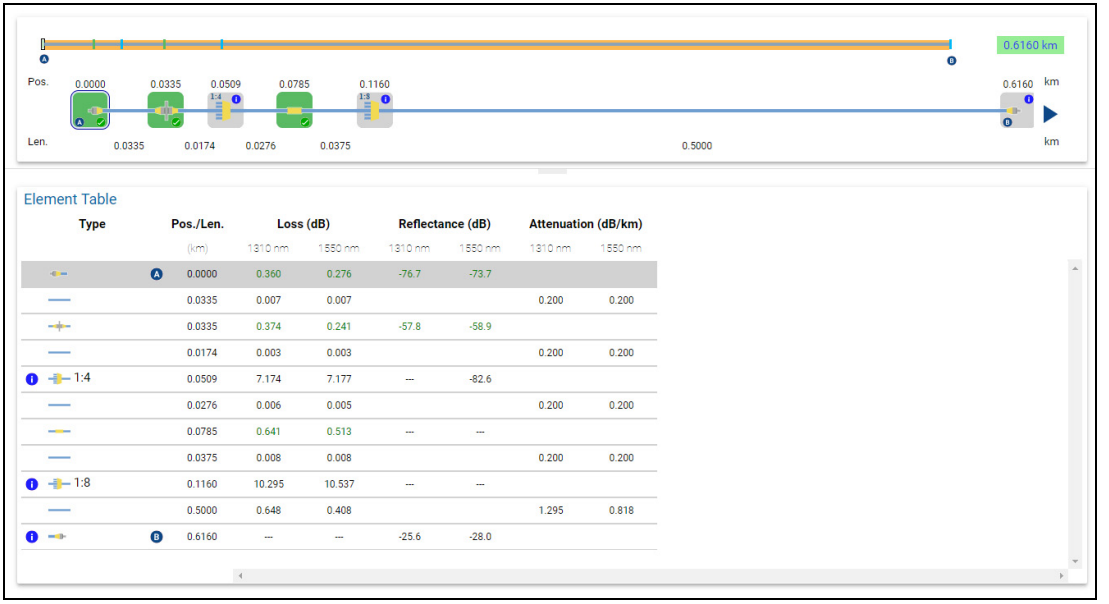
User Guide

iOLM Viewer



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Version number: 1.0.0.1

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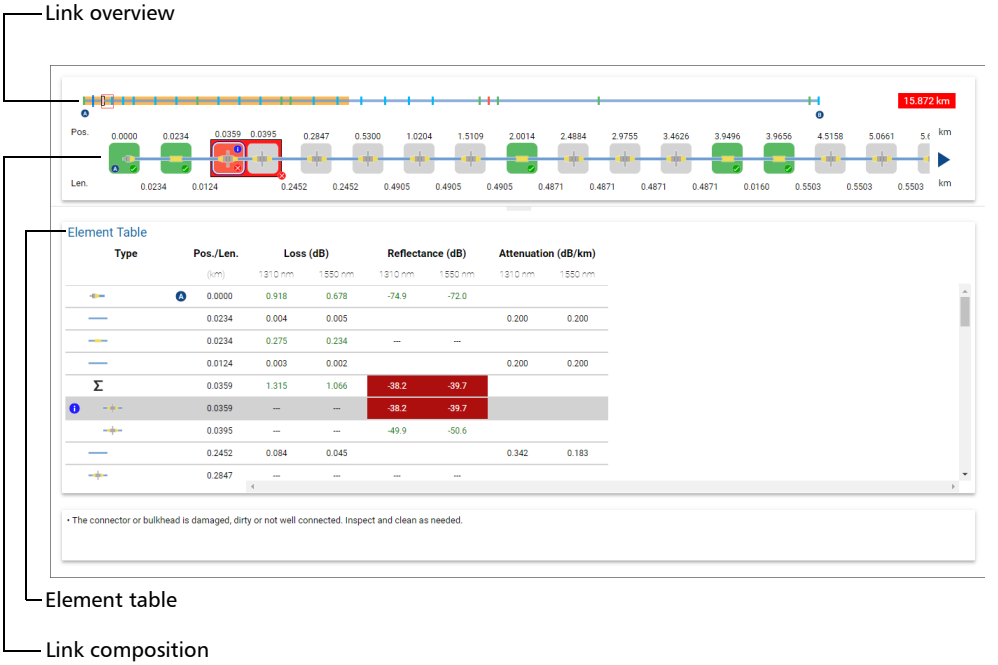
Contents

