



## Perform Node Acceptance Tests

This chapter provides acceptance test procedures for ONS 15454 dense wavelength division multiplexing (DWDM) nodes.



**Note**

Unless otherwise specified, “ONS 15454” refers to both ANSI and ETSI shelf assemblies.

### Before You Begin

Before you begin the procedures in this chapter, complete the procedures applicable to your site plan from the following chapters:

- [Chapter 1, “Install the Shelf and Common Control Cards”](#)
- [Chapter 2, “Connect the PC and Log into the GUI”](#)
- [Chapter 3, “Turn Up a Node”](#)

This section lists the procedures (NTPs) that you need to complete to turn up a DWDM node. Turn to a procedure for applicable tasks (DLPs).

1. [NTP-G41 Perform the Terminal and Hub Node with 32MUX-O and 32DMX-O Cards Acceptance Test, page 4-2](#)—Complete this procedure to test terminal and hub nodes with 32MUX-O and 32DMX-O cards installed.
2. [NTP-G42 Perform the Terminal Node with 32WSS and 32DMX Cards Acceptance Test, page 4-4](#)—Complete this procedure to test terminal nodes with 32WSS and 32DMX cards installed.
3. [NTP-G43 Perform the ROADM Node Acceptance Test, page 4-6](#)—Complete this procedure to test ROADM nodes.
4. [NTP-G44 Perform the Anti-ASE Hub Node Acceptance Test, page 4-8](#)—Complete this procedure to test anti-ASE hub nodes.
5. [NTP-G45 Perform the Symmetric Line Node with OSCM Cards Acceptance Test, page 4-10](#)—Complete this procedure to test symmetric line nodes with OSCM cards.
6. [NTP-G46 Perform the Symmetric Line Node with OSC-CSM Cards Acceptance Test, page 4-12](#)—Complete this procedure to test symmetric line nodes with OSC-CSM cards.
7. [NTP-G47 Perform the Asymmetric Line Node with OSC-CSM and OSCM Cards Acceptance Test, page 4-13](#)—Complete this procedure to test asymmetric line nodes with OSCM and OSC-CSM cards.

8. [NTP-G48 Perform the Symmetric OADM Node with OSCM Cards Acceptance Test, page 4-16](#)—Complete this procedure to test symmetric OADM nodes with OSCM cards.
9. [NTP-G49 Perform the Symmetric OADM Node with OSC-CSM Cards Acceptance Test, page 4-18](#)—Complete this procedure to test symmetric OADM nodes with OSC-CSM cards.
10. [NTP-G50 Perform the Symmetric Passive OADM Node with OSC-CSM Cards Acceptance Test, page 4-20](#)—Complete this procedure to test symmetric passive OADM nodes with OSC-CSM cards.

## NTP-G41 Perform the Terminal and Hub Node with 32MUX-O and 32DMX-O Cards Acceptance Test

<b>Purpose</b>	This procedure tests a DWDM terminal or hub node with 32MUX-O and 32DMX-O cards.
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser



### Note

This procedure tests the west side of hub nodes first, then the east side. If you are testing a terminal node, apply instructions for the west side of the hub node to the terminal side (east or west) of the terminal node.

- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the hub or terminal node that you want to test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
  - a. Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - b. Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.



### Note

If OSC terminations are created, there will be two alarms, one for low power on the Optical Booster (OPT-BST) card, and the other an OSC channel alarm.

- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are listed as Success - Changed, Success - Unchanged, or Not Applicable. If any are not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).

**Step 5** Verify that the OSC link becomes active on the west Optical Service Channel Module (OSCM) or Optical Service Channel and Combiner/Separator Module (OSC-CSM). (The OSC Termination must already be provisioned. If not, complete the “[DLP-G75 Create OSC Terminations](#)” task on page 3-61.)

**Step 6** Create a physical loopback on the west or terminal OPT-BST amplifier by using a patch cord with 10-dB bulk attenuators to connect the LINE TX port to the LINE RX port.



**Note** The OPT-BST low power alarm should go away; the OSC channel alarm will remain.

**Step 7** Tune the tunable laser to the first wavelength (1530.33 nm) of the 100-GHz ITU-T grid and connect it to the CHAN RX 01 port on the west (or terminal) 32-Channel Multiplexer (32MUX-O) card using the available patch panel.

**Step 8** Display the west (or terminal) 32MUX-O card in card view.

**Step 9** Click the **Provisioning > Optical Chn > Parameters** tabs.

**Step 10** Change the Port 1 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).

**Step 11** Verify that the Port 1 power level reaches the provisioned VOA Power Ref setpoint.



**Note** The tunable laser minimum output optical power (Pout) must be 6 dBm. If the output power is lower than the specified value, the 32MUX-O card might not reach the provisioned setpoint.

**Step 12** If an OPT-BST card is installed, complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-22 on the west (or terminal side) OPT-BST to ensure that the amplifier is working properly.

**Step 13** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 on the west (or terminal) OPT-PRE to ensure that the amplifier is working properly.

**Step 14** Complete the “[DLP-G81 Verify the 32DMX-O or 32DMX Power](#)” task on page 4-24 on the west (or terminal) 32DMX-O to ensure that the card is powered correctly.

**Step 15** Restore the default IS,AINS (ANSI) or Unlocked,automaticInService (ETSI) admin state to the 32MUX-O port that was changed to OOS,MT/Locked,maintenance in [Step 10](#).

**Step 16** Repeat Steps [7](#) through [15](#) for the remaining 32 wavelengths of the 100-Ghz grid to verify the correct behavior of all variable optical attenuators (VOAs) inside the 32MUX-O card.

**Step 17** Remove the loopback created in [Step 6](#).

**Step 18** If the node is a hub node, repeat Steps [6](#) through [17](#) for the east side cards. If the node is a terminal node, continue with [Step 19](#).

**Step 19** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-58 to restore the original configuration.

**Step 20** Click the **Alarms** tab.

- a. Verify that the alarm filter is not on. See the “[DLP-G128 Disable Alarm Filtering](#)” task on page 7-32 as necessary.
- b. Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.

**Stop. You have completed this procedure.**

# NTP-G42 Perform the Terminal Node with 32WSS and 32DMX Cards Acceptance Test

<b>Purpose</b>	This procedure tests a DWDM terminal node with 32WSS and 32DMX cards installed.
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

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- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the hub or terminal node that you want to test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.




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**Note** If OSC terminations are created, there will be two alarms, one for low power on the Optical Booster (OPT-BST) card, and the other an OSC channel alarm.

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- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are listed as Success - Changed, Success - Unchanged, or Not Applicable. If any are not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 5** Verify that the OSC link becomes active on the west Optical Service Channel Module (OSCM) or Optical Service Channel and Combiner/Separator Module (OSC-CSM). (The OSC Termination must already be provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61](#).)
- Step 6** Create a physical loopback on the OPT-BST amplifier by using a patch cord with 10-dB bulk attenuators to connect the LINE TX port to the LINE RX port.




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**Note** The OPT-BST low power alarm should go away; the OSC channel alarm will remain.

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- Step 7** Tune the tunable laser to the first wavelength (1530.33 nm) of the 100-GHz ITU-T grid and connect it to the CHAN RX 01 port on the 32-Channel Wavelength Selective Switch (32WSS) card using the available patch panel.
- Step 8** Display the 32WSS card in card view.
- Step 9** Click the **Provisioning > Optical Chn > Parameters** tabs.

- Step 10** Change the Port 1 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 11** Change the Port 33 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 12** Click the **Maintenance** tab.
- Step 13** For Channel #1, change Operating Mode to **Add Drop**.
- Step 14** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 15** Verify that the Port 1 power level reaches the provisioned VOA Power Ref setpoint.
- Step 16** Display the OPT-BST card (if present) in card view.
- Step 17** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 18** Change the Port 1 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 19** Display the OPT-PRE card in card view.
- Step 20** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 21** Change the Port 1 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 22** Display the 32-DMX in card view.
- Step 23** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 24** Change the Port 33 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).



**Note** The tunable laser minimum output optical power (Pout) must be 6 dBm. If the output power is lower than the specified value, the 32MUX-O card might not reach the provisioned setpoint.

