

## Content

Description.....	2
Specification.....	2
Standard Configuration.....	2
Front & Back Panel Instruction.....	3
Install the driver.....	3
Software Operation Instruction.....	4
Main Interface Instruction.....	5
Testing Interface.....	6
Report Format.....	9
Ref for Insertion & Return Loss.....	11
File Saving path & Format.....	15
Maintenance.....	17
Quality of Services.....	17

## 1. Description

STC-MFIRL4201 (MPO/MTP) mandrel free insertion loss test station is specially design for multi fiber testing. It realized mandrel free return loss measurement on the multi fiber, and without matching gel for the MM measurement. This test station also do the auto-testing on 12 core/24 core for insertion loss and return loss, highly efficient multi-core fiber insertion and return loss measurement and make high precision on the measurement result with OTDR mandrel free technical adopting.

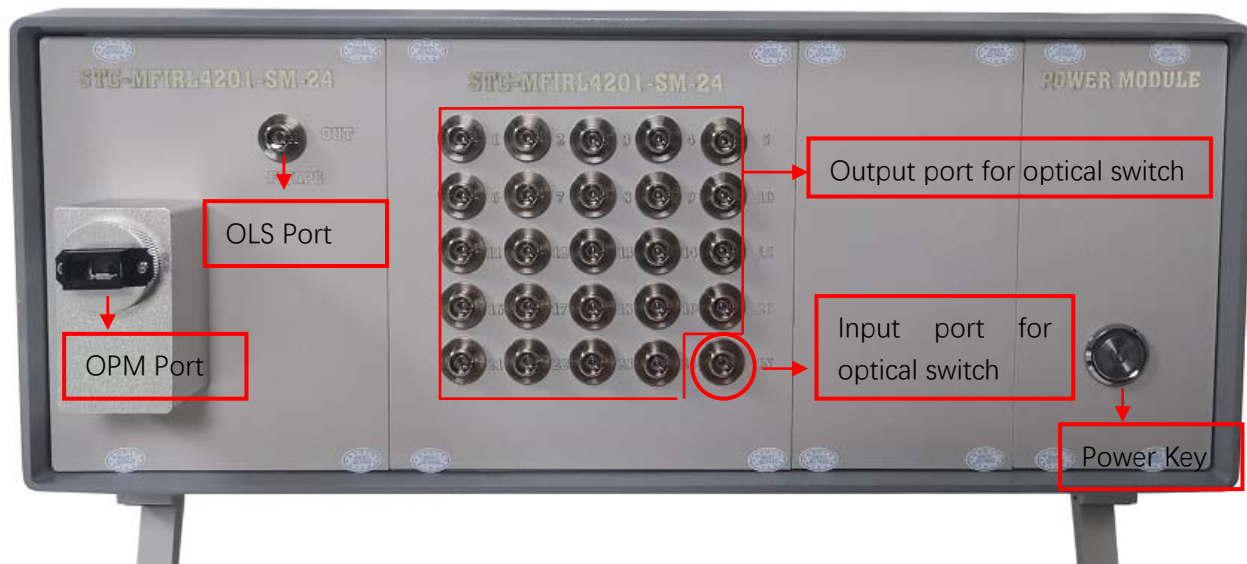
## 2. Specifications

Model	STC-MFIRL4201 (MPO/MTP)	
Detector type	Integrating Sphere	
Wavelength Range	850~1700nm	
Measurement Range	+3dBm~-75dBm	
Measurement Fiber Type	SMF/MMF	
Linearity	±0.04dB(+10~-35dBm); ±0.08dB(-35~-45dBm); ±0.2dB(-45~-55dBm)	
Uncertainty	±3%	
Insertion Loss measurement		
Wavelength	SM 1310/1550nm	MM 850/1300nm
Central Wavelength	±10nm	±30NM
Laser Device	FP	LED
Fiber Core	9/125	50/125 or 62.5/125
Output power	≥-7dBm	≥-27dBm
Stability	0.01dB /15min   0.03dB /8hour	0.03dB /15min   0.06dB /8hou
Connector Type	FC/APC	
Return Loss measurement		
Laser Source type	SM	MM
	pulsed FP Laser	
Measurement Range	15dB ~ 77 dB	14dB ~ 53 dB
Accuracy	±1dB(15~55dB);±1.5dB(55~65dB) ±3dB (65~77dB)	±1dB(14~40dB) ±2.0dB(40~53dB)
Mini. Measurement length	2 meters (APC end)   3 meters (UPC end)	
Max. Measurement Length	1000 meters	
Packing Size	275X310X170mm	
Weight	5.8kg	

### 1. Standard Configuration:

Name	Qty	Name	Qty
MPO/MTP mandrel free insertion loss test station	1 unit	USB cable	1 pcs
Standard Patch cord MPO(F)-FC/APC 12 cores	1 pcs	Cotton Swab	1 bag
Standard Patch cord MPO(F)-FC/APC 24 cores	1 pcs	Power Adapter	1 pcs
Standard Patch cord FC/APC-FC/APC	1 pcs	User Manual	1 book
1.25mm, 2.5mm, MPO connector	1 pcs each		
U-disk	1 pcs		

## 2. Front & Back Panel Instruction





Front



Back

## 3. Install the driver

We need to install the driver for the software for first time using.

Double click  drive from this file.  drive, display following interface.(pic1)



