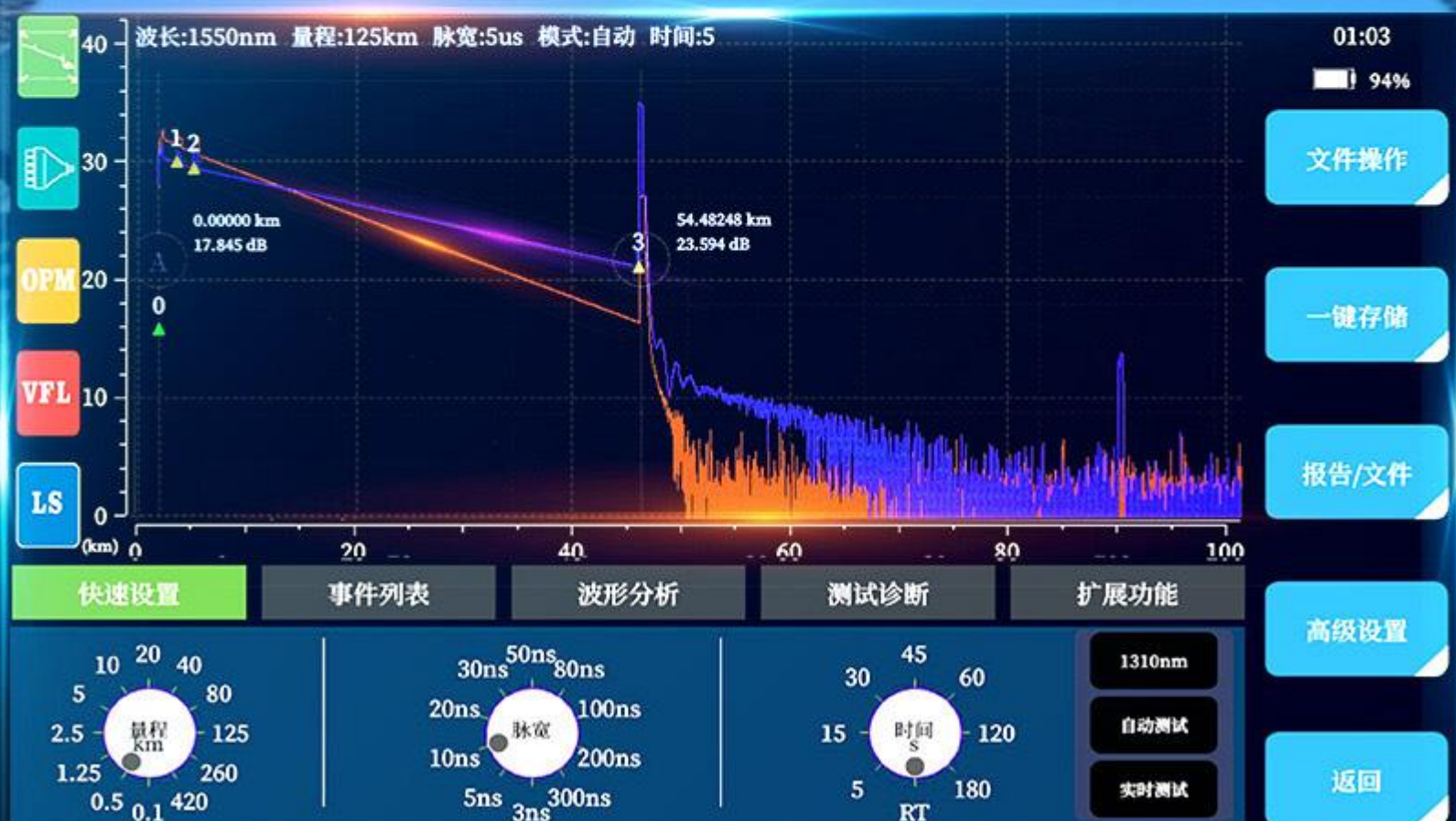


# TFN

## High Performance Optical Time Domain Reflectometer

### F7



# 9 Major Functions

Full coverage of fiber optic network testing



OTDR

VFL



VFL



OPM



Optical loss test



Event map



Optical light source



Remote testing



Ethernet testing



End face inspection

