6418C Mini OTDR

Product Overview:

6418C Mini OTDR   is a high-performance multifunctional test instrument designed for FFTx network. It's mainly used to measure the physical characteristics of optical fiber & cables including length, transmission loss and splice loss etc. It can also accurately detect the potions of the events (such as splices, far end and breaks) along the optical fiber line. It's widely applied to the engineering construction, maintenance test, and urgent repairing of optical fiber communication system, as well as the R&D, manufacturing, and test of optical fiber & cables.

6418C OTDR adopts the most advanced technology of double color & material integrative mould, which makes it novel and beautiful in appearance, strong and firm in structure. With both touch screen and keypad, the operation is quite convenient. The built-in advanced antireflection LCD makes the operation interface clearly visible even in the field. The instrument has 4-path of optical interface, which can simultaneously realize the functions of optical power meter, VFL, single-mode and multi-mode test. The connector type is exchangeable, which makes it more convenient to clean the end surface of the fiber. The instrument has multiple external interfaces. It can realize not only the remote control via Ethernet interface, but also the data communication with U disk, printer and PC via two different types of USB interfaces. The test result can be saved in the instrument, or to the SD card via SD interface. With large capacity lithium battery, 6418C OTDR can continuously work over 8 hours, which is very suitable for field work.

Main Features:

- ≤0.8m ultra-short event dead zone, easy to test optical fiber jumper;

- 45dB large dynamic range, 256k data sampling points;

- The most advanced technology of double color & material integrative mould, strong and firm;

- Advanced antireflection LCD, clear display interface in field;

- Various test modes, touch screen and keypad operation;

- Automatic detection of the communication light signal;

- Remote control via Ethernet;

- Two USB interfaces: can connect to the external U disk, or communicate with PC through SyncActive software;

- Support Bellcore GR196 and SR-4731 file format;

- Alarm on low voltage of the battery;

- WinCE window operation system, Chinese/ English operation interface;

- Built-in visible fault locator (VFL) and optical power meter function;

- Exchangeable optical output connector, more convenient for surface cleaning;

- On-line upgrading of application software, no need to return back to the manufacturer.

Ultra-short event dead zone

6418C has ≤0.8m ultra-short event dead zone, which is especially suitable to test the short optical fiber line and optical fiber jumper.
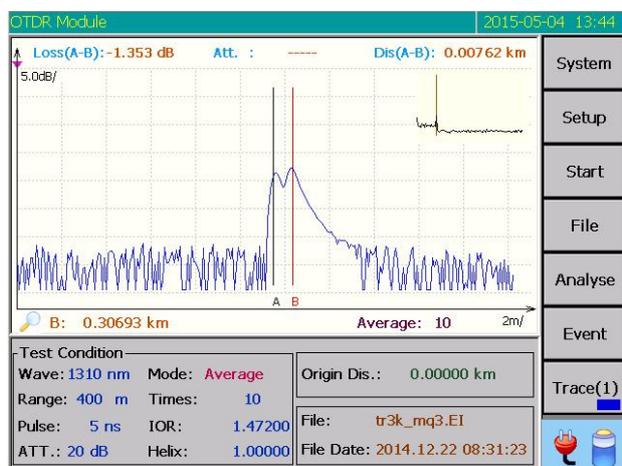
High-speed curve analysis

6418C can rapidly and accurately analyze and find the event points or fault points in the testing curve, and further list all event information in the form of event table,

which is very helpful for maintenance personnel, because they can well know the information of the tested line just through the event table.
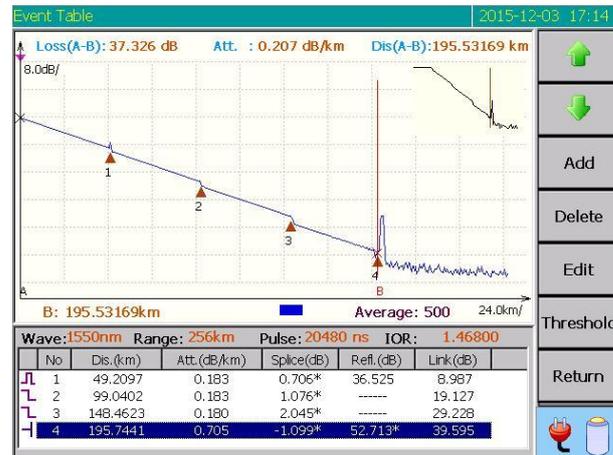

High-speed automatic test

With the automatic measurement function of 6418C OTDR, users can easily conduct the test with no need to know about the operation details. The steps are simple: just connect the fiber, and press 【Start】, then the instrument will automatically set the optimum test conditions and display accurate test results, such as testing curve and event table etc.

