



Perform Node Acceptance Tests

This chapter provides test procedures to verify the cards installed in the ONS 15454 are performing correctly. The procedures are optional.



Note

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

Before You Begin

This section lists the non-trouble procedures (NTPs) that you need to complete to validate a DWDM node. Turn to a procedure for applicable detailed level procedures (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 4-5](#)—Complete this procedure to test terminal nodes with 32WSS and 32DMX cards installed.
3. [NTP-G43 Perform the ROADM Node Acceptance Test, page 4-8](#)—Complete this procedure to test ROADM nodes.
4. [NTP-G44 Perform the Anti-ASE Hub Node Acceptance Test, page 4-20](#)—Complete this procedure to test anti-ASE hub nodes.
5. [NTP-G45 Perform the Line Amplifier Node with OSCM Cards Acceptance Test, page 4-23](#)—Complete this procedure to test line amplifier nodes with OSCM cards installed on both the east and west sides of the shelf.
6. [NTP-G46 Perform the Line Amplifier Node with OSC-CSM Cards Acceptance Test, page 4-26](#)—Complete this procedure to test line amplifier nodes with OSC-CSM cards installed on both the east and west sides of the shelf.
7. [NTP-G47 Perform the Line Amplifier Node with OSCM and OSC-CSM Cards Acceptance Test, page 4-30](#)—Complete this procedure to test line amplifier nodes with OSCM and OSC-CSM cards installed.
8. [NTP-G48 Perform the OADM Node Acceptance Test on a Symmetric Node with OSCM Cards, page 4-33](#)—Complete this procedure to test OADM nodes with OSCM cards installed on both the east and west sides of the shelf.

9. [NTP-G49 Perform the OADM Active Node Acceptance Test on a Symmetric Node with OSC-CSM Cards, page 4-35](#)—Complete this procedure to test OADM nodes with OSC-CSM and OPT-BST cards installed on both the east and west sides of the shelf.
10. [NTP-G50 Perform the OADM Passive Node Acceptance Test on a Symmetric Node with OSC-CSM Cards, page 4-37](#)—Complete this procedure to test OADM nodes with OSC-CSM cards installed on both the east and west sides of the shelf and no OPT-BST cards.

NTP-G41 Perform the Terminal and Hub Node with 32MUX-0 and 32DMX-0 Cards Acceptance Test

Purpose	This procedure tests a DWDM terminal or hub node with 32MUX-0 and 32DMX-0 cards.
Tools/Equipment	A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1) An optical power meter or optical spectrum analyzer 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	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 2-24](#) 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 8-27](#) as necessary.
 - b. Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH 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 > WDM-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 3-73](#).

- Step 5** 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 An “SDCC Termination Failure” alarm will appear due to the OSC signal loopback.

- Step 6** 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 [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74.](#))
- Step 7** Set the tunable laser or the TXP_MR_2.5G card to the first wavelength (1530.33 nm) of the 100-GHz ITU-T grid. Refer to the tunable laser manufacturer’s documentation or the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4.](#)
- Step 8** Connect the tunable laser transmitter or TXP_MR_2.5G card DWDM TX port to the CHAN RX 01 port on the west (or terminal) 32-Channel Multiplexer (32MUX-O) card using the available patch panel.
- Step 9** Display the west (or terminal) 32MUX-O card in card view.
- Step 10** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 11** Change the Port 1 Admin State to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 12** Verify that the Port 1 power level reaches the provisioned VOA (variable optical attenuator) 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 13** If an OPT-BST card is installed, complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-39](#) on the west (or terminal side) OPT-BST to ensure that the amplifier is working properly.
- Step 14** Complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-40](#) on the west (or terminal) OPT-PRE to ensure that the amplifier is working properly.
- 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** (ANSI) or **Locked,maintenance** (ETSI) in [Step 11](#).
- Step 16** Repeat Steps [7](#) through [15](#) for the remaining 32 wavelengths of the 100-GHz grid to verify the correct behavior of all VOAs inside the 32MUX-O card.
- Step 17** Remove the loopback created in [Step 5](#).
- Step 18** If the node is a hub node, repeat Steps [5](#) through [17](#) for the east side cards.
- Step 19** Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-73](#) to restore the original configuration.
- Step 20** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 8-27](#) as necessary.
 - Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.

Stop. You have completed this procedure.

DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing

Purpose	This procedure provisions a TXP_MR_2.5G card for acceptance testing when a tunable laser is not available.
Tools/Equipment	Eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1)
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-31 NTP-G34 Install Fiber-Optic Cables on DWDM Cards and DCUs, page 3-39
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser

- Step 1** If you have installed and verified the TXP_MR-2.5G cards, continue with [Step 3](#). If you have not installed the TXP cards, verify that you have TXP_MR_2.5G cards for every wavelength that you will test. [Table 4-1](#) lists the TXP_MR_2.5G part numbers and wavelengths.

Table 4-1 TXP_MR_2.5G Card Wavelengths and Part Numbers

Part Number	Wavelengths
15454-MR-L1-30.3	1530.33 – 1532.68
15454-MR-L1-34.2	1534.25 – 1536.61
15454-MR-L1-38.1	1538.19 – 1540.56
15454-MR-L1-42.1	1542.14 – 1544.53
15454-MR-L1-46.1	1546.12 – 1548.51
15454-MR-L1-50.1	1550.12 – 1552.52
15454-MR-L1-54.1	1554.13 – 1556.55
15454-MR-L1-58.1	1558.17 – 1560.61

- Step 2** Install each TXP card using the “[NTP-G32 Install the Transponder and Muxponder Cards](#)” procedure on [page 3-31](#). If there are not enough open slots to install all the cards at one time, you can perform the acceptance tests one TXP at a time. However, you will need to uninstall and install the TXP cards for the wavelengths being tested.
- Step 3** Display the TXP_MR_2.5G for the first wavelength you are testing (see [Table 4-1](#)) in card view.
- Step 4** Click the **Provisioning > Line > [Service Type]** subtabs where [Service Type] is either SONET (ANSI) or SDH (ETSI).
- Step 5** Click the Admin State column for the trunk port and choose **OOS,Disable** (ANSI) or **Unlocked,disable** (ETSI) from the drop-down list.
- Step 6** Click **Apply**, then click **Yes**.

- Step 7** Click the **Provisioning > Card** subtabs.
- Step 8** In the Wavelength field, choose the first wavelength required by the acceptance test.
- Step 9** Click **Apply**.
- Step 10** Click the **Provisioning > Line > [Service Type]** subtabs.
- Step 11** Click the Admin State column for the trunk port and choose **OOS,Maintenance** (ANSI) or **Unlocked,Maintenance** (ETSI) from the drop-down list.
- Step 12** Click **Apply**, then click **Yes**.
- Step 13** Connect a power meter to the DWDM TX port. Verify that the output power falls within –4.5 dBm and 1 dBm. If it does not fall within this range, replace the card or contact your next level of support.
- Step 14** Repeat Steps 3 through 13 for all the installed TXP cards.
- Step 15** Return to the originating procedure (NTP).

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

Purpose	This procedure tests a DWDM terminal node with 32WSS and 32DMX cards installed.
Tools/Equipment	• A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1) • An optical power meter or optical spectrum analyzer • 1 bulk attenuator (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser



Note

This procedure creates an optical loopback on the OPT-BST line. An optical signal is sent from the 32WSS input (add) to the OPT-BST common RX and back out the OPT-BST TX line. The OPT-BST line receives the looped signal from the OPT-BST TX. It then passes the signal to the OPT-BST common TX and into the OPT-PRE common RX. The OPT-PRE sends the signal to the 32DMX. The optical signal from the tunable laser or TXP_MR_2.5G must pass successfully through the 32WSS and out the 32DMX.

- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-24](#) at the hub or terminal node that you want to test. If you are already logged in, continue with [Step 2](#).
- Step 2** Display the terminal node in node 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 8-27](#) as necessary.

- b. Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.



Note If OSC terminations are created, an OSC channel alarm will appear.

- Step 4** In node view, click the **Provisioning > WDM-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, or if errors (indicated in red) appear, delete the OSC channels and complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-73. Provision the OSC channels when complete.
- Step 5** Create a physical loopback on the OPT-BST or OCSM or OSC-CSM amplifier by using a patch cord with 10-dB bulk attenuators to connect the LINE TX port to the LINE RX port.



Note An “SDCC Termination Failure” alarm will appear due to the OSC signal loopback. This is observed as an alarm on Port 1 of the OSCM or OSC-CSM card.

- Step 6** Wait 90 seconds, then verify that the OSC link is active on the west Optical Service Channel Module (OSCM) or Optical Service Channel and Combiner/Separator Module (OSC-CSM) by observing whether or not the LOS alarm on the OSCM or OSC-CSM and the OPT-BST card (if present) clears. (The OSC Termination must already be provisioned. If not, complete the “[NTP-G38 Provision OSC Terminations and Ring ID](#)” procedure on page 3-74.)
- Step 7** If you are using a tunable laser, follow the manufacturer’s instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 8](#).
- a. Set the output power to a nominal value, such as –3 dBm.
 - b. Set the tuner to the wavelength you will test, then continue with [Step 9](#).
- Step 8** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on page 4-4 for the TXP containing the wavelength you will test. Refer to [Table 4-1](#), if needed.
- Step 9** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the CHAN RX 01 port on the 32-Channel Wavelength Selective Switch (32WSS) card using the available patch panel.



Note The tunable laser minimum output optical power (Pout) must be –6 dBm. If the output power is lower than –6 dBm, the 32WSS card might not reach the provisioned set point.

- Step 10** Display the 32WSS card in card view.
- Step 11** Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the optical connector number that carries the wavelengths you will test. Refer to [Table 4-2 on page 4-9](#), if needed.
- Step 12** Click the **Admin State** table cell for the Add port carrying the tested wavelength, then choose **OOS,MT** (for ANSI) or **Locked,maintenance** (ETSI) from the drop-down list. For example, if the tested wavelength is 1530.33 (shown as 1530.3), you would click the Port 1 Admin State field and choose OOS,MT or Locked,maintenance from the drop-down list.
- Step 13** Change the Admin State of the pass-through (PT) port corresponding to the port in [Step 8](#) to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). For example, if the tested wavelength is 1530.33 (shown as 1530.3), you would click the Port 33 Admin State field and choose OOS,MT or Locked,maintenance

from the drop-down list. Refer to [Table 4-2 on page 4-9](#), if needed. Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the optical connector number that carries the wavelength under test.