# High-precision measurement

# Meet high-precision testing requirements

There it solves your problem



Communications operator



Optical cable production  
factory inspection



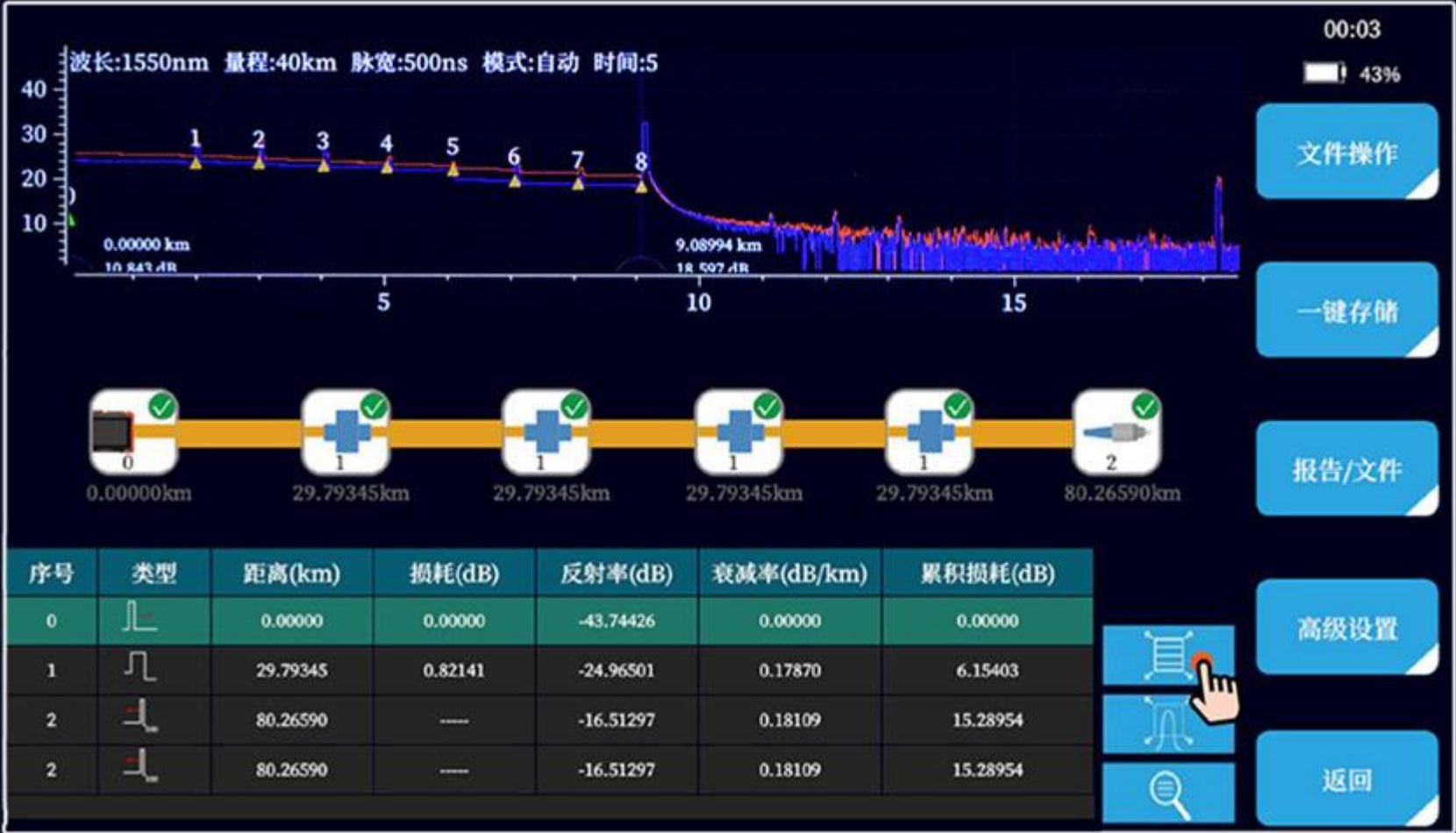
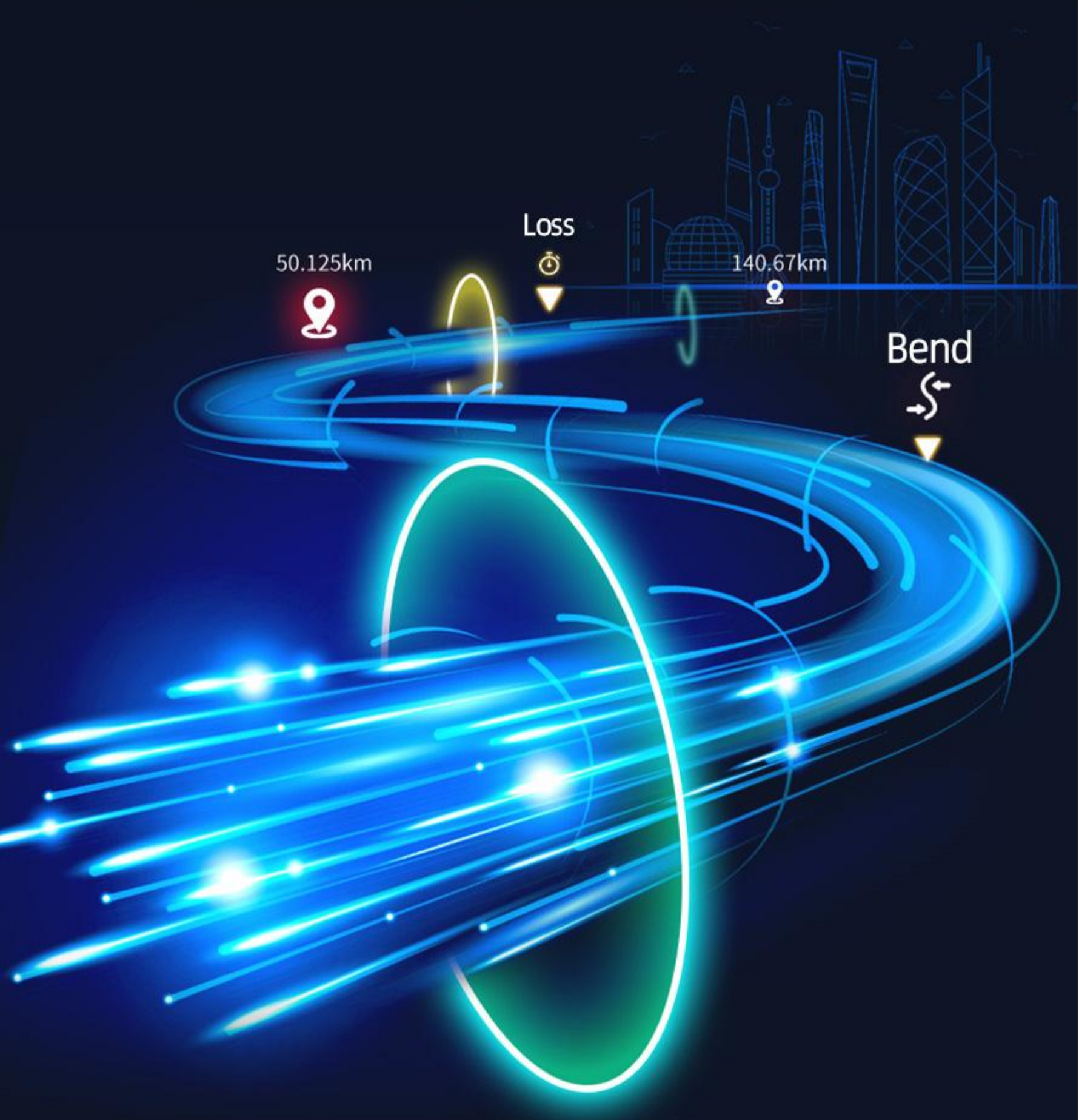
Electric power/railway/high  
speed/communication network



