

SFP1G-ELX-31

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 Result Summary

Table 2-1: Test Result Summary

Test Items	Test Result
Muti-Version	Pass
Connectivity	Pass
Module Basic Information	Pass
Digital Diagnostic Monitoring	Pass

3. Test Equipment Used

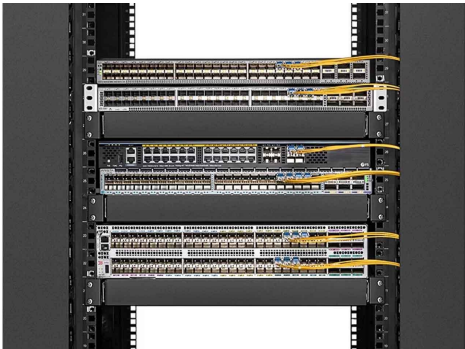
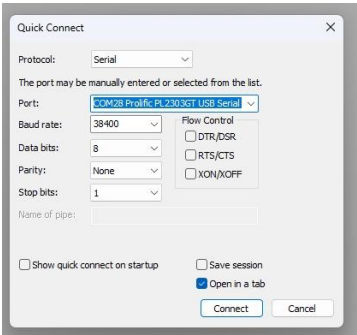
Table 3-1: Test Equipment Used

Vendor	Device	Soft Version/Compatible Brand	Serial Number
Cisco Switch	NCS540	7.3.1	/
FS Optical Transceiver Module	SFP1G-ELX-31	Cisco Compatible	A191000000026 A191000000027

4. Test Data

4.1 Test Scenario

Table 4-1: Test Scenario

Test Topology	Network topology :  Interoperability test scenario : 
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 optical 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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4.2 Test Result

Table 4-2: Test Result

Test Information	1. Read the switch model name and software version, and read the status of all ports on the switch <pre>RP/0/RP0/CPU0:ios#sh ver Fri Jun 16 03:10:54.221 UTC Cisco IOS XR Software, Version 7.3.1 Copyright (c) 2013-2021 by Cisco Systems, Inc. Build Information: Built By : ingunawa Built On : Thu Feb 25 19:57:12 PST 2021 Built Host : iox-ucs-021 Workspace : /auto/srcarchive17/prod/7.3.1/ncs540/ws Version : 7.3.1 Location : /opt/cisco/XR/packages/ Label : 7.3.1 cisco NCS-540 () processor System uptime is 1 day 20 hours 8 minutes</pre>
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RP/0/RP0/CPU0:ios#show int bri
Thu Jan 7 06:08:58.994 UTC

Intf Name	Intf State	LineP State	Encap Type (byte)	MTU	BW (Kbps)
Nu0	up	up	Null	1500	0
Gi0/0/0/1	up	up	ARPA	1514	10000000
Gi0/0/0/3	up	up	ARPA	1514	10000000
Te0/0/0/0	down	down	ARPA	1514	10000000
Te0/0/0/2	down	down	ARPA	1514	10000000
Te0/0/0/4	down	down	ARPA	1514	10000000
Te0/0/0/5	down	down	ARPA	1514	10000000
Te0/0/0/6	down	down	ARPA	1514	10000000
Te0/0/0/7	down	down	ARPA	1514	10000000
Te0/0/0/8	down	down	ARPA	1514	10000000
Te0/0/0/9	down	down	ARPA	1514	10000000
Te0/0/0/10	down	down	ARPA	1514	10000000
Te0/0/0/11	down	down	ARPA	1514	10000000
Te0/0/0/12	down	down	ARPA	1514	10000000
Te0/0/0/13	down	down	ARPA	1514	10000000
Te0/0/0/14	down	down	ARPA	1514	10000000
Te0/0/0/15	down	down	ARPA	1514	10000000
Te0/0/0/16	down	down	ARPA	1514	10000000
Te0/0/0/17	down	down	ARPA	1514	10000000
Te0/0/0/18	down	down	ARPA	1514	10000000
Te0/0/0/19	down	down	ARPA	1514	10000000
Te0/0/0/20	down	down	ARPA	1514	10000000
Te0/0/0/21	down	down	ARPA	1514	10000000
Te0/0/0/22	down	down	ARPA	1514	10000000
Te0/0/0/23	down	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
Hu0/0/1/0	admin-down	admin-down	ARPA	1514	100000000
Hu0/0/1/1	admin-down	admin-down	ARPA	1514	100000000
Mg0/RP0/CPU0/0	admin-down	admin-down	ARPA	1514	10000000

