

FTS510 Series

Handheld OTDR Test Set



FTS510 Series OTDR Tester is entirely new pad product released by OPWILL. It has rapid start technology and supports automatic and real-time test mode, which can guarantee engineers to examine and detect optical fibres or cables in core, metro, and access network with high flexibility, efficiency, and convenience.

Meanwhile, its operation system interface has high similarity with Android GUI, significantly simplifies the test procedure.

- ALL-IN-ONE with OTDR, iOTA, iNET, PM, LS, VFL and Fibre Scope;
- More comprehensive test features with higher performance-to-price ratio;
- 5.6-inch touchscreen, outdoor enhancement;
- Friendly keystroke designed for easy, friendly user interface and easy to use;
- Lightweight, rugged, flexible for field testing;
- Fast start-up, high resolution colour touch display.

Entire New Design, One Button 'Auto' Test



FTS510 Series Handheld OTDR Test Set has 8 models to meet various test environment. Specific information has been demonstrated in below:

Product	Wavelength	Dynamic Range
Regular OTDR		
FTS510-M-ac	1310/1550nm	43/42dB
FTS510-H-ac	1310/1550nm	40/39dB
FTS510-N-ac	1310/1550nm	35/34dB
FTS510-L-ac	1310/1550nm	32/30dB
PON OTDR		
FTS510-H-acd	1310/1550/1625nm	40/39/38dB
FTS510-H-abcd	1310/1490/1550/1625nm	40/37/39/38dB
FTS510-H-ace	1310/1550/1650nm	40/39/38dB
FTS510-H-abce	1310/1490/1550/1650nm	40/37/39/38dB

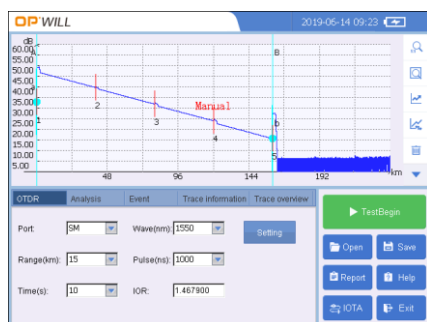
FEATURES

- Novice mode with automatic trace diagnostics, one-button setup and events detection;
- Markers for distance, attenuation, reflectance, and splice loss;
- Dynamic range up to 43dB;
- SR-4731.sor file formats;
- Support VFL;
- Support iOTA (Optional);
- Support power meter (Optional);
- Support light source (Optional);
- Event dead zone is less than 1m;
- Attenuation dead zone is less than 3.5m;
- The minimum sampling resolution is 4cm and the sampling points up to 256,000;
- Remote measurement via RJ45 connection using OPWILL OTDR Desktop software.

iOTA – Intelligent Optical Link Topology Analysis

Traditional OTDR only can display loss and event list of fibre link. Event types and link topology requires an experienced engineer to analyse manually. However, rapid growth of FTTH deployment demand definitely increases engineer's workload and operator's labour cost. iOTA function of OPWILL provides more comprehensive analysis of fibre link, assists engineer to deploy, operate, and maintain optical fibre network more easily.