Private network construction  
and maintenance

# Optical cable "CT scanning" tool

There is no escape from difficult faults



High performance processor

Meet OPM / VFL / OLS functions

Multiple modules working simultaneously



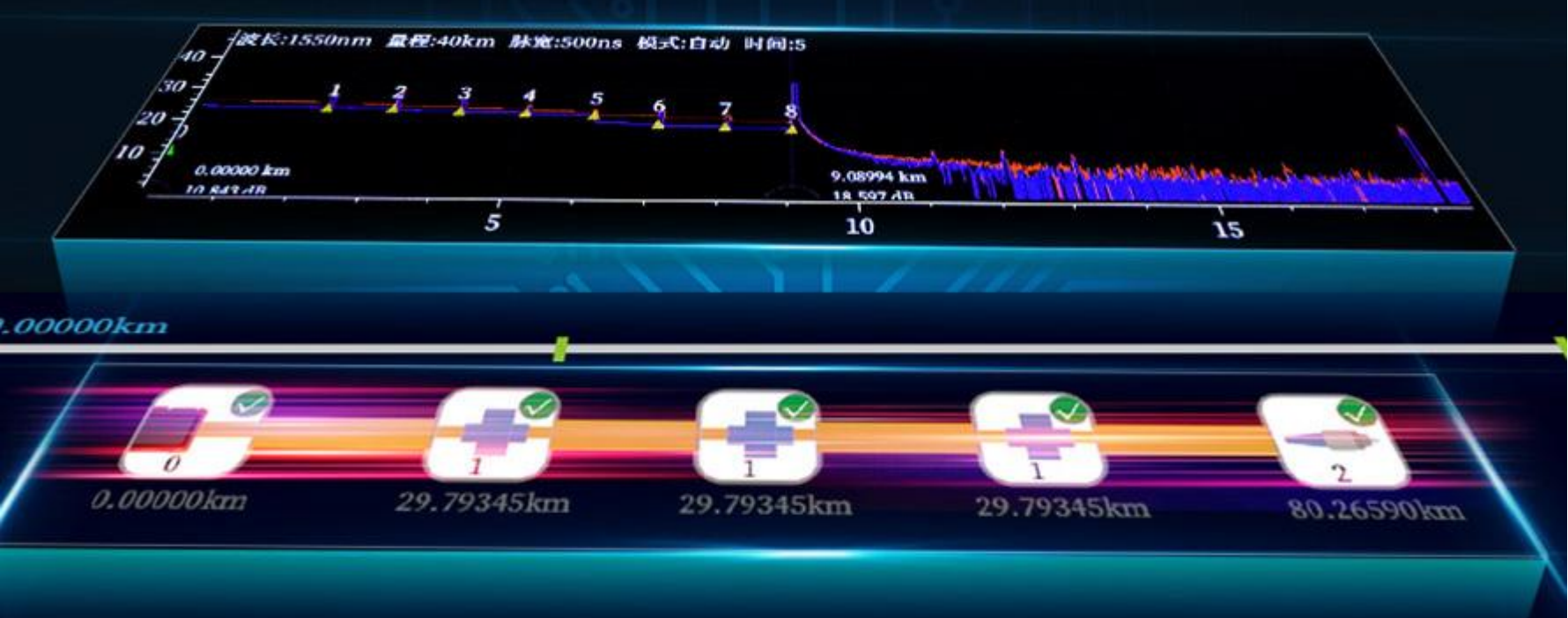
Floating viewport  
Support multi-function module  
Simultaneous display and simultaneous testing



