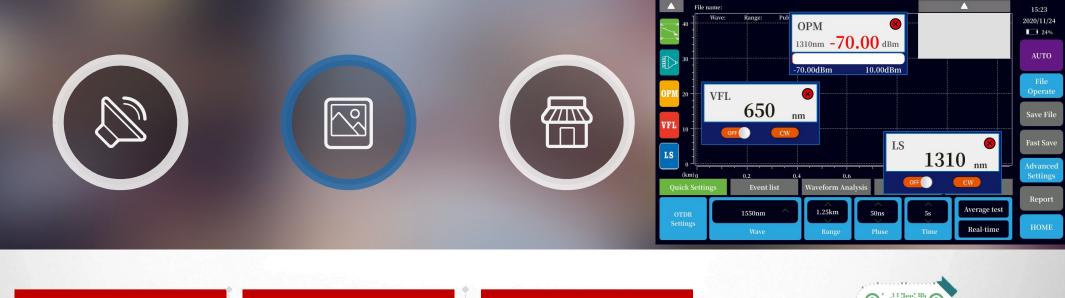
## Optical Network Tester



Best Choice for Field Engineer on Multi- Core Cable Test iONM -Removing the complexity from OTDR Testing Intelligent file management. One-click upload to Cloud Platform Scan HERE

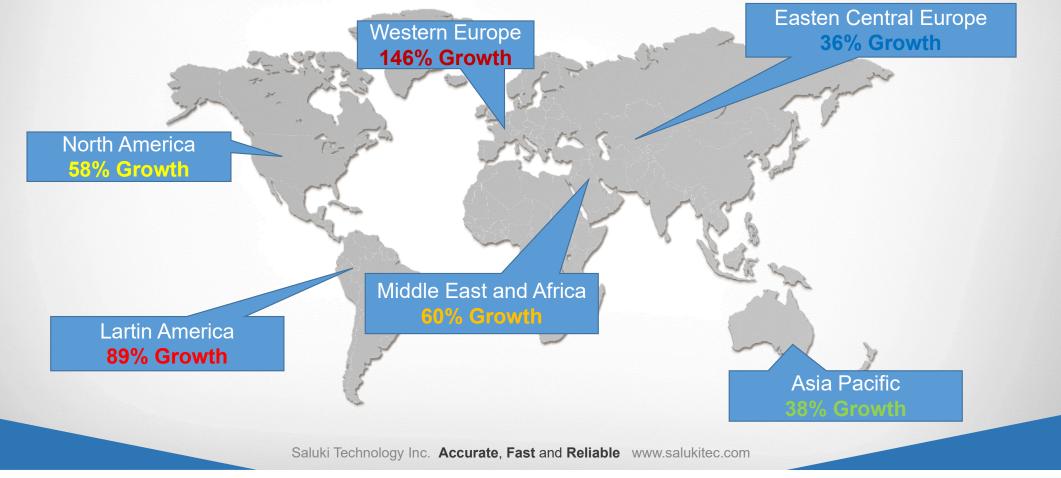
Saluki Technology Inc.

www.salukitec.com

### CONTENTS



# The Need For Optical Fiber – FTTx now and in 2021



### The Solution is FTTx





of Operators say they will transition the majority of network users to FTTH between 2018-2021

An additional 25% of operators expect to have made the transition by 2025

### Challenges and Concerns for each Department

#### **Executives**

- How to ensure the TRUTH of field test results?
- How to IMPROVE the efficiency of engineers and reduce labor costs?

Keep abreast of the network operation status in time Realize the automation of business process management

#### Enginees

- How to manage the complex test results?
- How to do multitask?
- How to reduce the tools for field testing?
- How to quickly and clearly record the on-site test situation?
- How to quickly generate a report and submit it to the supervisor?

In the event of quality deterioration or failure, it can accurately locate and shorten the troubleshooting time

### Network Operations Centers (NOCs)

- How to deal with complex data?
- How to quickly form an organized report?

