AFL

Test & Inspection

FlexReports

Test Results Management PC Software

User's Guide

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General Information

Introduction

FlexReporter Software Suite works with AFL Test and Inspection instruments to provide a simple-to-use, high performance cloud enabled reporting platform. FlexReporter combines FlexApp – a mobile App that wirelessly transfer test results to FlexReporter-Cloud from the field with a fast, comprehensive, 3-step reporting solution – FlexReports PC software. The FlexReporter software suite was developed to make the complicated task of reporting faster, simpler, and easy-to-use.

FlexReports is a Windows®-compatible PC software that provides comprehensive test results analysis and reporting for AFL FlexScan OTDRs, FOCIS inspection systems, OLTS, and OPM products. It is available in both Basic and Advanced versions.

FlexReports Basic software version enables users to quickly view and analyze results. It allows users to generate simple single-fiber OTDR and OLTS reports and includes a 60-day Advanced software and OTDR Trace Batch Editor license trial.

FlexReports Advanced is a full featured reporting and post-processing solution for generation of professional acceptance reports using Industry Standards. It enables users to generate reports showing dual-wavelength traces and event tables, end-face image, event map and loss data for each fiber. Users can apply Pass/Fail thresholds to OTDR events and OLTS measurements, and create and apply application rules per Industry Standards. FlexReports OTDR Trace Batch Editor enables users to edit and analyze multiple trace files simultaneously.

FlexApp is a mobile Android and iOS App that supports AFL's FlexScan® OTDRs and FOCIS connector inspection products (FOCIS Flex, FOCIS Lightning). FlexApp wirelessly transfers test results from any FlexScan OTDR or FOCIS inspection probe directly to FlexReporter-Cloud from the field for subsequent analysis, editing, and reports generation with FlexReports PC software.

FlexReports Supported Test Sets

- FlexScan FS200 OTDR; FlexScan FS300 OTDR. FlexScan TS100 Troubleshooter
- FOCIS Flex Inspection Probe, FOCIS Lightning Inspection Probe
- ROGUE OLTS Certifier

Basic and Advanced Software Comparison

The table below provides a summary of the software licensing features.

FlexReports Features	Basic License	Advanced License
OTDR Trace Viewer, OLTS Viewer/Editor	◆	◆
OTDR Trace Analysis with Bidirectional and Macrobend analysis	◆	◆
OTDR Add/Delete events from the Trace Viewer	◆	◆
Single Fiber reporting for OTDR and OLTS results	◆	◆
.SOR file to .CSV file export	◆	◆
60-Day Reporting and Batch Editor License Trial	◆	
Download of test results stored in the FlexReporter cloud		◆
Reports Wizard, compatible with TRM		◆
3-step reporting using new fast FlexReporter cloud report service		◆
Hyperlinked PDF test reports with clear Pass/Fail indicators		◆
Batch editing of OTDR .SOR files for renaming results, correcting Pass/Fail limits and launch cable settings		◆

Contacting Customer Service

If you have any questions about your AFL test and inspection equipment or FlexReports software, or if you need technical or sales support, please contact Customer Service. You may contact Customer Service between 8 a.m. and 5 p.m., United States Eastern Time, as follows:

Phone: +1 (800) 235-3423

Web: www.AFLglobal.com

E-mail: AFLtesttechsupport@AFLglobal.com

System Requirements

To use FlexReports application, you need the following hardware and software:

- A PC with a i7 processor, 64-bit architecture, Quad core @ 2.6G Hz (or faster) processor and an 800 x 600 (or larger) display and USB 2.0 port
- At least 16 GB of CPU memory and 9GB available memory
- **Note:** slower processors and smaller RAM may affect report generation time, and maximum report Job size
- Windows compatible pointing device (e.g. mouse)
- MS Windows 10. Note that MS Windows 7 is no longer actively supported
- A network connection if downloading and installing from www.AFLglobal.com

Installing FlexReports

You can install FlexReports from the supplied USB memory stick, or you can download it from our web site at https://www.aflglobal.com/Resources/Software.aspx.

Follow the steps below to install the FlexReports software.

1. Start Windows. If Windows is running, quit all applications.

To install from USB:

2. Insert the FlexReports USB memory stick into a USB port.
3. Double-click the My Computer icon on the desktop to open the My computer folder.
4. Double-click the USB drive icon.
5. Open the FlexReports_v1.n.n Install folder.
6. Continue with step 11.

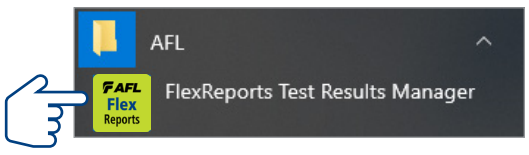
To download from the web:

7. From https://www.aflglobal.com/Resources/Software.aspx, select FlexReports Software and click on download link.
8. Follow the on-screen instructions. FlexReports software will download to your computer's hard drive.
9. Open FlexReports_v1.n.n Installl.zip and extract all contents to FlexReports_v1.n.n Install folder.
10. Open FlexReports_v1.n.n Install folder.
11. If you wish to complete an unattended install of FlexReports to C:\Program Files (x86)\AFL\FlexReports, double-click on InstallFlexReports_unattended.bat. FlexReports installation will proceed, display progress, and complete with no user response required and you may skip steps 12-14.
12. If you wish to select the destination folder for FlexReports software, double-click on InstallFlexReports_configured.bat and select 'Yes' when prompted to allow changes to your computer.
13. When the Installer 'Welcome' screen is displayed, click on the 'Next' button to continue.
14. When the Installer displays the 'Installation Complete' screen, click 'Close'.

Starting FlexReports

Follow the steps below to start the FlexReports application:

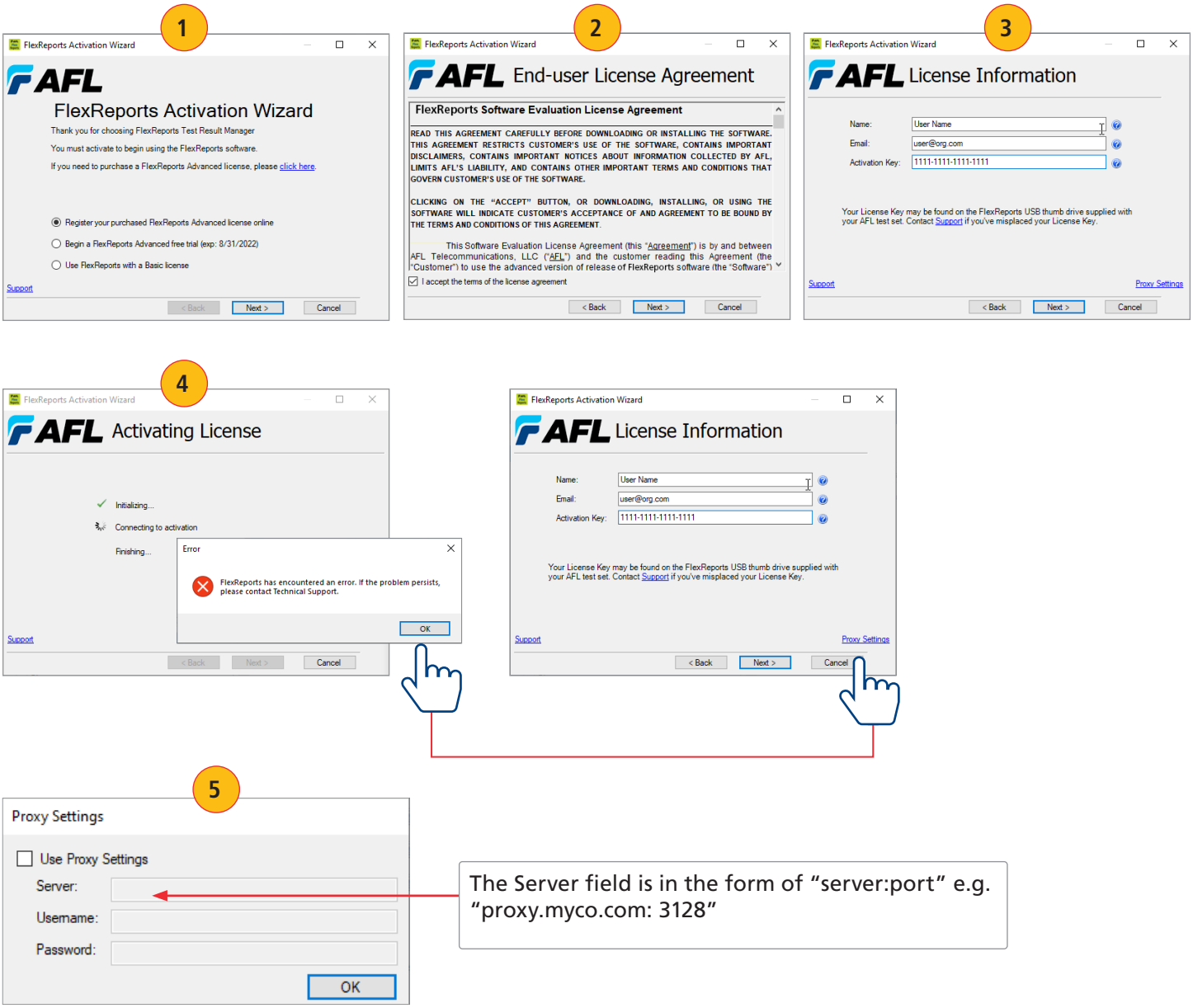
1. Depending on your Windows OS version, navigate to a list of the installed Program. Locate the AFL folder.
2. Click on the FlexReports shortcut If you have installed the FlexReports application in a folder other than AFL Test and Inspection, choose that folder from the Start > Programs menu.



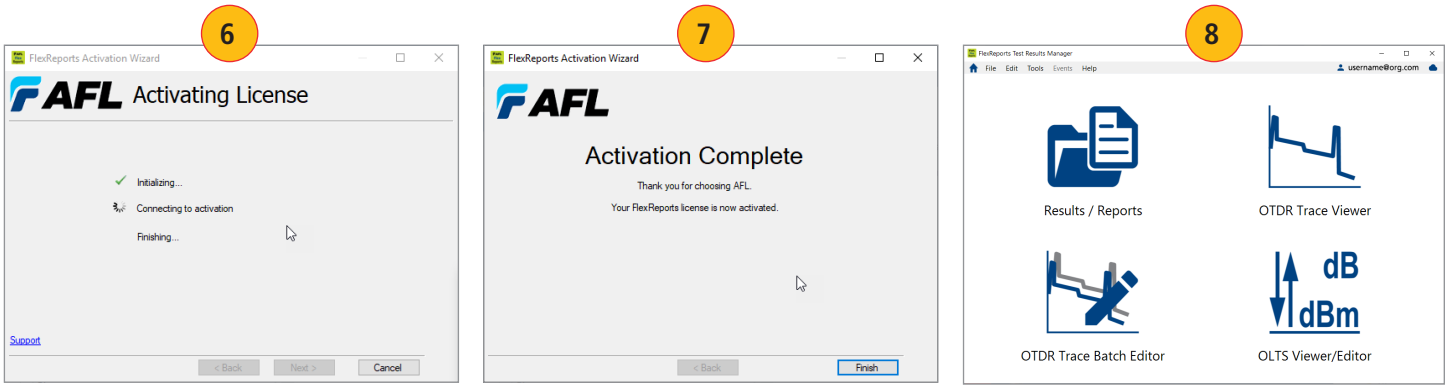
3. When FlexReports is first launched, you may choose to install sample test data for generating sample reports.
4. If you are presented with the option to update to a newer version, click 'Install Updates' button.

Activating FlexReports License

1. At the Activation Wizard screen, select one of the following option:
   - Activate FlexReports Online option to activate purchased license with activation code provided by AFL .
   - Begin a FlexReports Advanced free trial.
   - Click Next to continue.
2. At the “End-user License Agreement” screen perform the following:
   - Read the End-user License Agreement.
   - Check “I accept...” box to agree.
   - Click Next to continue.
3. At the “License Information” screen, enter the required information. Click Next to continue.
4. If Activation displays “Proxy Error” screen, click OK and then click Proxy Settings.
5. At the Proxy Settings sub-screen, enter the required information and click OK to continue.



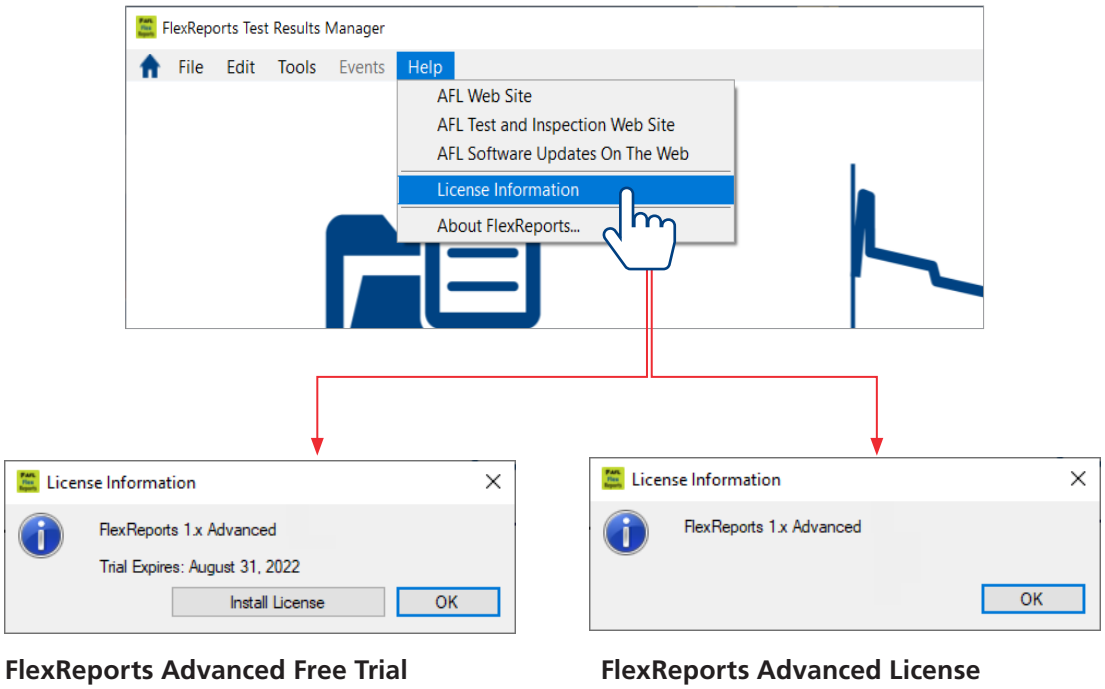
6. Activation will display progress.
7. When Activation Complete screen is displayed, click Finish to finalize.
8. Next, you will see the FlexReports Home screen.



Note:

The FlexReports License Information and/or the Trial Expiration date (if a 60-day Evaluation is activated) is available and accessible form the FlexReports Help menu.

- At the Home screen, select Help.
- From the Help menu, click License Information to display the information sub-screen.

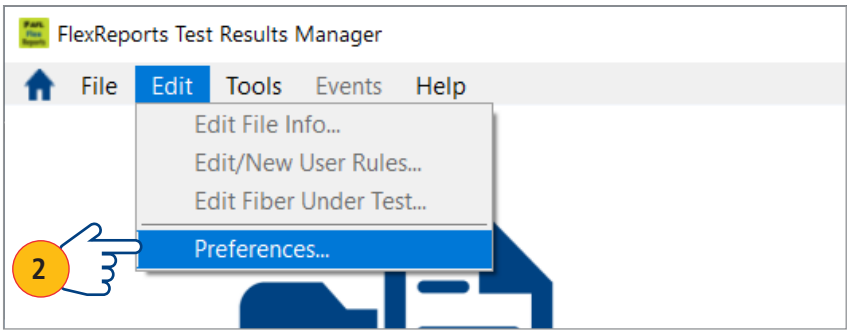


FlexReports Advanced Free Trial

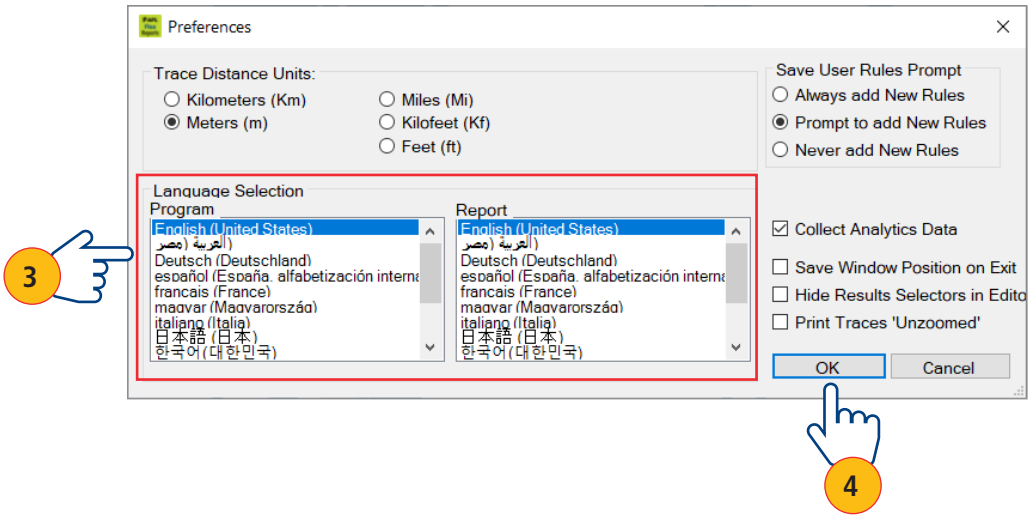
FlexReports Advanced License

Selecting the Application Language

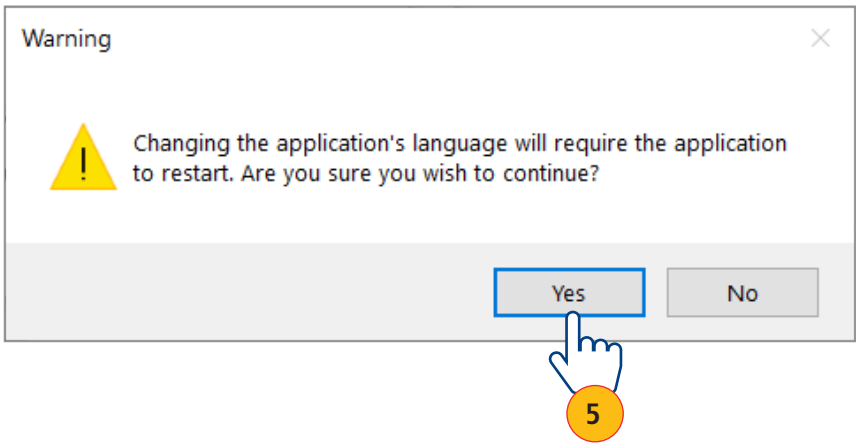
1. From the Home screen menu bar, select Edit.
2. From the Edit menu, click Preferences.



3. On the Preferences screen, select the desired language from a list of available Program languages and a list of available Report languages.
4. When done, click OK.



5. Next, you will see the Warning screen; click Yes to confirm the application restart.
6. FlexReports will restart in the selected language.

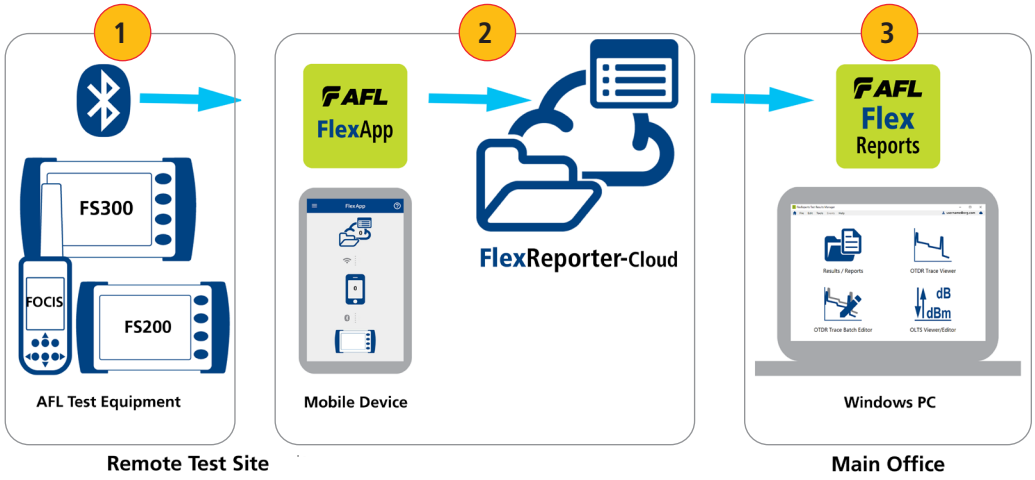


Files Transfer to FlexReports

Transferring Files Wirelessly via FlexApp to FlexReports

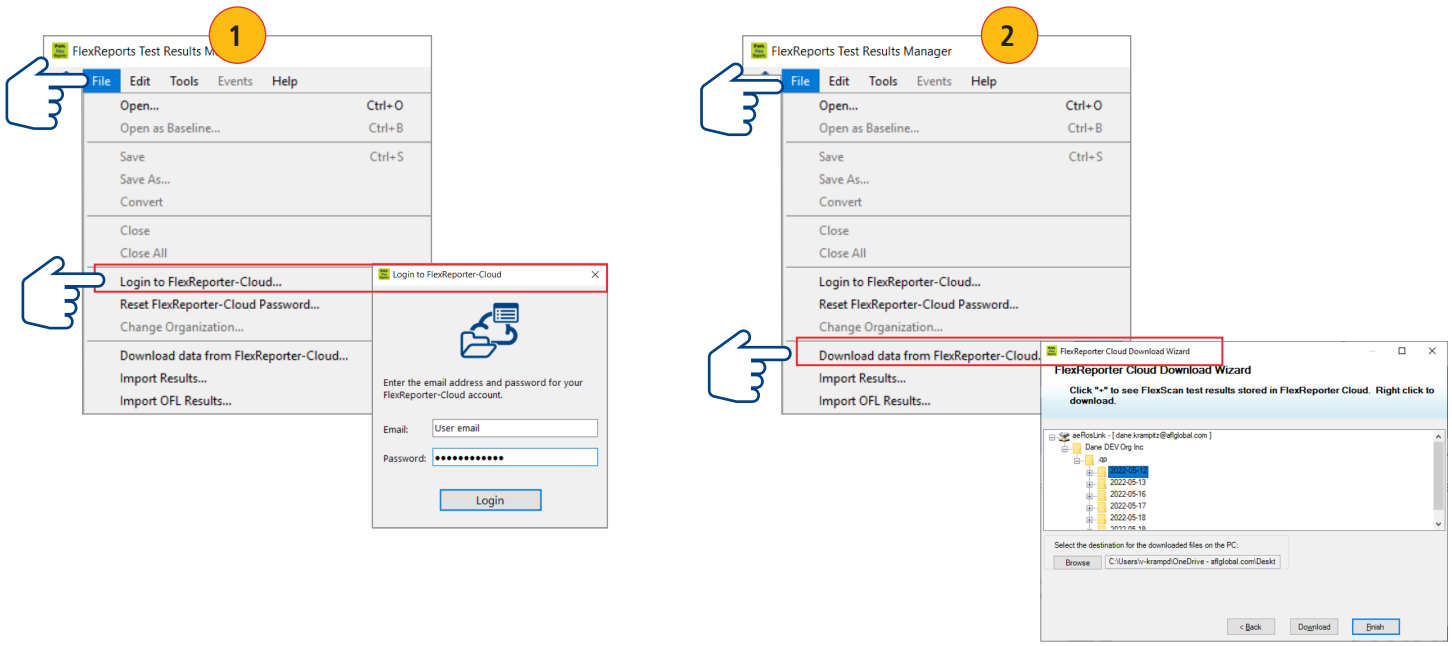
Use the FlexApp to wirelessly transfer test results to FlexReports PC-based software to make report generation quick and easy.