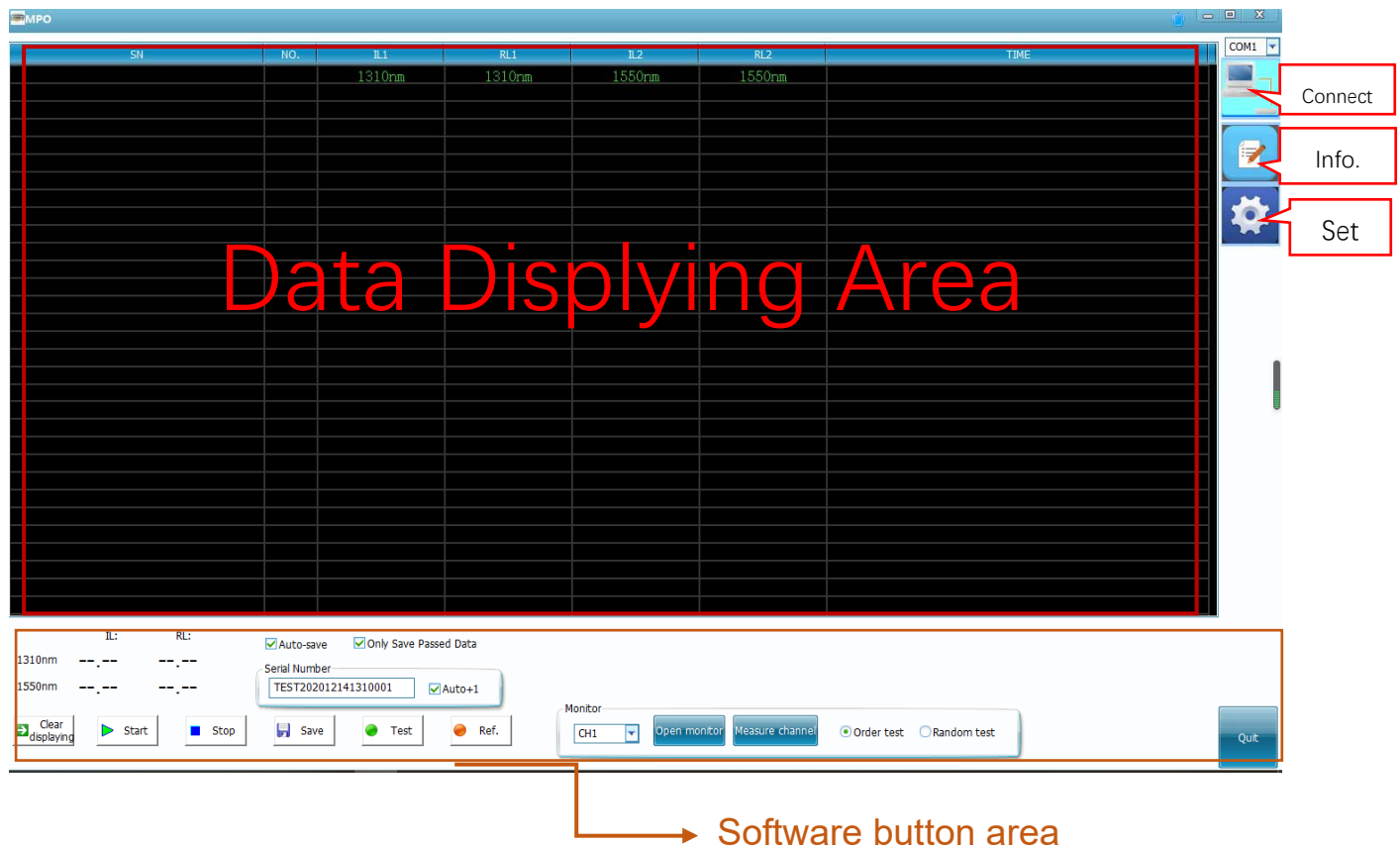
Pic 1


Click “install”, and complete the software installing.

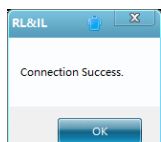
The software support WINDOWS 98/ME/2000/XP/Vista/7/8/8.1/10/2003/2008/2012 -32 bit /64 bit

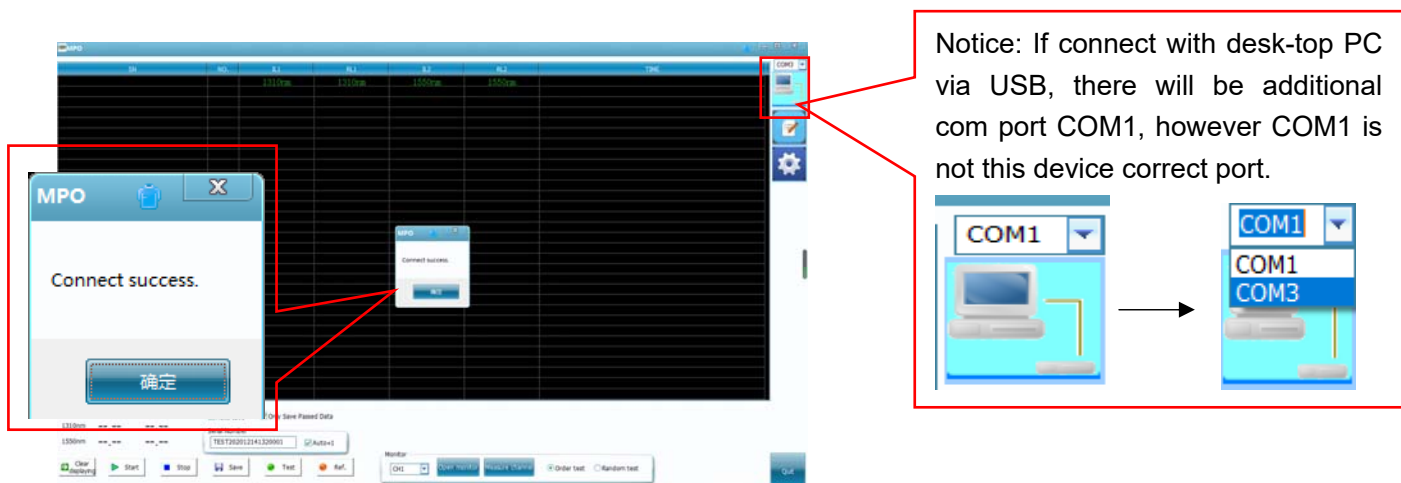
#### 4. Software operation instruction.

Double click  MPO , display interface as following

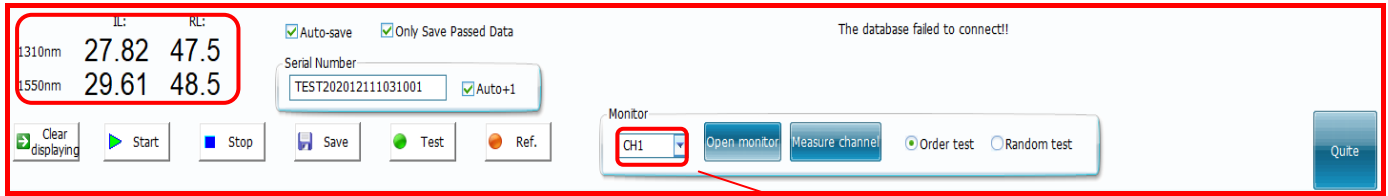


Click right top on the software interface, choose the correct COM port, click  to connect, if connect success,

pop up as , click OK. PC and device is success connected.



