



## Configure OTDR

This chapter describes how to configure the Optical Time Domain Reflectometer (OTDR) module in NCS 1010.

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## OTDR

### OTDR functionality in NCS 1010 OLT and ILA nodes

The NCS 1010 OLT and ILA nodes have an in-built bidirectional Optical Time Domain Reflectometer (OTDR) functionality that can capture the real-time measurements of loss and back reflection of the fiber pair linked to the TX and RX ports.

### Port switching capabilities of OTDR

For the OLT device, the OTDR port can switch between LINE-TX and LINE-RX ports. For the ILA device, the OTDR port can switch among LINE-1-TX, LINE-1-RX, LINE-2-TX, and LINE-2-RX ports.

### SOR file

You can view the OTDR measurement results in the Standard OTDR Record (SOR) file. The SOR file contains the fiber trace details such as the distance, reflectance, loss, and fiber attenuation measurements. You can export the SOR file from NCS 1010 using the command: **scp username@device-ip:filename\_with\_source\_location destination-location .**

#### Example:

```
scp test@192.168.0.1:/harddisk:/otdr/ios_OTDR_Ots0_0_0_0_RX_20230301-101927.sor /users/test/
```

### Benefits of OTDR

The OTDR offers several key benefits, including:

- **Quality of the Fiber:** Assesses the quality of the fiber during system installation, before any traffic is active.
- **Monitoring During Operation:** Monitors the fiber during system operation (live traffic) and check the fiber during cable cuts and repairs.
- **Attenuation Measurement:** Measures the attenuation (dB) of the entire fiber link and the attenuation of individual sections of fiber.
- **Distance and Magnitude of Losses:** Determine the distance and magnitude of insertion loss and reflection loss.
- **Fiber Events Detection:** Identify fiber events such as concentrated loss events, reflection events, events at the end of the fiber, and discontinuities or defects on the fiber such as fiber pinch, and fiber cut, loss events such as loss due to fiber splicing, patch panel, and coupler connections.

## OTDR modes

In NCS 1010, OTDR works in two three modes:

- Auto
- Expert

### Auto

The device automatically selects the optimal values for OTDR pulse width, scan duration, capture start time, and capture end time parameters. This is the default mode and does not require explicit configuration. However, you can manually configure the other scan parameters if needed.

### Expert

You must manually configure all OTDR scan parameters with the valid values that are required for the OTDR measurement. Automatic adjustments are not performed in this mode.

## Configure the OTDR scan parameters

Use this task to configure the various parameters for the OTDR scan. If not configured, the NCS 1010 device uses the default values for OTDR scan parameters.

### Procedure

**Step 1** Enter the OTS controller configuration mode for the port you want to configure the OTDR parameters.

#### Example:

```
RP/0/RP0/CPU0:ios#config
RP/0/RP0/CPU0:ios(config)#controller ots 0/0/0/0
```

**Step 2** Enter the OTDR mode.

If you want to configure the	then run the command
Expert mode	RP/0/RP0/CPU0:ios(config-Ots)#otdr scan-mode expert
Auto mode	The Auto mode is the default mode and does not require explicit configuration.

**Step 3** Set the required parameters for OTDR scan. See [OTDR scan parameters, on page 3](#) for the complete list of OTDR parameters.

**Example:**

```
RP/0/RP0/CPU0:ios(config-Ots)#otdr rx auto reflectance-threshold -50
RP/0/RP0/CPU0:ios(config-Ots)#otdr rx auto splice-loss-threshold 200
RP/0/RP0/CPU0:ios(config-Ots)#otdr rx expert pulse-width 6000
RP/0/RP0/CPU0:ios(config-Ots)#commit
```

**Step 4** Commit the changes and exit the configuration mode.

**Example:**

```
RP/0/RP0/CPU0:ios(config)#commit
RP/0/RP0/CPU0:ios(config)#exit
```

## OTDR scan parameters

This table provides an overview of key OTDR parameters, including their definitions, measurement units, range of values and the default values.

