



OPTICAL TRANSCEIVER TEST REPORT

Tested by: Betty | Date: 2022.10.10

1. Test Purpose

Test objects: Q2Q56-400G-CU1, 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	Q2Q56-400G-C U1	ACS22060700 600	1m (3ft) 400G QSFP-DD to 2X200G QSFP56 Passive Direct Attach Copper Breakout Cable 28AWG

3.2. Test equipment

Equipment Brand	Equipment Model	Software version (running)
Cisco	Cisco N9K-C9316D-GX	BIOS: version 05.39 NXOS: version 9.3(3)

4. Test data

4.1. Connectivity testing

<p>Test Method</p>	<ol style="list-style-type: none"> 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.
<p>Test Data</p>	<pre> 9316D-GX# show inventory NAME: "Chassis", DESCR: "Nexus9000 N9K-C9316D-GX Chassis" PID: N9K-C9316D-GX , VID: V01 , SN: FDO23430E7Z NAME: "Slot 1", DESCR: "16x400G/100G/40G QSFP-DD Ethernet Module" PID: N9K-C9316D-GX , VID: V01 , SN: FDO23430E7Z NAME: "Power Supply 1", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Power Supply" PID: NXA-PAC-1100W-PE2 , VID: V03 , SN: ART2413FBNV NAME: "Power Supply 2", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Power Supply" PID: NXA-PAC-1100W-PE2 , VID: V03 , SN: ART2413FBP3 NAME: "Fan 1", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Fan Module" PID: NXA-FAN-35CFM-PE , VID: V01 , SN: N/A NAME: "Fan 2", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Fan Module" PID: NXA-FAN-35CFM-PE , VID: V01 , SN: N/A NAME: "Fan 3", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Fan Module" PID: NXA-FAN-35CFM-PE , VID: V01 , SN: N/A NAME: "Fan 4", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Fan Module" PID: NXA-FAN-35CFM-PE , VID: V01 , SN: N/A NAME: "Fan 5", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Fan Module" PID: NXA-FAN-35CFM-PE , VID: V01 , SN: N/A NAME: "Fan 6", DESCR: "Nexus9000 N9K-C9316D-GX Chassis Fan Module" PID: NXA-FAN-35CFM-PE , VID: V01 , SN: N/A 9316D-GX(config)# show interface status ----- ----- Port Name Status Vlan Duplex Speed Type ----- </pre>

mgmt0 -- notconnec routed auto auto --				

Port Name Status Vlan Duplex Speed Type				

Eth1/1 -- connected 1 full 200G QSFP-100G-P				
CC				
Eth1/2 -- xcvrAbsen 1 auto auto --				
Eth1/3 -- xcvrAbsen 1 auto auto --				
Eth1/4/1 -- connected 1 full 200G --				
Eth1/4/2 -- connected 1 full 200G --				
Eth1/5 -- connected 1 full 200G QSFP-100G-P				
CC				
Eth1/6 -- xcvrAbsen 1 auto auto --				
Eth1/7 -- xcvrAbsen 1 auto auto --				
Eth1/8 -- xcvrAbsen 1 auto auto --				
Eth1/9 -- xcvrAbsen 1 auto auto --				
Eth1/10 -- xcvrAbsen 1 auto auto --				
Eth1/11 -- xcvrAbsen 1 auto auto --				
Eth1/12 -- xcvrAbsen 1 auto auto --				
Eth1/13 -- xcvrAbsen 1 auto auto --				
Eth1/14 -- xcvrAbsen 1 auto auto --				
Eth1/15 -- xcvrAbsen 1 auto auto --				
Eth1/16 -- xcvrAbsen 1 auto auto --				
Eth1/1, Eth1/5 are split ports, Eth1/4 is combined ports				
Test Situation	Q2Q56-400G-CU1			
	Port Number	Port 1	Port 5	Port 4
	Port Status	active	active	active
	Port Link Rate	200G	200G	400G
Test Conclusion	After testing, the above transceivers are normally connected on Cisco N9K-C9316D-GX, the device port LEDs at both ends are always on green, the link is linkup.			
Remarks				

