



OPTICAL TRANSCEIVER TEST REPORT

Tested by: Doubt.Zheng | Date: 2022.12.24

1. Test Purpose

Test objects: SFP-10G-LR, Through the corresponding tests, the test parameters conform to the relevant industry standards, and the test transceivers can be used normally in Cisco brand equipment, laying the foundation for the subsequent cooperation with customers.

2. Test items

Test items		Test details
Compatibility Testing	Connectivity testing	The transceiver can connect both ends of the device normally, and the device port status is up.
	Parameter testing	The transceiver PN, VN, SN, and DDM information read by the device is consistent with the module tag description.

3. Test environment

3.1. Test samples

Vendor Name	Part Number	Serial Number	Transceiver Description
NADDOD	SFP-10G-LR	ACS22060700080	Cisco Compatible 10GBASE-LR SFP+1310nm 10km DOM LC SMF Transceiver Module
NADDOD	SFP-10G-LR	ACS22060700081	Cisco Compatible 10GBASE-LR SFP+1310nm 10km DOM LC SMF Transceiver Module

3.2. Test equipment

Equipment Brand	Equipment Model	Software version (running)
Cisco	Cisco Nexus N9K-C93180YC-EX	NX-OS:10.2.1(F)

4. Test data

4.1. Connectivity testing

Test Method	<ol style="list-style-type: none"> check whether the device status is normal.; Check whether the port device port LED is green; (individual brand port LED is yellow or white) check whether the device port is normally linked up;
-------------	--

	4. Check whether the device port rate is up to standard.														
Test Data	<pre> switch# show inventory NAME: "Chassis", DESCR: "Nexus9000 C93180YC-EX chassis" PID: N9K-C93180YC-EX , VID: V01 , SN: FDO21021SZV NAME: "Slot 1", DESCR: "48x10/25G + 6x40/100G Ethernet Module" PID: N9K-C93180YC-EX , VID: V01 , SN: FDO21021SZV NAME: "Power Supply 2", DESCR: "Nexus9000 C93180YC-EX chassis Power Supply" PID: NXA-PAC-650W-PE , VID: V01 , SN: LIT20140G26 NAME: "Fan 1", DESCR: "Nexus9000 C93180YC-EX chassis Fan Module" PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A NAME: "Fan 2", DESCR: "Nexus9000 C93180YC-EX chassis Fan Module" PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A NAME: "Fan 3", DESCR: "Nexus9000 C93180YC-EX chassis Fan Module" PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A NAME: "Fan 4", DESCR: "Nexus9000 C93180YC-EX chassis Fan Module" PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A switch# show interface status include connected mgmt0 -- connected routed full 1000 -- Eth1/25 -- connected routed full 10G 10Gbase-LR Eth1/27 -- connected 20 full 10G 10Gbase-LR </pre>														
Test Situation	<table border="1" style="width: 100%; text-align: center;"> <tr> <td colspan="3">SFP-10G-LR</td> </tr> <tr> <td>Port Number</td> <td>Eth1/25</td> <td>Eth1/27</td> </tr> <tr> <td>Port Status</td> <td>connected</td> <td>connected</td> </tr> <tr> <td>Port Link Rate</td> <td>10G</td> <td>10G</td> </tr> </table>			SFP-10G-LR			Port Number	Eth1/25	Eth1/27	Port Status	connected	connected	Port Link Rate	10G	10G
SFP-10G-LR															
Port Number	Eth1/25	Eth1/27													
Port Status	connected	connected													
Port Link Rate	10G	10G													
Test Conclusion	After testing, the above transceivers are normally connected on Cisco Nexus N9K-C93180YC-EX, the device port LEDs at both ends are always on white, the link is linkup.														
Remarks															