- Step 25** If an OPT-BST card is installed, complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-22](#) on the OPT-BST to ensure that the amplifier is working properly.
- Step 26** Complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-23](#) on the OPT-PRE to ensure that the amplifier is working properly.
- Step 27** Complete the [“DLP-G81 Verify the 32DMX-O or 32DMX Power” task on page 4-24](#) on the 32DMX to ensure that the card is powered correctly.
- Step 28** Restore the default admin states to the 32WSS, OPT-BST, OPT-PRE, and 32DMX ports that were changed to OOS,MT/Locked,maintenance in Steps 10, 11, 18, 21, and 24.
- Step 29** Repeat Steps 7 through 28 for the remaining 32 wavelengths of the 100-Ghz grid to verify the correct behavior of all variable optical attenuators (VOAs) inside the 32WSS and 32DMX cards.
- Step 30** Remove the loopback created in Step 6.
- Step 31** Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#) to restore the original configuration.
- Step 32** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.

**Stop. You have completed this procedure.**

# NTP-G43 Perform the ROADM Node Acceptance Test

<b>Purpose</b>	This procedure tests a ROADM node.
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

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- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the hub or terminal node that you want to test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.




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**Note** If OSC terminations are created, there will be two alarms, one for low power on the Optical Booster (OPT-BST) card, and the other an OSC channel alarm.

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- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are listed as Success - Changed, Success - Unchanged, or Not Applicable. If any are not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 5** From your Cisco MetroPlanner site configuration file, identify the dropped and added channels that are configured in pass-through mode in both directions. Mark these channels and skip the related optical test for the add and drop section involved. The channel pass-through connections are verified separately.




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**Note** Configuring a channel pass-through mode means the channel is passes through the 32WSS card from the COM port to the EXP port. The channel is not terminated inside the node.

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- Step 6** Create a physical loopback on the west OPT-BST amplifier by connecting a patch cord the LINE TX port to the LINE RX port with 10-dB bulk attenuator.
- Step 7** Verify that the OSC link becomes active on the west Optical Service Channel Module (OSCM) or Optical Service Channel and Combiner/Separator Module (OSC-CSM). (The OSC Termination must already be provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61](#).)
- Step 8** For pass-through channels, continue with [Step 9](#). If you do not have pass-through channels, continue with [Step 34](#).

- Step 9** Verify the first channel connection configured in pass-through mode in both directions:
- Set the tunable laser output power to a nominal values, such as  $-3$  dBm, and tune it to the corresponding wavelength on the 100 GHz ITU-T grid.
  - Connect the tunable laser to the LINE RX port of the east OPT-BST using a 10 dB attenuator.
- Step 10** Display the west 32WSS card in card view.
- Step 11** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 12** Change the Port 1 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 13** Change the Port 33 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 14** Click the **Maintenance** tab.
- Step 15** For Channel #1, change Operating Mode to **Pass Through**.
- Step 16** Repeat Steps 11 through 15 for the east 32WSS card.
- Step 17** Display the west 32WSS card in card view.
- Step 18** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 19** Verify that the Port 33 power level reaches the provisioned VOA Power Ref setpoint.
- Step 20** Repeat Steps 17 through 19 for the east 32WSS card.
- Step 21** Repeat Steps 9 through 20 for the remaining 32 wavelengths of the 100 GHz grid to verify all 32WSS VOAs.
- Step 22** Display the west OPT-BST card (if present) in card view.
- Step 23** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 24** Change the Port 1 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 25** Repeat Steps 22 through 24 for the east OPT-BST card.
- Step 26** Display the west OPT-PRE card in card view.
- Step 27** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 28** Change the Port 6 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 29** Repeat Steps 26 through 28 for the east OPT-PRE card.
- Step 30** If an OPT-BST card is installed on the west, complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-22 OPT-BST to ensure that the amplifier is working properly.
- Step 31** Repeat 30 for the east OPT-BST.
- Step 32** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 on the west OPT-PRE to ensure that the amplifier is working properly.
- Step 33** Tune the tunable laser to the first wavelength of the 100 GHz grid and connect it to the CHAN RX 30.3 port on the west 32WSS card.
- Step 34** Display the west 32-WSS in card view.
- Step 35** Click the **Maintenance** tab.
- Step 36** For Channel #1, change Operating Mode to **Add Drop**.
- Step 37** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 38** Verify that the Port 1 power value reaches the provisioned VOA Power Ref setpoint.
- Step 39** Display the 32DMX card in card view.
- Step 40** Click the **Provisioning > Optical Chn > Parameters** tabs.



- Step 41** Change the Port 33 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 42** Verify that the Port 1 power value reaches the provisioned VOA Power Ref setpoint.
- Step 43** (optional) Connect a power meter to the CHAN TX 1 port through the patch panel and verify that the physical optical power coming from the drop port 1 on the west 32DMX is consistent with the value read on the meter, within 0.5 dB.
- Step 44** Repeat Steps 34 through 43 for the remaining wavelengths on the 100 GHz.
- Step 45** Remove the loopback created in Step 6.
- Step 46** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-58 to restore the original configuration.
- Step 47** Create a physical loopback on the east OPT-BST amplifier by connecting a patch cord the LINE TX port to the LINE RX port with 10-dB bulk attenuator.
- Step 48** Verify that the OSC link becomes active on the east OSCM card. (The OSC Termination must already be provisioned. If not, complete the “[DLP-G75 Create OSC Terminations](#)” task on page 3-61.)
- Step 49** Repeat Steps 34 through 48 for the east side 32WSS.
- Step 50** Restore the default admin states that were changed to OOS,MT/Locked,maintenance in Steps 12, 13, 24, 28, and 41.
- Step 51** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the “[DLP-G128 Disable Alarm Filtering](#)” task on page 7-32 as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.

**Stop. You have completed this procedure.**

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## NTP-G44 Perform the Anti-ASE Hub Node Acceptance Test

<b>Purpose</b>	This procedure tests an anti-ASE hub node.
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-25 at the node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.



- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 5** From your Cisco MetroPlanner site configuration file, identify the dropped and added channels that are configured in pass-through mode in both directions. Mark these channels and skip the related optical test for the add and drop section involved. The channel pass-through connections are verified separately.



**Note** Configuring a channel pass-through mode means the channel is dropped along one direction by a 32DMX-O (15xx.xx TX port) located on one side (west or east) of the shelf, and then added by another 32MUX-O (1522.22 RX port) on the opposite side of the shelf but in the same direction. The channel is not terminated inside the site.

- Step 6** Create a loopback on the west OPT-BST amplifier by connecting a patch cord from the LINE TX port to the LINE RX port with 10-dB bulk attenuator.
- Step 7** Verify that the OSC link becomes active on the west OSCM or OSC-CSM card. (The OSC Termination must already be provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61](#).)
- Step 8** For pass-through channels, continue with [Step 9](#). For add and drop channels, continue with [Step 17](#).
- Step 9** Verify the first channel connection configured in pass-through mode in both directions:
- Set the output power on the tunable laser to a nominal value, such as -3 dBm, and tune it on the correspondent wavelength of the 100-GHz ITU-T grid.
  - Connect the tunable laser to the LINE RX port of the east OPT-BST using a 10-dB bulk attenuator.
- Step 10** Complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-23](#) for the east OPT-PRE amplifier.
- Step 11** Complete the [“DLP-G81 Verify the 32DMX-O or 32DMX Power” task on page 4-24](#) for the east 32MUX-O and 32DMX-O cards.
- Step 12** Complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-22](#) for the west OPT-BST amplifier.
- Step 13** Complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-23](#) for the west OPT-PRE amplifier.
- Step 14** Complete the [“DLP-G78 Verify the 32MUX-O and 32DMX-O Power” task on page 4-22](#) for the east 32MUX-O and 32DMX-O cards.
- Step 15** Complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-22](#) for the east OPT-BST amplifier.
- Step 16** If you have add and drop channels, continue with [Step 17](#) to verify. If not, continue with [Step 27](#).
- Step 17** Tune the tunable laser on the first wavelength of the 100-GHz ITU-T grid that is not a pass-through wavelength. Connect it to the CHAN RX *nn* port on the west 32MUX-O, where *nn* is the first add or drop channel.

