

FiberMall 800G/400G SR Optical Transceiver Modules Compatibility and Interconnection Test Report

Version	Change Log	Writer
V0	Sample Test	Cassie

1. Test Purpose

Test Objects: 800G OSFP SR8/400G OSFP SR4/400G Q112 SR4. By conducting corresponding tests, the test parameters meet the relevant industry standards, and the test modules can be normally used for Nvidia (Mellanox) MQM9790 switch, Nvidia (Mellanox) ConnectX-7 network card and Nvidia (Mellanox) BlueField-3, laying a foundation for subsequent cooperation with customers.

2. Test Items

Items		Details
Hardware Compatibility Test	Plug Test-Device	The module can be plugged and unplugged for more than 5 times and can be matched with the slots of Nvidia (Mellanox) MQM9790 switch and Nvidia (Mellanox) ConnectX-7 ports, and there is no looseness or jamming of the module.
	Port Reboot Test	The link can be restored in 5 minutes after power failure and reboot of the equipment.
Software Compatibility Test	Connectivity Test	The module can connect to both devices with the status of the device ports being up.
	Parameter Test	The information of PN, VN, SN and DDM of the module read by the device is consistent with the description of the module label.
Long-term BER Test		7*24 hours Pre-BER (<1e-6) and Post-BER (<1e-12) are as expected.
Interconnection Test		1. Nvidia (Mellanox) 800G To FiberMall 400G module link up BER on the equipment meets the requirement. 2. FiberMall 800G To mallonox 400G module in equipment link up BER meets the requirement.

3. Test Conclusions

- FiberMall 800G OSFP SR8/400G Q112 SR4/400G OSFP SR4 modules meet the requirements for interface compatibility with Nvidia (Mellanox) Switch 9790, Nvidia (Mellanox) ConnectX-7 NIC and Nvidia (Mellanox) BlueField-3 DPU.
- FiberMall 800G OSFP SR8/400G Q112 SR4/400G OSFP SR4 modules and Nvidia (Mellanox) 800G OSFP SR8/400G Q112 SR4/400G OSFP SR4 modules have been running traffic service for a long time, and the long-term BER test meets the requirements.

