

## GETTING STARTED MANUAL

### **T-BERD/MTS-2000 – Fiber Inspection and OTDR Measurements**

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### 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	EN 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.**

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### INSPECT AND CLEAN CONNECTORS


Before connecting a fiber into a test module, inspect and clean the module 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,



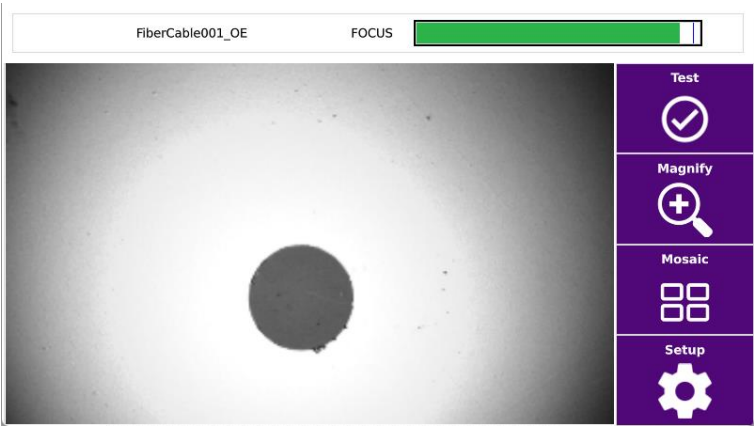
Never force the connector ferrule or insert it with an angle into the test port adapter. Mechanical stress may permanently damage the ceramic sleeve of the adapter or the end face of the connector,

### USING A P5000i WITH THE 2000 PLATFORM

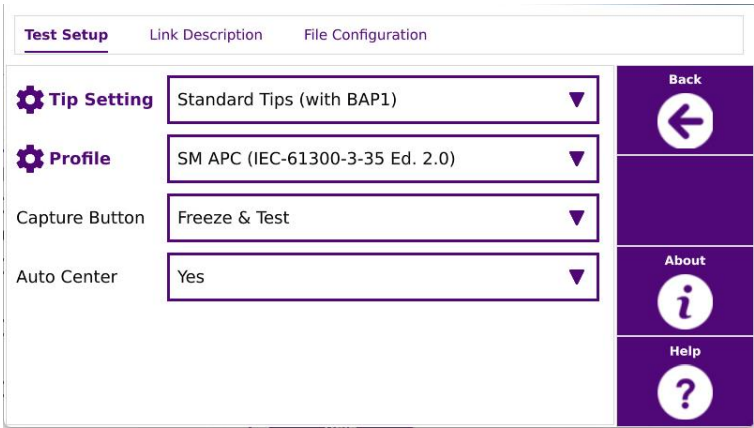
1. Connect the Microscope to the 2000 Mainframe USB port.
2. On the **Home** page, select the **Microscope** icon .
3. Use the **Focus** control button of the Microscope to adjust the focus



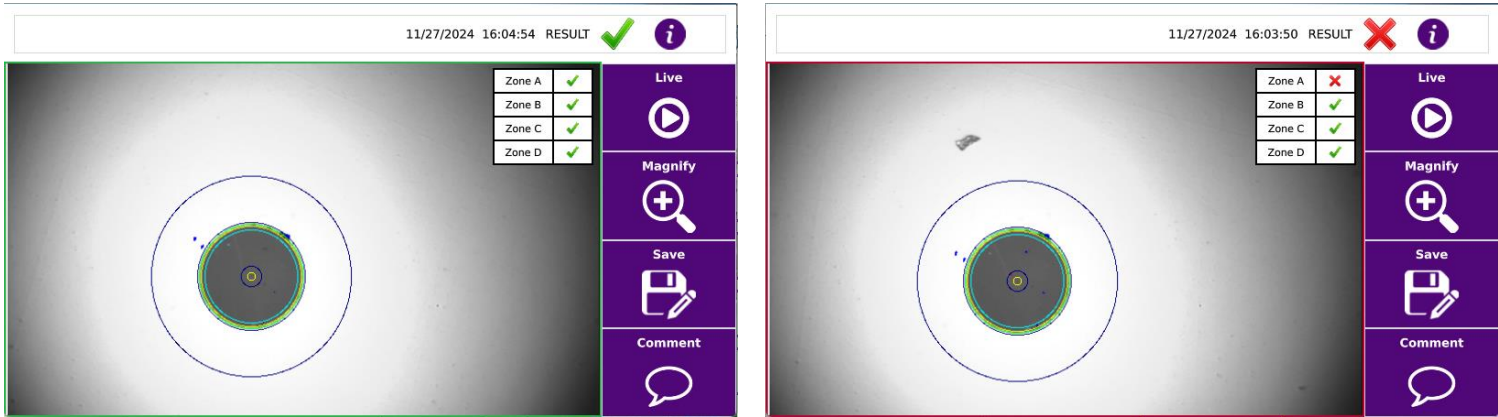
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4. Press **Setup** key and touch the **Test Setup** link to configure the test of the connector.