- Step 18** Display the west 32MUX-O in card view.
- Step 19** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 20** Change the Admin State of Port *nn* to **OOS,MT/Locked,maintenance**.
- Step 21** Check that the power value on Port *nn* reaches the provisioned setpoint (VOA Power Ref).
- Step 22** Display the west 32DMX-O or 32DMX in card view.
- Step 23** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 24** Change the Admin State of Port *nn* to **OOS,MT/Locked,maintenance**.
- Step 25** Check that the power value on Port *nn* reaches the provisioned setpoint (VOA Power Ref).
- Step 26** (Optional.) Connect a power meter to the CHAN TX *nn* port through the patch panel and verify that the physical optical power coming out of drop Port *nn* on the west 32DMX-O is consistent with the value read on the meter within 0.5 dB.
- Step 27** Repeat Steps 17 through 26 for the remaining wavelengths on the 100-GHz grid that are not pass-through wavelengths.
- Step 28** Remove the loopback connection on the west OPT-BST.
- Step 29** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-58 to restore the original configuration.
- Step 30** Create a loopback on the east OPT-BST amplifier by connecting a patch cord from the LINE TX port to the LINE RX port with 10-dB bulk attenuator.
- Step 31** Verify that the OSC link becomes active on the east OSCM card. (The OSC termination must be already provisioned. If not, complete the “[DLP-G75 Create OSC Terminations](#)” task on page 3-61.)
- Step 32** Repeat 17 through 31 for the east side cards.
- Step 33** Restore the default admin state (IS,AINS/Unlocked,automaticInService) on all the ports previously set to OOS,MT/Locked,maintenance.
- Stop. You have completed this procedure.**
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## NTP-G45 Perform the Symmetric Line Node with OSCM Cards Acceptance Test

<b>Purpose</b>	This procedure tests a symmetric line node with OSCM cards.
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

- 
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
- a. Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - b. Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs.
- Step 5** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 6** Create a loopback on the west OPT-BST amplifier by connecting a patch cord from the LINE TX port to the LINE RX port with 10-dB bulk attenuator.
- Step 7** Verify that the OSC link becomes active on the west OSCM card. (The OSC termination must be already provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61](#).)




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**Note** Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.

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- Step 8** Set the output power on the tunable laser to a nominal value, such as -3 dBm, and tune it to the first available wavelength of the 100-GHz ITU-T grid. Connect it to the LINE RX port of the OPT-BST-E using a 10-dB bulk attenuator.
- Step 9** If an OPT-PRE card is installed on the east side, complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-23](#) for it. If not, continue with [Step 10](#).
- Step 10** Complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-22](#) for the west OPT-BST amplifier.
- Step 11** If an OPT-PRE amplifier is installed on the west side, complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-23](#). If not, continue with [Step 12](#).
- Step 12** Complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-22](#) for the east OPT-BST amplifier.
- Step 13** Remove the loopback on the west OPT-BST amplifier created in [Step 6](#).
- Step 14** Repeat Steps [6](#) through [12](#) for the east side line connection.
- Step 15** Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#) to restore the original configuration.

**Stop. You have completed this procedure.**

---

# NTP-G46 Perform the Symmetric Line Node with OSC-CSM Cards Acceptance Test

<b>Purpose</b>	This procedure tests a symmetric line node with OSC-CSM cards.
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

- 
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 5** Create a loopback on the west OSC-CSM by connecting the LINE TX port with LINE RX port using a patch cord and 10-dB bulk attenuator.
- Step 6** Verify that the OSC link becomes active on the west OSC-CSM card. (The OSC termination must be already provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61](#).)




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**Note** Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.

---

- Step 7** If the OSC link is turned up, continue with [Step 8](#). If not, perform the following troubleshooting procedure:
- Remove 10-dB bulk attenuator between LINE TX to LINE RX connection and connect using only the patch cord. If the OSC becomes active, continue with [Step 8](#), otherwise continue this troubleshooting procedure.
  - Display the OSC-CSM in card view.
  - Modify the OSC Fail Low thresholds. Click the **Provisioning > Optical Line > Optics Thresholds** tabs, and change the Port 6 opwrMin (minimum power) to -40 dBm.
  - Modify the COM TX Fail Low Threshold. Change the Port 4 opwrMin (minimum power) to -30 dBm.

**Note**

If the OSC link does not turn up, replace the card.

- Step 8** Set the output power on the tunable laser to a nominal value, such as -3 dBm, and tune it on the first available wavelength of the 100-GHz ITU-T grid.
- Step 9** Connect the tunable laser to the east OSC-CSM LINE RX port using a 10-dB bulk attenuator.
- Step 10** If an OPT-PRE card is installed on the east side, complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-23](#) for it. If not, continue with [Step 11](#).
- Step 11** Complete the [“DLP-G82 Verify the OSC-CSM Power” task on page 4-24](#) on the west OSC-CSM card.

**Note**

As a consequence of OSC link activation, the 1 x 1 optical switch inside the west OSC-CSM card must be in closed position to enable the pass through of the optical power launched by the tunable laser.

- Step 12** Complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-23](#) for the west OPT-PRE amplifier.
- Step 13** Complete the [“DLP-G84 Verify the OSC-CSM Incoming Power” task on page 4-25](#) on the east OSC-CSM card.
- Step 14** Remove the loopback created on the west OSC-CSM in [Step 5](#).
- Step 15** Repeat Steps [5](#) through [14](#) for the east side connections.
- Step 16** Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#) to restore the original configuration.

**Stop. You have completed this procedure.**

## NTP-G47 Perform the Asymmetric Line Node with OSC-CSM and OSCM Cards Acceptance Test

<b>Purpose</b>	This procedure tests an asymmetric line node with an OSC-CSM card installed on one side and an OSCM card installed on the other.
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.

- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the “[DLP-G128 Disable Alarm Filtering](#)” task on page 7-32 as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If not, complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-58.
- Step 5** Create a loopback on the OSC-CSM card by connecting the LINE TX port with LINE RX port using a patch cord and 10-dB bulk attenuator.
- Step 6** Verify that the OSC link becomes active on the OSC-CSM card. (The OSC termination must be already provisioned. If not, complete the “[DLP-G75 Create OSC Terminations](#)” task on page 3-61.)




---

**Note** Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.

---

- Step 7** If the OSC link is turned up, continue with [Step 8](#). If not, perform the following troubleshooting procedure:
- Remove 10-dB bulk attenuator between LINE TX to LINE RX connection and connect using only the patch cord. If the OSC becomes active, continue with [Step 8](#), otherwise continue this troubleshooting procedure.
  - Display the OSC-CSM in card view.
  - Modify the OSC Fail Low thresholds. Click the **Provisioning > Optical Line > Optics Thresholds** tabs, and change the Port 6 opwrMin (minimum power) to -40 dBm.
  - Modify the COM TX Fail Low Threshold. Change the Port 4 opwrMin (minimum power) to -30 dBm.




---

**Note** If the OSC link does not turn up, replace the card.

---

- Step 8** Set the output power on the tunable laser to a nominal value, such as -3 dBm, and tune it on the first available wavelength of the 100-GHz ITU-T grid.
- Step 9** Connect the tunable laser to the OSC-CSM LINE RX port using a 10-dB bulk attenuator.
- Step 10** Display the OPT-BST on the side opposite the OSC-CSM in card view.
- Step 11** Click the **Provisioning > Optical Line > Parameters** tabs. Verify that the power value on Port 2 (Out Com) is equal to the optical power from the tunable laser.
- Step 12** If an OPT-PRE card is installed on the side opposite the OSC-CSM, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 for it. If not, continue with [Step 13](#).
- Step 13** Complete the “[DLP-G82 Verify the OSC-CSM Power](#)” task on page 4-24 on the OSC-CSM card.




---

**Note** As a consequence of OSC link activation, the 1 x 1 optical switch inside the west OSC-CSM card must be closed to allow the optical power from the tunable laser to pass through.

---

- Step 14** If an OPT-PRE card is installed on the same side as the OSC-CSM, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 for it. If not, continue with [Step 15](#).

- Step 15** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-22 for the OPT-BST card installed on the opposite side of the OSC-CSM.
- Step 16** Remove the loopback fiber on the OSC-CSM card.
- Step 17** Launch ANS:
- In node view, click the **Provisioning > WDM-ANS > Port Status** tabs.
  - Click **Launch ANS**.
- Step 18** Create a loopback on the OPT-BST card installed on the same side as the OSCM card by connecting the LINE TX port with LINE RX port using a patch cord and 10-dB bulk attenuator.
- Step 19** Verify that the OSC link becomes active on the OSCM or OSC-CSM card. (The OSC termination must be already provisioned. If not, complete the “[DLP-G75 Create OSC Terminations](#)” task on page 3-61.)



