

# Network tester for RFC-2544 LE-580FX-F2544 Users manual

The first edition

# Instruction

Thank you for your purchase of LE-580FX.

To use it correctly, you are advised to read and understand this instruction manual thoroughly. Keep this together with the warranty. If you encounter any problems, you will find helpful information in this manual.

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This product has been developed for the purpose of using as an analyzer only.

When you use this product with the following devices that are required to function with a high degree of reliability, safety and accuracy, use it under considering the safe design of the system in order to maintain reliability and safety for that system;

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\*Devices for crime prevention and disaster privension.

\*Each kind of safety devices and so on.

This product has not been developed for the use that needs exclusivey high reliability and safety:

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# Safety Information

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This Safety Information includes the following important information in order to not only have you learn the right way to use the analyzer, but also prevent you from causing damage to people and property. Before using, please read the main contents after you understand the following symbols & marks.



Should the device be used without following these symbols, there is a possibility of accidents, such as a death or a serious injury, occurring.

Should the device be used without following these symbols, there is a possibility of accidents, such as a injury <sup>\*1</sup>, and material damage <sup>\*2</sup> occurring.

- \*1 "Injury" indicates injury, burn and electric shock, or the like which does not require hospitalization or the extended hopital visit.
- \*2 "Material damage" indicates damage related to a house, a building, furniture, apparatus, livestock or a pet.



Do not disassemble, modify or repair analyzer.

This may result in a injury, an electric shock, fire, explosion and/or a breakdown due to overheating.

- Stop using the analyzer immediately when smoke or smells emanate from itself. Continuous use may result in an electric shock, a burn and/ or fire.
- Keep the product away from water.

Failure to do so may result in the heat generation, an electric shock and/or unit malfunction.

■ Do not use deteriorated cables (damage etc.).

This may result in the heat generation and fire.

Do not use in the place which generates inflammable gas etc. This may result fire.



• Do not use and keep this product in the following places:

a)The places exposed to the direct rays of the sun.

b)The places with the humidity and temperature exceeding the tolerance level, and with a rapid temperature change.

c)The places with much dust and moisture.

d)The places near the objects which generate heat (the heater etc.).

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#### 1. Introduction

LE-580FX F2544 is a user-friendly and automated test suite based on industry-standard RFC-2544 to generate and analyze the packets to evaluate the performances of Throughput, Latency, Packet Loss, and Back-to-Back of Ethernet switches or routers via LE-580FX device. The realtime display of test results and customized report forms provide an effective way to examine and organize the data for reports or records.

#### 1.1 Specifications

Item	Description
Platform	LE-580FX
Operating System	Windows 2000, Windows XP, Windows Vista
Pre-built	Throughput, Latency, Packet Loss, Back-to-Back, Run All tests
Report	Test report in text format( Excel is required.)
Configuration	Text file and GUI

#### <Attention>

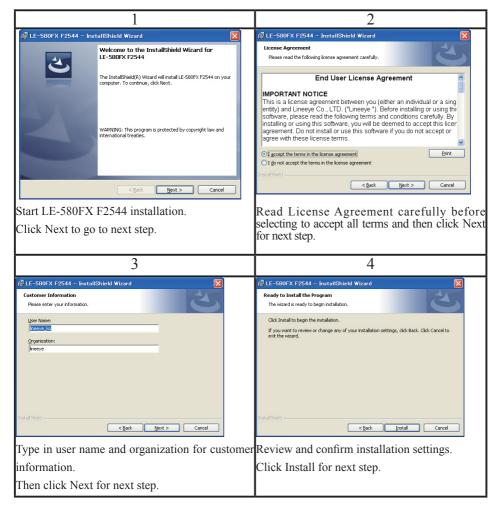
If the maesurement will not progress after stating with "Link error" though LAN cables are connected to LE-580FX device, it may be from eror between LE-580FX device and PC.

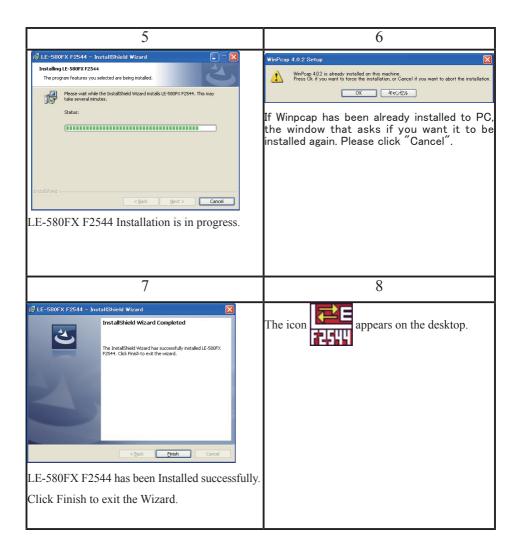
Please close LE580FX F2544, and connect LE-580FX device to PC with Y-cable again.