4.2. Parameter Testing

<p>Test Method</p>	<ol style="list-style-type: none"> 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.
<p>Test Data</p>	<pre> Port : 1 9316D-GX# show interface ethernet 1/1 transceiver details Ethernet1/1 transceiver is present type is QSFP-100G-PCC name is NADDOD part number is Q2Q56-400G-CU1 revision is A0 serial number is ACS22060700600-1 nominal bitrate is 25500 MBit/sec Link length supported for 62.5/125um fiber is 29 m Link length supported for copper is 1 m cisco id is 17 cisco extended id number is 0 DOM is not supported 9316D-GX# show interface ethernet 1/1 Ethernet1/1 is up admin state is up, Dedicated Interface Hardware: 10000/25000/40000/50000/100000/200000/400000 Ethernet, address: 4c71 .Od56.04b0 (bia 4c71.0d56.04b0) MTU 1500 bytes, BW 200000000 Kbit , DLY 10 usec reliability 255/255, txload 1/255, rxload 1/255 Encapsulation ARPA, medium is broadcast Port mode is access full-duplex, 200 Gb/s, media type is 100G Beacon is turned off Auto-Negotiation is turned off FEC mode is Auto Input flow-control is off, output flow-control is off Auto-mdix is turned off Rate mode is dedicated Switchport monitor is off EtherType is 0x8100 </pre>

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EEE (efficient-ethernet) : n/a
  admin fec state is auto, oper fec state is off
Last link flapped 00:04:23
Last clearing of "show interface" counters never
2 interface resets
Load-Interval #1: 30 seconds
  30 seconds input rate 128 bits/sec, 0 packets/sec
  30 seconds output rate 248 bits/sec, 0 packets/sec
  input rate 128 bps, 0 pps; output rate 248 bps, 0 pps
Load-Interval #2: 5 minute (300 seconds)
  300 seconds input rate 16 bits/sec, 0 packets/sec
  300 seconds output rate 72 bits/sec, 0 packets/sec
  input rate 16 bps, 0 pps; output rate 72 bps, 0 pps
RX
  0 unicast packets 12 multicast packets 0 broadcast packets
  12 input packets 2678 bytes
  0 jumbo packets 0 storm suppression bytes
  0 runts 0 giants 0 CRC 0 no buffer
  0 input error 0 short frame 0 overrun 0 underrun 0 ignored
  0 watchdog 0 bad etype drop 0 bad proto drop 0 if down drop
  0 input with dribble 0 input discard
  0 Rx pause
TX
  0 unicast packets 179 multicast packets 0 broadcast packets
  179 output packets 13346 bytes
  0 jumbo packets
  0 output error 0 collision 0 deferred 0 late collision
  0 lost carrier 0 no carrier 0 babble 0 output discard
  0 Tx pause

Port : 5

9316D-GX# show interface ethernet 1/5 transceiver details
Ethernet1/5
  transceiver is present
  type is QSFP-100G-PCC
  name is NADDOD
  part number is Q2Q56-400G-CU1
  revision is A0
  serial number is ACS22060700600-2
  nominal bitrate is 25500 MBit/sec
  Link length supported for 62.5/125um fiber is 29 m
  Link length supported for copper is 1 m
  cisco id is 17
  cisco extended id number is 0

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DOM is not supported

9316D-GX# show interface ethernet 1/5

Ethernet1/5 is up

admin state is up, Dedicated Interface

Hardware: 10000/25000/40000/50000/100000/200000/400000 Ethernet, address: 4c71.0d56.04d0 (bia 4c71.0d56.04d0)

MTU 1500 bytes, BW 200000000 Kbit , DLY 10 usec

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, medium is broadcast

Port mode is access

full-duplex, 200 Gb/s, media type is 100G

Beacon is turned off

Auto-Negotiation is turned off FEC mode is Auto

Input flow-control is off, output flow-control is off

Auto-mdix is turned off

Rate mode is dedicated

Switchport monitor is off

EtherType is 0x8100

EEE (efficient-ethernet) : n/a

admin fec state is auto, oper fec state is off

Last link flapped 00:08:49

Last clearing of "show interface" counters never

2 interface resets

Load-Interval #1: 30 seconds

30 seconds input rate 248 bits/sec, 0 packets/sec

30 seconds output rate 0 bits/sec, 0 packets/sec

input rate 248 bps, 0 pps; output rate 0 bps, 0 pps

Load-Interval #2: 5 minute (300 seconds)

300 seconds input rate 240 bits/sec, 0 packets/sec

300 seconds output rate 32 bits/sec, 0 packets/sec

input rate 240 bps, 0 pps; output rate 32 bps, 0 pps

RX

0 unicast packets 319 multicast packets 0 broadcast packets

319 input packets 23090 bytes

0 jumbo packets 0 storm suppression bytes

0 runts 0 giants 0 CRC 0 no buffer

0 input error 0 short frame 0 overrun 0 underrun 0 ignored

0 watchdog 0 bad etype drop 0 bad proto drop 0 if down drop

0 input with dribble 0 input discard

0 Rx pause

TX

0 unicast packets 14 multicast packets 0 broadcast packets

14 output packets 3353 bytes

O jumbo packets
 O output error O collision O deferred O late collision
 O lost carrier O no carrier O babble O output discard
 O Tx pause