---

**Note** Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.


---

- Step 20** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 for the OPT-PRE amplifier card installed on the same side as the OSCM.
- Step 21** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-22 for the OPT-BST card installed on the opposite side of the OSCM.
- Step 22** Display the OPT-BST on the side opposite the OSCM in card view.
- Step 23** Click the **Provisioning > Optical Line > Parameters** tabs. Verify that the power value on Port 2 (Out Com) is equal to the optical power from the tunable laser.
- Step 24** If an OPT-PRE card is installed on the side opposite the OSCM, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 for it. If not, continue with [Step 25](#).
- Step 25** Remove the loopback fiber on the OPT-BST amplifier card.
- Step 26** Launch ANS:
- In node view, click the **Provisioning > WDM-ANS > Port Status** tabs.
  - Click **Launch ANS**.
- Stop. You have completed this procedure.**
-



# NTP-G48 Perform the Symmetric OADM Node with OSCM Cards Acceptance Test

<b>Purpose</b>	This procedure checks the integrity of all the optical connections inside a symmetric OADM node with OSCM cards. Three connection types are tested: <ul style="list-style-type: none"> <li>• Express</li> <li>• Pass-through</li> <li>• Add/Drop</li> </ul>
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

- 
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the OADM node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 5** Check your Cisco MetroPlanner site configuration file to verify the presence of added and dropped bands (including four channels at 100 GHz) configured in pass-through mode in either direction.
- 
-  **Note** Configuring a band in pass-through mode means the band is dropped in one direction by an AD-xB-xx.x card on one side (east or west) of the node, then added by another AD-xB-x.xx card on the opposite side in the same direction. The band is not terminated inside the node.
- 
- Step 6** If no bands are configured in pass-through mode, continue with [Step 7](#). If a band is configured in pass-through mode, mark it and skip the related optical test for the express, add, and drop sections. Band pass-through connections are verified separately.
- Step 7** Check the site configuration file from Cisco MetroPlanner to verify the presence of dropped or added channels configured in pass-through mode in either direction.

**Note**

Configuring a channel in pass-through mode means the channel is dropped in one direction by an AD-xC-xx.x card on one side (east or west) of the node, then added by another AD-xC x.xx card on the opposite side in the same direction. The channel is not terminated inside the node.

- Step 8** If no channels are configured in pass-through mode, continue with [Step 9](#). If a channel is configured in pass-through mode, mark it and skip the related optical test for the express, add and drop sections. Channel pass-through connections are verified separately.
- Step 9** Create a loopback on the west OPT-BST by connecting the LINE TX port to the LINE RX port using a patch cord and 10-dB bulk attenuator.
- Step 10** Verify that the OSC link becomes active on the west OSCM card. (The OSC termination must be already provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61.](#))
- Step 11** If the OSC link becomes active, continue with [Step 12](#). If the OSC link does not turn up, perform the following steps:
- Modify the OSC Fail Low thresholds. Click the **Provisioning > Optical Line > Optics Thresholds** tabs and change the Port 6 opwrMin (minimum power) to -40 dBm.
  - Modify the COM TX Fail Low Threshold. Change the Port 4 opwrMin (minimum power) to -30 dBm.
  - If the OSC link turns up, continue with [Step 12](#). If the OSC link is still down, disconnect the OSCM card from the OPT-BST.
  - Create a loopback on the OSCM card by connecting patch cable from the OSC TX port to the OSC RX port using a 10-dB bulk attenuator.
  - If the OSC link turns up, replace the OPT-BST card. If the OSC link does not turn up, replace the OSCM card.

**Note**


Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.

- Step 12** If the node has express bands or channels, complete the [“DLP-G85 Verify Express Channel Connections—OADM Node with OSCM Cards” task on page 4-26](#). If the node does not have express bands or channels, continue with [Step 13](#).
- Step 13** If connections configured in pass-through mode are present (noted in [Steps 5 and 7](#)), complete the [“DLP-G89 Verify OADM Node Pass-Through Channel Connections” task on page 4-29](#). If not, continue with [Step 14](#).
- Step 14** If connections have add/drop connections, complete the [“DLP-G93 Verify Add and Drop Connections on OADM Node with OSCM Card” task on page 4-33](#).

**Stop. You have completed this procedure.**

# NTP-G49 Perform the Symmetric OADM Node with OSC-CSM Cards Acceptance Test

<b>Purpose</b>	This procedure checks the integrity of all the optical connections inside a symmetric OADM node with OSC-CSM cards. Three connection types are tested: <ul style="list-style-type: none"> <li>• Express</li> <li>• Pass-through</li> <li>• Add/Drop</li> </ul>
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

- 
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the OADM node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 5** Check the Cisco MetroPlanner site configuration file to verify the presence of added and dropped bands (including 4 channels at 100 GHz) configured in pass-through mode in either direction.
-  **Note** Configuring a band in pass-through mode means the band is dropped in one direction by an AD-xB-xx.x card on one side (east or west) of the node, then added by another AD-xB-x.xx card on the opposite side in the same direction. The band is not terminated inside the node.
- 
- Step 6** If no bands are configured in pass-through mode, continue with [Step 7](#). If a band is configured in pass-through mode, mark it and skip the related optical test for the express, add, and drop sections. Band pass-through connections are verified separately.
- Step 7** Check the site configuration file from Cisco MetroPlanner to verify the presence of dropped or added channels configured in pass-through mode in either direction.

**Note**

Configuring a channel in pass-through mode means the channel is dropped in one direction by an AD-xC-xx.x card on one side (east or west) of the node, then added by another AD-xC x.xx card on the opposite side in the same direction. The channel is not terminated inside the node.

- Step 8** If no channels are configured in pass-through mode, continue with [Step 9](#). If a channel is configured in pass-through mode, mark it and skip the related optical test for the express, add and drop sections. Channel pass-through connections are verified separately.
- Step 9** Create a loopback on the west OSC-CSM card by connecting the LINE TX port to the LINE RX port using a patch cord and 10-dB bulk attenuator.
- Step 10** Verify that the OSC link becomes active on the west OSC-CSM card. (The OSC termination must be already provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61.](#))

**Note**


Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.

- Step 11** If the OSC link becomes active, continue with [Step 12](#). If the OSC link does not turn up, perform the following troubleshooting steps:
- Remove the 10-dB bulk attenuator between the LINE TX and LINE RX connection. If the OSC link becomes active, continue with [Step 12](#). If not, continue with [Step b](#).
  - Modify the OSC Fail Low thresholds. Click the **Provisioning > Optical Line > Optics Thresholds** tabs and change the Port 6 opwrMin (minimum power) to -40 dBm.
  - Modify the COM TX Fail Low Threshold. Change the Port 3 opwrMin (minimum power) to -30 dBm.
  - If the OSC link turns up, continue with [Step 12](#). If it does not turn up, replace the OSC-CSM card.
- Step 12** If the node has express bands or channels, complete the [“DLP-G85 Verify Express Channel Connections—OADM Node with OSCM Cards” task on page 4-26](#). If the node does not have express bands or channels, continue with [Step 13](#).
- Step 13** If connections configured in pass-through mode are present (noted in [Steps 5 and 7](#)), complete the [“DLP-G89 Verify OADM Node Pass-Through Channel Connections” task on page 4-29](#). If not, continue with [Step 14](#).
- Step 14** If connections have add/drop connections, complete the [“DLP-G94 Verify Add and Drop Connections on OADM Node with OSC-CSM Card” task on page 4-35](#).

**Stop. You have completed this procedure.**

# NTP-G50 Perform the Symmetric Passive OADM Node with OSC-CSM Cards Acceptance Test

<b>Purpose</b>	This procedure checks the integrity of all the optical connections inside a symmetric passive OADM node with OSC-CSM cards. Three connection types are tested: <ul style="list-style-type: none"> <li>• Express</li> <li>• Pass-through</li> <li>• Add/Drop</li> </ul>
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• A tunable laser</li> <li>• An optical power meter or optical spectrum analyzer</li> <li>• 2 bulk attenuators (10 dB) LC</li> </ul>
<b>Prerequisite Procedures</b>	<a href="#">Chapter 3, “Turn Up a Node.”</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite
<b>Security Level</b>	Superuser

- 
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) at the OADM node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 7-32](#) as necessary.
  - Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDS-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If not, complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-58](#).
- Step 5** Check the Cisco MetroPlanner site configuration file to verify the presence of a dropped/added bands (including 4 channels at 100 GHz) configured in pass-through mode in either direction.
- 
-  **Note** Configuring a band in pass-through mode means the band is dropped in one direction by an AD-xB-xx.x card on one side (east or west) of the node, then added by another AD-xB x.xx card on the opposite side in the same direction. The band is not terminated inside the node.
- 
- Step 6** If no bands are configured in pass-through mode, continue with [Step 7](#). If a band is configured in pass-through mode, mark it and skip the related optical test for the express, add, and drop sections. Band pass-through connections are verified separately.
- Step 7** Check the site configuration file from Cisco MetroPlanner to verify the presence of dropped or added channels configured in pass-through mode in either direction.