Test Information

Test Information	2. Read the module's basic information from the switch side <pre> Internal data for interface: GigabitEthernet0/0/0/1 Subport Number : 255 Port Number : 1 * Bay Number : 0 * Board Type : 0x60020209 * Port Type : 1GE * Bandwidth(Kbps) : 1000000 * Transport mode : LAN * BIA MAC addr : d46a:35c3:d404 Oper. MAC addr : d46a:35c3:d404 Egress MAC addr : d46a:35c3:d404 Port Available : true * Status polling is : disabled * Status events are : disabled I/F Handle : 0x00000238 * Cfg Link Enabled : enabled H/W Tx Enable : yes MTU : 1514 * H/W Speed : 1 Gbps * H/W Duplex : Full * H/W Loopback Type : None * FEC : Not Configured * H/W FlowCtrl Type : Disabled * H/W AutoNeg Enable : Off * H/W Link Defects : No Fault * Link Up : yes * Link Led Status : Green ON * Pluggable Present : Yes * Pluggable Type : SFP 1G 1000BASE-LX Pluggable PID : GLC-LH-SMD * Pluggable Compl. : Third Party Optics SFP EEPROM port: 1 Xcvr Type: SFP Xcvr Code: SFP 1G 1000BASE-LX Encoding: 8B10B Bit Rate: 1300 Mbps Link Reach 9u fiber (Km): 20000 meter Link Reach 9u fiber (100m): 20000 meter Vendor Name: FS Vendor OUI: 00.00.00 Vendor Part Number: SFP1G-LX-31 (rev.: A0) Laser wavelength: 1310 nm (fraction: 0.00 nm) Optional SFP Signal: Tx_Disable, Tx_Fault, LOS Vendor Serial Number: A1910000026 Date Code (yy/mm/dd): 19/02/20 lot code: Diagnostic Monitoring: DOM, Int. Cal., Enhanced Options: SW RX LOS Mon., SW TX Fault Mon, SW TX Disable, Alarm/Warning Flags </pre>
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Test Information

Internal data for interface: GigabitEthernet0/0/0/3

Subport Number : 255
 Port Number : 3 *
 Bay Number : 0 *
 Board Type : 0x60020209 *
 Port Type : 1GE *
 Bandwidth(Kbps) : 1000000 *
 Transport mode : LAN *
 BIA MAC addr : d46a:35c3:d40c
 Oper. MAC addr : d46a:35c3:d40c
 Egress MAC addr : d46a:35c3:d40c
 Port Available : true *
 Status polling is : disabled *
 Status events are : disabled
 I/F Handle : 0x00000248 *
 Cfg Link Enabled : enabled
 H/W Tx Enable : yes
 MTU : 1514 *
 H/W Speed : 1 Gbps *
 H/W Duplex : Full *
 H/W Loopback Type : None *
 FEC : Not Configured *
 H/W FlowCtrl Type : Disabled *
 H/W AutoNeg Enable : Off *
 H/W Link Defects : No Fault *
 Link Up : yes *
 Link Led Status : Green ON *
 Pluggable Present : Yes *
 Pluggable Type : SFP 1G 1000BASE-LX
 Pluggable PID : GLC-LH-SMD *
 Pluggable Compl. : Third Party Optics

SFP EEPROM port: 3

Xcvr Type: SFP
 Xcvr Code: SFP 1G 1000BASE-LX
 Encoding: 8B10B
 Bit Rate: 1300 Mbps
 Link Reach 9u fiber (Km): 20000 meter
 Link Reach 9u fiber (100m): 20000 meter
 Vendor Name: FS
 Vendor OUI: 00.00.00
 Vendor Part Number: SFP1G-LX-31 (rev.: A0)
 Laser wavelength: 1310 nm (fraction: 0.00 nm)
 Optional SFP Signal: Tx_Disable, Tx_Fault, LOS
 Vendor Serial Number: A1910000027
 Date Code (yy/mm/dd): 19/02/20 lot code:
 Diagnostic Monitoring: DOM, Int. Cal.,
 Enhanced Options: SW RX LOS Mon., SW TX Fault Mon, SW TX Disable, Alarm/Warning Flags

