OPTICAL TRANSCEIVER TEST REPORT

Tested by: Doubt.Zheng | Date: 2022.06.03

1. Test Purpose

Test objects: SFP-1G-U80-45, SFP-1G-D80-54,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-1G-U80-45	ACS22060700380	1000BASE-BX SFP BIDI TX-1490nm/RX-1550nm 80km DOM LC SMF Transceiver Module
NADDOD	SFP-1G-D80-54	ACS22060700390	1000BASE-BX SFP BIDI TX-1550nm/RX-1490nm 80km 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	1. check whether the device status is normal.； 2. Check whether the port device port LED is green; (individual brand port LED is yellow or white) 3. check whether the device port is normally linked up；

	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# sh int eth 1/8-10 stat -- Port Name Status Vlan Duplex Speed Type -- Eth1/8 -- connected routed full 1000 SFP-1000BX-10-U Eth1/9 -- xcvrAbsen routed auto auto -- Eth1/10 -- connected routed full 1000 SFP-1000BX-10-D

Test Situation	Equipment model	N9K-C93180YC-EX	
	Port Number	Eth1/8	Eth1/10

Port Status	connected	connected
Port Link Rate	1000	1000

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	switch# sh int eth 1/8-10 tran det
	Ethernet1/8
	    transceiver is present
	    type is SFP-1000BX-10-U
	    name is NADDOD
	    part number is SFP-1G-U80-45
	    revision is A0
	    serial number is ACS22060700380
	    nominal bitrate is 1300 MBit/sec
	    Link length supported for 9/125um fiber is 80 km
	    cisco id is 3
	    cisco extended id number is 4

```
switch#     sh int eth 1/8-10 tran det
Ethernet1/8
    transceiver is present
    type is SFP-1000BX-10-U
    name is NADDOD
    part number is SFP-1G-U80-45
    revision is A0
    serial number is ACS22060700380
    nominal bitrate is 1300 MBit/sec
    Link length supported for 9/125um fiber is 80 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  28.83 C     90.00 C   -45.00 C   85.00 C    -40.00 C
  Voltage       3.31 V      3.59 V    3.00 V    3.50 V      3.09 V
  Current      17.40 mA    90.00 mA   1.00 mA   85.00 mA    2.00 mA
  Tx Power     -5.95 dBm   -1.99 dBm -10.00 dBm -3.00 dBm   -9.03 dBm
  Rx Power     -6.94 dBm   -1.99 dBm -26.98 dBm -3.00 dBm  -25.22 dBm
  Transmit Fault Count = 0
  ------------------------------------------------------------------------
  Note: ++  high-alarm; +  high-warning; --  low-alarm; -  low-warning

Ethernet1/9
    transceiver is not present
```

```
Ethernet1/10
      transceiver is present
      type is SFP-1000BX-10-D
      name is NADDOD
      part number is SFP-1G-D80-54
      revision is A0
      serial number is ACS22060700390
      nominal bitrate is 1300 MBit/sec
      Link length supported for 9/125um fiber is 80 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    31.20 C       90.00 C     -45.00 C     85.00 C      -40.00 C
Voltage        3.33 V        3.59 V      3.00 V       3.50 V       3.09 V
Current        19.45 mA      90.00 mA    1.00 mA      85.00 mA     2.00 mA
Tx Power       -6.65 dBm     -1.99 dBm   -10.00 dBm   -3.00 dBm    -9.03 dBm
Rx Power       -7.07 dBm     -1.99 dBm   -26.98 dBm   -3.00 dBm    -25.22 dBm
Transmit Fault Count = 0
-------------------------------------------------------------------------
Note: ++   high-alarm; +   high-warning; --   low-alarm; -   low-warning
```

		SFP-1G-U80-45/ SFP-1G-D80-54	
Test situation	Vendor	NADDOD	NADDOD
	Part Number	SFP-1G-U80-45	SFP-1G-D80-54
	Serial Number	ACS22060700380	ACS22060700390
	Wavelength	1310nm	1550nm
	Link Length	80km	80km
	Transceiver Type	SFP-1000BX-10-U	SFP-1000BX-10-D
	DDM Alarm	NO	NO
	DDM-Temp	28.83℃	31.20℃

	DDM-Voltage	3.31V	3.33V
	DDM-Tx Bias Current	17.40mA	19.45mA
	DDM-Tx Power	-5.95dBm	-6.65dBm
	DDM-Rx Power	-6.94dBm	-7.07dBm
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 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.

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