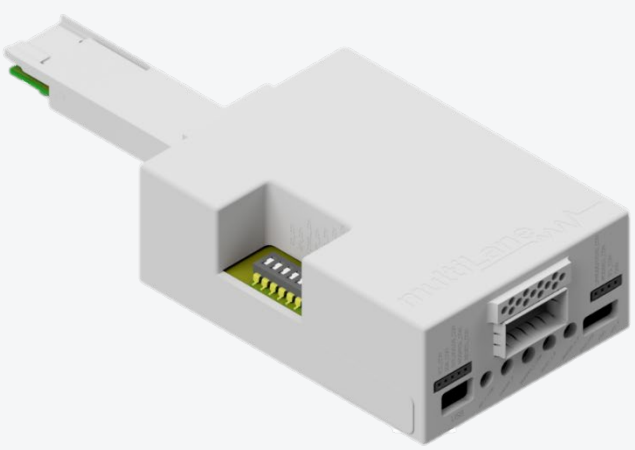
multiLane

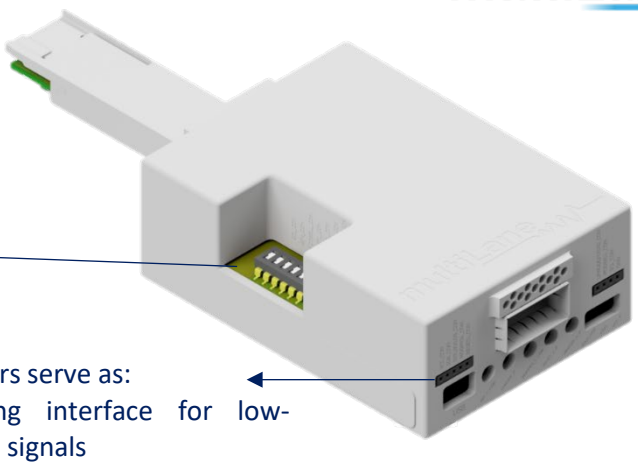
Data Center Test Solutions

Nexus Hardware QSFP-DD

Technical Product Sheet

Nexus HW is the basic hardware package which provides 800G SI paths between host and module, with diagnostic probing interface for low-speed signals.





The DIP switch enables selecting the connection between the plug side and the connector side.

Pin headers serve as:

- Probing interface for low-speed signals
- Connecting to external driver in the case of external signal mode

Front Shell Overview of Nexus QSFP-DD:



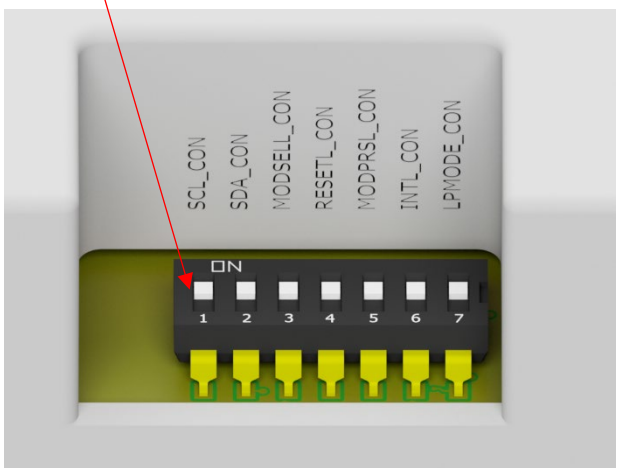
The front of the Nexus QSFP hardware has a port for module insertion and a probing interface for low-speed signal access. Additionally, the other openings are reserved for the Nexus PRO version, which includes a USB port, LED indicators, and a switch.

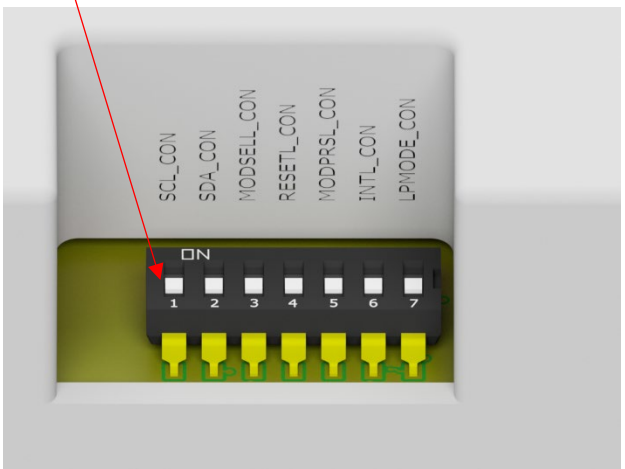
Dip switch of Nexus QSFP-DD:

The DIP switch on the interface can be turned ON or OFF based on their position:

ON Position: Move the switch towards the outer side (away from the numbers on the switch).