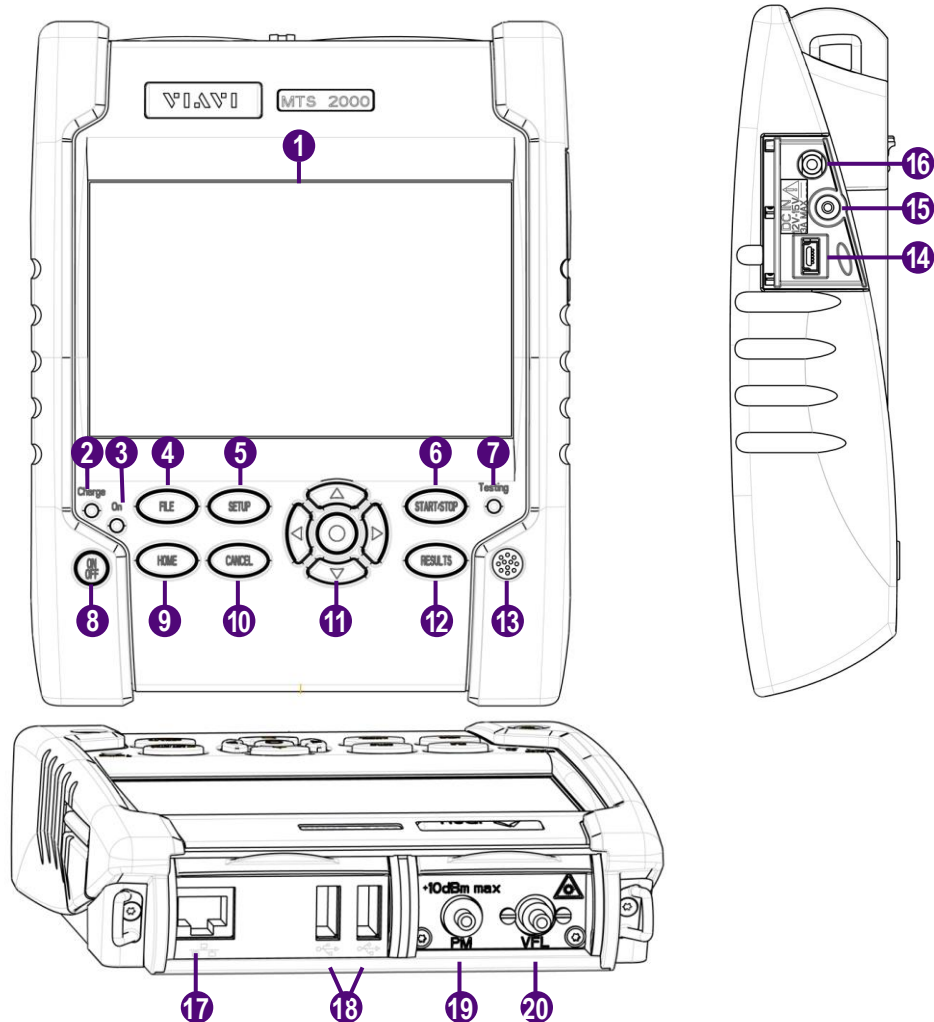
5. Press **Back** to return to Results page, and press (or press on the **Quick Capture** button on the probe), to launch the test of the connector.



A summary of test results is displayed.  
Zones: A - Core / B - Cladding / C - Epoxy / D - Ferrule.