4. Test Environment

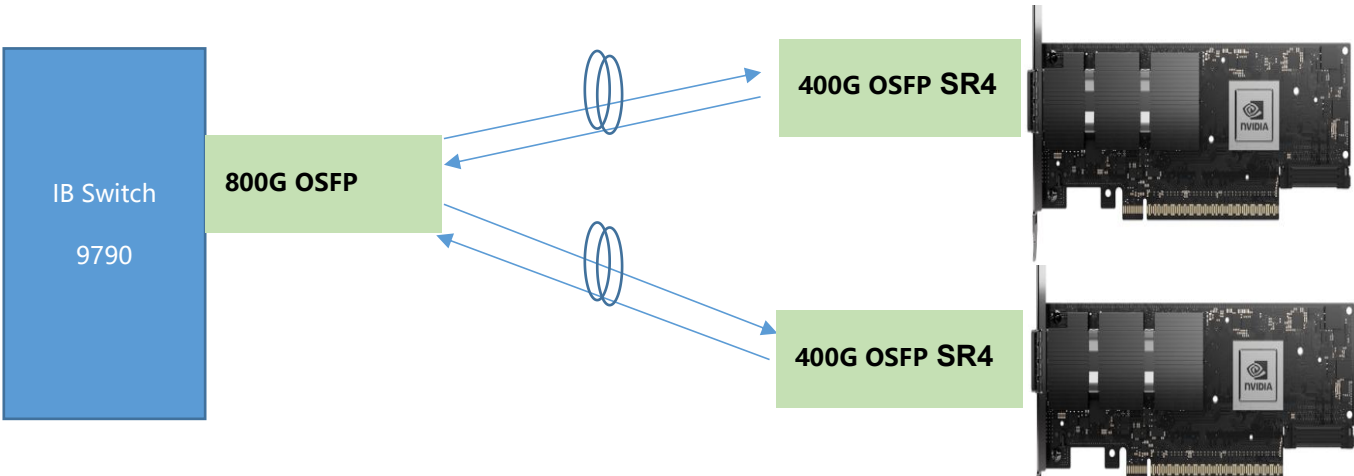
4.1. Test Samples

Manufacturer	PN	Specification	Serial No.
FiberMall	OSFP-800G-SR8D	800G OSFP 850nm 100m	MT233320036
	OSFP-400G-SR4-FLT	400G OSFP 850nm 50m	MT233320018
			MT233320020
	QSFP112-400G-SR4	400G QSFP112 850nm 100m	MT233250003
			MT233250018
			MT233250015
			MT233250020
Nvidia (Mellanox)	MMA4Z00-NS	800G OSFP SR8 50m	MT2304FT11726
	MMA4Z00-NS400	400G OSFP SR4 50m	MT2304FT19441
			MT2304FT13582
	MMA1Z00-NS400	400G QSFP 112 SR4 50m	MT2305FT04288
			MT2302FT20690
			MT2252FT06234
			MT2307FT01145

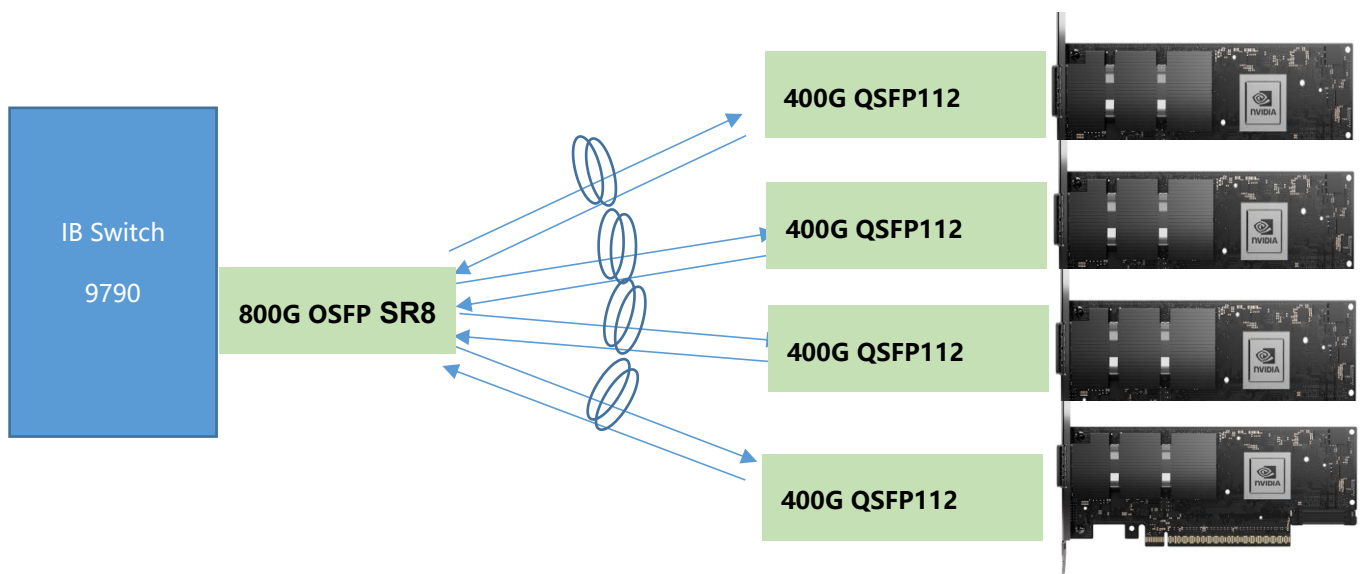
4.2. Test Devices

Brand	Model	Software Version (running)
Nvidia (Mellanox)	Nvidia (Mellanox) ConnectX-7	28.38.0368
Nvidia (Mellanox)	Nvidia (Mellanox) MQM9790	mft 4.21.0-99
Nvidia (Mellanox)	Nvidia (Mellanox) BlueField-3	/

4.3. Test Topological Graph



Nvidia (Mellanox) ConnectX-7



5. Test Data

5.1. Hardware Compatibility Test

Test Methods	1. Plug and unplug the switch ports more than 5 times continuously. 2. Record whether each plug and unplug test matches the port slot. 3. Check whether there is any looseness or jamming of 400G OSFP SR4/800G OSFP SR8/400G QSFP112 SR4 on the device port. 4. Power off and reboot the switch 5 times, and record whether the link is restored after each switch reboot.					
Test Conditions	Test item	Test Times				
		1	2	3	4	5
	Plug normally	Pass	Pass	Pass	Pass	Pass
	No looseness	Pass	Pass	Pass	Pass	Pass
	No jamming	Pass	Pass	Pass	Pass	Pass
	Link restored	Pass	Pass	Pass	Pass	Pass
Test Conclusion	After testing: 1. 400G OSFP SR4/800G OSFP SR8/400G QSFP112 SR4 can be plugged into the ports on both sides of the device. The modules are inserted into the ports and are tightly bonded to the device ports, with no signs of loosening of the modules. The module can be unloaded from the port by pulling the module pull ring without any jamming. 2. The link is restored within 5 minutes after each power failure and reboot of the switch.					