- Step 14** Click **Apply**, then click **Yes**.
- Step 15** Click the **Maintenance** tab.
- Step 16** For Channel #1, change Operating Mode to **Add Drop**.
- Step 17** Click **Apply**, then click **Yes**.
- Step 18** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 19** Verify that the actual power coming from the tunable laser or TXP-MR-2.5G card shown under the Power column is equal to the specified VOA Power Ref power shown in the same row.
- Step 20** Click the **Optical Line** tab.
- Step 21** Verify that the TX COM port (#67) has the same power as the VOA Power Ref set point in [Step 19](#). This verifies that the optical signal is traveling correctly through the WSS card.
- Step 22** Verify that the Port 1 power level reaches the provisioned VOA Power Ref setpoint.
- Step 23** If an OPT-BST card is installed, complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-39](#) on the OPT-BST to ensure that the amplifier is working properly.
- Step 24** Complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-40](#) on the OPT-PRE to ensure that the amplifier is working properly.
- Step 25** Complete the [“DLP-G269 Verify the 32DMX-O Power” task on page 4-40](#) or [“DLP-G270 Verify the 32DMX Power” task on page 4-41](#) to verify the 32DMX-O or 32DMX card is powered correctly.
- Step 26** Display the 32WSS in card view.
- Step 27** Click the **Maintenance** tab.
- Step 28** For the circuit (channel) under test, click the **Operating Mode** table cell and choose **Not Assigned** from the drop-down list.
- Step 29** Click **Apply**, then **Yes**.
- Step 30** Click the **Provisioning > Optical Chn: Optical Connector** tabs.
- Step 31** Click the **Admin State** table cell then choose **IS,AINS** (for ANSI) or **Unlocked,AutomaticInService** (ETSI) from the drop-down list for all ports that were changed to OOS,MT or Locked,Maintenance.
- Step 32** Repeat Steps [7](#) through [31](#) for the remaining 31 wavelengths of the 100-Ghz grid to verify the correct behavior of all variable optical attenuators (VOAs) inside the 32WSS card.
- Step 33** Restore the default admin states to the OPT-BST, OPT-PRE, and 32DMX ports that were changed to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI) in [Steps 12](#). Remove the loopback created in [Step 5](#).
- Step 34** Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-73](#) to restore the original configuration.
- Step 35** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 8-27](#) as necessary.
 - Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.

Stop. You have completed this procedure.

NTP-G43 Perform the ROADM Node Acceptance Test

Purpose	The ROADM node acceptance test verifies that the node is operating properly before you connect it to the network. The test verifies that each add/drop and pass-through port on the 32WSS and 32DMX card operates properly and verifies the operation of the amplifiers. The test also checks the power levels at each transmit and receive port to ensure that power loss in the cabling is within tolerance.
Tools/Equipment	• A tunable laser or eight TXP cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4) • An optical power meter or optical spectrum analyzer • 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser



Note

Because the node is isolated and no line-side fibers are connected during the test, the power levels going into the line-side components will not be the same as a real network setup. Therefore, if the ROADM shelf does not contain OPT-BST and OPT-PRE amplifiers on both the east and west sides, you must lower the OPT-PRE power thresholds so it turns on properly. At the end of the test, you will run automatic node setup to configure the node with the correct parameters for the network acceptance test.

- Step 1** Make a copy of [Table 4-2](#) and place it in a convenient location for reference throughout this procedure. The table shows the 32WSS ports and wavelengths assigned to them. The 32 wavelengths are divided among four physical MPO connectors on the 32WSS card. Each MPO connector is assigned eight wavelengths. In CTC, the MPO connector appears in the card view Provisioning > Optical Connector subtab. Each Optical Connector subtab represents an MPO connector. Ports 1 through 32 are the receive (RX) ports; Ports 33 through 64 are the pass-through (PT) ports.

Table 4-2 32WSS Ports and Wavelengths Test Checklist

32WSS Provisioning Subtab	Port #	Wavelength	Tested PT	Tested Add/Drop West	Tested Add/Drop East
Optical Chn: Optical Connector 1	RX 1, PT 33	1530.33			
	RX 2, PT 34	1531.12			
	RX 3, PT 35	1531.90			
	RX 4, PT 36	1532.68			
	RX 5, PT 37	1534.25			
	RX 6, PT 38	1535.04			
	RX 7, PT 39	1535.82			
	RX 8, PT 40	1536.61			
Optical Chn: Optical Connector 2	RX 9, PT 41	1538.19			
	RX 10, PT 42	1538.98			
	RX 11, PT 43	1539.77			
	RX 12, PT 44	1540.56			
	RX 13, PT 45	1542.14			
	RX 14, PT 46	1542.94			
	RX 15, PT 47	1543.73			
	RX 16, PT 48	1544.53			
Optical Chn: Optical Connector 3	RX 17, PT 49	1546.12			
	RX 18, PT 50	1546.92			
	RX 19, PT 51	1547.72			
	RX 20, PT 52	1548.51			
	RX 21, PT 53	1550.12			
	RX 22, PT 54	1550.92			
	RX 23, PT 55	1551.72			
	RX 24, PT 56	1552.52			
Optical Chn: Optical Connector 4	RX 25, PT 57	1554.13			
	RX 26, PT 58	1554.94			
	RX 27, PT 59	1555.75			
	RX 28, PT 60	1556.55			
	RX 29, PT 61	1558.17			
	RX 30, PT 62	1558.98			
	RX 31, PT 63	1559.79			
	RX 32, PT 64	1560.61			

- Step 2** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-24 at the ROADM node that you want to test. If you are already logged in, continue with [Step 3](#).

Step 3 Display the ROADM node in node view.

Step 4 Click the **Alarms** tab.

- a. Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 8-27](#) as necessary.
- b. Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.



Note

The OSC terminations created during node turnup will generate two alarms for each side of the shelf, one for loss of signal on the Optical Booster (OPT-BST) card, and the other an LOS alarm on the OSC_CSM or OSCM card.

Step 5 In node view, click the **Provisioning > WDM-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 following steps:

- a. Delete the two OSC channels using the [“DLP-G186 Delete an OSC Termination” task on page 10-30](#).
- b. Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-73](#).
- c. Create the OSC channels using the [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).

Step 6 Display the east 32WSS in card view.

Step 7 Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the optical connector number that carries the wavelengths you will test. Refer to [Table 4-2 on page 4-9](#), if needed.

Step 8 Click the **Admin State** table cell for the Add port carrying the tested wavelength, then choose **OOS,MT** (for ANSI) or **Locked,maintenance** (ETSI) from the drop-down list. For example, if the tested wavelength is 1530.33 (shown as 1530.3), you would click the Port 1 Admin State field and choose OOS,MT or Locked,maintenance from the drop-down list.

Step 9 Change the Admin State of the pass-through (PT) port corresponding to the port in [Step 8](#) to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). For example, if the tested wavelength is 1530.33 (shown as 1530.3), you would click the Port 33 Admin State field and choose OOS,MT or Locked,maintenance from the drop-down list. Refer to [Table 4-2 on page 4-9](#), if needed.

Step 10 Click **Apply**, then click **Yes** to confirm.

Step 11 Repeat Steps [7](#) through [10](#) for all wavelengths that you will test.

Step 12 Display the west 32WSS in card view.

Step 13 Repeat Steps [7](#) through [10](#) for the west 32WSS card.

Step 14 Display the east 32DMX or 32-DMX-O in card view and complete the steps below:

For a 32-DMX:

- a. Choose the **Provisioning > Optical Line > Parameters** tabs.
- b. For Port 33, click the **Admin State** table cell and choose **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI) from the drop-down list.
- c. Click **Apply**, then click **Yes** to confirm.

For a 32DMX-O:

- a. Choose **Provisioning > Optical Chn > Parameters** tabs.
- b. For each wavelength being tested, click the **Admin State** table cell and choose **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI) from the drop-down list.
- c. Click **Apply**, then click **Yes** to confirm.

- Step 15** Repeat [Step 14](#) for the west 32DMX or 32DMX-O card.
- Step 16** Complete the “[DLP-G310 Verify ROADM Node Pass-Through Channels](#)” task on page 4-12.
- Step 17** Complete the following tasks for channels that will be added or dropped on the node.
- [DLP-G311 Verify the East ROADM Add/Drop Channels](#), page 4-16.
 - [DLP-G312 Verify the West ROADM Add/Drop Channels](#), page 4-18
- Step 18** Display the east 32WSS in card view.
- Step 19** Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the optical connector number that carries the wavelengths you tested.
- Step 20** Click the **Admin State** table cell then choose **IS,AINS** (for ANSI) or **Unlocked,AutomaticInService** (ETSI) from the drop-down list for all ports that were changed to OOS,MT or Locked,Maintenance.
- Step 21** Click **Apply**.
- Step 22** Repeat Steps [19](#) and [21](#) for all the ports that are **OOS,MT** or **Locked,maintenance on the east 32WSS card**.
- Step 23** Display the west 32WSS in card view.
- Step 24** Repeat Steps [19](#) through [21](#) for all ports on the west 32WSS card.
- Step 25** Display the east 32DMX in card view.
- Step 26** Choose the **Provisioning > Optical Line > Parameters** tabs.
- Step 27** For Port 33, click the **Admin State** table cell and choose **IS,AINS** (ANSI) or **Unlocked,AutomaticInService** (ETSI) from the drop-down list.
- Step 28** Click **Apply**.
- Step 29** Display the west 32DMX card in card view.
- Step 30** Repeat Steps [26](#) through [28](#) for the west 32DMX card.
- Step 31** Delete both OSC channels using the “[DLP-G186 Delete an OSC Termination](#)” task on page 10-30.
- Step 32** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-73.
- Step 33** Create the two OSC channels using the “[NTP-G38 Provision OSC Terminations and Ring ID](#)” procedure on page 3-74.
- Step 34** Click the **Alarms** tab.
- a. Verify that the alarm filter is not on. See the “[DLP-G128 Disable Alarm Filtering](#)” task on page 8-27 as necessary.
 - b. Verify that no equipment failure alarms appear on the node. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.

Stop. You have completed this procedure.

DLP-G310 Verify ROADM Node Pass-Through Channels

Purpose	This procedure verifies the signal flow through a ROADM node for pass-through channels. Configuring a channel pass-through mode means the channel passes through both 32WSS cards. The channel passes through the first 32WSS from the COM RX port to the EXP TX port. In the second 32WSS, the channel goes from the EXP RX port to the COM TX port. The channel is not terminated inside the node.
Tools/Equipment	• A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4) • An optical power meter or optical spectrum analyzer • 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	“DLP-G46 Log into CTC” task on page 2-24
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser



Note

Throughout this task, west refers to Slots 1 through 8, and east refers to Slots 10 through 17.

- Step 1** Create a physical loopback on the west OPT-BST or OSC-CSM by connecting the LINE TX port to its LINE RX port. For OPT-BST cards, connect a 10-dB bulk attenuator to the fiber. (OSC-CSM cards do not require attenuation.)



Caution

Failure to use proper attenuation may damage equipment.

- Step 2** If an OPT-PRE amplifier is installed on the west side (where the physical loopback was created), perform the following steps. If not, continue with [Step 3](#).
- Display the OPT-PRE card in card view, then click the **Provisioning > Optical Line > Optics Thresholds** tabs.
 - Under Types, click **Alarm**, then click **Refresh**. The alarm thresholds for the OPT-PRE will appear.
 - Double click the Power Failure Low table cell for Port 1 (1-Line-2-1 RX) and delete current value.
 - Type a new value of **-30**, then press **Enter** on your computer, then click **Apply** in the CTC window.
 - If an OPT-PRE is installed on the east side, complete Steps [a](#) through [d](#) for the east OPT-PRE. If an OPT-PRE is not installed on the east side, continue with [Step 3](#).
- Step 3** Wait 2-3 minutes, then in node view click the **Alarms** tab. Verify that the LOS alarm on the west OSCM or OSC-CSM, and the OPT-BST cards have cleared. The clearing of the LOS alarms indicates the OSC link is active on the west side.