1. From the AFL test equipment (FlexScan or FOCIS), locate and select test results that you'd like to transfer.
2. Use FlexApp:
   - From Google Play or App Store, download FlexScan App to your mobile device.
   - Create cloud account from within FlexApp.
   - Using FlexScan / FOCIS Bluetooth functionality, initiate transferring the selected test results to FlexApp.
   - Observe how FlexApp forwards test result files to FlexReporter cloud.
3. Use FlexReports to download test results from FlexReports cloud and create your test reports.



Using FlexReports for Downloading Test Results from FlexReporter-Cloud

1. From FlexReports Home screen menu, click File and click "Log in to FlexReporter-Cloud" to log in.
2. Click "Download data from FlexReporter-Cloud. Navigate and select the desired folder with results for download, then click "Download"
3. Return to the FlexReports Home Menu to view results or generate a test report.



From USB Flash Drive to PC

To transfer files from your test equipment to a PC using the USB drive, perform the following:

1. Copy any files stored on your test equipment Internal Drive to the USB drive.
2. Remove the USB drive from your test equipment and plug it into the USB port on your PC.
3. Copy files from the USB Flash drive to your PC.

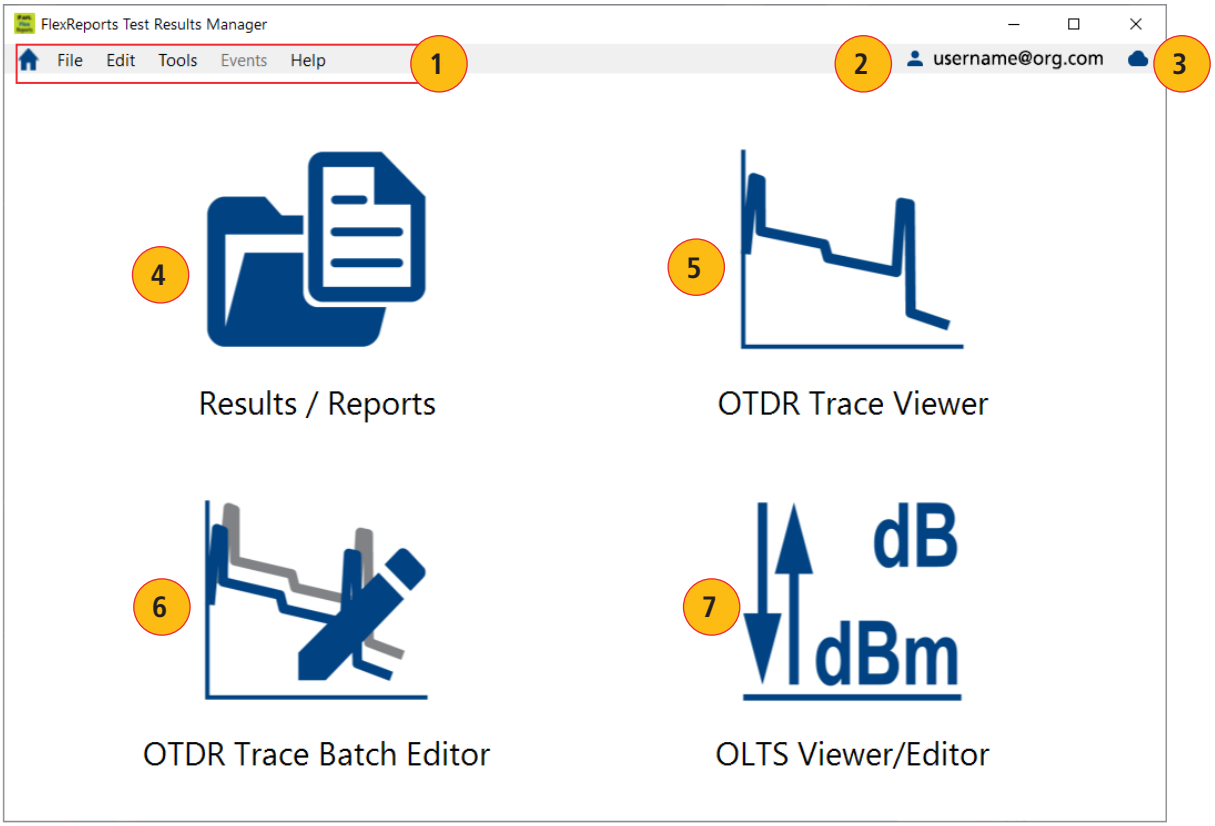
Uploading Inspection Results

From FOCIS Flex, FOCIS Lightning Connector Inspection Probes

1. Connect FOCIS probe to PC using micro-USB to USB cable.
2. Turn on FOCIS probe. Note: Screen will remain dark.
3. At PC, double-click on My Computer and verify that PROBE (E:) is displayed.
4. Probe's drive letter may be different.
5. Open Results folder in PROBE (E:) to view saved Job folders.
6. Drag desired folders or files to desired PC location (e.g. My Documents, etc.).
7. If merging FOCIS files with FlexScan OTDR files:
   - Verify files have same End1-End2-Cable prefix.
   - Verify inspection fiber #s match OTDR fiber #s.
   - If filenames OK, copy or drag the files into corresponding OTDR results folder.

FlexReports Home Screen

Home screen is the first screen you will see on FlexReports power-up. This screen contains shortcuts to FlexReports Applications, Menus, and Cloud login.



Ref	Features / Application	Function
1	Menu Bar	This field contains menus that are available in FlexReports
2	Login Icon	Indicates User Login Status to FlexReporter-Cloud - Logged to FlexReporter-Cloud - Not Logged to FlexReporter-Cloud
3	Cloud Icon	Indicates Status of Cloud Connection and the Cloud icon indicates connection states to FlexReporter-Cloud - Connected - Disconnected
4	Results / Reports	**Results** - This application provides a brief preview of selected results within the Results Explorer screen. Use this application to navigate test results and view OTDR and Loss Test results. **Reports** - Use FlexReports (cloud service) or Report Wizard to generate test reports for the selected data. Select from pre-defined report configurations. Print generated test reports or store them as PDF files.
5	OTDR Trace Viewer	Use the OTDR Trace Viewer to view and analyze OTDR traces and edit single fiber single direction traces.
6	OTDR Trace Batch Editor	This application allows multiple trace files to be edited simultaneously. Recalculate events, apply common pass/fail rules, and/or prepare reports using a group of OTDR results files.
7	OLTS Viewer/Editor	Use this application to view loss/power measurements. View certification results and select cabling standards, user rules and applications to be applied as Pass / Fail limits to certification results.

Home Screen Menu Bar

The Home screen Menu bar contains File, Edit, Tools, Events, and Help menus.

File Menu

Table below gives a summary of the available File Menu commands and their associated functions.

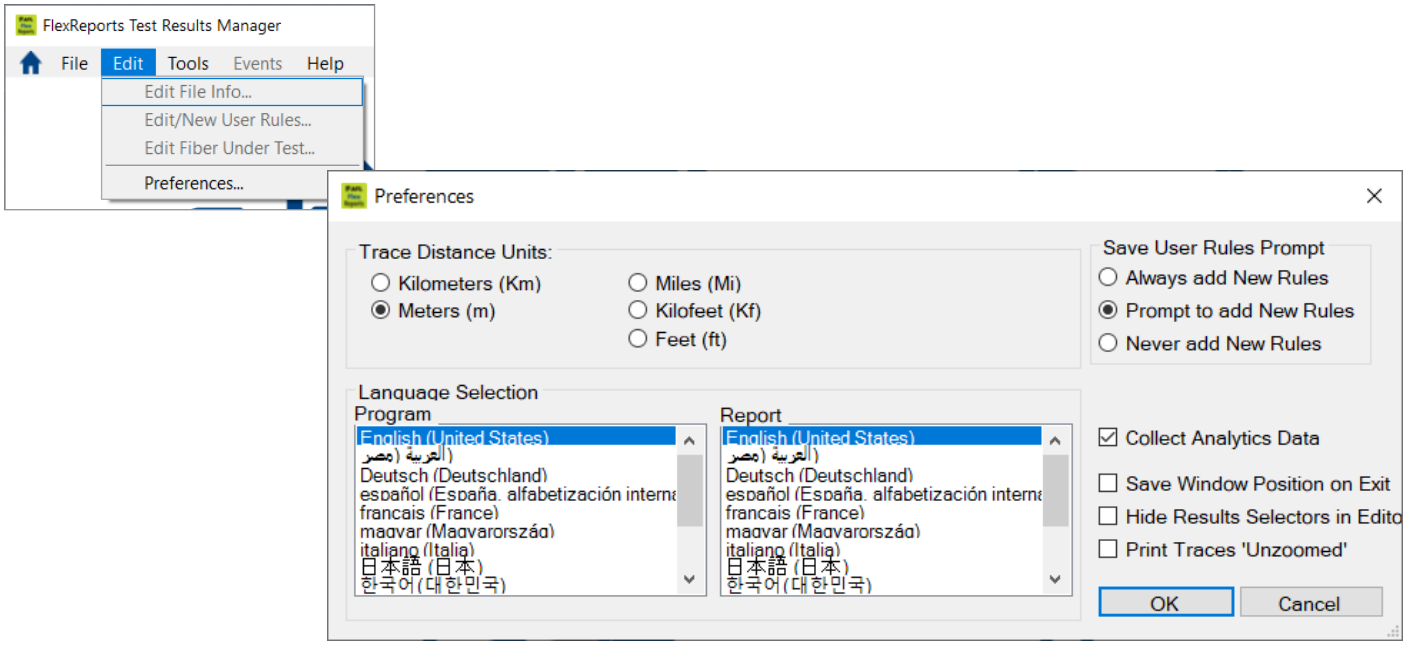
Command	Use to perform the following Function
Open...	Access the Results Explorer, navigate and open test results.
Login to FlexReporter-Cloud / Logout of FlexReporter-Cloud	Login to FlexReporter Cloud / Logout of FlexReporter Cloud
Reset FlexReporter-Cloud Password	Reset FlexReporter Cloud Password
Change Organization...	This menu option allows changing to another organization (if applicable)
Download data from FlexReporter-Cloud...	Access FlexReporter Cloud Wizard to download
Import Results...	Download test data from an instrument.
Import OFL Results...	Download test data from an OFL250 or OFL280 (non-FlexTester).
Export Job to File...	Export the selected Job to a zip file.
Backup Data...	To have a restoration point, create a non-visible backup copy of your data before editing: • Navigate the desired Job /Route/Cable • Click OK to display the Backup Description window • Add a clear comment on backed up data to be able to identify it during restoration
Restore Data...	Restore previously backed up data to a visible folder. Use comments to identify data for restoration.
Exit	Close opened trace files and exit FlexReports.

Edit Menu

When accessed from the Home screen, Edit menu allows the user to configure General Preferences.

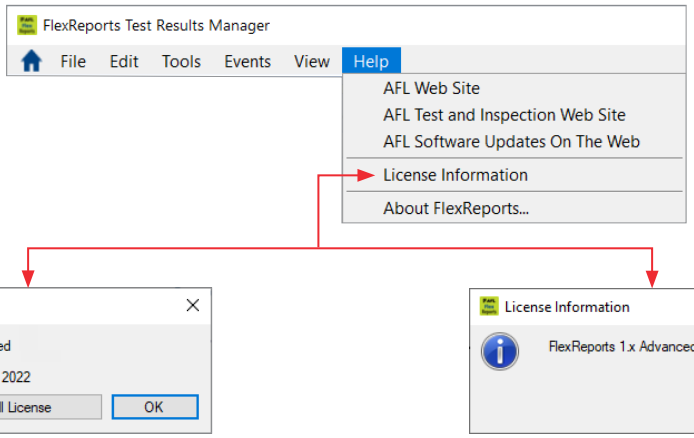
To Configure General Preferences

To Configure Preferences: set Trace distance units, select Language, select preferences for saving User Rules, and set preferences for collecting Analytics data.



Help Menu

This menu provides access to the following: AFL web site, AFL Test and Inspection web site, AFL Software updates on the web, License Information, “About FlexReports” screen.



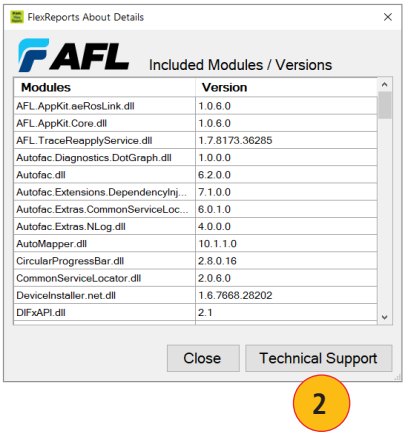
FlexReports 30-day Trial in this example

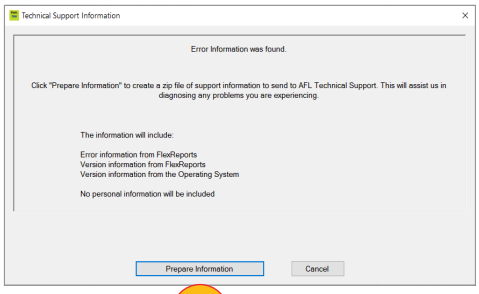
FlexReports Advanced License in this example

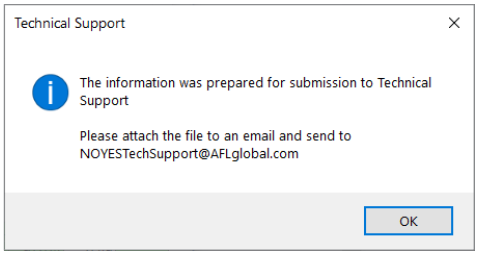
About FlexReports screen

About FlexReports screen displays FlexReports version number, allows to see included Modules/Versions, and enables the user to collect the Error Log data.

1. When in the About FlexReports screen, click on the Details button display the “FlexReports About Details” screen.
2. Click on the “Technical Support” button to display a sub-screen that allows packaging the Error Log data.
3. Clicking on “Prepare Information” will package the Error Log data into zip folder that can be send to AFL Technical Support as an attachment.







Results / Reports Application

Generating Reports with FlexReports and Legacy Report Wizard

Results / Reports Application offers a simplified reporting combining test Results viewer and Reports generator on a single screen.

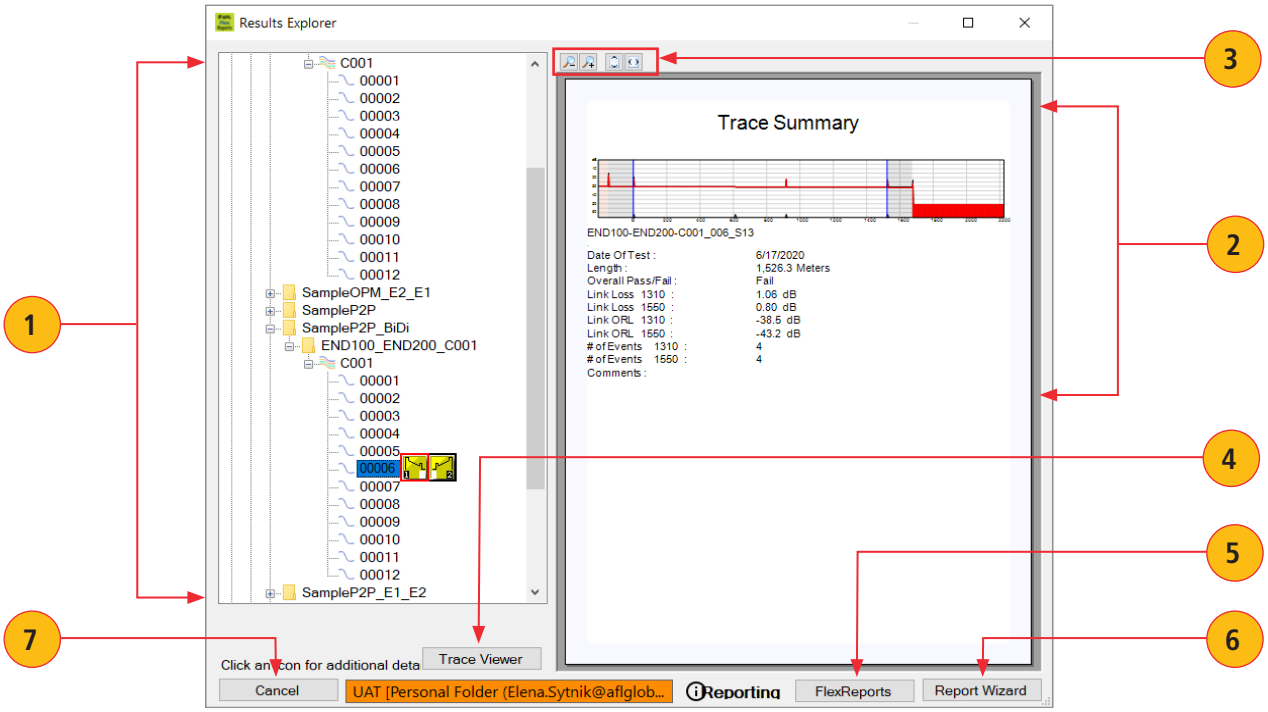
There are two report options available for users to choose from:

- **FlexReports** - Simple 3-step configuration reporting option. FlexReports uses Flexreporter-Cloud report service for large projects and fast reporting.

  Note: Currently only OTDR reports are supported – coming soon are Inspection & OLTS reports.

- **Report Wizard** - Support legacy Report Wizard functionality for Inspection and OLTS reports.

Results / Reports application is accessed from the Home screen by pressing the Results / Reports icon.



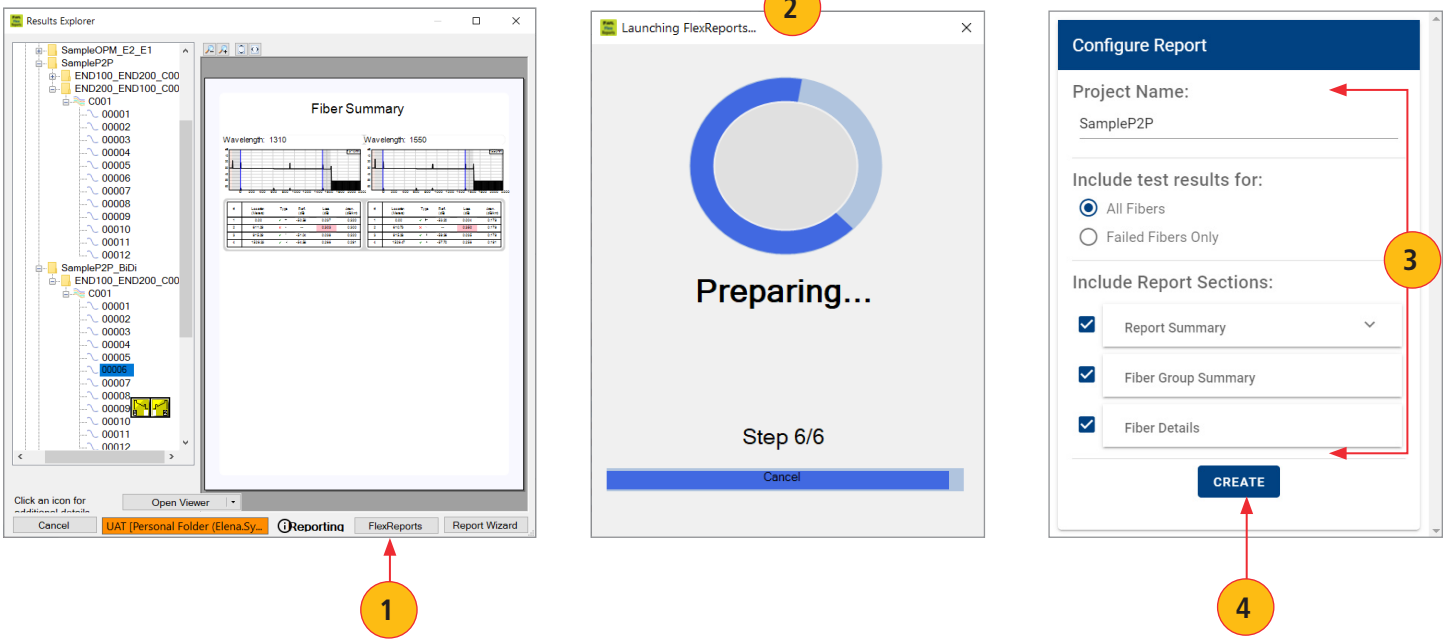
Use this application to navigate test results, switch between OTDR and OLTS test viewers (when applicable), and access FlexReports (cloud) or legacy Report Wizard.

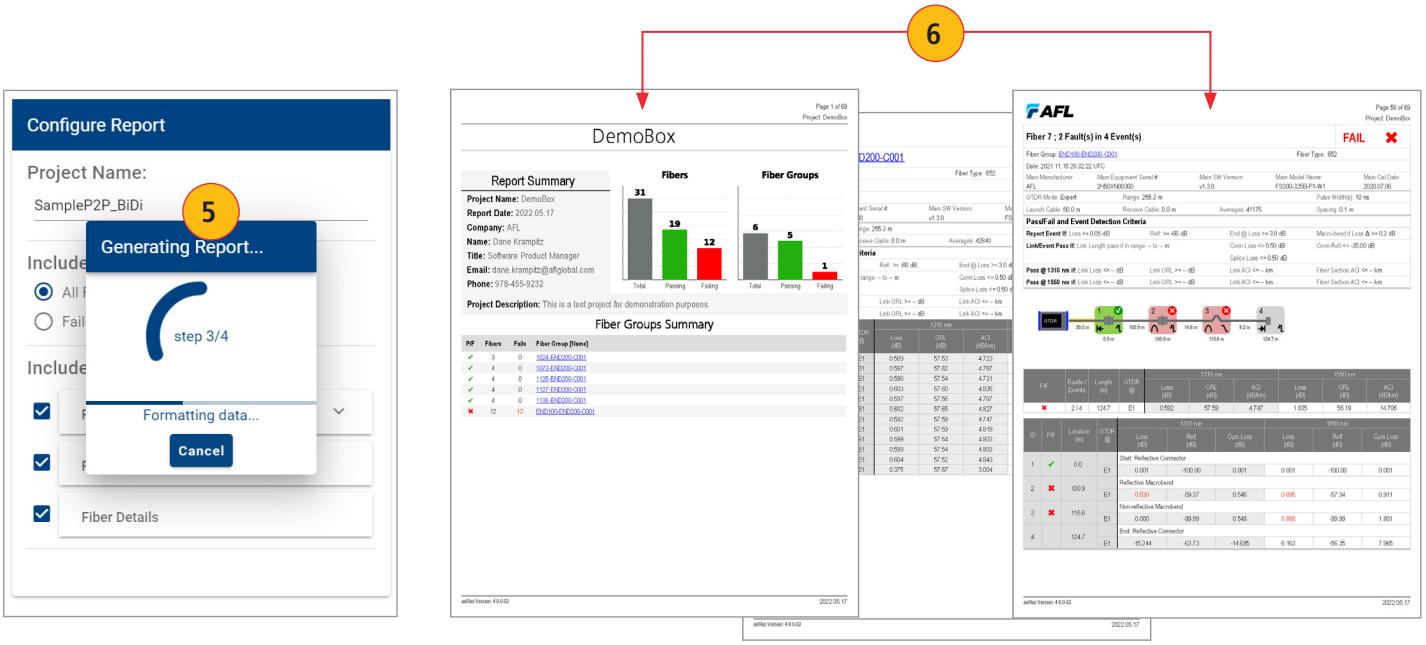
The table below gives a summary of the Results Explorer / Reports Generator features.