These data can be saved and processed by scientific means

### We Care what you Concern



**Connects anywhere:** USB, WiFi, Bluetooth, mobile and virtual private network (VPN)

Like a Windows 10 GUI

iONM: intelligent and dynamic application that turns complex OTDR trace analysis into a one-touch task

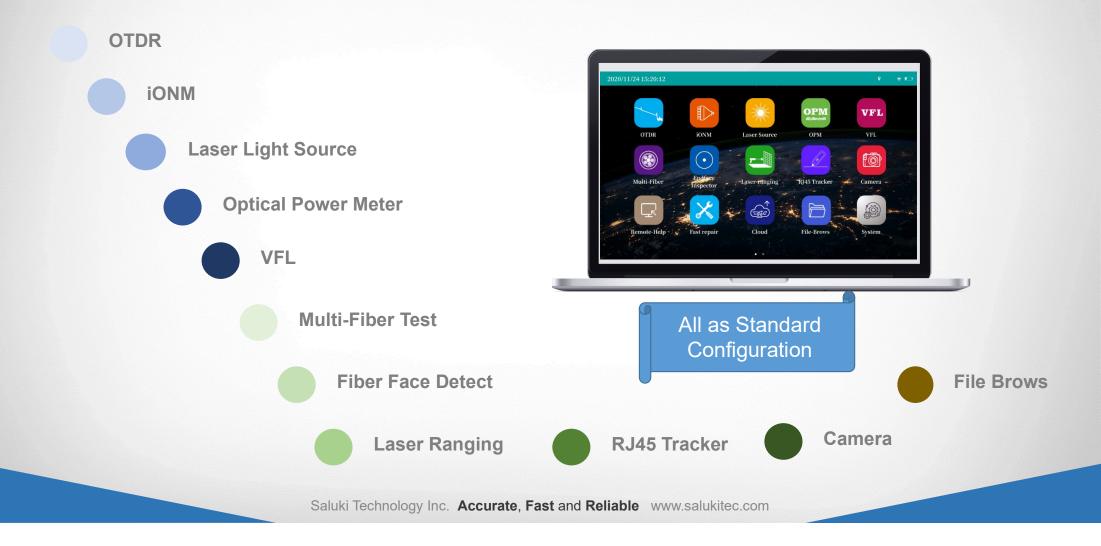
Upload file to Cloud Platform Freely

7-inch, outdoor- enhanced touchscreen	Max 12-hour autonomy
Build the optical cable project	Support up to 2000
according to the wizard	Fibers test data
Support Multi-Fiber Test	RJ45 Digital Tracker
40M Laser Ranging ±1mm Accuracy	Remote assistance one-click repair

### We considered all your Needs



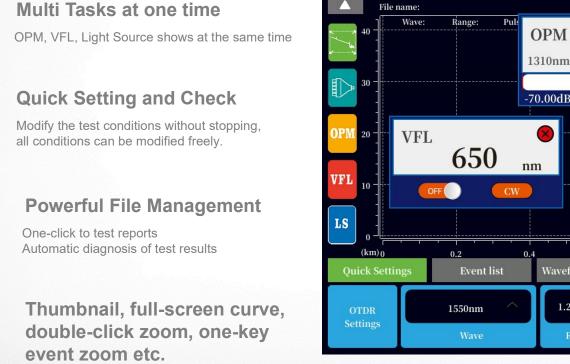
### We considered all your Needs





### Part 01 OTDR See What is Difference

### An OTDR which meets all your NEEDS

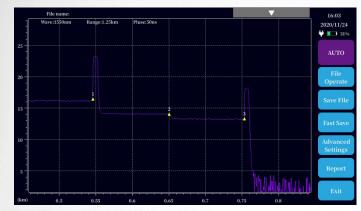


2020/11/24 24% 1310nm -70.00 dBm AUTO -70.00dBm 10.00dBm Operate Save File LS X Fast Save  $1310 \ _{\text{nm}}$ 0.6 OFF Waveform Analysis Report Average test 1.25km 5s50ns Real-time