**Table 1: OTDR scan parameters in Auto mode**

Parameter	Description	Unit	Range	Default
<b>otdr { rx   tx } auto reflectance-threshold &lt;value&gt;</b>	Threshold beyond which a reflective anomaly is reported as an event in the Rx or Tx direction.	dB	-50 to -10	-40
<b>otdr { rx   tx } auto splice-loss-threshold &lt;value&gt;</b>	Threshold beyond which a loss anomaly is reported as an event in Rx or Tx direction.	dB	0.2 to 5	0.35
<b>otdr { rx   tx } auto excess-reflection-threshold &lt;value&gt;</b>	Threshold beyond which a reflective event is reported as an excessive reflection event in the Rx or Tx direction.	dB	-50 to -10	-20
<b>otdr { rx   tx } auto back-scattering &lt;value&gt;</b>	The back scattering value in the Rx or Tx direction.	dB	-90 to -70	-81.87

Parameter	Description	Unit	Range	Default
<b>otdr { rx   tx } auto refractive-index &lt;value&gt;</b>	The refractive-index value in the Rx or Tx direction.	-	1.000 to 2.000	1.4682
<b>otdr { rx   tx } auto excess-orl-threshold&lt;value&gt;</b>	Threshold below which OTDR-ABS-ORL-EXCEEDED alarm is reported in the Rx or Tx direction.	dB	10–60	60
<b>otdr { rx   tx } auto excess-attenuation-threshold&lt;value&gt;</b>	Threshold beyond which a Non-Reflective event is reported as an excessive attenuation event in the Rx or Tx direction.	dB	0.5 to 5	5
<b>otdr { rx   tx } auto end-of-fiber-loss-threshold &lt;value&gt;</b>	Threshold based on which the OTDR identifies the fiber's end, distinguishing it from other components like splices or connectors.	dB	5–99	5.5

Table 2: OTDR scan parameters in Expert mode

Parameter	Description	Unit	Range	Default
<b>otdr { rx   tx } expert pulse-width &lt;value&gt;</b>	Pulse width to be used during the expert scan in the Rx or Tx direction.	ns	5–20000	20
<b>otdr { rx   tx } expert capture-end&lt;value&gt;</b>	OTDR capture endpoint during the expert scan in the Rx or Tx direction.	cm	0–15000000	15000000
<b>otdr { rx   tx } expert capture-start &lt;value&gt;</b>	OTDR capture start point during expert scan in the Rx or Tx direction	cm	0–10000000	0
<b>otdr { rx   tx } expert scan duration&lt;value&gt;</b>	OTDR scan duration during expert scan in the Rx or Tx direction.	Seconds	0–180	60

## Verify the OTDR measurements

Use this task to view the OTDR scan measurement results.

### Procedure

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Use the command **show controllers ots R/S/I/P otdr-info direction** to view the OTDR scan measurements.

This sample displays the OTDR scan information in the Rx direction.

```
RP/0/RP0/CPU0:ios#show controllers ots 0/0/0/0 otdr-info rx
Wed Feb  9 05:55:19.791 UTC
  Scan Direction: RX
  Scan Status: Data Ready
  SOR file: /harddisk:/otdr/IOS_NCS1010_OTDR_Ots0_0_0_0_RX_20220209-055045.sor
  Total Events detected: 11
  Scan Timestamp: Wed Feb  9 05:50:45 2022 UTC
  Event Type Legend: NR:Non-Reflective R:Reflective FE:Fiber-End ER:Excess-Reflection
Event# | Detected Event(s) | Location(km) | Accuracy(m) | Magnitude(dB) | Attenuation/km(dB)
1      | R                  | 50.4709      | 52.47       | -39.87        | 0.18
2      | NR                 | 50.4709      | 52.47       | 1.17          | 0.18
3      | R                  | 100.9261     | 102.92      | -37.73        | 0.21
4      | NR                 | 100.9261     | 102.92      | 1.01          | 0.21
5      | R                  | 105.9500     | 107.94      | -38.52        | 0.24
6      | NR                 | 105.9500     | 107.94      | 0.85          | 0.24
7      | R                  | 112.7458     | 114.74      | -40.56        | 0.00
8      | NR                 | 112.7458     | 114.74      | 1.48          | 0.00
9      | NR                 | 117.9873     | 119.98      | 0.66          | -0.02
10     | R FE               | 120.1206     | 122.12      | -35.55        | 0.00
11     | NR FE              | 120.1206     | 122.12      | 21.65         | 0.00
```

After upgrading the FPD of the line card, the results of previous OTDR scans may not be available using the CLI command **show controllers ots Rack/Slot/Instance/Port otdr-info direction**. However, you can get the results of previous OTDR scans in the form of .SOR files that are stored in the hard disk.