#	Feature	Description
1	File explorer	Displays folders and files hierarchy. Use to navigate saved test results.
2	Results window	Depending on the selected data on the “File Tree”, the Results window will display various information as follows: • Path of the currently selected folder • Summary of the selected Job/Route/Cable/Fiber • Test result preview: OTDR thumbnail, OPM result, Certification result
3	Zoom buttons	Click to zoom in, zoom out, and reset pages back to their default value.
4	Viewer button	Depending on the selected test result, this button alternates between Trace Viewer and OLTS. Click to view the selected result in OTDR Viewer / OLTS Viewer.
5	FlexReports button	Click this button to configure OTDR reports easily with FlexReports (inspection and OLTS Reports generation with FlexReports coming soon).
6	Report Wizard button	Click on this button to access the Report Wizard, which enables generation of test reports and selection of pre-defined report templates and cover sheets.
7	Cancel button	Click on this button to return to the Home screen.

To Generate Reports Using FlexReports Functionality

1. From the Results / Reports main scree, access FlexReports by clicking the FlexReports button.
2. You will briefly see the “Launching FlexReports...” notification.
3. When Configure Report screen is displayed, configure reports data as desired: set-up project name; select test results to include; select report sections to include.
4. Click Create.
5. Next, you will see “Generating Report” progress status.
6. Next, you will see generated Report. Refer to the next section on details how to navigate reports.



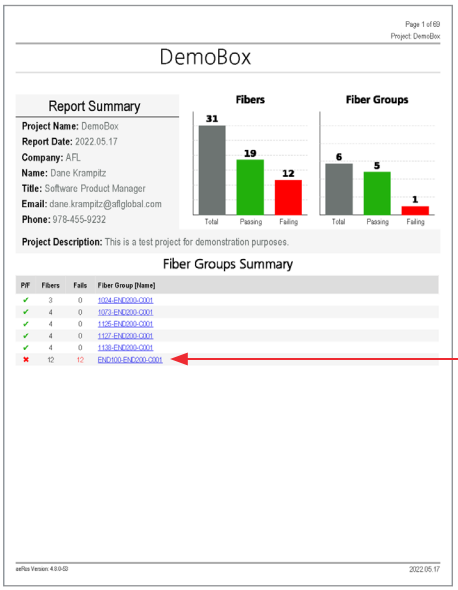


Navigating Reports generated with FlexReports

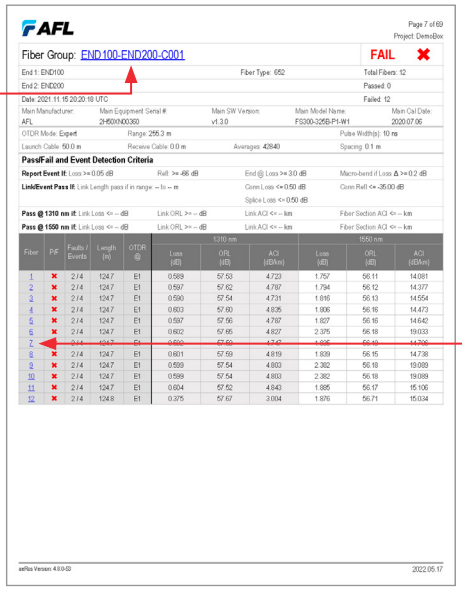
1. Project Summary page - Displays summarized Report Summary, clear Pass/Fail Summary, and Fiber Groups Summary.
2. Fiber Group /Cable page - Displays compact Fiber Group report with Link Metric.
3. Fiber Details page - Displays detailed test results of a fiber with LinkMap® and Event Table.

Note: Fiber Groups and Fiber Numbers are hyperlinked for easy navigation.

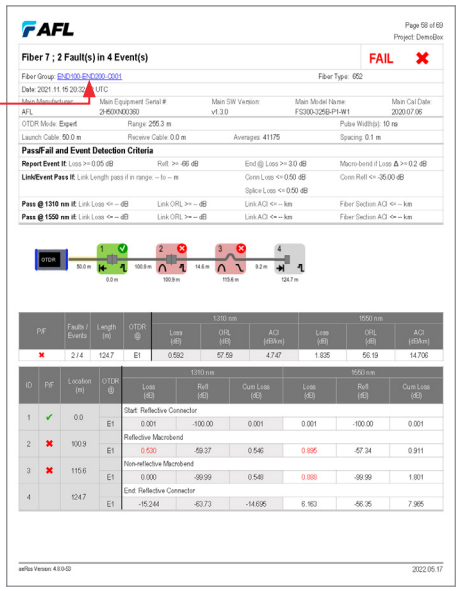
Project Summary page



Fiber Group / Cable page



Fiber Details page



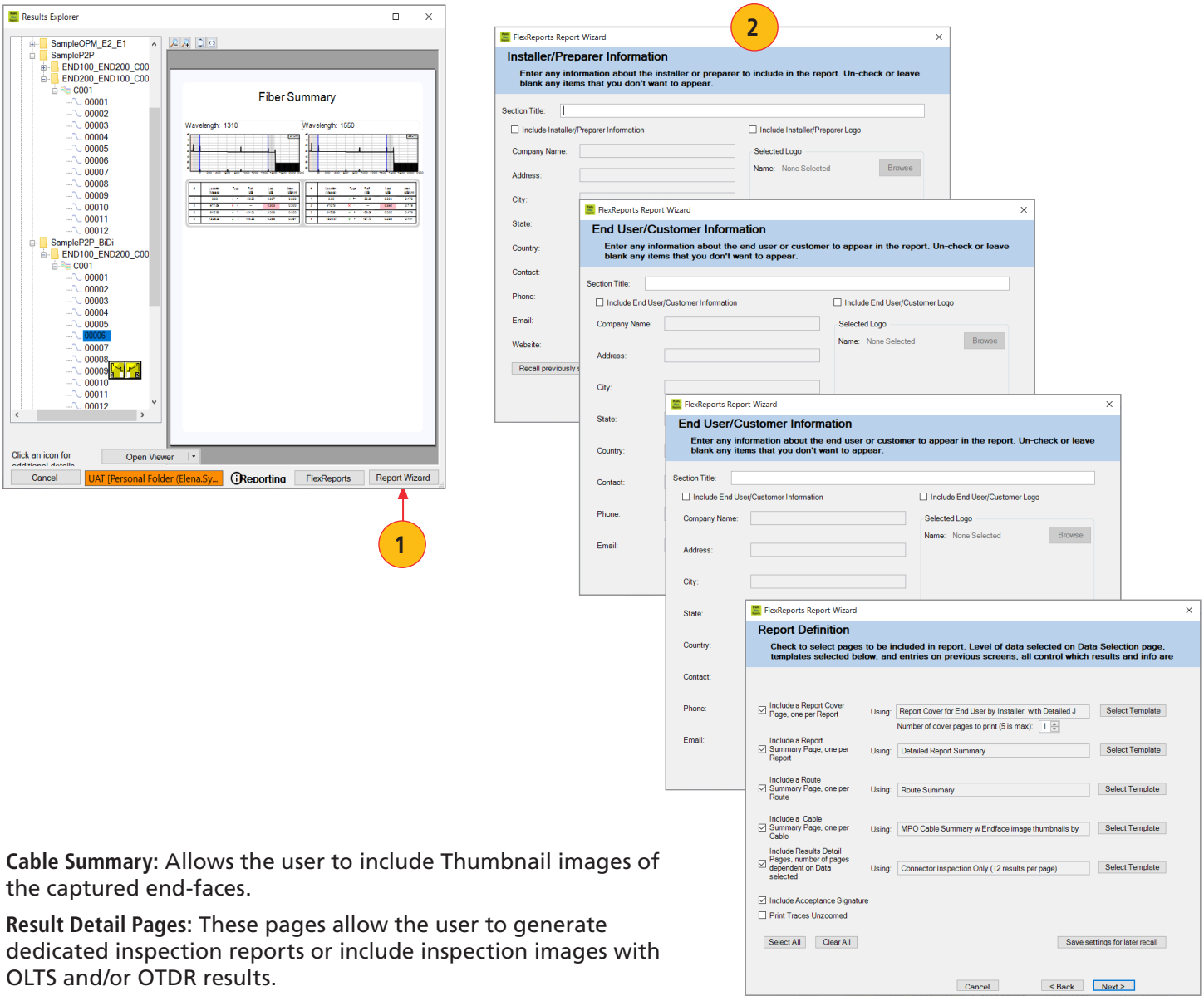
To Generate Reports Using Legacy Report Wizard Functionality

The Report Wizard application provides the user with a variety of pre-defined report templates and cover sheets and allows generating professional test reports that may be printed or stored as PDF files. Features of the Report Wizard are:

- Template-based wizard provides quick setup with professional report generation.
- Common reports information may be saved for use in future reports (faster report generation).
  - Customer Info, Preparer info, Consultant info, etc.
- Select from available templates to quickly generate professional, consistent reports.
  - Include or omit any page: Cover, Report Summary, Route Summary, Cable Summary.
- Reports for OTDR result.s
- Reports for OLTS results.
- Reports for combined OTDR & OLTS results.
- Reports for combined OTDR, OLTS, and Inspection end-face image results.

To Create Reports with Legacy Report Wizard

1. From the Results / Reports main scree, access Report Wizard by clicking the Report Wizard button.
2. Follow the on-screen instructions for generating, saving, and printing test reports.



Cable Summary: Allows the user to include Thumbnail images of the captured end-faces.

Result Detail Pages: These pages allow the user to generate dedicated inspection reports or include inspection images with OLTS and/or OTDR results.

Creating Bidirectional OTDR Reports

The Bidirectional OTDR information is part of a report “OTDR Single Graph with Overlay wavelength trace with Bidirectional Events”.

Bidirectional OTDR results displayed on the “file tree” as two-trace icon.

1. Acquire and Save Bidirectional OTDR results:
   – Reset Fiber to 001 when testing first fiber in each direction.
   – Make sure the same test settings (range, pulse width, etc.) are used in both directions.
   – Use the same launch and receive cables in both directions.
   – Make sure the same Job and Cable names used in both units.
   – Swap OTDR End & Far End names when testing from other direction.
   – Results will be saved in two Cable folders within same Job folder in FlexScan.
   – Manually merge OTDR results from 2nd Cable folder into 1st Cable folder.
2. Merge Inspection results into OTDR Job/Cable or Job/Route/Cable folder on PC.
3. Install and run FlexReports.
4. Select Results / Reports > Report Wizard.
5. Navigate to merged OTDR/OLTS and Inspection results:
   – Select entire [Cable] for all results.
   – Select individual fiber for single result.
6. Select “OTDR Single Graph with Overlay wavelength trace with Bidirectional Events” template.
7. Select Finish and print or save as PDF.

Macrobend/Microbend information In OTDR reports

The Macrobend/Microbend is indicated on all OTDR reports in Event table.

This includes the following report templates:

- OTDR Multi-view traces and OLTS table.
- OTDR Multi-view traces with Images and OLTS table.
- OTDR Multi-view traces with Overall Pass/Fail, Event Map and Complete OLTS table.
- OTDR Multi-view traces NO Pass/Fail, Event Map and Complete OLTS table.
- OTDR Single Graph with Overlay wavelength traces.

Creating Single Inspection-only Reports

Test results with fiber end-face inspection images are saved in .JPG, .GIF, or .PNG file format and displayed on the “file tree” as fiber end-face icon.

1. Navigate to the uploaded Inspection results:
   – Select entire [Cable] for all results.
   – Select individual fiber for single result.
2. Select the desired inspection template (2 or 12 results per page).
1. Select Finish and print or save as PDF.

Creating MPO Inspection-only Reports

1. Navigate to the uploaded Inspection results:
   – Select Route folder(s) for all results.
   – Select Cable for cable results .
   – Select individual MPO(s) for connector results.
2. Select desired inspection template (2 or 12 results per page).
3. Select Finish and print or save as PDF.

Creating OTDR/OLTS with Inspection Reports

1. Navigate to merged OTDR/OLTS & Inspection results:
   - Select the entire [Cable] for all results.
   - Select the individual fiber for a single result.
2. Select desired OTDR/OLTS template.
3. Select Finish and print or save as PDF.

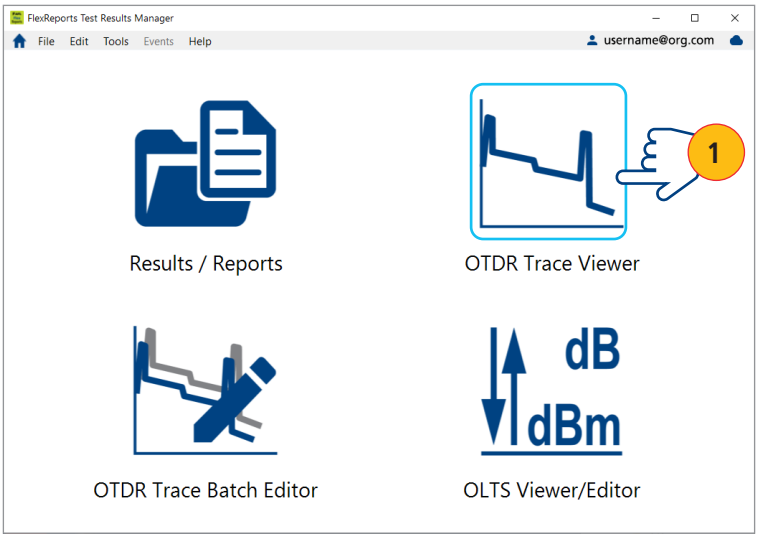
OTDR Trace Viewer - Overview

Within the OTDR Trace Viewer users can analyze .sor formatted trace files from AFL FlexScans. FlesReports allows users to apply new automatic bidirectional analysis and macrobend detection capabilities for all AFL OTDRs. Users can apply pass/fail thresholds to events and links, add/delete events, change loss methods including two point, LSA and fibre attenuation. Next and Previous buttons allow quick review of fibre results.

Opening Test Results with OTDR Trace Viewer

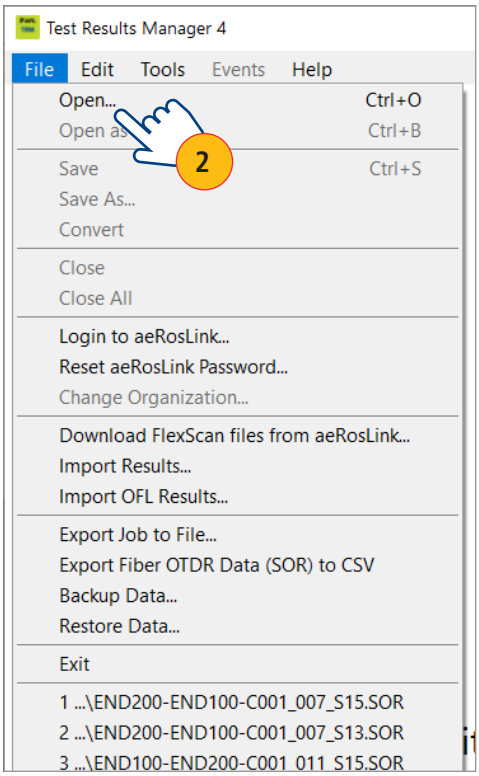
This application may be accessed in several ways:

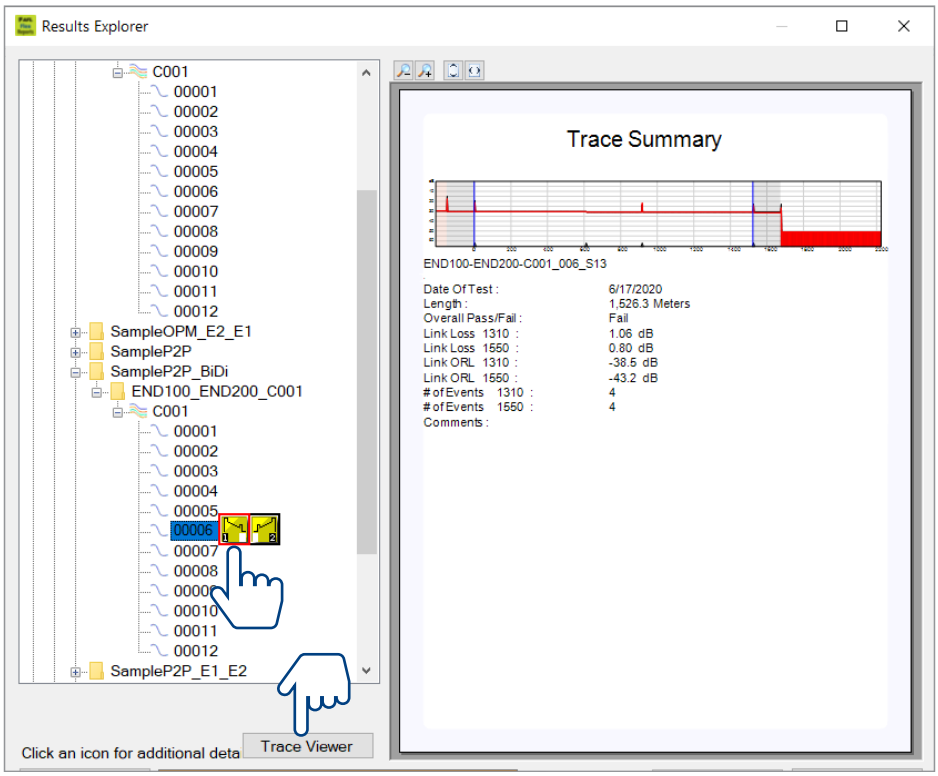
1. From the Home screen, click on the OTDR Trace Viewer icon.



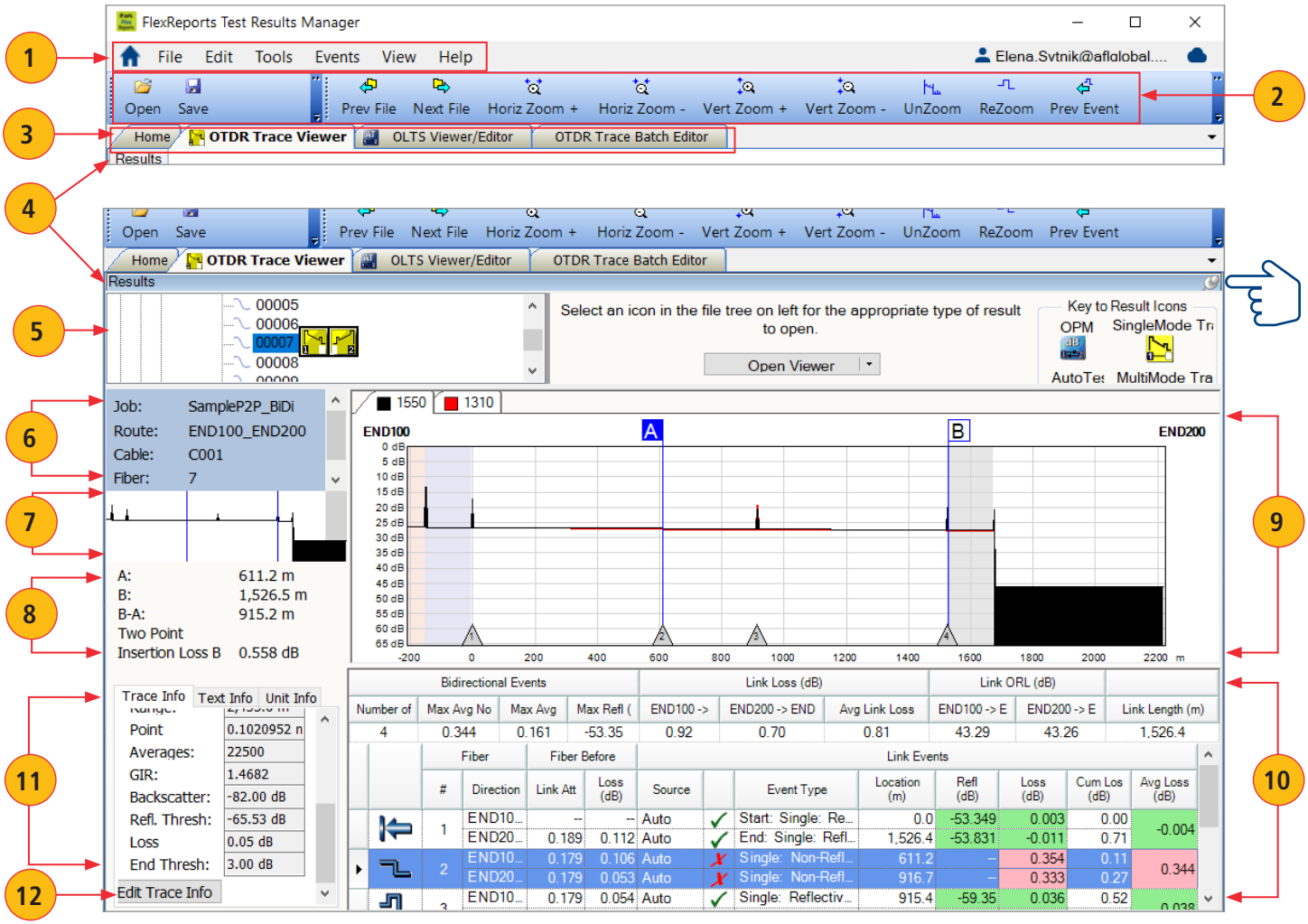
2. From the Home Screen, click File / Open to display FlexReports Results Explorer:
   - Select the desired fiber and with this fiber selected, double-click on a trace icon.
   - Or, Select the desired fiber and with this fiber selected, click on the Trace Viewer button.

Use the OTDR Trace Viewer to analyze OTDR traces and edit single fiber single direction results.





Overview of Trace Viewer Interface



Ref	Feature	Description
1	Menu bar	Displays the available drop down menus.
2	Toolbar	Contains several icons for quick access to menu commands. Click on an icon to execute the associated command.
3	Applications tabs	Click on a tab to display the corresponding application window.
4	Results button	"On mouse over" the Results button, the Results window is displayed and "on mouse out" the Results window is auto-hidden.
5	Results window	The Results window displays folders and files hierarchy and is used to navigate saved test results. To disable/enable the "auto hide" functionality, click the Auto Hide icon located in the right top corner of the Results window.
6	Job Info window	Contains informative fields: Job/Route/Cable name, fiber number and direction.
7	Full trace Reference view	Shows the current trace view relative to the entire trace.
8	Cursors data	This field displays the following information: A and B cursor locations, distance from A to B, selected loss method, and (depending on the selected loss method) insertion loss, reflectance, or fiber attenuation.
9	Trace graph window	Shows a graph of the currently selected trace. Up to six traces can be displayed in the Trace graph window.
10	Event Table	Displays saved events in a table format.
11	Trace Info/Text Info/Unit Info field	This field displays OTDR setup parameters or Text data or Test equipment data when the associated tab Trace Info/Text Info/Unit Info is selected.
12	Edit Trace Info button	Click on this button to display the Edit Trace Information window, which allows editing of the Trace and Text info for the selected trace file.

Trace Viewer Menu Bar

The Menu Bar contains File, Edit, Tools, Events, View, and Help menus. When a menu is selected, it displays a list of commands indicating functions that can be performed on selected files.