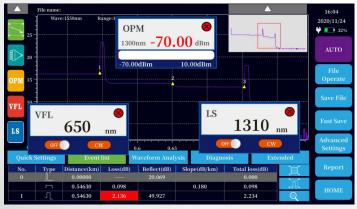
 $\sim$ 

15:23

### An OTDR which meets all your NEEDS



Full-screen display, two-finger touch for arbitrary zoom



Multi tasks at one time, Cursor move freely

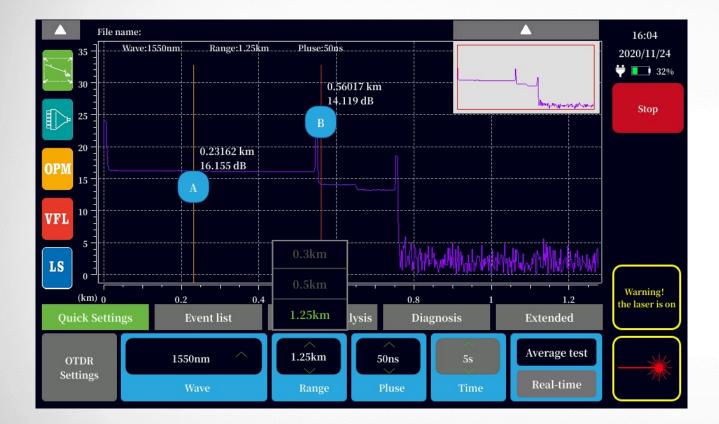


#### iONM: Display the test results graphically



Quick Setting: No need to Stop, change freely.

### **Quick Setup**



- Wavelength: Select freely
- Range set: 100m-420km
- Pulse: 3ns 20µs
- Time set: 5s 180s
- Average Test, Real Time
- Refresh Rate: Max. 10Hz

### **OTDR Setup**



#### **Fiber Properties Setting**

			OTDR	Set				16:04
Fiber prop	erties	ties Pass/Fail		N	Measure Settin	gs An	alysis/Save Settings	2020/11/24 辩 🛄 32%
	licing loss 1310nm: 0.20dB Connection loss 1310nm: 1.00 1550nm: 0.20dB 1550nm: 1.00				AUTO			
	1310nm:	1310nm: 32.00dB				1310nm	: 0.40dB	File Operate
Total loss	1550nm:	30.00dB		Average loss 1310fill: 0.4 1550nm: 0.2			: 0.25dB	Save File
Splitter	1/2: 3.50dB 1/4: 7.00dB	1/16: 1 1/32: 1		1	Bending Loss	2.1	00dB	Fast Save
	1/8: 10.50dB	0.50 <b>dB</b> 1/64: 20.00dB						Advanced Settings
Quick Setting	gs Event	list	Waveform	i Anal	ysis Dia	ignosis	Extended	
OTDR 1550		~	1.25km		50ns	55	Average test	Report
Exit settings	Wave		Rang	e	Pluse	Time	Real-time	HOME



#### Pass/Fail Setting: Give a Pass/Fail result directly

Fiber prop	erties	Pass/Fa	OTDR		ure Setting	s Ana	lysis/Save Settings	16:05 2020/11/24
APD Pro		Ope	Sampling accuracy			Standard		
Connec	t state detecte Close			Test Method Two			Two Way	File Operate
Real-time analysis Close		se	Launch Fiber Set			Close	Save File	
End		Close						Fast Save
Fiber Se								Advanced Settings
Quick Settin	gs Ev	ent list	Waveform	Analysis	Diag	gnosis	Extended	Report
OTDR	1550	nm 🔨	1.25km		50ns	58	Average test	Report
Exit settings	Wa	ive	Rang	e	Pluse	Time	Real-time	HOME

#### **Measurement Settings**

- APD Protect
- Connect State detect
- Real Time Analysis
- Launch Fiber Set, make your test result more clear

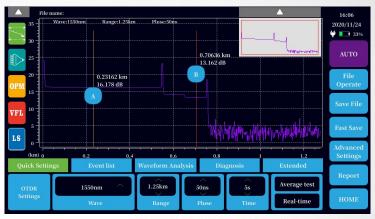
### **More Advantages**

	Device Directory	Fi	le list					File Open
	Local (33MB/6.6…	No.					Modify date 2020-11-20	
	► 2020-11-20	1	1310_102.sor		41 KB	sor	2020-11-20 17:08	File Copy
	2020-11-20	2	1310_103.sor		41 KB	sor	2020-11-20 17:08	File Cut
		3	1310_105.sor		41 KB	sor	2020-11-20 17:30	Delete File
	🗁 default	4	1310_19.sor	i i i i i i i i i i i i i i i i i i i	41 KB	sor	2020-11-20 17:03	Rename
	pppp 📹	5	1310_27.sor		41 KB	sor	2020-11-20 17:08	Select All
1361		6	1310_28.sor		41 KB	sor	2020-11-20 17:08	Cloud Upload
		Wa	ve:	Link length:		Score:		
		Ra	nge:	Link loss:		Alarm	event:	Bluetooth Trans
		Pu	lse:	Slope:		Warnin	g event:	File/Report
			fractive index:	Event num:		Loss ala		
		Tes	st mode:	Diagnosis:		Pass ev	ent:	Back