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### 2000 PLATFORM OVERVIEW



- |   |   |
|---|---|
| <b>1</b> 5" High Visibility Capacitive Screen | <b>11</b> Direction and validation keys |
| <b>2</b> Charge indicator                     | <b>12</b> Results (main function page)  |
| <b>3</b> On indicator                         | <b>13</b> Loudspeaker                   |
| <b>4</b> File Explorer                        | <b>14</b> Minu USB port                 |
| <b>5</b> Setup Menu                           | <b>15</b> AC/DC Input                   |
| <b>6</b> Start/Stop the measurement           | <b>16</b> Headset jack                  |
| <b>7</b> Testing indicator                    | <b>17</b> RJ45 connector                |
| <b>8</b> On/Off                               | <b>18</b> USB ports (2)                 |
| <b>9</b> Home page                            | <b>19</b> Power Meter port              |
| <b>10</b> Cancel a test function              | <b>20</b> VFL / Talkset port            |

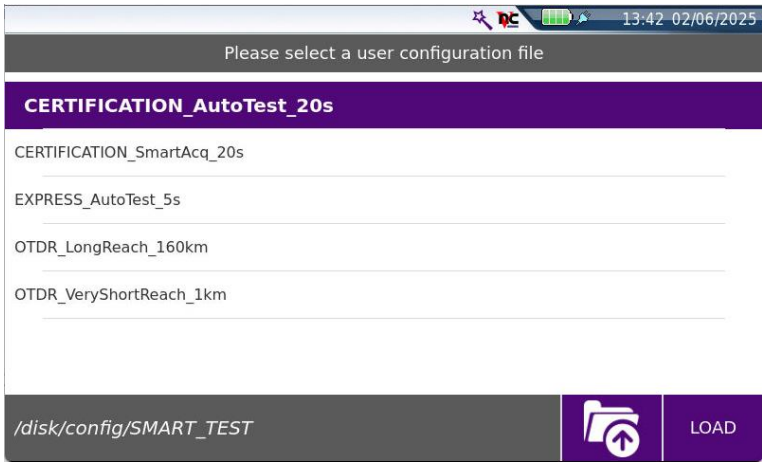
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CONFIGURING A TEST IN SMART TEST MODE

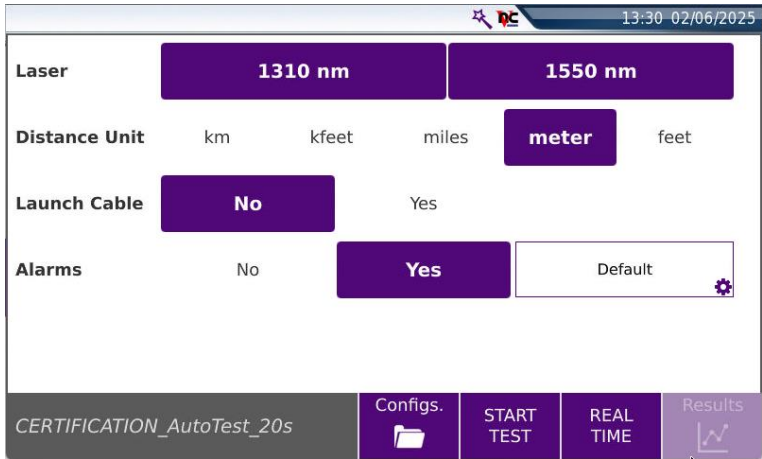
1. On the **Home** page, select **SmartTEST**



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



3. If necessary, modify some parameters before starting the acquisition,



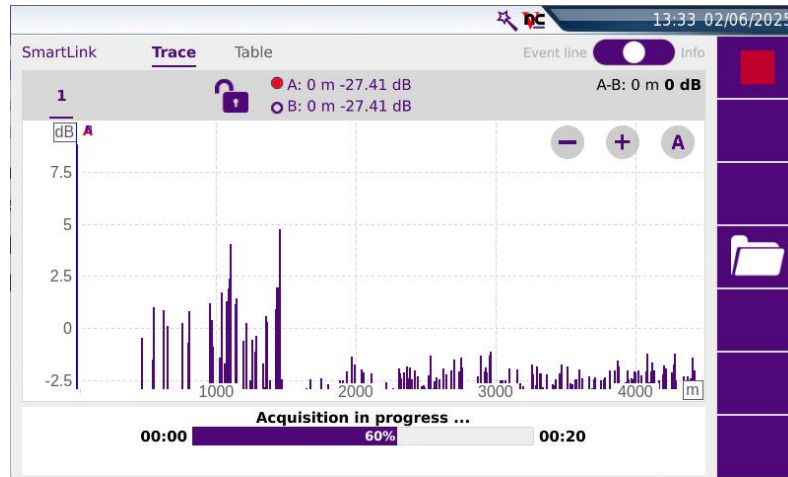
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### PERFORMING AN OTDR TEST IN SMART TEST MODE

