

SAFETY INFORMATION

Laser safety

The provisions contained in two standards define the safety procedures to be observed both by users and by manufacturers when utilizing laser products:

- IEC 60825-1: 2014 - Safety of laser products – Part 1: Classification of products, requirements and user guidelines.
- FDA 21 CFR § 1040.10 - Performance standards for light-emitting products - Laser products.

Due to the range of possible wavelengths, power values and injection characteristics of a laser beam, the risks inherent in its usage vary. The laser classes form groups representing different safety thresholds.

- VFL option: Laser Class 2.

Due to the reduced dimensions of the optical modules, it is not possible to attach the required warning labels to them. In line with the provisions of Article 7.1 of the IEC 60825-1:2014 standard, the laser class identification labels are shown below:

Ref. standard	IEC 60825-1: 2014	FDA21CFR§1040.10
Class 2	LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT	CAUTION  LASER RADIATION - DO NOT STARE INTO BEAM CLASS II LASER PRODUCT

The user must take the necessary precautions concerning the optical outputs of the instrument and follow the manufacturer's instructions.

AC/DC power supply safety

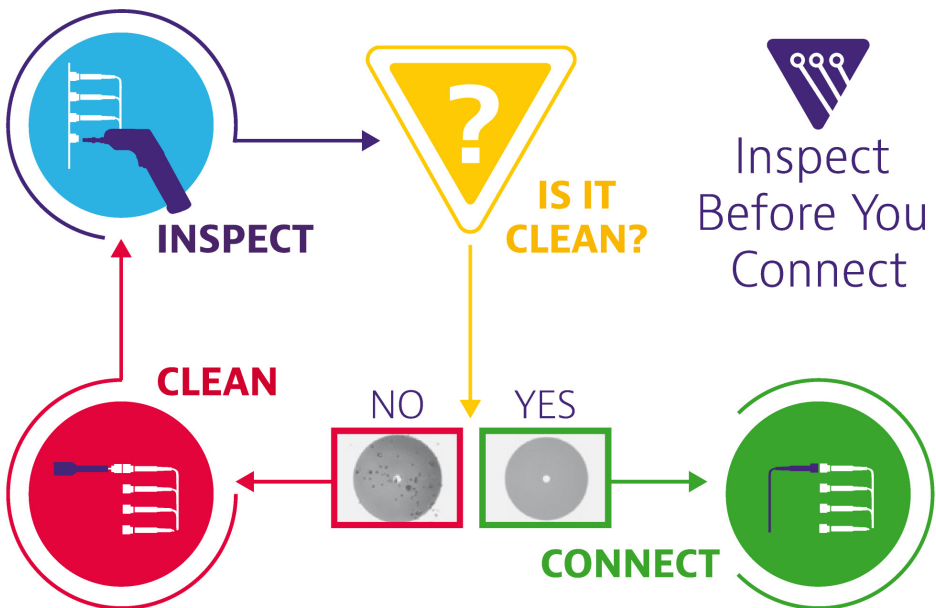


Always use the proper adaptable plug to connect the power supply to an electrical outlet. VIAVI is not responsible for direct or indirect damage including damage to persons or property if the power supply is not use correctly. For assistance using one of the VIAVI supplied adapters (your specific regional adapter may not be available) please refer to the user manual.

INSPECT BEFORE YOU CONNECT

Before connecting a fiber to the test instrument, inspect and clean the instrument bulkhead and the fiber jumper connectors.

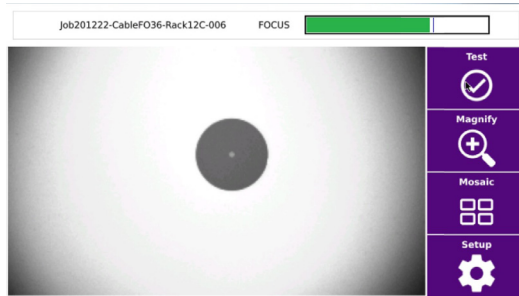
- 1 Use a fiber microscope (such as P5000i or FiberChek) to verify the connector quality. Follow this simple “INSPECT BEFORE YOU CONNECT” process
- 2 Use appropriate cleaning material (e.g. IBC™ cleaner, cotton swab, etc...) and re-inspect to confirm.
- 3 Carefully align the connector and test port prior to mating both



Never force the connector ferrule or insert it with an angle into the test port adapter. Mechanical stress may permanently damage the ceramic sleeve of the adapter or the end face of the connector.