OFF Position: Move the switch towards the inner side (closer to the numbers on the switch).



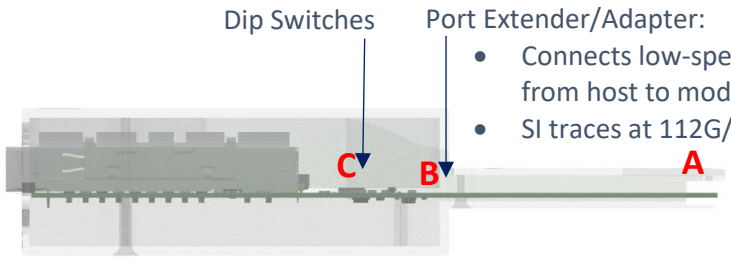


Nexus Adapter has the following Features:

- SI traces and connector support 112G rates
- Support up to 30W modules
- Probing interface for Vcc and GND pins – only used for probing and cannot be used to provide power
- Probing interface for low-speed signals
- Monitor and Control I2C externally
- Available in CMIS form factor

When using Nexus Hardware (ML4066-NX-HW-QSFP-DD), ensure that all DIP switches are set to ON to establish a connection between the plug side and the connector side, enabling control and communication between the host and the module.

QSFP-DD		
Low-speed signals	**Dip switch ON**	**Dip switch OFF**
	Plug connected to Connector	**Plug disconnected to Connector**
SCL	I2C will be working if also SDA (Switch #2), and MODSEL (Switch #3, also must be in logic low from the host)—need to be ON.	Signal **cannot** be reached from the host INTERFACE to the module – no impact over the probing interface – no I2C working
SDA	I2C will be working if also SCL (Switch #1), and MODSEL (Switch #3, also must be in logic low from the host)—need to be ON	
MODSELL	Signal can be controlled from the host INTERFACE and tested over the probing interface	
INTL	Signal can be read over the host INTERFACE and tested over the probing interface	Signal **cannot** be reached from the host INTERFACE to the module – no impact over the probing interface
LPMode	Signal can be controlled from the host INTERFACE and tested over the probing interface	
MODPRSL	Signal can be read over the host INTERFACE and tested over the probing interface	
RESETL	Signal can be controlled from the host INTERFACE and tested over the probing interface	