Test curve • Event map • Event list

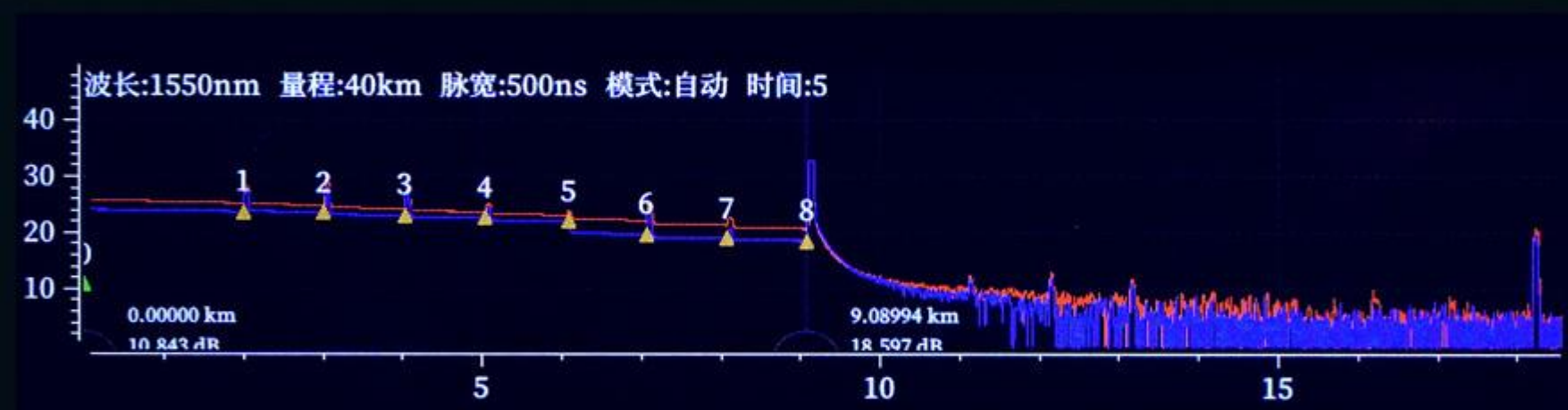
# Three test results

## Observe simultaneously



| 类型 | 距离(km)   | 损耗(dB)  | 反射率(dB)   | 衰减率(dB/km) |
|----|----------|---------|-----------|------------|
|    | 0.00000  | 0.00000 | -43.74426 | 0.00000    |
|    | 29.79345 | 0.82141 | -24.96501 | 0.17870    |
|    | 80.26590 | ----    | -16.51297 | 0.18109    |

### // Test curve



### // Event map



### // Event list

| 序号 | 类型 | 距离(km)   | 损耗(dB)  | 反射率(dB)   | 衰减率(dB/km) | 累积损耗(dB) |
|----|----|----------|---------|-----------|------------|----------|
| 0  |    | 0.00000  | 0.00000 | -43.74426 | 0.00000    | 0.00000  |
| 1  |    | 29.79345 | 0.82141 | -24.96501 | 0.17870    | 6.15403  |
| 2  |    | 80.26590 | ----    | -16.51297 | 0.18109    | 15.28954 |
| 2  |    | 80.26590 | ----    | -16.51297 | 0.18109    | 15.28954 |