5.2. Software Compatibility Test

Test Methods	1. Check if the device status is normal. 2. Check if the port LED of the device is green. 3. Check if the device port is linking up normally. 4. Check if the device port rate is up to standard.	
	Port Status	Active

	Port Link Rate	IB-NDR
Test Conclusion	After testing, 400G OSFP SR4/800G OSFP SR8/400G QSFP112 SR4 connect normally on Nvidia (Mellanox) 9790 switch, Nvidia (Mellanox) ConnectX-7 and BlueField-3, the LEDs of the device ports at both ends are always green, and the link is up.	

Test Methods	Vendor	FiberMall		
1. Check whether the basic information such as module vendor name, model name, serial number are correct. 2. Check whether the key parameters of the module such as transmission distance, wavelength and type are correct. 3. Check whether the DDM parameters of the module have exceeded the threshold.	PN	OSFP-800G-SR8D	OSFP-400G-SR4-FLT	OSFP-400G-SR4-FLT
	Serial number	MT233320036	MT233320018	MT233320020
	Wavelength (nm)	858	858	858
	Transmission Distance (m)	100	100	100
	DDM Temperature(°C)	50	53	53
	DDM Voltage(mV)	3272.8	3284.7	3298.3
	DDM Bias Current(mA)	8.34,8.52,8.44,8.60	8.54,8.60,8.63,8.66	8.44,8.48,8.50,8.60
	DDM Tx Optical Power(dBm)	2,2,2,2	2,2,2,2	2,2,2,2
	DDM Rx Optical Power(dBm)	2,2,2,2	2,2,2,2	2,2,2,2
Test Conclusion	After testing, FiberMall 800G OSFP SR8/400G OSFP SR4 can recognize the vendor name, model name, serial number, DDM and other information on Nvidia (Mellanox) 9790 switches and Nvidia (Mellanox) ConnectX-7 cards, and the modules operate normally.			

Test Methods	Vendor	FiberMall			
1. Check whether the basic information such as module vendor name, model name, serial number are correct. 2. Check whether the key parameters of the module such as transmission distance, wavelength and type are correct. 3. Check whether the DDM parameters of the module have exceeded the threshold.	PN	QSFP112-400G-SR4			
	Serial number	MT233250003	MT233250018	MT233250015	MT233250020
	Wavelength (nm)	853	853	853	853
	Transmission Distance (m)	100	100	100	100
	DDM Temperature(°C)	60	58	59	57
	DDM Voltage(mV)	3291.6	3303.9	3303.1	3299.3
	DDM Bias Current(mA)	8.50,8.52	8.630,8.660	8.440,8.480	8.340,8.400
	DDM Tx Optical Power(dBm)	2,2,	2,2,	2,2	2,2,
	DDM Rx Optical Power(dBm)	2,2,	2,2,	0,2	2,2,
Test Conclusion	After testing, the FiberMall 400G QSFP112 SR4 recognizes the vendor name, model name, serial number, and DDM information on Nvidia (Mellanox) 9790 switches and Nvidia (Mellanox) BlueField-3 DPUs, and the module operates normally.				

5.3. Long-term BER Test

Test Items	FiberMall		FiberMall	
	OSFP-800G-SR8D		OSFP-400G-SR4-FLT	
	MT233320036		MT233320018	MT233320020
Test Duration	168H	168H	168H	168H

Pre-BER (<1e-6)	Yes	Yes	Yes	Yes
Post-BER (<1e-12)	Yes	Yes	Yes	Yes
Conclusion	FiberMall 800G OSFP SR8 to FiberMall 400G OSFP SR4 runs continuously for 7*24 hours on Nvidia (Mellanox) 9790 switch and Nvidia (Mellanox) ConnectX-7 NIC Pre-BER (<1e-6), Post-BER (<1e-12). As expected, no link interruption during the period, no abnormality in module docking.			

