



OPTICAL TRANSCEIVER TEST REPORT

Tested by: Jessica.Yang | Date: 2022.06.03

1. Test Purpose

Test objects: QSFP-100G-PSM4, 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	QSFP-100G-PSM4	ACS22060700220	100GBASE-PSM4 QSFP28 100G 1310nm 2km DOM MPO/MTP SMF Transceiver Module
NADDOD	QSFP-100G-PSM4	ACS22060700221	100GBASE-PSM4 QSFP28 100G 1310nm 2km DOM MPO/MTP SMF Transceiver Module

3.2. Test equipment

Equipment Brand	Equipment Model	Software version (running)
Cisco	Cisco Nexus 93180YC-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	<pre> switch# show inventory 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 -- Eth1/3 -- xcvrAbsen routed auto auto -- Eth1/4 -- xcvrAbsen routed auto auto -- Eth1/5 -- xcvrAbsen routed auto auto -- Eth1/6 -- xcvrAbsen routed auto auto -- </pre>

	Eth1/7	--	xcvrAbsen routed	auto	auto	--
	Eth1/8	--	xcvrAbsen routed	auto	auto	--
	Eth1/9	--	xcvrAbsen routed	auto	auto	--
	Eth1/10	--	xcvrAbsen routed	auto	auto	--
	Eth1/11	--	xcvrAbsen routed	auto	auto	--
	Eth1/12	--	xcvrAbsen routed	auto	auto	--
	Eth1/13	--	xcvrAbsen routed	auto	auto	--
	Eth1/14	--	xcvrAbsen routed	auto	auto	--
	Eth1/15	--	xcvrAbsen routed	auto	auto	--
	Eth1/16	--	xcvrAbsen routed	auto	auto	--
	Eth1/17	--	xcvrAbsen routed	auto	auto	--
	Eth1/18	--	xcvrAbsen routed	auto	auto	--
	Eth1/19	--	xcvrAbsen routed	auto	auto	--
	Eth1/20	--	xcvrAbsen routed	auto	auto	--
	Eth1/21	--	xcvrAbsen routed	auto	auto	--
	Eth1/22	--	xcvrAbsen routed	auto	auto	--
	Eth1/23	--	xcvrAbsen routed	auto	auto	--
	Eth1/24	--	xcvrAbsen routed	auto	auto	--
	Eth1/25	--	xcvrAbsen routed	auto	auto	--
	Eth1/26	--	xcvrAbsen routed	auto	auto	--
	Eth1/27	--	xcvrAbsen routed	auto	auto	--
	Eth1/28	--	xcvrAbsen routed	auto	auto	--
	Eth1/29	--	xcvrAbsen routed	auto	auto	--
	Eth1/30	--	xcvrAbsen routed	auto	auto	--
	Eth1/31	--	xcvrAbsen routed	auto	auto	--
	Eth1/32	--	xcvrAbsen routed	auto	auto	--
	Eth1/33	--	xcvrAbsen routed	auto	auto	--
	Eth1/34	--	xcvrAbsen routed	auto	auto	--
	Eth1/35	--	xcvrAbsen routed	auto	auto	--
	Eth1/36	--	xcvrAbsen routed	auto	auto	--
	Eth1/37	--	xcvrAbsen routed	auto	auto	--
	Eth1/38	--	xcvrAbsen routed	auto	auto	--
	Eth1/39	--	xcvrAbsen routed	auto	auto	--
	Eth1/40	--	xcvrAbsen routed	auto	auto	--
	Eth1/41	--	xcvrAbsen routed	auto	auto	--
	Eth1/42	--	xcvrAbsen routed	auto	auto	--
	Eth1/43	--	xcvrAbsen routed	auto	auto	--
	Eth1/44	--	xcvrAbsen routed	auto	auto	--
	Eth1/45	--	xcvrAbsen routed	auto	auto	--
	Eth1/46	--	xcvrAbsen routed	auto	auto	--
	Eth1/47	--	xcvrAbsen routed	auto	auto	--
	Eth1/48	--	xcvrAbsen routed	auto	auto	--
	Eth1/49	--	xcvrAbsen routed	auto	auto	--
	Eth1/50	--	xcvrAbsen routed	auto	auto	--
	Eth1/51	--	xcvrAbsen routed	auto	auto	--