长:1550nm 量程:40km 脉宽:500ns 模式:平均 时间:5

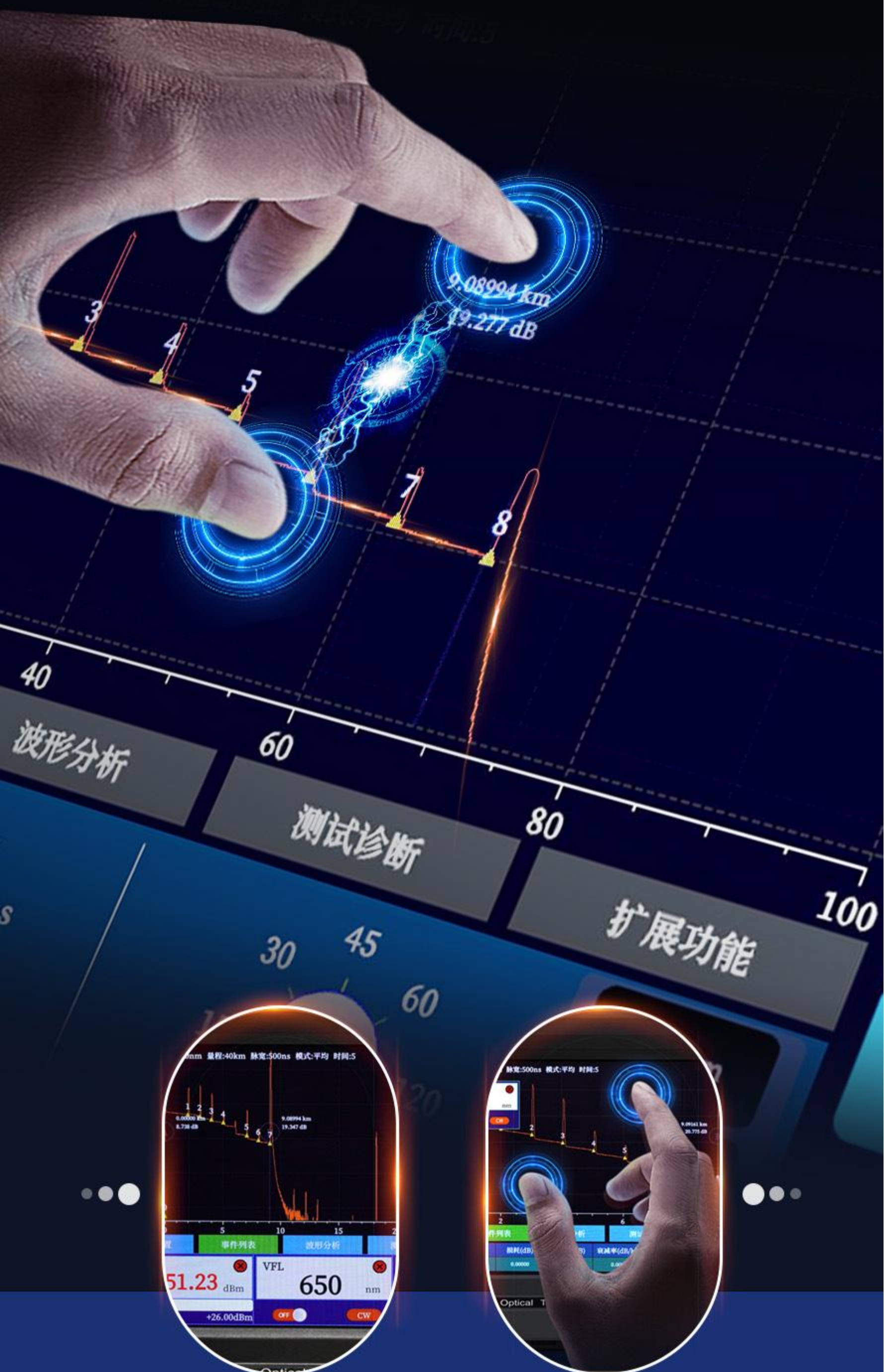
# Highly sensitive touch screen Respond at the touch of a button