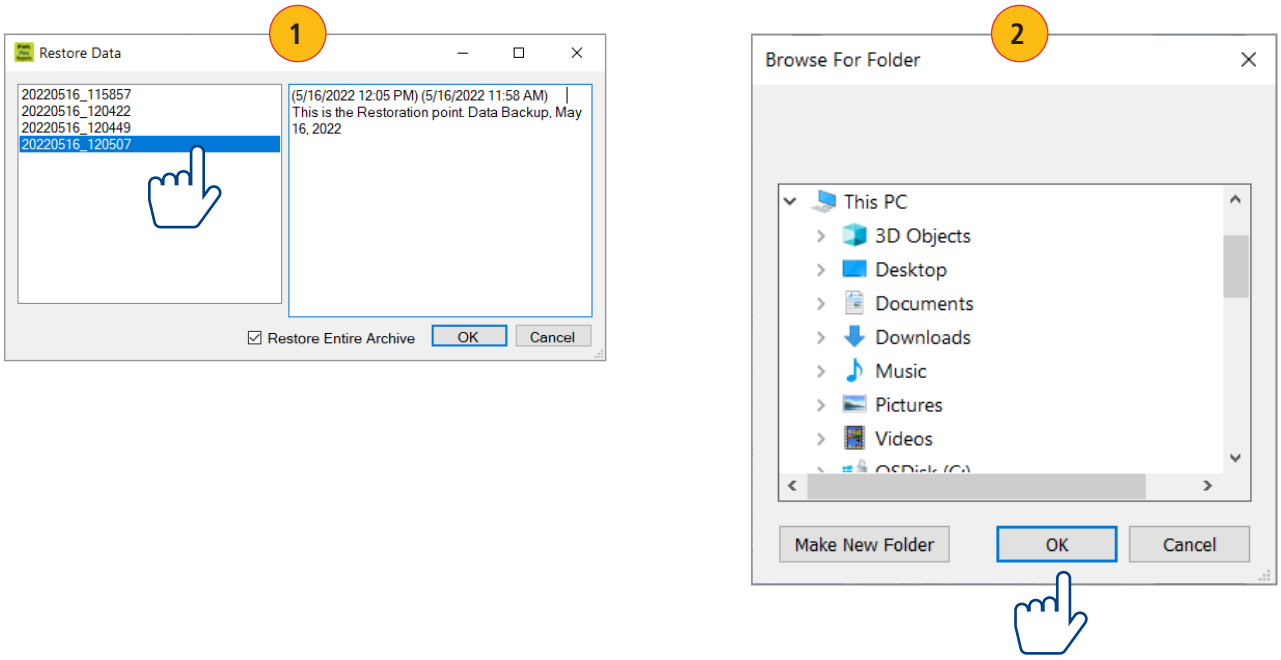
File Menu

Table below gives a summary of the available File Menu commands and their associated functions.

Command	Use to perform the following Function
Open...	Access the Results Explorer. Depending on the user preference setting (Edit >Preferences > Single-Wavelength or Multi-Wavelength), open a single trace file or a multiple trace file.
Open as Baseline...	Access the Results Explorer. Depending on the on the user preference setting (Single-Wavelength or Multi-Wavelength), open a single trace/multiple trace file as a baseline. **Note**: a baseline trace is a trace graph that is used as a point of reference for comparison.
Save	Save a trace file that already exists with its original name.
Save As...	Save an existing trace file under a new name and preserve the original file and/or to save the file in a different format (SOR v1 or SOR v2).
Convert	Convert SOR Version 1.0 files into SOR Version 2.0 file format.
Close	Depending on the selected option for closing files, close selected files after automatically saving changes, or prompt the user to confirm saving.
Close All	Close all open trace & baseline files.
Login to FlexReporter-Cloud / Logout of FlexReporter-Cloud	Login to FlexReporter Cloud / Logout of FlexReporter Cloud
Reset FlexReporter-Cloud Password	Reset FlexReporter Cloud Password
Change Organization...	This menu option allows changing to another organization (if applicable)
Download data from FlexReporter-Cloud...	Access FlexReporter Cloud Wizard to download
Import Results...	Download test data from an instrument.
Import OFL Results...	Download test data from an OFL250 or OFL280 (non-FlexTester).
Export Job to File...	Export the selected Job to a zip file.
Backup Data...	To have a restoration point, create a non-visible backup copy of your data before editing: • Navigate the desired Job /Route/Cable • Click OK to display the Backup Description window • Add a clear comment on backed up data to be able to identify it during restoration
Restore Data...	Restore previously backed up data to a visible folder. Use comments to identify data for restoration.
Exit	Close opened trace files and exit FlexReports.

How To Restore Data

1. From the File Menu, Click Restore Data and perform the following:
   - You may click on individual Backups to review comments saved during the Backup Data process. Using these comments, identify and select data for restoration.
   - Or, you ,ay select the “Restore Entire Archive” option.
   - Click OK.
2. In the displayed File Navigator window, select the desired location and then click OK to save the restored data.



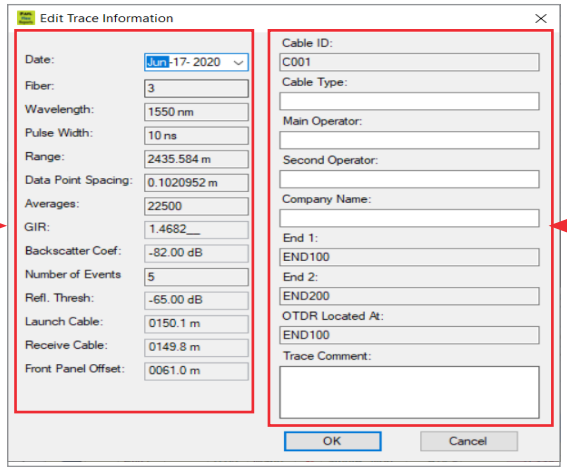
Edit Menu

The Edit menu allows the user to edit File Information and configure Trace Viewer Preferences.

To Edit File Information

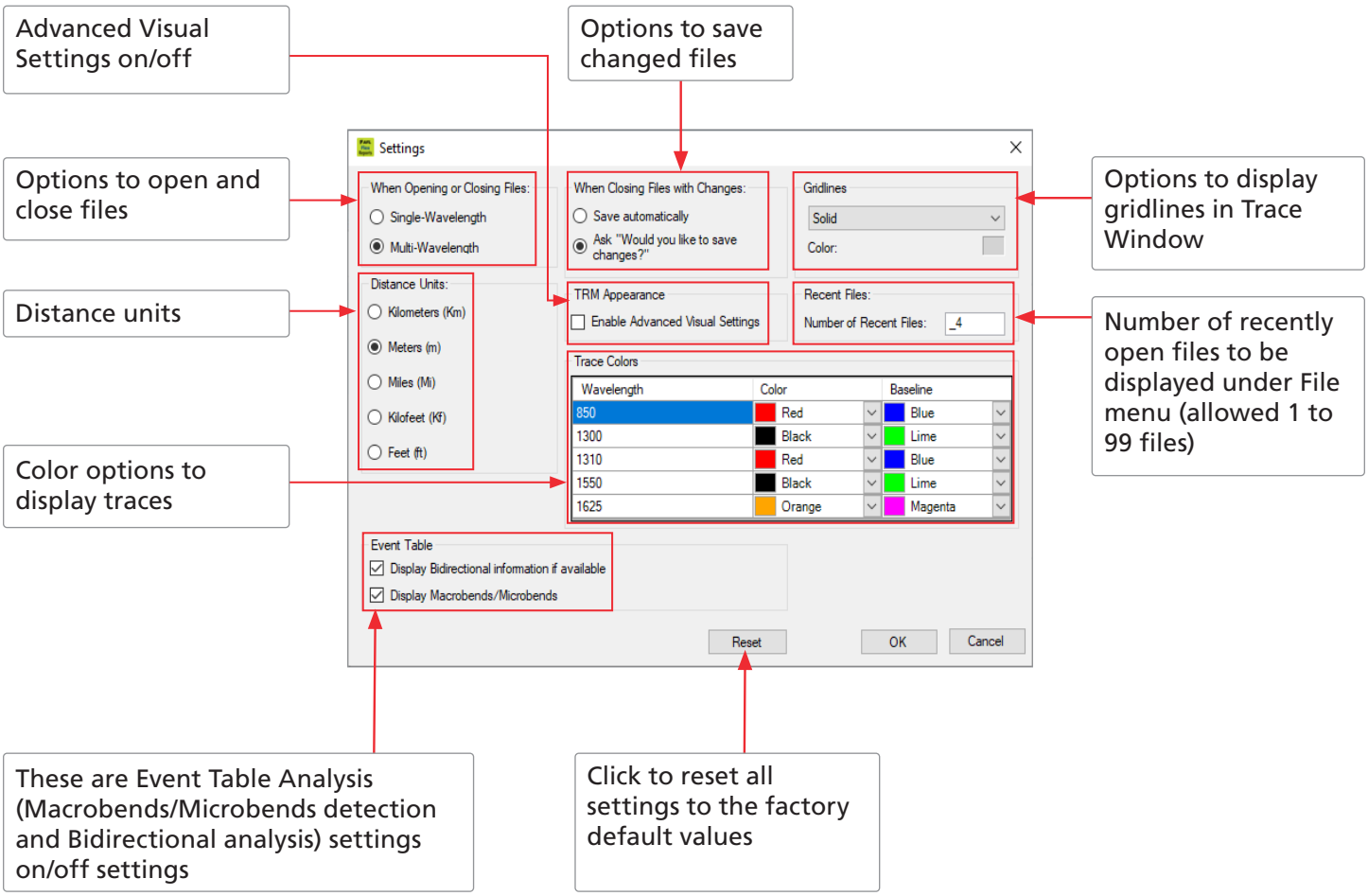
These text fields allow the user to view test settings and edit some test parameters (Date, GIR, Backscatter Coefficient, and Reflectance Threshold). Changing GIR or Backscatter Coefficient will cause recalculation of the Event Table and fiber length.

These are the text editable fields, which allow the user to edit Cable Type, Operators ID, or Company name and add Trace Comments.



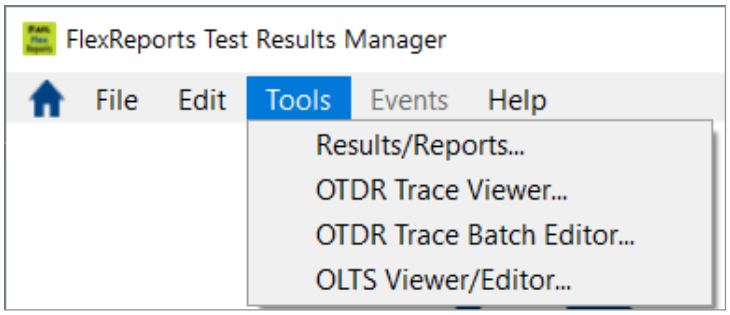
To Configure Trace Viewer Preferences

Use the Preferences menu to select the appearance of traces and how they are opened/closed/saved.



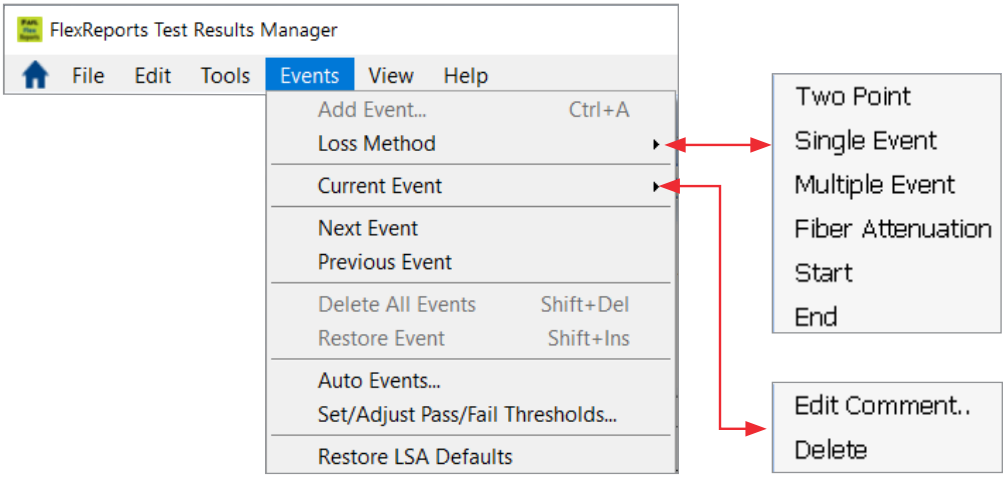
Tools Menu

The Tools menu provides access to the same Applications as the Home screen.



Events Menu

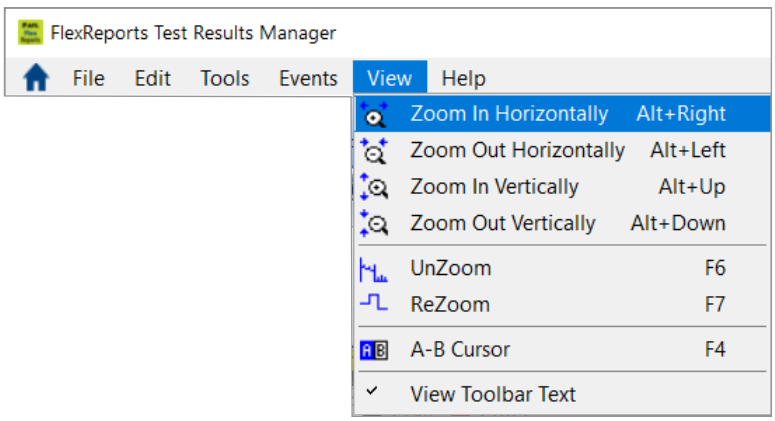
The Events menu contains all the commands you will need to select loss methods, add new events, and review or delete saved events. The table below gives a summary of the available Events menu commands and associated functions.



Command	Use to perform the following Function
Add Event...	Add an event using the selected Loss Method at the active cursor location (not available for the Two Point or Fiber Attenuation methods).
Loss Method	Select the desired Loss Measurement Method (for details, see page 35).
Current Event: – Edit Comment – Delete	Open a dialog box for adding and/or editing comments for the current event. Delete the current event.
Next Event	Display the next event: moves the active cursor to the next event and highlight this event in the event table.
Previous Event	Display the previous event: moves the active cursor to the previous event and highlight this event in the event table.
Delete All Events	Delete all saved events in the selected trace, event table.
Restore Event	Restore the last event that was deleted.
Auto Events...	Generate an event table.
Set/Adjust Pass/Fail Thresholds...	Edit Pass/Fail event and link Thresholds and recalculate events data.
Restore LSA Defaults	Restore LSA line lengths to the default values.

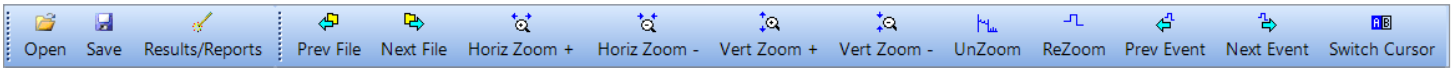
View Menu

View drop down menu allows the user to see selections that affect the view of the OTDR trace. Also, the View menu displays the available keyboard shortcuts.



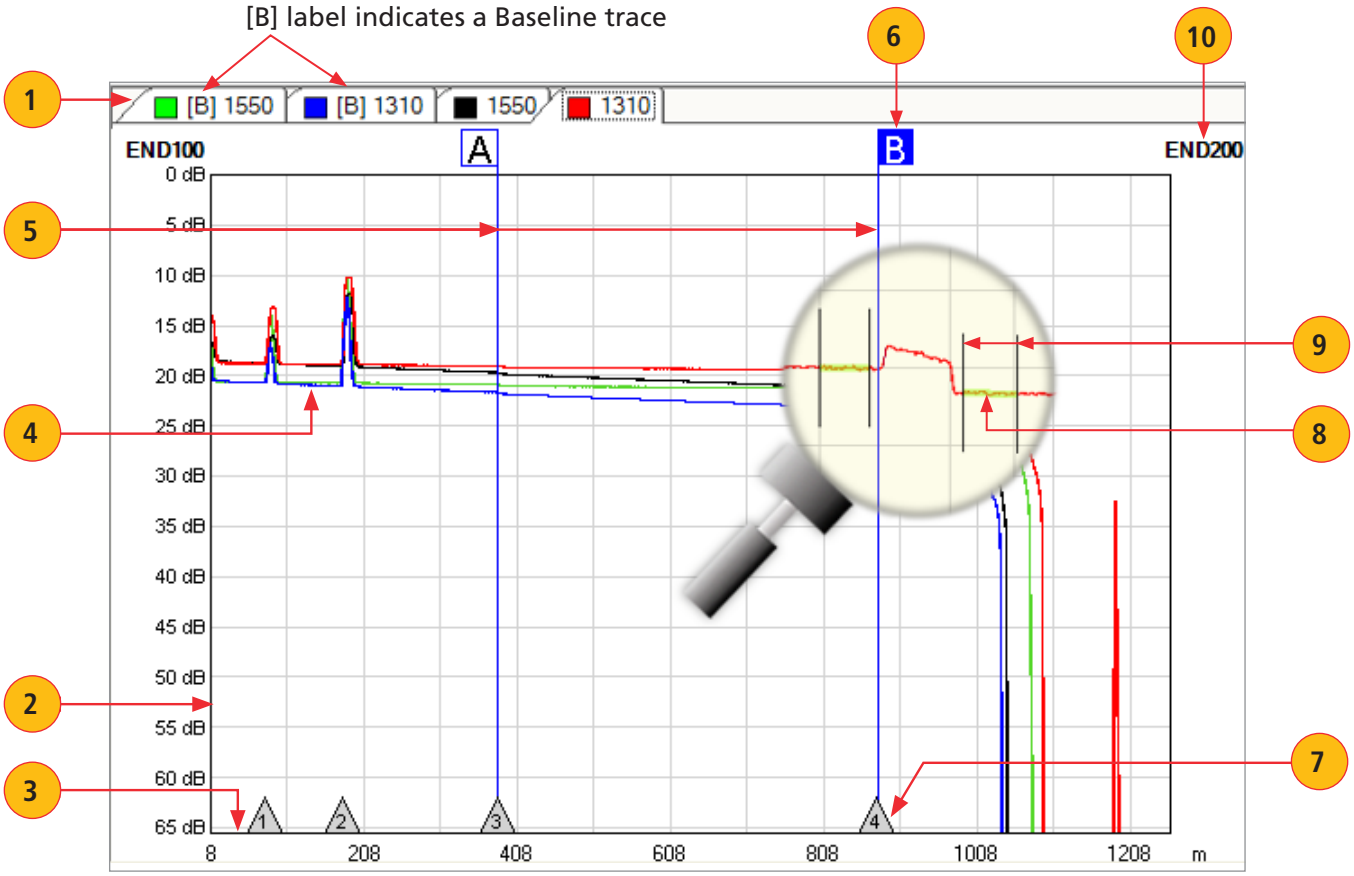
Toolbar

Several of the most commonly used commands can be accessed from the Toolbar. Click on a Toolbar icon to execute the associated command.



Command	Function
Open	Access the Results Explorer and navigate the desired test results
Save	Save a trace file that already exists with its original name
Results/Reports	Open the Results/Reports Application
Prev File	Open the previous file in the current folder
Next File	Open the next file in the current folder
Horiz Zoom (+)	Zoom in horizontally around the active cursor
Horiz Zoom (-)	Zoom out horizontally around the active cursor
Vert Zoom (+)	Zoom in vertically from the trace level at the active cursor
Vert Zoom (-)	Zoom out vertically from the trace level at the active cursor
UnZoom	Display the trace view at 100%
ReZoom	Zoom to the previous zoom level around the active cursor
Prev Event	Select the previous event
Next Event	Select the next event
Switch Cursor	Switch the active cursor

Trace Graph Window

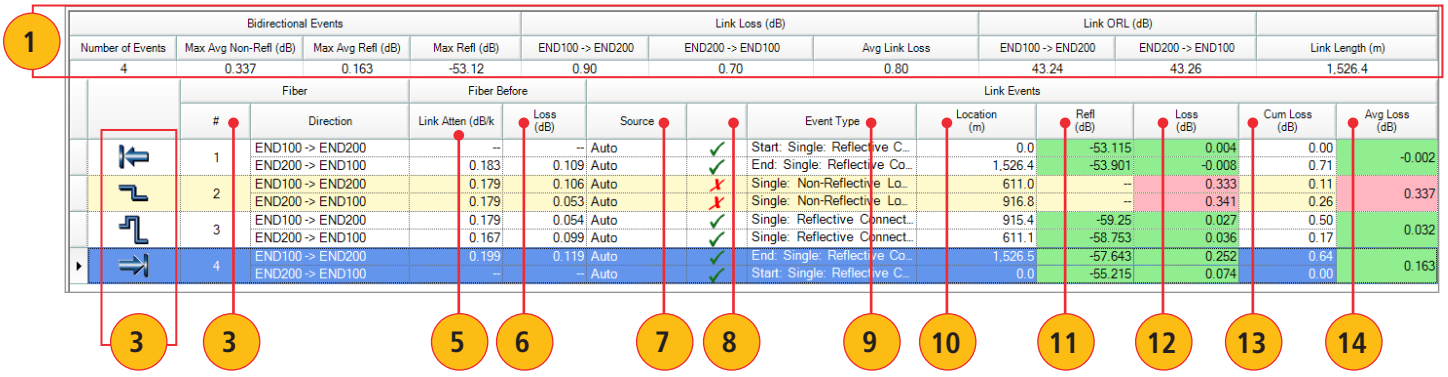


The Trace graph window displays OTDR test results in a graph format. Up to six traces can be displayed. Major features of the Trace graph window are explained below.

#	Feature	Description
1	Trace tab	Displays the name and color of the open trace. If several traces are open, click on a trace tab to display the associated trace graph.
2	Vertical axis	Shows insertion loss in dB.
3	Horizontal axis	Shows distance in user-selected units (km, m, mi, kf, ft).
4	Trace	This is a graph of insertion loss vs. distance.
5	A and B cursors	Used to measure insertion loss, power level, reflectance, attenuation, and distance. To make a cursor active, click on the cursor line or label, or click on the Toolbar Cursor icon to toggle between A and B cursors. To move the active cursor, position the mouse pointer on a cursor, then click-and-drag along the trace graph. Also, you may use the Left and Right keyboard arrow keys.
6	Cursor label	To move the active cursor, position the mouse pointer on a cursor or a cursor label, then click-and-drag along the trace graph.
7	Event mark	Indicates the location and the number of a saved event. Events are listed in numerical order.
8	LSA lines	Available for certain loss measurement methods. Used for calculating insertion loss, trace level, and attenuation.
9	LSA line boundaries	Near and Far LSA line boundaries for each LSA line segment. Used to control length and position (relative to trace segment) of LSA line.
10	Trace end names	End names of the displayed trace are shown on the trace graph on each side to make directional information clearer.

Event Table

The Event table allows the user to view test data associated with the trace displayed in the Trace graph window. If several traces are open, click the desired trace Tab located on top of the Trace graph window to display the Event table of the desired trace. Using the Events menu, you may add or delete trace events and edit comments.



Bidirectional Events				Link Loss (dB)			Link ORL (dB)		
Number of Events	Max Avg Non-Refl (dB)	Max Avg Refl (dB)	Max Refl (dB)	END100 -> END200	END200 -> END100	Avg Link Loss	END100 -> END200	END200 -> END100	Link Length (m)
4	0.337	0.163	-53.12	0.90	0.70	0.80	43.24	43.26	1,526.4

	Fiber		Fiber Before		Link Events								
	#	Direction	Link Atten (dB/k	Loss (dB)	Source		Event Type	Location (m)	Refl (dB)	Loss (dB)	Cum Loss (dB)	Avg Loss (dB)	
	1	END100 -> END200	--	--	Auto	✓	Start: Single: Reflective C...	0.0	-53.115	0.004	0.00	-0.002	
		END200 -> END100	0.183	0.109	Auto	✓	End: Single: Reflective Co...	1,526.4	-53.901	-0.008	0.71		
	2	END100 -> END200	0.179	0.106	Auto	✗	Single: Non-Reflective Lo...	611.0	--	0.333	0.11	0.337	
		END200 -> END100	0.179	0.053	Auto	✗	Single: Non-Reflective Lo...	916.8	--	0.341	0.26		
	3	END100 -> END200	0.179	0.054	Auto	✓	Single: Reflective Connect...	915.4	-59.25	0.027	0.50	0.032	
		END200 -> END100	0.167	0.099	Auto	✓	Single: Reflective Connect...	611.1	-58.753	0.036	0.17		
▸	4	END100 -> END200	0.199	0.119	Auto	✓	End: Single: Reflective Co...	1,526.5	-57.643	0.252	0.64	0.163	
		END200 -> END100	--	--	Auto	✓	Start: Single: Reflective C...	0.0	-55.215	0.074	0.00		

Features of the Event table window are explained below.