Note

An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback.

- Step 4** Display the west 32WSS card in card view.

- Step 5** Click the **Maintenance** tab.

- Step 6** For each wavelength that you will test, click the table cell under Operating Mode and choose **Pass Through from the drop-down list**.
- Step 7** Click **Apply**, then click **Yes** to confirm.
- Step 8** Display the east 32WSS card in card view.
- Step 9** Repeat Steps 5 through 7 for the east 32WSS card.
- Step 10** If you are using a tunable laser, follow the manufacturer's instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 11](#).
- Set the output power to a nominal value, such as -3 dBm.
 - Set the tuner to the wavelength you will test, then continue with [Step 12](#).
- Step 11** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on page 4-4 for the TXP containing the wavelength you will test. Refer to [Table 4-1](#), if needed.
- Step 12** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the east OPT-BST or OSC-CSM LINE RX port. If an east OPT-PRE is installed, insert a 10 dB attenuator on the fiber coming from the TXP_MR_2.5G card.

**Caution**

Failure to use proper attenuation may damage equipment.

- Step 13** If an east OPT-PRE card is installed, complete the following steps. If not, continue with [Step 14](#).
- Display the east OPT-PRE in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.
 - Locate the Power parameter for Port 1. Record the value.
 - Display the east OPT-BST or OSC-CSM in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.
 - Locate the Power value for Port 2 (if an OPT-BST) or Port 3 (if an OSC-CSM). Verify that the value matches the power recorded in Step c, +/- 1.5 dB. If not, use the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22 to clean the fiber connection between the OPT-PRE and OPT-BST or OSC-CSM.
 - Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40.
- Step 14** Verify the east 32WSS to OPT-BST, OPT-PRE or OSC-CSM cable connection:
- Display the east 32WSS in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.
 - Locate the Port 68 Power parameter. Record the value.
 - If an east OPT-PRE is installed, display it in card view, and complete the step below. If not, continue with Step e.
 - Click the **Provisioning > Opt.Ampli.Line > Parameters** tabs and read the Total Output Power value for Port 2, then continue with Step g.
 - If an east OPT-BST is installed**, display it in card view, and complete the step below. If not, continue with Step f.
 - Click the **Provisioning > Opt.Ampli.Line > Parameters** tabs and read the Power value for Port 3, then continue with Step g.

- f. Display the east OSC-CSM in card view, click the **Provisioning > Optical Line > Parameters** tabs and read the Power value for Port 2, then continue with Step g.
- g. Verify that the value in Step d, e, or f matches the power recorded in Step c, ± 1.5 dB. If not, use the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22 to clean the fiber connection between the 32WSS and the OPT-PRE, OPT-BST or OSC-CSM cards.

Step 15 Verify the EXPRESS cable connection between the two 32WSS cards:

- a. Display the east 32WSS in card view.
- b. Click the **Provisioning > Optical Line > Parameters** tabs.
- c. Locate the Port 65 Power parameter. Record the value.
- a. Display the west 32WSS in card view.
- b. Click the **Provisioning > Optical Line > Parameters** tabs.
- c. Locate the Power value for Port 66. Verify that the value matches the power recorded in Step c., ± 1 dB. If not, use the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22 to clean the fiber connection between the 32WSS cards

Step 16 Display the west 32WSS card in card view.

Step 17 Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the connector number containing the wavelength you are testing. Refer to [Table 4-2 on page 4-9](#), if needed.

Step 18 Wait approximately 60 seconds, then locate the Power and VOA Power Ref parameters for the tested pass-through port. Verify that the Power value is equal to the VOA Power Ref value, ± 1.5 dBm.

Step 19 If an OPT-BST is installed on the east side, complete the following steps. If not, continue with [Step 20](#).

- a. Display the east OPT-BST in card view.
- b. Click the **Provisioning > Optical Line > Parameters** tabs.
- c. Locate the Port 1 Power parameter. Record the value.
- d. Display the east 32WSS in card view.
- e. Click the **Provisioning > Optical Line > Parameters** tabs.
- f. Locate the Power value for Port 67. Verify that the value matches the power recorded in Step c., ± 1 dB. If not, use the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22 to clean the fiber connection between the OPT-BST and 32WSS cards.
- g. Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-39.

Step 20 If an west OPT-PRE card is installed, complete the following steps. If not, continue with [Step 14](#).

- a. Display the west OPT-PRE in card view.
- b. Click the **Provisioning > Optical Line > Parameters** tabs.
- c. Locate the Power parameter for Port 1. Record the value.
- d. Display the west OPT-BST or OSC-CSM in card view.
- e. Click the **Provisioning > Optical Line > Parameters** tabs.
- f. Locate the Power value for Port 2 (if an OPT-BST) or Port 3 (if an OSC-CSM). Verify that the value matches the power recorded in Step c, ± 1.5 dB. If not, use the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22 to clean the fiber connection between the OPT-PRE and OPT-BST or OSC-CSM.
- g. Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40.

- Step 21** Verify the west 32WSS to OPT-BST, OPT-PRE or OSC-CSM cable connection:
- Display the west 32WSS in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.
 - Locate the Port 68 Power parameter. Record the value.
 - If an west OPT-PRE is installed, display it in card view, and complete the step below. If not, continue with Step [e](#).
 - Click the **Provisioning > Opt.Ampli.Line > Parameters** tabs and read the Total Output Power value for Port 2, then continue with Step [g](#).
 - If an west OPT-BST is installed**, display it in card view, and complete the step below. If not, continue with Step [f](#).
 - Click the **Provisioning > Opt.Ampli.Line > Parameters** tabs and read the Power value for Port 3, then continue with Step [g](#).
 - Display the west OSC-CSM in card view, click the **Provisioning > Opt.Ampli.Line > Parameters** tabs and read the Power value for Port 2, then continue with Step [g](#).
 - Verify that the value in Step [d](#), [e](#), or [f](#) matches the power recorded in Step [c](#), ± 1.5 dB. If not, use the [“NTP-G115 Clean Fiber Connectors” procedure on page 12-22](#) to clean the fiber connection between the 32WSS and the OPT-PRE, OPT-BST or OSC-CSM cards.
- Step 22** Verify the EXPRESS cable connection between the two 32WSS cards:
- Display the west 32WSS in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.
 - Locate the Port 65 Power parameter. Record the value.
 - Display the east 32WSS in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.
 - Locate the Power value for Port 66. Verify that the value matches the power recorded in Step [c](#), ± 1 dB. If not, use the [“NTP-G115 Clean Fiber Connectors” procedure on page 12-22](#) to clean the fiber connection between the 32WSS cards
- Step 23** Display the east 32WSS card in card view.
- Step 24** Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the connector number containing the wavelength you are testing. Refer to [Table 4-2 on page 4-9](#), if needed.
- Step 25** Wait approximately 60 seconds, then locate the Power and VOA Power Ref parameters for the tested pass-through port. Verify that the Power value is equal to the VOA Power Ref value, ± 1.5 dBm. If the power value is not equal to the VOA Power Ref value, ± 1.5 dBm, check your connections and clean the fibers from the 32WSS to the patch panel and from the patch panel to the TXP card using the [“NTP-G115 Clean Fiber Connectors” procedure on page 12-22](#), then repeat [Step 24](#). If this does not change the power value, consult your next level of support.
- Step 26** If an OPT-BST is installed on the east side, complete the following steps. If not, continue with [Step 27](#).
- Display the east OPT-BST in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.
 - Locate the Port 1 Power parameter. Record the value.
 - Display the east 32WSS in card view.
 - Click the **Provisioning > Optical Line > Parameters** tabs.

- f. Locate the Power value for Port 67. Verify that the value matches the power recorded in Step c., +/- 1 dB. If not, use the [“NTP-G115 Clean Fiber Connectors” procedure on page 12-22](#) to clean the fiber connection between the OPT-BST and 32WSS cards.
 - g. Complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-39](#).
- Step 27** Repeat Steps 10 through 26 for the remaining wavelengths to be tested. If you have tested all the wavelengths, continue with [Step 28](#).
- Step 28** Display the east 32WSS card in card view.
- Step 29** Click the **Maintenance** tab.
- Step 30** Under Operating Mode, click the table cell and choose **Not Assigned from the drop-down list** for all wavelengths.
- Step 31** Click **Apply**, then click **Yes** to confirm.
- Step 32** Display the west 32WSS in card view.
- Step 33** Repeat Steps 29 through 31 for the west 32WSS card.
- Step 34** Remove the TXP or tunable laser from the east OPT-BST or OSC-CSM line side TX and RX ports.
- Step 35** Remove the loopback fiber from the line RX and TX in the west OPT-BST or OSC-CSM card.
- Step 36** Return to your originating procedure.

DLP-G311 Verify the East ROADM Add/Drop Channels

Purpose	This procedure verifies the signal flow through the east side of a ROADM node for add/drop channels.
Tools/Equipment	- A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4) - An optical power meter or optical spectrum analyzer 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	“DLP-G46 Log into CTC” task on page 2-24
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser



Note

Throughout this task, west refers to Slots 1 through 8, and east refers to Slots 10 through 17.

- Step 1** In node view, display the Alarms tab.
- Step 2** Create a physical loopback on the east OPT-BST or OSC-CSM by connecting the LINE TX port to its LINE RX port. For OPT-BST cards, connect a 10-dB bulk attenuator to the fiber. (OSC-CSM cards do not require attenuation.)



Caution

Failure to use proper attenuation may damage equipment.

- Step 3** Wait 2-3 minutes, then click the **Alarms** tab. Verify that the LOS alarm on the east OSCM or OSC-CSM, and the OPT-BST cards have cleared. The clearing of the LOS alarm indicates the OSC link is active on the east side.



Note An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback.

