

QSFP-SR4-200G TEST REPORT



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1. List of Test Items

Test Items	Test Sub-items	Test Contents	Test Results
Test Lanes	Test Lanes	Lane0~Lane3	/
Product Photoelectric Testing	Optical Transmitter Test	Actual Transmission Power	Pass
		Central Wavelength	Pass
		Maximum -3dB Spectral Width	Pass
	Traffic Transmission Test	Raw Physical BER	Pass
		Symbol Errors	Pass
		Link Down Counter	Pass
	DDM Data Test	Temperature	Pass
		Voltage	Pass
		Bias Current	Pass
		Tx_Power	Pass
		Tx_Power Accuracy	Pass
		Rx_Power	Pass
Adaptability Test	Brand Compatibility Test	Brand Equipment Compatibility Test	Pass
Business Network Testing	Port Splitting Application	Port Splitting Application Testing	Pass

2. Product Photoelectric Testing

2.1 Optical Transmitter Test

2.1.1 Test Introduction

Device Type	Brands	Test Items	Test Results	Testing Environment
Optical Channel Oscilloscope	Keysight	Actual Transmission Power	Pass	
Optical/Electrical Clock Recovery		Central Wavelength	Pass	
Adjustable Attenuator				
Optical Power Meter		Maximum -3dB Spectral Width	Pass	

2.1.2 Test Procedures

Steps	Summary of Test Steps
1	Connect the optical modules to the test environment as per the above networking diagram.
2	Test the optical output signal using an optical oscilloscope, a CDR and other equipment.
3	Record the actual transmission power, central wavelength and maximum -3dB spectral width of each channel.

2.1.3 Test Results

Table 2-1: Optical Transmitter Test Results

No.	Actual Transmission Power (dBm)	Central Wavelength (nm)	Maximum -3dB Spectral Width (nm)
1-Lane 0	1.490	849.24	0.561
1-Lane 1	1.780	849.67	0.574
1-Lane 2	1.490	849.34	0.584
1-Lane 3	1.820	849.98	0.570

NOTE: Lane 0, 1, 2, 3 represent each channel of the module

2.2 Traffic Transmission Test

2.2.1 Test Introduction

Device Type	Brands	Test Items	Test Results	Testing Environment
Traffic Tester	Keysight	Framer Loss Ratio	Pass	

2.2.2 Test Procedures

Steps	Summary of Test Steps
1	Configure a traffic tester and generate data streams through optical modules.
2	Measure the forward error correction pre-error rate and frame loss rate of each channel in the test environment.
3	Verify whether the results meet the specification requirements.

2.2.3 Test Results

Table 2-2: Traffic Transmission Test Results

No.	Framer Loss Ratio
SN 1	0
SN 2	0

2.3 DDM Data Test

2.3.1 Test Introduction

Device Type	Brands	Test Items	Test Results	Testing Environment
Switches	NVIDIA	Temperature	Pass	
		Voltage	Pass	
		Bias Current	Pass	
		Tx_Power	Pass	
		Tx_Power Accuracy	Pass	
		Rx_Power	Pass	

2.3.2 Test Procedures

Steps	Summary of Test Steps
1	Access DDM data through the module interface.
2	Record parameters such as temperature, voltage, bias current, emission power, emission power accuracy and reception power.
3	Compare the results with the module specifications.

2.3.3 Test Results

Table 2-3: DDM Data Test Results

No.	Temperature (°C)	Voltage (V)	Bias Current (mA)	Tx_Power (dBm)	Tx_Power Accuracy (dB)	Rx_Power (dBm)
1-Lane 0	29.56	3.31	5.91	0.94	0.55	1.67
1-Lane 1	29.56	3.31	5.91	0.93	0.85	1.39

1-Lane 2	29.56	3.31	5.91	0.87	0.62	1.70
1-Lane 3	29.56	3.31	5.91	0.83	0.99	2.42

3. Brand Compatibility Test

3.1 Brand Compatibility Test

3.1.1 Test Introduction

Device Type	Brands	Test Items	Test Results	Testing Environment
Switches\NICs	NVIDIA	Brand Equipment Compatibility Test	Pass	

3.1.2 Test Procedures

Steps	Summary of Test Steps
1	Insert the optical module into the switch\network card port.
2	Verify the connection status, alarm information, type information and DDM information.
3	Ensure compatibility with the device software version.

3.1.3 Test Results

Table 3-1: Brand Compatibility Test Results

Equipment Brand	Device Version	Software Version of The Equipment	Warning Message	Connectivity	Type Information	DDM Information
NVIDIA IB	MQM8700- HS2F	3.10.6004	No Warning	Link Up	Optical cable/ module	Pass
NVIDIA IB	MCX653106A- HDAT	20.40.1000	No Warning	Link Up	N/A	Pass
NVIDIA ETH	MCX653106A- HDAT	20.40.1000	No Warning	Link Up	50GBASE-SR, 100GBASE- SR2, or 200GBASE- SR4	Pass
NVIDIA ETH	MSN3700- VS2F	3.9.3202	No Warning	Link Up	200GBASE- SR4	Pass
NVIDIA ETH	MSN4700- WS2F	3.9.3220	No Warning	Link Up	200GBASE- SR4	Pass