#### 2. Software Installation and Uninstallation

#### 2.1 Installation

Double click LE-580FX F2544setup.exe.





## 2.2 Uninstallation

If applications do not work properly, it may be necessary to uninstall the software. Or before updating a new version of the software, the previous version must be uninstalled first.

There are two ways to uninstall LE-580FX F2544: Start Menu or Control Panel.

• Start Menu: Click on Windows Start menu  $\rightarrow$  Programs  $\rightarrow$  Lineeye  $\rightarrow$  LE-580FX F2544  $\rightarrow$  Uninstall LE-580FX F2544.

• Control Panel: Activate the Control Panel  $\rightarrow$  Add/Remove Programs  $\rightarrow$  LE-580FX F2544  $\rightarrow$  Change/Remove.

# 3. Main Window

The main window of the user interface is illustrated below. The top-level menu includes the following major parts: File, View, Run and Help.

Toolbar								
F-ROOFY FORM								
ile <u>V</u> iew Run <u>H</u> elp	$\supset$							
🗶 🖾 🖬 🕹 🖻	1 B 🖧 💡	) I X						
						Test Configuration -		
	Source	Destination	Test Pair			Throughput Late	ncu Parka	
						Duration (Sec):		<u> </u>
Thursday			>			Number of Trial	3	
Throughput						Number of Trias	r 1	
		( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	<			Initial Rate (%):	50	
						Min. Rate (%):	0.0	11
						Max. Rate (%):	10	0
Latency						Resolution (%):	10	
						Acceptable Los: Percentage (%):	0	
	Config all ports at o	once Bi-directional	Flow Control			General Setting		
* * *						Device		
Packet Loss						Name: Learn Mode:		_
	Device:	Pattern :	-			Frame Size	Once	-
						Start Size:	64	
	Media Type:	Destination MAC:		Auto Negotiat	ion:	Stop Size:	128	
Back-to-Back					•	Step Size:	64	
	Duplex:	Source MAC:				Custom	Sizes	
				802.3 Format		Link Wait		
Run All Tests				LLC: 00	80 CC	Minimum:	2	
						Timeout:	10	
	L							
						Connect 1	LE-SBOEX	
ady		Frame Size:	Trial: 0 of 0	Repeat: 0	Passed:	Current:	Failed	: NUR

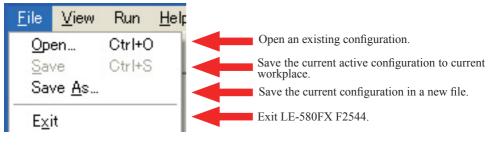
Status Bar

# 3.1 Main Menu

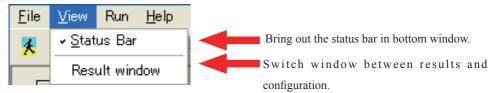
#### 3.1.1 Menu Toolbar

<u>File View</u> Run <u>Help</u> The menu toolbar on the top includes four submenus(File, View, Run, Help).

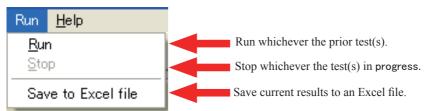
#### 3.1.2 File



#### 3.1.3 View



3.1.4 Run



None of these functions without "Stop" could be available and activated after any test is run.

#### 3.1.5 Help



# 3.2 Test Criteria

The icon buttons on the left of the main window are described in the table below.

Item	Description
Throughput	Throughput test. Determine the maximum throughout rate at which a DUT can support the transmission of packets without dropping a single one.
Latency	Latency test. Measure the time a DUT takes to forward a packet while loading.
Packet Loss	Packet loss test. Measure the percentage of packets which are not forwarded due to lack of resource.
Back-to-Back	Back-to-back test. Measure the buffer capacity of the DUT by sending bursts of traffic at the maximum frame rate and by measuring the longest burst size for which no packet is dropped.
Run all tests	Run all four tests in sequence.

## 3.3 Connect to LE-580FX F2544

Click the **Connect to LE-580FX** button (at the lower right corner of the main window) to connect LE-580FX F2544 program to LE-580FX device to bring out all available ports to be tested.