- Step 4** If you are using a tunable laser, follow the manufacturer's instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 5](#).
- Set the output power to a nominal values, such as -3 dBm.
 - Set the tuner to the wavelength you are testing, then continue with [Step 7](#).
- Step 5** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on [page 4-4](#) for the TXP containing the wavelength you will test. Refer to [Table 4-1 on page 4-4](#), if needed.
- Step 6** If you are using a TXP_MR_2.5G, connect the TX port to a power meter and record the output power.
- Step 7** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the east side fiber patch panel MUX port that corresponds to the east 32WSS card port carrying the tested wavelength.
- Step 8** Connect the TXP_MR_2.5G DWDM RX port or the power meter RX port to the east side fiber patch panel DMX port that corresponds to the east 32DMX card port carrying the tested wavelength.
- Step 9** Display the east 32WSS in card view.
- Step 10** Click the **Maintenance** tab.
- Step 11** For each wavelength that you will test, click the table cell under Operating Mode and choose **Add Drop from the drop-down list**.
- Step 12** Click **Apply**, then click **Yes** to confirm.
- Step 13** Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the connector number containing the wavelength you are testing. Refer to [Table 4-2 on page 4-9](#), if needed.
- Step 14** Scroll to the right until you see the Power Add parameter. Verify that the Power Add value for the tested port is equal to the output power level of the tunable laser or TXP_MR_2.5G card (measured in [Step 6](#)). +/- 1 dBm.
- Step 15** Display the east 32DMX card in card view.
- Step 16** Click the **Provisioning > Optical Chn > Parameters** tab. Record the value under the Power parameter for the wavelength under test.
- Step 17** Verify that the power value from [Step 16](#) reaches the EastSide.Rx.Power.Add&Drop - Drop Power setpoint +/- 1 dBm. To view this setpoint:
- Go to node view and click the **Provisioning > WDM-ANS > Provisioning** tabs.
 - In the Selector window on the left, expand the East Side parameters tree view.
 - Expand the RX category.
 - Expand the Power category, then highlight Add&Drop - Drop Power
 - View the EastSide.Rx.Power.Add&Drop - Drop Power parameter on the right side of the pane.
- If the power values do not match, +/- 2 dBm, remove, clean and replace each cable on the east side of the shelf. See the “[NTP-G115 Clean Fiber Connectors](#)” procedure on [page 12-22](#).
- Step 18** Display the TXP_MR_2.5G in card view.
- Step 19** Click the **Performance > Optics PM > Current Values** tabs.

- Step 20** Under the Port 2 (Trunk) column, locate the RX Optical Power value. Verify that the value matches the power in [Step 16](#) +/- 2 dBm. If the power values do not match, +/- 2 dBm, remove, clean and replace the cable connecting the TXP_MR_2.5G RX port to the east fiber patch panel DMX port for the tested wavelength. See the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22. Repeat this step. If the power values still do not match, +/- 2 dBm, contact your next level of support.
- Step 21** Repeat Steps 4 through 20 for the remaining wavelengths.
- Step 22** Display the east 32WSS in card view.
- Step 23** Click the **Maintenance** tab.
- Step 24** Click the table cell under Operating Mode and choose **Not Assigned from the drop-down list for all wavelengths**.
- Step 25** Click **Apply**, then click **Yes** to confirm.
- Step 26** Disconnect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port from the east side fiber patch panel MUX port that corresponds to the east 32WSS card port carrying the tested wavelength.
- Step 27** Disconnect the TXP_MR_2.5G DWDM RX port or the power meter RX port from the east side fiber patch panel DMX port that corresponds to the east 32DMX card port carrying the tested wavelength.
- Step 28** Unplug the physical loopback fiber from the line TX and RX in the OPT-BST or OSC-CSM card.
- Step 29** Return to your originating procedure.

DLP-G312 Verify the West ROADM Add/Drop Channels

Purpose	This procedure verifies the signal flow through the west side of a ROADM node for add/drop channels.
Tools/Equipment	- A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4) - An optical power meter or optical spectrum analyzer 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	“DLP-G46 Log into CTC” task on page 2-24
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser



Note

Throughout this task, west refers to Slots 1 through 8, and east refers to Slots 10 through 17.

- Step 1** In node view, display the Alarms tab.
- Step 2** Create a physical loopback on the west OPT-BST or OSC-CSM by connecting a fiber with 10-dB bulk attenuator from the OPT-BST LINE TX port to its LINE RX port. For OPT-BST cards, connect a 10-dB bulk attenuator to the fiber. (OSC-CSM cards do not require attenuation.)



Caution

Failure to use proper attenuation may damage equipment.

- Step 3** Wait 90 seconds, then click the **Alarms** tab. Verify that the LOS alarms on the west OSCM or OSC-CSM, and the OPT-BST cards have cleared. The clearing of the LOS alarms indicates the OSC link is active on the west side.



Note An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback.

- Step 4** If you are using a tunable laser, follow the manufacturer's instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 5](#).
- Set the output power to a nominal values, such as -3 dBm.
 - Set the tuner to the wavelength you are testing, then continue with [Step 7](#).
- Step 5** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on [page 4-4](#) for the TXP containing the wavelength you will test. Refer to [Table 4-1](#), if needed.
- Step 6** If you are using a TXP_MR_2.5G, connect the TX port to a power meter and record the output power.
- Step 7** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the west side fiber patch panel MUX port that corresponds to the west 32WSS card port carrying the tested wavelength.
- Step 8** Connect the TXP_MR_2.5G DWDM RX port to the west side fiber patch panel DMX port that corresponds to the west 32DMX card port carrying the tested wavelength.
- Step 9** Display the west 32WSS in card view.
- Step 10** Click the **Maintenance** tab.
- Step 11** For each wavelength that you will test, click the table cell under Operating Mode and choose **Add Drop from the drop-down list**.
- Step 12** Click **Apply**, then click **Yes** to confirm.
- Step 13** Click the **Provisioning > Optical Chn Optical Connector [n] > Parameters** tabs, where n = the connector number containing the wavelength you are testing. Refer to [Table 4-2 on page 4-9](#), if needed.
- Step 14** Scroll to the right until you see the Power Add parameter. Verify that the Power Add value for the tested port is equal to the output power level of the tunable laser or TXP_MR_2.5G card (measured in [Step 6](#)). +/- 1 dBm.
- Step 15** Display the west 32DMX card in card view.
- Step 16** Click the **Provisioning > Optical Chn > Parameters** tab. Record the value under the Power parameter for the wavelength under test.
- Step 17** Verify that the power value from [Step 16](#) reaches the WestSide.Rx.Power.Add&Drop - Drop Power setpoint +/- 2 dBm. To view this setpoint:
- Go to node view and click the **Provisioning > WDM-ANS > Provisioning** tabs.
 - In the Selector window on the left, expand the West Side parameters tree view.
 - Expand the RX category.
 - Expand the Power category, then highlight Add&Drop - Drop Power
 - View the WestSide.Rx.Power.Add&Drop parameter on the right side of the pane.
- If the power values do not match, +/- 2 dBm, remove, clean and replace each cable on the west side of the shelf. See the “[NTP-G115 Clean Fiber Connectors](#)” procedure on [page 12-22](#).
- Step 18** Display the TXP_MR_2.5G in card view.
- Step 19** Click the **Performance > Optics PM > Current Values** tabs

- Step 20** Under the Port 2 (Trunk) column, locate the RX Optical Power value. Verify that the value matches the power in [Step 16](#) +/- 2 dBm. If the power values do not match, +/- 2 dBm, remove, clean and replace the cable connecting the TXP_MR_2.5G RX port to the west fiber patch panel DMX port for the tested wavelength. See the “[NTP-G115 Clean Fiber Connectors](#)” [procedure on page 12-22](#). Repeat this step. If the power values still do not match, +/- 2 dBm, contact your next level of support.
- Step 21** Repeat Steps 4 through 20 for the remaining wavelengths.
- Step 22** Display the west 32WSS in card view.
- Step 23** Click the **Maintenance** tab.
- Step 24** Click the table cell under Operating Mode and choose **Not Assigned from the drop-down list for all wavelengths**.
- Step 25** Click **Apply**, then click **Yes** to confirm.
- Step 26** Remove the TXP or tunable laser from the west side patch panel.
- Step 27** Unplug the physical loopback fiber from the line TX and RX in the OPT-BST or OSC-CSM card.
- Step 28** Return to your originating procedure.

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

Purpose	This procedure tests an anti-ASE hub node.
Tools/Equipment	• A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1) • An optical power meter or optical spectrum analyzer • 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node.”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser

- Step 1** Complete the “[DLP-G46 Log into CTC](#)” [task on page 2-24](#) 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 8-27](#) as necessary.
 - Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.



Note The OSC terminations created during node turnup will generate two alarms for each side of the shelf, one for loss of signal on the Optical Booster (OPT-BST) card, and the other an LOS alarm on the OSC_CSM or OSCM card.

- Step 4** In node view, click the **Provisioning > WDM-ANS > Port Status** tabs. Verify that all statuses under Link Status are Success - Changed, Success - Unchanged, or Not Applicable. If any are not, complete the following steps:
- Delete the two OSC channels using the [“DLP-G186 Delete an OSC Termination” task on page 10-30](#).
 - Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-73](#).
 - Create the OSC channels using the [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).
- 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.

**Note**

Configuring a channel pass-through mode means that 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 a 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 [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).)
- Step 8** For pass-through channels, continue with [Step 9](#). For add and drop channels, continue with [Step 18](#).
- Step 9** Verify the first channel connection configured in pass-through mode in both directions:
- If you are using a tunable laser, set the output power to a nominal value, such as -3 dBm. If you are using a TXP_MR_2.5G card, continue with [Step b](#).
 - Set the tunable laser or TXP_MR_2.5G card to a corresponding wavelength on the 100-GHz ITU-T grid. Refer to the tunable laser manufacturer’s documentation or the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4](#).
 - Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port 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 4-40](#) for the east OPT-PRE amplifier.
- Step 11** Complete the [“DLP-G269 Verify the 32DMX-O Power” task on page 4-40](#) for the west 32MUX-O and 32DMX-O cards.
- Step 12** Complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-39](#) for the west OPT-BST amplifier.
- Step 13** Complete the [“DLP-G80 Verify the OPT-PRE Amplifier Laser and Power” task on page 4-40](#) for the west OPT-PRE amplifier.
- Step 14** Complete the [“DLP-G269 Verify the 32DMX-O Power” task on page 4-40](#) for the west 32MUX-O and 32DMX-O cards.
- Step 15** Complete the [“DLP-G79 Verify the OPT-BST Amplifier Laser and Power” task on page 4-39](#) for the east OPT-BST amplifier.
- Step 16** Repeat [Steps 9 through 15](#) for the remaining wavelengths on the 100-GHz grid that are pass-through wavelengths.

- Step 17** If you have add and drop channels, continue with [Step 18](#) to verify the channels. If not, continue with [Step 29](#).
- Step 18** Set the tunable laser or TXP_MR_1.5G card to the first wavelength of the 100-GHz ITU-T grid that is not a pass-through wavelength. Refer to the tunable laser manufacturer's documentation or the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4](#).
- Step 19** Connect the tunable laser or TXP_MR_1.5G card to the CHAN RX *nn* port on the west 32MUX-O, where *nn* is the first add or drop channel.
- Step 20** Display the west 32MUX-O in card view.
- Step 21** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 22** Change the Admin State of Port *nn* to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 23** Check that the power value on Port *nn* reaches the provisioned setpoint (VOA Power Ref).
- Step 24** Display the west 32DMX-O in card view.
- Step 25** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 26** Change the Admin State of Port *nn* to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- Step 27** Check that the power value on Port *nn* reaches the provisioned setpoint (VOA Power Ref).
- Step 28** (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 29** Repeat Steps [18](#) through [28](#) for the remaining wavelengths on the 100-GHz grid that are not pass-through wavelengths.
- Step 30** Remove the loopback connection on the west OPT-BST.
- Step 31** Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-73](#) to restore the original configuration.
- Step 32** 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 33** Verify that the OSC link becomes active on the east OSCM card. (The OSC termination must be already provisioned. If not, complete the [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).)
- Step 34** Repeat [18](#) through [33](#) for the east side cards.
- Step 35** Remove the loopback on the east OPT-BST.
- Step 36** Restore the default admin state (IS,AINS/Unlocked,automaticInService) on all the ports previously set to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).

