



QSFP-FR-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	C93180YC-EX	07.69
NVIDIA NICs	MCX623106AN-CDAT	22.43.1014
DELL Server	PowerEdge R860	/

3.2 Test Sample

Table 3-2: Test Sample

Product ID	P/N	Serial Number
#143524	QSFP-FR-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.

Test Information

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

```
Cisco_C93180YC-EX#
Cisco_C93180YC-EX# show version
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
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All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under their own
licenses, such as open source. This software is provided "as is," and unless
otherwise stated, there is no warranty, express or implied, including but not
limited to warranties of merchantability and fitness for a particular purpose.
Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or
GNU General Public License (GPL) version 3.0 or the GNU
Lesser General Public License (LGPL) Version 2.1 or
Lesser General Public License (LGPL) Version 2.0.
A copy of each such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://opensource.org/licenses/gpl-3.0.html and
http://www.opensource.org/licenses/lgpl-2.1.php and
http://www.gnu.org/licenses/old-licenses/library.txt.
```

Software

```
BIOS: version 07.69
NXOS: version 10.2(5) [Maintenance Release]
BIOS compile time: 04/07/2021
NXOS image file is: bootflash:///nxos64-cs.10.2.5.M.bin
NXOS compile time: 3/10/2023 12:00:00 [03/03/2023 12:00:11]
```

Hardware

```
cisco Nexus9000 C93180YC-EX chassis
Intel(R) Xeon(R) CPU @ 1.80GHz with 24617876 kB of memory.
Processor Board ID FDO221418Y5
Device name: Cisco_C93180YC-EX
bootflash: 7906304 kB
```

Kernel uptime is 1 day(s), 4 hour(s), 33 minute(s), 57 second(s)

Last reset at 759734 usecs after Tue May 13 01:20:30 2025

```
Reason: Module PowerCycled
System version:
Service: HW check by card-client
```

plugin

Core Plugin, Ethernet Plugin

Active Package(s):

```
Cisco_C93180YC-EX#
Cisco_C93180YC-EX#
Cisco_C93180YC-EX#
```

```
Cisco_C93180YC-EX#
Cisco_C93180YC-EX# show interface status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
mgmt0	--	notconnec	routed	auto	auto	--
Port	Name	Status	Vlan	Duplex	Speed	Type
Eth1/1	--	xcvrAbsen	routed	auto	auto	--
Eth1/2	--	xcvrAbsen	1	auto	auto	--
Eth1/3	--	xcvrAbsen	1	auto	1000	--

Test Information

Eth1/4	--	xcvrAbsen 1	auto	auto	--
Eth1/5	--	xcvrAbsen 1	auto	1000	--
Eth1/6	--	xcvrAbsen 1	auto	auto	--
Eth1/7	--	xcvrAbsen routed	auto	auto	--
Eth1/8	--	xcvrAbsen 1	auto	auto	--
Eth1/9	--	xcvrAbsen 1	auto	auto	--
Eth1/10	--	xcvrAbsen 1	auto	auto	--
Eth1/11	--	xcvrAbsen 1	auto	auto	--
Eth1/12	--	xcvrAbsen 1	auto	auto	--
Eth1/13	--	xcvrAbsen 1	auto	auto	--
Eth1/14	--	xcvrAbsen 1	auto	auto	--
Eth1/15	--	xcvrAbsen 1	auto	auto	--
Eth1/16	--	xcvrAbsen 1	auto	auto	--
Eth1/17	--	xcvrAbsen 1	auto	auto	--
Eth1/18	--	xcvrAbsen 2	auto	auto	--
Eth1/19	--	xcvrAbsen 1	auto	auto	--
Eth1/20	--	xcvrAbsen 2	auto	10G	--
Eth1/21	--	xcvrAbsen 1	auto	auto	--
Eth1/22	--	xcvrAbsen 1	auto	10G	--
Eth1/23	--	xcvrAbsen 1	auto	auto	--
Eth1/24	--	xcvrAbsen 1	auto	25G	--
Eth1/25	--	xcvrAbsen 1	auto	auto	--
Eth1/26	--	xcvrAbsen 1	auto	25G	--
Eth1/27	--	xcvrAbsen 1	auto	auto	--
Eth1/28	--	xcvrAbsen 2	auto	auto	--
Eth1/29	--	xcvrAbsen 1	auto	auto	--
Eth1/30	--	xcvrAbsen 1	auto	auto	--
Eth1/31	--	xcvrAbsen 1	auto	auto	--
Eth1/32	--	xcvrAbsen 2	auto	auto	--
Eth1/33	--	xcvrAbsen 1	auto	auto	--
Eth1/34	--	xcvrAbsen 1	auto	auto	--
Eth1/35	--	xcvrAbsen 1	auto	auto	--
Eth1/36	--	xcvrAbsen 1	auto	auto	--
Eth1/37	--	xcvrAbsen 1	auto	auto	--
Eth1/38	--	xcvrAbsen 1	auto	auto	--
Eth1/39	--	xcvrAbsen 1	auto	auto	--
Eth1/40	--	xcvrAbsen 1	auto	auto	--
Eth1/41	--	xcvrAbsen 1	auto	auto	--
Eth1/42	--	xcvrAbsen 1	auto	auto	--
Eth1/43	--	xcvrAbsen 1	auto	auto	--
Eth1/44	--	xcvrAbsen 1	auto	auto	--
Eth1/45	--	xcvrAbsen 1	auto	auto	--
Eth1/46	--	xcvrAbsen 1	auto	auto	--
Eth1/47	--	xcvrAbsen 1	auto	auto	--
Eth1/48	--	xcvrAbsen 1	auto	auto	--
Eth1/49	--	xcvrAbsen 1	auto	auto	--
Eth1/50	--	connected 1	full	100G	QSFP-100G-F
R					
Eth1/51/1	--	xcvrAbsen 1	auto	auto	--
Eth1/51/2	--	xcvrAbsen 1	auto	auto	--
Eth1/51/3	--	xcvrAbsen 1	auto	auto	--
Eth1/51/4	--	xcvrAbsen 1	auto	auto	--
Eth1/52	--	connected 1	full	100G	QSFP-100G-F
n					

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