LE-580FX F2544							
<u>E</u> ile <u>V</u> iew Run <u>H</u> elp							
🕺 📽 🖬 🐰 🗉	e 🖻 🛱 📍	▶ # 🗵					
					Test Configuration		-
	Source	Destination	Test Pair		Throughput Latency	Packet 💶	
⇒					Duration (Sec):	3	
Throughput					Number of Trials:	1	
			<		Initial Rate (%):	50	
( 🔥					Min. Rate (%):	0.01	
					Max. Rate (%):	100	
Latency					Resolution (%):	10	
					Acceptable Loss Percentage (%):	0	
	Config all ports at o	nce Bi-directional	Flow Control		- General Setting		
444					Device		
Packet Loss					Name:		
	Device:	Pattern :				nce 🔹	
	Device:	Pattern:			Frame Size Start Size: 64	ŧ 🛒	
	Media Type:	Destination MAC:		Auto Negotiation:	Stop Size: 12		
Back-to-Back					Step Size: 64		
	Duplex:	Source MAC:		802.3 Format	Custom	Sizes	
Run All Tests					Link Wait		
KUN All Tests				LLC; 00 80 CC	Minimum: 2		
					Timeout: 10		
					Connect to LE-	580FX	-
Ready		Frame Size:	Trial: 0 of 0	Repeat: 0 Passed:	Current:	Falled:	NUM .::

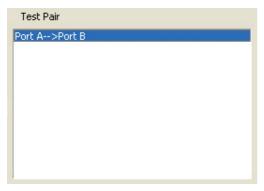
# 3.4 Port Setting

#### 3.4.1 Source Port and Destination Port

Source	Destination
Port A Port B	Port A Port B

Click the port in each table to pick out the source and destination port and use arrow key by to pair them off. Release the ports by using reverse arrow keys .

#### 3.4.2 Test Pairs



The table in Test Pairs shows which pairs are chosen to be tested in order.

# 3.5 Port Configuration

Port A Port	В				
Device:	LE-580FX		Pattern :	All Os	
Media Typ	e: 100M	•	Destination MAC:	0022A2000002	Auto Negotiation:
					Nway 🝷
Duplex:	Full	-	Source MAC:	0022A2000001	
					802.3 Format
					LLC; AA AA 03

Set up the port configuration details for the test pairs by clicking 2 tabs first, including media type, duplex mode, protocol, destination and source MAC addresses and so on.

Item	Description
Media Type: 100M	Select media type in 100 Mbps or 10 Mbps.
Media Type: 100M	Choose duplex mode in Full or in Half.
Duplex: Full - Full Half	
Pattern : All Os  All Os All Os All Fs	Select the pattern from four types.
Destination MAC: All 5s All As	
Destination MAC: 0022A2000002	Display the MAC addresses of Destination and Source.
Source MAC: 0022A2000001	

Flow Control	Activate flow control to enforce transmitting port to send packets in same speed with receiving port.
Auto Negotiation:          Nway       •         Force       Nway	Auto Negotiation allows in Force or in Nway.
LLC: AA AA 03	Check the box for LLC (Logical Link Control Protocol) for 802.3 format.
Bi-directional	Check <b>Bi-directional</b> button to run the test in two-way mode.
Config all ports at once	Click <b>Config all ports at once</b> button to bring out a table that could be configured with multiple ports at one time.

Port No.	Device	Media Type	Duplex	Pattern	Auto negotiate	Src. MAC	Dst. MAC
A	LE-580FX	100M	Full	All As	Nway	0022A2000001	0022A2000002
в	LE-580FX	100M	Full	All Os	Nway	0022A2000002	0022A2000001

# 3.6 Test Configuration 3.6.1 Test Criteria

Edit test configuration through the dialogue. Select the tab of any four standard tests and edit the required numbers for the columns.

Throughput Latency	Packet 🔹	Throughput Latency	Packet 🔹	Latency Packet Loss	Back 🔹	Packet Loss Back To	Back 🔹
Duration (Sec): Number of Trials:	<u>3</u> 1	Duration (Sec): Number of Trials:	<u>s</u> 1	Duration (Sec): Number of Trials:	<b>3</b> 1	Duration (Sec): Number of Trials:	<u>8</u> 1
Initial Rate (%):	50						
Min. Rate (%):	0.01	Step Rate (%):	50	Step Rate (%):	50	Step Rate (%):	50
Max. Rate (%):	100						
Resolution (%):	10						
Acceptable Loss Percentage (%):	0						

#### 3.6.2 General Setting

The test is set from DIALOG in the right side of the main menu.

Choose the tab of 4 kinds of standard tests, then input the value in the frame.

General Setting	
Device	
Name:	TEST1
Learn Mode:	Once 🔹
Frame Size	
Start Size:	64 🚍
Stop Size:	128
Step Size:	64 🚆
Custom	Sizes
Link Wait	
Minimum:	2
Timeout:	10

"Device":

In "Name", input the test name to be displayed at the test report.

In "Learn mode", this dialogue determines Learning Mode and the times of retry. Learning Mode enables the DUT to build an address table based on received frames from resource address. Scroll down the column of Learning Mode to choose from Never, Once or Every Trial for the switch learning mode. Select Never to send packets without learning MAC addresses. Select Once to run frames only one time for MAC addresses when testing.

"Frame size":

"Start Size" is the size of packets to start the test with , "Stop Size" is the size of packets to stop the test with, and "Step Size" is to define the interval.

#### "Link wait":

"Minimun" is the time to wait for the link being established. "Timeout" is the maximum time to wait for deciding the timeout.