Excessive Reflection (ER) and Excess Attenuation (EA) events and alarms can be dynamically raised or cleared by modifying their respective threshold values. However, Fiber End (FE) and Reflectance (R) events can be raised or cleared by changing the respective thresholds and re-running the OTDR scan.

See [Examples for OTDR scan measurement results](#), on [page 12](#) for various examples.

## Start the OTDR scan

Use this task to start the OTDR scan manually to perform the following procedures:

1. Identify the defect after the fiber has been cut.
2. Check the fiber quality after correcting the fiber defect.
3. Initiate an OTDR scan at the time of installation.



**Note** The Raman tuning application locks the OTDR scan at both fiber ends before the tuning starts, and releases the lock after the tuning completes. Therefore, when you try to start the OTDR scan when Raman tuning is running, your request gets rejected.

### Procedure

**Step 1** Use the **otdr-start controller ots R/S/I/P direction** to start the OTDR scan manually.

**Example:**

```
RP/0/RP0/CPU0:ios#otdr-start controller ots 0/0/0/0 rx
Wed Feb 9 05:49:39.178 UTC
OTS OTDR Scan Started at RX
RP/0/RP0/CPU0:ios#
```

The following example illustrates a rejected OTDR start request. Once an OTDR scan request has been rejected, it will not automatically run after the lock is released. You will need to create a new request to start the OTDR scan again. These examples show that OTDR scan is locked by Raman tuning:

```
RP/0/RP0/CPU0:ios#otdr-start controller ots 0/0/0/0 rx
Tue Feb 28 10:25:43.379 UTC
OTDR Scan cannot be started as it is locked by Another Entity/Application.
RP/0/RP0/CPU0:ios#
```

**Step 2** If you want to request a manual OTDR scan operation without negotiating with the peer, add the `force` option.

**Example:**

```
RP/0/RP0/CPU0:ios#otdr-start controller ots 0/0/0/0 rx force
Wed Sep 4 08:78:34.186 UTC
OTS OTDR Scan Started at RX
RP/0/RP0/CPU0:ios#
```

The forced **otdr-start** command can fail immediately in the following scenarios:

## Stop the OTDR scan

Use this task to stop the OTDR scan manually.

**Procedure**

Use the command **otdr-stop controller ots *R/S/I/P direction*** Stop the OTDR scan manually.

**Example:**

```
RP/0/RP0/CPU0:ios#otdr-stop controller ots 0/0/0/0 rx
Wed Feb 9 06:03:37.406 UTC
OTS OTDR Scan Stopped at RX
RP/0/RP0/CPU0:ios#
```

# Automatic OTDR scan

Table 3: Feature History

Feature Name	Release Information	Feature Description
Automatic OTDR Scan	Cisco IOS XR Release 7.11.1	<p>An OTDR scan is automatically triggered on Rx direction, whenever events such as span fault, span restore, device power cycle, and line card cold reload occur. The automatic scan lets you quickly identify fiber failure type and fault location.</p> <p>Commands added to enable and view OTDR results:</p> <p><b>otdr auto-scan [enable   disable]</b></p> <p><b>show olc otldr-status [details]</b></p>

## Automatic OTDR scan triggering events

The OTDR scan starts automatically when events like span fault, span restoration, device power cycling, and line card cold reload occur. By default, this feature is disabled, but you can enable it.

## Autoscan direction and duration

In Release 7.11.1, autoscan is performed only in the Rx direction, regardless of whether the span fault is unidirectional or bidirectional.

In both span up and span down events, the bidirectional OTDR scan process terminates after both Rx and Tx scans have been completed successfully. You can stop the scan sequence by disabling the autoscan feature.

The OTDR autoscan takes less than three minutes to complete. During the autoscan, the OTDR-SCAN-IN-PROGRESS-RX alarm is raised and gets cleared once the scan is finished.

## Autoscan behavior

- The autoscan locks the OTDR resource to avoid manual trigger of scan using the **otdr-start** command. However, if the manual scan is ongoing, the autoscan waits for its completion.
- The autoscan terminates any ongoing scan triggered by another applications such as Raman turn-up.
- During autoscan, if a change in Span Status is detected the ongoing scan will be terminated, and a new autoscan will be triggered.

