QSFP-BIDI-100G

OPTICAL TRANSCEIVER MODULE

Scenario Application Test Report (Cisco)

CONTENTS

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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
#135557	QSFP-BIDI-100G	A2310220507

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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.

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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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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 24617892 kB of memory.
  Processor Board ID FDO221418Y5
  Device name: Cisco_C93180YC-EX
  bootflash:    7906304 kB

Kernel uptime is 1 day(s), 3 hour(s), 18 minute(s), 58 second(s)

Last reset at 927968 usecs after Tue May 20 05:54:12 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# show interface Eth1/54
Ethernet1/54 is up
admin state is up, Dedicated Interface
  Hardware: 1000/10000/25000/40000/50000/100000 Ethernet, address: 700f.6a4d.df8
4 (bia 700f.6a4d.df84)
  MTU 1500 bytes, BW 100000000 Kbit , DLY 10 usec
  reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, medium is broadcast
  Port mode is access
  full-duplex, 100 Gb/s, media type is 100G
  Beacon is turned off
  Auto-Negotiation is turned off  FEC mode is Off
  Input flow-control is off, output flow-control is off
  Auto-mdix is turned off
  Rate mode is dedicated
  Switchport monitor is off
  EtherType is 0x8100
  EEE (efficient-ethernet) : n/a
    admin fec state is off, oper fec state is off
  Last link flapped 00:47:36
  Last clearing of "show interface" counters never
  18 interface resets
  Load-Interval #1: 30 seconds
    30 seconds input rate 0 bits/sec, 0 packets/sec
    30 seconds output rate 0 bits/sec, 0 packets/sec
    input rate 0 bps, 0 pps; output rate 0 bps, 0 pps
  Load-Interval #2: 5 minute (300 seconds)
```

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Test Information

```
   300 seconds input rate 0 bits/sec, 0 packets/sec
   300 seconds output rate 0 bits/sec, 0 packets/sec
   input rate 0 bps, 0 pps; output rate 0 bps, 0 pps
 RX
   0 unicast packets  3820 multicast packets  0 broadcast packets
   3820 input packets  489620 bytes
   0 jumbo packets  0 storm suppression bytes
   0 runts  0 giants  0 CRC  0 no buffer
   0 input error  0 short frame  0 overrun   0 underrun  0 ignored
   0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
   0 input with dribble  0 input discard
   0 Rx pause
   0 Stomped CRC
 TX
   0 unicast packets  0 multicast packets  0 broadcast packets
   0 output packets  0 bytes
   0 jumbo packets
   0 output error  0 collision  0 deferred  0 late collision
   0 lost carrier  0 no carrier  0 babble  0 output discard
   0 Tx pause
```

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

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
```

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	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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