The link error display comes out, when the link has not been established, even if the timeout decision time passes.Choose whether you continue the test.

.....

General Setting	
Device	
Name:	
Learn Mode:	Once 💌
Frame Size	
Start Size:	64
Stop Size:	128
Step Size:	64
Custom	Sizes
Link Wait	
Minimum:	2
Timeout:	10

Check the box of "Custom" and invoke the **Sizes** .....

maximum percentages, resolution percentage, and acceptable loss percentage in each test.

You can set values below for each test.

Frame Sizes(bytes), Initial Rate(%), Min Rate(%), Max Rate(%), Resolution(%), Acceptable Loss (%).

	Frame Size (Bytes)	Initial Rate (%)	Min. Rate (%)	Max. Rate (%)	Resolution (%)	Acceptable Loss (%)					
1	64	50.00	0.01	100.00	1.00	0.00					
2	128	50.00	0.01	100.00	1.00	0.00					
3	256	50.00	0.01	100.00	1.00	0.00					
4	512	50.00	0.01	100.00	1.00	0.00					
5	1,024	50.00	0.01	100.00	1.00	0.00					
6	1,280	50.00	0.01	100.00	1.00	0.00					
7	1,518 50.00 0.01 100.00 1.00 0.00										
	hput 💌 f	Number of times:	7	ОК	Cancel	Default					

In the tables, 4 test criteria (shown on the lower left corner of each table) can be edited with individual test items via Custom for sizes.

# 4. Test Result

Test results are presented in 4 separate test categories, 1 report and 1 log forms. There are differences, between tests with general settings and the ones with customized packet sizes, which can be illustrated below.

# 4.1 Throughput Result

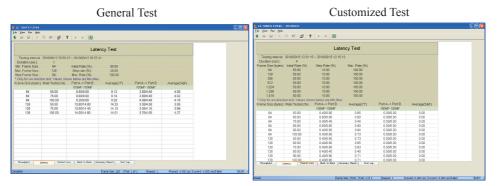
General Test



					🔲 🗖 🔀 🗮 LE - SOUTH F2544						
Yes Ran Help					Elle Xiew Run Bel						
19 H X	90 16 🗳	9 × × 🗷			X 🖬 🗴	96 B	? • = K				
		Throughput T	est				Throughput 1	est			
Festing interval.	22107	3/12 20.53 56 ~ 2010/03	12.20.66.47		Testing interval.	2010/0	15 11 45 43 ~ 2010/0	3/15 12:01:15			
Duration (sec) :	3	512 20.03.00 - 2010/03	12 20.03.47		Duration (sec):	3					
n. Frame Size :	84	Initial Rate (%):	50.00		Frame Size (byte	i) Initial Rate	Maximum Rabe	Resolution			
x. Frame Size :	128	Maximum rate (%):	100.00		64	60.00	100.00	1.00			
p Frame Size :	84	Resolution Rate (%):	25.00		128	50.00	100.00	1.00			
					256	50.00	100.00	1.00			
me Size (bytes)	Passed Rate (%)		Port B -> Port A	Total	612	50.00	100.00	1.00			
		100MF-100MF	100MF-100MF		1.024	50.00	100.00	1.00			
84	100.00	148,809	148,809	297,618	1,200	50.00	100.00	1.00			
128	100.00	84,459	84,469	188,918	1.518	60.00	100.00	1.00			
					Frame Size (byte	) Passed Rate (%)	Port A -> Port B	Port B -> Port A	Total		
							100ME-100ME	100MF-100MF			
					84	103.00	140,009	140,009	297,810		
					128	103.00	84,459	84,459	168,918		
					258	103.00	45,289	45,289	90,578		
					612	100.00	23,496	23,438	48,992		
					1,024	103.00	11,973	11,973	23,948		
					1,280	103.00	9,615	8,615	19,220		
					1,518	103.00	8,127	8,127	16,254		
Droathout L	atency Packet	Loss   Deck to Deck   Su	nmary Report   Test Log		Throughput	Latency   Packet	one I Back to Earth 15	ummary Report   Test Los	_		
					Triougrput	The second	and a sect of parts 1 a				
to			Prane Stor: 120 Test	Lof 1 Popost: 1	ant: 4.000 sec[Faled [N.M]						
			100.	Physical Phy	Davis Davis			a Grav 1930 Trick 1 of 1		Report 6 000 per lin page 6 000 per liabet	_

The duration time, packet length, transmission rate can all be customized to meet with the desired condition.

# 4.2 Latency Result



The load generated can be customized in accordance with different packet length and last for a specified period of time.