4.2. Parameter Testing

<p>Test Method</p>	<ol style="list-style-type: none"> check whether the basic information such as module manufacturer name, model name and serial number is correct. check whether the module transmission distance, wavelength, type and other key parameters are correct. check whether the module DDM parameters have exceeded the threshold value. 																																																							
<p>Test Data</p>	<p>Ethernet1/25</p> <p>transceiver is present type is 10Gbase-LR name is NADDOD part number is SFP-10G-LR revision is 00 serial number is ACS22060700080 nominal bitrate is 10300 MBit/sec Link length supported for 9/125um fiber is 10 km cisco id is 3 cisco extended id number is 4</p> <p style="text-align: center;">SFP Detail Diagnostics Information (internal calibration)</p> <p>-----</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Current</th> <th colspan="2">Alarms</th> <th colspan="2">Warnings</th> </tr> <tr> <th>Measurement</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th></th> </tr> </thead> <tbody> <tr> <td>Temperature</td> <td>38.01 C</td> <td>90.00 C</td> <td>-25.00 C</td> <td>85.00 C</td> <td>-20.00 C</td> <td></td> </tr> <tr> <td>Voltage</td> <td>3.31 V</td> <td>3.50 V</td> <td>3.10 V</td> <td>3.45 V</td> <td>3.15 V</td> <td></td> </tr> <tr> <td>Current</td> <td>34.00 mA</td> <td>90.00 mA</td> <td>1.00 mA</td> <td>80.00 mA</td> <td>2.00 mA</td> <td></td> </tr> <tr> <td>Tx Power</td> <td>-1.49 dBm</td> <td>0.99 dBm</td> <td>-8.01 dBm</td> <td>0.00 dBm</td> <td>-7.01 dBm</td> <td></td> </tr> <tr> <td>Rx Power</td> <td>-4.14 dBm</td> <td>0.99 dBm</td> <td>-15.08 dBm</td> <td>0.00 dBm</td> <td>-14.08 dBm</td> <td></td> </tr> <tr> <td colspan="7">Transmit Fault Count = 0</td> </tr> </tbody> </table> <p>-----</p> <p>Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning</p> <p>Ethernet1/27</p> <p>transceiver is present type is 10Gbase-LR name is NADDOD part number is SFP-10G-LR revision is 00 serial number is ACS22060700081 nominal bitrate is 10300 MBit/sec Link length supported for 9/125um fiber is 10 km cisco id is 3</p>		Current		Alarms		Warnings		Measurement	High	Low	High	Low		Temperature	38.01 C	90.00 C	-25.00 C	85.00 C	-20.00 C		Voltage	3.31 V	3.50 V	3.10 V	3.45 V	3.15 V		Current	34.00 mA	90.00 mA	1.00 mA	80.00 mA	2.00 mA		Tx Power	-1.49 dBm	0.99 dBm	-8.01 dBm	0.00 dBm	-7.01 dBm		Rx Power	-4.14 dBm	0.99 dBm	-15.08 dBm	0.00 dBm	-14.08 dBm		Transmit Fault Count = 0						
	Current		Alarms		Warnings																																																			
	Measurement	High	Low	High	Low																																																			
Temperature	38.01 C	90.00 C	-25.00 C	85.00 C	-20.00 C																																																			
Voltage	3.31 V	3.50 V	3.10 V	3.45 V	3.15 V																																																			
Current	34.00 mA	90.00 mA	1.00 mA	80.00 mA	2.00 mA																																																			
Tx Power	-1.49 dBm	0.99 dBm	-8.01 dBm	0.00 dBm	-7.01 dBm																																																			
Rx Power	-4.14 dBm	0.99 dBm	-15.08 dBm	0.00 dBm	-14.08 dBm																																																			
Transmit Fault Count = 0																																																								