**Note**

Configuring a channel in pass-through mode means the channel is dropped in one direction by an AD-xC-xx.x card on one side (east or west) of the node, then added by another AD-xC x.xx card on the opposite side in the same direction. The channel is not terminated inside the node.

- Step 8** If no channels are configured in pass-through mode, continue with [Step 9](#). If a channel is configured in pass-through mode, mark it and skip the related optical test for the express, add, and drop sections. Channel pass-through connections are verified separately.
- Step 9** Create a loopback on the west OSC-CSM card by connecting the LINE TX port to the LINE RX port using a patch cord and 10-dB bulk attenuator.
- Step 10** Verify that the OSC link becomes active on the west OSC-CSM card. (The OSC termination must be already provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61.](#))

**Note**

Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.

- Step 11** If the OSC link becomes active, continue with [Step 12](#). If the OSC link does not turn up, perform the following troubleshooting steps:
- Remove the 10-dB bulk attenuator between the LINE TX and LINE RX connection. If the OSC link becomes active, continue with [Step 12](#). If not, continue with [Step b](#).
  - Modify the OSC Fail Low thresholds. Click the **Provisioning > Optical Line > Optics Thresholds** tabs and change the Port 6 opwrMin (minimum power) to -40 dBm.
  - Modify the COM TX Fail Low Threshold. Change the Port 3 opwrMin (minimum power) to -30 dBm.
  - If the OSC link turns up, continue with [Step 12](#). If it does not turn up, replace the OSC-CSM card.
- Step 12** If the node has express bands or channels, complete the [“DLP-G86 Verify Express Channel Connections—OADM Node with OSC-CSM Cards” task on page 4-27](#). If the node does not have express bands or channels, continue with [Step 13](#).
- Step 13** If connections configured in pass-through mode are present (noted in [Steps 5 and 7](#)), complete the [“DLP-G89 Verify OADM Node Pass-Through Channel Connections” task on page 4-29](#). If not, continue with [Step 14](#).
- Step 14** If connections have add/drop connections, complete the [“DLP-G94 Verify Add and Drop Connections on OADM Node with OSC-CSM Card” task on page 4-35](#).

**Stop. You have completed this procedure.**

## DLP-G78 Verify the 32MUX-O and 32DMX-O Power

<b>Purpose</b>	This task verifies 32MUX-O and 32DMX-O power.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- 
- Step 1** Display the 32MUX-O in card view.
- Step 2** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 3** Change the Admin State of the correspondent port to **OOS,MT/Locked,maintenance**.
- Step 4** Check that the power value on the port reaches the provisioned setpoint (VOA Power Ref).
- Step 5** Display the east 32DMX-O in card view.
- Step 6** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 7** Change the Admin State of correspondent port to **OOS,MT/Locked,maintenance**.
- Step 8** Check that the power value on the port reaches the provisioned setpoint (VOA Power Ref).
- Step 9** Click the **Provisioning > Opt Ampli Line > Parameters** tabs.
- Step 10** Return to your originating procedure (NTP).
- 

## DLP-G79 Verify the OPT-BST Amplifier Laser and Power

<b>Purpose</b>	This task verifies that the OPT-BST amplifier laser is on and provisioned to the correct power.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- 
- Step 1** In node view, double-click the OPT-BST amplifier to display the card view.
- Step 2** If the Laser Status displayed in the information area is “On” continue with [Step 3](#). If not, complete the following steps:
- Click the **Maintenance > ALS** tabs.
  - Check the OSRI setting. If it is set to On, change it to Off and click **Apply**.
  - Check the Laser Status. If it changes to On, continue with [Step 3](#). If not, contact your next level of support. The amplifier might need to be replaced.
- Step 3** Click the **Provisioning > Opt Ampli Line > Parameters** tabs.



- Step 4** Verify that the Port 2 Optical Power Set-Point is greater than or equal to 2 dBm. (This value includes the ASE power contribution.)



**Note** When the laser is off, the Optical Power Set-Point is –1 dBm. Disregard this value, as it is not a significant optical power.

If the optical power is not greater than or equal to 2 dBm, do not continue. Begin troubleshooting or contact your next level of support.

- Step 5** Return to your originating procedure (NTP).

## DLP-G80 Verify the OPT-PRE Amplifier Laser and Power

<b>Purpose</b>	This task verifies that the OPT-PRE amplifier laser is on and provisioned to the correct power.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- Step 1** In node view, double-click the OPT-PRE amplifier to display the card view.
- Step 2** If the Laser Status displayed in the information area is “On” continue with [Step 3](#). If not, complete the following steps:
- Click the **Maintenance > ALS** tabs.
  - Check the OSRI setting. If it is set to On, change it to Off and click **Apply**.
  - Check the Laser Status. If it changes to On, continue with [Step 3](#). If not, contact your next level of support. The amplifier might need to be replaced.
- Step 3** Click the **Provisioning > Opt Ampli Line > Parameters** tabs.
- Step 4** Verify that the Port 2 Optical Power Set-Point value is greater than or equal to 2 dBm. (This value includes the ASE power contribution.)



**Note** When the laser is off, the Optical Power Set-Point is –1 dBm. Disregard this value, as it is not a significant optical power.

If the optical power is not greater than or equal to 2 dBm, do not continue. Begin troubleshooting or contact your next level of support.

- Step 5** Verify that the DCU Insertion Loss value is less than or equal to 10 dB.
- Step 6** Return to your originating procedure (NTP).

## DLP-G81 Verify the 32DMX-O or 32DMX Power

<b>Purpose</b>	This task verifies that the 32DMX-O or 32DMX card is provisioned to the correct power.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- 
- Step 1** Display the 32DMX-O or 32DMX card in card view.
- Step 2** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 3** Change the Admin State for Port 1 to **OOS,MT/Locked,maintenance**.
- Step 4** Verify that the VOA Power Ref reaches the provisioned set point.
- Step 5** (Optional.) Connect a power meter to the CHAN TX 01 port through the patch panel. Verify that the physical optical power value coming from drop Port 1 on the west 32DMX-O or 32DMX card is consistent with the value read (the maximum allowed error is  $\pm 0.5$  dBm).
- Step 6** Change the Admin State for Port 1 to **OOS,DSLB (ANSI)** or **Locked,disabled (ETSI)**.
- Step 7** Return to your originating procedure (NTP).
- 

## DLP-G82 Verify the OSC-CSM Power

<b>Purpose</b>	This task verifies OSC-CSM card.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- 
- Step 1** Display the OSC-CSM card in card view.
- Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.
- Step 3** Verify the Port 3 power value (Out Com) is higher than the default no-power value of  $-30$  dBm. The expected value on Port 3 should be one of the following:
- If an OPT-PRE amplifier is not installed on the east side: Pout tunable laser – IL02 east OSC-CSM (LINE RX > COM TX) – IL02 OSC-CSM-W (COM RX > LINE TX)  $-10$  dB (bulk attenuator)
  - If an OPT-PRE amplifier is installed on the east side: Pout COM TX of east OPT-PRE ( $2$  dBm) – IL02 west OSC-CSM (COM RX > LINE TX)  $-10$  dB (bulk attenuator)

**Note**

Actual output power is affected by many factors. Always consider the calculated expected power to be a general guideline and not a precise value.

**Step 4** Return to your originating procedure (NTP).

## DLP-G83 Verify the OSC-CSM Power—OADM Nodes

<b>Purpose</b>	This task verifies OSC-CSM card.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

**Step 1** Display the OSC-CSM card in card view.

**Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.

**Step 3** Change the Admin State for Port 1 to **OOS,MT/Locked,maintenance**.

**Step 4** Verify that the Power value for Port 3 is higher than the default no-power value of –30 dBm. The calculated expected power value for Port 3 is:

$\text{Pout COM TX of last AD-xy-xx.x} - \text{IL02 OSC-CSM (COM RX > LINE TX)} - 10 \text{ dB (bulk attenuator)}$

**Step 5** Double-check the value.

**Note**

Actual output power is affected by many factors. Always consider the calculated expected power to be a general guideline and not a precise value.

