Amphenol
COMMUNICATIONS SOLUTIONS

Amphenol Communications Solutions (ACS) is a world leader in High Speed IO cable interconnect solutions for Communications, Mobile Consumer Products, RF, Optics, Broadband and Commercial electronics markets.

We’re the leader in the design, manufacture, and supply of high-performance copper cable assemblies. Our global footprint and track record is unparalleled in the industry, with a customer base that includes all major data center, networking, HPC, telecom, server and storage system platform providers.

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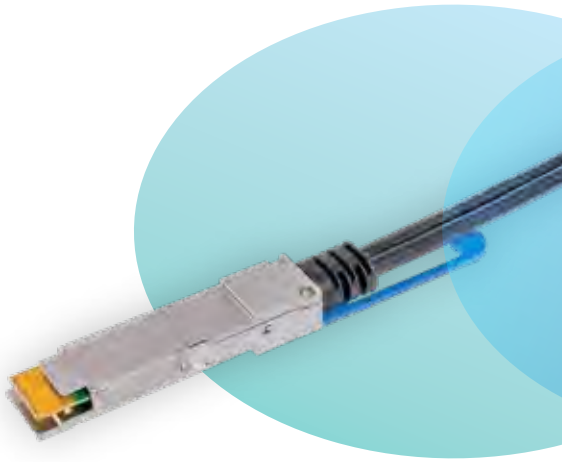
QSFP-DD Cable Assemblies



Amphenol's QSFP-DD (Double Density) passive copper cable assemblies double the number of channels from 4 to 8 lanes when compared to the existing 100G QSFP cabling systems, enabling more bandwidth within the same mechanical envelope. Compatible with 25G/Lane NRZ up to 112G/Lane PAM4 signaling protocols that allow cables to deliver aggregate bandwidths of 200G, 400G, and 800G per cable assembly. Available in passive, active, splitter and loopback variants.

FEATURES	BENEFITS
• Configurable & flexible	• Addresses current and future market desired bandwidth port capability requirements
• Backwards plug capability to 100G; seamless transition to future higher aggregate bandwidth	• Great SI reliability and physical capabilities (softer and better bending performance than other cables)
• Optimized PCB interface board with auto soldering process	• Programmable to customer requirements
• Assembled with industry leading twin-axial SKEWCLEAR 8-pair or 16-pair	• Provides optimized cost, performance, cable bulk & routing solutions
• Compatible with existing 100G QSFP based connector ports (with heat sinks and / or light pipes) as well as 200G/400G/800G ports	• Custom solutions from adapter cables to loopback cables and beyond

Part Numbers

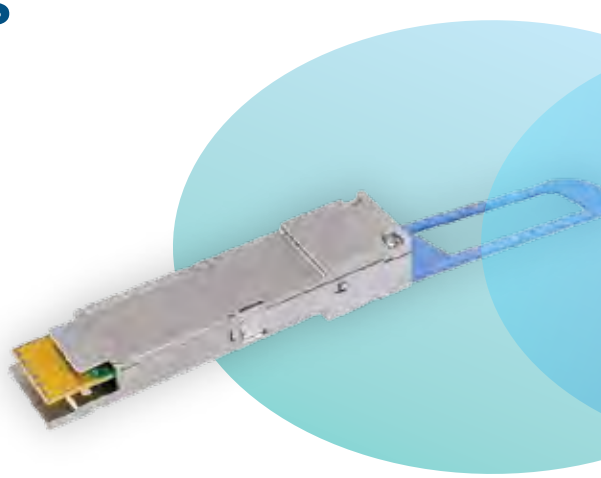
Data Rate	Length	AWG	Part Number	Product Type
28G / Lane	1 meter	32AWG	NDYYJR-0001	Passive
28G / Lane	2 meters	32AWG	NDYYJR-0002	Passive
28G / Lane	3 meters	32AWG	NDYYJR-0003	Passive
56G / Lane	1 meter	32AWG	NDYYYR-0001	Passive
56G / Lane	2 meters	30AWG	NDYYYF-0002	Passive
56G / Lane	3 meters	27AWG	NDYYYH-0003	Passive
56G / Lane	4 meters	30AWG	NJYYFR-0004	Linear Active
56G / Lane	5 meters	30AWG	NJYYFR-0005	Linear Active
112G / Lane	1 meter	32AWG	NJYYEK-0001	Passive
112G / Lane	2 meters	26AWG	NJYYE6-0002	Passive
112G / Lane	2 meters	32AWG	NJYYLK-0002	Linear Active
112G / Lane	3 meters	30AWG	NJYYLR-0003	Linear Active
112G / Lane	4 meters	32AWG	NJHHN8-0004	DSP Active
112G / Lane	4 meters	32AWG	NJHHN8-0004	DSP Active
112G / Lane	4 meters	32AWG	NJHHN8-0004	DSP Active

