



OPTICAL TRANSCEIVER TEST REPORT

Tested by: Doubt.Zheng | Date: 2022.06.03

1. Test Purpose

Test objects: SFP-10G-U20-23, SFP-10G-D20-32, Through the corresponding tests, the test parameters conform to the relevant industry standards, and the test transceivers can be used normally in Extreme 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-U20-23	ACS22060700420	10GBASE-BX SFP+ BIDI TX-1270nm/RX-1330nm 20km DOM LC SMF Transceiver Module
NADDOD	SFP-10G-D20-32	ACS22060700430	10GBASE-BX SFP+ BIDI TX-1330nm/RX-1270nm 20km DOM LC SMF Transceiver Module

3.2. Test equipment

Equipment Brand	Equipment Model	Software version (running)
Cisco	N9K-C93180YC-EX	NXOS: version 9.2(3)

4. Test data

4.1. Connectivity testing

Test Method	- 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;
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4. Check whether the device port rate is up to standard.

Test Data

```
switch# sh inv
NAME: "Chassis", DESCR: "Nexus9000 93180YC-EX chassis"
PID: N9K-C93180YC-EX , VID: V01 , SN: FDO21192HKE

NAME: "Slot 1", DESCR: "48x10/25G + 6x40/100G Ethernet Module"
PID: N9K-C93180YC-EX , VID: V01 , SN: FDO21192HKE

NAME: "Power Supply 1", DESCR: "Nexus9000 93180YC-EX chassis Power Supply"
PID: NXA-PAC-650W-PE , VID: V02 , SN: LIT21182CKL

NAME: "Power Supply 2", DESCR: "Nexus9000 93180YC-EX chassis Power Supply"
PID: NXA-PAC-650W-PE , VID: V02 , SN: LIT21182G55

NAME: "Fan 1", DESCR: "Nexus9000 93180YC-EX chassis Fan Module"
PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A

NAME: "Fan 2", DESCR: "Nexus9000 93180YC-EX chassis Fan Module"
PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A

NAME: "Fan 3", DESCR: "Nexus9000 93180YC-EX chassis Fan Module"
PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A

NAME: "Fan 4", DESCR: "Nexus9000 93180YC-EX chassis Fan Module"
PID: NXA-FAN-30CFM-F , VID: V01 , SN: N/A
```

```
switch# 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	routed	auto	auto	--
Eth1/16	--	xcvrAbsen	routed	auto	auto	--
Eth1/17	--	xcvrAbsen	routed	auto	auto	--
Eth1/18	--	connected	routed	full	10G	SFP-10G-BXU

	-I Eth1/19 -- connected routed full 10G SFP-10G-BXU Eth1/20 -- xcvrAbsen routed auto auto --					
Test Situation	Equipment model	N9K-C93180YC-EX				
	Port Number	Eth1/18		Eth1/19		
	Port Status	connected		connected		
	Port Link Rate	10G		10G		
Test Conclusion	After testing, the above transceivers are normally connected on N9K-C93180YC-EX, the device port LEDs at both ends are always on white, the link is linkup.					
Remarks						

4.2. Parameter Testing

Test Method	1. check whether the basic information such as module manufacturer name, model name and serial number is correct. 2. check whether the module transmission distance, wavelength, type and other key parameters are correct. 3. check whether the module DDM parameters have exceeded the threshold value.
Test Data	<pre> switch# show interface eth1/18 transceiver details Ethernet1/18 transceiver is present type is SFP-10G-BXU-I name is NADDOD part number is SFP-10G-U20-23 revision is -- serial number is ACS22060700420 nominal bitrate is 10300 MBit/sec Link length supported for 9/125um fiber is 20 km cisco id is 3 cisco extended id number is 4 SFP Detail Diagnostics Information (internal calibration) ----- Current Alarms Warnings Measurement High Low High Low ----- Temperature 38.41 C 80.00 C -5.00 C 75.00 C 0.00 C </pre>

	Voltage 3.31 V 3.59 V 3.00 V 3.50 V 3.09 V Current 35.25 mA 90.00 mA 5.00 mA 85.00 mA 10.00 mA Tx Power -1.10 dBm 1.49 dBm -9.20 dBm 0.49 dBm -8.21 dBm Rx Power -1.32 dBm 0.00 dBm -15.08 dBm -1.00 dBm -14.08 dBm Transmit Fault Count = 0 ----- Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning																																												
	switch# show interface eth1/19 transceiver details Ethernet1/19 transceiver is present type is SFP-10G-BXD-I name is NADDOD part number is SFP-10G-D20-32 revision is -- serial number is ACS22060700430 nominal bitrate is 10300 MBit/sec Link length supported for 9/125um fiber is 20 km cisco id is 3 cisco extended id number is 4 SFP Detail Diagnostics Information (internal calibration) ----- <table><tr><th rowspan="2"></th><th>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></tr><tr><td>Temperature</td><td>34.63 C</td><td>80.00 C</td><td>-5.00 C</td><td>75.00 C</td><td>0.00 C</td></tr><tr><td>Voltage</td><td>3.31 V</td><td>3.59 V</td><td>3.00 V</td><td>3.50 V</td><td>3.09 V</td></tr><tr><td>Current</td><td>34.50 mA</td><td>90.00 mA</td><td>5.00 mA</td><td>85.00 mA</td><td>10.00 mA</td></tr><tr><td>Tx Power</td><td>-1.56 dBm</td><td>1.49 dBm</td><td>-9.20 dBm</td><td>0.49 dBm</td><td>-8.21 dBm</td></tr><tr><td>Rx Power</td><td>-1.75 dBm</td><td>0.00 dBm</td><td>-15.08 dBm</td><td>-1.00 dBm</td><td>-14.08 dBm</td></tr></table> Transmit Fault Count = 0 ----- Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning						Current	Alarms		Warnings		Measurement	High	Low	High	Low	Temperature	34.63 C	80.00 C	-5.00 C	75.00 C	0.00 C	Voltage	3.31 V	3.59 V	3.00 V	3.50 V	3.09 V	Current	34.50 mA	90.00 mA	5.00 mA	85.00 mA	10.00 mA	Tx Power	-1.56 dBm	1.49 dBm	-9.20 dBm	0.49 dBm	-8.21 dBm	Rx Power	-1.75 dBm	0.00 dBm	-15.08 dBm	-1.00 dBm
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Test situation	SFP-10G-U20-23/SFP-10G-D20-32																																												
	Vendor	NADDOD		NADDOD																																									
	Part Number	SFP-10G-U20-23		SFP-10G-D20-32																																									
	Serial Number	ACS22060700420		ACS22060700430																																									
	Wavelength	1270nm		1330nm																																									

	Link Length	20km	20km
	Transceiver Type	10Gbase-LR	10Gbase-LR
	DDM Alarm	NO	NO
	DDM-Temp	38.41℃	34.63℃
	DDM-Voltage	3.31V	3.31V
	DDM-Tx Bias Current	35.25mA	34.50mA
	DDM-Tx Power	-1.10dBm	-1.56dBm
	DDM-Rx Power	-1.32dBm	-1.75dBm
Test Conclusion	After testing, the above Transceiver on 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	\		

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

	Voltage	alarms.
	Tx Bias Current	2. The DDM threshold range is in accordance with the module specification.
	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 :

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