**Step 6** Return to your originating procedure (NTP).

## DLP-G84 Verify the OSC-CSM Incoming Power

<b>Purpose</b>	This task verifies OSC-CSM card incoming power.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

**Step 1** Display the OSC-CSM card in card view.

- Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.
- Step 3** Verify that the Power value for Port 2 is higher than the default no-power value of –30 dBm. The calculated expected power value for Port 2 is:

Pout COM TX of OPT-PRE + 2 dBm



**Note** Actual output power is affected by many factors. Always consider the calculated expected power to be a general guideline and not a precise value.

- Step 4** Return to your originating procedure (NTP).

## DLP-G85 Verify Express Channel Connections—OADM Node with OSCM Cards

<b>Purpose</b>	This task verifies the express channel connections during an OADM node acceptance.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- Step 1** Set the output power on the tunable laser to a nominal value, such as –3 dBm, and connect it to the east OPT-BST LINE RX port.
- Step 2** Based on the Cisco MetroPlanner site configuration file, tune the tunable laser to a wavelength (on the 100-GHz ITU-T grid) that runs on the express path of all AD-xB-xx.x and AD-xC-xx.x cards on the east-to-west and west-to-east directions.
- Step 3** If an OPT-PRE card is installed on the east side, insert a 10-dB bulk attenuator on the COM RX port and complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23. If an OPT-PRE card is not installed on the east side, continue with [Step 4](#).
- Step 4** If AD-xB-xx.x cards are installed on the east side, complete the “[DLP-G87 Verify the AD-xB-xx.x Output Express Power](#)” task on page 4-28 for each card. If not, continue with [Step 5](#).



**Note** If AD-xB-xx.x and AD-xC-xx.x cards are both installed in one direction, the band signal is dropped first, then the channel signal.

- Step 5** If AD-xC-xx.x cards are installed on the east side, complete the “[DLP-G88 Verify the AD-xC-xx.x Output Express Power](#)” task on page 4-28 for each east side card. If not, continue with [Step 6](#).
- Step 6** If AD-xC-xx.x cards are installed on the west side, complete the “[DLP-G88 Verify the AD-xC-xx.x Output Express Power](#)” task on page 4-28 for each west side card. If not, continue with [Step 7](#).
- Step 7** If AD-xB-xx.x cards are installed on the west side, complete the “[DLP-G87 Verify the AD-xB-xx.x Output Express Power](#)” task on page 4-28 for each west side card. If not, continue with [Step 8](#).
- Step 8** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-22 for the OPT-BST installed on the east side.

- Step 9** If an OPT-PRE card is installed on the west side, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23. If an OPT-PRE card is not installed, continue with [Step 10](#).
- Step 10** Repeat Steps 1 through 9 to the AD-xB-xx.x and AD-xC-xx.x cards along the west-to-east direction.
- Step 11** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-22 for the OPT-BST installed on the west side.
- Step 12** Return to the originating procedure (NTP).

## DLP-G86 Verify Express Channel Connections—OADM Node with OSC-CSM Cards

<b>Purpose</b>	This task verifies the express channel connections during an OADM node acceptance.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- Step 1** Set the output power on the tunable laser to a nominal value, such as -3 dBm, and connect it to the LINE RX port of the east OSC-CSM card.
- Step 2** If an OPT-PRE amplifier card is installed on the east side, install a 10-dB bulk attenuator on the COM RX port.
- Step 3** Based on the Cisco MetroPlanner site configuration file, tune the tunable laser on a wavelength (belonging to the 100-GHz ITU-T grid) running on the express path of all AD-xB-xx.x and AD-xC-xx.x cards on the east-to-west direction.
- Step 4** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 for the OPT-PRE amplifier card installed on the west side.
- Step 5** If AD-xB-xx.x cards are installed on the east side, complete the “[DLP-G87 Verify the AD-xB-xx.x Output Express Power](#)” task on page 4-28 for each east side card. If not, continue with [Step 6](#).



**Note** If Ad-xB-xx.x and AD-xC cards are both installed in one direction, the band signal is dropped first, then the channel signal.

- Step 6** If AD-xC-xx.x cards are installed on the east side, complete the “[DLP-G88 Verify the AD-xC-xx.x Output Express Power](#)” task on page 4-28 for each east side card. If not, continue with [Step 7](#).
- Step 7** If AD-xC-xx.x cards are installed on the west side, complete the “[DLP-G88 Verify the AD-xC-xx.x Output Express Power](#)” task on page 4-28 for each west side card. If not, continue with [Step 8](#).
- Step 8** If AD-xB-xx.x cards are installed on the west side, complete the “[DLP-G87 Verify the AD-xB-xx.x Output Express Power](#)” task on page 4-28 for each west side card. If not, continue with [Step 9](#).
- Step 9** Complete the “[DLP-G83 Verify the OSC-CSM Power—OADM Nodes](#)” task on page 4-25 for the OSC-CSM installed on the west side.

- Step 10** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 for the OPT-PRE card installed on the east side.
- Step 11** Repeat Steps 1 through 10 to the AD-xB-xx.x and AD-xC-xx.x cards along the west-to-east direction.
- Step 12** Complete the “[DLP-G83 Verify the OSC-CSM Power—OADM Nodes](#)” task on page 4-25 for the OSC-CSM installed on the east side.
- Step 13** Return to the originating procedures (NTPs).

## DLP-G87 Verify the AD-xB-xx.x Output Express Power

<b>Purpose</b>	This task verifies the output express power of Band OADM (AD-xB-xx.x) cards.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- Step 1** Display the AD-xB-xx.x in card view.
- Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.
- Step 3** Change the Output Express port Admin State to **OOS,MT/Locked,maintenance**. Click **Apply**.
- Step 4** Verify that the Output Express port Power value is greater than the default no-power value of –28 dBm.
- Step 5** Return to your originating procedure (NTP).

## DLP-G88 Verify the AD-xC-xx.x Output Express Power

<b>Purpose</b>	This task verifies the output express power of the Channel OADM (AD-xC-xx.x) cards.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- Step 1** Display the AD-xC-xx.x in card view.
- Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.
- Step 3** Change the Output Express port Admin State to **OOS,MT/Locked,maintenance**. Click **Apply**.
- Step 4** Verify that the Output Express port Power value is greater than the default no-power value of –30 dBm.

**Step 5** Return to your originating procedure (NTP).

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## DLP-G89 Verify OADM Node Pass-Through Channel Connections

<b>Purpose</b>	This task verifies the pass-through channel connections during an OADM node acceptance test.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

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- Step 1** Identify the first band connection configured in pass-through mode in both directions.
- Step 2** Tune the tunable laser to the wavelength of the band to be tested.
- Step 3** Complete the “[DLP-G90 Verify an AD-xB-xx.x Pass-Through Connection Power](#)” task on page 4-30 for the first pass-through connection.
- Step 4** (Optional.) Complete one of the following:
- If OSCM cards are installed, connect a power meter to the east OPT-BST LINE TX port and verify that the east amplifier is turned on by the pass-through wavelength.
  - If OSC-CSM cards are installed, complete the “[DLP-G84 Verify the OSC-CSM Incoming Power](#)” task on page 4-25 for the east OSC-CSM card.
- Step 5** Complete Steps 2 through 4 for all band connections configured in pass-through mode in both directions.
- Step 6** Test the pass-through channel connections:
- If the pass-through channel connections use an AD-xC-xx.x card, continue with [Step 7](#).
  - If pass-through channel connections use a 4MD-xx.x card, continue with [Step 11](#).
- Step 7** Tune the tunable laser on a wavelength (1 of 4) belonging to the channel to be tested.
- Step 8** Complete the “[DLP-G91 Verify an AD-xC-xx.x Pass-Through Connection](#)” task on page 4-31 for the first pass-through connection.
- Step 9** (Optional.) Complete one of the following:
- If an OSCM card is installed, connect a power meter to LINE TX port on the front-pane and verify that the east OPT-BST amplifier is turned on by the pass-through wavelength.
  - If an OSC-CSM card is installed, complete the “[DLP-G84 Verify the OSC-CSM Incoming Power](#)” task on page 4-25 for the east OSC-CSM card.
- Step 10** If the pass-through connections use a 4-channel multiplexer/demultiplexer (4MD-xx.x), continue with [Step 11](#). If not, continue with [Step 15](#).
- Step 11** Identify the first channel connection that is configured in pass-through mode using the 4MD-xx.x cards in both directions.
- Step 12** Tune the tunable laser on the corresponding wavelength.
- Step 13** Complete the “[DLP-G92 Verify an 4MD-xx.x Pass-Through Connection Power](#)” task on page 4-32.