Target Markets and Applications

- Low Latency Communication Systems
- Network Interface Cards (NICs)
- Routers
- Switches

- Data Center Networking
- External Storage Systems
- High Performance Computing (HPC)
- Networked Storage Systems
- Servers

QSFP-DD Loopback Modules



QSFP-DD LOOPBACKS 200G/400G/800G

Amphenol's QSFP-DD (Double-Density) Loopback Modules are part of Amphenol's comprehensive QSFP-DD product family offering – cables, connectors and AOC's. These QSFP-DD loopback cable assemblies are offered in 3 configurations – Passive Electrical, Passive Thermal and Active Electrical or Thermal. All loopback cable assemblies are backwards plug compatible with existing 100G based systems and support 200G (8 lanes @ 25G NRZ) or 400G (8 lanes @ 50G PAM4) or 800G (16 lanes @ 50G PAM4) signaling transmission.

FEATURES	BENEFITS
• Backwards plug capability to 100G; seamless transition to future higher aggregate bandwidth	• Addresses current and future market desired bandwidth port capability requirements
• Adaptable design that provides the user adjustable dynamic control of different power levels per QSFP-DD MSA power class definition	• Modules are field upgradeable enabling customized programs to customer specific requirements
• On-board diagnostic monitoring - thermal loopbacks	• Enables electrical system debug and validation testing
• Signal conditioning of QSFP-DD control lines – for both passive & active modules	• Control line compliance with MSA – passive models followthe DAC requirements; Thermal follow optical requirements
• EEPROM per QSFP-DD MSA; customization is available	• Enables system communication over I2C buss

Part Numbers

Description	Part Numbers
QSFP-DD Loopback Cable Assembly, Passive, 28G or 56G per lane	NLNAMB-0001
QSFP-DD Loopback Cable Assembly, Passive Thermal with Microcontroller, 28G or 56G per lane	NLNAME-0001
QSFP-DD Loopback Cable Assembly, Passive, 112G per lane	NLNACB-0001
QSFP-DD Loopback Cable Assembly, Passive Thermal with Microcontroller, 112G per lane	NLNACE-0001

Target Markets and Applications

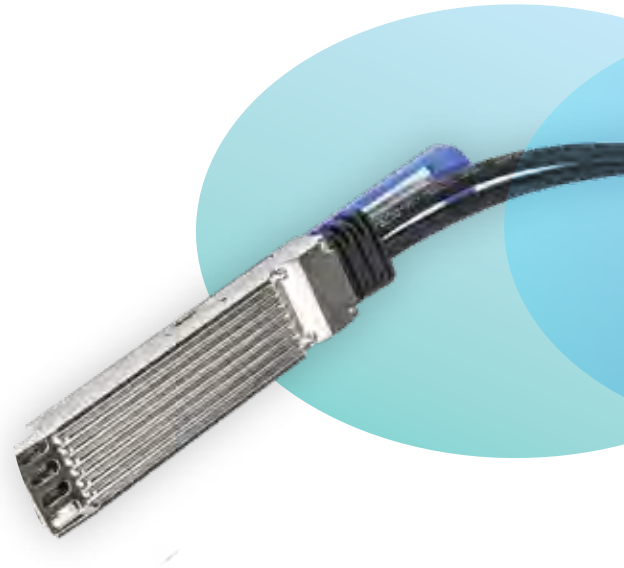
- Low Latency Communication Systems
- Network Interface Cards (NICs)
- Routers
- Switches

- Servers
- Networked Storage Systems
- High Performance Computing (HPC) Applications
- Data Center Networking

OSFP Copper Cable Assemblies

200G/400G/800G/1.6 T

Amphenol's leading the industry in OSFP cable development. Our Electronics Products 'Product of the Year' award- winning OSFP (Octal Small Form Factor Pluggable) cable assemblies are compatible with 25G/lane channel NRZ up to 112G/lane channel PAM4 signaling protocols that allow the cables to deliver aggregate bandwidths of 200G, 400G, and 800G per cable assembly. Available in both Passive, Active and Loopback variants.



