



OPTICAL TRANSCEIVER TEST REPORT

Tested by: Jessica.Yang | Date: 2022.06.03

1. Test Purpose

Test objects: QDD-400G-ER8, 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	QDD-400G-ER8	ACS22060700290	Cisco Compatible 400GBASE-ER8 QSFP-DD 400G 1310nm 40km DOM LC SMF Transceiver Module
NADDOD	QDD-400G-ER8	ACS22060700291	Cisco Compatible 400GBASE-ER8 QSFP-DD 400G 1310nm 40km DOM LC SMF Transceiver Module

3.2. Test equipment

Equipment Brand	Equipment Model	Software version (running)
Cisco	Cisco N3K-C3432D-S	NXOS: version 9.3(7)

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

Test Data

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*****Equipment model*****
switch# show inventory
switch# show inv
NAME: "Chassis",  DESCR: "Nexus3000 C3432D-S Chassis"
PID: N3K-C3432D-S      ,  VID: V01 ,  SN: FOC23356A40

NAME: "Slot 1",  DESCR: "32x400G + 2x10G SFP+ Ethernet Module"
PID: N3K-C3432D-S      ,  VID: V01 ,  SN: FOC23356A40

NAME: "Power Supply 1",  DESCR: "Nexus3000 C3432D-S Chassis Power Supply"
PID: NXA-PHV-1100W-PI    ,  VID: V01 ,  SN: ART2228FCXS

NAME: "Power Supply 2",  DESCR: "Nexus3000 C3432D-S Chassis Power Supply"
PID: NXA-PHV-1100W-PI    ,  VID: V01 ,  SN: ART2228FCZM

NAME: "Fan 1",  DESCR: "Nexus3000 C3432D-S Chassis Fan Module"
PID: NXA-FAN-35CFM-PI    ,  VID: V01 ,  SN: N/A

NAME: "Fan 2",  DESCR: "Nexus3000 C3432D-S Chassis Fan Module"
PID: NXA-FAN-35CFM-PI    ,  VID: V01 ,  SN: N/A

NAME: "Fan 3",  DESCR: "Nexus3000 C3432D-S Chassis Fan Module"
PID: NXA-FAN-35CFM-PI    ,  VID: V01 ,  SN: N/A

NAME: "Fan 4",  DESCR: "Nexus3000 C3432D-S Chassis Fan Module"
PID: NXA-FAN-35CFM-PI    ,  VID: V01 ,  SN: N/A

NAME: "Fan 5",  DESCR: "Nexus3000 C3432D-S Chassis Fan Module"
PID: NXA-FAN-35CFM-PI    ,  VID: V01 ,  SN: N/A

NAME: "Fan 6",  DESCR: "Nexus3000 C3432D-S Chassis Fan Module"
PID: NXA-FAN-35CFM-PI    ,  VID: V01 ,  SN: N/A

*****Port Status*****
switch# show interface statu

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Port          Name                Status  Vlan    Duplex  Speed  Type
-----
mgmt0         --                  notconnec routed  auto    auto    --

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Port	Name	Status	Vlan	Duplex	Speed	Type

Eth1/6	--	xcvrAbsen	routed	auto	auto	--
Eth1/7	--	connected	routed	full	400G	QSFP-DD-400
G-LR8						
Eth1/8	--	connected	routed	full	400G	QSFP-DD-400
G-LR8						
Eth1/9	--	xcvrAbsen	routed	auto	200G	--

Test Situation	Equipment model	Cisco N3K-C3432D-S	
	Port Number	Eth1/7	Eth1/8
	Port Status	connected	connected
	Port Link Rate	400G	400G

Test Conclusion	After testing, the above transceivers are normally connected on Cisco N3K-C3432D-S, the device port LEDs at both ends are always on white, the link is linkup.
Remarks	

4.2. Parameter Testing

Test Method	<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.
Test Data	<pre>*****transceiver information and DDM information***** switch# show interface ethernet 1/7 transceiver details Ethernet1/7 transceiver is present type is QSFP-DD-400G-LR8 name is NADDOD part number is QDD-400G-ER8 revision is -- serial number is ACS22060700290 nominal bitrate is 425000 MBit/sec per channel cisco id is 0x18 firmware version is 0.12 Link length SMF is 40 km Nominal transmitter wavelength is 1310.00 nm</pre>

Wavelength tolerance is 18.820 nm
 host lane count is 8
 media lane count is 8
 max module temperature is 70 deg C
 min module temperature is 0 deg C
 min operational voltage is 3.14 mV
 vendor OUI is 001f22
 date code is 210712
 power class is 7 (14.0 W maximum)
 max power is 14.00 W
 near-end lanes used none
 far-end lane code for 8 lanes Undefined
 media interface is 1310 nm EML
 Advertising code is Optical Interfaces: SMF
 Host electrical interface code is 400GAUI-8 C2M (Annex 120E)
 media interface advertising code is 400GBASE-LR8 (Cl 122)