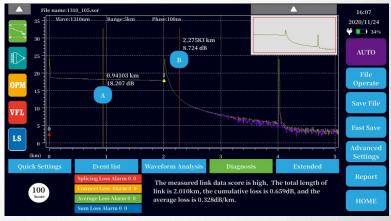
One Click Upload files to the cloud platform



**Open Max.10 curves at one time** 

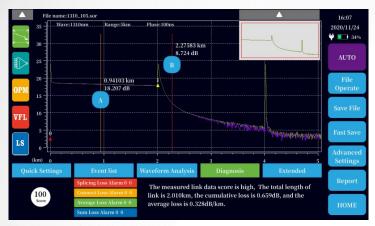


#### Waveform Analysis: to meet the needs of professionals

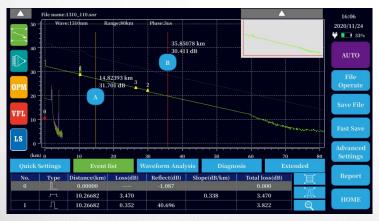


Reference Curve Setting: Comparative analysis with historical test data

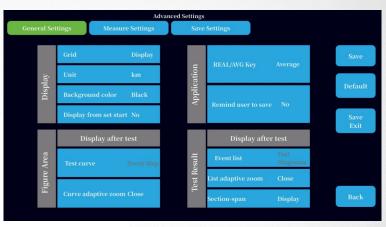
### **More Advantages**



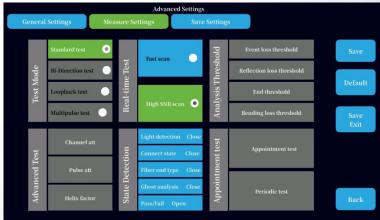
**Diagnosis: Comprehensive description of fiber quality** 



The section selection makes your curve look more intuitive

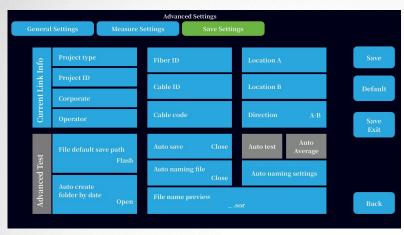


#### Set up according to your requirements



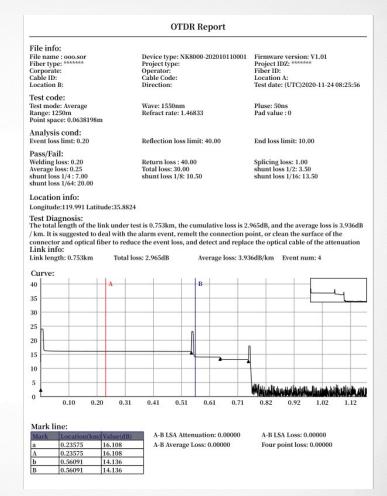
Advanced Settings meets all your needs

### **More Advantages**



#### Save Test: Save File as you need

Report na			Report date	e: 2020/11/24 16:25	1			
✓ use file information								
File name 🏑	Device type	Firmware ver	Fiber type 🖌	Project type				
Project IDZ	Company 🏑	Operator 🏑	Fiber ID 📈	Cable ID 📈				
Cable code	Location A	Location B	Direction 🏑	Test date 🏑		Default		
Test info								
Test cond	Analysis cond	PASS/FAIL cond	Diagnosis	Location info				
Curve info								
Event Marker	Cursor	Thumbnail	Link info	Event map		Cancel		



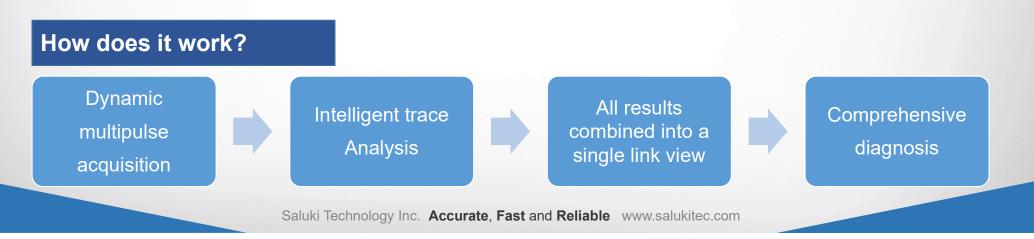
Select information which you want to show on report.