3. Read the DDM information of the module

```
RP/0/RP0/CPU0:ios# show controllers gigabitEth0/0/0/1
% Ambiguous command: " show controllers gigabitEth0/0/0/1"
RP/0/RP0/CPU0:ios# show controllers Gi0/0/0/1
Thu Jan 7 06:13:47.632 UTC
Operational data for interface GigabitEthernet0/0/0/1:
```

State:

```
Administrative state: enabled
Operational state: Up
LED state: Green On
```

Phy:

```
Media type: X fiber over long-wl laser PMD, full duplex
```

Optics:

```
Vendor: FS
Part number: SFP1G-LX-31
Serial number: A1910000026
Wavelength: 1310 nm
```

Digital Optical Monitoring:

```
Transceiver Temp: 26.000 C
Transceiver Voltage: 3.315 V
```

```
Alarms key: (H) Alarm high, (h) Warning high
             (L) Alarm low, (l) Warning low
```

	Wavelength	Tx Power	Rx Power	Laser Bias		
Lane	(nm)	(dBm)	(mW)	(dBm)		
		(mW)	(dBm)	(mW)		
0	n/a	-6.0	0.2498	-6.0	0.2533	22.410

```
DOM alarms:
No alarms
```

Alarm	Alarm	Warning	Warning	Alarm
Thresholds	High	High	Low	Low
Transceiver Temp (C):	90.000	80.000	-5.000	-15.000
Transceiver Voltage (V):	3.630	3.470	3.140	2.970
Laser Bias (mA):	90.000	80.000	2.000	1.000
Transmit Power (mW):	1.000	0.794	0.079	0.063
Transmit Power (dBm):	0.000	-1.002	-11.024	-12.007
Receive Power (mW):	0.794	0.630	0.004	0.003
Receive Power (dBm):	-1.002	-2.007	-23.979	-25.229

Statistics:

```
FEC:
Corrected Codeword Count: 0
Uncorrected Codeword Count: 0
```

Test Information

Test Information	Operational data for interface GigabitEthernet0/0/0/3:				
	State:				
	Administrative state: enabled				
	Operational state: Up				
	LED state: Green On				
	Phy:				
	Media type: X fiber over long-wl laser PMD, full duplex				
	Optics:				
	Vendor: FS				
	Part number: SFP1G-LX-31				
	Serial number: A1910000027				
	Wavelength: 1310 nm				
	Digital Optical Monitoring:				
	Transceiver Temp: 30.000 C				
	Transceiver Voltage: 3.328 V				
	Alarms key: (H) Alarm high, (h) Warning high				
	(L) Alarm low, (l) Warning low				
	Wavelength Tx Power Rx Power Laser Bias				
	Lane (nm) (dBm) (mW) (dBm) (mW) (mA)				
	-- -- -- -- --				
	0 n/a -5.6 0.2728 -9.2 0.1211 21.306				
	DOM alarms:				
	No alarms				
	Alarm Alarm Warning Warning Alarm				
	Thresholds High High Low Low				

	Transceiver Temp (C): 90.000 80.000 -5.000 -15.000				
	Transceiver Voltage (V): 3.630 3.470 3.140 2.970				
	Laser Bias (mA): 90.000 80.000 2.000 1.000				
	Transmit Power (mW): 1.000 0.794 0.079 0.063				
	Transmit Power (dBm): 0.000 -1.002 -11.024 -12.007				
	Receive Power (mW): 0.794 0.630 0.004 0.003				
	Receive Power (dBm): -1.002 -2.007 -23.979 -25.229				
	Statistics:				
	FEC:				
	Corrected Codeword Count: 0				
	Uncorrected Codeword Count: 0				
Test Conclusion	After completing the above test content, all the test information should be copied and pasted into a TXT document.				
Remarks					