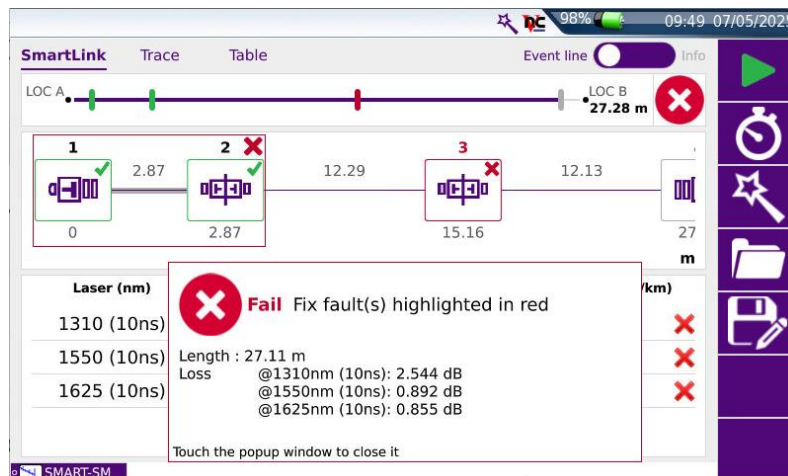
1. From the previous configuration screen 

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:

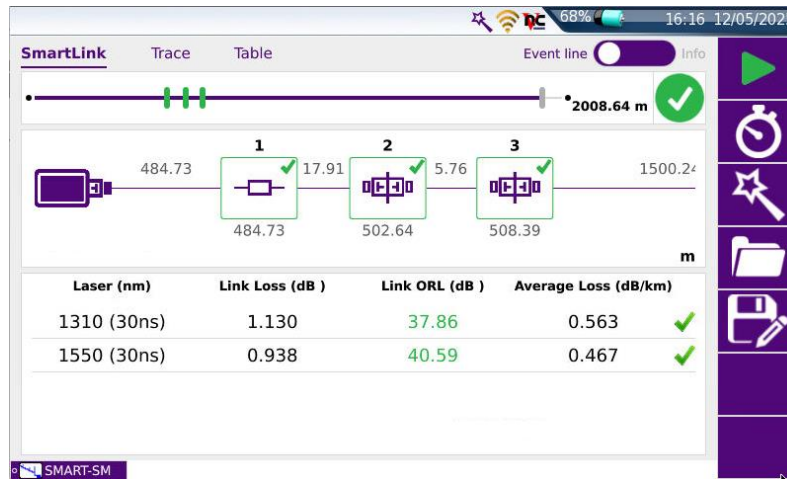
- the icon  if no alarm thresholds are defined.
- the icon  if no event exceeds the alarm thresholds.
- the icon  if at least one event exceeds the alarm thresholds.

Touch the popup window to close it, and get access to the detailed SmartLink map view