Ref	Feature	Description
1	Summary data	Bidirectional analysis summary data is shown in the header as follows: • Bidirectional Events data: – Number of Events, – Maximum Average Splice Loss (non-reflective) between the directions, – Maximum Average Connector Loss (reflective) between the directions – Max Reflectance between the directions • Link Loss data: – Link Loss END10000 -> END200, ink Loss END200 -> END10000, – Average Link Loss • Link ORL data: – Link ORL END10000 -> END200, Link ORL END200 -> END10000 • Link Length
2	Event type icon	Indicates the event type graphically. See section "Event Types" on page 29 for details.
3	Event number	Displays the number of the saved event in numerical/position order.
4	Direction	Indicates directions for each event.
5	Atten.(dB/km)	The dB/km measurement is a slope of the fiber leading to the event.
6	Loss (dB)	Shows Insertion loss in (dB) of the fiber segment before the event.
7	Source	This column indicates how the event is added: • Manual - added by operator. • Auto - event table is generated by OTDR software.
8	Pass/Fail indicators	Indicates Pass - ✓ or Fail - X result for event (Reflectance or Loss).
9	Event Type	This column describes the event type.
10	Location	Indicates Distance from the OTDR (or end of launch cable) to the event.
11	Refl. (dB)	Displays Reflectance in (dB) for each reflective event. Green highlight indicates Passing, Pink highlight indicates Failing.
12	Loss (dB)	Displays Insertion Loss in (dB) for each event. Green highlight indicates Passing, Pink highlight indicates Failing.
13	Cum Loss (dB)	Displays Cumulative Loss (event loss plus fiber loss) for the fiber up to the event point in each direction.
14	Avg Loss (dB)	Displays Average Loss for the fiber up to the event point in each direction.

Note: Pass/Fail column will be absent and Reflectance and Loss results will not be color-coded if Pass/Fail analysis was not performed in the OTDR. To perform Pass/Fail analysis, select Events menu, select "Set/Adjust Pass/Fail Thresholds...", check the boxes for the thresholds to be applied, edit the threshold if necessary, and press "OK."

Event Types

Icon	Event Type	Description
	Start	The start of the fiber under test.
	End	The end of the fiber under test.
	Non-reflective Loss Event	An event with measurable loss but very small or unmeasurable reflectance, typically caused by a fusion splice, fiber break, or macrobend (with macrobend detection disabled).
	Non-reflective Gainer Event	An event with “negative loss,” which can occur in OTDR traces where two fibers with very different backscatter coefficients are spliced or connected. A gainer will be seen as a normal (positive loss) event when tested from the other end of the fiber. The true loss of the event is approximately equal to the average of its loss measured from each end of the fiber under test.
	Reflective Event	An event with measurable loss and reflectance, typically caused by a connection or mechanical splice.
	Macrobend/Microband	A non-reflective loss event with significantly higher loss at longer wavelengths (1550, 1625, 1650 nm) than seen at shorter wavelengths (1310, 1490 nm). Typically caused by a sharp bend in the fiber.
	Splitter	PON splitters are detected only when Event thresholds are set to PON Default or PON User and a high loss event (> 6 dB) is detected which is determined not to be the end of the fiber.
	Group Start Event	First event in multiple event group. Reports loss of entire group. Reports reflectance of first event in group if reflectance of next event can be independently measured. Reports max reflectance of grouped events if next reflectance cannot be independently measured.
	Group Middle Event	Grouped events may contain zero, one, or more middle events. Loss of middle events is included in group loss reported in the group start event. Reports reflectance if it can be independently measured.
	Group End Event	Last event in a multiple event group. Loss of last event is included in group loss reported in group start event. Reports reflectance if it can be independently measured.

Bidirectional Analysis

Bidirectional test data for each event is organized in the Event Table by direction and indicated by direction labels END100 —> END200 and END200 —> END100.

Macrobend/Microbend Analysis

Macrobend detection is the analysis performed to detect and quantify Macrobends and Microbends in a set of OTDR traces for a given fiber. This requires OTDR traces taken on the same fiber for at least two wavelengths in a single direction.

Macrobend/Microbend test data for each events is organized in the Event Table and indicated by Macrobend/Microbend icon and Event type description.

Working with OTDR Trace Files

Opening Trace Files

Single-Wavelength or Multi-Wavelength

FlexReports offers two options for opening and closing trace files. Depending on the user preference setting (Edit >Preferences > Single-Wavelength or Multi-Wavelength), a single-wavelength trace or multi-wavelength trace (dual-wavelength/tri-wavelength trace) may be opened and closed within the current folder. For details, see section titled Edit Menu > Preferences Dialog Box.

If the Single-Wavelength option is enabled, then trace files will be opened and closed one at a time. If the Multi-Wavelength option is enabled, then trace files will be opened and closed in wavelength sets (files with the same name, fiber number, and fiber type but different wavelengths).

In addition to the open single trace or multi-trace file, the user may open a baseline trace for comparison with the current trace/multi-trace. If a tri-wavelength trace and a tri-wavelength baseline trace file are opened, a total of six traces will be displayed at one time.

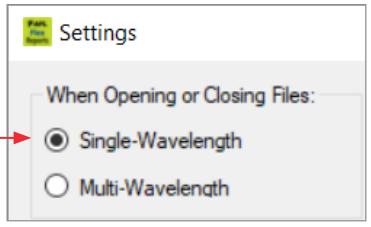
To Select a Single-Wavelength Trace Option

1. From the Edit drop down menu, select Preferences... to display trace settings dialog box.
2. Select the Single-Wavelength option, and then click OK.

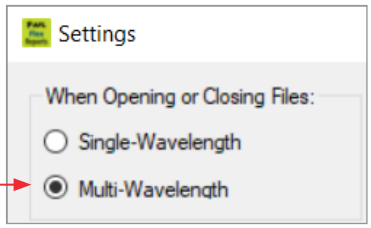
To Select a Multi-Wavelength Trace Option

1. From the View drop down menu, select the Options command to display the Preferences... dialog box.
2. Select the Multi-Wavelength option, and then click OK.

Select to open a single trace file

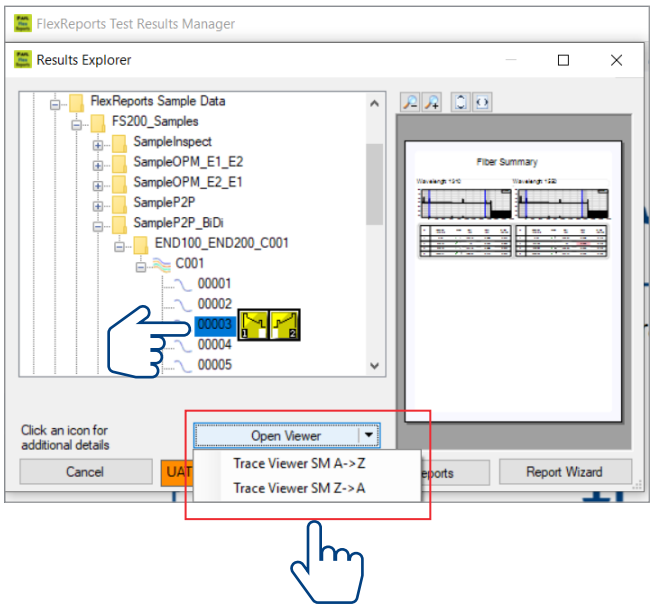


Select to open trace files in wavelength sets

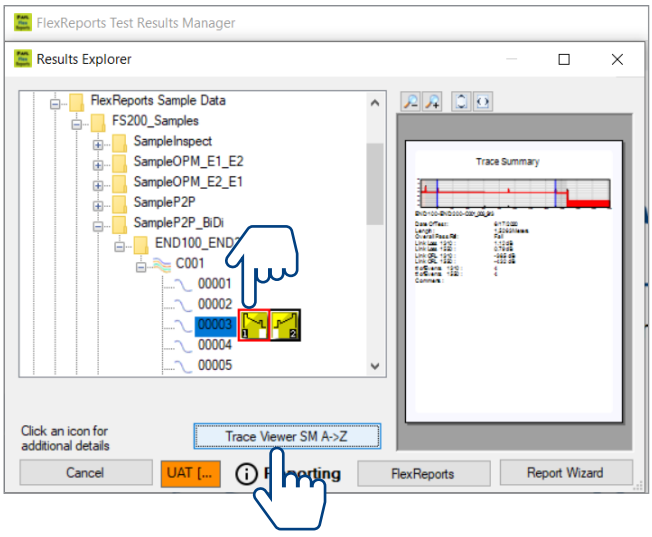


To Open a Trace from the Results Explorer

1. From the File drop down menu, select the Open click the Open icon on the Toolbar to display the Results Explorer.
2. From the displayed list, navigate to the desired fiber.
3. To display test results, perform one of the following:
   - If you select on a fiber number, you will see the button labeled Open Viewer with options. Click on Open Viewer and select the desired option from the drop down box.



   - If you select on a trace icon, you will see the button labeled Trace Viewer A–>Z or Trace Viewer Z–>A. Click on this button to open the selected test result.



Opening Previous or Next Traces from the Toolbar

After you open a single trace file or multiple trace file, you may use the Prev File and Next File commands to display the previous or next trace file or multiple trace file of the same fiber type (MM or SM) in the current folder by clicking the Next File or Prev File icon on the Toolbar.

Comparing Traces with a Baseline Trace

FlexReports allows you to open a baseline trace or trace set for comparison to another trace or trace set. If a tri-wavelength trace and a tri-wavelength baseline trace file are opened, a total of six traces will be displayed at one time.

1. From the File drop down menu, select the Open as Baseline option to display the Results Explorer window.
2. From the displayed list, navigate and open the desired baseline trace (see Section "Opening Trace Files" for details).
3. From the File drop down menu, select the Open option or click the Open icon on the Toolbar to display the Results Explorer window.
4. From the displayed list, navigate and open the desired trace (see Section "Opening Trace Files" for details).

Closing Files with Changes

Edit > Preferences menu offers two options for closing trace files with changes:

Save Automatically or Ask "Would you like to save changes?"

Save Automatically option	Ask "Would you like to save changes?" option
If a trace file has been edited and not saved, it will be saved automatically before closing. **Note:** Save Automatically will overwrite an existing file.	If a trace file has been edited and not saved, a dialog box will appear prompting you to save changes before closing.

To specify how trace files will be closed:

1. From the Edit drop down menu, select the Preferences option to display the Preferences dialog box.
2. Select the desired option, then click OK.

Moving Cursors and Zooming

The A and B cursors may be positioned to measure the insertion loss, power level (if applicable), reflectance (if applicable), attenuation (if applicable), and distance between any two points on a trace.

To make cursor positioning easier, FlexReports provides tools and commands for viewing different parts of a trace graph at various magnifications. Zoom + and Zoom - commands let you magnify or reduce the display of any area in the Trace graph window.

FlexReports zooms horizontally around the active cursor and vertically from the trace level at the active cursor.

Selecting the Active Cursor

To make a cursor active, do one of the following:

- In the Trace graph window, click on the desired cursor line or label.
- From the Toolbar, click on the Switch Cursor button to toggle between cursors.

Once the active cursor is selected, it can be moved along the trace graph.

Moving the Active Cursor

To move the active cursor, do one of the following:

- Position the mouse pointer on a cursor line or cursor label, then click-and-drag along the trace graph.
- Use the Left and Right keyboard arrow keys.

Note: The A cursor cannot be moved beyond the B cursor location, and vice versa.

- Click on an event in the event table, the active cursor will jump to that event on the trace graph.

Zoom In and Out of a Trace

To magnify or reduce the trace display, use the Toolbar Zoom Buttons as follows:

- Zoom In or Zoom Out horizontally around the active cursor.
- Zoom In or Zoom Out vertically from the trace level at the active cursor.

Note: Each click magnifies the view to the next preset percentage until the limit of magnification is reached.

UnZoom and ReZoom the Trace Display

In the zoomed view, FlexReports always displays the active cursor area. The UnZoom and ReZoom commands allow you to display different areas of a trace graph at the same level of magnification. If you need to view a different point of the trace, move the active cursor, UnZoom and then ReZoom. FlexReports will display the new position of the active cursor at the previous zoom level.

Perform the following steps:

1. In the Trace graph window, use the Zoom + and Zoom - commands to set the desired level of magnification.
2. Click on the UnZoom button to display the trace view at 100%.
3. Relocate the active cursor as needed.
4. Click on the ReZoom button to display the new cursor location at the previous zoom level.

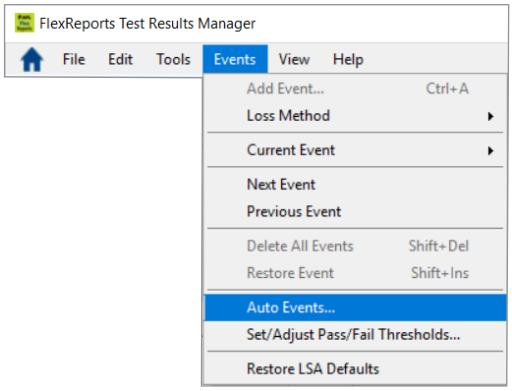
Note: When you toggle between A and B cursors in the magnified view, the view changes to display area around the selected cursor at the same magnification level.

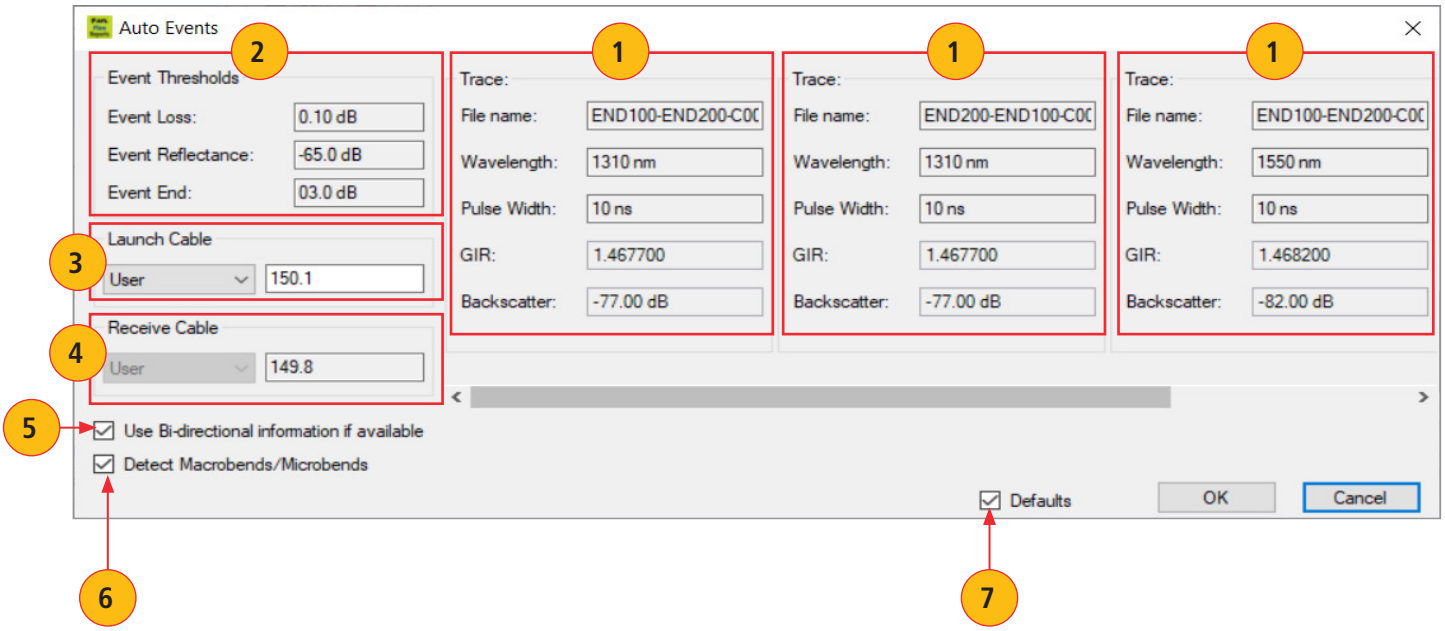
OTDR Trace Events

Adding Auto Events

Use the Auto Events command to generate an event table.

- Display the Auto Events menu screen by clicking the Auto Events located on the menu bar.
- Review Trace Properties and Event Thresholds.
- Edit Launch Cable and/or Receive Cable as needed.
- Enable/disable the Advanced Analysis options:
- Use Bidirectional Information if available.
- Detect Macrobends/Microbends.
- Click OK.





Ref	Feature	Description
1	Trace Properties window	Contains informative fields. File name, Wavelength, Pulse Width, GIR - Group Index of Refraction and Backscatter Coefficient.
2	Event Thresholds	Contains informative fields: Event Loss, Event Reflectance, Event End
3	Launch Cable drop down menu	Displays the available Launch Cable options as follows: None, Noyes 150 m, Noyes 500 m, Noyes 1 km, User.
4	Receive Cable drop down menu	Displays the available Receive Cable options as follows: None, Noyes 150 m, Noyes 500 m, Noyes 1 km, User.
5	Use Bidirectional information check box	Select/deselect this check box to enable/disable Bidirectional Analysis information
6	Detect Macrobends/ Microbends check box	Select/deselect this check box to enable/disable the Macrobends/Microbends detection
7	Defaults check box	Select this box to restore default settings for the Trace Editable Properties and Event Thresholds

Manual Events

Selecting Loss Method

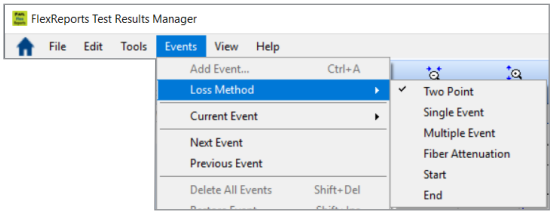
For analyzing traces and adding events, FlexReports offers various Loss methods. The following table gives a summary of the available methods.

Loss Method	Applications	Measured parameters	# of Cursors	# of LSA Lines*
Two Point	General purpose	Insertion loss between any 2 points of a trace	2	0
Single Event	Used to analyze connections, splices, faults, etc.	Location, Reflectance, Insertion loss of any Reflective or Non-Reflective event	1	2
Multiple Event	Used if two or more events are too close to use other methods	Location and combined Insertion loss of multiple events	2	2
Fiber Attenuation	Used to measure dB/km of fiber between events	Attenuation per km ratio of any segment of a trace with no events	2	1
Start	Used to set start of fiber level	Starting location and level of a trace	1	1
End	Used to set end of fiber level.	Location, Reflectance, and Trace level of the fiber end	1	1

* LSA Line - least squared approximation segment line. Used to reduce the effects of noise and dead zone while calculating insertion loss, trace level, and attenuation.

To select the desired Loss method perform the following:

1. From the Menu bar, choose the Events drop down menu.
2. Choose the Loss Method command to display a list of the available options.
3. Select the desired Loss method.

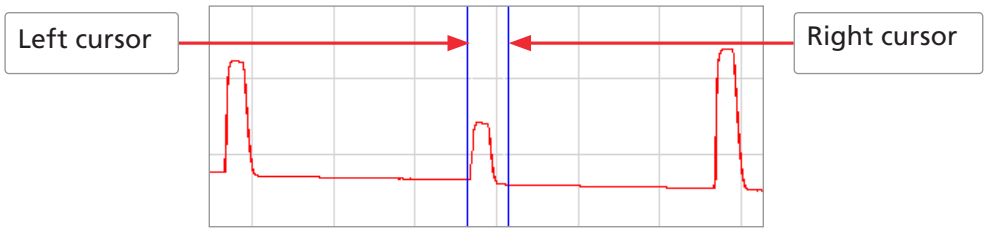


Positioning Cursors Correctly

Depending on the selected Loss Method, you will need to position cursors and adjust LSA lines (if applicable) properly. The following graphs illustrate position of cursors and LSA lines for the available Loss methods.

Two Point Loss Method

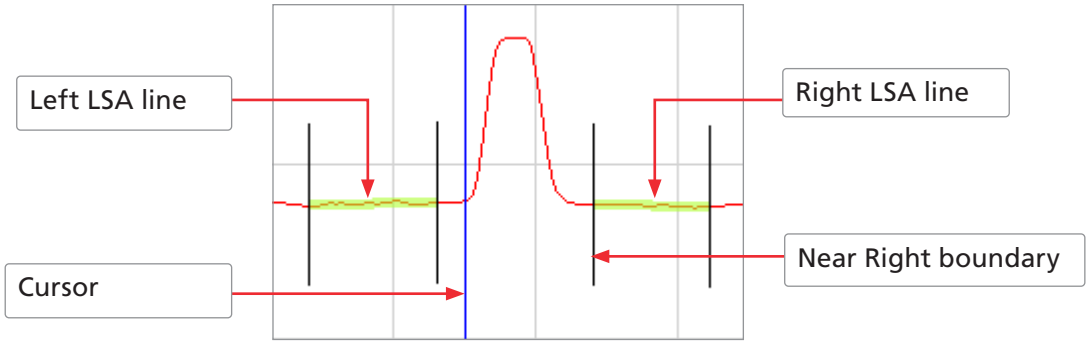
1. Position the left cursor at the start of the event.
2. Position the right cursor beyond the event where the trace returns to a constant slope.
3. Read the insertion loss measurement displayed in the Cursor data window.



Single Event Loss Method

Position a cursor at the start of the event.

1. If required, adjust the right LSA line so the Near Right boundary is located beyond the event where the trace returns to a constant slope.
2. Read the insertion loss measurement displayed in the Cursor data window.
   Or
3. From the Events drop down menu, choose the Add Event to add event manually.

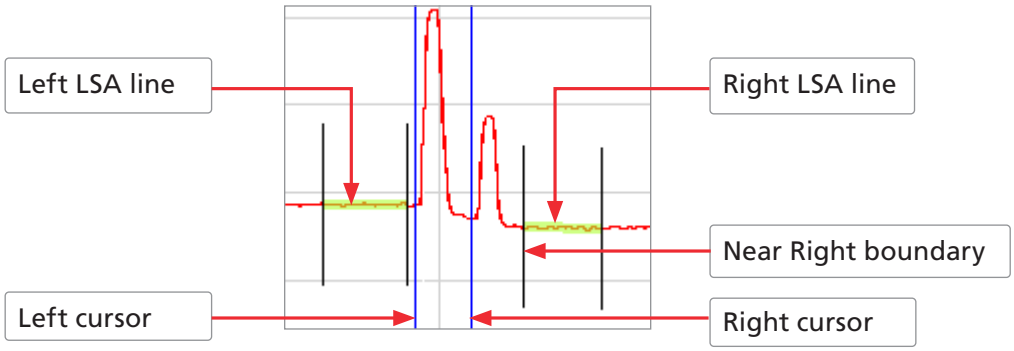


Multiple Event Loss Method

1. Position the left cursor at the start of the first event.
2. Position the right cursor at the start of the last event.
3. If required, adjust the right LSA line so the Near Right boundary is located beyond the event where the trace returns to a constant slope.
4. Read the insertion loss measurement displayed in the Cursor data window.