Lane Number:1 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	74.99 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	3.20 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-12.67 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:2 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	76.22 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	3.08 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-12.67 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:3 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	52.08 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.90 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-12.44 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:4 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	51.34 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.91 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-14.20 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:5 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	64.86 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.90 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-12.75 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:6 Network Lane

Current	Alarms	Warnings
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	Measurement	High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	54.15 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.85 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-13.27 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:7 Network Lane

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	62.00 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.82 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-13.01 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:8 Network Lane

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	44.26 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	54.90 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.76 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-13.56 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

switch# show interface ethernet 1/8 transceiver details

Ethernet1/8

transceiver is present
 type is QSFP-DD-400G-LR8
 name is NADDOD
 part number is QDD-400G-ER8

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revision is --
serial number is ACS22060700291
nominal bitrate is 425000 MBit/sec per channel
cisco id is 0x18
firmware version is 0.12
Link length SMF is 40 km
Nominal transmitter wavelength is 1310.00 nm
Wavelength tolerance is 18.820 nm
host lane count is 8
media lane count is 8
max module temperature is 70 deg C
min module temperature is 0 deg C
min operational voltage is 3.14 mV
vendor OUI is 001f22
date code is 210712
power class is 7 (14.0 W maximum)
max power is 14.00 W
near-end lanes used none
far-end lane code for 8 lanes Undefined
media interface is 1310 nm EML
Advertising code is Optical Interfaces: SMF
Host electrical interface code is 400GAUI-8 C2M (Annex 120E)
media interface advertising code is 400GBASE-LR8 (Cl 122)

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Lane Number:1 Network Lane

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	77.51 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.75 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-12.75 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm
Transmit Fault Count = 0					

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

Lane Number:2 Network Lane

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V

Current	60.86 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.74 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-12.14 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm

Transmit Fault Count = 0

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

Lane Number:3 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	78.37 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	3.19 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-13.01 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm

Transmit Fault Count = 0

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

Lane Number:4 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	61.56 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.58 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-14.81 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm

Transmit Fault Count = 0

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

Lane Number:5 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	80.96 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.78 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-13.46 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm

Transmit Fault Count = 0

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

Lane Number:6 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	61.65 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.75 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-13.37 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm

Transmit Fault Count = 0

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

Lane Number:7 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	92.40 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.84 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-13.87 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm

Transmit Fault Count = 0

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

Lane Number:8 Network Lane

	Current	Alarms		Warnings	
	Measurement	High	Low	High	Low
Temperature	46.35 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.23 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	58.70 mA	120.00 mA	20.00 mA	110.00 mA	30.00 mA
Tx Power	2.73 dBm	6.60 dBm	-1.60 dBm	5.59 dBm	-0.60 dBm
Rx Power	-14.20 dBm	-3.40 dBm	-20.96 dBm	-4.40 dBm	-18.86 dBm

Transmit Fault Count = 0

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

		QDD-400G-ER8	
Test situation	Vendor	NADDOD	NADDOD
	Part Number	QDD-400G-ER8	QDD-400G-ER8
	Serial Number	ACS2207070231	ACS2207070232
	Wavelength	1310nm	1310nm
	Link Length	40km	40 km
	Transceiver Type	QDD-400G-ER8	QDD-400G-ER8
	DDM Alarm	NO	NO
	DDM-Temp	44.26°C	46.35°C
	DDM-Voltage	3.23V	3.23V
	DDM-Tx Bias Current	74.99mA ,76.22mA, 52.08mA ,51.34mA , 64.86mA, 54.15mA, 62.00mA, 54.90mA	77.51mA ,60.86mA ,78.37mA ,61.56mA 80.96mA, 61.65mA, 92.40mA, 58.70mA
	DDM-Tx Power	3.20dBm ,3.08dBm ,2.90dBm ,2.91dBm 2.90dBm, 2.85dBm, 2.82dBm, 2.76dBm	2.75dBm ,2.74dBm ,3.19dBm ,2.58dBm 2.78dBm, 2.75dBm, 2.84dBm, 2.73dBm
	DDM-Rx Power	-12.67dBm , -12.67dBm , -12.44dBm, -14.20dBm -12.75dBm, -13.27dBm, -13.01dBm, -13.56dBm	-12.75dBm , -12.14dBm , -13.01dBm , -14.81dBm -13.46dBm, -13.37dBm, -13.87dBm, -14.20dBm
Test Conclusion	After testing, the above Transceiver on Cisco N3K-C3432D-S 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.

Further Information :

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