Stop. You have completed this procedure.

NTP-G45 Perform the Line Amplifier Node with OSCM Cards Acceptance Test

Purpose	This procedure tests a line amplifier node with OSCM cards installed on both the east and west sides of the shelf by looping a single wavelength through the shelf.
Tools/Equipment	• A tunable laser or one TXP_MR_2.5G card • An optical power meter or optical spectrum analyzer • 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node.”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser

-
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-24](#) at the node where you want to perform the acceptance test. If you are already logged in, continue with [Step 3](#).
- Step 2** If you are using TXP_MR_2.5G cards, complete the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4](#). If not, continue with [Step 3](#).
- Step 3** From the View menu, choose **Go to Node View**.
- Step 4** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 8-27](#) as necessary.
 - Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.



Note The OSC terminations created during node turnup will generate two alarms for each side of the shelf, one for loss of signal on the Optical Booster (OPT-BST) card, and the other an LOS alarm on the OSC_CSM or OSCM card.

-
- Step 5** In node view, click the **Provisioning > WDM-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 following steps:
- Delete the two OSC channels using the [“DLP-G186 Delete an OSC Termination” task on page 10-30](#).
 - Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-73](#).
 - Create the OSC channels using the [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).
- Step 6** Create a loopback on the west OPT-BST by using a fiber with a 10-dB bulk attenuator to connect the LINE TX port to the LINE RX port.

- Step 7** If you are using a tunable laser, follow the manufacturer's instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 8](#).
- Set the output power to a nominal values, such as -3 dBm.
 - Set the tuner to the wavelength under test, then continue with [Step 9](#).
- Step 8** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on [page 4-4](#) for the TXP containing the wavelength you will test. Refer to [Table 4-1 on page 4-4](#), if needed.
- Step 9** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the LINE RX port of the east OPT-BST using a 10-dB bulk attenuator.

**Caution**

Failure to use proper attenuation may damage equipment.

- Step 10** Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the west OPT-BST and OSCM cards have cleared. The clearing of the LOS alarms indicates the OSC link is active on the west side.

**Note**

An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback, an LOS-O alarm appears on the east OPT-BST card, and an LOS on the east OCSM.

If the alarms clear, continue with [Step 11](#). If not, perform the following steps:

- Display the west OPT-BST card in card view.
 - Click the **Provisioning > Optical Line > Optics Thresholds** tabs.
 - Under Types, click **Alarms**, then click **Refresh**.
 - Locate the Port 2 Power Failure Low parameter. Double-click the table cell and change the value to -30 dBm.
 - Locate the Port 4 Power Failure Low parameter. Double-click the table cell and change the value to -40 dBm.
 - Click **Apply**, and then **Yes**.
 - Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the west OPT-BST card has cleared. If so, continue with [Step 11](#). If not, disconnect the OSCM card from the OPT-BST.
 - Create a loopback on the OSCM card by connecting a patch cable from the OSC TX port to the OSC RX port using a 10-dB bulk attenuator.
 - Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the west OSCM card has cleared. If so, replace the OPT-BST card. If not, replace the OSCM card. See the “[NTP-G30 Install the DWDM Cards](#)” procedure on [page 3-27](#).
- Step 11** 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 4-40](#) for it. If not, continue with [Step 12](#).
- Step 12** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on [page 4-39](#) for the west OPT-BST amplifier.
- Step 13** 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 4-40](#). If not, continue with [Step 14](#).
- Step 14** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on [page 4-39](#) for the east OPT-BST amplifier.

- Step 15** Disconnect the TXP or tunable laser from the east OPT-BST card.
- Step 16** Remove the loopback on the west OPT-BST created in [Step 6](#).
- Step 17** Create a loopback on the east OPT-BST by connecting a patch cord from the LINE TX port to the LINE RX port with a 10-dB bulk attenuator.
- Step 18** If you are using a tunable laser, follow the manufacturer's instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 19](#).
- Set the output power to a nominal values, such as -3 dBm.
 - Set the tuner to the wavelength under test, then continue with [Step 20](#).
- Step 19** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on [page 4-4](#) for the TXP containing the wavelength you will test. Refer to [Table 4-1 on page 4-4](#), if needed.
- Step 20** Connect tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the LINE RX port of the west OPT-BST using a 10-dB bulk attenuator.

**Caution**

Failure to use proper attenuation may damage equipment.

- Step 21** Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the east OPT-BST and OSCM cards have cleared. The clearing of the LOS alarms indicates the OSC link is active on the east side.

**Note**

An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback, an LOS-O alarm appears on the west OPT-BST card, and an LOS on the west OCSM.

If the alarms clear, continue with [Step 22](#). If not, perform the following steps:

- Display the east OPT-BST card in card view.
 - Click the **Provisioning > Optical Line > Optics Thresholds** tabs.
 - Under Types, click **Alarms**, then click **Refresh**.
 - Locate the Port 2 Power Failure Low parameter. Double-click the table cell and change the value to -30 dBm.
 - Locate the Port 4 Power Failure Low parameter. Double-click the table cell and change the value to -40 dBm.
 - Click **Apply**, and then **Yes**.
 - Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the east OPT-BST card has cleared. If so, continue with [Step 22](#). If not, disconnect the OSCM card from the OPT-BST.
 - Create a loopback on the OSCM card by connecting a patch cable from the OSC TX port to the OSC RX port using a 10-dB bulk attenuator.
 - Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the east OSCM card has cleared. If so, replace the OPT-BST card. If not, replace the OSCM card. See the “[NTP-G30 Install the DWDM Cards](#)” procedure on [page 3-27](#).
- Step 22** 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 4-40](#) for it. If not, continue with [Step 23](#).

- Step 23** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-39 for the east OPT-BST amplifier.
- Step 24** If an OPT-PRE amplifier is installed on the east side, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40. If not, continue with continue with [Step 25](#).
- Step 25** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-39 for the west OPT-BST amplifier.
- Step 26** Disconnect the TXP or tunable laser from the west OPT-BST card.
- Step 27** Remove the loopback on the west OPT-BST amplifier created in [Step 6](#).
- Step 28** Delete both OSC channels using the “[DLP-G186 Delete an OSC Termination](#)” task on page 10-30.
- Step 29** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-73 to restore the original configuration.
- Step 30** Create the two OSC channels using the “[NTP-G38 Provision OSC Terminations and Ring ID](#)” procedure on page 3-74.
- Stop. You have completed this procedure.**
-

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

Purpose	This procedure tests a line amplifier node with OSC-CSM cards installed on both the east and west sides of the shelf by looping a single wavelength through the shelf.
Tools/Equipment	• A tunable laser or TXP_MR_2.5G card • An optical power meter or optical spectrum analyzer • 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node.”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser

- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-24 at the node where you want to perform the acceptance test. If you are already logged in, continue with [Step 3](#).
- Step 2** If you are using TXP_MR_2.5G cards, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on page 4-4. If not, continue with [Step 3](#).
- Step 3** From the View menu, choose **Go to Node View**.
- Step 4** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the “[DLP-G128 Disable Alarm Filtering](#)” task on page 8-27 as necessary.
 - Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.

**Note**

The OSC terminations created during node turnup will generate LOS alarm on the OSC-CSM card.

- Step 5** In node view, click the **Provisioning** > **WDM-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 following:
- Delete the two OSC channels using the “[DLP-G186 Delete an OSC Termination](#)” task on [page 10-30](#).
 - Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on [page 3-73](#).
 - Create the OSC channels using the “[NTP-G38 Provision OSC Terminations and Ring ID](#)” procedure on [page 3-74](#).
- Step 6** Create a physical loopback on the west OSC-CSM by connecting the LINE TX port to the LINE RX port with a fiber and 10-dB bulk attenuator.

**Caution**

Failure to use proper attenuation may damage equipment.

- Step 7** Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarm on the west OSC-CSM card has cleared. The clearing of the LOS alarm indicates the OSC link is active on the west side.

**Note**

An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback, and an LOS alarm will appear for the east OSC-CSM, Port 1 (OSC).

If the alarm clears, continue with [Step 8](#). If not, perform the following steps:

- Remove the 10-dB bulk attenuator on the OSC-CSM LINE TX and LINE RX ports and reconnect using only the patch cord.
 - In node view, click the **Alarms** tab. If the LOS alarm on the west OSC-CSM card clears, continue with [Step 8](#). If not, continue with [Step c](#).
 - Display the OSC-CSM in card view.
 - Click the **Provisioning** > **Optical Line** > **Optics Thresholds** tabs.
 - Under Types, click **Alarm**, then click **Refresh**.
 - Locate the Port 3 Power Failure Low parameter. Double-click the table cell and change the value to -30 dBm.
 - Locate the Port 6 Power Failure Low parameter. Double-click the table cell and change the value to -40 dBm.
 - Click **Apply**, and then **Yes**.
 - In node view, Click the **Alarms** tab. If the LOS alarm on the west OSC-CSM card clears, continue with [Step 8](#). If not, replace the OSC-CSM card.
- Step 8** If you are using a tunable laser, follow the manufacturer’s instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 9](#).
- Set the output power to a nominal values, such as -3 dBm.
 - Set the tuner to the wavelength under test, then continue with [Step 10](#).

Step 9 If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on page 4-4 for the TXP containing the wavelength you will test. Refer to [Table 4-1 on page 4-4](#), if needed.

Step 10 Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the east OSC-CSM LINE RX port using a 10-dB bulk attenuator.



Caution Failure to use proper attenuation may damage equipment.

Step 11 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 4-40 for it. If not, continue with [Step 12](#).

Step 12 Display the west OSC-CSM card in card view.

Step 13 Click the **Provisioning > Optical Line > Parameters** tabs. Locate the Port 3 Power value. Verify that the value is higher than –30 dBm. If the power value is not higher than –30dBm, check your connections and clean the fibers using the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22. If this does not change the power value, consult your next level of support.

Step 14 If an OPT-PRE is installed on the west side of the shelf, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40. If not, continue with [Step 15](#).

Step 15 Display the east OSC-CSM card in card view.

Step 16 Click the **Provisioning > Optical Line > Parameters** tabs. Locate the Port 2 Power value. Verify that the value is higher than –30 dBm. If the power value is not higher than –30dBm, check your connections and clean the fibers using the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22. If this does not change the power value, consult your next level of support.

Step 17 Disconnect the TXP or tunable laser from the east OSC-CSM card.

Step 18 Remove the physical loopback created on the west OSC-CSM in [Step 6](#).

Step 19 Create a loopback on the east OSC-CSM by connecting the LINE TX port with LINE RX port using a patch cord and 10-dB bulk attenuator.



Caution Failure to use proper attenuation may damage equipment.

Step 20 Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarm on the east OSC-CSM card has cleared. The clearing of the LOS alarm indicates the OSC link is active on the east side.