PON network test function

6418C is an ideal test instrument for FTTx, with special built-in PON network test function. It can conduct high-precision test on all branches of PON network through 1:8～1:64 optical divider.

| OTDR Module | | | | | 2014-03-04 13:37 |
| Loss(A-B): 6.567 dB | | Att. : 1.305 dB/km | | Dis(A-B): 5.03143 km | |

B: 5.12267 km   平均次数: 10   600m/

Wave: 1550nm   Range: 6.4km   Pulse: 10 ns   IOR: 1.47200

No	Dis.(km)	Att.(dB/km)	Splice(dB)	Refl.(dB)	Link(dB)
6	2.1010	0.170	-0.057	41.772	6.040
7	2.7481	0.050	-0.033	58.131	6.103
8	2.7522	1.908	-0.770	58.145	6.103
9	5.1314	0.003	------	41.276	6.840
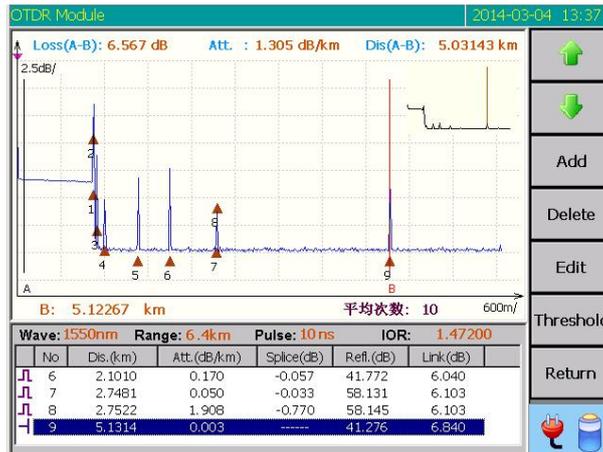
Visual fault locator (VFL) function

The built-in VFL function of 6418C has 3 operating modes: CW / 1Hz / 2Hz. VFL can rapidly and conveniently find the breaking point or remarkable loss point along the short-distance optical fiber line, so that the maintenance personnel can take steps in short time.

Automatic detection & alarm on the communication light signal

When measuring a fiber line in service, if there is communication light signal in the fiber, the result will be inaccurate, and it may even cause permanent damage to the optical detector in the instrument. 6418C is capable of automatically detecting the communication light signal in the fiber under test once the fiber is connected to the optical connector. If there is light signal, it will alarm, so that to provide protection for the instrument in time.

Multiple external interfaces

6418C offers multiple external interfaces as standard configuration, such as USB, Min-USB, Ethernet, earphone and SD interface, which can realize functions as follows:

- Connection with external U disk or SD card;
- Connection with external printer based on USB interface;
- Data communication with PC;
- Remote control via Ethernet;
- Connection with earphone

Typical Applications:
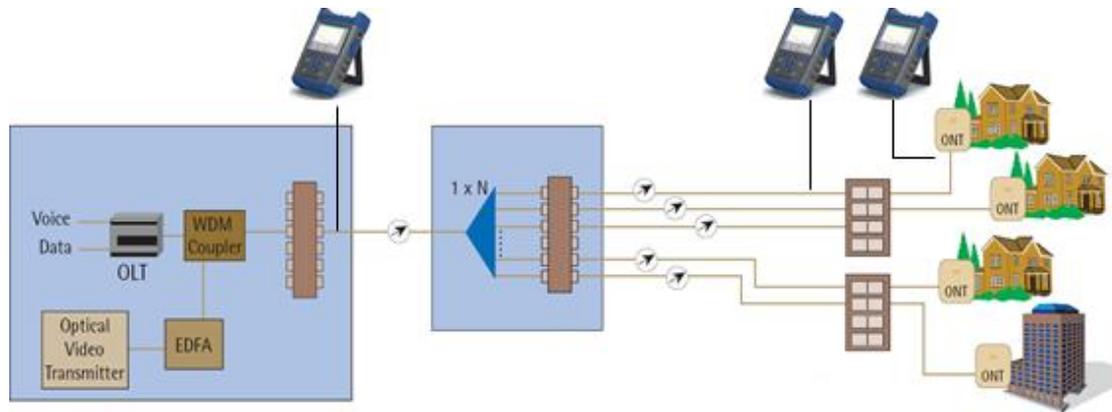
6418C high-performance OTDR offers three test modes: manual (real-time, average), automatic, and dead zone.