USING A P5000i WITH THE SmartOTDR

- 1 Connect the Microscope to the SmartOTDR USB port.
- 2 On the **Home** page, select the **Microscope** icon .
- 3 Use the Focus control button of the Microscope to adjust the focus.

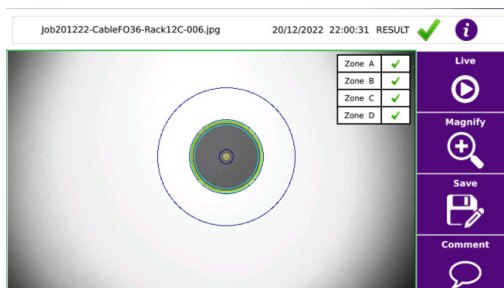


- 4 Press **SETUP** button or **Setup** key  and configure the test of the connector.

Configure Link and
File storage

Test Setup	Link Description	File Configuration
 Tip Setting	Standard Tips (with BAP1)	Back  Help 
 Profile	SM UPC (IEC 61300-3-35 2.0)	
Capture Button	Freeze & Test	
Auto Center	Yes	
Advanced Focus	Yes	

- 5 Press **RESULTS** button or **Back** key  to return to Results page, and press  (or press on the **Quick Capture** button on the probe), to launch the test of the connector.



A summary of test results is displayed.

Zones: A - Core / B - Cladding / C - Epoxy / D - Ferrule.

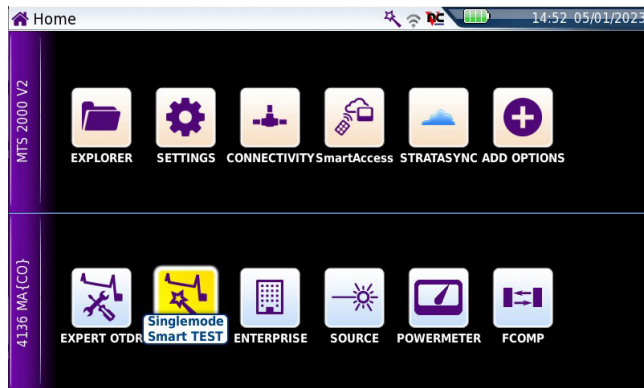
SmartOTDR OVERVIEW



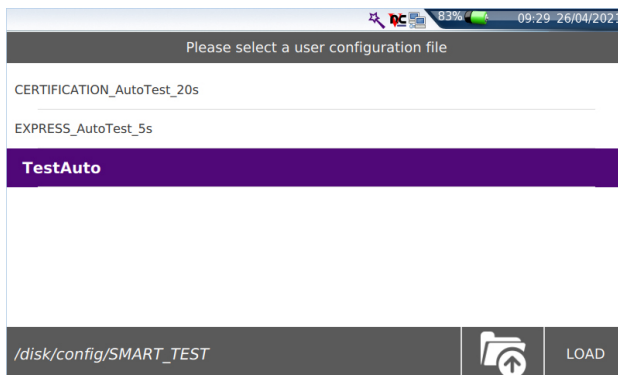
- | | |
|-----------------------------------|---|
| 1 5" HVT Capacitive Screen | 11 Direction & validation keys |
| 2 Charge indicator | 12 Results |
| 3 On indicator | 13 Buzzer |
| 4 File | 14 AC/DC Input |
| 5 Setup | 15 Mini USB port |
| 6 Start/Stop | 16 VFL connector |
| 7 Testing indicator | 17 USB ports (2) |
| 8 On/Off | 18 OTDR port/continuous light source / power meter |
| 9 Home | 19 OTDR live port |
| 10 Cancel | 20 WIFI / Bluetooth options |

CONFIGURING AN OTDR TEST IN SMART TEST MODE

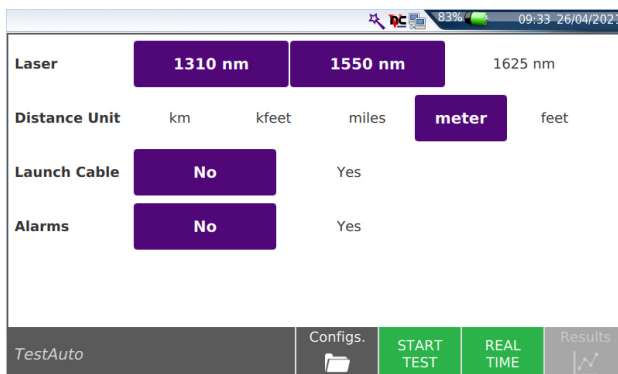
- 1 On the **Home** page, select **Smart TEST** icon



- 2 Select the configuration file corresponding to your application and press **LOAD** key.