FEATURES	BENEFITS
• Configurable & flexible	• Programmable to customer requirements
• Optimized PCB interface board with auto soldering process	• Great SI reliability and physical capabilities (softer and better bending performance than other cables)
• EEPROM in cable assembly	• Full compliant with optical module design, easier for customer system development
• Assembled with industry leading twin-axial SKEWCLEAR 8-pair or 16-pair wire	• Provides optimized cost, performance, cable bulk & routing solutions
• Integrated heat sink (IHS) or Riding Heat Sink (RHS) options available, designed according to industry MSA standards	• Exceeds 25G NRZ and 50G, 112G PAM4 performance and SI parameter in stander specification

Part Numbers

Data Rate	Length	AWG	Part Number	Type
28G / Lane	1 meter	32AWG	NDVVJR-0001	Passive
28G / Lane	2 meters	32AWG	NDVVJR-0012	Passive
28G / Lane	2.5 meters	30AWG	NDVVJF-0012	Passive
56G / Lane	1 meter	32AWG	NDVVYR-0001	Passive
56G / Lane	2 meters	30AWG	NDVVYF-0002	Passive
56G / Lane	3 meters	28AWG	NDVVYG-0003	Passive
56G / Lane	3.5 meters	25 AWG	NDVVYX-0006	Passive
112G / Lane	1 meter	32AWG	NJMMEK-0001	Passive
112G / Lane	2 meters	25AWG	NJMMEN-0002	Passive
112G / Lane	2 meters	32AWG	NJMMLK-000 2	LinearActive
112G / Lane	3 meters	30AWG	NJMMLR-000 3	LinearActive
224G / Lane	0.5 meters	26AWG	NJMMRU-0006	Passive
224G / Lane	1 meter	26AWG	NJMMRU-0001	Passive

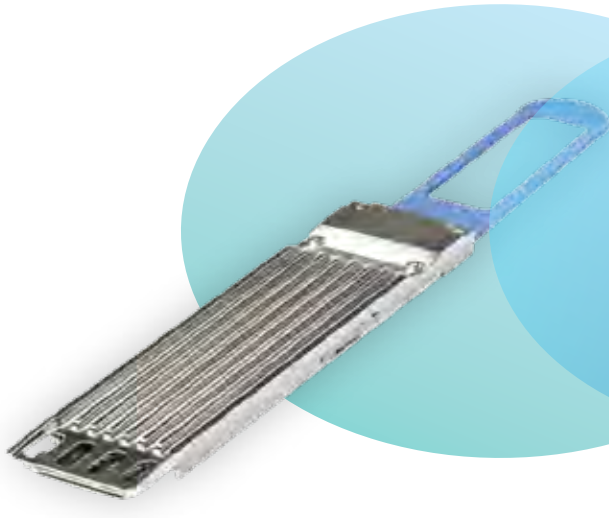
Target Markets and Applications

- Low Latency Communications Systems
- Network Interface Card (NICs)
- Routers
- Switches

- Data Center Networking
- External Storage Systems
- High Performance Computing (HPC)
- Networked Storage Systems
- Server

OSFP Loopback Modules

200G/400G/800G



Amphenol's OSFP (Octal SFP) Loopback Modules are part of Amphenol's OSFP I/O system product family that includes copper cables, connectors, and AOC's. These OSFP loopback cable assemblies are offered in 3 configurations – Passive Electrical, Passive Thermal and Active Thermal. The OSFP loopback units include integrated heat sinks that are a key part of the heat dissipative properties of the OSFP interconnect system. All loopback cable assemblies support 200G (8 lanes @ 25G NRZ), 400G (8 lanes @ 50G PAM4), or 800G (8 lanes @ 112G PAM4) signaling transmission.

FEATURES	BENEFITS
• Integrated heat sink & air flow channels – part of the OSFP's integrated heat management design	• Allows for up to 15W of heat dissipation capability per port
• Adaptable design that provides the suer adjustable dynamic control of different power levels per OSFP MSA power class definition	• Modules are field upgradable enabling customized programs to customer specific requirements
• 2 LED system indicators – thermal loopbacks	• Enables diagnostics debugging and system validation testing
• EEPROM per OSFP MSA; customization is available	• Control line compliance with MSA – passive models follow DAC requirements: Thermal follows optical requirements
• Compatible with all mating connector & cage configurations – single port, ganged and stacked	• Custom solutions from adapter cables to loopback cables and beyond

Part Numbers

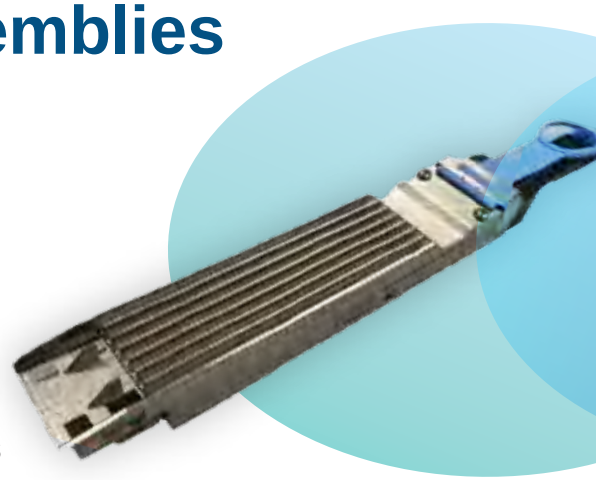
Data Rate	Description	Part Numbers
28G or 56G	OSFP Loopback, EEPROM Only	NLMAMB-0001
28G or 56G	OSFP Loopback, Thermal Load and Microcontroller	NLMAME-0001
112G	OSFP Loopback, Thermal Load and Microcontroller	NLMACE-0001
112G	OSFP Loopback, EEPROM Only	NLMACB-0001
224G	OSFP Loopback, EEPROM Only, AC Coupling	NLMADB-0001
224G	OSFP Loopback, EEPROM Only, No AC Coupling	NLMADB-0001