- Step 14** (Optional.) Perform one of the following:
- If an OSCM card is installed, connect a power meter to LINE TX port on the card front panel and verify that the east OPT-BST amplifier is turned on by the pass-through wavelength.
  - If an OSC-CSM card is installed, complete the [“DLP-G84 Verify the OSC-CSM Incoming Power” task on page 4-25](#) for the east OSC-CSM card.
- Step 15** Return to your originating procedure (NTP).
- 

## DLP-G90 Verify an AD-xB-xx.x Pass-Through Connection Power

<b>Purpose</b>	This task verifies an AD-xB-xx.x pass-through connection.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

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- Step 1** Verify the east AD-xB-xx.x band TX power:
- Display the east AD-xB-xx.x in card view.
  - Click the **Provisioning > Optical Band > Parameters** tabs.
  - Change the Admin State of the BAND TX (east-to-west) port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - Verify that the BAND TX port Power value is higher than the default no-power value of –30 dBm.
- Step 2** Verify the west AD-xB-xx.x card RX and TX power:
- Display the west AD-xB-xx.x card (corresponding to the east AD-xB-xx.x in [Step 1](#)) in card view.
  - Click the **Provisioning > Optical Band > Parameters** tabs.
  - Verify that the Power value of the BAND RX (east-to-west) port is higher than the default no-power value of –30 dBm.
  - Change the Admin State of the BAND TX (west-to-east) port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - Verify that the BAND TX port Power value is higher than the default no-power value of –30 dBm.
- Step 3** Verify the band RX port on the east AD-xB-xx.x card:
- Display the east AD-xB-xx.x in card view.
  - Click the **Provisioning > Optical Band > Parameters** tabs.
  - Verify that the Power value of the BAND RX (West to East) port is higher than the default no-power value of –30 dBm.
- Step 4** Return to your originating procedure (NTP).
-

## DLP-G91 Verify an AD-xC-xx.x Pass-Through Connection

<b>Purpose</b>	This task verifies an AD-xC-xx.x pass-through connection.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

- 
- Step 1** Verify the east AD-xC-xx.x channel TX power:
- Display the east AD-xC-xx.x in card view.
  - Click the **Provisioning > Optical Chn > Parameters** tabs.
  - Verify that the power value for the CHAN TX port is higher than the default no-power value of -35 dBm.
  - If the AD-xC-xx.x card is an AD-4C-xx.x card, a VOA (applied to all four channels) is installed along the drop path and needs to be configured.
  - Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - Perform the output power check.
- Step 2** Verify the channel power for the corresponding west AD-xC-xx.x card:
- Display the west AD-xC-xx.x card in card view.
  - Click the **Provisioning > Optical Chn > Parameters** tabs.
  - Change the Admin State of the CHAN RX port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - Verify that the Power value of the CHAN RX port reaches the provisioned setpoint (VOA Power Ref).
  - Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - If the AD-xC-xx.x is an AD-4C-W card, a VOA (applying to all four channels) is installed along the drop path and needs to be configured.
  - Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - Perform the output power check.
- Step 3** Verify the band RX port on the east AD-xB-xx.x card:
- Display the east AD-xB-xx.x in card view.
  - Click the **Provisioning > Optical Band > Parameters** tabs.
  - Change the Admin State of the CHAN RX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
  - Verify that the Power value of the BAND RX port reaches the provisioned setpoint (VOA Power Ref).

**Step 4** Return to your originating procedure (NTP).

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## DLP-G92 Verify an 4MD-xx.x Pass-Through Connection Power

<b>Purpose</b>	This task verifies an 4MD-xx.x pass-through connection.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only

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- Step 1** Verify the TX band power on the related east AD-xB-xx.x card:
- Display the east AD-xB-xx.x card in card view.
  - Click the **Provisioning > Optical Band > Parameters** tabs.
  - Change the Admin State of the BAND TX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
  - Verify that the BAND TX Power value is higher than the default no-power value of –30 dBm.
- Step 2** Verify the TX power on the related east 4MD-xx.x (east-to-west) card:
- Display the east 4MD-xx.x card in card view.
  - Click the **Provisioning > Optical Chn > Parameters** tabs.
  - Verify that the Power value on the CHAN TX port is higher than the default no-power value of –35 dBm.
  - Change the Admin State of the CHAN RX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
- Step 3** Verify the west 4MD-xx.x (east-to-west):
- Display the west 4MD-xx.x card in card view.
  - Click the **Provisioning > Optical Chn > Parameters** tabs.
  - Change the Admin State of the CHAN RX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
  - Verify that the Power value of the CHAN RX port reaches the provisioned setpoint (VOA Power Ref).
- Step 4** Verify the west AD-xB-xx.x (west-to-east):
- Display the west 4MD-xx.x card in card view.
  - Click the **Provisioning > Optical Band > Parameters** tabs.
  - Change the Admin State of the BAND TX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
  - Verify that the BAND TX Power value is higher than the default no-power value of –30 dBm.
- Step 5** Verify the west 4MD-xx.x (west-to-east):
- Display the west 4MD-xx.x card in card view.

- b. Click the **Provisioning > Optical Chn > Parameters** tabs.
- c. Verify that the Power value on the CHAN TX port is higher than the default no-power value of -35 dBm.

**Step 6** Verify the east 4MD-xx.x (west-to-east):

- a. Display the east 4MD-xx.x card in card view.
- b. Click the **Provisioning > Optical Chn > Parameters** tabs.
- c. Change the Admin State of the CHAN RX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
- d. Verify that the Power value of the CHAN RX port reaches the provisioned setpoint (VOA Power Ref).

**Step 7** Return to your originating procedure (NTP).

## DLP-G93 Verify Add and Drop Connections on OADM Node with OSCM Card

<b>Purpose</b>	This task verifies the add and drop channel connections for an OADM node with OSCM cards installed.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only



### Note

In this task, you will verify add and drop connections in the following order: east-to-west add and west-to-east drop, Steps 1 through 15; west-to-east add and east-to-west drop, Steps 16 through 17

- Step 1** From the Cisco MetroPlanner site configuration file, identify the wavelength (belonging to the 100-GHz ITU-T grid) of the channel running on the first add path of the first west AD-xC-xx.x or west 4MD-xx.x card on the east-to-west direction.
- Step 2** Connect the tunable laser to the corresponding 15xx.x RX port (on the card front panel) of the west AD-xC-xx.x or 4MD-xx.x card.
- Step 3** Verify the west AD-xC-xx.x or 4MD-xx.x (east-to-west):
- a. Display the west AD-xC-xx.x or 4MD-xx.x card in card view.
  - b. Click the **Provisioning > Optical Chn > Parameters** tabs.
  - c. Change the Admin State of the CHAN RX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength chosen on the tunable laser.
  - d. Verify that the Power value of the CHAN RX port reaches the provisioned setpoint (VOA Power Ref).
- Step 4** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-22 on the west OPT-BST amplifier to verify that the added wavelength turns on the laser.

- Step 5** If the add connection uses a 4MD-xx.x card, continue with [Step 6](#). If the add connection uses an AD-xC-xx.x card, move to [Step 10](#).
- Step 6** Verify the west AD-xB-xx.x:
- Display the west AD-xB-xx.x card in card view.
  - Click the **Provisioning > Optical Band > Parameters** tabs.
  - Change the Admin State of the BAND TX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
  - Verify that the Power value of the BAND TX port is higher than the default no-power value of -30 dBm.
- Step 7** Display the related AD-xB-xx.x card (west-to-east direction) in card view.
- Step 8** Change the admin state of the drop BAND TX port related to the wavelength selected on the tunable laser to OOS,MT.
- Step 9** (Optional.) Connect a power meter to the proper 15xx.x TX port on the front panel (the dual port compared with the port where the tunable laser is connected). Verify that the physical optical power value from that port is consistent with the value displayed on the Provisioning > Optical Chn > Parameters tab for the proper CHAN TX power value +/- 0.5 dB.
- Step 10** Verify the west AD-xC-xx.x (west-to-east) card:
- Display the west AD-xC-xx.x card in card view.
  - Click the **Provisioning > Optical Chn > Parameters** tabs.
  - Verify that the Power value of the CHAN TX port is higher than the default no-power value of -35 dBm.
  - Display the east AD-xC-xx.x in card view.
  - Click the **Provisioning > Optical Chn > Parameters** tabs.
  - Verify that the power value for the CHAN TX port is higher than the default no-power value of -35 dBm.
  - If the AD-xC-xx.x card is an AD-4C-xx.x card, a VOA (applied to all four channels) is installed along the drop path and needs to be configured.
  - Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - Perform the output power check.
- Step 11** (Optional.) Connect a power meter to the proper 15xx.xx TX port on the front panel (the dual port compared with the port where the tunable laser is connected). Verify that the physical optical power value from that port is consistent with the value on the Provisioning > Optical Chn > Parameters tab for the proper CHAN TX power value +/- 0.5 dB.
- Step 12** Repeat Steps [6](#) through [11](#) for all add paths of any west AD-xC-xx.x or 4MD-xx.x cards along the east-to-west direction.
- Step 13** Remove the loopback on the west OPT-BST amplifier and create a loopback on the east OPT-BST amplifier.
- Step 14** If an OPT-PRE amplifier is installed on the east side, remove the 10-dB bulk attenuator inserted on the COM RX port.