## 4.3 Packet Loss Result

General Test

Customized Test

IE-SEOFX F2544					E B SOTA 1254	- 20100312				
	0 8 2 1	2 × = X			X = = X		9 × × 18			
		Packet Loss T	est				Packet Loss 1	Fest		
Testra interval	2010/03	/12 20 57 42 ~ 2010/03	/12 20 59 33		Testing interval:		915 12:15:14 - 2010/02	3/15 12:28:03		
Duration (sec):	3				Duration (sec) :	5				
Min. Frame Size :	64	Initial Rate (%):	70.00		Frame Size (bytes)	) Initial Rate (%)	Step Rate (%)	Max: Rate (%)		
ax, Frame Size :	128	Step rate (%):	15.00		64	\$0.00	10.00	100.00		
tep Frame Size :	84	Max. Rate (%):	100.00		128	50.00	10.00	100.00		
aprillance once :		marchine (rig)	100.00		258	50.00	10.00	100.00		
ame Size (huter)	Date Testeri (%)	Port A -> Port B (%)	Port B -> Port A (%)	Average	512	\$0.00	10.00	100.00		
anie Size (syres) i	cave rester (va)	100ME-100ME	100ME-100ME	ALLEL AVE	1,024	50.00	10.00	100.00		
64	70.00	0.00	0.00	0.00	1,200	50.00	10.00	100.00		
64	65.00	0.00	0.00	0.00	1,518	\$0.00	10.00	100.00		
84	100.00	0.00	0.00	0.00						
128	70.00	0.00	0.00	0.00	Frame Size (bytes)	Rate Tested (%)	Port A -> Port B (%)	Port B -> Port A (%)	Average	
128	65.00	0.00	0.00	0.00			100MF-100MF	100MF-100MF		
128	100.00	0.00	0.00	0.00	64	50.00	0.00	0.00	0.00	
120	100.00	0.00	0.00	0.00	64	80.00	0.00	0.00	0.00	
					54	70.00	0.00	0.00	0.00	
					64	E0.03	0.00	0.00	0.00	
					64	\$0.00	0.00	0.00	0.00	
					64	100.00	0.00	0.00	0.00	
					128	50.00	0.00	0.00	0.00	
					120	80.00	0.00	0.00	0.00	
					128	70.00	0.00	0.00	0.00	
					128	80.00	0.00	0.00	0.00	
					120	\$0.00	0.00	0.00	0.00	
					128	100.00	0.00	0.00 anmory Report   Test Log	0.00	
					Throughput	Latency Packet	loss Reck to Reck St.	anmory Report   Test Log		
Throughout Lat	ence Packet Li	ose Back to Back. Su	nmary Report   Test Loc							

The loading and the duration time can be customized to simulate scenario. Therefore, this provides a distinct perspective of the performance limits of the DUT in different loading environments.