## 5. Main interface instruction :



The default monitor channel is CH1(channel 1), user also can choose the required channel No. and click **Open monitor** to confirm the chosen channel

- CH1
- CH2
- CH3
- CH4
- CH5
- CH6
- CH7
- CH8
- CH9
- CH10
- CH11
- CH12
- CH13
- CH14
- CH15
- CH16
- CH17
- CH18
- CH19
- CH20
- CH21
- CH22
- CH23
- CH24

(1) The area at the bottom of software interface, left value for insertion and return loss displayed is the IL & RL value for the monitor channel.

(2) ☒ **Auto-save** :

√---After complete the measurement, the testing data will be automatically saved as EXCEL file.

do not √---after complete the measurement, the data cannot be automatically save, should be manually click "SAVE" button to save the data

**MPO-FC/LC is not available for this function**

(3) ☒ **Only Save Passed Data** :

√-----Save only passed testing data(Green is passed value, Red is Failed value)

Do not √-----Save all the testing data

**MPO-FC/LC is not available for this function**

(4) ☒ **Auto+1** :

√-----SN +1 automatically after each patch cord tested.

Do not √ -----After complete the currently patch testing, The SN will remain the same, when testing another patch cord

(5) **Start** : Start for currently mode.

(6) **Stop** : Stop for currently mode

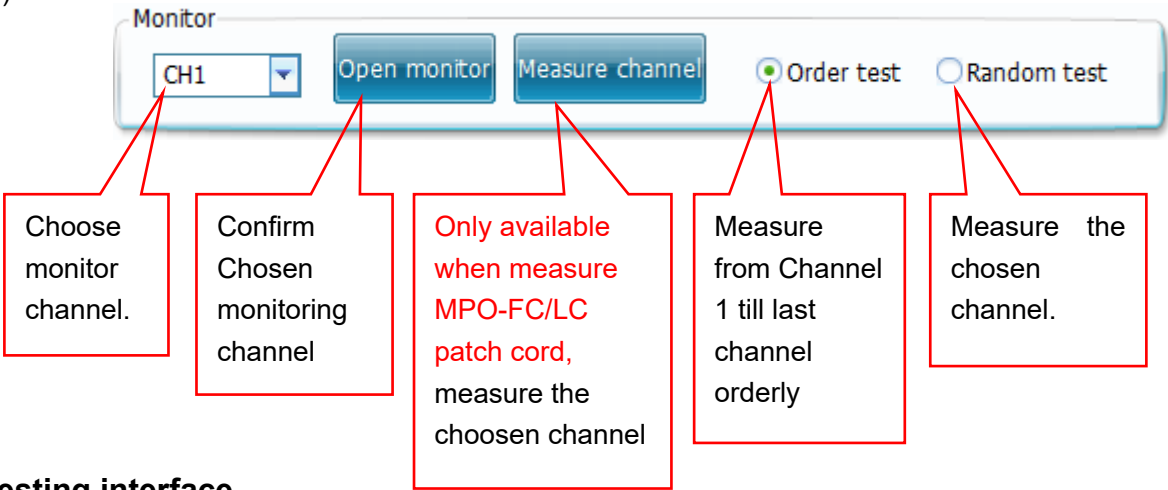
(7) **Save** : Save the testing data

(8) **Test** : Enter I&R Loss Measurement mode

(9) **Ref.** : Enter Insertion and Return Loss Ref mode

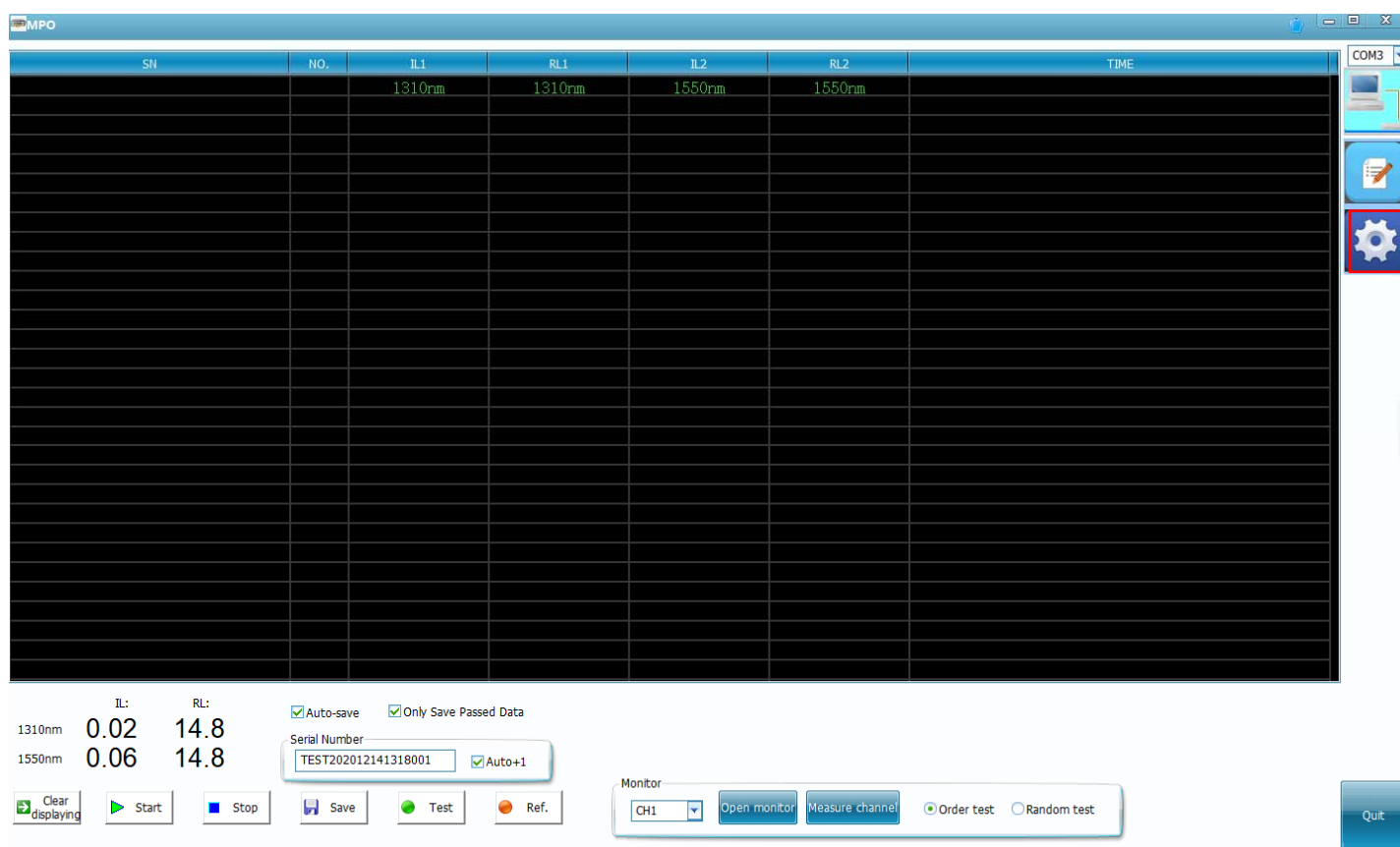
(10) **Clear displaying** : Clear all the data in displaying area

(11)



## 6. Testing interface

Click Setting button , enter into setting interface



Setting.....