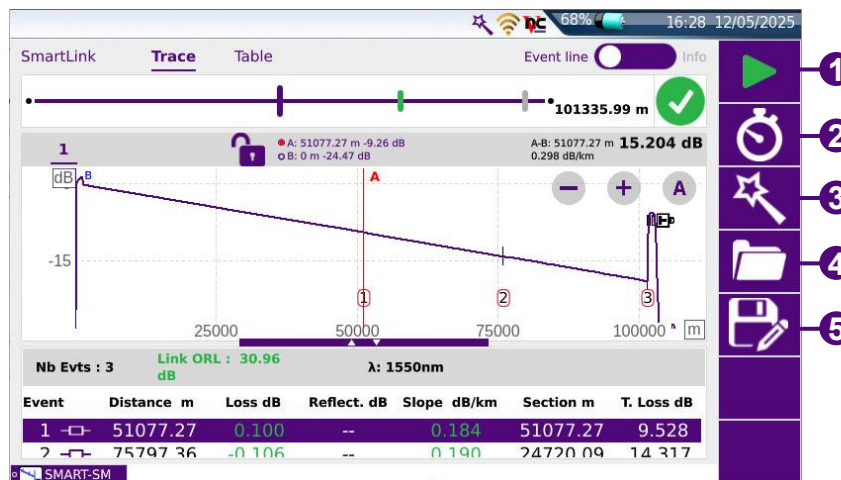
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### RESULTS DISPLAY IN SMART TEST MODE

The SmartLink View is displayed at the end of the acquisition.



1. Click on the tab **Trace** to display the result trace.

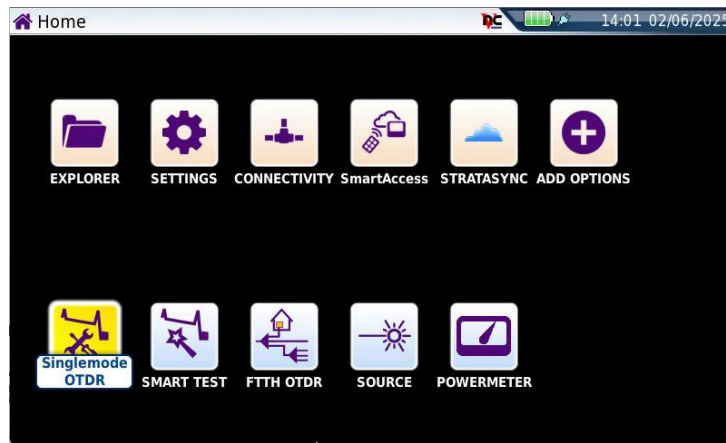



1. **Start**: press to perform a new measurement
2. **Real Time**: press to perform a new measurement in Real Time
3. **Assistant**: press to return to Setup information page (see ["Configuring a test in Smart Test Mode"](#))
4. **File**: press to open the File Explorer
5. **Save**: press to save the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

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

1. On the **Home** page, select **Expert OTDR** icon.



2. From the **Results** page, press  to manually configure the OTDR parameters.

**General**

**Test configuration**

Load Configuration Save Configuration

Current Config. Name:

**Test Cables**

Launch Cable ☒ Event 2

Include Link Connection No ☐

Receive Cable ☐

Distance Unit km

Back to classic setup

Default setup EXPERT-SM

*Load or Save a configuration. Set Test cables lengths and distance unit*

**General**

Laser 1310 nm 1550 nm 1625 nm

**Acquisition**

Acquisition Mode Auto Manual SmartAcq+

Acq Time Auto

Alarms

Link

Files

Display

Default setup EXPERT-SM

*Define the acquisition parameters Laser, Mode, Time*

**General**

**Detection Thresholds**

Splice Auto (> 0.05 dB) Bend Auto (> 0.30 dB)

Reflectance All Slope on Section Auto (> 200 m)

Fiber End Auto (> 8 dB) Ghost No

Mux/Demux Auto (> 0.80 dB)

**Analysis**

Test Port Check No

Test Port Meas. Yes

Event After Fiber End No

Default setup EXPERT-SM

*Define the Advanced parameters: Detection Thresholds, Analysis, IOR and Scatter Coefficient*

**General**

**Index Of Refraction**

Preset Index G652 G657

1310 SM	1.46750 *	1360-1520 SM	1.46800
1550 SM	1.46800	1590-1650 SM	1.46850
Section AB	5034.7	Link Length	5034.1

**Scatter Coefficient**

Scatter Coefficient Auto

1310 SM	-79.0 *	1360-1520 SM	-81.0
1550 SM	-81.0	1590-1650 SM	-81.0

Default setup EXPERT-SM

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### CONFIGURING A TEST IN EXPERT MODE

Define the alarms thresholds

Define the Link Id parameters (Cable/Fiber Id, Locations...)

Define the Files and Reports saving parameters (directory, filename, files format...)