**Note**

An SDCC Termination Failure alarm might appear during to the OSC signal loopback.

If the OSC link does not turn up, perform the following steps:

- a. Display the OPT-BST card in card view.
- b. Click the **Provisioning > Optical Line > Optics Thresholds** tabs.
- c. Set the Power Low value of Port 6 to -40 dBm.
- d. If the OSC link does not appear, disconnect the OSCM card from the OPT-BST amplifier.
- e. Create a loopback by attaching a patch cord to the OSC TX and OSC RX ports on the front panel of the OSCM card using a 10-dB bulk attenuator.
- f. If the OSC link turns up, replace the OPT-BST amplifier card.
- g. If the OSC link does not turn up, replace the OSCM card.

- Step 15** Check the site configuration file from Cisco MetroPlanner and identify the wavelength (belonging to the 100 GHz ITU-T grid) of the channel running on the first add path of the first AD-xC-xx.x-E or 4MD-xx.x-E card on the west-to-east direction.
- Step 16** Connect the tunable laser to the correspondent 15xx.x RX port (on the card front panel) of the east AD-xC-xx.x-E or east 4MD-xx.x-E card.
- Step 17** Repeat Steps 3 through 16, applying the steps to the west-to-east direction.
- Step 18** Restore the default admin state (IS,AINS/Unlocked,automaticInService) on all the ports previously set to OOS,MT/Locked,maintenance.
- Step 19** Launch ANS to recover the correct Node Configuration.
- Step 20** Return to your originating procedure (NTP).

## DLP-G94 Verify Add and Drop Connections on OADM Node with OSC-CSM Card

<b>Purpose</b>	This task verifies the add and drop channel connections for an OADM node with OSC-CSM cards installed.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<a href="#">DLP-G46 Log into CTC, page 2-25</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser only



### Note

In this task, you will verify add and drop connections in the following order: east-to-west and west-to-east drop: Steps 1 through 15; west-to-east add and east-to-west drop: Steps 16 through 17

- Step 1** From the Cisco MetroPlanner site configuration file, identify the wavelength (belonging to the 100-GHz ITU-T grid) of the channel running on the first add path of the first west AD-xC-xx.x or west 4MD-xx.x card on the east-to-west direction.
- Step 2** Connect the tunable laser to the corresponding 15xx.x RX port (on the card front panel) of the west AD-xC-xx.x or 4MD-xx.x card.
- Step 3** Verify the west AD-xC-xx.x or 4MD-xx.x (east-to-west):
- a. Display the west AD-xC-xx.x or 4MD-xx.x card in card view.

- b. Click the **Provisioning > Optical Chn > Parameters** tabs.
  - c. Change the Admin State of the CHAN RX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
  - d. Verify that the Power value of the CHAN RX port reaches the provisioned setpoint (VOA Power Ref).
- Step 4** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-23 on the west OPT-PRE amplifier to verify that the added wavelength turns on the laser.
- Step 5** If the add connection uses a 4MD-xx.x card, continue with [Step 6](#). If the add connection uses an AD-xC-xx.x card, move to [Step 10](#).
- Step 6** Verify the west AD-xB-xx.x:
  - a. Display the west AD-xB-xx.x card in card view.
  - b. Click the **Provisioning > Optical Band > Parameters** tabs.
  - c. Change the Admin State of the BAND TX port to **OOS,MT/Locked,maintenance** for the channel related to the wavelength selected on the tunable laser.
  - d. Verify that the Power value of the BAND TX port is higher than the default no-power value of -30 dBm.
- Step 7** Display the related AD-xB-xx.x card (west-to-east direction) in card view.
- Step 8** Change the admin state of the drop BAND TX port related to the wavelength selected on the tunable laser to OOS,MT.
- Step 9** (Optional.) Connect a power meter to the proper 15xx.xs TX port on the front panel (the dual port compared with the port where the tunable laser is connected). Verify that the physical optical power value from that port is consistent with the value displayed on the Provisioning > Optical Chn > Parameters tab for the proper CHAN TX power value +/- 0.5 dB.
- Step 10** Verify the west AD-xC-xx.x (west-to-east) card:
  - a. Display the west AD-xC-xx.x card in card view.
  - b. Click the **Provisioning > Optical Chn > Parameters** tabs.
  - c. Verify that the Power value of the CHAN TX port is higher than the default no-power value of -35 dBm.
  - d. Display the east AD-xC-xx.x in card view.
  - e. Click the **Provisioning > Optical Chn > Parameters** tabs.
  - f. Verify that the power value for the CHAN TX port is higher than the default no-power value of -35 dBm.
  - g. If the AD-xC-xx.x card is an AD-4C-xx.x card, a VOA (applied to all four channels) is installed along the drop path and needs to be configured.
  - h. Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT/Locked,maintenance**. Click **Apply**.
  - i. Perform the output power check.
- Step 11** (Optional.) Connect a power meter to the proper 15xx.xx TX port on the front panel (the dual port compared with the port where the tunable laser is connected). Verify that the physical optical power value from that port is consistent with the value on Provisioning > Optical Chn > Parameters tab for the proper CHAN TX power value +/- 0.5 dB.
- Step 12** Repeat Steps [6](#) through [11](#) for all add paths of any west AD-xC-xx.x or 4MD-xx.x cards along the east-to-west direction.



- Step 13** Remove the loopback on the west OSC-CSM.
- Step 14** In node view, click the **Provisioning > WDM-ANS > Port Status** tabs.
- Step 15** Click **Launch ANS**.
- Step 16** Create a loopback on the east OSC-CSM card by connecting the OSC-CSM LINE RX and LINE TX ports using a patch cord and 10-dB bulk attenuator.
- Step 17** Verify that the OSC link becomes active on the west OSC-CSM card. (The OSC termination must be already provisioned. If not, complete the [“DLP-G75 Create OSC Terminations” task on page 3-61.](#))




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**Note** Due to the OSC signal loopback, a SDCC Termination Failure alarm might be raised.

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- Step 18** If the OSC link becomes active, continue with [Step 19](#). If the OSC link does not turn up, perform the following troubleshooting steps:
- Remove the 10-dB bulk attenuator between the LINE TX and LINE RX connection. If the OSC link becomes active, continue with [Step 19](#). If not, continue with [Step b](#).
  - Modify the OSC Fail Low thresholds. Click the **Provisioning > Optical Line > Optics Thresholds** tabs and change the Port 6 opwrMin (minimum power) to -40 dBm.
  - Modify the COM TX Fail Low Threshold. Change the Port 3 opwrMin (minimum power) to -30 dBm.
  - If the OSC link turns up, continue with [Step 19](#). If it does not turn up, replace the OSC-CSM card.
- Step 19** Check the site configuration file from Cisco MetroPlanner and identify the wavelength (belonging to the 100 Ghz ITU-T grid) of the channel running on the first add path of the first AD-xC-xx.x-E or 4MD-xx.x-E card on the west-to-east direction.
- Step 20** Connect the tunable laser to the correspondent 15xx.x RX port (on the card front panel) of the east AD-xC-xx.x-E or east 4MD-xx.x-E card.
- Step 21** Repeat Steps [3](#) through [20](#), applying the steps to the west-to-east direction.
- Step 22** Restore the default admin state (IS,AINS/Unlocked,automaticInService) on all the ports previously set to OOS,MT/Locked,maintenance.
- Step 23** Launch ANS to recover the correct node configuration.
- Step 24** Return to your originating procedure (NTP).
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