## Span fault and restoration events detection

This table explains how the span fault and span restore events are detected:

Table 4: Definition of span up and span down events

Events	Non-Raman span	Raman span	Raman span with dual safety configured
Span Down	Raise of RX-LOS-P alarm at OSC controller	Raise of RX-LOS-P alarm at DFB controller	Raise of RX-LOS-P alarm at both OSC and DFB controllers
Span Up	Clearing of RX-LOS-P alarm at OSC controller	Clearing of RX-LOS-P alarm at DFB controller	Clearing of RX-LOS-P alarm at both OSC and DFB controllers

## Configure automatic OTDR scan

Use this task to enable OTDR scan to run automatically during certain events.

### Procedure

**Step 1** Enter the OTS controller configuration mode for the port you want to configure the automatic OTDR scan.

**Example:**

```
RP/0/RP0/CPU0:ios#configure
RP/0/RP0/CPU0:ios(config)#optical-line-control controller Ots 0/0/0/0
```

**Step 2** Enable automatic OTDR scan.

**Example:**

```
RP/0/RP0/CPU0:ios(config-olc-ots)#otdr auto-scan enable
```

If you want to disable the automatic OTDR scan, use the **otdr auto-scan disable** command.

**Step 3** Commit the changes and exit all the configuration modes.

**Example:**

```
RP/0/RP0/CPU0:ios(config)#commit
RP/0/RP0/CPU0:ios(config)#exit
```

## Verify autoscan status

Use this task to verify the status of the autoscan.

### Procedure

View the automatic OTDR scan results using the command **show olc otdr-status [details]**.

**Example:**



These samples display the status of autoscan triggered due to a span fault. See [Examples for automatic OTDR scan results, on page 9](#) for more examples.

```
RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:16:16.461 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : NA
OTDR Auto-scan Status                   : RUNNING
Status Detail                           : Starting on Span Down
Optical Span Status                      : Down
Trigger Event                          : Span Fault
Last Trigger Event                       : Span Restore

RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:16:33.304 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-18 13:16:27
OTDR Auto-scan Status                   : RUNNING
Status Detail                           : Waiting Scan Completion on Span Down
Optical Span Status                      : Down
Trigger Event                          : Span Fault
Last Trigger Event                       : Span Restore

RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:18:54.154 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-18 13:16:27
OTDR Auto-scan Status                   : COMPLETED
Status Detail                           : Completed on Span Down
Optical Span Status                      : Down
Trigger Event                          : Span Fault
Last Trigger Event                       : Span Fault
```

## Examples for automatic OTDR scan results

Here are some of the automatic OTDR scan results for different scenarios.

### Non-Raman span

This sample shows the status of automatic OTDR scan in a non-Raman span before enabling it.

```
RP/0/RP0/CPU0:ios#show olc otdr-status
Mon Sep 18 13:10:57.733 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : NA
OTDR Auto-scan Status                   : DISABLED
Status Detail                           : NA
Optical Span Status                      : UP
Trigger Event                            : NA

RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:11:00.565 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : NA
OTDR Auto-scan Status                   : DISABLED
Status Detail                           : NA
Optical Span Status                      : UP
Trigger Event                            : NA
Last Trigger Event                       : NA
```

## Raman span

This sample shows the status of automatic OTDR scan in a Raman span before enabling it.

```
RP/0/RP0/CPU0:ios#show olc otdr-status
Mon Sep 18 13:41:05.088 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : NA
OTDR Auto-scan Status                   : DISABLED
Raman Turn Up Fiber Check               : NA
Status Detail                           : NA
Optical Span Status                      : UP
Trigger Event                           : NA

RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:41:08.825 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-20 13:58:17
OTDR Auto-scan Status                   : DISABLED
Status Detail                           : NA
Raman Turn Up Fiber Check               : NA
Optical Span Status                      : UP
Trigger Event                           : NA
Last Raman Turn Up Scan Time             : NA
Last Raman Turn Up Fiber Check           : NA
Last Trigger Event                       : NA
```