Easily switch between functions

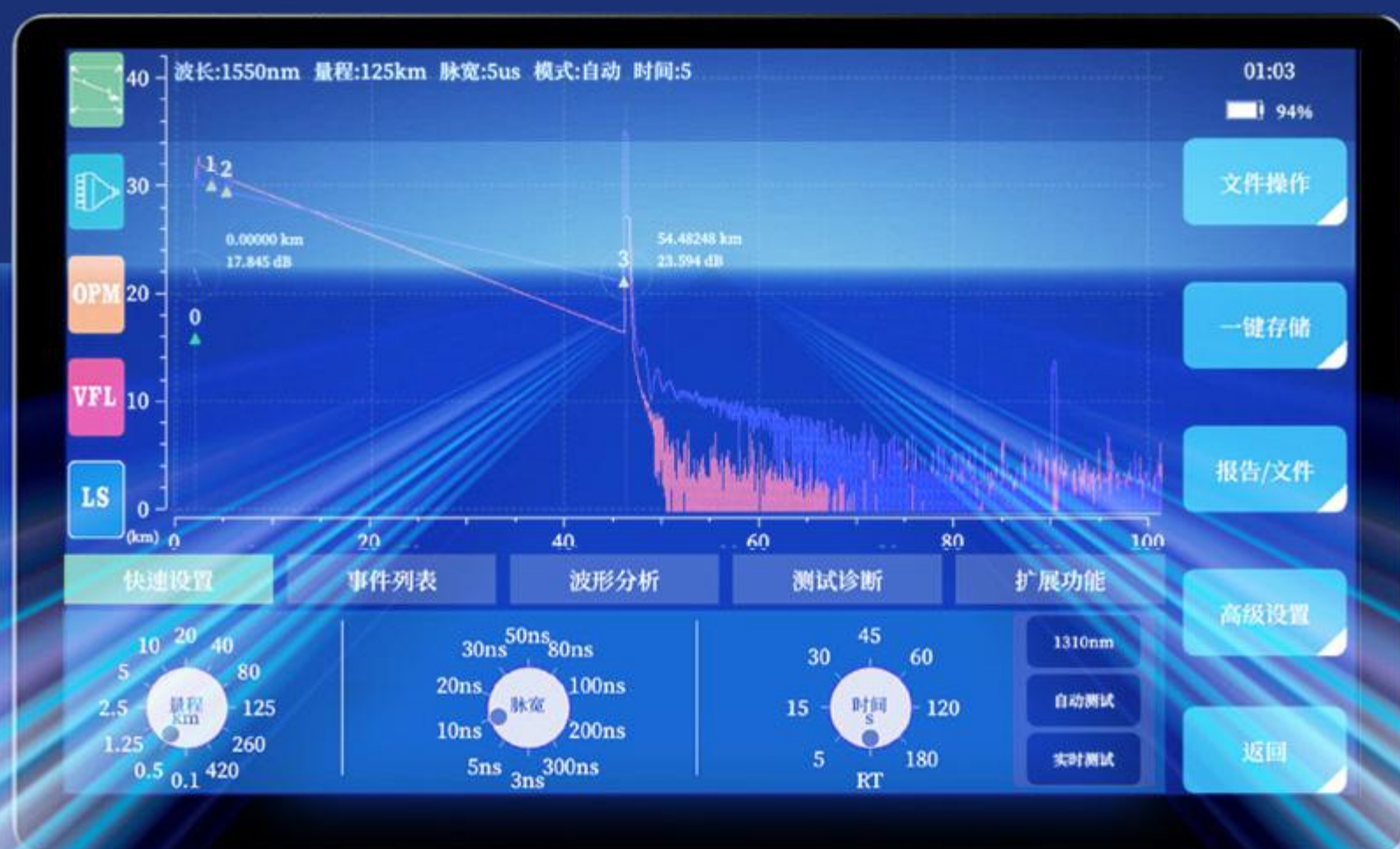


# Manual free scaling of curves

Smooth operation without lag



# 8-inch high definition capacitive touch screen



8-inch

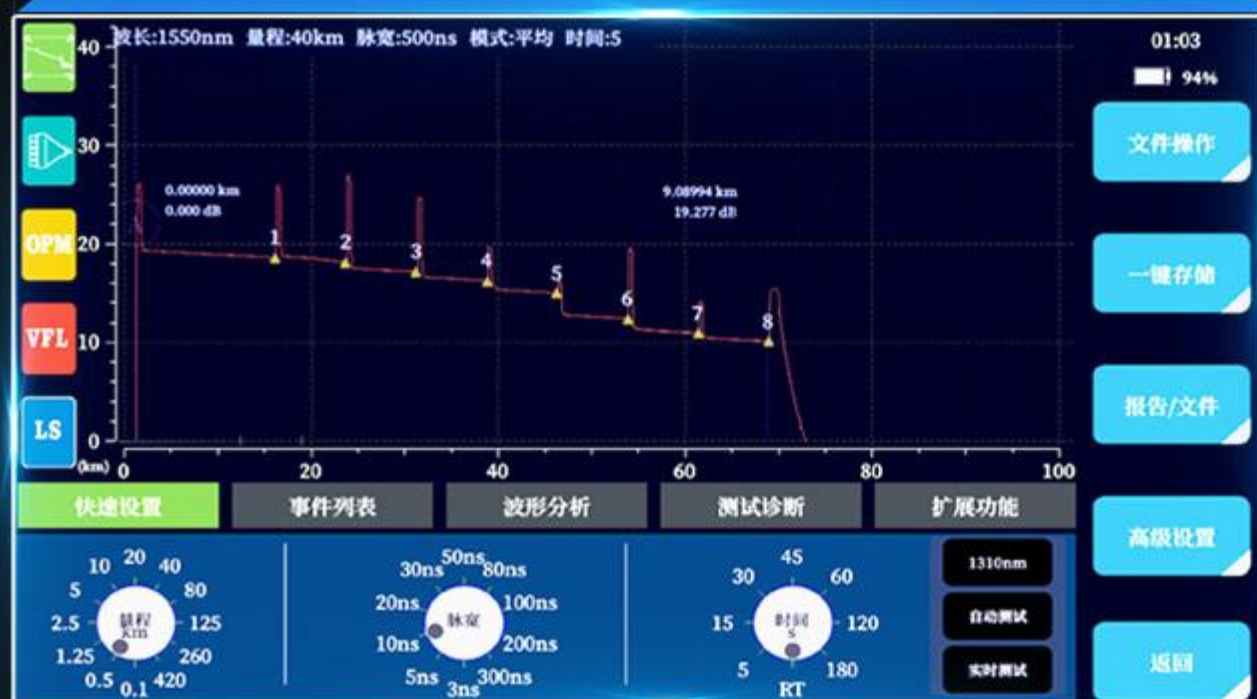
3.5-inch

4.3-inch

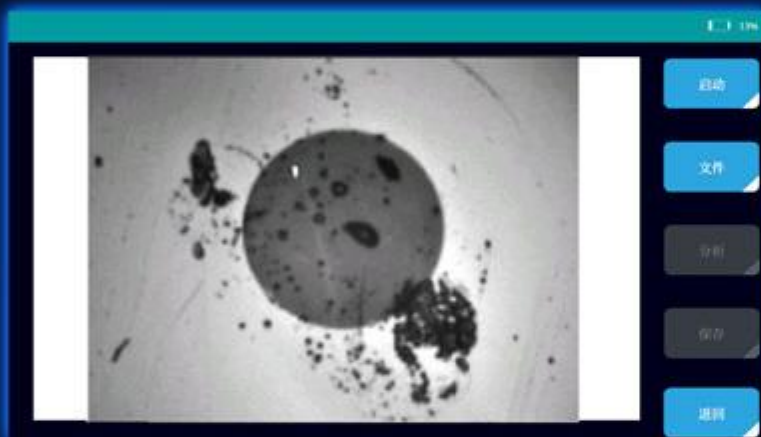
5-inch

# Full-function button dual operation mode

Meet the operating preferences of different customer groups



Each function is in-depth  
**Ensure the light path is  
clear and unobstructed**



## End face inspection

Check the cleanliness of  
fiber end face



## Ethernet test

IP scanning and PING/  
PPPOE test



## Optical loss test

Test optical component loss



## Remote testing

Break the constraints of space

# F7

## Appearance and interface introduction



External keypad

RJ45 interface

USB interface

Type-C interface

Power interface



|                            |                                        |                                              |                                          |
|----------------------------|----------------------------------------|----------------------------------------------|------------------------------------------|
| <b>VFL</b><br>λ 650nm<br>4 | <b>OPM</b><br>OPTIN<br>MAX.+26dBm<br>3 | <b>OTDR/OCID</b><br>λ =850nm<br>=1300nm<br>2 | <b>OTDR</b><br>λ =1310nm<br>=1550nm<br>1 |
|----------------------------|----------------------------------------|----------------------------------------------|------------------------------------------|

VFL port

OPM port

OTDR/OCID  
optional port

OTDR port

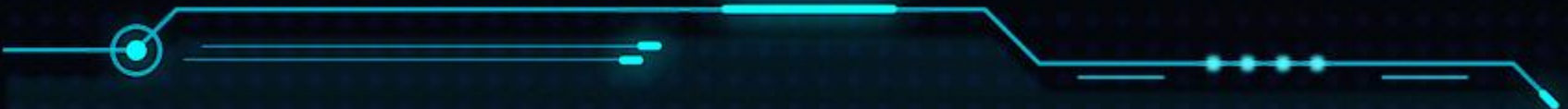
**Model breakdown**  
**Different core parameters**  
**Wide range of application scenarios**

## Single-mode long-distance, multi-mode, single-mode and multi-mode integration

## Online three-wavelength test

| Model                      | S1                                                                               | S3    | S4    | T1                         | T2                         | T3                         | F1                                   | M1              | SM1                                 |
|----------------------------|----------------------------------------------------------------------------------|-------|-------|----------------------------|----------------------------|----------------------------|--------------------------------------|-----------------|-------------------------------------|
| Type                       | Single mode                                                                      |       |       |                            |                            |                            |                                      | Multimode       | Single and multi-mode               |
| Display                    | 8-inch color LCD screen + touch screen                                           |       |       |                            |                            |                            |                                      |                 |                                     |
| Wavelength                 | 1310/1550nm                                                                      |       |       | 1310nm<br>1550nm<br>1490nm | 1310nm<br>1550nm<br>1625nm | 1310nm<br>1550nm<br>1650nm | 1310nm<br>1490nm<br>1550nm<br>1625nm | 850nm<br>1300nm | 850nm<br>1300nm<br>1310nm<br>1550nm |
| Maximum dynamic range (dB) | 35/33                                                                            | 42/40 | 45/43 | 38/36/36                   | 38/36/36                   | 38/36/36                   | 37/35<br>/35/35                      | 26/28           | 26/28<br>/35/33                     |
| Event dead zone            | 1m                                                                               | 0.8m  |       | 0.8m                       | 0.8m                       | 0.8m                       | 1m                                   | 1m              |                                     |
| Attenuation dead zone      | 5m                                                                               | 4m    |       | 4m                         | 4m                         | 4m                         | 5m                                   | 5m              |                                     |
| Test Range                 | 500m/1km/2km/4km/8km/16km/32km/64km/128km/256km                                  |       |       |                            |                            |                            |                                      |                 |                                     |
| Test pulse width           | 5ns/10ns/50ns/160ns/320ns/500ns/1000ns/5000ns/10000ns/20000ns                    |       |       |                            |                            |                            |                                      |                 |                                     |