### **iONM -REMOVING THE COMPLEXITY FROM** OTDR TESTING

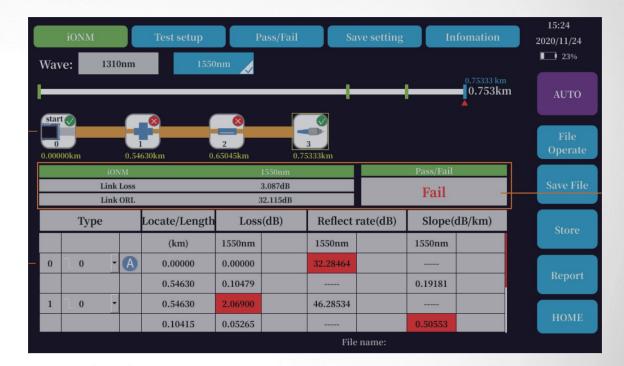


The iONM is an OTDR-based application designed to simplify OTDR testing by eliminating the need to configure parameters, and/or analyze and interpret multiple complex OTDR traces.



### iONM (Your test expert)

- Auto save settings
- Generate .PDF reports
- Judge the connection status automatically
- Set launch fiber, end fiber
- Pass/Fail threshold can be set
- Wireless transmission of test data
- Create user directories



Its advanced algorithms dynamically define the testing parameters, as well as the number of acquisitions that best fit the network under test.

By correlating multipulse widths on multiple wavelengths, the iONM locates and identifies faults with maximum resolution—all at the push of **a SINGLE BUTTON** 

### OLS

2020/11/24 15:38:09		<ul> <li>۲</li> <li>۳</li> </ul>
		Model
CW	CW	Wave ID
1310 <sub>nm</sub>	1550 <sub>nm</sub>	Power(+)
OFF (	OFF (	Power(-)
		НОМЕ

Power Adjustable Stable Laser Source

Output Power: -5dBm to +3dBm adjustable

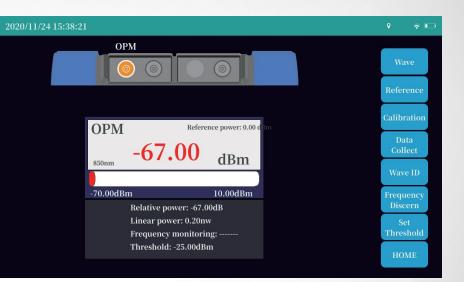
- Output CW/270Hz/330Hz/1kHz/2kHz mode
- Support automatic wavelength recognition Wavelength ID mode

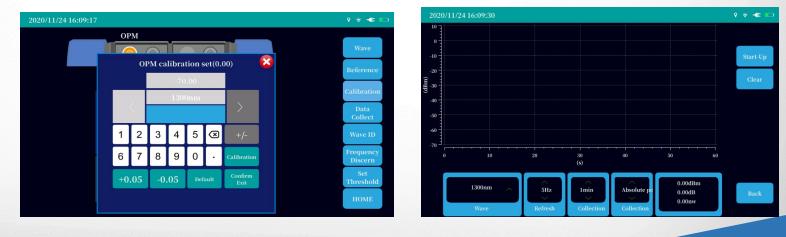
### OPM

- Support frequency identification function
- Support pass / fail threshold setting
- Support Tone Detect function, namely frequency identification

function

- User calibration
- Data acquisition
- Automatic wavelength recognition





### **Multi Core Measurement**

- Optical cable data management
- Waterfall view
- Optical cable health status comparison
- End face/optical power/distributed loss
- On-site test pictures can be taken directly and uploaded (5,000,000X high-definition camera)

Proje	ct name:yu							/c		16:09
	1	2	3	4	5	6	7	8		2020/11/24 ♥ <b>■</b> 35%
	9	10	11	12	13	14	15	16		New
pre page	17	18	19	20	21	22	23	24	next page	Open
	25	26	27	28	29	30	31	32		Attribute
	33	34	35	36	37	38	39	40		Scene Picture
Curre	ent core:19									Fiber
	1: 1310nm						850nm	-67.6	8dB	Operate
Wave	2: 1550nm								•	Open file
	e:1.25 km :: 50ns					idellan altanathan dai				HOME