Define Features on Traces

- If needed, save all the configured parameters by pressing **Save Configuration** in **General** page.
- Type a file name in the edition keypad and press  to validate.
- Press  to check the configuration file has been correctly saved.

OTDR_AutoTestSinglemode.SM-OTDR.fo_cfg			Load
Laser: ALL Acq: AUTO Time: Auto Time			
Save Mode: FON Fiber Num:1 Auto Store: NO			
MTS 2000 V2	24 Files - 5 Directories	Date	Select all
disk			Edit
Apps	fcomppro-config.SM-OTDR	15/04/24 16:39	Export
Calib_docs	globe1.SM-OTDR	15/04/24 16:39	Explorer
config	OTDR_AutoTestMultimode.MM-OTDF	31/05/25 19:45	Link Mgr.
demo	OTDR_AutoTestSinglemode.SM-OTD	31/05/25 19:45	
FCOMP-PRO	OTDR_Expert_Mode.SM-OTDR	31/05/25 19:45	
ISW-3469_Filc	OTDR_LongReach_160km.SM-OTDR	31/05/25 19:45	
job-manager	OTDR_MediumReach_80km.SM-OTC	31/05/25 19:45	Exit
JPB			
85% free (829 MB)			

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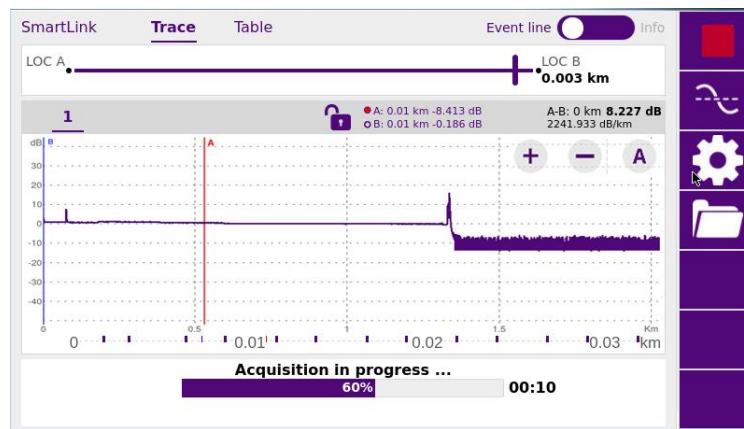
### PERFORMING AN OTDR TEST IN EXPERT OTDR

1. Once the OTDR is configured, press  to launch the acquisition:

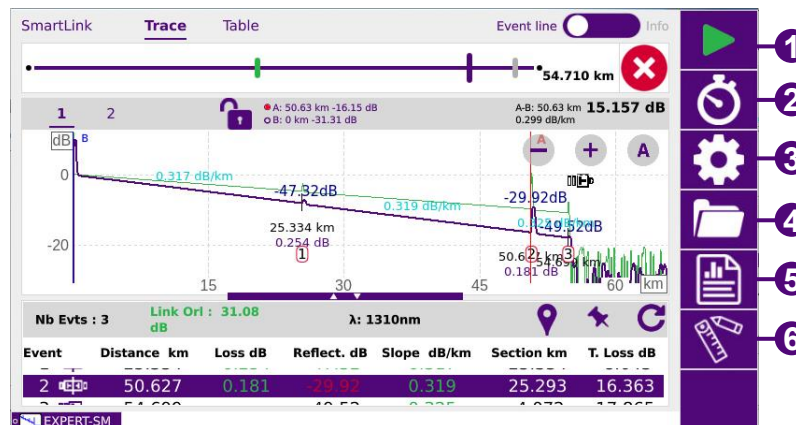
- **Step1:** if set up in Advanced page, test port connection health is checked and status (good/back) is displayed in the **Trace** view.



- **Step2:** OTDR measurement



2. At the end of the test, the OTDR trace(s) and 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 display OTDR parameters (see ["Configuring a Test / Creating a Smart config. in Expert Mode"](#))

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

5. **Fast Report:** press to save the results (.sor and .pdf formats) if no saving has been pre-set in the "Files" view

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

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### TECHNICAL ASSISTANCE

If you require technical assistance, call 1-844-GO-VIAVI. For the latest TAC information, go to [Technical Support | VIAVI Solutions Inc.](#).