| Ranging accuracy           | ±(0.75m + sampling interval +0.005% x test distance)                             |       |       |                            |                            |                            |                                      |                 |                                     |
| Loss accuracy              | ±0.05dB/dB                                                                       |       |       |                            |                            |                            |                                      |                 |                                     |
| Reflection accuracy        | ±3dB                                                                             |       |       |                            |                            |                            |                                      |                 |                                     |
| Data storage               | ≥2000                                                                            |       |       |                            |                            |                            |                                      |                 |                                     |
| Optical port type          | FC/PC (interchangeable SC, ST)                                                   |       |       |                            |                            |                            |                                      |                 |                                     |
| Data interface             | 10M/100M Ethernet port                                                           |       |       |                            |                            |                            |                                      |                 |                                     |
| VFL output                 | ≥5mW                                                                             |       |       |                            |                            |                            |                                      |                 |                                     |
| Light source output        | ≥-5dBm                                                                           |       |       |                            |                            |                            |                                      |                 |                                     |
| Optical power meter        | +26dBm~-50dBm(Replaceable +6dBm~-70dBm)                                          |       |       |                            |                            |                            |                                      |                 |                                     |
| Power supply               | AC/DC adapter: AC:100V~240V.50/60Hz.0.6A Lithium battery:7.4V6700mAh,Lithium ion |       |       |                            |                            |                            |                                      |                 |                                     |
| Operating temperature      | -5℃~ 50℃                                                                         |       |       |                            |                            |                            |                                      |                 |                                     |
| Storage temperature        | -20℃~ 70℃                                                                        |       |       |                            |                            |                            |                                      |                 |                                     |
| Relative temperature       | 0~ 95% No condensation                                                           |       |       |                            |                            |                            |                                      |                 |                                     |
| Total weight               | ≤1.1kg                                                                           |       |       |                            |                            |                            |                                      |                 |                                     |
| Volume                     | 295mmX190mmX195mm                                                                |       |       |                            |                            |                            |                                      |                 |                                     |