```
[root@localhost ~]#
[root@localhost ~]# mlxfwmanager -d mlx5_8
Querying Mellanox devices firmware ...

Device #1:
-----
Device Type:      ConnectX6DX
Part Number:      MCX623106AN-CDA_AX
Description:      ConnectX-6 Dx EN adapter card; 100GbE; Dual-port QSFP56; PCIe 4.0/3.0 x16;
PSID:             MT_0000000359
PCI Device Name:  mlx5_8
Base GUID:        e8ebd303009c65e0
Base MAC:         e8ebd39c65e0
Versions:         Current      Available
FW                22.43.1014   N/A
PXE               3.7.0500     N/A
UEFI              14.36.0016     N/A

Status:           No matching image found
```

```
[root@localhost ~]# mlxlink -d mlx5_8 -c

Operational Info
-----
State                               : Active
Physical state                     : ETH_AN_FSM_ENABLE
Speed                             : 100G
Width                             : 4x
FEC                               : No FEC
Loopback Mode                     : No Loopback
Auto Negotiation                   : ON

Supported Info
-----
Enabled Link Speed (Ext.)          : 0x000007f2 (100G_2X,100G_4X,50G_1X,50G_2X,40G,25G,10G,1G)
Supported Cable Speed (Ext.)      : 0x00000200 (100G_4X)

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

Tool Information
-----
Firmware Version                  : 22.43.1014
amBER Version                     : 3.2
MFT Version                       : mft 4.28.0-92
```

3. Read the module BER

```
[root@localhost ~]# mlxlink -d mlx5_8 -c

Operational Info
-----
State                               : Active
Physical state                     : ETH_AN_FSM_ENABLE
Speed                             : 100G
Width                             : 4x
FEC                               : No FEC
Loopback Mode                     : No Loopback
Auto Negotiation                   : ON

Supported Info
-----
Enabled Link Speed (Ext.)          : 0x000007f2 (100G_2X,100G_4X,50G_1X,50G_2X,40G,25G,10G,1G)
Supported Cable Speed (Ext.)      : 0x00000200 (100G_4X)

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

Tool Information
-----
Firmware Version                  : 22.43.1014
amBER Version                     : 3.2
MFT Version                       : mft 4.28.0-92

Physical Counters and BER Info
-----
Time Since Last Clear [Min]       : 3.0
Effective Physical Errors         : 0
Effective Physical BER             : 15E-255
Raw Physical Errors Per Lane      : 0,0,0,0
Raw Physical BER                  : 15E-255
```

Test Conclusion

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

Remarks

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