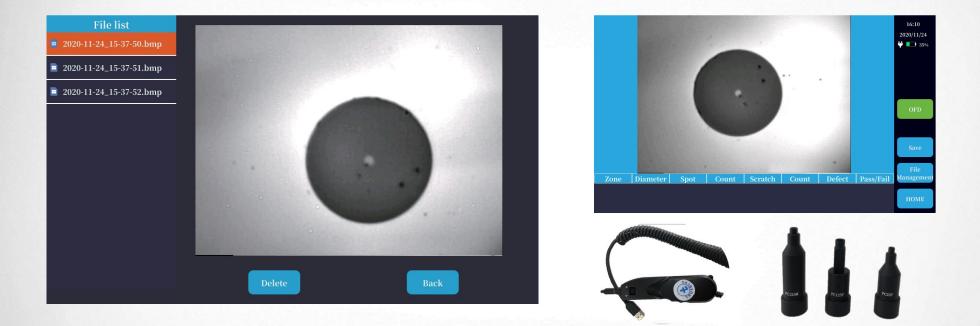
>>>> The purpose of multi-core measurement to help customers manage and maintain multi-core optical cable data,

Through the establishment of the project, to help customers more intuitive Manage and maintain fiber optic data.

From the core matrix, the state of all the cores can be seen intuitively, Including whether it has been tested,

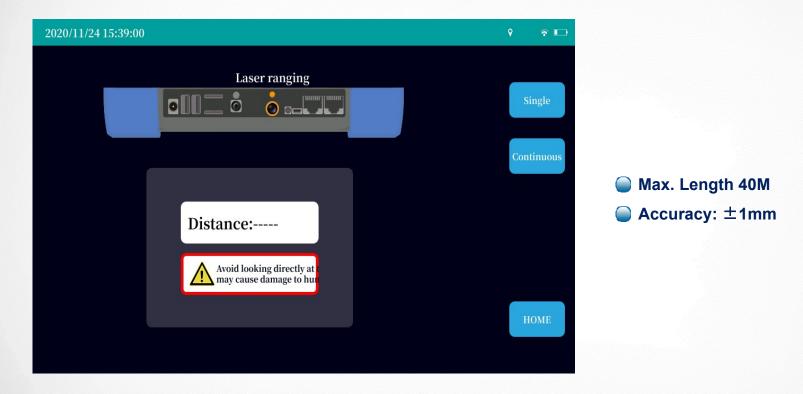
does the test pass. Each fiber core contains OTDR data, optical fiber end face data, optical power data and test field pictures

### **OFD** (Optical fiber end face detection)



The core diameter of single-mode fiber is about 9um, It's thinner than human hair, if the end face is polluted, it will cause great connection loss, this leads to unstable communication state. It has great influence on the confidence of OTDR test results, therefore, the end face of optical fiber testing and cleaning are very necessary

### **Laser Ranging**



- Length measurement for optical cable laying and broadband installation
- Accurate measurement, Your cables will no longer messy

### **RJ45 Tracker**

2020/11/24 15:39:13	9 🗢 🗔
	Close
	Digital
Port1	Whole
	1, 2 Line
Port4	3、6 Line
Port2 Port3 Port4 Port5 Port6 Port7	4、5 Line
Port7 Port8	7, 8 Line
	HOME

RJ45 digital radar tracking function can be used for digital line finding of network line, telephone line and other cables

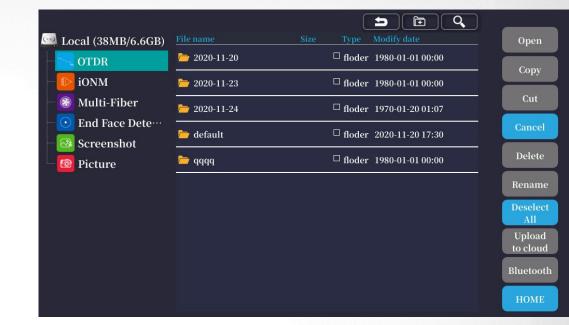
### **File Management**

#### OTDR (.SOR)

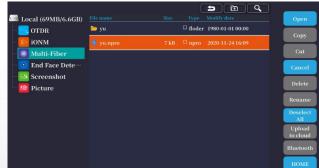
- iONM (.emp, Saluki design)
- Multi-Fiber (File folder, including fiber end quality,

photo and OTDR test data)

- Give The America Face Detect (.bmp)
- Screenshot (.bmp)
- Picture (.png)