Setting Parameter:

Choose tested components type

☒ MPO---MPO ☐ MPO---FC/LC ☐ Single Core FC/SC

Tested components port No.

Core No.  ☒ Test B Side

Choose wavelength

☒ SM 1310nm/1550nm ☐ MM 850nm/1300nm

Testing Option

☒  $\lambda$ 1 IL ☒  $\lambda$ 2 IL ☒  $\lambda$ 1 RL ☒  $\lambda$ 2 RL

Threshold setting

< IL 1 <  dB

< RL 1 <  dB

< IL 2 <  dB

< RL 2 <  dB

Set channel for measurement

CH01	Test	CH13	Test
CH02	Test	CH14	Test
CH03	Test	CH15	Test
CH04	Test	CH16	Test
CH05	Test	CH17	Test
CH06	Test	CH18	Test
CH07	Test	CH19	Test
CH08	Test	CH20	Test
CH09	Test	CH21	Test
CH10	Test	CH22	Test
CH11	Test	CH23	Test
CH12	Test	CH24	Test

Save format

☒ PDF ☒ EXCEL

C:\Users\Administrator\Desktop\1111\

Retrieve store data:

- (1) Setting Parameter:  : Name this setting parameter as:
- (2) Choose tested components type :
  - a. ☒ MPO---MPO : Tested patch cord is MPO-MPO
  - b. ☐ MPO---FC/LC : Tested patch cord is MPO-LC fan out.
  - c. ☐ Single Core FC/SC : Tested patch cord is single core the end is FC or SC.
- (3) Tested components port No. :
  - a. :Choose the measured core No.
  - b. ☒ Test B Side :
 

√-----After A side testing, reverse to B side , test B side of patch cord.  
Do not√ -----Only can test one side of path cord.

MPO-FC/LC is not available for this option

- (4) Choose wavelength
 

Choose wavelength

☒ SM 1310nm/1550nm ☐ MM 850nm/1300nm

 : Choose correct wavelength.

Testing Option

☒  $\lambda 1$  IL    ☒  $\lambda 2$  IL    ☒  $\lambda 1$  RL    ☒  $\lambda 2$  RL

- (5) . :
- $\lambda 1$ —For SM is 1310nm, for MM is 850nm  
 $\lambda 2$ —For SM is 1550nm, for MM is 1300nm  
 $\checkmark$  the required measurement data. If  $\checkmark$  all in SM means measure 1310/1550nm IL&RL, in MM means measure 850/1300nm IL/RL

(6)

Threshold setting

SM1310nm or MM850nm

Threshold for low range value

Threshold for high range value

SM1550nm or MM1300nm

0	< IL1 <	0.5	dB
40	< RL1 <	50	dB
0	< IL2 <	0.5	dB
40	< RL2 <	50	dB

If the measured data within the threshold setting is passed data display as green, if out of the threshold range is failed, display as red.

(7)

Set channel for measurement

CH01 Test CH13 Test

CH02 Test CH14 Test

CH03 Test CH15 Test

CH04 Test CH16 Test

Each channel can choose test or skip, if skip, means this channel will not test.

(8)

Save format

☒ PDF    ☒ EXCEL

Choose the data saved file format, can be excel or PDF or both.

(9) .

C:\Users\Administrator\Desktop\1111\ Saving path

Choose the saving path



(10)

Retrieve store data: MPO/MPO

Data save

Delete data

Choose the saved setting parameter name, in this case no need to re-setting.

After all setting complete, click this to save the setting parameter

Delete the chosen setting parameter, after delete the data can not recall back

## 7. Report format

Message

Key-in data: The data will be saved in the test report.

Company:hongshan

Tester:zhang

A1

B2

C3

D6

A1

A2

Apply

Quit

Left part can key in the information for company, tester, patch cord name....

Each information related with position on EXCEL Line& Column No.

## 8. Ref for Insertion & Return Loss

10.1 The following is drawings for patch cord connection for doing the REF.

### The protected patch cord depends on tested patch cord:

If tested patch cord is 12 cores MPO, the protected patch cord should be 12 cores MPO patch cord,  
If tested patch cord is 24 cores MPO, the protected patch cord should be 24 cores MPO patch cord

If tested patch cord is MPO female, this end should be male, if tested patch cord end-face is male, this end -face should be female

Patch cord connect with OLS port and optical switch input port should be all FC/APC end-face.

The end connected with optical switch output port should FC/APC

This is the protected patch cord, connected with standard/REF patch cord. To prevent frequency pull in and out damage on standard

MPO adapter connect with standard/REF patch cord and

This should be MPO female end-face

This is the standard/REF patch cord, we provide MPO/Male-FC/APC fan out type

## 10.2, Calibration from software

(1)After do the settings (Choose correct core No., Threshold value setting, Wavelength setting....)

All the mode is available for REF setting

Choose the correct Core No., 24 is the max.

Click Apply after setting complete. .

(2) Click Ref Button

SN	NO.	IL1	RL1	IL2	RL2	TIME
		1310nm	Length	1550nm		
	CH01					
	CH02					
	CH03					
	CH04					
	CH05					
	CH06					
	CH07					
	CH08					
	CH09					
	CH10					
	CH11					
	CH12					
	CH13					
	CH14					
	CH15					
	CH16					
	CH17					
	CH18					
	CH19					
	CH20					
	CH21					
	CH22					
	CH23					
	CH24					

(3) Press “Start” Button, device start for Ref on IL and RL for each channel



This is the total Length

=device inside patch cord length around 22M+ reference/calibration patch code length.