	Eth1/52	--	xcvrAbsen		routed	auto	auto	--	
	Eth1/53	--	connected		routed	full	100G	QSFP-100G-P	
	SM4								
	Eth1/54	--	connected		routed	full	100G	QSFP-100G-P	
	SM4								
	Vlan1	--	down	routed	auto	auto	--		
Test Situation	QSFP-100G-PSM4								
	Port Number		Eth1/53			Eth1/54			
	Port Status		connected			connected			
	Port Link Rate		100G			100G			
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# show interface eth1/53 transceiver details Ethernet1/53 transceiver is present type is QSFP-100G-PSM4 name is NADDOD part number is QSFP-100G-PSM4 revision is 01 serial number is ACS22060700220 nominal bitrate is 25500 MBit/sec per channel Link length supported for 9/125um fiber is 2 km cisco id is 17 cisco extended id number is 206 Lane Number:1 Network Lane SFP Detail Diagnostics Information (internal calibration) ----- Current Alarms Warnings Measurement High Low High Low

Temperature	38.00 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.5 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	36.28 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	1.81 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	1.91 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Lane Number:2 Network Lane

SFP Detail Diagnostics Information (internal calibration)

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	38.00 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.5 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	37.18 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	1.88 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	1.23 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Lane Number:3 Network Lane

SFP Detail Diagnostics Information (internal calibration)

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	38.00 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.5 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	35.65 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	2.13 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	1.85 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Lane Number:4 Network Lane

SFP Detail Diagnostics Information (internal calibration)

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low

Temperature	38.00 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.5 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	37.33 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	2.65 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	2.13 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

switch# show interface eth1/54 transceiver details

Ethernet1/54

transceiver is present
type is QSFP-100G-PSM4
name is NADDOD
part number is QSFP-100G-PSM4
revision is 01
serial number is ACS22060700221
nominal bitrate is 25500 MBit/sec per channel
Link length supported for 9/125um fiber is 2 km
cisco id is 17
cisco extended id number is 206

Lane Number:1 Network Lane

SFP Detail Diagnostics Information (internal calibration)

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	37.19 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.26 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	37.27 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	2.10 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	1.84 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Lane Number:2 Network Lane

SFP Detail Diagnostics Information (internal calibration)

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low

Temperature	37.19 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.26 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	37.27 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	2.15 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	2.16 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Lane Number:3 Network Lane

SFP Detail Diagnostics Information (internal calibration)

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	37.19 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.26 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	35.11 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	2.24 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	1.71 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Lane Number:4 Network Lane

SFP Detail Diagnostics Information (internal calibration)

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	37.19 C	78.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.26 V	3.70 V	2.90 V	3.59 V	3.00 V
Current	37.27 mA	115.00 mA	20.00 mA	110.00 mA	24.99 mA
Tx Power	2.70 dBm	4.99 dBm	-6.00 dBm	4.49 dBm	-5.00 dBm
Rx Power	1.91 dBm	4.99 dBm	-20.00 dBm	4.49 dBm	-15.08 dBm

Transmit Fault Count = 0

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Test
situation

QSFP-100G-PSM4

Vendor

NADDOD

NADDOD

Part Number	QSFP-100G-PSM4	QSFP-100G-PSM4
Serial Number	ACS22060700220	ACS22060700221
Wavelength	1330nm	1330nm
Link Length	2km	2km
Transceiver Type	QSFP-100G-PSM4	QSFP-100G-PSM4
DDM Alarm	NO	NO
DDM-Temp	38.00℃	37.19℃
DDM-Voltage	3.5V	3.26V
DDM-Tx Bias Current	36.28mA, 37.18mA, 35.65mA, 37.33mA	37.27mA, 37.27mA, 35.11mA, 37.27mA
DDM-Tx Power	1.81dBm, 1.88dBm, 1.85dBm, 2.65dBm	2.10dBm, 2.15dBm, 2.24dBm, 2.70dBm
DDM-Rx Power	1.91dBm, 1.23dBm, 1.85dBm, 2.13dBm	1.84dBm, 2.16dBm, 1.71dBm, 1.91dBm
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	选填	

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 :

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