- 3 If necessary, modify some parameters before starting the measurement.



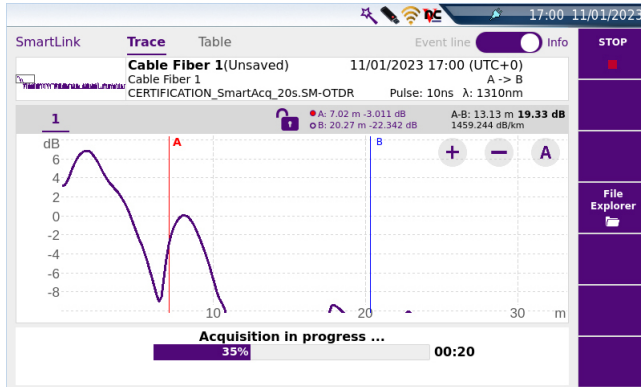
PERFORMING AN OTDR TEST IN SMART TEST MODE

1 From the previous configuration screen, press

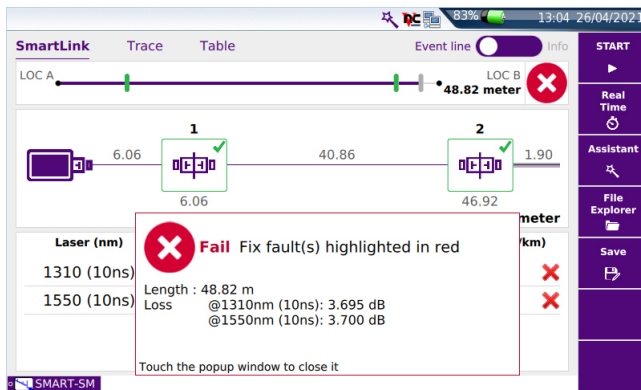
START TEST

The measurement starts:

- **Step1:** Test port connection health check
- **Step2:** OTDR measurement



2 At the end of the test, the Smart Link view is displayed, with a pop up window indicating global test results (loss, length at each wavelength, and alarm status).



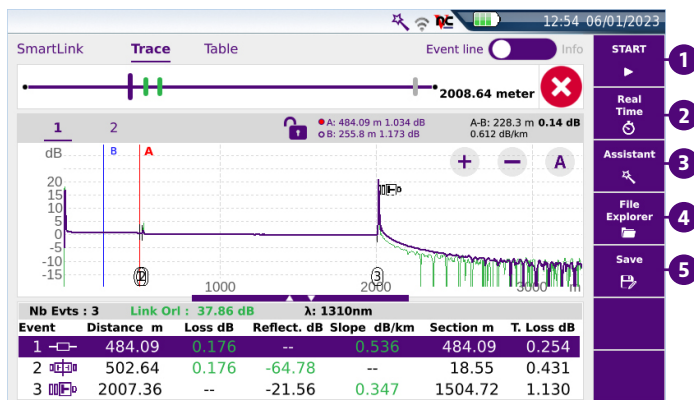
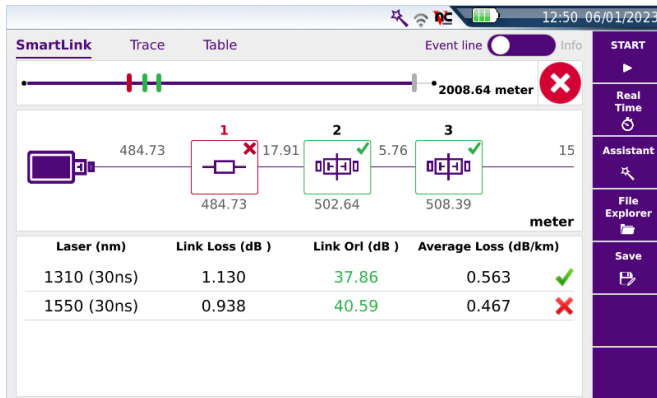
The pop up window displays:

- the icon  if no alarm thresholds are defined.
- the icon  if no event exceeds the alarm thresholds.
- the icon  if at least one event exceeds the alarm thresholds.

Touch the popup window to close it, and get access to the detailed Smart-Link map view.

RESULTS DISPLAY IN SMART TEST MODE

1 Click on the tabs **Trace** to display the result trace:



- 1 **Start:** press to perform a new measurement.
- 2 **Real Time:** press to perform a new measurement in Real Time.
- 3 **Assistant:** press to return to Setup Information page (see “Configuring a test in Smart Test Mode”, page 5).
- 4 **File Explorer:** press to open the File Explorer.
- 5 **Save:** press to save the results (.sor and .pdf formats).