	1310nm	Length	1550nm	
CH01	-23.50	25.0	-22.38	
CH02	-23.50	25.0	-22.38	
CH03	-23.50	25.0	-22.38	
CH04	-23.50	25.0	-22.38	
CH05	-23.50	25.0	-22.38	
CH06	-23.50	25.0	-22.38	
CH07	-23.50	25.0	-22.38	
CH08	-23.50	25.0	-22.38	
CH09	-23.50	25.0	-22.38	
CH10	-23.50	25.0	-22.38	
CH11	-23.50	25.0	-22.38	
CH12	-23.50	25.0	-22.38	
CH13	-23.50	25.0	-22.38	
CH14	-23.50	25.0	-22.38	
CH15	-23.50	25.0	-22.38	
CH16	-23.50	25.0	-22.38	
CH17	-23.50	25.0	-22.38	
CH18	-23.50	25.0	-22.38	
CH19	-23.50	25.0	-22.38	
CH20	-23.50	25.0	-22.38	
CH21	-23.50	25.0	-22.38	
CH22	-23.50	25.0	-22.38	
CH23	-23.50	25.0	-22.38	
CH24	-23.50	25.0	-22.38	

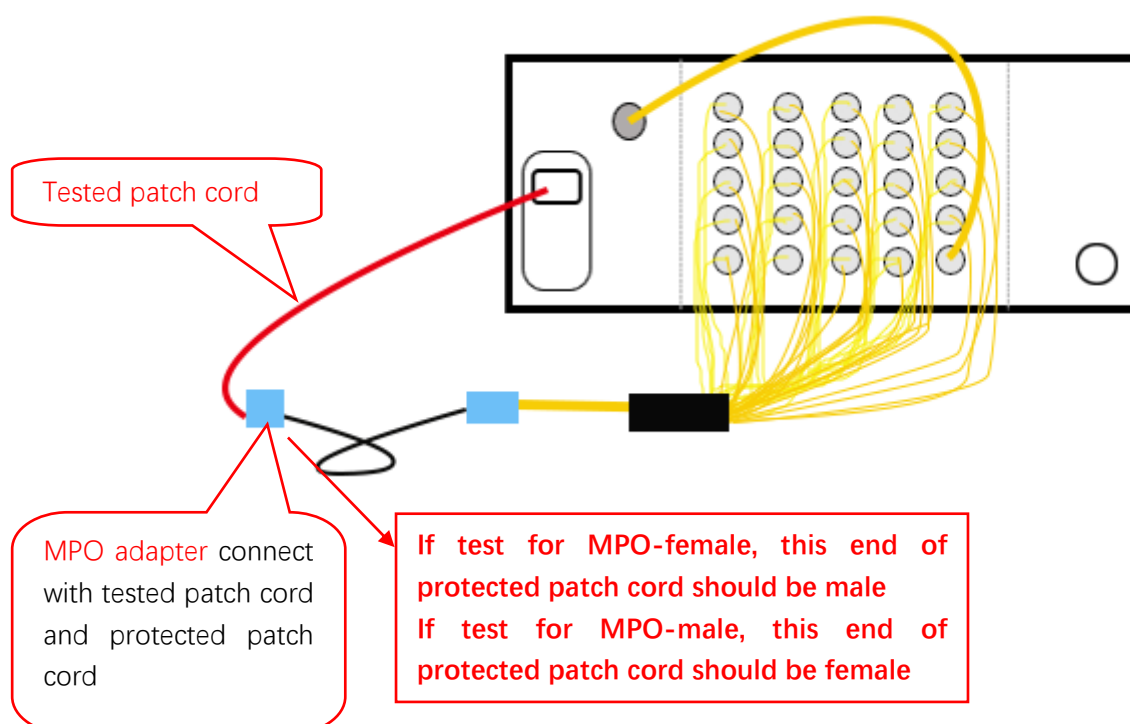
Insertion and Return Loss can Ref at the same time, if the same reference/calibration patch cord, do not need to re-calibrate/Ref the insertion and return loss tester. If the device power off, required for Re-calibrate/Ref  
The data on this user manual software is on for reference, however the user can use it's own standard.

Notice: For MM device, the calibration patch cord connected with tested patch cord should be UPC end-face.

## 11. Insertion and Retrun Loss Testing

### 11.1 “MPO-MPO patch cord testing

#### 8.1.1 mpo-mpo 24 tested patch cord connection drawing as following:



### 11.1.2 MPO-MPO 24 core testing

- a. Do the correct setting, click :Apply” & “Quit” Back to the main interface.

- b. Press “Test” and then start, device start to test and data upload to PC. Red color data means the testing value is out of the threshold value the result is fail, if Green, means passed testing value.

SN	NO.	IL1	RL1	IL2	RL2	TIME
TEST202012111047001	A01	0.00	46.5	0.00	47.8	2020/12/11 12:29
TEST202012111047001	A02	0.00	46.7	0.00	47.6	2020/12/11 12:29
TEST202012111047001	A03	0.00	46.7	0.02	48.1	2020/12/11 12:29
TEST202012111047001	A04	0.03	47.3	0.10	48.5	2020/12/11 12:29
TEST202012111047001	A05	0.03	47.5	1.02	47.9	2020/12/11 12:29
TEST202012111047001	A06	0.12	46.5	0.09	47.8	2020/12/11 12:29
TEST202012111047001	A07	0.64	46.7	0.41	47.6	2020/12/11 12:29
TEST202012111047001	A08	0.45	46.7	0.38	48.1	2020/12/11 12:29
TEST202012111047001	A09	1.27	47.3	0.99	48.5	2020/12/11 12:29
TEST202012111047001	A10	1.33	47.5	1.11	47.9	2020/12/11 12:29
TEST202012111047001	A11	0.00	46.5	0.00	47.8	2020/12/11 12:29
TEST202012111047001	A12	0.00	46.7	0.00	47.6	2020/12/11 12:29
TEST202012111047001	A13	0.00				2020/12/11 12:29
TEST202012111047001	A14	0.00				2020/12/11 12:29
TEST202012111047001	A15	0.00				2020/12/11 12:29
TEST202012111047001	A16	0.00				2020/12/11 12:29
TEST202012111047001	A17	0.00				2020/12/11 12:30
TEST202012111047001	A18	0.00				2020/12/11 12:30
TEST202012111047001	A19	0.00				2020/12/11 12:30
TEST202012111047001	A20	0.00				2020/12/11 12:30
TEST202012111047001	A21	0.00	46.5	0.00	47.8	2020/12/11 12:30
TEST202012111047001	A22	0.00	46.7	0.00	47.6	2020/12/11 12:30
TEST202012111047001	A23	0.00	46.7	0.00	48.1	2020/12/11 12:30
TEST202012111047001	A24	0.00	47.3	0.00	48.5	2020/12/11 12:30
TEST202012111047001	B01					
TEST202012111047001	B02					
TEST202012111047001	B03					
TEST202012111047001	B04					
TEST202012111047001	B05					



If there has any failed data(Red color) there will pop up the indication.