Or

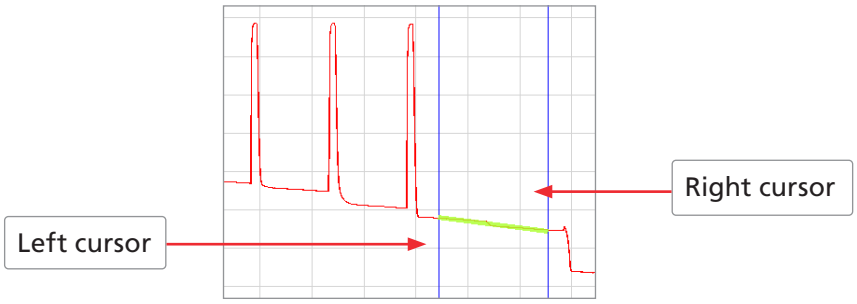
5. From the Events drop down menu, choose the Add Event command to add event manually.



Fiber Attenuation Loss Method

This method is used just for analyzing a trace.

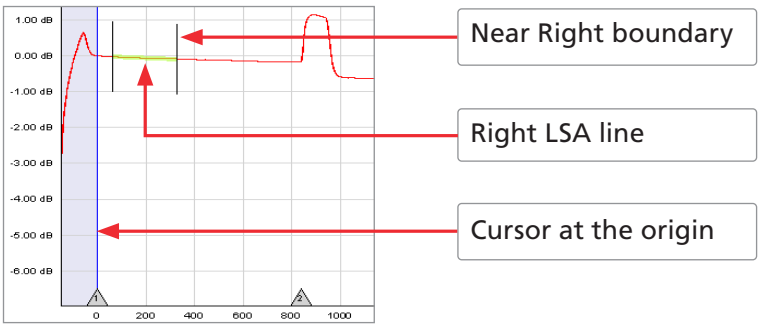
1. Position left and right cursors on the trace as needed.
2. Read the attenuation coefficient (dB/km) measurement displayed in the Cursor data window.



Start Loss Method (No Launch Cable)

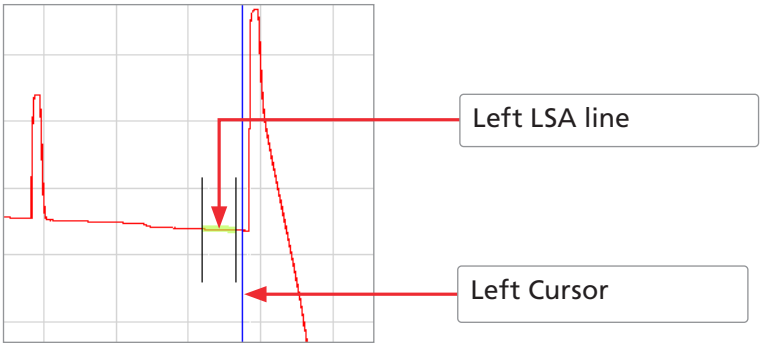
Position the left cursor at the beginning of the trace (0 meters).

1. If required, adjust the right LSA line so the Near Right boundary is located beyond the reflection where the trace returns to a constant slope.
2. Read the trace level measurement displayed in the Cursor data window.
3. OR, From the Events drop down menu, choose the Add Event command to add event manually.



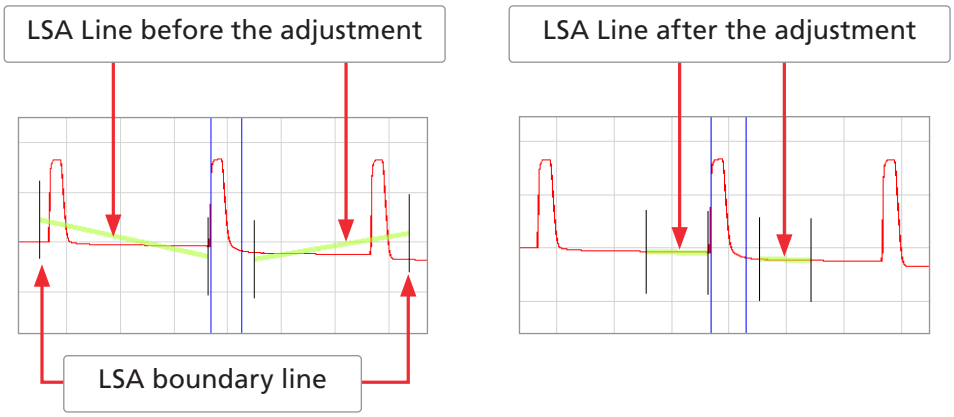
End Loss Method (No Receive Cable)

1. Position the Left cursor at the start of the Far-end reflection.
2. If required, adjust the left LSA line.
3. Read the trace level measurement displayed in the Cursor data window.
4. OR, From the Events drop down menu, choose the Add Event command to save.



Adjusting LSA Lines

If events of a trace are located very close to each other, you may have to adjust the LSA Lines. The graphs below illustrate an example of the LSA lines before and after the adjustment.



To adjust LSA lines, position the mouse pointer over an LSA line boundary, then click and drag to the desired location.

Note: if you need to restore the original lengths of the LSA lines, choose the Restore LSA Defaults command from the Events drop down menu.

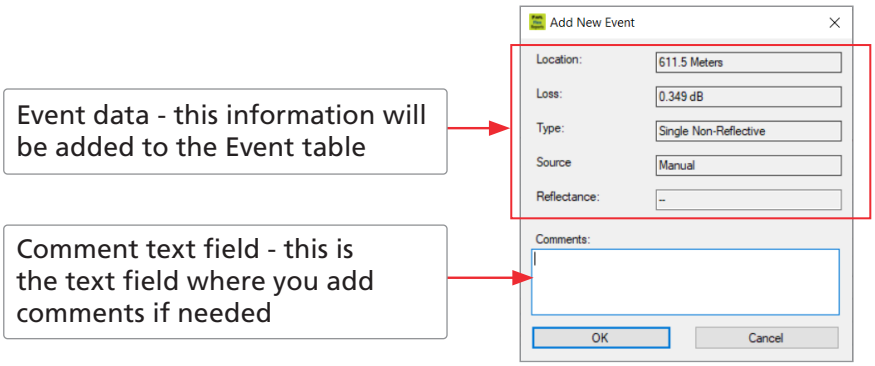
Adding Manual Events

To manually add events, perform the following steps:

1. Select the desired Loss method.

Note: Event type displayed in the Event Table will match the currently selected loss method.

2. Move the active cursor to the event to be added.
3. From the Events drop down menu, select the Add Event.
4. The Add New Event dialog box opens displaying the event data that will be added to the Event table and allowing you to add a comment.
5. Type a comment in the Comment text field (maximum 94 characters) if needed.



6. Click OK to save. FlexReports automatically adds an event data in the Event table window and places an event mark in the Trace graph window to indicate the added event.

Editing Event Comments

To edit a comment, do one of the following:

1. In the Event Table, select the desired event by clicking on it.
   - From the Events drop down menu, select the Current Event > Edit Comment... command to display the Edit Event dialog box.
   - Edit comments as needed.
   - Click on the OK button to save changes.

Or

1. In the Event Table, select the desired event by clicking on it.
2. Right-click the selected event, to display a submenu.
   - From the displayed submenu, select the Edit Comment... command to display the Edit Event dialog box.
   - Edit comments as needed.
   - Click on the OK button to save changes.

Deleting Events

To delete an event, do one of the following:

1. In the Event table, select the desired event by clicking on it.
   - From the Events drop down menu, select the Current Event > Delete or Delete All Events command.
     Or
2. In the Event table, select the desired event by clicking on it.
   - Right-click the selected event, to display a submenu.
   - From the displayed submenu, select the Delete Event... command.

Restoring a Deleted Event

From the Events drop down menu, select the Restore Event command to recover an event that was deleted last.

Note: FlexReports will only restore the last event deleted. All previously deleted events will not be restored.

Set/Adjust Pass/Fail Thresholds

FlexReports allows the user to edit Pass/Fail event and link Thresholds and recalculate the events data displayed in the event table.

1. From the Events drop down menu, select the Set/Adjust Pass/Fail Thresholds... command to open the Re-calculate Pass/Fail Thresholds dialog box.
2. Edit Event and Link Thresholds to the allowed limits as needed. Click OK.
3. FlexReports will recalculate test results based on the new Thresholds data and display the updated results in the Event table window.

Thresholds Allowed Limits

Threshold	Min Value (dB)	Default Value (dB)	Max Value (dB)
Event Pass Thresholds			
Loss, Reflective Event	0.05	0.75	3.00
Loss, Non-reflective Event	0.05	0.30	3.00
Reflectance: 1310, 1550 nm	-65.0	-35.0	-20.0
Reflectance: 850, 1300 nm	-45.0	-22.0	-15.0
Event Marginal Thresholds			
Loss, Reflective Event	0.00	0.00	1.00
Reflectance	**0.00**	**-5.00**	**-10.0**
Link Pass Thresholds			
Loss: 850, 1300, 1310, 1550 nm	0.00	0.00	35.0
ORL: 850, 1300, 1310, 1550 nm	20.0	25.0	65.0
Link Marginal Thresholds			
Loss: 850, 1300, 1310, 1550 nm	0.00	0.00	5.00
ORL: 850, 1300, 1310, 1550 nm	0.00	0.00	10.0

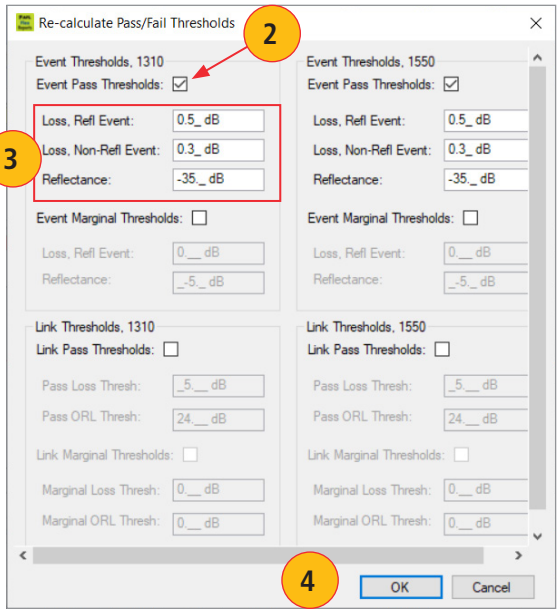
Editing Event Pass/Fail Limits

When a FlexScan SOR file is opened in FlexReports, pass/fail limits for non-reflective splice and reflective connector events are set to the values stored in the SOR file.

The currently set Pass / Fail limits may be viewed and edited for the current results in the Trace Batch Editor by selecting Adjust Pass/Fail tab.

1. The currently set Pass / Fail limits may be viewed and edited for the current results in the Trace Viewer by selecting Events -> Set/Adjust Pass/Fail Thresholds.
2. Check (or uncheck) the Event Pass Thresholds to apply (or not).
3. Select and edit following event thresholds:
   - Loss, Reflective Event (connector).
   - Loss, Non-Reflective Event (splice).
   - Reflectance.
4. Select OK to apply edited pass/fail limits.

Note: FlexReports does not currently support user-edited splitter Pass/Fail limits.

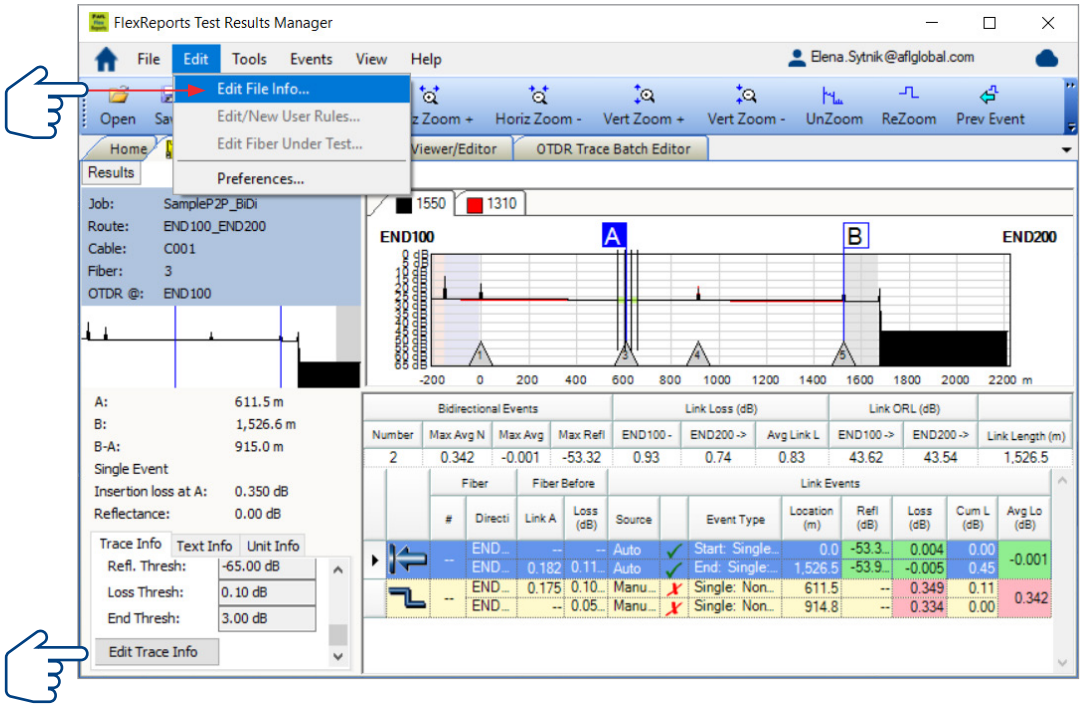


Editing Information of a Single Trace

FlexReports allows you to edit trace information. This is done in the Edit Trace Information dialog box.

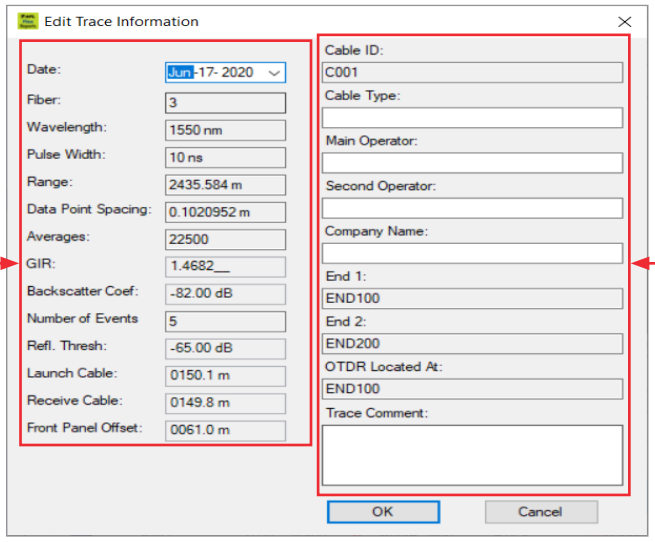
1. To display the Edit Trace Information dialog box, do one of the following:
   - From the Edit drop down menu, select the Edit File Info.
   - Select the Trace Info tab, and then click on the button.
2. In the Edit Trace Information dialog box, edit the desired trace parameters as needed.
3. Choose OK to save changes.

Note: Changes are wavelength dependent and apply to the trace indicated by the top tab in the graph window.



These text fields allow the user to view test settings and edit some test parameters (Date, GIR, Backscatter Coefficient, and Reflectance Threshold). Changing GIR or Backscatter Coefficient will cause recalculation of the Event Table and fiber length.

These are the text editable fields, which allow the user to edit Cable Type, Operators ID, or Company name and add Trace Comments.

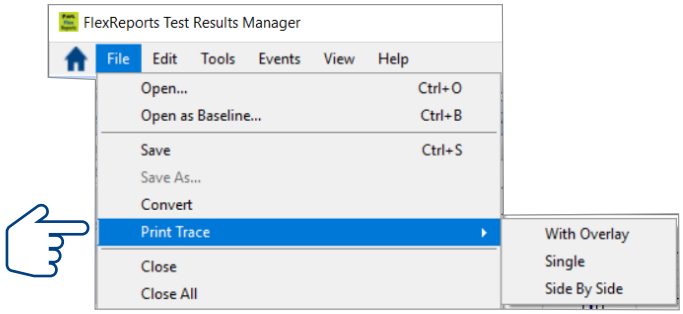


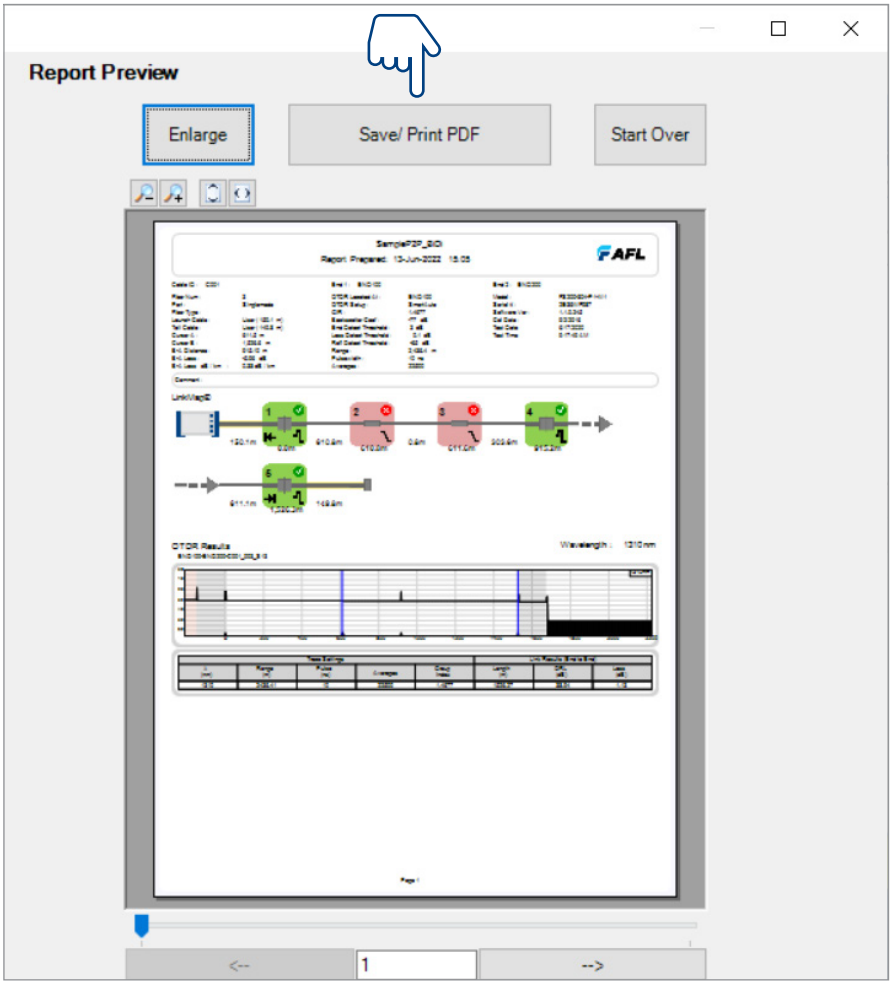
Printing a Single Report

1. From the File menu, select the Print Trace -> With Overlay / Single / Side by Side command to access the Report Preview page.

   Depending on the selected printing style, FlexReports allows single or multiple trace view reports as follows:

   - With Overlay style - prints all traces as a single view with overlay wavelength graph and event table for each wavelength if available.
   - Single style - prints single trace and event table for each wavelength if available. If a trace file contains multi-wavelength test results, a report for each wavelength will be printed on individual pages.
   - Side by Side - prints multi-view traces side by side and event tables if available.
2. From the Report Preview page, click on the Print button.
3. Select the desired printer.
4. Click Print to print a single trace report.





OTDR Trace Batch Editor Application

OTDR Trace Batch Editor allows users batch process multiple OTDR test results and provides powerful capabilities for edits and corrections.

Batch Editing – Benefits

Some benefits of batch editing are:

Easy recovery when technicians:

- Use default Job names
- Make Job naming entry errors
- Misconfigure launch cables
- Misconfigure pass/fail limits

Enables users to select a group of data files and perform the following edits:

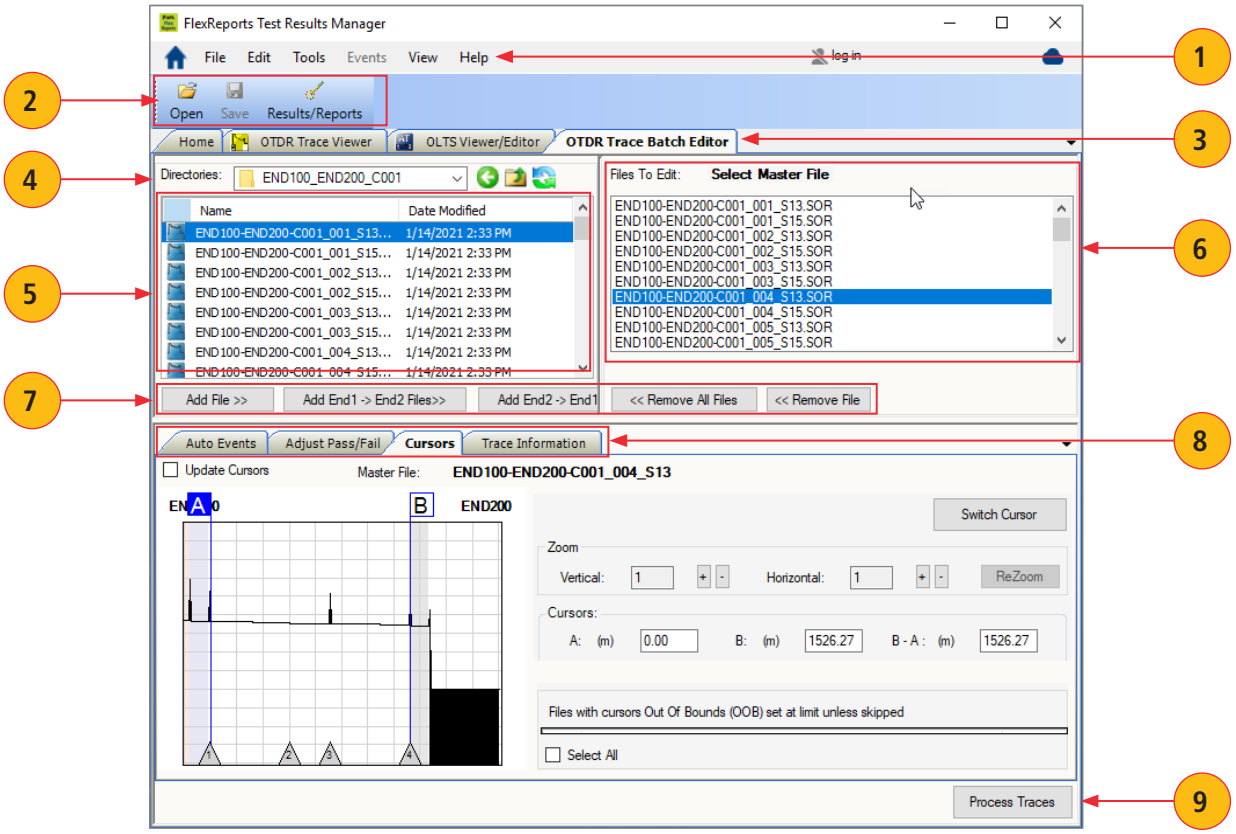
- Reapply Test settings
- Adjust Pass / Fail limits
- Set cursors to same location
  - Call attention to event (defect) in some but not all fibers
  - Make for consistent professional presentation of results
- Edit Trace Information:
  - Job, Route, Cable names
  - Test parameters (Pass / Fail limits, launch cables settings

Notes:

- Users must always be aware of the scope of changes over selected files.
- FlexReports backs up current settings before making change and provides a recovery path.