Traditional OTDR Trace Interface



iOTA—Intelligent Optical Link Topology Analysis

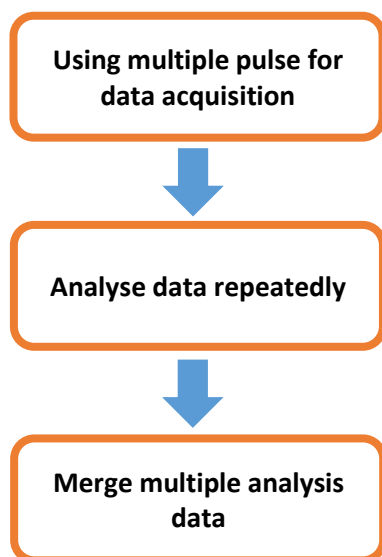


Link topology chart

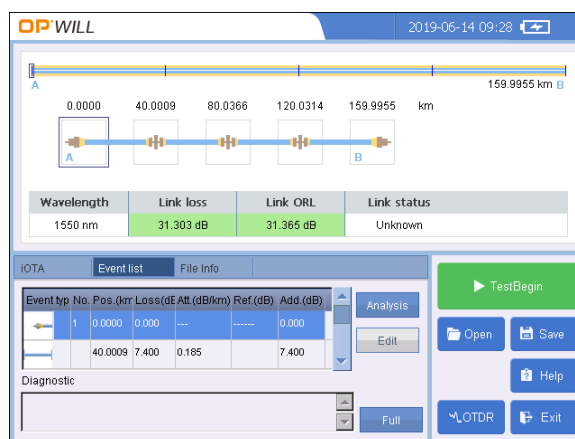
Link information

iOTA Test Principles

iOTA intelligently combines different pulse widths, only needs one time and one button can get loss and return loss of fibre and splitter. Multiple pulse acquisition and algorithm can deliver more detail information of every element of the fibre link.



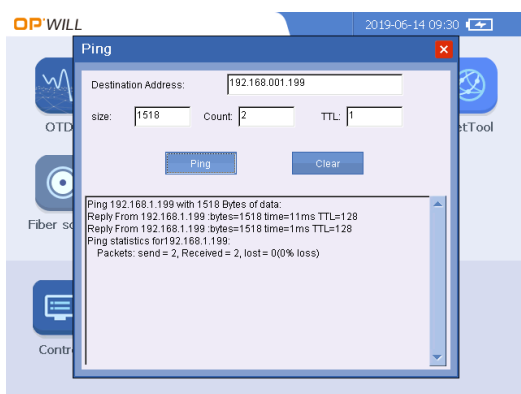
Multiple test only need to press ONE button, no longer need to analyse curve manually!



iNET – Intelligent Network Test Tool

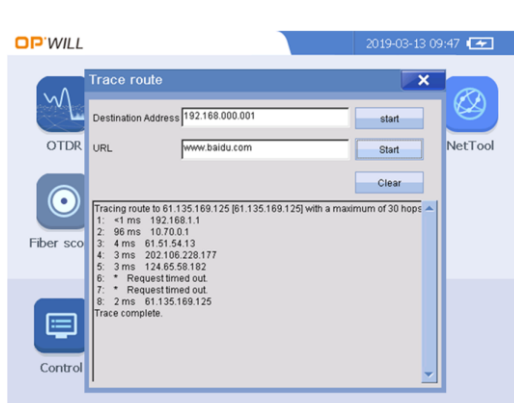
Traditional OTDR only can determine the defects occurred in physical optical fibres. However, during the installation and maintenance of FTTH, it always requires to determine the defects which occurred in data layer. The iNET function of OPWILL integrates common Ethernet testing methods, such as Ping, Traceroute, FTP, and HTTP; can verify Ethernet performance with high efficiency and reduce operation cost greatly.

Network test tool—Ping



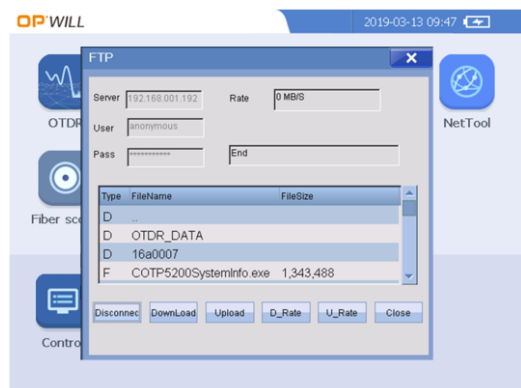
Ping—quick verification whether network connect