Local (69MB/6.6GB)     OTDR     OTDN     OTDN     ONM     S Multi-Fiber     O End Face Dete…     Screenshot	File name 2020-11-20 2020-11-23 2020-11-24 default	Type         Modify date           -         Roder         1980-01-01-00:00           -         Roder         1970-01-20 01:07           -         Roder         2020-11-20 17:30	Open Copy Cut Cancel
Picture	눧 qqqq	□ floder 1980-01-01 00:00	Delete
			Rename
			Deselect All
			Upload to cloud
			Bluetooth
			номе



### **System Settings**

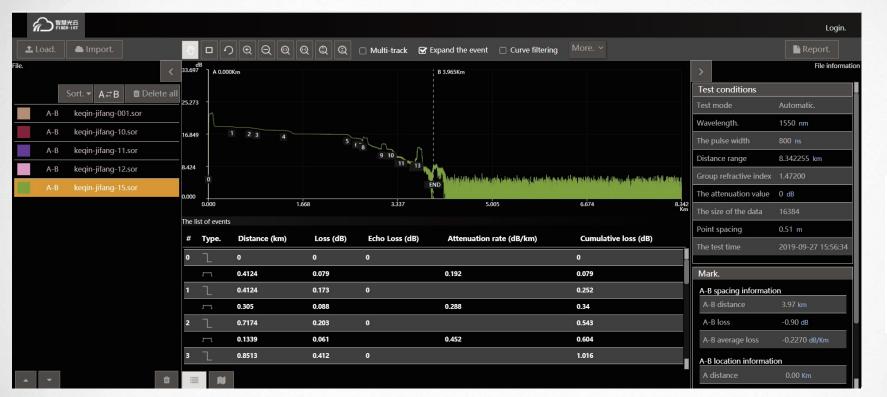
#### Backlight Setup

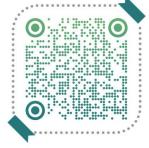
- Power Setting (Sleep and automatic shutdown time can be set)
- **WIFI** (Help you upgrade remotely)
- Lock Screen (Password setup)
- Start App
- Device Info. (Detail version for all software and hardware, easy for maintenance)

2020/11/24 15:40:24			9 🗢 🖿
🔆- Backlight Set			
		Brightness	
Date Time			
🕑 Language	Dark	50%	Bright
Power Option			
Store Set	Power saving se	ttings:	$\bigcirc$
	15s		
ᅙ Wifi Set	30s		
8 Bluetooth	1min		()
Bluetooth	5min		()
Sim Card	10min		()
• GPS	Never		()
<b>^</b>			+

2020/09/22 20:27:44	9 💩 🕸 🗢 🖬 🗔	2020/11/24 16:14:05		9 🤝 📲 🖿	2020/11/24 16:14:19		P 🗟 📲 1
·美·背光设置		· ·	Repair-help			System Info	About View Alarm Log
	<b>内存</b> 总共: 1GB   利余: 741MB	Sim Card	Repair-help	_	🤤 GPS	ojstem mo	ibout new manni bog
目期时间设置	25%	🬻 GPS	Wisdom cloud		for Set	Device model : H720 Host SN: 202010110001	
语言设置	内部存储设备	Iot Set	File browse		Sound Set	Host module number: 2001	
□ 电源选项	总共: 6.4GB 利余: 6.2GB 2.5%	Sound Set	🔊 System set		Lock Screen	System version: Sat Oct 24 1 Software version: V-1.2.1	0:18:15 CST 2020
存储空间		Lock Screen	Monitor			Hardware version: V-1.0.17 FPGA version: 1.2.0	
》 WIFI 设置	U盘 总共: 1.0GB   利余: 984MB	Touch Calibration	<b>W</b> Fiber Discern	-	Touch Calibration	Analysis algorithm version :	1.0.48
▶ 藍牙连接	2.2% <b>9/1</b>	, Touch Substation		-	😥 Start App	Framwork version: V-1.2.0 OPM version: V-0.0.2	Alarm record: 0
SIM †		🗭 Start App	Fault location	-	🔶 Software Update	OPM version: v-0.0.2	Machine temperature: 35.0 Battery temperature26.10°C
		🔶 Software Update	About		Restore Set		Battery capacity : 37% CPU temperature: 37°C
GPS	G	🙃 Restore Set	б номе	<b>A</b>	Device Info		APD temperature: 31.1°C IP: 192.168.5.100
Advertised	5	- Kestore set		•	Device Info		IP: 192.168.5.100