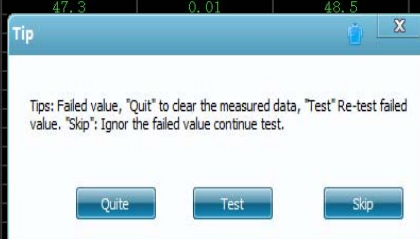


All the data will be saved and continue the test

Cancel, means all the data will delete, and need to re-test

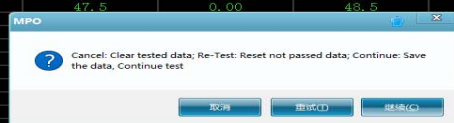
Re-test the failed data, if re-test data still not passed, another indication pop up

SN	NO.	IL1	RL1	IL2	RL2	TIME
		1310nm	1310nm	1550nm	1550nm	
TEST202012111254001	A01	0.00	46.5	0.00	47.8	2020/12/11 12:54
TEST202012111254001	A02	0.00	46.7	0.00	47.6	2020/12/11 12:54
TEST202012111254001	A03	0.00	46.7	0.00	48.1	2020/12/11 12:54
TEST202012111254001	A04	0.00	47.3	0.00	48.5	2020/12/11 12:54
TEST202012111254001	A05	0.00	47.5	0.01	47.9	2020/12/11 12:54
TEST202012111254001	A06	0.15	46.5	3.38	47.8	2020/12/11 12:54
TEST202012111254001	A07	0.00	46.7	0.02	47.6	2020/12/11 12:56
TEST202012111254001	A08	0.02	46.7	0.02	48.1	2020/12/11 12:54
TEST202012111254001	A09	0.00	47.3	0.01	48.5	2020/12/11 12:56
TEST202012111254001	A10	0.00				2020/12/11 12:54
TEST202012111254001	A11	23.50				2020/12/11 12:56
TEST202012111254001	A12	0.00				2020/12/11 12:55
TEST202012111254001	A13	0.00				2020/12/11 12:55
TEST202012111254001	A14	0.00				2020/12/11 12:55
TEST202012111254001	A15	0.00				2020/12/11 12:55
TEST202012111254001	A16	0.00				2020/12/11 12:55
TEST202012111254001	A17	0.00				2020/12/11 12:55
TEST202012111254001	A18	0.00				2020/12/11 12:55
TEST202012111254001	A19	0.00				2020/12/11 12:55
TEST202012111254001	A20	0.00				2020/12/11 12:55
TEST202012111254001	A21	0.00				2020/12/11 12:55
TEST202012111254001	A22	0.00	46.7	0.00	47.6	2020/12/11 12:55
TEST202012111254001	A23	0.00	46.7	0.00	48.1	2020/12/11 12:55
TEST202012111254001	A24	0.00	47.3	0.01	48.5	2020/12/11 12:55
TEST202012111254001	B01					
TEST202012111254001	B02					
TEST202012111254001	B03					
TEST202012111254001	B04					
TEST202012111254001	B05					



If all the data passed, Side A complete the test, reverse the patch cord to the other side, click "Start" to test the other side of patch cord.

SN	NO.	IL1	RL1	IL2	RL2	TIME
TEST202012111318001	A19	-0.06	47.5	0.00	48.5	2020/12/11 13:25
TEST202012111318001	A20	0.01	46.9	0.00	47.5	2020/12/11 13:25
TEST202012111318001	A21	0.03	46.8	0.00	47.7	2020/12/11 13:25
TEST202012111318001	A22	0.01	46.6	0.00	47.7	2020/12/11 13:25
TEST202012111318001	A23	0.00	47.1	0.00	48.3	2020/12/11 13:25
TEST202012111318001	A24	0.00	47.5	0.00	48.5	2020/12/11 13:25
TEST202012111318001	B01	0.00	15.8	0.00	15.9	2020/12/11 13:26
TEST202012111318001	B02	0.00	47.1	0.00	48.3	2020/12/11 13:26
TEST202012111318001	B03	0.01	47.5	0.00	48.5	2020/12/11 13:26
TEST202012111318001	B04	0.04	46.9	0.00	47.5	2020/12/11 13:26
TEST202012111318001	B05	0.02	46.8	0.00	47.7	2020/12/11 13:26
TEST202012111318001	B06	-0.05	46.6	0.00	47.7	2020/12/11 13:26
TEST202012111318001	B07	0.01	47.1	0.00	48.3	2020/12/11 13:26
TEST202012111318001	B08	0.02	47.5	0.00	48.5	2020/12/11 13:26
TEST202012111318001	B09	0.01				2020/12/11 13:26
TEST202012111318001	B10	0.00				2020/12/11 13:26
TEST202012111318001	B11	0.00				2020/12/11 13:26
TEST202012111318001	B12	0.00				2020/12/11 13:26
TEST202012111318001	B13	0.01				2020/12/11 13:26
TEST202012111318001	B14	0.03				2020/12/11 13:26
TEST202012111318001	B15	0.02				2020/12/11 13:26
TEST202012111318001	B16	0.05				2020/12/11 13:26
TEST202012111318001	B17	0.00				2020/12/11 13:26
TEST202012111318001	B18	0.03	47.5	0.00	48.5	2020/12/11 13:27
TEST202012111318001	B19	0.02	46.9	0.00	47.5	2020/12/11 13:27
TEST202012111318001	B20	0.01	46.8	0.00	47.7	2020/12/11 13:27
TEST202012111318001	B21	0.02	46.6	0.00	47.7	2020/12/11 13:27
TEST202012111318001	B22	0.01	47.1	0.00	48.3	2020/12/11 13:27
TEST202012111318001	B23	0.02	47.5	0.00	48.5	2020/12/11 13:27
TEST202012111318001	B24	0.01	46.9	0.00	47.5	2020/12/11 13:27

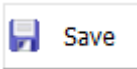


Side B complete test (The above data is for example, it is not the real and correct data)

### C. Data saving

√both ☒ Auto-save ☒ Only Save Passed Data , the passed (Green data) will automatically saved

Only √ ☒ Auto-save ☐ Only Save Passed Data , all the data will be saved automatically (Passed and failed)

If do not √ auto-save, ☐ Auto-save ☒ Only Save Passed Data , need to manually click  button to save the passed data.