Network test tool—Traceroute



Traceroute—quick search network route path

Network test tool—FTP



FTP—quick test FTP upload, download speed

Network test tool—HTTP



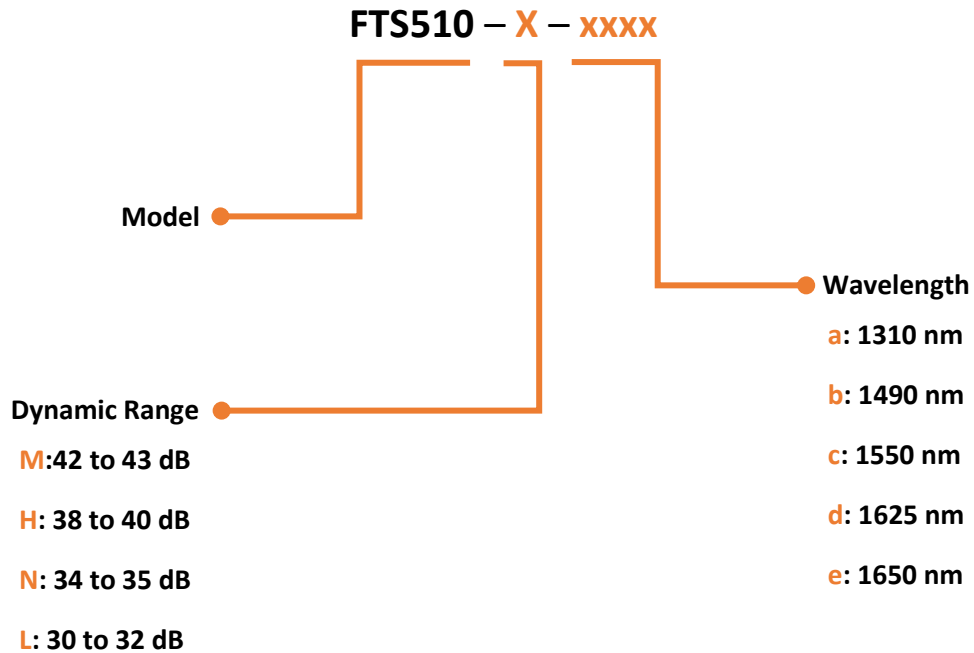
HTTP—HTTP protocol testing

FTS510 Series General Specifications

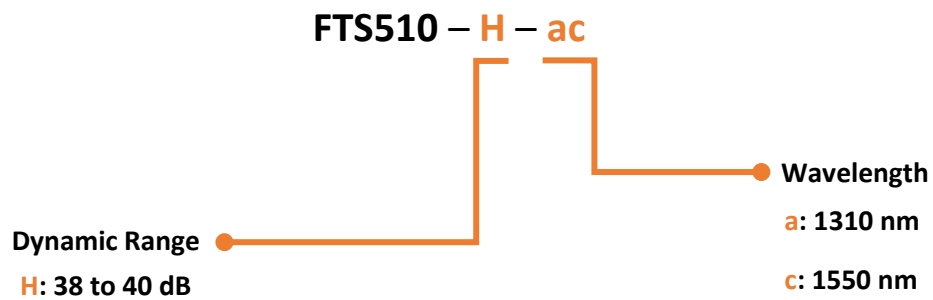
GENERAL SPECIFICATIONS	
Screen	5.6 inch TFT touch screen (640×480)
Other Interface	
USB	USB, type A port, 2
Ethernet	10/100M Base-T, RJ45
Other Parameters	
Storage	16G
Size and Weight	161(H) x 210(W) x 46(D)mm; 1.0kg
Temperature	Operating: -10°C to 50°C; Storage: -40°C to 70°C
Relative Humidity	0% to 95% (non-condensing)
EMC	EN55022/CIPSR22; EN61000-3-2; EN55024
Battery and Power Supply	
Battery	<ul style="list-style-type: none"> • Rechargeable Li-Ion battery; • Working time: 5 hours; • Charging time: <3 hours (typical: 25°C)
Power Supply	<ul style="list-style-type: none"> • Input: 100-240V AC, 50-60Hz, 2A; • Output: 15V DC, 2A