## Span restore

This sample shows the status of automatic OTDR scan triggered due to span restore.

```
RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:12:40.430 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : NA
OTDR Auto-scan Status                   : RUNNING
Status Detail                         : Starting on Span Up
Optical Span Status                      : Up
Trigger Event                         : Span Restore
Last Trigger Event                       : NA

RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:15:06.153 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-18 13:12:42
OTDR Auto-scan Status                   : RUNNING
Status Detail                         : Waiting Scan Completion on Span Up
Optical Span Status                      : Up
Trigger Event                         : Span Restore
Last Trigger Event                       : NA

RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 13:15:06.153 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-18 13:12:42
OTDR Auto-scan Status                   : COMPLETED
Status Detail                         : Completed on Span Up
Optical Span Status                      : Up
Trigger Event                           : Span Restore
Last Trigger Event                       : Span Restore
```

### Autoscan not able to lock the OTDR resource

This sample displays the status detail of autoscan when autoscan is not able to lock OTDR resource after 30 minutes. The status detail is reported as 'Failed due to Timeout', and the autoscan will not trigger.

```
RP/0/RP0/CPU0:ios# show olc otdr-status details
Wed Sep 20 14:09:37.011 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-20 13:58:17
OTDR Auto-scan Status                     : COMPLETED
Status Detail                           : Failed due to Timeout
Raman Turn Up Fiber Check                : NA
Optical Span Status                      : UP
Trigger Event                            : Span Restore
Last Raman Turn Up Scan Time              : NA
Last Raman Turn Up Fiber Check            : NA
Last Trigger Event                        : NA
```

### Autoscan is waiting for the OTDR resource

This sample displays the status detail where the autoscan in one port is waiting for the OTDR resource, because the autoscan is running on another port.

```
RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 15:57:43.671 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-18 15:57:43
OTDR Auto-scan Status                     : COMPLETED
Status Detail                           : Waiting for OTDR Resource
Raman Turn Up Fiber Check                : NA
Optical Span Status                      : UP
Trigger Event                            : Span Restore
Last Raman Turn Up Scan Time              : NA
Last Raman Turn Up Fiber Check            : NA
Last Trigger Event                        : NA
```

### Autoscan is enabled and Raman turnup is disabled on a Raman span

This sample explains the status of OTDR autoscan on the Raman span where autoscan is enabled and Raman turnup is disabled. In this case:

- On the span down event, the autoscan is triggered.
- On the span up event, autoscan is not triggered and OTDR Autoscan Status will be IDLE, because Raman pumps are turned on before the start of autoscan.

```
RP/0/RP0/CPU0:ios#show olc otdr-status details
Sat Sep 23 12:42:11.304 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : NA
OTDR Auto-scan Status                     : IDLE
Status Detail                           : NA
Raman Turn Up Fiber Check                : NA
Optical Span Status                      : UP
Trigger Event                            : Span Fault
Last Raman Turn Up Scan Time              : NA
Last Raman Turn Up Fiber Check            : NA
Last Trigger Event                        : Span Restore
```

### Ongoing autoscan is stopped by the user

This sample explains the status detail of the autoscan where the ongoing autoscan is stopped by the user.

```
RP/0/RP0/CPU0:ios#show olc otdr-status details
Mon Sep 18 15:08:27.370 UTC
Controller                               : Ots0/0/0/0
Auto-scan Start Time                     : 2023-09-18 15:08:09
OTDR Auto-scan Status                     : COMPLETED
Status Detail                           : Stopped by User
Raman Turn Up Fiber Check                 : NA
Optical Span Status                       : DOWN
Trigger Event                             : Span Fault
Last Raman Turn Up Scan Time              : 2023-09-18 14:55:40
Last Raman Turn Up Fiber Check            : Success
Last Trigger Event                         : Span Restore
```

See [OTDR scan status, on page 13](#) for a list of the different OTDR scan statuses and their definitions.