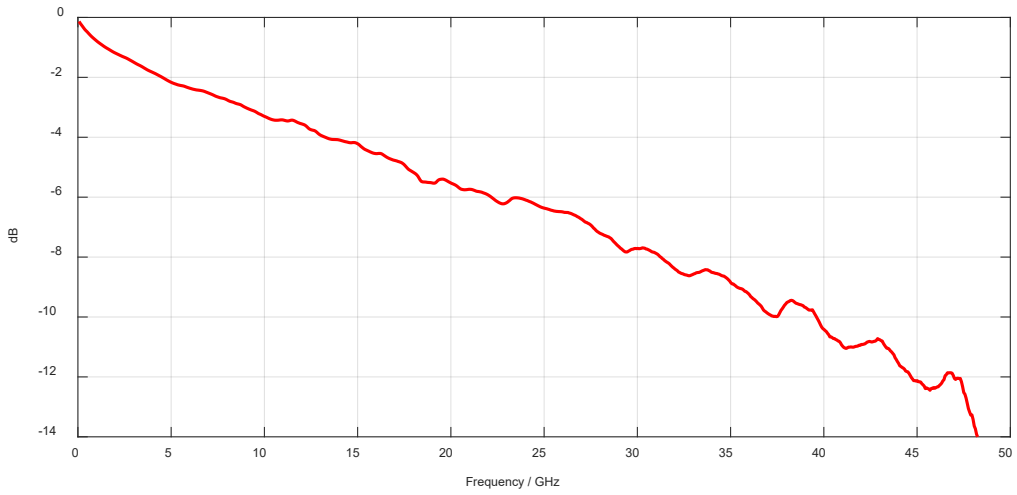


A: Signals from host side at NX-HW plug

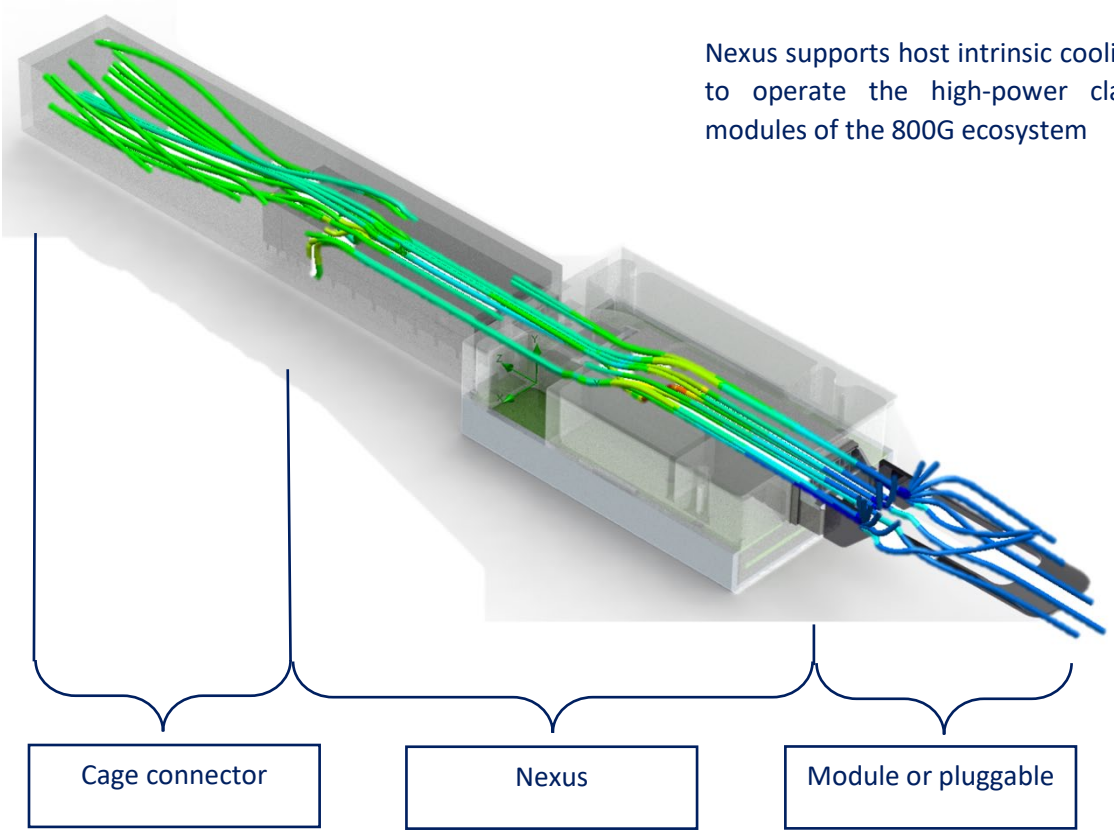
B: Signals to NX-HW connector inside Nexus, going to the dip switches

C: If the switches are on the signals will be delivered to the module

Measured Insertion Loss data of 800G QSFP-DD Adapter:



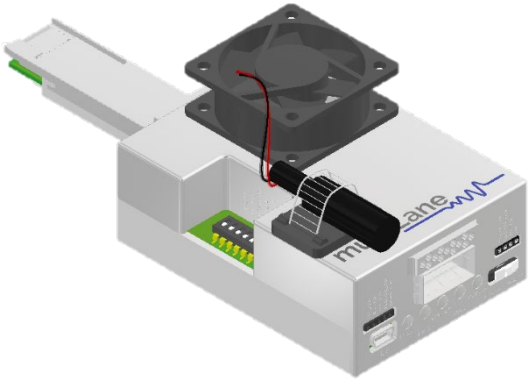
Host Intrinsic Cooling:



Nexus supports host intrinsic cooling to operate the high-power class modules of the 800G ecosystem

External Cooling:

As a second cooling option, Nexus HW is also available with a mounted fan fixture, requiring a separate voltage supply of 12V to operate. This works independently of host cooling.



Ordering Options

Ordering Options	Description
ML4066-NX-HW-OSFP OR ML4066-NX-HW-OSFP-F	Nexus HW is the basic hardware package only which provides 800G SI paths between host and module, with diagnostic probing interface for low-speed signals. **Host intrinsic cooling.** **OR Fan option**
ML4066-NX-Pro-OSFP OR ML4066-NX-Pro-OSFP-F	Nexus Pro includes the hardware package and the software license. It enables all Nexus INTERFACE features including all CMIS updates. **Host intrinsic cooling.** **OR Fan option**
ML4066-NX-HW-QDD OR ML4066-NX-HW-QDD-F	Nexus HW is the basic hardware package only which provides 800G SI paths between host and module, with diagnostic probing interface for low-speed signals **Host intrinsic cooling.** **OR Fan option**
ML4066-NX-Pro-QDD OR ML4066-NX-Pro-QDD-F	Nexus Pro includes the hardware package and the software license. It enables all Nexus INTERFACE features including all CMIS updates. **Host intrinsic cooling.** **OR Fan option**
ML4066-NX-HW-QSFP	Nexus HW is the basic hardware package only which provides 800G SI paths between host and module, with diagnostic probing interface for low-speed signals **Host intrinsic cooling.**
ML4066-NX-Pro-QSFP	Nexus Pro includes the hardware package and the software license. It enables all Nexus INTERFACE features including all CMIS/SFF updates. **Host intrinsic cooling.**