## 4.4 Back-to-Back Result

See No (a)         A         See No (a)         A			(	Genera	l Test		Customized Test								
	LE-500TX F2544										5				
Transport         Solidary 10 data		888	8 × × R					8 > × R							
Description:         0 <th0< th="">         0         <th0< th="">         0</th0<></th0<>			Back to Back	Test				Back to Back	Test						
Market iso         64         04.0	Testing interval		03/12 20:59 33 ~ 2010/03	3/12 21:01:28				8/15 12:28 03 ~ 2010/0	3/15 12:41:37						
Bits         Total         Bits         Bits <t< th=""><th></th><th></th><th>Indial Plane (MA)</th><th>00.00</th><th></th><th></th><th></th><th>Carro Dana (MA)</th><th>Mary Dame (MA)</th><th></th><th></th></t<>			Indial Plane (MA)	00.00				Carro Dana (MA)	Mary Dame (MA)						
Table State															
See See See (b)     Rate See (b) <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>															
See See See View (No. Prot. 5. Prot. Dig UK 1941 - Frank Datat         Total         512         513			the fight												
1034         0030         0030         0030           64         0130         023.28         02	rame Size (butes)	Rate Tested (%)	Port A -> Port B Burst	Port B -> Port A Burst	Total										
64         60.0         95.712         55.712         1271 cs <sup>2</sup> 76         60.0         95.28         1574 cs <sup>2</sup> 100.0         100.0           76         60.0         95.28         1594 cs <sup>2</sup> 100.0         100.0         100.0           76         60.0         95.28         556.00         556.00         100.0         100.0         100.0           76         60.0         95.28         556.00         556.00         100.0         100.0         100.0           76         60.0         95.28         556.00         556.00         100.0         100.0         100.0           76         60.0         95.29         556.00         100.0         100.0         100.0         100.0           76         60.0         95.29         556.00         100.0         100.0         100.0         100.0           76         70.0         100.0															
91         1010         95.29         952.29         1120.47           10         1010         273.86         207.264         550.07           10         1010         207.86         207.86         155.07           10         1010         207.86         207.86         155.07           10         101.07         207.86         155.07         107.44           10         101.07         107.46         446.47         172.76           10         101.07         107.46         446.47         172.76           10         101.07         107.46         446.47         172.76           10         101.07         107.46         446.47         172.76           10         101.07         107.46         446.47         172.76           10         101.07         101.46         101.07         101.46           10         101.07         101.06         101.07         101.46           10         101.07         101.06         101.07         101.46           10         101.07         101.06         101.07         101.06           10         101.07         101.06         101.07         101.06           10 <td>64</td> <td>80.00</td> <td>476.100</td> <td>476.100</td> <td>952.376</td> <td></td> <td>50.00</td> <td>10.00</td> <td>100.00</td> <td></td> <td></td>	64	80.00	476.100	476.100	952.376		50.00	10.00	100.00						
Tail     Bit 00     273,280     290,286     540,286       198     197,286     297,286     297,286     297,987       198     197,286     297,286     297,987     297,987       198     197,286     297,286     297,987     297,987       198     197,286     297,286     297,987     297,987       198     197,286     297,987     297,987     297,987       198     197,987     197,997     197,997     197,997       198     197,997     197,997     197,997     197,997       198     197,997     197,997     197,997     197,997       198     197,997     197,997     197,997     197,997       198     198,997     197,997     197,997     197,997       198     198,997     199,997     197,997     197,997       198     198,997     199,997     197,997     197,997       198     198,997     199,997     197,997     197,997       198     198,997     199,997     197,997     197,997       199     199,997     199,997     199,997     199,997       199     199,997     199,997     199,997     199,997       199     199,997     199,997 <t< td=""><td></td><td></td><td>535,712</td><td>535,712</td><td>1,071,424</td><td>1,518</td><td>50.00</td><td>10.00</td><td>100.00</td><td></td><td></td></t<>			535,712	535,712	1,071,424	1,518	50.00	10.00	100.00						
108         60.00         304.02         304.03         880.04           109         108.01         203.08         675.07         675.07           109         108.01         203.08         675.07         675.07           109         109.01         203.08         675.07         675.07           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01           100         100.01         100.01         100.01         100.01      <															
101         102 00         327,080         327,090         327,090         327,090         327,090         327,090         327,090         327,090         327,090         327,090         327,090         327,090         327,090         327,090         327						Frame Size (bytes	) Rate Tested (%)	Port A -> Port B Burst	Port B -> Port A Burst	Total					
Marging         Marging <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>															
64         710         C-34587         C-34587         C-34587           64         810         710         C-34587         C-34587           65         810         710         C-34587         C-34587           66         810         710         C-34587         C-34587           67         810         810         710         C-34587           68         810         710         C-34587         C-34587           69         810         710         R-3477         S-477           733         740         94.727         S-477         R044           733         740         94.727         S-479         R047           733         740         94.727         S-479         R047           733         740         94.728         R047         R047           734         740         94.728         R047	128	100.00	337,836	337,836	675,672										
64         80.0         71,520         71,520         71,520           64         80.0         71,520         71,520         101,520           700         80.0         70,520         70,520         101,520           700         80.0         70,520         70,520         101,520           700         80.0         70,520         70,540         100,520           700         80.0         70,520         70,544         100,520           700         80.0         80.052         80,540         100,520           701         80.0         80.052         80,500         80,520           702         80.00         80.052         80,500         80,500           703         80.00         80.052         80,500         80,500           703         80.00         80.052         80,000         80,500           703         80.00         80.052         80,000         80,500           703         80.00         80.052         80,000         80,000           703         80.00         80.052         80,000         80,000           703         80.00         80.000         80.000         80,000           70															
64         100         100,564         100,574         100,750           101         64         100.00         100,564         100,750           101         64         100.00         20,377         20,377           101         64         100.00         20,377         20,377           101         64         100.00         40,400         40,400           103         64         100.00         40,400         40,400           103         64         100.00         40,400         40,400           103         64         100.00         40,400         40,400           103         104         40,400         40,400         40,400           103         104         40,400         40,400         40,400           104         40,400         40,400         40,400         40,400           103         104         40,400         40,400         40,400           104         104,000         40,400         40,400         111,12,80           104         1040         1040         104,100         104,100         111,12,80															
64         0002         000254         00254         1705 700           10000         0000         00000         00000         00000           10000         0000         00000         00000         00000           10000         0000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           10000         00000         00000         00000         00000           100000															
130         59.0         20.377         250.377         250.374           130         69.0         60.0         60.00         60.00         60.00           131         69.0         20.377         250.374         250.377         250.374           131         69.0         60.00         60.00         60.00         60.00         60.00           132         69.0         60.00         60.00         60.00         60.00         60.00           133         60.00         60															
100         100         200,020         204,022         200,014           128         70.00         94,027         754,04         123         120															
128         1740         194/27         156/27         720/64           128         128         160         100         100         100           Imaging Laws         Factors         100         100         100         100           Imaging Laws         Factors         100         112         112         112															
128         101.0         405,400         405,400         405,400           128         101.0         405,400         405,400         101.000           128         101.0         405,400         405,400         101.000           128         101.0         405,400         405,400         101.000           129         101.0         405,400         405,400         101.000           129         101.0         405,400         405,400         405,400           129         101.0         405,400         405,400         405,400           129         101.0         405,400         405,400         405,400           129         101.0         405,400         405,400         405,400           129         101.0         405,400         405,400         405,400           120         101.0         405,400         405,400         405,400           120         101.0         405,400         405,400         405,400           120         101.0         405,400         405,400         405,400           120         101.0         405,400         405,400         405,400           120         101.0         405,400         405,400         <															
139         100.0         466,079         492,076           130         100.0         660,254         101.0.0           100.0         600,254         100.0.0         100.0.0           100.0         600,254         100.0.0         100.0.0           100.0         600,254         100.0.0         100.0.0															
Threeford Lineary Point Linear															
Throughput Latency Packet Latency Pa															
							100.00	506 754	508.754	1.013.508					
Nere Prame Ster: 120 [Track 1 of 1 [Papewit 1 [Papewit 1 [Papewit 4 000 sec]/fulled [PUM] -	Throughput Lat	ency Packs	e sees   Dack to Dack  Si	unnary report   Test Log		Throughput	Lanency Packet I	Deck to Deck S	unmary report   Tect Los						
	lata			Frame Ster: 120 Triat .	of 1 Repeat: 1	Current: 4.000 sec)/faled [NUM] .+									