Manual test mode: manual mode is suitable for skilled operators who are familiar with the instrument, so that to get more accurate test result. In manual test mode, real-time mode or average mode can be selected based on user demand.

Real-time test can rapidly detect the dynamic changes of the optical fiber line. It is applied to real-time monitor or to observe the optical fiber connection process and effect.

Average test mode can maximumly suppress the noise in the testing curve, so to get a more accurate result. Under average mode, the more average times, the better suppression of the noise, but the longer time it takes. So, in practice, the average times should be set properly according to necessity.

Automatic test mode: under this mode, the instrument can automatically set the optimized test conditions, and give out the test result. There is no need for the operators to know about the complicated background knowledge and the operation details. To enhance the automatic test efficiency, the average times can be increased properly, though it will prolong the test time.

Dead zone mode: this mode is suitable to test the optical fiber with short distance, for example, to test the jumper length of the optical fiber. Under this mode, to get the best result, the reflection loss (or called return loss) of the fiber terminal is required to be larger than 40dB.

Technical Specifications:

Dynamic range	See details in "Technical specifications of 6418C OTDR standard modules"
Distance accuracy	±(0.75m+sampling spacing+0.0025%×distance) (excluding refractive error)
Distance resolution	0.05, 0.1, 0.2, 0.5, 1, 2, 4, 8, 16, 32m
Distance range	0.4, 0.8, 1.6, 3.2, 6.4, 16, 32, 64, 128, 256, 512km (single-mode)； 0.4, 0.8, 1.6, 3.2, 6.4, 16, 32 (850nm multimode)
Pulse width	5, 10, 30, 80, 160, 320, 640, 1280, 5120, 10240, 20480ns 5, 10, 30, 80, 160, 320, 640, 1280 (850nm multimode)
Loss threshold	0.01dB
Sampling points	256k
Linearity	0.03dB/dB
Loss resolution	0.001dB
Storage capacity	≥800 (within the instrument)，≥65500 (2G SD card)
Refractive index setting range	1.00000～2.00000 (step: 0.00001)
Distance unit	km, m, K ft, ft
Display	640×480, 6.5 inch TFT color LCD (touch screen)
Optical output connector	FC/UPC (standard; options: LC/UPC, SC/UPC, ST/UPC)
Interface language	Simplified Chinese, English, Russian, Korean (can contact the Service for other languages)
External interfaces	USB, Min-USB, Ethernet, earphone, SD
Power supply	AC/DC adapter: AC100V～240V, 50/60Hz, 1.5A DC: 19V±2V(2A) Built-in lithium battery: 14.8V, 4400mAh, battery service time: 8 hours (room temperature, low brightness) (room temperature, low brightness)
Maximum power consumption	10W
Dimensions	W×H×D=186mm×295mm×75mm
Weight	About 2.5kg
Environmental suitability	Operating temperature: -5℃～+50℃(battery charging: 5℃～40℃) Storage temperature: -40℃～+70℃(battery: -20℃～60℃) Relative humidity: 5％～95％, non-condensing

● **VFL (optional module):**

Operating wavelength: 650nm±20nm

Output power: 2mW (typical)

Operating mode: CW, 1Hz, 2Hz

● **Optical power meter (optional module):**

Wavelength range: 1200nm $\sim$ 1650nm

Power range: -60 $\sim$ 0dBm,

Test uncertainty: ±5%(-25dBm, CW)

● **Stable light source (optional module):**

Operating wavelength: same with OTDR

Output power: ≥-5dBm

Operating mode: CW, 270Hz, 1kHz, 2kHz

● Technical specifications of 6418C OTDR standard modules[1]

Module No.	Operating wavelength	Fiber type	Dynamic range[2] (dB)	Event deadzone[3] m	Attenuation deadzone[4] m
6418C–1103	1625nm	Single-mode	38	0.8	5
6418C–1104	1625nm (built-in filter)		36		
6418C–1105	1650nm		38		
6418C–1106	1650nm (built-in filter)		36		
6418C–1201	850nm	Multimode	24	1.6	5
6418C–1202	1300nm		36	1.6	5
6418C–2101	1310/1550nm	Single-mode	42 / 40	0.8	5
6418C–2102	1310/1550nm		40 / 38		
6418C–2103	1310/1550nm		37 / 35		
6418C–2104	1550/1625nm		38 / 38		
6418C–2105	1550/1625nm (built-in filter)		36 / 36		
6418C–2106	1550 /1650nm		38 / 38		
6418C–2107	1550 /1650nm (built-in filter)		36 / 36		
6418C–2108	1310/1550nm		45 / 43		
6418C–2109	1310/1550nm		32 / 30		
6418C-2201	850mm/1300mm	Multimode	24/34	1.6	5