1 Introducing the iOLM Viewer

The iOLM Viewer allows you to view measurement results and values, at a glance, in three different views:

- The link overview
- The link composition
- The element table



Note: *Your screen display may differ slightly from the illustrations presented in this user guide.*

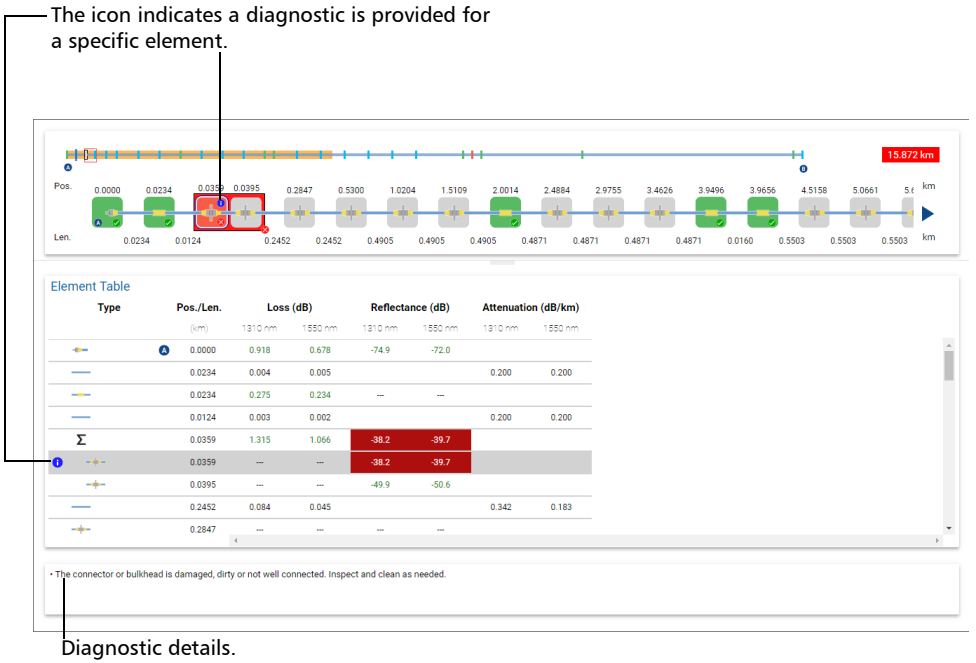
2 Understanding Diagnostics

Diagnostics are used to provide additional information about detected problems or ambiguous measurement situations, such as root cause possibilities for the fail status of a link element. The diagnostics provide help to troubleshoot faulty connectors, understand why link elements are tagged as fail or unknown, indicate unexpected instrument or test conditions, and so forth. More than one diagnostic can be associated with any given element.

Elements diagnostics are associated with specific link elements issues. Each failed link element will have associated diagnostics to assist in troubleshooting. Some elements, such as macrobends, will have associated diagnostics even with a pass status.

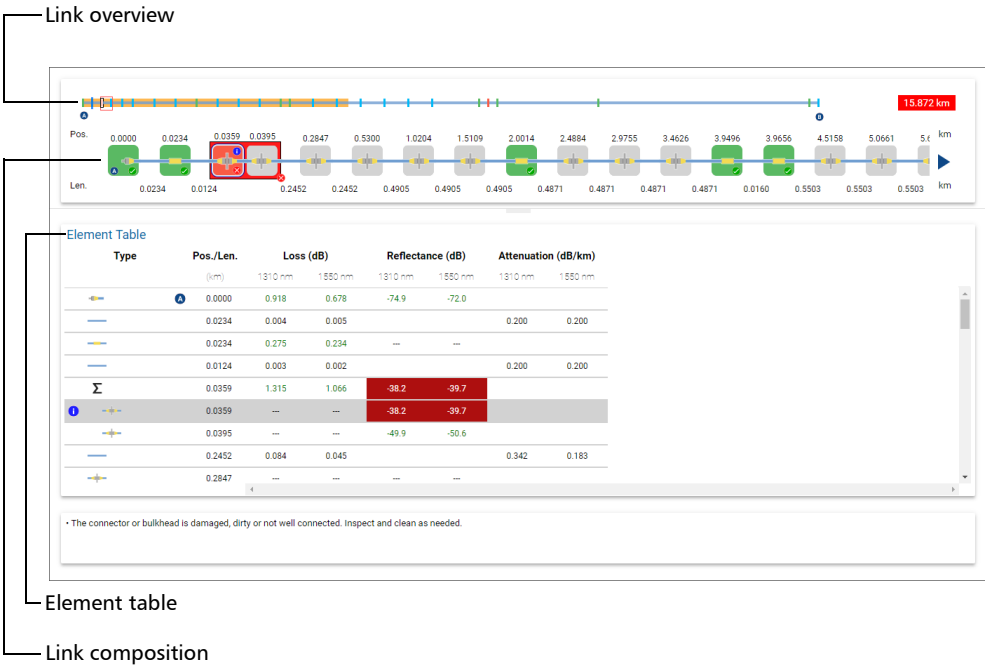
To view the diagnostics:

From the link composition view or the **Element Table**, click the  icon.



3 Viewing Results in the iOLM Viewer

The iOLM Viewer allows you to view the results both in a graphical way and in a detailed table.



When you navigate between the elements in one of the three views available, the two other views display the results accordingly.

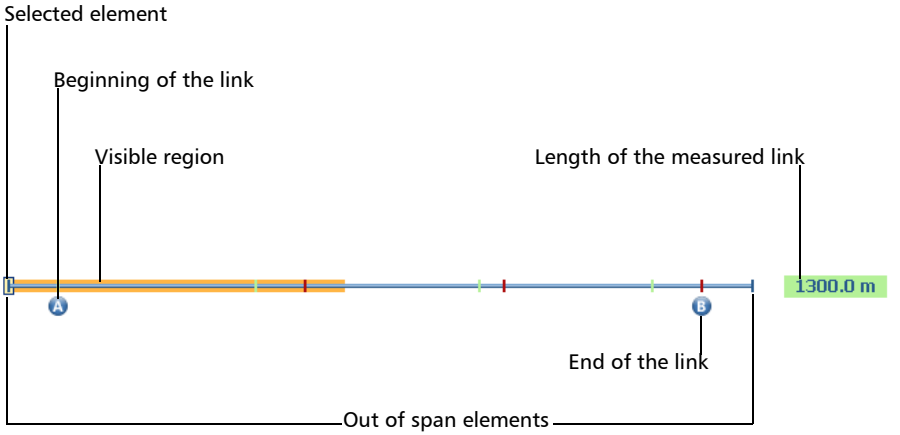
Viewing Results in the Link Overview

The link overview displays the entire link from the beginning of the link under test to the end.

The following color codes are used for the elements composing the link overview.

- Red: The status of the element is fail.
- Green: The status of the element is pass.
- Blue: The element is not tested for pass/fail or the status of the element is unknown.

The link overview representing all the elements found on the link is described below.



- Selected element: The rectangle indicates the position of the selected element.
- Beginning of the link: The letter A (launch fiber) indicates the beginning of the link under test.
- Visible region: The colored background represents the visible region in the link composition view.
- End of the link: The letter B (receive fiber) indicates the end of the link under test.
- Length of the measured link: This value excludes the launch and receive fiber.

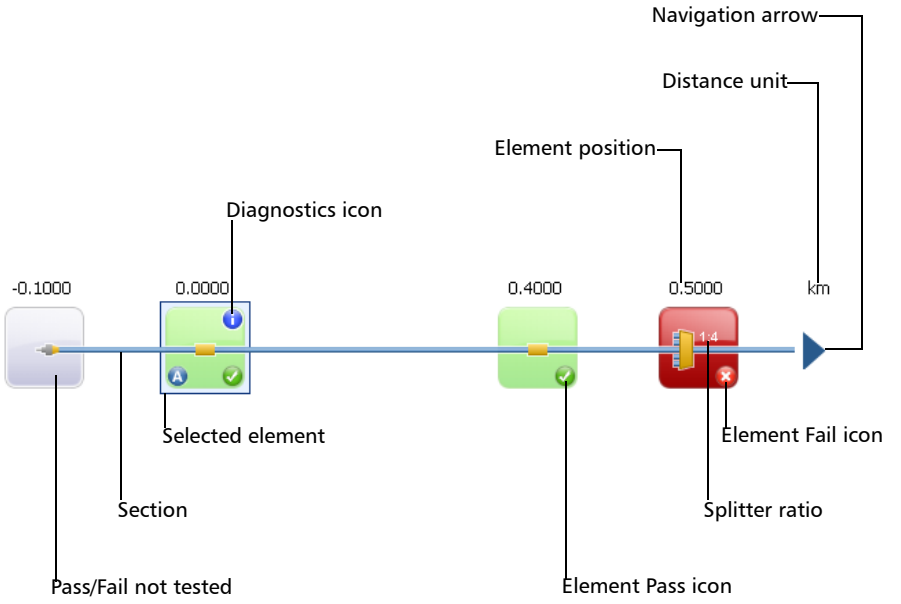
Elements before A and after B are referred to as *out of span* elements. These elements are not tested for pass/fail status, but can have diagnostics on them. If no receive fiber is defined, the element marked as "B" will not be tested for pass/fail.