### **Fiber-IOT Simulation tools**





Scan QR code Sign in Fiber-IOT

>>>

You can log in directly at fiber-iot **WEB** or Scan **QR Code**. Imagine the advanced simultion tool of OTDR, view OTDR data and generate reports www.fiber-iot.com/tools/index.action?lang=en

### **Fiber-IOT Simulation tools**

fiber-10T								
	plication.							
keqin-jifang-001.sor		my logo	Report settings					
	my report name		Logo my logo The name of					
Filename. keqin-jifang-001.sor	Label.	The name of the	the report my report name					
The operator	Fiber optic cable ID	FRអាមាទត្រវរic Hicloud cable code	Statistical reports					
Fiber ID	The type of fiber	The starting	Job information					
The termination	Direction. A-B	data flag BC						
pheitiame of the	The firmware	The type of project	Analyze the conditions					
णभ्वि∰6ject ID	V3.12		Pass/Fail condition					
		Report Date:2020-11-24 15:43:41	The test results					
Test conditions	Analyze the conditions	Pass/Fail Judgment	Event map					
Test	The	Conditions Melting loss 1dB	The list of events					
mode	analysis	Melting loss 1dB Waveler 1550nm	The chart of the curve					
Reflection		The	Comments.					
loss threshold 40dB		pulse width 800ns	Photos of the scene					
End loss threshold 5dB	Joint loss 1dB	Distance 8.342255km	Face image					
	Average loss 1dB	Group refractive	Print settings					

OTDR data can be viewed through cloud analysis, and generate reports. Powerful OTDR data report generator using smart cloud, add event map, annotation, on-site test photos, optical fiber end face photos and other detailed information in the report



### **Ordering Information**

Model	<b>S1</b>	\$3	<u>\$4</u>	<mark>\$5</mark>	P1F1	P1F2	P2F1	P2F2	T1F1	T1F2	T2F1	T2F2	M1	SM1	SM2
Fiber Type	SM									MM	SM/MM				
Wavelength (nm)	1310/1 <mark>550</mark>			1625		1650		1310/1550/1625		1310/1550/1650		850/1300	850/1300/ 1310/1550		
Max. Dynamic Range (dB)	37/35	40/38	42/40	<mark>45/43</mark>	38	40	37	40	37/35/ 35	40/38/ 38	37/35/ 35	40/38/ 38	26/28	26/28/ 35/33	26/28/ 38/36
Event Blind Zone	0.8m								1.5m	1.5m/0.8m					
Attenuation Blind Zone		5m						6m	5m / 6m						

### **Main Specifications**

Item	Spec.						
Measuring Accuracy	± (0.75 + Sampling interval + 0.005% * Test distance) (Refractive error are not included)						
Measurement Range	100m/300m/500m/1.25km/2.5km/5km/10km/20km/40km/80km/160km/260km/420km						
Pulse Widths	3ns/5ns/10ns/20ns/30ns/50ns/80ns/100ns/200ns/300ns/500ns/800ns/1us/2us/3us/5us/8us/10us/20us						
Sampling Points	3.2k - 320k						
Sampling Resolution	0.03125m - 8m						
Loss Accuracy	<= 0.05dB/dB						
Loss Resolution	0.001dB						
Loss Threshold	0.01dB						
Distance Resolution	0.001m						
IOR	1.00000 - 2.00000, 0.00001 step						
Reflection Accuracy	±3dB						
Optical Interface	FC / UPC (Interchangeable SC, ST)						
Refresh Rate	10Hz (max.)						
Data Storage	Internal: 8GB (>=200,000 curves)						
Communication Interface	Interface USB-A (2), Mini-USB (1), 1000M Ethernet, RJ45 Tracker port, 3.5mm Audio port						
Data Archive	Archive SOR (standard format)						
Electronic Report	PDF reports can be generated on the device, and transmitted to the wireless terminal via Bluetooth						

### Who is Our Customers?



### Who we ARE?

### WE ARE A COMPANY

Focus on test and measurement equipment. We always strive to be the BEST in the world, and give you As More As We Can!

OTDR Families S2103 low cost solution S2105 New S2106 & S2106X: the most popular model

**Fusion Splicers** 



# THANK YOU

Visit us @ www.salukitec.com

Saluki – an ancient hunting dog - Accurate, Fast and Reliable