## Examples for OTDR scan measurement results

**Table 5: Feature History**

Feature Name	Release Information	Description
Optical Return Loss Reporting	Cisco IOS XR Release 7.11.1	<p>The Optical Return Loss (ORL) is now calculated during the OTDR scan and displayed as part of the OTDR results. You can also set the ORL threshold value.</p> <p>The ORL represents the total reflected optical power from a complete fiber link while accounting for fiber attenuation. When the ORL falls below a user-configured threshold value, the OTDR-ABS-ORL-EXCEEDED-TX or OTDR-ABS-ORL-EXCEEDED-RX alarm is raised. You can troubleshoot fiber transmission issues using the ORL value and OTDR results.</p> <p>To set the ORL threshold value, these keywords are added to the controller ots command:</p> <ul style="list-style-type: none"> <li>otdr rx auto excess-orl-threshold <i>value</i></li> <li>otdr tx auto excess-orl-threshold <i>value</i></li> </ul>

### Optical return loss in OTDR measurement results

From Release 7.11.1, Optical Return Loss (ORL) is measured during the OTDR scan and displayed as part of the OTDR results. The ORL represents the total reflected optical power from a complete fiber link, while considering the attenuation. This includes the natural backscattered power of the fiber and the reflected power coming from optical connectors, fiber splicing, or other discontinuities along the link. ORL is expressed with a positive number. Higher ORL values are desirable for the fiber because they indicate lower back reflection. For example, an ORL of 40 dB is better than 20 dB.

This sample displays the ORL value as part of OTDR status:

```
RP/0/RP0/CPU0:NCS1010#show controllers Ots 0/0/0/2 otdr-info rx
Mon Oct 2 11:55:48.552 UTC
Scan Direction: RX
Scan Status: Data Ready
Optical Return Loss: 39.0 dB
SOR file: /harddisk:/otdr/NCS1010_NCS1010_OTDR_Ots0_0_0_2_RX_20231001-110754.sor
Total Events detected: 8
Scan Timestamp: Sun Oct 1 11:07:54 2023 UTC
Event Type Legend:NR:Non-Reflective R:Reflective FE:Fiber-End ER:Excess-Reflection
EA:Excess-Attenuation
Event# | Detected Event(s) | Location(m) | Accuracy(m) | Magnitude(dB) | Attenuation/km(dB)
1 | NR EA | 4.4100 | 2.00 | 0.69 | 0.00
2 | NR | 664.3200 | 2.66 | 0.21 | 0.00
3 | R ER | 18222.3900 | 20.22 | -33.78 | 0.19
4 | NR | 18222.3900 | 20.22 | 0.35 | 0.19
5 | R ER | 68674.4800 | 70.67 | -32.25 | 0.20
6 | NR | 68674.4800 | 70.67 | 0.36 | 0.20
7 | R FE ER | 118765.2600 | 120.76 | -28.55 | 0.23
8 | NR FE | 118765.2600 | 120.76 | 25.86 | 0.23
```

See [OTDR scan status, on page 13](#) for a list of the different OTDR scan statuses and their definitions.

## OTDR scan status

This table explains the various status of the OTDR measurements that are displayed for the **show olc controller ots R/S/I/P otdr-status** and **show controller ots R/S/I/P otdr-info** commands.

**Table 6: OTDR scan status**

Scan status	Description
Measuring	OTDR scan is currently in progress.
Data Processing	OTDR scan has completed and the data is ready for review
Data Ready	OTDR scan is stopped by the user, when it is in progress.
Stopped	OTDR is processing data just before populating the event table.

Scan status	Description
Error	The OTDR status may occasionally enter an Error state for various unpredictable reasons. One possible cause is a timeout event, which occurs if the scan is not completed within five minutes. In such cases, no SOR files or event table is generated. It is important to note that this is a rare occurrence. You can still initiate the OTDR scan to obtain the scan results.

This table explains the various OTDR scan statuses that are applicable for manual and autoscan.

**Table 7: OTDR scan status applicable for manual and autoscan**

Type of OTDR scan	Scan Status	
	show olc controller ots R/S/I/P otdr-status	show controller ots R/S/I/P otdr-info
Manual	NA	<ul style="list-style-type: none"> <li>• Measuring</li> <li>• Data Processing</li> <li>• Data Ready</li> <li>• Stopped</li> <li>• Error</li> </ul>
Autoscan	<ul style="list-style-type: none"> <li>• Measuring</li> <li>• Data Processing</li> <li>• Data Ready</li> <li>• Stopped</li> <li>• Error</li> </ul>	<ul style="list-style-type: none"> <li>• Measuring</li> <li>• Data Processing</li> <li>• Data Ready</li> <li>• Stopped</li> <li>• Error</li> </ul>