For each packet length specified in test setting, the test is automatically repeated to provide an accurate perception of the buffer capacity of the DUT under different conditions.

#### 4.5 Reports of Result

General Test

Customized Test

		ELE: 500FX F2544 - 20100012								
Ek Xen An Beb X ≫ G X ™ B (27) Y → ≠ 130		Ele Xee Ru Beb 및 파티 시 마 B @ 1	2   × -×	E						
LINEEYE Throughput Test Results		UNEEYE Throughput Ter	st Results							
Software version: LE-6007YC2344 v2.5000 Device/www.TESTI Devision: Testion Average of think		Sebware service LE 608/F/5244 v2.8008 Device Name: TCS1 Dunitor: 3 accord Average d: 1 trual								
Testing internal; 2010/03/12/20:53.66 – 2010/03/12/20:55.47 Maximum pot-pair throughpu		Testing interval. 2010/03 Maximum port-pair throughput								
Frame Step (Meth)         64         120           Mode Man-Read (pictorian)         140,000         64,60           Ang % passed         100,000         100,000           Accognative Loss (%)         0         0		Frame Size (bytes) 100Mb MarRate (pits/sec.) Avg % passed Acceptable Loss (%)	64 148,809 100.00 0	128 84,459 100.00 0	256 45,289 100.00 0	512 23,496 100.00 0	1,024 11,973 100.00 0	1,200 9,815 100.00 0	1,510 8,127 100.00 0	
Port A -> Port B         148,800         84,450           Port B -> Port A         140,000         04,459		Port A -> Port B Port B -> Port A	 148,809 148,809	04,459 04,459	45,289 45,289	23,496 23,496	11,973 11,973	8,615 9,615	8,127 8,127	
Prame Size (bytes)         64         126           Post A → Post B         100.00         100.00           Post B → Post A         100.00         100.00		Frame Size (bytes) Port A -> Port B Port B -> Port A	64 100.00 100.00	128 100.00 100.00	256 100.00 100.00	512 100.00 100.00	1,024 100.00 100.00	1,290 100.00 100.00	1,518 100.00 100.00	
Throughput SUMMARY: Total Port Pairs		Throughput SUMMARY: Total Port-Pair								
France Size (bits) 64 128 Threadput Latency Paster Lees Book to Book Scienceary Report Text Lee			nu   Back f	Back Ser	nay Report	Test Los				
Complete Prame Rev: 128 Trial: 1 of 1 Perced: 4 000 sec  Current: 4 000 sec Failed	N.M									
		Ready		Frame	S26: 1518	Trat 1 of 1	Repeat:	1 PI	esed: 6.000 sec [Current: 6.000 sec]Faled	N.M .:

Reports of test results displays every test criteria value in this window, can see each test frames set parameter and total result value.