Target Markets and Applications

- Low Latency Communication Systems
- Network Interface Cards (NICs)
- Routers
- Switches

- Servers
- Networked Storage Systems
- High Performance Computing (HPC) Applications
- Data Center Networking

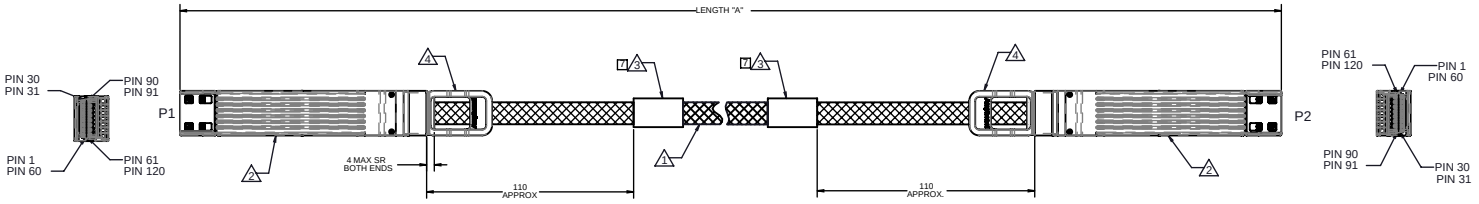
OSFP-XD Copper Cable Assemblies



PCIe GEN 5, Ethernet 400G (16x25G), 800G (16x50G), 1.6T (16x100G) and 3.2T (16x200G)

Our cutting-edge OSFP-XD (Octal Small Form Factor Pluggable eXtra Dense) cable assemblies are engineered to meet the demanding requirements of both PCIe and Ethernet protocols. Designed with futureproofing in mind, these assemblies support impressive bandwidths of 400G (16x25G), 800G (16x50G), 1.6T (16x100G), and 3.2T (16x200G) per cable. This versatility ensures that your infrastructure can seamlessly evolve with emerging technologies, providing long-term value and adaptability. Whether you're addressing the needs of today or anticipating the demands of tomorrow, Amphenol's OSFP-XD delivers the high-density connectivity essential for next-generation applications.

FEATURES	BENEFITS
• Configurable & flexible	• Great SI reliability and physical capabilities (softer and better bending performance than other cables)
• Optimized PCB interface board with laser soldering process	• Fully compliant with optical module design, easier for customer system development
• EEPROM in cable assembly	• Provides optimized cost, performance, cable bulk & routing solutions
• Assembled with industry leading twinaxial SkewClear 32-pair wire	
• Integrated heat sink and air flow channels part of module	



Part Numbers

Data Rate	Length	AWG	Part Number	Type
PCIe® Gen 5	1 meter	32AWG	NEUUEX-0001	Passive
PCIe® Gen 5	2 meters	32AWG	NEUUEX-0002	Passive
PCIe® Gen 5	3 meter	32AWG	NEUUEX-0003	Passive
PCIe® Gen 5	1.5 meters	32AWG	NEUUEX-0007	Passive
PCIe® Gen 5	0.75 meters	30AWG	NEUUEX-0011	Passive
PCIe® Gen 5	1.25 meters	32AWG	NEUUEX-0012	Passive
PCIe® Gen 5	Coming soon	Coming soon	Coming soon	Active DSP
PCIe® Gen 6	Coming soon	Coming soon	Coming soon	Passive & DSP
1.6T (16x100G)	Coming soon	Coming soon	Coming soon	Passive
1.6T (16x100G)	Coming soon	Coming soon	Coming soon	Linear Active & DSP
3.2T (16x200G)	Coming soon	Coming soon	Coming soon	Passive
3.2T (16x200G)	Coming soon	Coming soon	Coming soon	Linear Active & DSP

Target Markets and Applications

- Low Latency Communications Systems Network
- Interface Card (NICs)
- Routers
- Switches

- Data Center Networking
- External Storage Systems
- High Performance Computing (HPC)
- Networked Storage Systems
- Server

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