Trace Batch Editor Screen Features

OTDR Trace Batch Editor is accessed from the Home screen by clicking the OTDR Trace Batch Editor icon. This application allows editing all or selected properties in multiple trace files in the open folder.



Features of the OTDR Trace Batch Editor screen are explained below:

Ref	Feature	Description
1	Menu bar	Displays the available drop down menus
2	Toolbar	Contains several icons for quick access to menu commands Click on an icon to execute the associated command
3	Applications tabs	Click on a tab to switch to the corresponding application
4	Directories menu	Allows navigation to the desired folder
5	Traces Selector window	Displays a list of saved traces in the selected folder
6	Files to Edit window	Displays all trace files added to the batch edit list
7	Functional buttons:	
	Add File	Adds the selected trace or multiple traces to the batch edit list
	Add END1-END2 Files	Adds to the batch edit list all the traces in the selection showing END100 to END200 results
	Add END2-END1 Files	Adds to the batch edit list all the traces in the selection showing END200 to END100 results
	Remove File	Removes a single trace or multiple traces from the batch edit list
	Remove All Files	Removes all traces from the batch edit list
8	Trace property editors tabs	Click on a tab to activate the corresponding property editor
9	Process Traces button	Click on this button to complete and finalize edits

Menu Bar

The Menu Bar contains File, Edit, Tools, Events, View, and Help menus. When a menu is selected, it displays a list of commands indicating functions that can be performed on selected files.

File Menu

Table below gives a summary of the available File Menu commands and their associated functions.

Command	Use to perform the following Function
Open...	Access the Results Explorer. Depending on the user preference setting (Edit >Preferences > Single-Wavelength or Multi-Wavelength), open a single trace file or a multiple trace file.
Login to FlexReporter-Cloud / Logout of FlexReporter-Cloud	Login to FlexReporter Cloud / Logout of FlexReporter Cloud
Reset FlexReporter-Cloud Password	Reset FlexReporter Cloud Password
Change Organization...	This menu option allows changing to another organization (if applicable)
Download data from FlexReporter-Cloud...	Access FlexReporter Cloud Wizard to download
Import Results...	Download test data from an instrument.
Import OFL Results...	Download test data from an OFL250 or OFL280 (non-FlexTester).
Export Job to File...	Export the selected Job to a zip file.
Backup Data...	To have a restoration point, create a non-visible backup copy of your data before editing: • Navigate the desired Job /Route/Cable • Click OK to display the Backup Description window • Add a clear comment on backed up data to be able to identify it during restoration
Restore Data...	Restore previously backed up data to a visible folder. Use comments to identify data for restoration (see "How To Restore Data" on page 23 for details).
Exit	Close opened trace files and exit FlexReports.

Edit Menu

The Edit menu allows the user to set up Preferences. See section "Edit Menu" on page 12.

Tools Menu

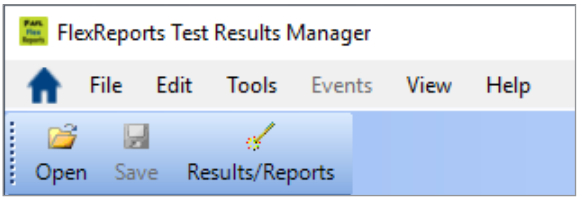
This menu provides access to the Home screen menus. See section "Tools Menu" on page 24 .

Help Menu

This menu provides access to the following: AFL web site, AFL Test and Inspection web site, AFL Software updates on the web, License Information, "About FlexReports" screen. See section "Help Menu" on page 13.

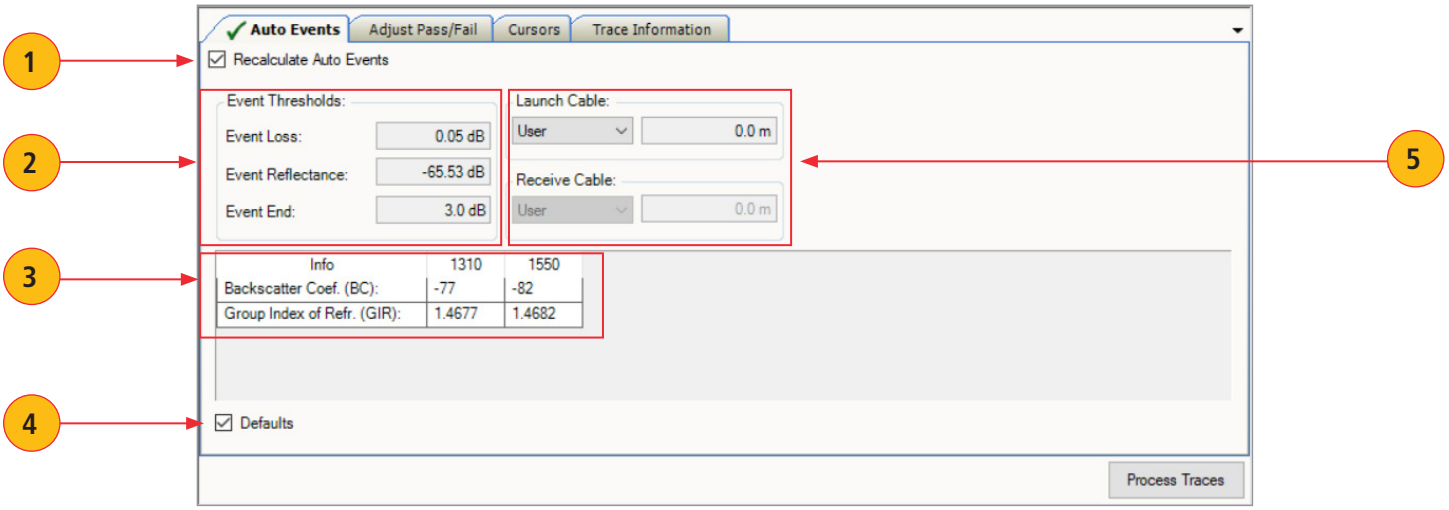
Toolbar

Toolbar on the Batch Editor provides access to File Explorer and Results / Reports screen.



Command	Function
Open	Locate and open the desired trace file
Results/Reports	Open the Results/Reports Application

Auto Events Editor

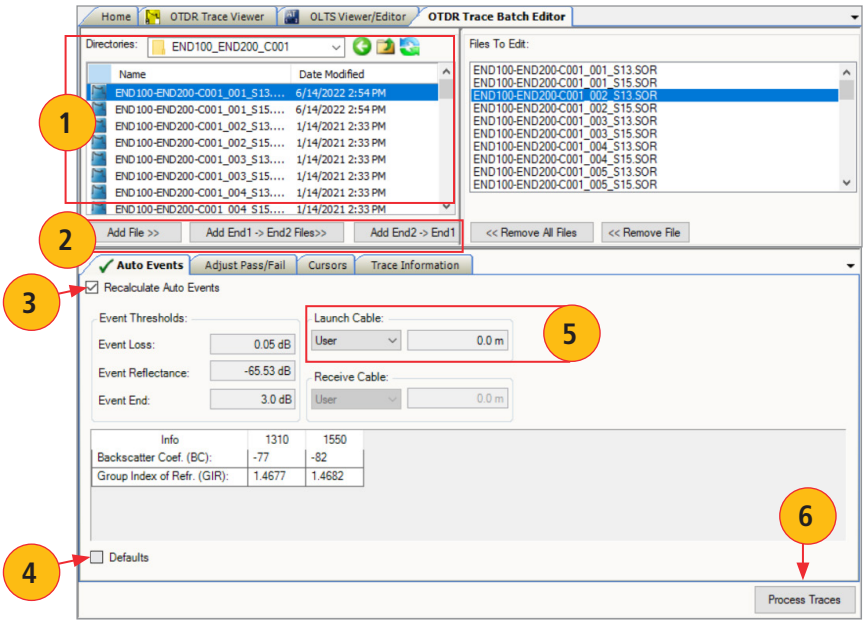


Features of the Auto Events Editor are summarized in the table below.

Ref	Feature	Description
1	Recalculate Auto Events check box	Select/deselect this check box to enable/disable the recalculation process.
2	Event Thresholds properties - editable fields	The Event Thresholds default values may be edited when the Defaults check box is deselected.
3	Test data - informative only	These fields display Backscatter Coefficient BC and Group Index of Refraction GIR.
4	Default Thresholds properties check box	Select/deselect this check box to enable/disable the default values for Event Thresholds.
5	Launch Cable user-defined fields	This section contains fields where the user may either select one of the predefined launch cable option (None, Noyes 50 m/500 m/1 km) or enter the preferred length (User option).
6	Process Traces button	Click on this button to start the batch editing process.

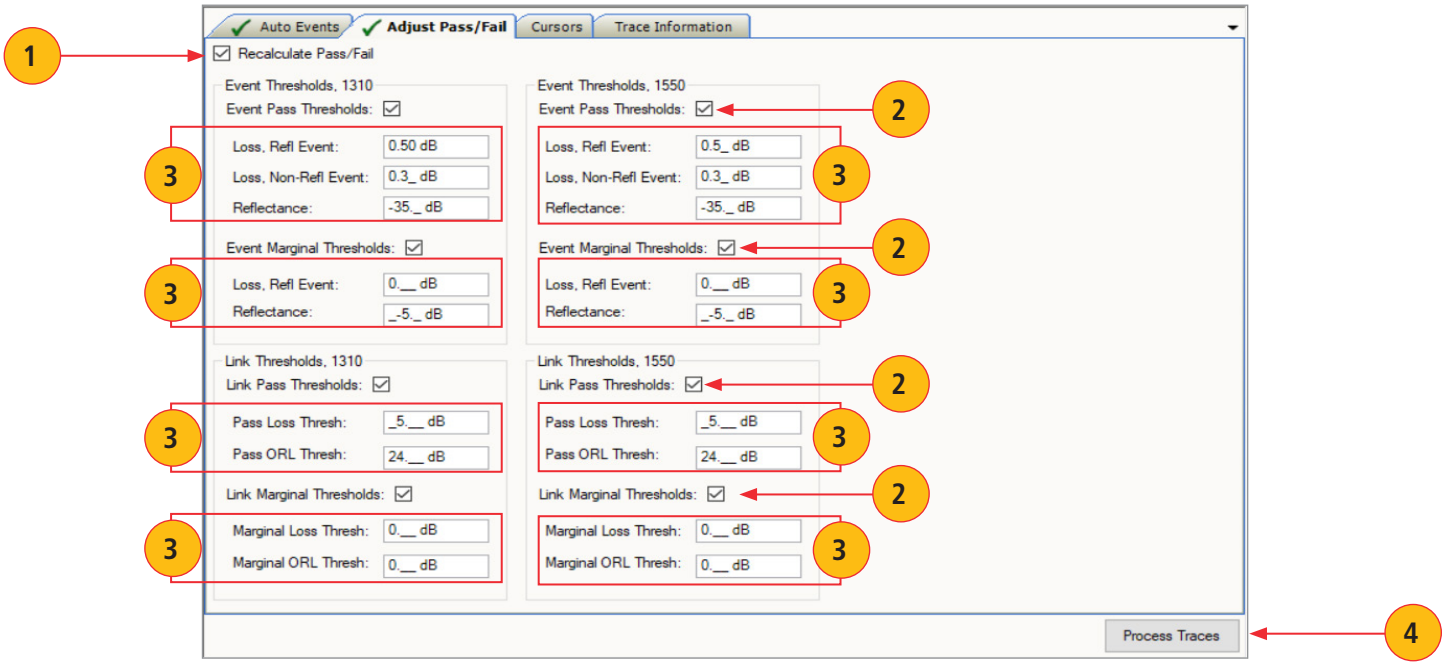
Changes to Launch Cable settings may be edited and reapplied to multiple files using the Batch Editor.

1. In the directories and files window, select results to which you wish to apply modified Launch Cable setting.
2. Select one of the following:
   - [Add File >>]: Adds individually selected files to the Files to Edit window.
   - [Add End1 -> End2 Files >>]: Adds all End1 -> End 2 files to the “Files to Edit:” window.
   - [Add End2 -> End1 Files >>]: Adds all End2 -> End1 files to the “Files to Edit:” window.
3. Check the “Recalculate Pass/Fail” box.
4. Un-check “Defaults” box .
5. Edit the Launch Cable length, set to the desired value.
6. Click “Process Traces” to apply the edited Launch Cable length to the selected “Files to Edit”.



Adjust Pass/Fail Editor

This editor allows the user to edit Pass/Fail event and link Thresholds to the allowed limits as needed.



Features of the Pass/Fail Editor screen are summarized in the table below.

Ref	Feature	Description
1	Recalculate Pass/Fail check box	Select/deselect this check box to enable/disable the recalculation process.
2	Thresholds check box	Select a check box to enable the corresponding Thresholds editable field.
3	Thresholds editable fields	These fields allow editing Thresholds parameters to the allowed limits as needed.
4	Process Traces button	Click on this button to start the batch editing process.

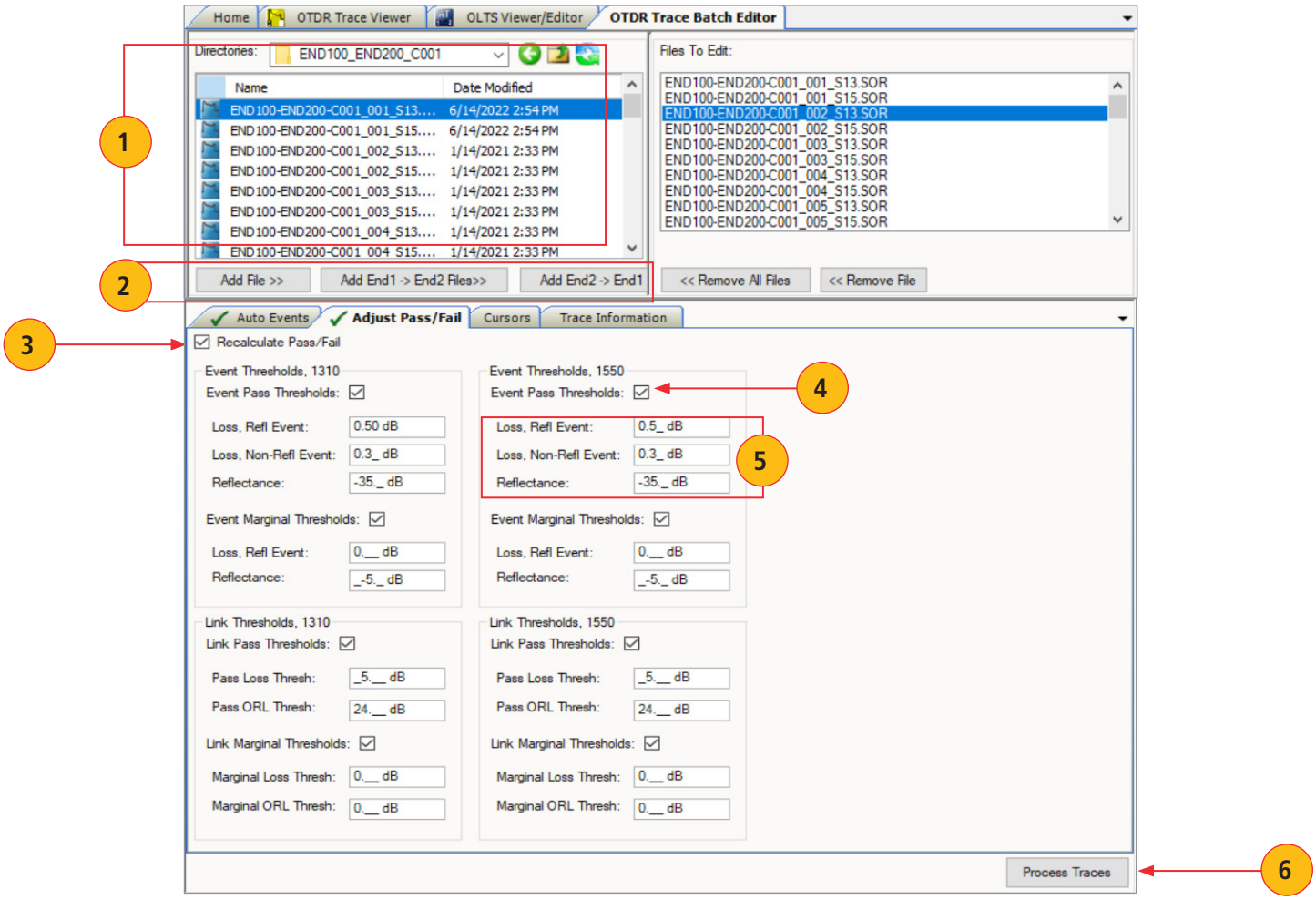
Thresholds Allowed Limits

Event Threshold	Min Value (dB)	Default Value (dB)	Max Value (dB)
Event Pass Thresholds			
Loss, Reflective Event	0.05	0.75	3.00
Loss, Non-reflective Event	0.05	0.30	3.00
Reflectance: 1310, 1550 nm	-65.0	-35.0	-20.0
Reflectance: 850, 1300 nm	-45.0	-22.0	-15.0
Event Marginal Thresholds			
Loss, Reflective Event	0.00	0.00	1.00
Reflectance	0.00	-5.00	-10.0
Link Threshold	Min Value (dB)	Default Value (dB)	Max Value (dB)
Link Pass Thresholds			
Loss: 850, 1300, 1310, 1550 nm	0.00	0.00	35.0
ORL: 850, 1300, 1310, 1550 nm	20.0	25.0	65.0
Link Marginal Thresholds			
Loss: 850, 1300, 1310, 1550 nm	0.00	0.00	5.00
ORL: 850, 1300, 1310, 1550 nm	0.00	0.00	10.0

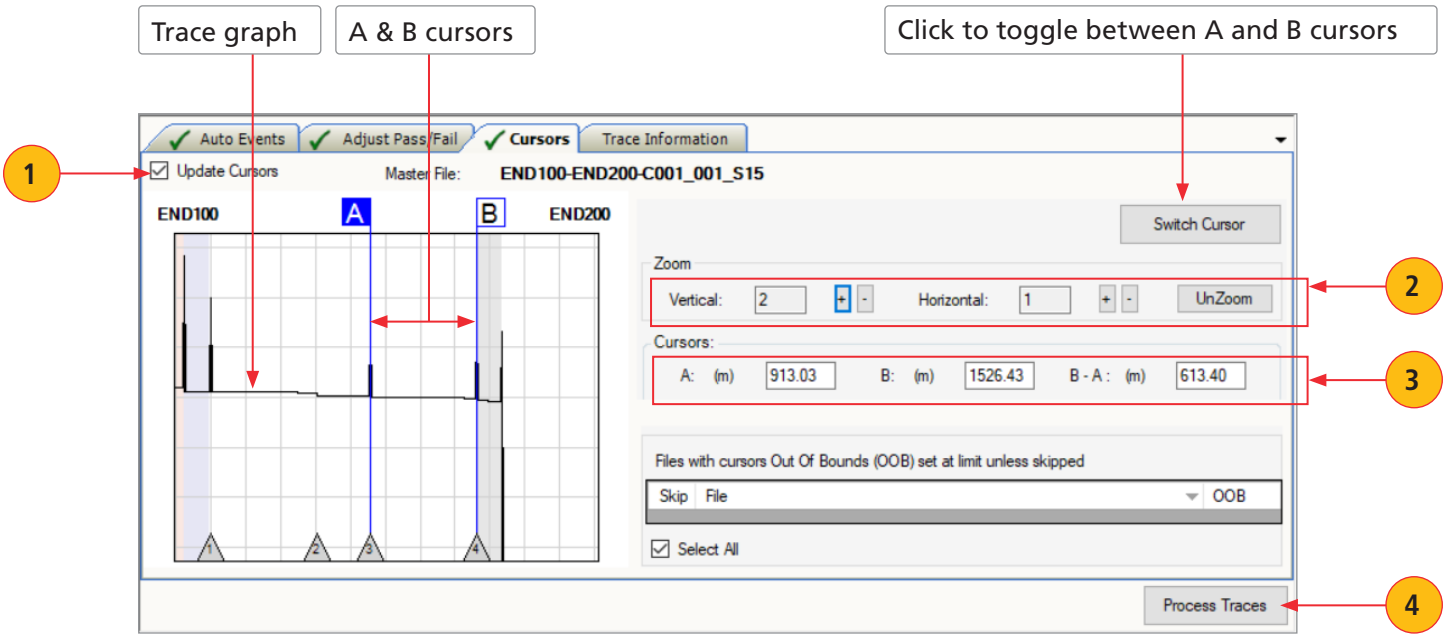
Edit & Reapply Event Pass/Fail Limits

Pass/Fail limits may be edited and reapplied to multiple files using the Batch Editor.

1. In the directories and files window, select results to which you wish to apply modified limits.
2. Select one of the following:
   - [Add File >>]: Adds individually selected files to the Files to Edit window.
   - [Add End1 -> End2 Files >>]: Adds all End1 -> End 2 files to the "Files to Edit:" window.
   - [Add End2 -> End1 Files >>]: Adds all End2 -> End1 files to the "Files to Edit:" window.
3. Check the "Recalculate Pass/Fail" box.
4. Check "Event Pass Thresholds" box for each Wavelength.
5. Edit the Event Pass thresholds (Loss & Reflectance).
6. Click Process Traces to apply the edited Pass/Fail limits to the selected files in the "Files to Edit" window.



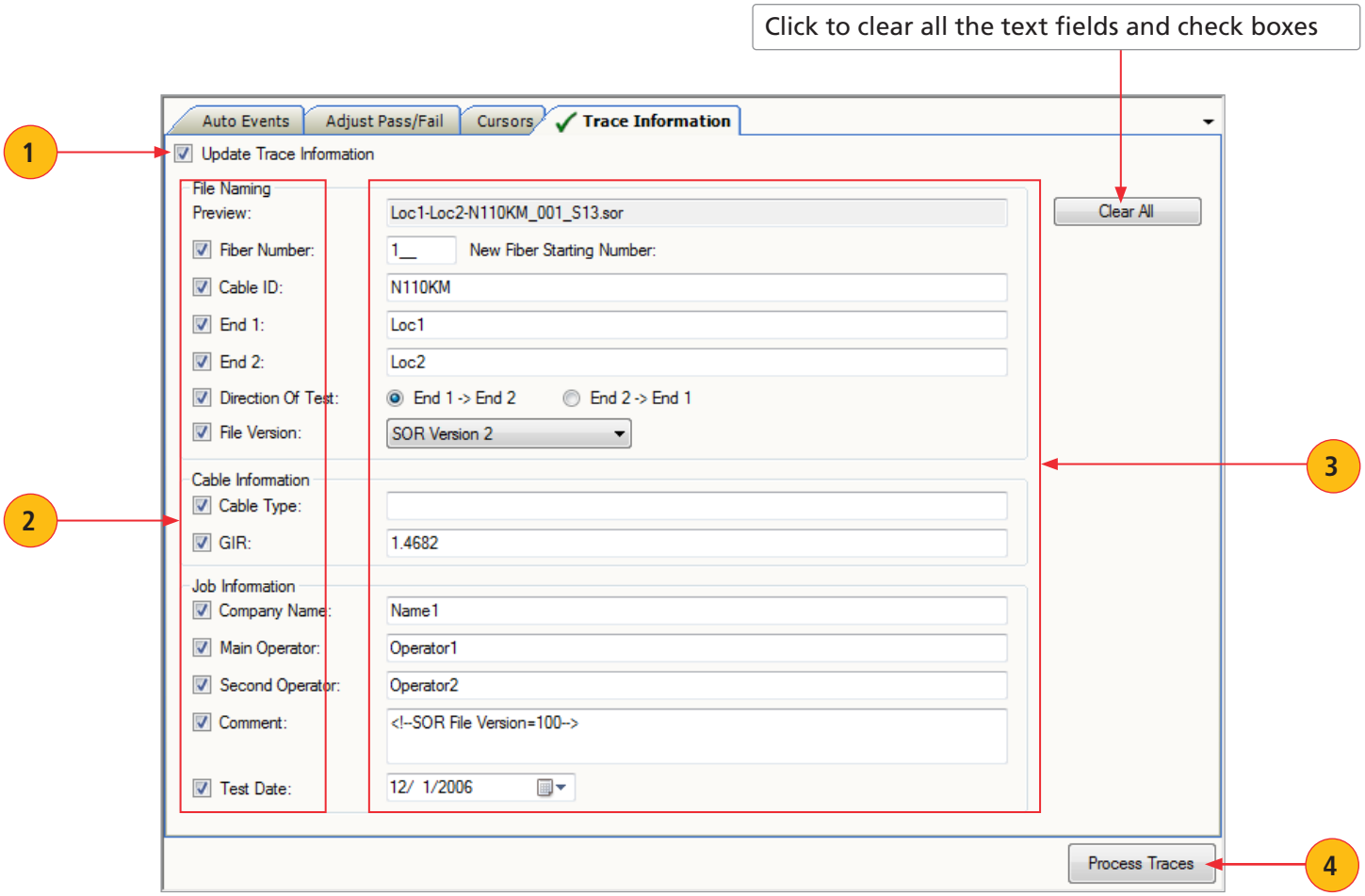
Cursor Editor



Features of the Cursor Editor are summarized in the table below.