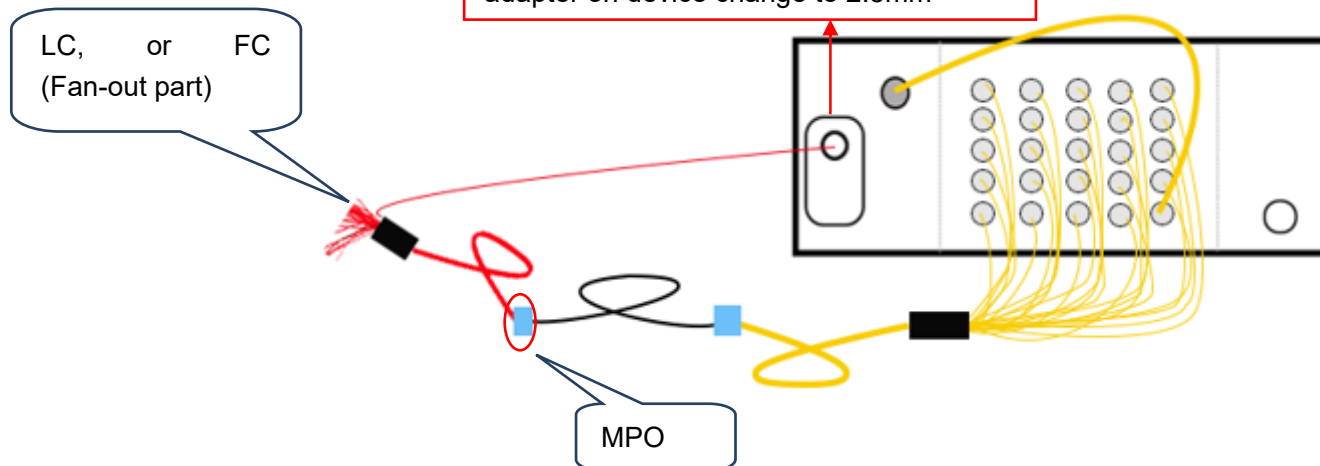
If all do not √ ☐ Auto-save ☐ Only Save Passed Data , manually click  button to save all the data (Pass and failed)

### 11.2“MPO—FC/LC” patch cord testing.

Before do testing, do REF, for this testing use MPO-MPO REF.

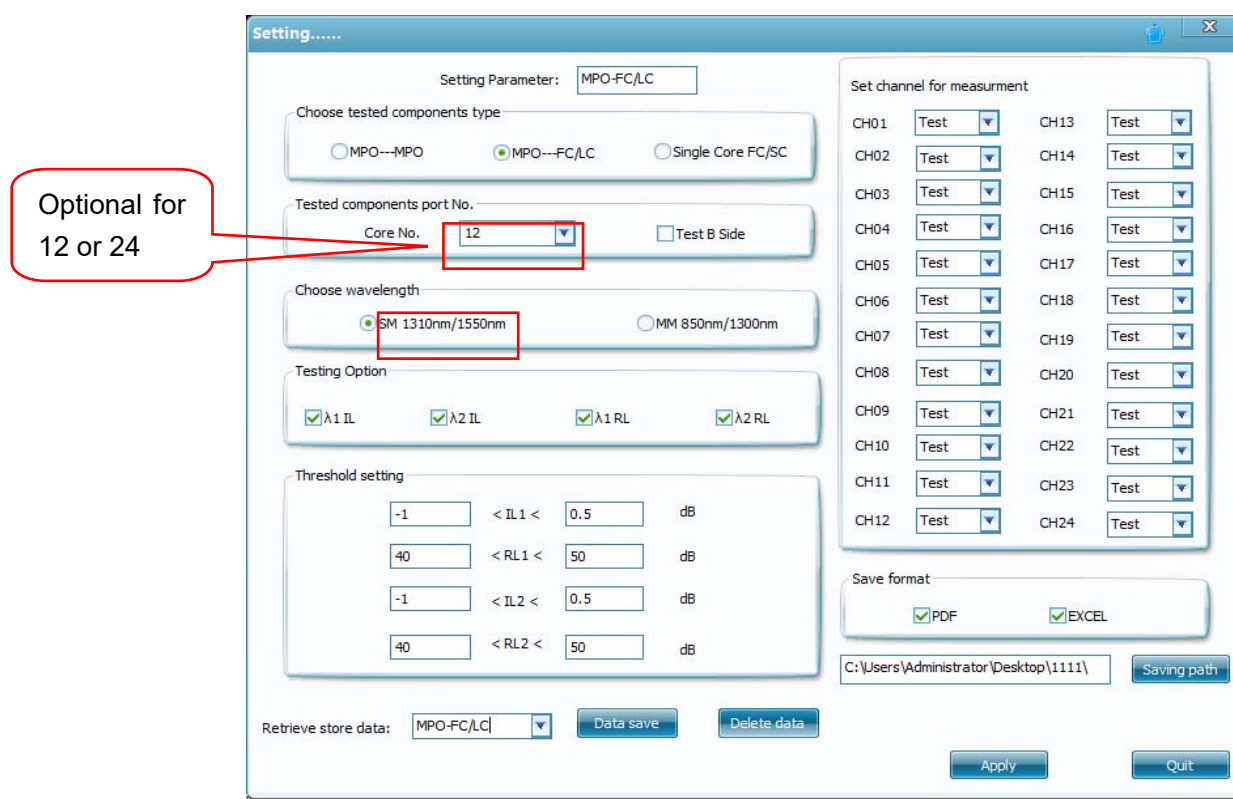
11.2.1 Connect the tested MPO-LC (12 cores/ 24 cores) patch cord with protected patch cord, as following drawings

If LC fan out, this adapter on device change to 1.25mm, if FC fan out, this adapter on device change to 2.5mm



### 11.2.1 MPO-FC/LC fan out measurement


a. Choose correct setting parameter, click "Apply" & "Quit" back to test main interface.



### b. Press "Test"

### c. Choose "Order test" Or "Random Test"

**Order Test:** all the channel will be test one by one orderly, from CH1, CH2....CH24, press Space to upload each channel testing value.


**Random Test:** Test the Channel No. based on requirement, choose channel No. required, Click , repeat this operation to complete all channel measurement.

SN	NO.	IL1	RL1	IL2	RL2	TIME
TEST202012141310001	A01	1310nm	1310nm	1550nm	1550nm	
TEST202012141310001	A02					
TEST202012141310001	A03					
TEST202012141310001	A04					
TEST202012141310001	A05					
TEST202012141310001	A06					
TEST202012141310001	A07					
TEST202012141310001	A08					
TEST202012141310001	A09					
TEST202012141310001	A10					
TEST202012141310001	A11					
TEST202012141310001	A12					

### d. Data saving

☐ Auto-save ☐ Only Save Passed Data

this option is not available for MPO-LC fan out patch cord testing.