CONFIGURING A TEST / CREATING A SMART CONFIG. IN EXPERT MODE

- 1 On the **Home** page, select **Expert OTDR** icon  → .
- 2 From the **Results** page, press  to configure the OTDR parameters.

Laser All Acquisition Mode Manual Range 10.000Km Pulse 100ns(10m) Resolution Auto Auto Acq Time 00:20 Connector Test Yes & Continue Launch Cable >	Section Attenuation dB/km Section Length Yes Index Of Refraction > Scatter Coefficient > Distance Unit km Results On Trace All Show Cursors No	Auto-set Save Config. Load Config. Acquisition Alarms Display Advanced Link Description Project Information Report	Alarm Level Fail Threshold Default Splice Loss > 0.20 dB Connector Loss > 0.50 dB Reflectance > -35 dB Mux/Demux No Slope > 1.00 dB/km ORL < 27 dB Front Connector Meas No Detection >	File(s) save in: [Current_Dir] Dir disk/demo/ File naming > BERICHT OTDR File Content One and All Traces Auto store Yes Report As pdf Report Layout Standard Report Naming BERICHT OTDR Include Microscope I... No
--	---	---	--	---

- 3 To create a configuration, when all parameters are configured according to your test needs, press **Save Config.**  to save the current configuration.
- 4 Type a file name in the edition keypad and press  to validate.
- 5 Press **File Explorer**  to access the configuration file.

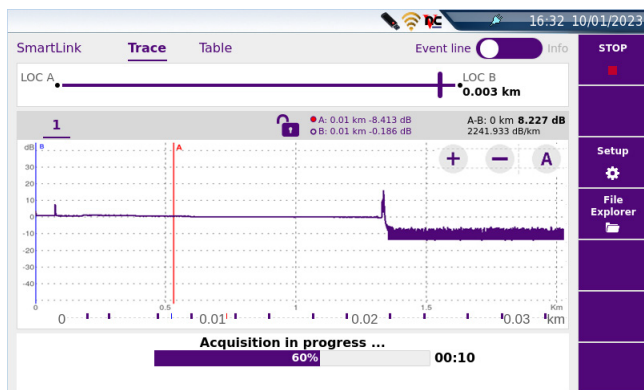
Summary of configuration parameters into the file

Config1.SM-OTDR.fo_cfg			12:50 12/01/2024
Laser: ALL Acq: MAN Time: 20 Save Mode: FPDF Fiber Num:124 Auto Store: YES			Load Config.
SmartOTDR	10 Files - 5 Directories	Date	
disk	Config1.SM-OTDR	27/04/21 16:15	
Apps	OTDR_AutoTestSinglemode.SM-OTD	05/12/23 15:43	
config	OTDR_Expert_Mode.SM-OTDR	05/12/23 15:43	
ENTERPRISE	OTDR_LongReach_160km.SM-OTDR	05/12/23 15:43	
FCOMP	OTDR_MediumReach_80km.SM-OTI	05/12/23 15:43	
FTTA	OTDR_ShortReach_20km.SM-OTDR	05/12/23 15:43	
FTTH	OTDR_VeryShortReach_1km.SM-OT	05/12/23 15:43	
SMART_TES	OTDR_VeryShortReach_1km.SM-OT	05/12/23 15:43	
current dir	PropagationDelay.SM-OTDR	05/12/23 15:43	Exit
26% free (259 MB)			

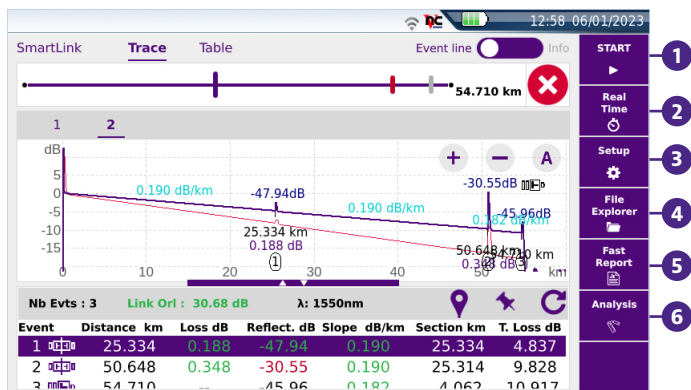
PERFORMING AN OTDR TEST IN EXPERT MODE

1 Once the OTDR is configured, press **START** to launch the measurement.

- **Step1:** Test port connection health check
- **Step2:** OTDR measurement



2 At the end of test, the OTDR trace(s) or SmartLink View is displayed.



1 **Start:** press to perform a new measurement in Expert mode

2 **Real Time:** press to perform a new measurement in Real Time.