Ref	Feature	Description
1	Update Cursors check box	Select/deselect this check box to enable/disable updates.
2	Zoom adjuster	Allows changing horizontal/vertical magnification around the active cursor.
3	Cursors data	This field displays A and B cursor locations and distance from A to B.
4	Process Traces button	Click on this button to start the batch editing process.

Trace Information Editor



Features of the Trace Information Editor are summarized in the table below.

Ref	Feature	Description
1	Update Trace Information check box	Select/deselect this check box to enable/disable updates.
2	Trace properties check boxes	Select a check box to activate the corresponding editable text field.
3	Properties editable fields	This section contains text fields where the user may enter all information needed to identify traces.
4	Process Traces button	Click on this button to start the batch editing process.

Batch Editing OTDR Traces

1. Access the OTDR Trace Batch Editor application.
2. Navigate to the desired Job.
3. All trace files in the open folder will be displayed in the Trace Selector window.
4. From the displayed list, add the desired traces to the "Files to Edit" list, which will be displayed in the Files to Edit window. Use the Add File, Add END100 –>END200 Files>>, or Add END200 –>END10000 Files>> buttons for adding trace files.

   To add trace files in the current folder to the batch edit list individually:

   - Double-click the desired trace name listed in the Folders/Files window. The trace name added to the batch edit list will appear in the Files to Edit window.
   - Or, click on the desired trace name listed in the Folders/Files window, then click on the Add File button. The trace name added to the batch edit list will appear in the Files to Edit window.

   To add a group of traces in the current folder to the batch edit list:

   - Click on the first trace to be added to highlight it.
   - Hold the Shift key to scroll down to the last trace you wish to add to the batch edit list.
   - Click on the Add File button. The trace names of the selected files will appear in the Files to Edit window.
5. If you need to remove trace files from the batch edit list displayed in the Files to Edit window, use the Remove File or Remove All Files buttons.

   To remove trace files from the batch edit list individually:

   - Double-click the desired trace name displayed in the Files to Edit window. The trace name listed in the Files to Edit window will be removed.
   - Or, click on the desired trace name displayed in the Files to Edit window, then click on the Remove File button. The trace name listed in the Files to Edit window will be removed.

   To remove a group of traces from the batch edit list:

   - Click on the desired traces to be removed to highlight.
   - Click on the Remove File button. The trace names listed in the Files to Edit window will be removed.

   To remove all trace files from the batch list:

   - Click on the Remove All Files button. All trace names listed in the Files to Edit window will be removed.
6. Use Auto Events, Adjust Pass/Fail, Cursors, and Trace Information Editors as needed.
7. Click on the Process Traces button to complete updates/changes.

OLTS Viewer/Editor Application

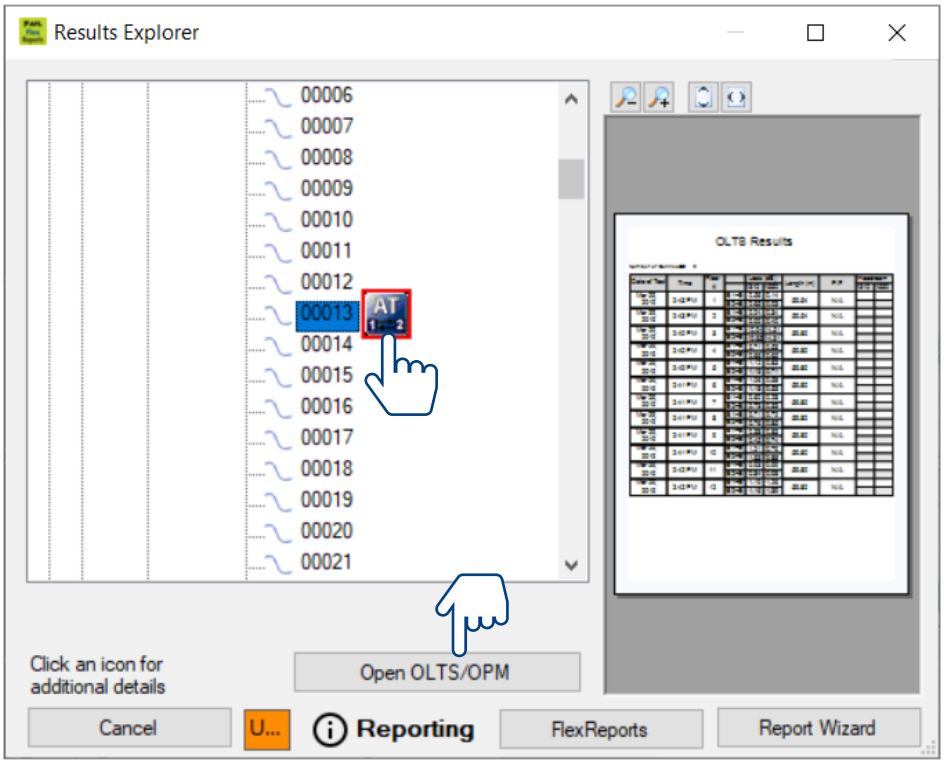
Using the OLTS Viewer/Editor users can verify Auto-test results from the AFL OTDRs and OLTS Certifiers. Results can be compared to current industry standards, applications or user values. As standards evolve or network demands increase users can apply more stringent rules to be sure tested fibres will meet the requirements.

Opening Test Results with OLTS Viewer/Editor

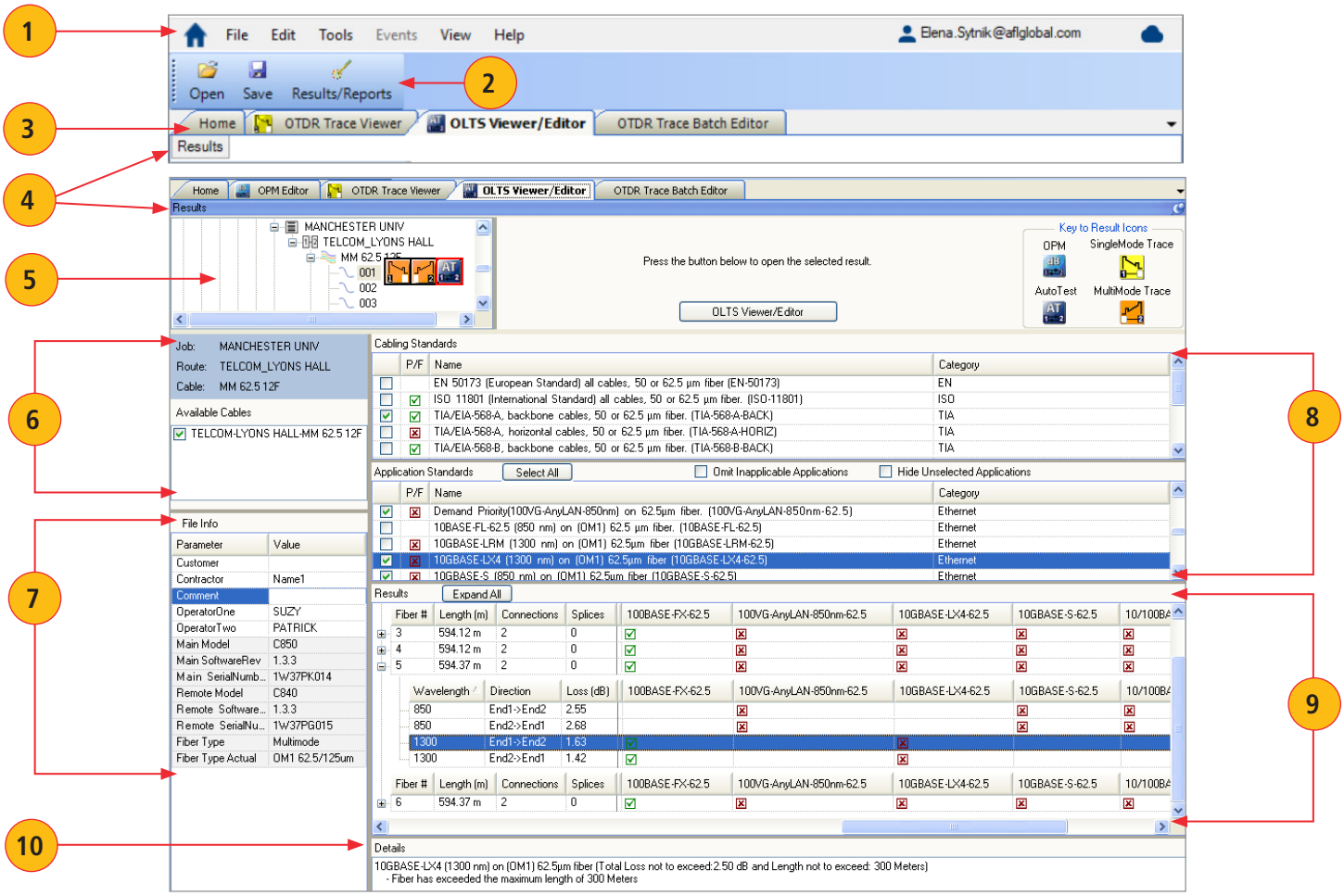
The OLTS Viewer/Editor application may be accessed in several ways:

- From the Home screen by clicking on the OLTS Viewer/Editor icon.
- From the Results Explorer by selecting a fiber and with a fiber selected double-clicking on the AT icon.
- From the Results Explorer by selecting a fiber and with a fiber selected, displaying the Open Viewer submenu and selecting the OLTS Viewer/Editor.

This application allows reviewing loss measurements and certification test results and selecting standards and applications to apply to certification test results.



OLTS Viewer/Editor Screen Features



Ref	Feature	Description
1	Menu bar	Displays the available drop down menus.
2	Toolbar	Contains several icons for quick access to menu commands. Click on an icon to execute the associated command.
3	Applications tabs	Click on a tab to display the corresponding application window.
4	Results button	"On mouse over" the Results button, the Results window is displayed and "on mouse out" the Results window is auto-hidden.
5	Results window	The Results window displays folders and files hierarchy and is used to navigate saved test results. To disable/enable the "auto hide" functionality, click the Auto Hide icon located in the right top corner of the Results window.
6	Cables Info window	Contains informative fields: Job/Route/Cable name, fiber number and direction.
7	File Info window	Contains both the editable and informative fields. Editable fields allow editing/adding Customer, Contractor, and Operators' ID and add comments. Informative fields display test equipment Model numbers, Software version, and tested fiber info.
8	Standards	User may select and apply Cabling Standards and Application Standards.
9	Tests Results	Depending on the selected Cabling Standards, User Rule, and Application Standards, this area displays certification test results with Pass/Fail by fiber number, wavelength and direction, measured Loss and Length.
10	Details window	Displays the details of the selected standard, maximum loss, and maximum length. • Select check box of Cabling and/or Application standard. • Click on ⊞ button to expand Results of the desired Fiber - loss values, direction of test, and Pass/Fail by wavelength • Click on the desired check box ☒/☑ to display Details of the selected Standard (max loss and length).

Menu Bar

The Menu Bar contains File, Edit, Tools, View, and Help menus. When a menu is selected, it displays a list of commands indicating functions that can be performed on selected files.

File Menu

The File drop down menu contains several commands as follows.

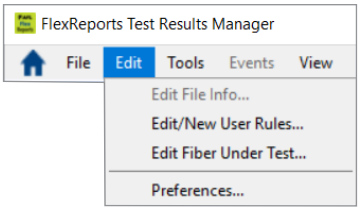
Command	Function
Open	Access the Results Explorer and navigate the desired test results file.
Save	Save a file that already exists with its original name.
Save As...	Save an existing file under a new name and preserve the original file.
Print OLTS Report	Print the currently displayed OLTS report.
Close	Close the open cable results and clear the OLTS Viewer.
Login to FlexReporter-Cloud / Logout of FlexReporter-Cloud	Login to FlexReporter Cloud / Logout of FlexReporter Cloud
Reset FlexReporter-Cloud Password	Reset FlexReporter Cloud Password
Change Organization...	This menu option allows changing to another organization (if applicable)
Import Results...	Download test data from an instrument.
Import OFL Results...	Download test data from an OFL250 or OFL280 (non-FlexTester).
Export Job to File...	Export the selected Job to a zip file.
Backup Data...	To have a restoration point, create a non-visible backup copy of a test data: - Navigate the desired Job /Route/Cable - click OK to display the Backup Description window - add a comment on backed up data to be able to identify it during restoration
Restore Data...	Restore previously backed up data to a visible folder.
Exit	Close opened files and exit FlexReports.

To Restore Data

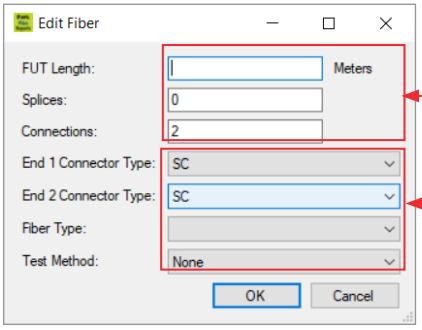
See section "How To Restore Data" on page 23.

Edit Menu

The Edit menu allows the user to edit existing or create new User Rules, edit Fiber Under Test data and configure Preferences.



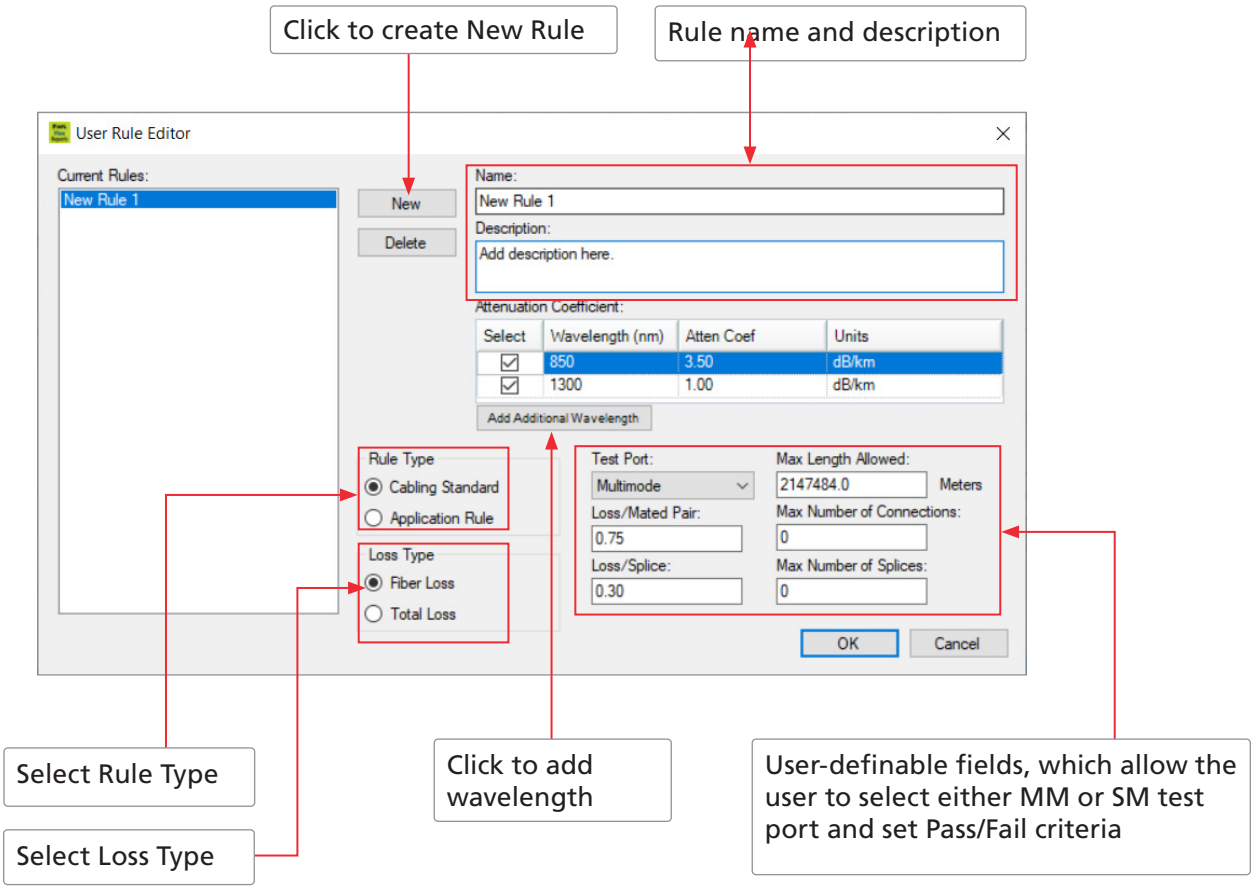
Edit Fiber Under Test



These fields allow the user to define fiber under test (FUT) parameters: length, number of splices, and number of connections

These fields allow the user to define connectors type, fiber type, and test method

Edit or Create New User Rules



To Configure General Preferences

See section "To Configure General Preferences" on page 12.

Tools Menu

This menu provides access to the Home screen menus. See section "Tools Menu" on page 24.

Help Menu

This menu provides access to the following: AFL web site, AFL Test and Inspection web site, AFL Software updates on the web, License Information, "About FlexReports" screen.

See section "Help Menu" on page 13.

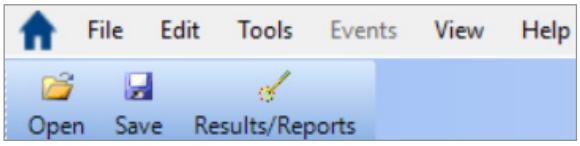
About FlexReports screen

About FlexReports... screen displays FlexReports version number and allows to see included Modules/Versions. For details, see section "About FlexReports screen" on page 13.

Toolbar

Toolbar on the Batch Editor provides access to File Explorer and Results / Reports screen.

Command	Function
Open	Locate and open the desired trace file
Save	Save a file that already exists with its original name
Results/Reports	Open the Results/Reports Application

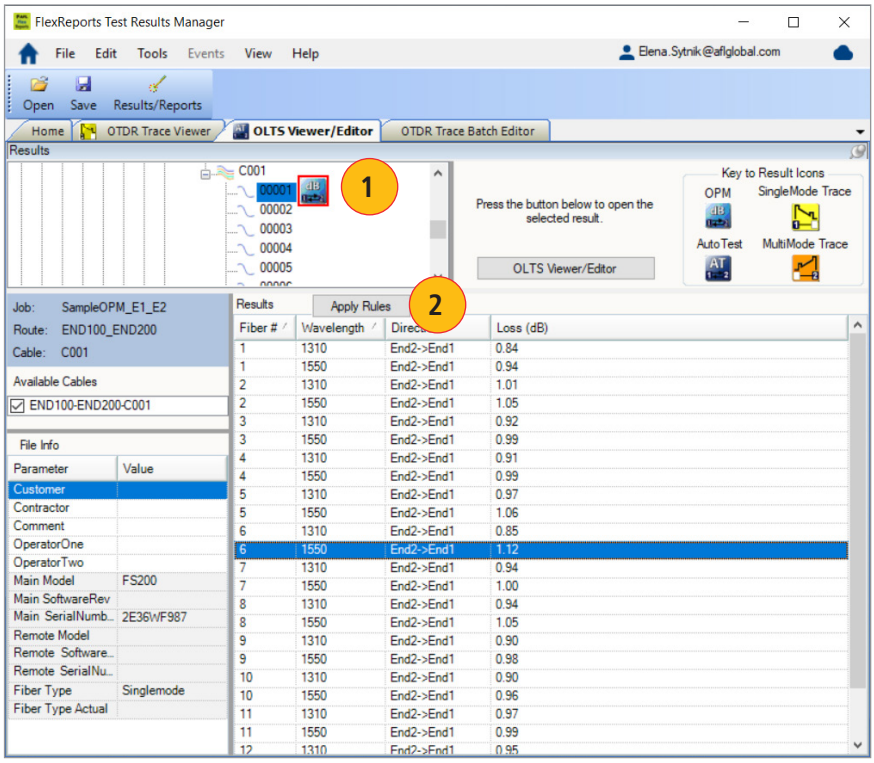


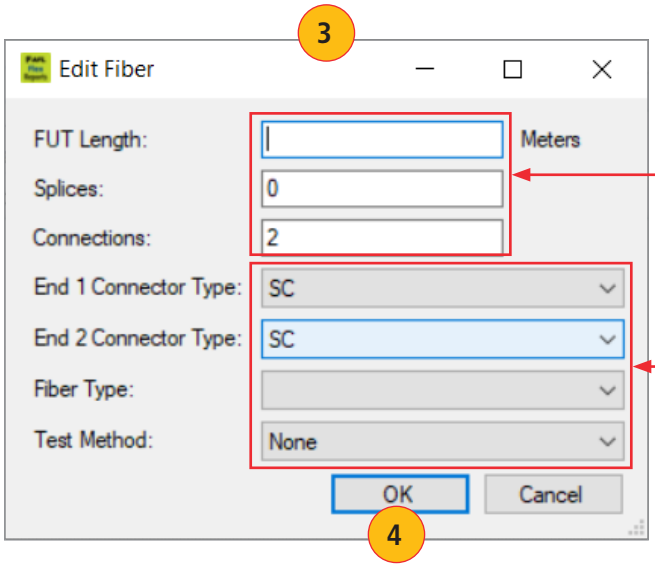
Viewing OPM Results in the OLTS Viewer/Editor

OPM test results may be opened in the OLTS Viewer/Editor application, which allows reviewing loss measurements by wavelength and direction and selecting standards and applications to apply to certification test results.

To Select Standards and Applications

1. Navigate the desired OPM test results and open them with OLTS Viewer/Editor application (see section titled “Opening Test Results with OLTS Viewer/Editor” for details).
2. Click the Apply Rules button to display the Edit Fiber menu .
3. Edit fiber parameters as needed.
4. Click OK.





These fields allow the user to define fiber under test (FUT) parameters: length, number of splices, and number of connections

These fields allow the user to define connectors type, fiber type, and test method