Port : 4

9316D-GX# show interface ethernet 1/4/1

Ethernet1/4/1 is up

admin state is up, Dedicated Interface

Hardware: Ethernet, address: 4c71.0d56.04c8 (bia 4c71.0d56.04c8)

MTU 1500 bytes, BW 200000000 Kbit , DLY 10 usec

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, medium is broadcast

Port mode is access

full-duplex, 200 Gb/s, media type is 400g

Beacon is turned off

Auto-Negotiation is turned on FEC mode is Auto

Input flow-control is off, output flow-control is off

Auto-mdix is turned off

Rate mode is dedicated

Switchport monitor is off

EtherType is 0x8100

EEE (efficient-ethernet) : n/a

admin fec state is auto, oper fec state is Kp-fec

Last link flapped 00:09:32

Last clearing of "show interface" counters never

2 interface resets

Load-Interval #1: 30 seconds

30 seconds input rate 280 bits/sec, 0 packets/sec

30 seconds output rate 504 bits/sec, 0 packets/sec

input rate 280 bps, 0 pps; output rate 504 bps, 0 pps

Load-Interval #2: 5 minute (300 seconds)

300 seconds input rate 240 bits/sec, 0 packets/sec

300 seconds output rate 32 bits/sec, 0 packets/sec

input rate 240 bps, 0 pps; output rate 32 bps, 0 pps

RX

O unicast packets 339 multicast packets O broadcast packets

339 input packets 24531 bytes

O jumbo packets O storm suppression bytes

O runts O giants O CRC O no buffer

O input error O short frame O overrun O underrun O ignored

O watchdog O bad etype drop O bad proto drop O if down drop

O input with dribble O input discard

O Rx pause

TX

0 unicast packets 18 multicast packets 0 broadcast packets
 18 output packets 4208 bytes
 0 jumbo packets
 0 output error 0 collision 0 deferred 0 late collision
 0 lost carrier 0 no carrier 0 babble 0 output discard
 0 Tx pause

9316D-GX# show interface ethernet 1/4/2

Ethernet1/4/2 is up

admin state is up, Dedicated Interface

Hardware: 10000/25000/40000/100000 Ethernet, address: 4c71.0d56.04c9 (bia 4c71.0d56.04c9)

MTU 1500 bytes, BW 200000000 Kbit , DLY 10 usec

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, medium is broadcast

Port mode is access

full-duplex, 200 Gb/s, media type is 400g

Beacon is turned off

Auto-Negotiation is turned off FEC mode is Auto

Input flow-control is off, output flow-control is off

Auto-mdix is turned off

Rate mode is dedicated

Switchport monitor is off

EtherType is 0x8100

EEE (efficient-ethernet) : n/a

admin fec state is auto, oper fec state is Kp-fec

Last link flapped 00:14:13

Last clearing of "show interface" counters never

2 interface resets

Load-Interval #1: 30 seconds

30 seconds input rate 128 bits/sec, 0 packets/sec

30 seconds output rate 288 bits/sec, 0 packets/sec

input rate 128 bps, 0 pps; output rate 288 bps, 0 pps

Load-Interval #2: 5 minute (300 seconds)

300 seconds input rate 32 bits/sec, 0 packets/sec

300 seconds output rate 248 bits/sec, 0 packets/sec

input rate 32 bps, 0 pps; output rate 248 bps, 0 pps

RX

0 unicast packets 19 multicast packets 0 broadcast packets

19 input packets 4618 bytes

0 jumbo packets 0 storm suppression bytes

0 runts 0 giants 0 CRC 0 no buffer

0 input error 0 short frame 0 overrun 0 underrun 0 ignored

0 watchdog 0 bad etype drop 0 bad proto drop 0 if down drop

	<ul style="list-style-type: none"> ○ input with dribble ○ input discard ○ Rx pause TX ○ unicast packets 487 multicast packets ○ broadcast packets 487 output packets 34988 bytes ○ jumbo packets ○ output error ○ collision ○ deferred ○ late collision ○ lost carrier ○ no carrier ○ babble ○ output discard ○ Tx pause 			
Test situation	Q2Q56-400G-CU1			
	Vendor	NADDOD	NADDOD	NADDOD
	Part Number	Q2Q56-400G-CU1	Q2Q56-400G-CU1	Q2Q56-400G-CU1
	Serial Number	ACS22060700600	ACS22060700600-1	ACS22060700600-2
	Link Length	1m	1m	1m
	Transceiver Type	QSFP-200G-PCC	QSFP-100G-PCC	QSFP-100G-PCC
	DDM Alarm	NO	NO	NO
Test Conclusion	After testing, the above Transceiver on Cisco N9K-C9316D-GX 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-8679).
	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	<ol style="list-style-type: none"> 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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