



QSFP-CWDM4-100G

**OPTICAL TRANSCEIVER
MODULE**

Scenario Application Test Report (Cisco)

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1. Test Purpose

By building test scenarios and simulating the customer's usage environment, we test whether the module's performance meets the customer's requirements.

2. Test Results Summary

Table 2: Test Results

Items	Test Data	Remarks
Multi-Version	Pass	/
Connectivity	Pass	/
BER	Pass	/

3. Test Environment

3.1 Test Equipment Used

Table 3-1: Test Equipment Used

Vendor	Device	Soft Version
Cisco Switch	NCS-5500	7.7.21
NVIDIA NICs	MCX515A-CCAT	16.35.3502
FS Server	RS3110	/

3.2 Test Sample

Table 3-2: Test Sample

Product ID	P/N	Serial Number
#65219	QSFP-CWDM4-100G	A2310220507

4. Test Data

Table 4: Scenario Application Testing

Test Topology	
Test Premise	1. Confirm the brand, quantity and placement of the switches to be tested. 2. Prepare control cables, test software and optical fiber patch cords. Power on the switches in advance. 3. Locate the Console port on the switch, which is usually marked as "CON" on the switch, although some switches may display it as "IOIOI" or a computer monitor icon, etc. Use a control cable to connect the switch to the computer.  4. Before connecting the software, it is necessary to confirm the connection port of the control cable. Go to the computer device manager, click on the ports (COM and LPT) to view the ports. After confirming the ports, proceed with the next step.
Test Method	Click to open the SecureCRT Portable software and enter the quick connection interface. ① Protocol selection: Serial ② Port selection: The same as the port you viewed in the previous step ③ Baud rate selection: The same as the baud rate of the port on the target switch ④ Flow control: Do not check this option The remaining configurations can keep the default values.
Test Steps	① Insert the module into the corresponding rate port of the switch, and connect the TX-RX ends with an optical fiber jumper or an MTP self-loop device. Observe whether the module is connected. If not connected, please check the jumper connection or the switch port configuration (login to the switch is required). ② Enter the test interface, input the account and password, log in to the switch and enter privileged mode. ③ According to the switch command configuration table, input the corresponding test command and view the relevant information: port status (connectivity), connection rate, alarm status, module basic information, DDM information, etc. Determine whether it meets the requirements.

1. Read the switch model name and software version, and read the status of all ports on the switch

```
RP/0/RP0/CPU0:ios#show version
Mon Mar 10 09:09:36.131 UTC
Cisco IOS XR Software, Version 7.7.21
Copyright (c) 2013-2023 by Cisco Systems, Inc.
```

Build Information:

```
Built By      : deenayak
Built On     : Thu Jun 29 03:55:49 PDT 2023
Built Host   : 8ef204814797
Workspace    : /auto/srcarchive16/prod/7.7.21/ncs5500/ws
Version      : 7.7.21
Location     : /opt/cisco/xr/packages/
Label       : 7.7.21
```

```
cisco NCS-5500 () processor
system uptime is 3 hours 12 minutes
```

```
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#show interfaces brief
Mon Mar 10 09:09:46.091 UTC
```