	<p>cisco extended id number is 4</p> <p>SFP Detail Diagnostics Information (internal calibration)</p> <p>-----</p> <table border="1"> <thead> <tr> <th></th> <th>Current Measurement</th> <th>Alarms High</th> <th>Alarms Low</th> <th>Warnings High</th> <th>Warnings Low</th> </tr> </thead> <tbody> <tr> <td>Temperature</td> <td>43.05 C</td> <td>90.00 C</td> <td>-25.00 C</td> <td>85.00 C</td> <td>-20.00 C</td> </tr> <tr> <td>Voltage</td> <td>3.31 V</td> <td>3.50 V</td> <td>3.10 V</td> <td>3.45 V</td> <td>3.15 V</td> </tr> <tr> <td>Current</td> <td>36.50 mA</td> <td>90.00 mA</td> <td>1.00 mA</td> <td>80.00 mA</td> <td>2.00 mA</td> </tr> <tr> <td>Tx Power</td> <td>-3.57 dBm</td> <td>0.99 dBm</td> <td>-8.01 dBm</td> <td>0.00 dBm</td> <td>-7.01 dBm</td> </tr> <tr> <td>Rx Power</td> <td>-1.70 dBm</td> <td>0.99 dBm</td> <td>-15.08 dBm</td> <td>0.00 dBm</td> <td>-14.08 dBm</td> </tr> </tbody> </table> <p>Transmit Fault Count = 0</p> <p>-----</p> <p>Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning</p>						Current Measurement	Alarms High	Alarms Low	Warnings High	Warnings Low	Temperature	43.05 C	90.00 C	-25.00 C	85.00 C	-20.00 C	Voltage	3.31 V	3.50 V	3.10 V	3.45 V	3.15 V	Current	36.50 mA	90.00 mA	1.00 mA	80.00 mA	2.00 mA	Tx Power	-3.57 dBm	0.99 dBm	-8.01 dBm	0.00 dBm	-7.01 dBm	Rx Power	-1.70 dBm	0.99 dBm	-15.08 dBm	0.00 dBm	-14.08 dBm
	Current Measurement	Alarms High	Alarms Low	Warnings High	Warnings Low																																				
Temperature	43.05 C	90.00 C	-25.00 C	85.00 C	-20.00 C																																				
Voltage	3.31 V	3.50 V	3.10 V	3.45 V	3.15 V																																				
Current	36.50 mA	90.00 mA	1.00 mA	80.00 mA	2.00 mA																																				
Tx Power	-3.57 dBm	0.99 dBm	-8.01 dBm	0.00 dBm	-7.01 dBm																																				
Rx Power	-1.70 dBm	0.99 dBm	-15.08 dBm	0.00 dBm	-14.08 dBm																																				
Test situation	SFP-10G-LR																																								
	Vendor	NADDOD		NADDOD																																					
	Part Number	SFP-10G-LR		SFP-10G-LR																																					
	Serial Number	ACS22060700080		ACS22060700081																																					
	Wavelength	/		/																																					
	Link Length	10 km		10 km																																					
	Transceiver Type	10Gbase-LR		10Gbase-LR																																					
	DDM Alarm	NO		NO																																					
	DDM-Temp	38.01°C		43.05°C																																					
	DDM-Voltage	3.31V		3.31V																																					
	DDM-Tx Bias Current	34.00mA		36.50mA																																					
	DDM-Tx Power	-1.49dBm		-3.57dBm																																					
DDM-Rx Power	-4.14dBm		-1.70dBm																																						
Test Conclusion	After testing, the above Transceiver on Cisco Nexus N9K-C93180YC-EX vendor name, part number, serial number, DDM and other information is normally identified, the five DDM parameters do not exceed the level I and II thresholds, and the Transceiver operates normally.																																								
Remarks	1.Cisco Nexus series devices cannot read optical module bands.																																								