## Volume



TFN F7 is a high-performance multi-function test instrument launched for light testing. It has an 8-inch high-definition capacitive screen and full-function buttons. The product starts at a dynamic range of 35/33dB and can achieve a 45dB dynamic range and a test resolution of 0.05m. , F7 has a test dead zone as low as 0.8M, and has rich functional configuration modules such as dual-wavelength, three-wavelength, four-wavelength, and single- and multi-mode integration. The optional online test module can realize non-destructive testing of links with light. The unique test result self-diagnosis function ensures the reliability and validity of the test results.

This product can realize various testing functions such as light source, OPM, VFL, fiber end face detection, optical loss test, fault location, optical eye (MAP view), Bluetooth, single-mode and multi-mode testing according to user needs.



# Test Function Definition

## ○ OTDR Function

- a.** Launch fiber, end fiber setup
- b.** PASS/FAIL threshold judgment, threshold customization function, differentiated display of qualified/unqualified events
- c.** Generation of PDF test report
- d.** Turn on the comparison viewing function for multiple SOR curves, the default is 5
- e.** Four-point method, LSA method and other curve analysis functions

## ● Event Map Function

- a.** Macro bend fault analysis function and clearly indicates the macro bend event type
- b.** PASS/FAIL threshold judgment, threshold customization function, differentiated display of qualified/unqualified events
- c.** Generation of PDF test reports (including curve display, list display, test information)

## Visual Fault Locator Function (VFL)

- a. Visual Fault Locator Function (VFL)

## Optical Power Meter Function (OPM)

- a. -70--+6dBm or -50--+26dBm multi-wavelength power detection range supports identification of light source modulation frequency.

## Optical Laser Source Function (OLS)

- a. Generate CW, 270HZ, 1KHZ, 2KHZ laser light sources

## Optical Loss Test Function

- a. Supports light source and optical power meter to be turned on at the same time for testing the insertion loss of devices and links

## Remote Test Function

- a. Remotely connect the instrument via Ethernet to realize remote control of the OTDR function (module OTDR function)

## Network Test Function

- a. Network test functions include PING and IP scanning

## Link Test Function

- a. Link speed test, network line sequence, line length

# Other Function Definitions

- A.** Bluetooth function: The mobile APP connects to the device and controls the OTDR, VFL, OPM and test file sending through Bluetooth.
- B.** Quick screenshot (screenshot): The convenient drop-down window provides a quick screenshot function to record the status of the instrument at any time.
- C.** Power-on password: Users can set, modify, and delete power-on password
- D.** Help: Device built-in help manual document

## Interface Function

- A.** Power interface: DC12V-19V, external power input
- B.** Power on and off: Short press for 2S to turn on and off, long press for 8S to force shutdown.
- C.** Power/charging indicator light: The power indicator light is on after powering on, and the charging indicator light is on when charging.
- D.** Network port 1: Reserved for testing network cable length and line sequence functions
- E.** Network port 2: Equipment Ethernet communication interface, which can realize remote instrument testing, network testing, data transmission and other functions
- F.** OPM: Optical power meter interface
- G.** VFL: Visual fault locator interface
- H.** OTDR1: OTDR interface 1, commonly used 1310/1550 optical interface
- I.** OTDR2: OTDR interface 2, multi-mode 850/1300, 1490, 1625 optical interface
- J.** USB-A: External USB flash drive, end face detector
- K.** USB-C (TYPE-C): Connect to computer via data cable to transfer data
- L.** Function indicators: These are the main function indicators of OTDR, OLS, VFL, and OPM. The corresponding indicators light up when the functions are working.

Exquisite appearance

The interface is clear, simple and intuitive