Intf Name	Intf State	LineP State	Encap Type	MTU (byte)	BW (kbps)
Nu0	up	up	Null	1500	0
Te0/0/0/0	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/1	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/2	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/3	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/4	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/5	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/6	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/7	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/8	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/9	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/10	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/11	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/12	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/13	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/14	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/15	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/16	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/17	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/18	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/19	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/20	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/21	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/22	admin-down	admin-down	ARPA	1514	10000000
Te0/0/0/23	admin-down	admin-down	ARPA	1514	10000000
TF0/0/0/24	down	down	ARPA	1514	25000000
TF0/0/0/25	down	down	ARPA	1514	25000000
TF0/0/0/26	down	down	ARPA	1514	25000000
TF0/0/0/27	down	down	ARPA	1514	25000000
TF0/0/0/28	down	down	ARPA	1514	25000000
TF0/0/0/29	down	down	ARPA	1514	25000000
TF0/0/0/30	down	down	ARPA	1514	25000000
TF0/0/0/31	down	down	ARPA	1514	25000000
TF0/0/0/32	down	down	ARPA	1514	25000000
TF0/0/0/33	down	down	ARPA	1514	25000000
TF0/0/0/34	down	down	ARPA	1514	25000000
TF0/0/0/35	down	down	ARPA	1514	25000000
TF0/0/0/36	down	down	ARPA	1514	25000000
TF0/0/0/37	down	down	ARPA	1514	25000000
TF0/0/0/38	down	down	ARPA	1514	25000000
TF0/0/0/39	down	down	ARPA	1514	25000000
Hu0/0/1/2	up	up	ARPA	1514	100000000
Hu0/0/1/3	down	down	ARPA	1514	100000000
Te0/0/1/1/0	down	down	ARPA	1514	10000000
Te0/0/1/1/1	down	down	ARPA	1514	10000000
Te0/0/1/1/2	down	down	ARPA	1514	10000000
Te0/0/1/1/3	down	down	ARPA	1514	10000000
TF0/0/1/0/0	down	down	ARPA	1514	25000000
TF0/0/1/0/1	down	down	ARPA	1514	25000000
TF0/0/1/0/2	down	down	ARPA	1514	25000000
TF0/0/1/0/3	down	down	ARPA	1514	25000000
Hu0/0/2/0	down	down	ARPA	1514	100000000
Hu0/0/2/1	down	down	ARPA	1514	100000000
Hu0/0/2/2	down	down	ARPA	1514	100000000
Hu0/0/2/3	down	down	ARPA	1514	100000000
Mg0/RP0/CPU0/0	admin-down	admin-down	ARPA	1514	1000000

Test Information

2. Read the NIC model and the status of all ports

Activate the web console with: `systemctl enable --now cockpit.socket`

Last login: Tue Mar 11 10:03:17 2025 from 10.36.15.177

[root@RS3110 ~]# mlxfwmanager -u
Querying Mellanox devices firmware ...

Device #1:

```
-----  
Device Type:      ConnectX5  
Part Number:      MCX515A-CCA_Ax_Bx  
Description:      ConnectX-5 EN network interface card; 100GbE single-port QSFP28; PCIe3.0 x16; tall bracket; ROHS R6  
PSID:             MT_0000000011  
PCI Device Name:  0000:01:00.0  
Base GUID:        b8cef603000c2e44  
Base MAC:         b8cef60c2e44  
Versions:         Current      Available  
FW                16.35.3502    N/A  
PXE               3.6.0902     N/A  
UEFI              14.29.0015    N/A
```

Status: No matching image found

[root@RS3110 ~]# mlxlink -d mlx5_0 -c

Operational Info

```
-----  
State                : Active  
Physical state       : Linkup  
Speed                : 100GbE  
Width                : 4x  
FEC                  : Standard RS-FEC - RS(528,514)  
Loopback Mode        : No Loopback  
Auto Negotiation     : ON
```

Supported Info

```
-----  
Enabled Link Speed   : 0x00f00000 (100G)  
Supported Cable Speed : 0x00800000 (100G)
```

Troubleshooting Info

```
-----  
Status Opcode        : 0  
Group Opcode         : N/A  
Recommendation       : No issue was observed
```

Tool Information

```
-----  
Firmware Version     : 16.35.3502  
MFT Version          : mft 4.30.0-139
```

3. Read the Module BER

[root@RS3110 ~]# mlxlink -d mlx5_0 -c

Operational Info

```
-----  
State                : Active  
Physical state       : Linkup  
Speed                : 100GbE  
Width                : 4x  
FEC                  : Standard RS-FEC - RS(528,514)  
Loopback Mode        : No Loopback  
Auto Negotiation     : ON
```

Supported Info

```
-----  
Enabled Link Speed   : 0x00f00000 (100G)  
Supported Cable Speed : 0x00800000 (100G)
```

Troubleshooting Info

```
-----  
Status Opcode        : 0  
Group Opcode         : N/A  
Recommendation       : No issue was observed
```

Tool Information

```
-----  
Firmware Version     : 16.35.3502  
MFT Version          : mft 4.30.0-139
```

Physical Counters and BER Info

```
-----  
Time Since Last Clear [Min] : 4.4  
Effective Physical Errors    : 0  
Raw Physical Errors Per Lane : 0,0,0,0  
Effective Physical BER       : 15E-255  
Raw Physical BER             : 15E-255  
Link Down Counter           : 0  
Link Error Recovery Counter  : 0
```

Test Information

Test Conclusion	After completing the above test content, all the test information should be copied and pasted into a TXT document.
Remarks	/