Note An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback, and an LOS alarm will appear for the west OSC-CSM, Port 1 (OSC).

If the alarm clears, continue with [Step 21](#). If not, perform the following steps:

- a. Remove the 10-dB bulk attenuator on the OSC-CSM LINE TX and LINE RX ports and reconnect using only the patch cord.
- b. Wait 90 seconds then, in node view, click the **Alarms** tab. If the LOS alarm on the east OSC-CSM card clears, continue with [Step 21](#). If not, continue with [Step c](#).
- c. Display the OSC-CSM in card view.
- d. Click the **Provisioning > Optical Line > Optics Thresholds** tabs.
- e. Under Types, click **Alarm**, then click **Refresh**.

- f. Locate the Port 3 Power Failure Low parameter. Double-click the table cell and change the value to –30 dBm.
 - g. Locate the Port 6 Power Failure Low parameter. Double-click the table cell and change the value to –40 dBm.
 - h. Click **Apply**, and then **Yes**.
 - i. In node view, Click the **Alarms** tab. If the LOS alarm on the east OSC-CSM card clears, continue with [Step 21](#). If not, replace the OSC-CSM card.
- Step 21** If you are using a tunable laser, follow the manufacturer’s instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 22](#).
- a. Set the output power to a nominal values, such as –3 dBm.
 - b. Set the tuner to the wavelength under test, then continue with [Step 23](#).
- Step 22** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on page 4-4 for the TXP containing the wavelength you will test. Refer to [Table 4-1 on page 4-4](#), if needed.
- Step 23** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the west OSC-CSM LINE RX port using a 10-dB bulk attenuator.

**Caution**

Failure to use proper attenuation may damage equipment.

- Step 24** 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 4-40 for it. If not, continue with [Step 25](#).
- Step 25** Display the east OSC-CSM card in card view.
- Step 26** Click the **Provisioning > Optical Line > Parameters** tabs. Locate the Port 3 Power value. Verify that the value is higher than –30 dBm. If the power value is not higher than –30dBm, check your connections and clean the fibers using the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22. If this does not change the power value, consult your next level of support.
- Step 27** If an OPT-PRE is installed on the east side of the shelf, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40 for the east OPT-PRE amplifier. If not, continue with [Step 28](#).
- Step 28** Display the west OSC-CSM card in card view.
- Step 29** Click the **Provisioning > Optical Line > Parameters** tabs and locate the Power value for Port 2. Verify that the value is higher than –30 dBm. If the power value is not higher than –30dBm, check your connections and clean the fibers using the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22. If this does not change the power value, consult your next level of support.
- Step 30** Disconnect the TXP or tunable laser from the west OSC-CSM card.
- Step 31** Remove the loopback created on the east OSC-CSM in [Step 6](#).
- Step 32** Delete both OSC channels. See the “[DLP-G186 Delete an OSC Termination](#)” task on page 10-30.
- Step 33** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-73 to restore the original configuration.
- Step 34** Create the OSC channels using the “[NTP-G38 Provision OSC Terminations and Ring ID](#)” procedure on page 3-74.

Stop. You have completed this procedure.

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

Purpose	This procedure tests a line amplifier node with an OSC-CSM card installed on one side of the shelf and an OSCM card installed on the other.
Tools/Equipment	• A tunable laser or TXP_MR_2.5G card • An optical power meter or optical spectrum analyzer • 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node.”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser

-
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-24](#) at the node where you want to perform the acceptance test. If you are already logged in, continue with [Step 2](#).
- Step 2** If you are using TXP_MR_2.5G cards, complete the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4](#). If not, continue with [Step 3](#).
- Step 3** From the View menu, choose **Go to Node View**.
- Step 4** Click the **Alarms** tab.
- Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 8-27](#) as necessary.
 - Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.



Note The OSC terminations created during node turnup will generate two alarms for each side of the shelf, one for loss of signal on the Optical Booster (OPT-BST) card, and the other an LOS alarm on the OSC_CSM or OSCM card.

- Step 5** In node view, click the **Provisioning > WDM-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 following:
- Delete the two OSC channels using the [“DLP-G186 Delete an OSC Termination” task on page 10-30](#).
 - Complete the [“NTP-G37 Run Automatic Node Setup” procedure on page 3-73](#).
 - Create the OSC channels using the [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).
- Step 6** Create a loopback on the OSC-CSM card by connecting the LINE TX port to the LINE RX port using a patch cord and 10-dB bulk attenuator.


Caution

Failure to use proper attenuation may damage equipment.

- Step 7** Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarm on the OSC-CSM card has cleared. The clearing of the LOS alarm indicates the OSC link is active for this side of the shelf.



Note An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback.

If the alarm clears, continue with [Step 8](#). If not, perform the following steps:

- a. Remove the 10-dB bulk attenuator on the OSC-CSM LINE TX and LINE RX ports and reconnect using only the patch cord.
 - b. In node view, click the **Alarms** tab. If the LOS alarm on the OSC-CSM card clears, continue with [Step 8](#). If not, continue with [Step c](#).
 - c. Display the OSC-CSM in card view.
 - d. Click the **Provisioning > Optical Line > Optics Thresholds** tabs.
 - e. Under Types, click **Alarm**, then click **Refresh**.
 - f. Locate the Port 3 Power Failure Low parameter. Double-click the table cell and change the value to -30 dBm.
 - g. Locate the Port 6 Power Failure Low parameter. Double-click the table cell and change the value to -40 dBm.
 - h. Click **Apply**, and then **Yes**.
 - i. In node view, Click the **Alarms** tab. If the LOS alarm on the OSC-CSM card clears, continue with [Step 21](#). If not, replace the OSC-CSM card.
- Step 8** If you are using a tunable laser, follow the manufacturer's instructions to complete the following steps. If you are using a TXP_MR_2.5G card, continue with [Step 9](#).
- a. Set the output power to a nominal values, such as -3 dBm.
 - b. Set the tuner to the wavelength under test, then continue with [Step 11](#).
- Step 9** If you are using a TXP_MR_2.5G card, complete the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on page 4-4 for the TXP containing the wavelength you will test. Refer to [Table 4-1](#) on page 4-4, if needed.
- Step 10** Measure the TXP output power by connecting the TXP DWDM TX port to a test meter. Record the results for future reference.
- Step 11** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the OPT-BST LINE RX port using a 10-dB bulk attenuator.



Caution Failure to use proper attenuation may damage equipment.

- Step 12** Display the OPT-BST in card view.
- Step 13** 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 or TXP_MR_2.5G card (measured in [Step 10](#)) +/- 1 dBm.
- Step 14** 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 4-40 for it. If not, continue with [Step 15](#).
- Step 15** Display the OSC-CSM card in card view.

- Step 16** Click the **Provisioning > Optical Line > Parameters** tabs and locate the Port 3 Power value. Verify that the value is higher than –30 dBm. If the power value is not higher than –30dBm, check your connections and clean the fibers using the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22. If this does not change the power value, consult your next level of support.
- Step 17** 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 4-40 for it. If not, continue with [Step 18](#).
- Step 18** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-39 for the OPT-BST card.
- Step 19** Disconnect the TXP or tunable laser from the OPT-BST card.
- Step 20** Remove the loopback fiber on the OSC-CSM card.
- Step 21** Delete both OSC channels. See the “[DLP-G186 Delete an OSC Termination](#)” task on page 10-30.
- Step 22** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-73 to restore the original configuration.
- Step 23** Create the OSC channels using the “[NTP-G38 Provision OSC Terminations and Ring ID](#)” procedure on page 3-74.
- Step 24** Create a loopback on the OPT-BST card by connecting the LINE TX port with LINE RX port using a patch cord and 10-dB bulk attenuator.
- Step 25** Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the OPT-BST and OSCM cards have cleared. The clearing of the LOS alarms indicates the OSC link is active for this side of the shelf.



Note An SDCC Termination Failure alarm will continue to appear due to the OSC signal loopback.

If the alarms clear, continue with [Step 26](#). If not, perform the following steps:

- a. Display the OPT-BST card in card view.
 - b. Click the **Provisioning > Optical Line > Optics Thresholds** tabs.
 - c. Under Types, click **Alarms**, then click **Refresh**.
 - d. Locate the Port 2 Power Failure Low parameter. Double-click the table cell and change the value to –30 dBm.
 - e. Locate the Port 4 Power Failure Low parameter. Double-click the table cell and change the value to –40 dBm.
 - f. Click **Apply**, and then **Yes**.
 - g. Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on the OPT-BST card has cleared. If so, continue with [Step 25](#). If not, disconnect the OSCM card from the OPT-BST.
 - h. Create a loopback on the OSCM card by connecting a patch cable from the OSC TX port to the OSC RX port using a 10-dB bulk attenuator.
 - i. Wait 90 seconds, then in node view click the **Alarms** tab. Verify that the LOS alarms on OSCM card has cleared. If so, replace the OPT-BST card. If not, replace the OSCM card. See the “[NTP-G30 Install the DWDM Cards](#)” procedure on page 3-27.
- Step 26** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the OSC-CSM LINE RX port using a 10-dB bulk attenuator.
- Step 27** If an OPT-PRE is installed on the same side of the shelf as the OSC-CSM, complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40. If not, continue with [Step 27](#).

- Step 28** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-39 for the OPT-BST card.
- Step 29** Display the OSC-CSM card in card view.
- Step 30** Click the **Provisioning > Optical Line > Parameters** tabs. Verify that the power value on Port 3 (Out Com) is equal to the optical power from the tunable laser or TXP_MR_2.5G card (measured in [Step 10](#) +/- 1 dBm).
- Step 31** 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 4-40 for it. If not, continue with [Step 32](#).
- Step 32** Disconnect the TXP or tunable laser from the OSC-CSM card.
- Step 33** Remove the loopback fiber on the OPT-BST amplifier card.
- Step 34** Delete both OSC channels. See the “[DLP-G186 Delete an OSC Termination](#)” task on page 10-30.
- Step 35** Complete the “[NTP-G37 Run Automatic Node Setup](#)” procedure on page 3-73 to restore the original configuration.
- Step 36** Create the OSC channels using the “[NTP-G38 Provision OSC Terminations and Ring ID](#)” procedure on page 3-74.
- Stop. You have completed this procedure.**

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

Purpose	This procedure checks the integrity of all the optical connections inside an OADM node with OSCM cards installed on both the east and west sides of the shelf. Three connection types are tested: • Express • Pass-through • Add/Drop
Tools/Equipment	A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1) An optical power meter or optical spectrum analyzer Two bulk attenuators (10 dB) with LC connectors
Prerequisite Procedures	Chapter 3, “Turn Up a Node.”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser

- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-24 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.

- a. Verify that the alarm filter is not on. See the [“DLP-G128 Disable Alarm Filtering” task on page 8-27](#) as necessary.
- b. Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.

Step 4 In node view, click the **Provisioning > WDM-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 3-73](#).