4.3. Stability testing

<p>Test Method</p>	<p>1. the transceiver is operated continuously for 6 days in a real environment. 2. To see if the transceiver has normal bandwidth on the equipment. 3. To see if the transceiver has normal latency on the equipment.</p>					
<p>Test Data</p>	<pre> *****lperf***** [ID] Interval Transfer Bitrate [5] 0.00-3600.02 sec 3.85 TBytes 9.41 Gbits/sec receiver *****lb_write_bw***** root@naddod-test2:/home/naddod# ib_write_bw ***** * Waiting for client to connect... * ***** ----- RDMA_Write BW Test Dual-port : OFF Device : mlx5_0 Number of qps : 1 Transport type : IB Connection type : RC Using SRQ : OFF PCIe relax order: ON ibv_wr* API : ON CQ Moderation : 1 Mtu : 1024[B] Link type : Ethernet GID index : 3 Max inline data : 0[B] rdma_cm QPs : OFF Data ex. method : Ethernet ----- local address: LID 0000 QPN 0x0087 PSN 0x3f9c6e RKey 0x1ffbae VAddr 0x007f9e54cb4000 GID: 00:00:00:00:00:00:00:00:00:00:255:255:10:10:10:20 remote address: LID 0000 QPN 0x0087 PSN 0xf9d8d0 RKey 0x1ffbae VAddr 0x007f22c75ba000 GID: 00:00:00:00:00:00:00:00:00:00:255:255:10:10:10:10 ----- #bytes #iterations BW peak[MB/sec] BW average[MB/sec] MsgRate[Mpps] 65536 5000 1106.82 1106.82 0.017709 ----- </pre>					
<p>Test Situation</p>	<p>/</p>	<table border="1"> <tr> <td colspan="2" data-bbox="682 1832 1436 1910">test tools</td> </tr> <tr> <td data-bbox="682 1910 1061 1989">lperf</td> <td data-bbox="1061 1910 1436 1989">lb_write_bw</td> </tr> </table>	test tools		lperf	lb_write_bw
test tools						
lperf	lb_write_bw					

	port number	Ethernet1/25	Ethernet1/27	Ethernet1/25	Ethernet1/27
	average bandwidth	9.41 Gbits/sec		1106.82MB/sec	
	Port count(tx)	4339241653 bytes	4441298333836 bytes	4339239825 bytes	4441298341769 bytes
	Port count(rx)	4441298004075 bytes	4338911956 bytes	4441298012876 5 bytes	4338912187 bytes
	Packet loss rate	0%		0%	
	error	0		0	
Test Conclusion	After testing, after the module runs continuously on the Cisco Nexus N9K-C93180YC-EX for one hour, the link is not interrupted during this period, the DDM parameters have no major changes, and the port count has no packet loss, no CRC, and no bit error.				
Remarks					

5. Appendix

5.1 Transceiver compatibility testing standards

On the basis of the threshold range, the allowed deviation value should be within the standard range specified by the industry protocol.

Content	Details	Standard
Basic Information	Part Number	The part number read by the device is the same as the Part Number on the label. (If there are special requirements, the actual information shall prevail)
	Serial Number	The serial number read by the device is the same as the serial number on the label. (If there is special requirement, the actual information shall prevail).
	Vendor	The vendor name information read is NADDOD. (If there are special requirements, the actual information shall prevail).
	Transceiver Type	Transceiver information read by the device is consistent with that specified on the actual optics protocol specification (SFF-8636/SFF-8024).
	Wavelength	Transceiver wavelength information read by the device is consistent with the module description.
	Link Length	Transceiver maximum transmission distance information read by the device is consistent with the module description.
DDM Information	Temp	1. The actual DDM information is within the DDM threshold and there are no alarms. 2. The DDM threshold range is in accordance with the module specification.
	Voltage	
	Tx Bias Current	
	Tx Power	

	Rx Power	
Port Information	Port Rate	The data rate information read on the switch port corresponds to the actual rate of the optics.
	Port Status	When the transceiver is connected, the port status information is UP.
	Switch Port LED Status	The port indicators on both ends of the transceiver will be green when the transceiver is connected.
	Port Count	No packet loss, no error code, no CRC, no other ERROR packets.
Device Log		The device does not have any transceiver warning message.

Further Information :

Web www.naddod.com

Email For order requirements: sales@naddod.com

For cooperation: agency@naddod.com

For customer service: support@naddod.com

For other informations: info@naddod.com

For technical support: tech@naddod.com

Disclaimer

1. We are committed to continuous product improvement and feature upgrades, and the contents contained in this manual are subject to change without notice.

2. Nothing herein should be construed as constituting an additional warranty.

3. NADDOD assumes no responsibility for the use or reliability of equipment or software not provided by NADDOD.

Copyright © NADDOD.COM All Rights Reserved, 2022