Module No.	Working wavelength	Fiber type	Dynamic range[2] (dB)	Event deadzone[3] m	Attenuation deadzone m
6418C–3101	1310/1490/1550nm	Single-mode	39/36/38	0.8	5
6418C–3102	1310/1550/1625nm		39/38/36		
6418C–3103	1310/1550/1625nm(built-in filter)		37/36/34		
6418C–3104	1310/1550 /1650 nm		39/38/36		
6418C–3105	1310/1550/1650nm(built-in filter)		37/36/34		
6418C–4101	1310/1490/1550/1625nm		36/34/34/34		
6418C–4102	1310/1383/1550/1625nm		36/34/34/34		
6418C–4103	1310/1490/1550/1625nm(built-in filter)		36/34/34/34		
6418C–4104	1310/1490/1550/1650nm		38/36/36/36		
6418C–4105	1310/1490/1550/1650nm(built-in filter)		36/34/34/34		

Notes:

1. One and only one standard module must be selected.

2. Environment temperature: 23℃±2℃, Max. pulse width, average times＞500, SNR=1

3. Dead zone test mode (range≤1.6km, pulse width: 5ns), fiber end reflection loss≥40dB, typical value

4. Dead zone test mode (range≤1.6km, pulse width: 5ns), fiber end reflection loss≥50dB, typical value

Ordering Information:

● **Main unit:** 6418C Mini OTDR

● **Standard accessories:**

No.	Description	Remark
1	Power supply	Power cord, power adapter： Input voltage: 100～240V, 50～60Hz, 2.0A Output voltage: 19V, output current: 3.42A
2	User manual	
3	Certificate of conformity	
4	CD (simulation & analysis software contained)	
5	Engineering plastic box (straps included)	
6	Straps especially for instruments	

● **Options:**

No.	Name	Model	Remark
6418C-001	U disk		Saving waveform files
6418C-002	SD card		Saving waveform files
6418C-003	USB cable		Communication with PC
6418C-004	Standby battery pack	6417LB-1192	Standby battery
6418C-005	LC, SC, ST adapters		To test different types of optical fiber connectors
6418C-006	Optical fiber jumper		FC/UPC to FC/APC
6418C-007	Optical fiber jumper		FC/UPC to SC/UPC

6418C-XXXX-XX-X/X/X

6418C main Frame

11 : single-wavelength for SMF
12 : single-wavelength for MMF
21 : dual-wavelength for SMF
22 : dual-wavelength for MMF
31 : triple-wavelength for SMF
41 : quadruple-wavelength for SMF

Sequence Number of OTDR module

Options
/ V: VFL
/ P: Optical Power Meter
/ S: Light Source

Optical connector
FA：FC/APC
FU：FC/UPC
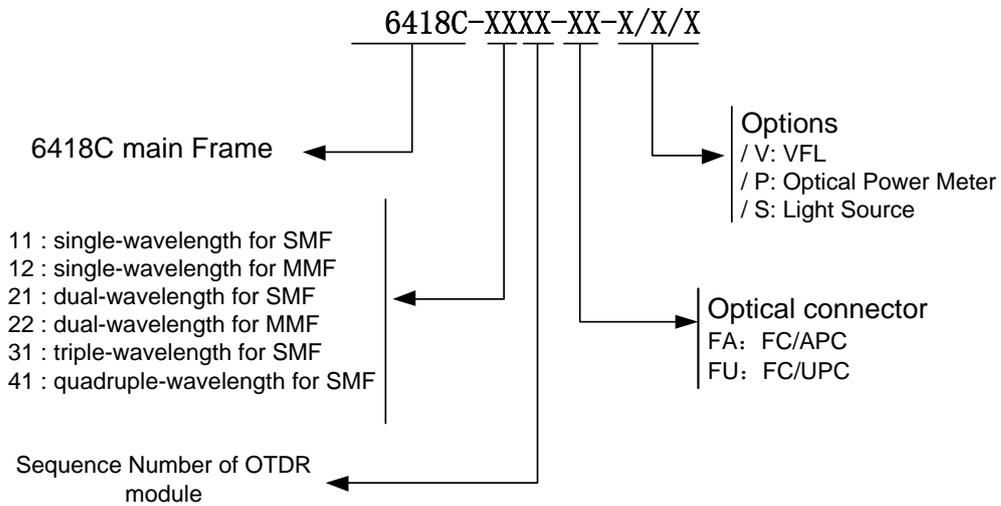
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