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 [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).) If the OSC link becomes active, continue with [Step 11](#). If the OSC link does not turn up, complete the following steps:

- a. Modify the OSC Fail Low thresholds. Click the **Provisioning > Optical Line > Optics Thresholds** tabs and change the Port 4 opwrMin (minimum power) to -40 dBm.
- b. Modify the COM TX Fail Low Threshold. Change the Port 2 opwrMin (minimum power) to -30 dBm.
- c. If the OSC link turns up, continue with [Step 11](#). If the OSC link is still down, disconnect the OSCM card from the OPT-BST.
- d. 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.
- e. 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, an SDCC Termination Failure alarm might be raised.

- Step 11** If the node has express bands or channels, complete the “[DLP-G85 Verify Express Channel Connections on an OADM Node with OSCM Cards](#)” task on page 4-43. If the node does not have express bands or channels, continue with [Step 12](#).
- Step 12** 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 4-47. If not, continue with [Step 13](#).
- Step 13** If connections have add/drop connections, complete the “[DLP-G93 Verify Add and Drop Connections on an OADM Node with OSCM Cards](#)” task on page 4-51.

Stop. You have completed this procedure.

NTP-G49 Perform the OADM Active Node Acceptance Test on a Symmetric Node with OSC-CSM Cards

Purpose	This procedure checks the integrity of all the optical connections inside an OADM node with OSC-CSM and OPT-BST cards installed on both the east and west sides of the shelf. Three connection types are tested: - Express - Pass-through - Add/Drop
Tools/Equipment	- A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1) - An optical power meter or optical spectrum analyzer 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node.”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser

- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-24 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.
- a. Verify that the alarm filter is not on. See the “[DLP-G128 Disable Alarm Filtering](#)” task on page 8-27 as necessary.

- b. Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.

Step 4 In node view, click the **Provisioning > WDM-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 3-73](#).

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 a 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 [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74](#).)



Note Due to the OSC signal loopback, an 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:

- a. Remove the 10-dB bulk attenuator between the LINE TX and LINE RX connection. If the OSC link becomes active, continue with [Step 11](#). If not, continue with [Step b](#).
- 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.
- c. Modify the COM TX Fail Low Threshold. Change the Port 3 opwrMin (minimum power) to -30 dBm.
- d. 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 on an OADM Node with OSC-CSM Cards](#)” task on page 4-44. 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 4-47. 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 Cards](#)” task on page 4-54.
- Stop. You have completed this procedure.**

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

Purpose	This procedure checks the integrity of all the optical connections inside an OADM node with OSC-CSM and no OPT-BST cards installed on the east and west sides of the shelf. Three connection types are tested: • Express • Pass-through • Add/Drop
Tools/Equipment	• A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1) • An optical power meter or optical spectrum analyzer • 2 bulk attenuators (10 dB) LC
Prerequisite Procedures	Chapter 3, “Turn Up a Node.”
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Superuser

- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-24 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 8-27 as necessary.
 - Verify that no equipment (EQPT) alarms appear indicating equipment failure or other hardware problems. If equipment failure alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide* for procedures.
- Step 4** In node view, click the **Provisioning > WDM-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 3-73.

- 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 [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74.](#))



Note Due to the OSC signal loopback, an 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 13](#). 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 on an OADM Node with OSC-CSM Cards” task on page 4-44](#). If the node does not have express bands or channels, continue with [Step 12](#).
- 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 4-47](#). 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 Cards” task on page 4-54](#).

Stop. You have completed this procedure.

DLP-G78 Verify the 32MUX-O Power

Purpose	This task verifies 32MUX-O power.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

- 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** (ANSI) or **Locked,maintenance** (ETSI).
- Step 4** Check that the power value on the port reaches the provisioned setpoint (VOA Power Ref).
- Step 5** Return to your originating procedure (NTP).
-

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

Purpose	This task verifies that the OPT-BST amplifier laser is on and provisioned to the correct power.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

- Step 1** In node view, double-click the OPT-BST amplifier to display the card view.
- Step 2** Click the **Maintenance > ALS** tabs. If the value in the Currently Shutdown field is NO, continue with [Step 3](#). If not, complete the following steps:
- Check the OSRI setting. If it is set to On, change it to Off and click **Apply**.
 - Check the Currently Shutdown field. If it changes to NO, 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** Click **Reset**.
- Step 5** Scroll to the right and locate the Signal Output Power parameter for Port 6. Verify that the Signal Output Power value is greater than or equal to 1.5 dBm.

If the Signal Output Power is not greater than or equal to 1.5 dBm, do not continue. Begin troubleshooting or contact your next level of support.

Step 6 Return to your originating procedure (NTP).

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

Purpose	This task verifies that the OPT-PRE amplifier laser is on and provisioned to the correct power.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

- Step 1** In node view, double-click the OPT-PRE amplifier to display the card view.
- Step 2** Click the **Maintenance > ALS** tabs.
- Step 3** If the value shown in the Currently Shutdown field is NO, continue with [Step 4](#). If not, complete the following steps:
- If the OSRI setting is set to ON, click the table cell and choose OFF from the drop-down list.
 - Click **Apply**.
- Step 4** Click the **Provisioning > Opt Ampli Line > Parameters** tabs.
- Step 5** Locate the Signal Output Power parameter for Port 2. Verify that the Signal Output Power value is greater than or equal to 1.5 dBm. If the optical power is greater than or equal to 1.5 dBm, continue with [Step 6](#). If the the optical power is less than 1.5 dBm, check your connections and clean the fibers using the “[NTP-G115 Clean Fiber Connectors](#)” procedure on page 12-22. If this does not change the power value, consult your next level of support.
- Step 6** Scroll to the right to locate the DCU Insertion Loss parameter. Verify that the DCU Insertion Loss value is less than or equal to 10 dB.
- If the optical power is not greater than or equal to 10 dB, do not continue. Begin troubleshooting or contact your next level of support.
- Step 7** Return to your originating procedure (NTP) or task (DLP).
-

DLP-G269 Verify the 32DMX-O Power

Purpose	This task verifies that the 32DMX-O card is provisioned to the correct power.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24

Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

-
- Step 1** Display the 32DMX-O card in card view.
- Step 2** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 3** Change the Admin State for the appropriate port to **OOS,DSL** (ANSI) or **Locked,disabled** (ETSI).
- 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 card is consistent with the value read (the maximum allowed error is ± 0.5 dBm).
- Step 6** Return to your originating procedure (NTP).
-

DLP-G270 Verify the 32DMX Power

Purpose	This task verifies that the 32DMX card is provisioned to the correct power.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

-
- Step 1** Display the 32DMX card in card view.
- Step 2** Click the **Provisioning > Optical Chn > Parameters** tabs.
- Step 3** Change the Admin State for Port 33 to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI).
- 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 card is consistent with the value read (the maximum allowed error is ± 1 dBm).
- Step 6** Change the Admin State for Port 1 to **OOS,DSL** (ANSI) or **Locked,disabled** (ETSI).
- Step 7** Return to your originating procedure (NTP).
-

DLP-G82 Verify the OSC-CSM Power

Purpose	This task verifies OSC-CSM card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24

Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

-
- Step 1** Display the OSC-CSM card in card view.
- Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.
- Step 3** If an OPT-PRE is not installed on the same side of the shelf as the OSC-CSM, verify the Port 3 Power value is higher than the default no-power value of –30 dBm. If the power is not higher than –30dBm, contact your next level of support.
- Step 4** Return to your originating procedure (NTP).
-

DLP-G83 Verify the OSC-CSM Power on OADM Nodes

Purpose	This task verifies OSC-CSM card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

-
- 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 3 is higher than the default no-power value of –30 dBm. The calculated expected power value for Port 3 is:
- Pout COM TX of last AD-xy-xx.x – IL02 OSC-CSM (COM RX > LINE TX) – 10 dB (bulk attenuator)
- Step 4** 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 5** Return to your originating procedure (NTP).
-

DLP-G84 Verify the OSC-CSM Incoming Power

Purpose	This task verifies OSC-CSM card incoming power.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24

Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

-
- 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 (this normally is + 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 on an OADM Node with OSCM Cards

Purpose	This task verifies the express channel connections during an OADM node acceptance.
Tools/Equipment	A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4)
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser

-
- Step 1** If you are using a tunable laser, set the output power to a nominal value, such as –3 dBm. If not, continue with [Step 2](#).
- Step 2** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the east OPT-BST LINE RX port.
- Step 3** Based on the Cisco MetroPlanner site configuration file, tune the tunable laser of TXP_MR_2.5G card 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. Refer to the tunable laser manufacturer's documentation or the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4](#).
- Step 4** 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 4-40](#). If an OPT-PRE card is not installed on the east side, continue with [Step 5](#).
- 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 4-45](#) for each east side card. If not, continue with [Step 6](#).

**Note**

If AD-xB-xx.x and AD-xC-xx.x cards are both installed in one direction, the received express channels will run into the AD-xB-xx.x cards first, then into the AD-xC-xx.x cards.

- 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 4-46 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-G271 Verify the AD-xC-xx.x Output Common Power](#)” task on page 4-46 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-G272 Verify the AD-xB-xx.x Output Common Power](#)” task on page 4-46 for each west side card. If not, continue with [Step 9](#).
- Step 9** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-39 for the OPT-BST installed on the east side.
- Step 10** 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 4-40. If an OPT-PRE card is not installed, continue with [Step 11](#).
- Step 11** Repeat Steps 5 through 8 to the AD-xB-xx.x and AD-xC-xx.x cards along the west-to-east direction.
- Step 12** Complete the “[DLP-G79 Verify the OPT-BST Amplifier Laser and Power](#)” task on page 4-39 for the OPT-BST installed on the east side.
- Step 13** Return to the originating procedure (NTP).

DLP-G86 Verify Express Channel Connections on an OADM Node with OSC-CSM Cards

Purpose	This task verifies the express channel connections during an OADM node acceptance.
Tools/Equipment	A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4)
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser

- Step 1** If you are using a tunable laser, set the output power to a nominal value, such as –3 dBm. If not, continue with [Step 2](#).
- Step 2** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port to the LINE RX port of the east OSC-CSM card.
- Step 3** If an OPT-PRE amplifier card is installed on the east side, install a 10-dB bulk attenuator on the COM RX port.
- Step 4** Based on the Cisco MetroPlanner site configuration file, tune the tunable laser or TXP_MR_2.5G card 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. Refer to the tunable laser manufacturer’s documentation or the “[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)” task on page 4-4.

- Step 5** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40 for the OPT-PRE amplifier card installed on the west side.
- Step 6** 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 4-45 for each east side card. If not, continue with Step 7.
-  **Note** If Ad-xB-xx.x and AD-xC cards are both installed in one direction, the received express channels will run into the AD-xB-xx.x cards first, then into the AD-xC-xx.x cards.
- Step 7** 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 4-46 for each east side card. If not, continue with Step 8.
- Step 8** If AD-xC-xx.x cards are installed on the west side, complete the “[DLP-G271 Verify the AD-xC-xx.x Output Common Power](#)” task on page 4-46 for each west side card. If not, continue with Step 9.
- Step 9** If AD-xB-xx.x cards are installed on the west side, complete the “[DLP-G272 Verify the AD-xB-xx.x Output Common Power](#)” task on page 4-46 for each west side card. If not, continue with Step 10.
- Step 10** Complete the “[DLP-G83 Verify the OSC-CSM Power on OADM Nodes](#)” task on page 4-42 for the OSC-CSM installed on the west side.
- Step 11** Complete the “[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)” task on page 4-40 for the OPT-PRE card installed on the east side.
- Step 12** Repeat Steps 6 through 9 for the AD-xB-xx.x and AD-xC-xx.x cards along the west-to-east direction.
- Step 13** Complete the “[DLP-G83 Verify the OSC-CSM Power on OADM Nodes](#)” task on page 4-42 for the OSC-CSM installed on the west side.
- Step 14** Return to the originating procedures (NTPs).