Viewing Results in the Link Composition

The number of items displayed in the link composition varies according to the available space, number of elements, and section size. When the link length is too long, you may need to scroll on the link using the navigation arrow. You can also select an element and while keeping this element selected, move from left to right, or vice versa.

Note: *The distance between the elements is not 100 % proportional. To have a proportional representation of the element, see* Viewing Results in the Link Overview *on page 6.*

The link composition displays every element present on the link.



- Diagnostics icon  : This icon specifies that some diagnostics are present on the element to provide additional information about detected problems or ambiguous measurement situations. See *Understanding Diagnostics* on page 3 for more details.
- Element position: This value represents the distance of the element from the beginning of the link under test.
- Pass/Fail not tested: The gray background indicates that the status of the element is unknown or it has not been evaluated because this element is not part of the link (out of span). If there is no pass or fail icon in the right side corner, it means that thresholds are not applied on this element and it is not tested for a pass or fail status. The element status remains unknown in the following scenarios:
  - If any element is followed by a 2:N splitter in the link, then the element's loss pass/fail status is displayed as unknown.
  - If the element has a reflectance value and it is placed after the 2:N splitter element, then the element's reflectance pass/fail status is displayed as unknown.
  - If the 2:N splitter is in a group of elements and an element follows the 2:N splitter in the group, then the pass/fail status of the group is displayed as unknown.
- Selected element: The element outlined in blue indicates that it is currently selected.
- Section: A fiber section is delimited by two elements.
- Element Pass icon  : Green is associated with a pass status.
- Element Fail icon  : Red is associated with a fail status.
- Splitter ratio: The value displayed on the element corresponds to the splitter ratio.

- Distance unit: Indicates the unit of measurement currently used in the iOLM Viewer.
- Navigation arrow: When more items are available on a particular side, it indicates that you have to scroll to view those items.

Note: *An arrow ( ) icon is displayed on the element when the start and the end of the link are represented by the same element.*

In addition, you can have elements represented by specific icons.

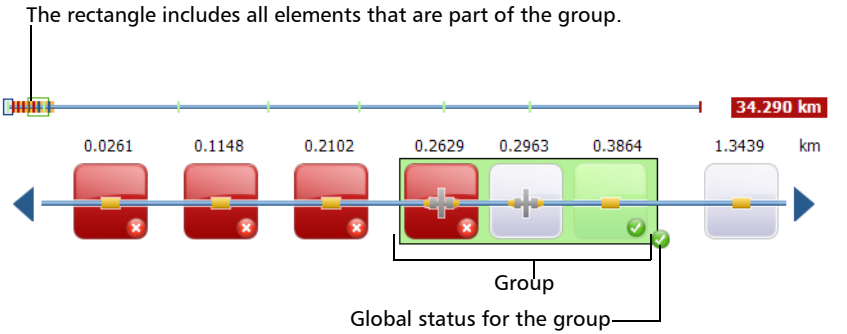
Element Name	Element Icon	Element Description
Macrobends		Macrobends can be displayed in the link composition when more than one wavelength is present in the measurement. ***Note:*** *The macrobend will always be displayed as a failed element.*
Out of Range		The out of range element is displayed when the end of fiber could not be detected by the module because of insufficient dynamic range.
Splitter		The splitter is a passive fiber optic coupler that divides light from a single fiber into two or more fiber channels. The splitter ratio is displayed beside the icon.
2:N Splitter		2:N splitter can be used to create network redundancy. If a network break occurs, the operator can connect through the other network branch.