It only can do manually save by click SAVE button , after complete the testing, press this button to save the required data.

## 12. File saving path and format

Choose user preferred file saving path from here, and the saved file also can checked out from this patch.

Setting.....

Setting Parameter: MPO-MPO

Choose tested components type

☒ MPO-MPO ☐ MPO-FCALC ☐ Single Core FC/SC

Tested components part No.

Core No. 24 ☒ Test B Side

Choose wavelength

☒ SM 1310nm/1550nm ☐ MM 850nm/1300nm

Testing Option

☒ A1 IL ☒ A2 IL ☒ A1 RL ☒ A2 RL

Threshold setting

0 < IL1 < 0.5 dB  
40 < RL1 < 50 dB  
0 < IL2 < 0.5 dB  
40 < RL2 < 50 dB

Set channel for measurement

CH01 Test CH13 Test  
CH02 Test CH14 Test  
CH03 Test CH15 Test  
CH04 Test CH16 Test  
CH05 Test CH17 Test  
CH06 Test CH18 Test  
CH07 Test CH19 Test  
CH08 Test CH20 Test  
CH09 Test CH21 Test  
CH10 Test CH22 Test  
CH11 Test CH23 Test  
CH12 Test CH24 Test

Save format

☒ PDF ☒ EXCEL

C:\Users\Administrator\Desktop\1111\ Saving path

Retrieve store data: MPO-MPO Data Save Delete Data

Apply Quit

C:\Users\Administrator\Desktop\1111\

Saving path

## EXCEL saving file

	A	B	C	D	E	F	G	H
1								
2	Tester:zhang							
3								
4								
5	020/12/11 13:34							
6								
7		SN	NO.	IL1 (dB)	RL1 (dB)	IL2 (dB)	RL2 (dB)	TIME
8				1310nm	1310nm	1550nm	1550nm	
9	TEST202012111318001	A01	0	15.8	0.01	16.7		2020/12/11 13:31
10	TEST202012111318001	A02	0.01	47.3	0	48.5		2020/12/11 13:31
11	TEST202012111318001	A03	0.01	47.5	0	47.9		2020/12/11 13:31
12	TEST202012111318001	A04	0	46.5	0	47.8		2020/12/11 13:31
13	TEST202012111318001	A05	0	46.7	0	47.6		2020/12/11 13:31
14	TEST202012111318001	A06	0.02	46.7	0	48.1		2020/12/11 13:31
15	TEST202012111318001	A07	0.04	47.3	0	48.5		2020/12/11 13:31
16	TEST202012111318001	A08	0.01	47.5	0	47.9		2020/12/11 13:31
17	TEST202012111318001	A09	-0.06	46.5	0	47.8		2020/12/11 13:31
18	TEST202012111318001	A10	0.02	46.7	0	47.6		2020/12/11 13:31
19	TEST202012111318001	A11	0.03	46.7	0	48.1		2020/12/11 13:31
20	TEST202012111318001	A12	0	47.3	0	48.5		2020/12/11 13:31
21	TEST202012111318001	A13	0.01	47.5	0	47.9		2020/12/11 13:31

## PDF saving file

Part number:

Serial number: TEST202012111318001

Date: 2020/12/11 13:34

		1310nm		1550nm	
	Fiber	IL END A	RL END B	IL END A	RL END B
TEST202012111318001	A01	0.00	15.8	0.01	16.7
TEST202012111318001	A02	0.01	47.3	0.00	48.5
TEST202012111318001	A03	0.01	47.5	0.00	47.9
TEST202012111318001	A04	0.00	46.5	0.00	47.8
TEST202012111318001	A05	0.00	46.7	0.00	47.6
TEST202012111318001	A06	0.02	46.7	0.00	48.1
TEST202012111318001	A07	0.04	47.3	0.00	48.5
TEST202012111318001	A08	0.01	47.5	0.00	47.9
TEST202012111318001	A09	-0.06	46.5	0.00	47.8
TEST202012111318001	A10	0.02	46.7	0.00	47.6
TEST202012111318001	A11	0.03	46.7	0.00	48.1
TEST202012111318001	A12	0.00	47.3	0.00	48.5
TEST202012111318001	A13	0.01	47.5	0.00	47.9
TEST202012111318001	A14	0.01	46.5	0.00	47.8



### **13. Maintenance**

- (1) Keep the surface of the sensor free from oil, dirt, or other contamination to ensure proper operation. Do not use the unclean and non-standard adapter or insert the badly polished interface.
- (2) Try to use the same kind of adapter.
- (3) Please use dust-proof cap to keep it clean when it is not in operation
- (4) Please carefully plug in and pull out connectors to avoid it being scratched.
- (5) Please regularly and gently clean the surface of the sensor with special cleaning swabs

### **14. Quality of Services**

Caution: Repair it in the field is Forbidden.

18 months warranty for Our Insertion loss/Return loss test station

We warrant that Insertion loss/Return loss test station will be free from defects in material and workmanship for 18 months. Should the device fail at any time during this warranty period, we will, at its sole discretion, replace, and repair or refund the purchase price of the product. The worth of the repair or replace will not be higher than purchasing price of this unit.

9.2 If the problems occurred can not be solved by the trouble shooting methods, please contact us or the local distributor directly.

9.3 This warranty is limited to defects in our production, workmanship or material, we will repair or replace the unit free of charge. This warranty only applies to the unit under normal operation without any damage or wrong operation. The warranty does not include the following problems:

1. Repair the unit by yourself without our official authorization.
2. Wrong operation or accident,

9.4 As to the freight cost caused by repair or replace the unit under the warranty, it will be shared by the customer and our.

### **Warranty Registration Card**

A warranty registration card is included with the original shipment of equipment. Please take a few moments to fill out the card and mail or fax it to us to ensure proper initiation of your warranty term and our maintenance, calibration or tracking of this unit.

***We guarantee that any information you supply will remain confidential.***

***By returning this card, you will automatically be notified about updates, modifications, and recalibration.***

# Warranty Registration Card

Serial Number: \_\_\_\_\_

Model Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

TEL: \_\_\_\_\_ FAX: \_\_\_\_\_

E-mail: \_\_\_\_\_

**Note: Please fax this note within one month from the date of receiving units.**

## YOUR OPINION

Do you have any comments on the quality of this product or the service from us?

\_\_\_\_\_

\_\_\_\_\_