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

Purpose	This task verifies the output express power of Band OADM (AD-xB-xx.x) cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC , page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

- 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** (ANSI) or **Locked,maintenance** (ETSI). 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

Purpose	This task verifies the output express power of the Channel OADM (AD-xC-xx.x) cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

-
- 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** (ANSI) or **Locked,maintenance** (ETSI). 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).
-

DLP-G271 Verify the AD-xC-xx.x Output Common Power

Purpose	This task verifies the common power of the Channel OADM (AD-xC-xx.x) cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

-
- Step 1** Display the AD-xC-xx.x in card view.
- Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.
- Step 3** Verify that the Output Com port Power value is greater than the default no-power value of –30 dBm.
- Step 4** Return to your originating procedure (NTP).
-

DLP-G272 Verify the AD-xB-xx.x Output Common Power

Purpose	This task verifies the output common power of the Channel OADM (AD-xB-xx.x) cards.
Tools/Equipment	None

Prerequisite Procedures [DLP-G46 Log into CTC, page 2-24](#)

Required/As Needed As needed

Onsite/Remote Onsite or remote

Security Level Superuser

-
- Step 1** Display the AD-xB-xx.x in card view.
- Step 2** Click the **Provisioning > Optical Line > Parameters** tabs.
- Step 3** Verify that the Output Com port Power value is greater than the default no-power value of -28 dBm.
- Step 4** Return to your originating procedure (NTP).
-

DLP-G89 Verify OADM Node Pass-Through Channel Connections

Purpose This task verifies the pass-through channel connections during an OADM node acceptance test.

Tools/Equipment A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see [Table 4-1 on page 4-4](#))

Prerequisite Procedures [DLP-G46 Log into CTC, page 2-24](#)

Required/As Needed As needed

Onsite/Remote Onsite

Security Level Superuser

-
- Step 1** Identify the first band connection configured in pass-through mode in both directions.
- Step 2** Set the tunable laser or TXP_MR_2.5G card to the wavelength of the band to be tested. Refer to the tunable laser manufacturer's documentation or the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4](#).
- Step 3** Complete the [“DLP-G90 Verify an AD-xB-xx.x Pass-Through Connection Power” task on page 4-48](#) 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 4-42](#) 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** If channel pass-through connections are not present, continue with [Step 15](#). If channel pass-through connections are present, continue with one of the following steps:
- If the pass-through channel connections use an AD-xC-xx.x card, continue with [Step 7](#).
 - If the 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 4-49](#) 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 4-42](#) 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 4MD-xx.x Pass-Through Connection Power” task on page 4-50](#).
- 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 4-42](#) 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

Purpose	This task verifies an AD-xB-xx.x pass-through connection.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

- 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** (ANSI) or **Locked,maintenance** (ETSI). 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 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.

- d. Change the Admin State of the BAND TX (west-to-east) port related to the wavelength selected on the tunable laser to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). Click **Apply**.
 - e. 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:
- a. Display the east AD-xB-xx.x in card view.
 - b. Click the **Provisioning > Optical Band > Parameters** tabs.
 - c. 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

Purpose	This task verifies an AD-xC-xx.x pass-through connection.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

- Step 1** Verify the east AD-xC-xx.x channel TX power:
- a. Display the east AD-xC-xx.x in card view.
 - b. Click the **Provisioning > Optical Chn > Parameters** tabs.
 - c. Verify that the power value for the CHAN TX port is higher than the default no-power value of –35 dBm.
 - d. 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 activated in Step e.
 - e. Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). Click **Apply**.
 - f. Verify that the power value of the CHAN TX port is higher than the default no-power value of –35 dBm.
- Step 2** Verify the channel power for the corresponding west AD-xC-xx.x 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. Verify that the Power value of the CHAN RX port reaches the provisioned setpoint (VOA Power Ref).
 - e. Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). Click **Apply**.

- f. 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 activated in Step g.
- g. Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). Click **Apply**.
- h. Verify that the power value of the CHAN TX port is higher than the default no-power value of -35 dBm.

Step 3 Verify the east AD-xC-xx.x channel RX power:

- a. Display the east AD-xC-xx.x in card view.
- b. Click the **Provisioning > Optical Chn > Parameters** tabs.
- c. Change the Admin State of the CHAN RX port to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI) 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 Return to your originating procedure (NTP).

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

Purpose	This task verifies 4MD-xx.x pass-through connection.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

Step 1 Verify the TX band power on the related east AD-xB-xx.x card:

- a. Display the east 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** (ANSI) or **Locked,maintenance** (ETSI) for the channel related to the wavelength selected on the tunable laser.
- d. 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:

- a. Display the east 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 3 Verify the RX band power on the west AD-xB-xx.x card (east-to-west):

- a. Display the west Ad-xB-xx.x card in card view
- b. Click the **Provisioning > Optical Band > Parameters** tabs.
- c. Verify that the BAND RX Power value is higher than the default no-power values of -30 dBm.

- Step 4** 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** (ANSI) or **Locked,maintenance** (ETSI) 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 5** Verify the TX band power on the west AD-xB-xx.x (west-to-east):
- 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** (ANSI) or **Locked,maintenance** (ETSI) 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 6** Verify the west 4MD-xx.x (west-to-east):
- Display the west 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.
- Step 7** Verify the east 4MD-xx.x (west-to-east):
- Display the east 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** (ANSI) or **Locked,maintenance** (ETSI) 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 8** Return to your originating procedure (NTP).
-

DLP-G93 Verify Add and Drop Connections on an OADM Node with OSCM Cards

Purpose	This task verifies the add and drop channel connections for an OADM node with OSCM cards installed.
Tools/Equipment	A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4)
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser

**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** Based on the Cisco MetroPlanner site configuration file, tune the tunable laser or TXP_MR_2.5G card to a 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. Refer to the tunable laser manufacturer's documentation or the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4](#).
- Step 2** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port 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):
- Display the west AD-xC-xx.x or 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 (ANSI)** or **Locked,maintenance (ETSI)** for the channel related to the wavelength chosen on the tunable laser.
 - 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 4-39](#) 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 RX band port on the west AD-xB-xx.x card:
- Display the west Ad-xB-xx.x card in card view
 - Click the **Provisioning > Optical Band > Parameters** tabs.
- Step 7** Verify that the BAND RX Power value is higher than the default no-power values of -30 dBm
- Step 8** Verify band TX port on the west AD-xB-xx.x (west to east):
- 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 (ANSI)** or **Locked,maintenance (ETSI)** 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 9** Verify the west 4MD-xx.x card (west to east):
- Display the west 4MD-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 -30 dBm.
- Step 10** Verify the west AD-xC-xx.x (west-to-east) card:
- Display the west AD-xC-xx.x card in card view.
 - 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 activated according to [Step g](#).

- c. Click the **Provisioning > Optical Chn > Parameters** tabs.
 - d. Verify that the Power value of the CHAN TX port is higher than the default no-power value of -35 dBm.
 - e. Display the east AD-xC-xx.x in card view.
 - f. Click the **Provisioning > Optical Chn > Parameters** tabs.
 - g. Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser or TXP_MR_2.5G card to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). Click **Apply**.
 - h. Verify that the power value for the CHAN TX port is higher than the default no-power value of -35 dBm.
 - i. Perform the output power check.
- Step 11** (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 or TXP_MR_2.5G card 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 12** Repeat Steps 8 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** Verify that the OSC link becomes active on the east OSCM card. (The OSC termination must be already provisioned. If not, complete the [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74.](#)) If the OSC link becomes active, continue with Step 15. If the OSC link does not become active, perform the following steps:
- a. Modify the OSC Fail Low thresholds by clicking the **Provisioning > Optical Line > Optics Thresholds** tabs and changing the Port 2 opwrMin (minimum power) to -40 dBm.
 - b. If the OSC link turns up, continue with Step 15. If the OSC link remains down, disconnect the OSCM card from the OPT-BST.
 - c. 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.
 - d. If the OSC link turns up, replace the OPT-BST card. If the OSC link does not turn up, replace the OSCM card. See the [“NTP-G30 Install the DWDM Cards” procedure on page 3-27.](#)
- 

Note Due to the OSC signal loopback, an SDCC Termination Failure alarm might be raised.
- Step 15** Based on the Cisco MetroPlanner site configuration file, tune the tunable laser or TXP_MR_2.5G card to a wavelength (belonging to the 100-GHz ITU-T grid) of the channel running on the first add path of the first add path of the first AD-xC-xx.x-E or 4MD-xx.x-E card on the west-to-east direction. Refer to the tunable laser manufacturer's documentation or the [“DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing” task on page 4-4.](#)
- Step 16** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port 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 15, applying the steps to the west-to-east direction.
- Step 18** Remove the loopback connection and Restore the default admin state (IS,AINS or Unlocked,automaticInService) on all the ports previously set to OOS,MT (ANSI) or Locked,maintenance (ETSI).

- 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 Cards

Purpose	This task verifies the add and drop channel connections for an OADM node with OSC-CSM cards installed.
Tools/Equipment	A tunable laser or eight TXP_MR_2.5G cards covering the 32 C-band wavelengths (see Table 4-1 on page 4-4)
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-24
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser



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** Based on the Cisco MetroPlanner site configuration file, tune the tunable laser or TXP_MR_2.5G card to a 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. Refer to the tunable laser manufacturer's documentation or the "[DLP-G268 Provision TXP_MR_2.5G Cards for Acceptance Testing](#)" task on page 4-4.
- Step 2** Connect the tunable laser transmitter or the TXP_MR_2.5G card DWDM TX port 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):
- Display the west AD-xC-xx.x or 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** (ANSI) or **Locked,maintenance** (ETSI) 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** Complete the "[DLP-G80 Verify the OPT-PRE Amplifier Laser and Power](#)" task on page 4-40 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:
- Display the west AD-xB-xx.x card in card view.
 - Click the **Provisioning > Optical Band > Parameters** tabs.

- c. Change the Admin State of the BAND TX port to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI) 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 activated in Step [h](#).
 - h. Change the Admin State of the CHAN TX port related to the wavelength selected on the tunable laser to **OOS,MT** (ANSI) or **Locked,maintenance** (ETSI). 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 [8](#) 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 [“NTP-G38 Provision OSC Terminations and Ring ID” procedure on page 3-74.](#))



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

- 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** (ANSI) or **Locked,maintenance** (ETSI).
- Step 23** Launch ANS to recover the correct node configuration.
- Step 24** Return to your originating procedure (NTP).
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