Element Name	Element Icon	Element Description
Splice		The splice can indicate the junction of two fiber sections, the presence of a macrobend, or a microbend in the fiber.
Connector		The connector is used to join two fibers.
Switch		Indicates that a switch has been detected.
Fault		The fault icon indicates that a problem occurred during the analysis. For example, when a splitter is on the link, a loss and a section of fiber are expected after the splitter. If no splitter is found on the link but a end of fiber is detected, the fault icon is displayed instead of the end of fiber to indicate there is a problem.
Coupler		A coupler port is an optical fiber device with one or more input fibers and one or several output fibers. This device is associated with a minimum loss value; for example, a 1 1x2 coupler has a loss of 3 dB.

Sometimes, when the analysis detects several link elements that are too close to one another to be independently characterized, the link elements will be displayed as groups. When this occurs, as much information as possible will be displayed for each individual sub-element. The pass/fail status is applied to each sub-element whenever possible, and a global status is also displayed for the group.

Groups can also be displayed when a link element (such as a splitter) is found to have wavelength dependent loss. In that case, the link element is grouped with a macrobend element. In this particular case, there might not be a physical macrobend next to the link element, but the macrobend icon is used to highlight the presence of the wavelength dependent loss.

When elements are grouped, the group loss and group reflectance values are also displayed in the **Element Table**.



Note: *If some elements are grouped, the total group loss value is compared with the sum of the thresholds defined for the individual elements in a group. If the total group loss value is greater than the sum of the thresholds defined for the individual elements in a group, the element will show a fail status.*

You can select grouped elements individually as you would do with any other standalone element.

When elements are grouped at the beginning of the link, icon A is displayed on one of the sub-elements.

When elements are grouped at the end of the link, icon B is displayed on one of the sub-elements.

Viewing Results of Elements and Fiber Section Details

When an element or fiber section is selected in the link overview or link composition, the details of the corresponding selection are automatically displayed in the **Element Table**.

The loss and reflectance results are displayed with appropriate coloring based on the pass/fail status of each value.

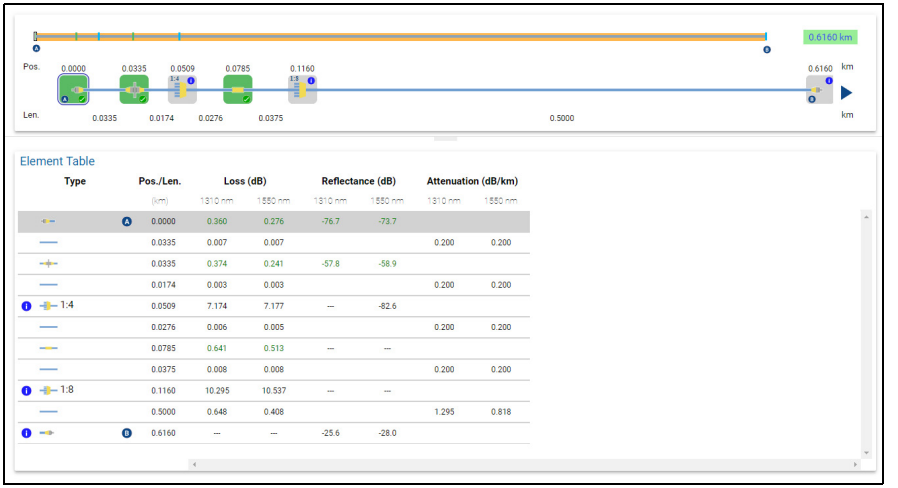
The loss or reflectance value may be underestimated if the noise level is too high (for instance, after a lot of loss on the link, the noise levels increase). In that case, it is possible for the signal processing algorithms to detect an element and estimate the loss/reflectance values, but since the measured signal does not completely clear the noise floor, the loss or reflectance/attenuation values are likely to be underestimated. Underestimated loss, reflectance, and attenuation values are displayed with a > symbol.

Note: *If the loss or reflectance value is saturated, it is displayed with a > symbol. The application will be able to specify a fail status if the value is fail, but in all other cases, the application will set the status to unknown.*

The 0.0 value is set on the first element when the launch fiber is present.

To view elements or section details in the Element Table:

From the link overview or the link composition view, select the desired element or fiber section.



The details of your selection are automatically displayed in the **Element Table**.

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Printed in Canada (2018-03)

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