3 **Setup:** press to return to OTDR parameters (see “Configuring a Test / Creating a Smart config. in Expert MODE”, page 8).

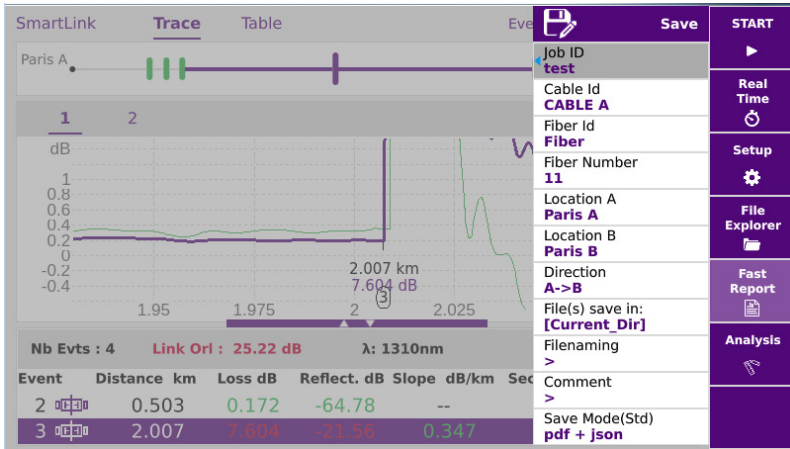
4 **File Explorer:** press to open the File Explorer.

5 **Fast Report:** Press to save the results (.sor, .txt, .json and .pdf formats).

6 **Analysis:** press to access to manual measurements: Loss / ORL / Reflectance / Slope.

SAVING THE OTDR RESULTS IN EXPERT MODE

1 In the Results screen, press



2 Press on the relevant section to edit the **Job ID**, **Cable Id**, **Fiber Id** and **Fiber Number**.

3 Enter the location name for each fiber extremity.

4 Select the test direction. For bi-directional OTDR tests, don't forget to change the direction.

5 Press **Dir. naming** and enter the directory path where the results will be saved in, or tap on key to revert to the current directory previously selected in the file explorer.

6 Press **Filenaming** and enter a file name, or tap on key to apply the default auto filenaming.

7 In the **Save Mode** parameter, set **Yes** to desired format: **txt file**, **pdf file** (for report) and **json file** (report(s) saved in addition to the .sor file).

If all parameters are set to **No**, only the .sor (or .msor) file will be saved.

8 Once all paramaters are configured, press **Save**.

9 In the edition keyboard, enter a filename (if different from the one set in Filenaming) and press to validate.

Press to enter filename with pre-defined parameters and press to manually enter the filename.

File(s) save in: **disk/config/**

[Cable_Id]_[Fiber_Num]_[Lambda]_[Direction]

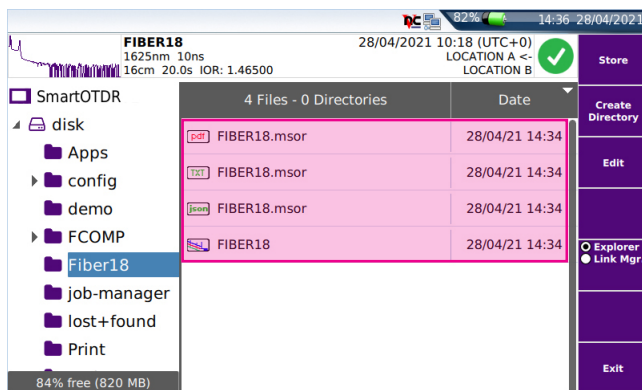
Fiber_Num	Fiber_Id	Lambda	Direction
Origin_Id	End_Id	Cable_Id	Date_Time
Pulse	Fiber_Code	Job_Id	-

abc

Press on the directory to open the edition keyboard and enter a new directory path

1	2	3	4	5	6	7	8	9	0	-
q	w	e	r	t	y	u	i	o	p	/
a	s	d	f	g	h	j	k	l	;	
↑	z	x	c	v	b	n	m	.		

10 Press **File Explorer** to display the file Explorer.



All the files and reports are saved and available in the defined directory.

TECHNICAL ASSISTANCE

If you require technical assistance, call 1-844-GO-VIAMI. For the latest TAC information, go to <http://www.viavisolutions.com/en/services-and-support/support/technical-assistance>.