# 4.6 Logs of Result

	Ph IB	g 1 1				1				Customized Test										
Card Type Pr enchmark Throug LE-580FX /	Ph IB	Ø 8 1							E I	1 1 LE-580FX F	7544 - 201	06312								
Card Type Pr enchmark Throu LE-580FX /	ort Pid	10 1 1								Elle Vew Ran										
enchmark Throu LE-580FX										8 🖬 🖬		8 8	8 >							
LE-580FX		Size Frame G	en Percent IN	I Rate	Ret	TaPat	Collision	Relineer	Riflate	Card Type	Part	PatSire	Frame Gar		Rate	RiPH	TyPie	Collision	ExTrigger	Relate
	ghput Tria	1 Repetition 1	Duration 3 sec	¢.						LE-580FX	B	256	112	89.22	44,935	134,805	134,805	Collision	134,805	34,510,080
		4 768	50.00	74,404	0	223,213	0	0	0	Passed	0	200	112	00.22	44,500	134,000	134,000	0	104,000	34,010,080
	в .				223,213	0	0	223,213	14,285,832		here a here a	Trial 1 D	an abilian (b. f	Juration 3 sec						
										LE-580EX	moughput	258	98 spectoon	100.00	45,289	125.867	135.887	0	125.987	34,781,952
enchmark Throu			Duration 3 sec	с.						LE-580FX	8	256	96	100.00	45,289	135,867	135,867	0	135,967	34,781,952 34,781,952
LE-580FX /	A. 1	4 320	75.00	111,606	0	334,820	0	0	0		в	200	80	100.00	45,289	135,867	135,867	0	135,867	34,781,952
LE-580FX E	3 .				334,820	0	0	334,820	21,428,480	Passed										
											hroughput			Juration 3 sec						
enchmark Throu	ahout Tria	1 Repetition 3	Duration 3 sec	c.						LE-580FX	A	512	4,352	50.00	11,748	35,244	35,244	0	35,244	18,044,928
LE-580FX	A 1	4 192	87.50	130,207	0	390,623	0	0	0	LE-580FX	8	512	4,352	50.00	11,748	35,244	35,244	0	35,244	18,044,928
LE-580FX 8	3 .				390.623	0	0	390.623	24.999.872	Passed										
										Benchmark T	hroughout	Trial:1 R	epetition:2 [	Juration 3 sec						
enchmark Throu	ahout Tria	1 Repetition 4	Duration 3 sec	c.						LE-580FX	A	512	1.512	75.00	17.822	52,968	52,986	0	52,868	27.067.392
E-SRIEX A	A	4 128	93.75	129,509	0	418,525	0	0	0	1.E-580EX	8	512	1.512	75.00	17.822	52,968	52,986	0	52,968	27.067.392
LE-580FX 8	3				418 525	0	ů.	418.525	26 785 600	Passed										
										BenchmarkT	hrouthout	Trial 1 D	enethion 2.1	Juration 2 nam						
enchmark Throu	ahout Tria	1 Repetition 5	Duration 3 sec	c.						LE-580EX	A	512	704	87.50	20.559	61.677	61.677	0	61.677	31.578.624
E-481EX	Δ I	4 95	100.00	148,809	0	446.427	0	0	0	LE-580EX	8	512	704	87.50	20,559	61,677	61,677	0	61.677	31,578,624
LE-580EX E	8				446.427	0	0	446.427	28 571 328	Passed	3	v12	1.04	01.00	10,000	01,071	01,017	0	01,071	01,010,024
											here a hora	Trial 1 D	mathing 4	Juration 3 sec						
enchmark Throu	about Tria	1 Repetition 1	Duration 3 sec	c						LE-580EX	monghiput	512	376	R3 75	22.027	88.092	68.082	0	88.092	33,833,994
LE-580FX		28 1.280	50.00	42.229	0	126.688	0	0	0	LE-580EX	8	512	376	83.75	22,027	88.082	66,082	0	66,082	33,833,994
E-581EX E					126.698	0	0	126.688	16.216.064		ъ	512	376	83.75	22,027	00,082	00,082	U	00,082	33,633,994
Passed	-									Passed										
enchmark Throu	about Tria	1 Repetition 2	Duration 3 sec	e										Juration 3 sec						
		28 488	75.00	61.344	0	190.032	0	0	0	LE-580FX	A	512	232	96.88	22,781	89,295	68,285	0	89,285	34,961,920
					in the second second					LE-580FX	8	512	232	96.88	22,781	69,285	68,285	0	69,265	34,961,920
Troubout	Letoncy	Packet Loss	Back to Back S	Summary Report	Test Log					Passed										

Logs list detailed operation records by each test item in port pairs.

The screen will shift to whichever test in progress. Click on 📕 icon to stop the rest of test(s).

The status bar says "Complete" after running all tests as request(and says "Ready" after being changed to the cofiguration window"). Use the tabs in the bottom window to view and read any test results, reports or logs.

# 4.7 Saving Results

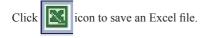
A popup window will appear, after clicking on

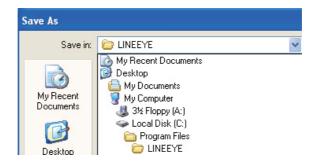


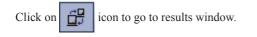
icon to go back to configuration window (mail

window), to inquire whether to save the result.

LE-580	FX F2544	$\mathbf{X}$
?	Do you w	ant to save the result?
	Yes	No







# LINEEŸE

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M-1AF2544E/LE