FTS510 Series Technical Specifications

TECHNICAL SPECIFICATIONS			
Wavelength	1310±20 nm 1550±20 nm	1490±20 nm 1625±10 nm	1650±7 nm
Dynamic Range (SNR=1) at 25°C	30 to 43 dB Typical at 20us		
Fibre under Test	9µm/125µm single-mode optical fibre (ITU-T G.652)		
Pulse Width	3, 5, 10, 30, 50, 100, 275, 500, 1000, 5000, 10000, 20000 ns		
Distance Range	0.5, 2.5, 5, 15, 40, 80, 120, 160, 200, 240 km		
Event Dead Zone	≤1 m		
Attenuation Dead Zone	≤3.5 m		
Sampling Resolution	0.04 to 2m		
Sampling Points	256K		
IOR	1.30000 to 1.80000		
Linearity	±0.05 dB/dB		
Distance Uncertainty	±(0.75+0.0050%×distance + sampling resolution) m		
Measurement Time	1s to 300s, Real time		
OTDR Port	<ul style="list-style-type: none">FC/PC (Standard),SC/PC (Optional),LC/PC (Optional)	<ul style="list-style-type: none">FC/APC (Standard iOTA)SC/APC (Optional iOTA),LC/APC (Optional iOTA)	
VFL	Wavelength	650±20nm	
	Output Power	+10dBm	
	Operation mode	CW, 1Hz	
Power Metre (Optional)	Wavelength	780 to 1800 nm	
	Calibrated wavelengths	850, 1300, 1310, 1490, 1550, 1625 nm	
	Measurement range	+10 to -60 dBm	
	Resolution	0.01 dB	
Light Source (Use OTDR port, Optional)	Wavelength	1310/1550 ±20 nm	
	Output power	>-4 dBm	
	Operation mode	CW, 270Hz, 330Hz, 1KHz, 2kHz	
Intelligent optical link topology analysis (Optional)		Intelligently combine different pulse width, one time get loss and return loss of fibre and splitter. Multiple pulse acquisitions and algorithms to deliver detail information of every element on the fibre link.	
Intelligent network test tools (Optional)		The iNET include PING, Trace Route, FTP upload and download, and HTTP features for Ethernet Link Fault check testing.	
Laser Safety		IEC 60825-1: 2007: CLASS 1; 21 CFR 1040.10	

FTS510 Series Ordering Information

For example:



FTS510 – H – ac
40/39dB; 1310/1550nm

FTS510 OTDR STANDARD CONFIGURATION	
Mode	Description
FTS510-M-ac	1310/1550nm; 43/42dB; VFL
FTS510-H-ac	1310/1550nm; 40/39dB; VFL
FTS510-N-ac	1310/1550nm; 35/34dB; VFL
FTS510-L-ac	1310/1550nm; 32/30dB; VFL
FTS510-H-acd	1310/1550/1625nm; 40/39/38dB; VFL
FTS510-H-abcd	1310/1490/1550/1625nm; 40/37/39/38dB; VFL
FTS510-H-ace	1310/1550/1650nm; 40/39/38dB; VFL
FTS510-H-abce	1310/1490/1550/1650nm; 40/37/39/38dB; VFL
Accessories Code	Accessories Description
16090170	FC/APC to FC/PC half-duplex single-mode fibre, 3m, one; with iOTA;
16080030	FC/PC to FC/PC half-duplex single-mode fibre, 3m, one; without iOTA;
43170030	FTS510 100-240V input and 15V output AC/DC power adapter, one;
47110030	FTS510 lithium polymer rechargeable battery, 10.8V, one;
18080010	FTS510 disc include user manual and OPWILL OTDR analysis PC software;
19070080	FTS510 package, one;
18040011	One year warranty service
18010010	Factory test report, one
18010020	Calibration certification, one
18080050	Cotton buds, one
FTS510 OTDR OPTIONAL CONFIGURATION	
Optional Software	
OPAP-PMatOTDR	780-1800nm power meter, rang between+10 to-60 dBm;
OPAP-LSatOTDR	light source capability> -4 dBm (light source type follows the module wavelength types);
OPAP-INETatOTDR	Intelligent network performance tools, include PING, Trace Route, FTP, and HTTP;
Optional Hardware	
OPAP-iOTAatOTDR	Intelligent fibre link topology analysis option;
OPAP-Onewarranty	One year extended warranty service;
OPAP-Twowarranty	Two years extended warranty service;
47110030	FTS510 lithium polymer rechargeable battery, 10.8V, one.

Notes: Product ordering information may update along with the product upgrade, please refer to the final version provided by our sales.

Please visit our website for the further information: www.OPWILL.com

OPWILL OPWILL TECHNOLOGIES (BEIJING) CO., LTD.

Add: Room 415, Digital Media Building, No.7 Shangdi Information Road,
Haidian District, Beijing, PRC. 100085

Tel: +86(10)8277-1386/2866/3382

Fax: +86(10)8277-1782

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