							X	
Disable							X	
COM 4								
2E8 / IRQ11							X	
Disable							X	

6-20. LPT Address / IRQ Test

Test Item	BIOS Adjust		Function		Boot into Windows		N/A	Note
	Pass	Fail	Pass	Fail	Pass	Fail		
LPT 1								
Disabled							X	
LPT1 Mode(378 / IRQ 7)								
SPP							X	

6-21. BIOS AWDFLASH Program Test

Test Points: 1. All we have to do is just type instruction: awdflash.exe XXX.BIN in DOS, and other parameter is no need
If it can not be run, then we can say the test is fail

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BIOS BIN file	60656.bin		
Award Flash Tools Version	Result		
	Pass	Fail	N/A
888	X		

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8. Performance Test

Platform Information:

Item	Device Information
System	FWS-7600
PCB Model / Version	FWB-7600 A0.2
BIOS / Version	BIOS FWS-7600 BIOS Rev 0.4 (01/18/2008)
CPU Type	Intel Quad Core Kentsfield CPU / X3230 / 2.66G / SLACS / 1066 MHz / 8 MB / 65 nm / LGA775
Memory Type	Transcend / ECC Registered Memory / TS128MQR72V6J / DDR2-667 / 1GB *4PCS
VGA	XGI Volari Z7-Z9-Z9s-Z11 (PER-V05V)
SATA HDD	Western Digital WD1600AAJS 160GB 3.5” SATA HDD
Primary IDE Master	N/A
Primary IDE Slave	ASUS DVD-E818A DVD-ROM
CRT	ViewSonic E70 17”
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Operating System	Windows XP Professional Version 2002 Service Pack 2
Power Supply	EMACS P1A-6301P ATX Power Supply

Test Result:

Testing Software	Result	Unit
PCMark2002		
CPU	10511	
Memory	32821	
HDD	2175	
Final Reality V1.01—BenchMark Test		
2D image	62.79	
3D	1.92	
Bus transfer	71.43	
Overall	30.61	Reality marks
3Dmark2001		
3DMark2001SE Build 330_Benchmark mode	N/A	

Test Result:

Testing Software	Result	Unit
PCMark05		
PCMark	N/A	PCMarks
CPU	N/A	
Memory	N/A	
Graphics	N/A	
HDD	N/A	
3Dmark2003 v360		
3Dmark Score	N/A	
CPU Score	N/A	

Remark: Please uses below two performance software to test mainboard if the chipset is new enough. (ex. Intel Core 2 Duo CPU)

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