Test Items	FiberMall	FiberMall			
	OSFP-800G-SR8D	QSFP112-400G-SR4			
	MT233320036	MT233250003	MT233250018	MT233250015	MT233250020
Test Duration	168H	168H	168H	168H	168H
Pre-BER (<1e-6)	Yes	Yes	Yes	Yes	Yes
Post-BER (<1e-12)	Yes	Yes	Yes	Yes	Yes
Conclusion	FiberMall 800G OSFP SR8 to FiberMall 400G Q112 SR4 on Nvidia (Mellanox) 9790 switches and BlueField-3 DPUs running continuously for 7*24 hours Pre-BER (<1e-6), Post-BER (<1e-12) as expected, with no link outages during the period. No module docking anomalies.				

5.4. Interconnection Test

5.4.1 FiberMall 800G OSFP SR8 to Nvidia (Mellanox) 400G OSFP SR4

Test Methods	FiberMall	Nvidia (Mellanox)	
	OSFP-800G-SR8D	MMA4Z00-NS400	
	MT233320036	MT2304FT19441	MT2304FT13582
Check if FiberMall 800G OSFP SR8 To Nvidia (Mellanox) 400G OSFP SR4 module is linked up on the device.	Link up	Link up	Link up
Test Duration	72H	72H	72H
Pre-BER (<1e-6)	Yes	Yes	Yes
Post-BER (<1e-12)	Yes	Yes	Yes
Conclusion	FiberMall 800G OSFP SR8 To Nvidia (Mellanox) 400G OSFP SR4 module in Nvidia (Mellanox) 9790 switch and Nvidia (Mellanox) ConnectX-7 NIC Link up, BER meets the requirements.		

5.4.2 Nvidia (Mellanox) 800G OSFP SR8 to FiberMall 400G OSFP SR4

Test Methods	Nvidia (Mellanox)	FiberMall	
	MMA4Z00-NS	OSFP-400G-SR4-FLT	
	MT2304FT11726	MT233320018	MT233320020
Check if Nvidia (Mellanox) 800G OSFP SR8 To FiberMall 400G OSFP SR4 module is linked up on the device.	Link up	Link up	Link up
Test Duration	72H	72H	72H
Pre-BER (<1e-6)	Yes	Yes	Yes
Post-BER (<1e-12)	Yes	Yes	Yes
Conclusion	Mellanox 800G OSFP SR8 To FiberMall 400G OSFP SR4 module in Nvidia (Mellanox) 9790 switch and Nvidia (Mellanox) ConnectX-7 NIC Link up, BER meets the requirements.		

5.4.3 FiberMall 800G OSFP SR8 to Nvidia (Mellanox) 400G Q112 SR4

Test Methods	FiberMall	Nvidia (Mellanox)			
	OSFP-800G-SR8D	MMA1Z00-NS400			
	MT233320036	MT2305FT04288	MT2302FT20690	MT2252FT06234	MT2307FT01145
Check if FiberMall 800G OSFP SR8 To Nvidia (Mellanox) 400G Q112 SR4 module is linked up on the device.	Link up	Link up	Link up	Link up	Link up

Test Duration	72H	72H	72H	72H	72H
Pre-BER (<1e-6)	Yes	Yes	Yes	Yes	Yes
Post-BER (<1e-12)	Yes	Yes	Yes	Yes	Yes
Conclusion	FiberMall 800G OSFP SR8 To Mellanox 400G Q112 SR4 module in Nvidia (Mellanox) 9790 switch and BlueField-3 DPU Link up, BER meets the requirements.				

5.4.4 Nvidia (Mellanox) 800G OSFP SR8 to FiberMall 400G Q112 SR4

Test Methods	Nvidia (Mellanox)	FiberMall			
	MMA4Z00-NS	QSFP112-400G-SR4			
	MT2304FT11726	MT233250003	MT233250018	MT233250015	MT233250020
Check if FiberMall Q 400G Q112 SR4 To Nvidia (Mellanox) 400G Q112 SR4 module is linked up on the device.	Link up	Link up	Link up	Link up	Link up
Test Duration	72H	72H	72H	72H	72H
Pre-BER (<1e-6)	Yes	Yes	Yes	Yes	Yes
Post-BER (<1e-12)	Yes	Yes	Yes	Yes	Yes
Conclusion	Mellanox 800G OSFP SR8 To FiberMall 400G Q112 SR4 module in Nvidia (Mellanox) 9790 switch and BlueField-3 DPU Link up, BER meets the requirements.				