QSFP DD Cable Assemblies

200G / 400G / 800G SOLUTIONS

Amphenol's QSFP DD (Double Density) copper cable assemblies double the number of channels from 4 to 8 lanes when compared to the existing 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 both Passive and Active variants.

- Addresses current and future market desired bandwidth port capability requirements
- Backwards mate compatible with QSFP receptacles
- Data Rate: 25G NRZ / 56G PAM4 / 112G PAM4
- Cable sizes: 26 AWG – 32 AWG
- 112G Passive cable lengths up to 2 meters
- 112G Active cable lengths up to 4 meters

TARGET MARKETS

FEATURES	BENEFITS
Configurable & flexible	200G, 400G, or 800G aggregate bandwidth capacity, dual 8–pair or single 16–pair wire supported
Backwards plug capability to 100G; seamless transition to future higher aggregate bandwidth	Addresses current and future market desired bandwidth port capability requirements
Optimized PCB interface board with auto soldering process	Exceeds 25G NRZ and 50G, 112G PAM4 performance and SI parameter in standard specification
Assembled with industry leading twin–axial SKEWCLEAR® 8–pair or 16–pair wire	Great SI reliability and physical capabilities (softer and better bending performance than other cables)
EEPROM in cable assembly	Programmable to customer requirements
26AWG – 32AWG cable sizes	Provides optimized cost, performance, cable bulk & routing solutions
112G Passive copper length to 2 meters and Active copper length to 4 meters	Meets industry standard signal performance requirements up to lengths of 3 meters at 400G and 2 meters at 800G
Compatible with existing 100G QSFP based connector ports (with heat sinks and / or light pipes) as well as 200G / 400G / 800G ports	Assured cable pluggability regardless of port bandwidth configuration
Custom solutions supported	Custom solutions from adapter cables to loopback cables and beyond
10–12W single port dissipative heat capacity	Enables use of copper and optical based cabling solutions

TECHNICAL INFORMATION

MATERIAL

- Nickel plated zinc die cast shells & latching mechanism parts
- EM-888K laminated PCB with gold finger and solder pads
- Dual 8 differential pair or single 16 differential pair wire with EMI shielding braid and LSZH or PVC jacketing. Flex Sleeves for 112G bundles.
- Thermoplastic cable pull tab

ELECTRICAL PERFORMANCE

- Differential Impedance: 100Ω ± 10Ω
- SI performance 25G NRZ / 50G PAM4, InfiniBand and OIF specifications (per MSA agreement)

MECHANICAL PERFORMANCE

- Durability: 50 cycles
- Mating Force: 90N max. (Per MSA agreement)
- Modular Retention: 125N min.
- Cable Axial Strain Relief: 90N min.
- Cable Flex: Per SFF-8417

ENVIRONMENTAL

- Thermal Shock: EIA 364-32, Condition 1, 25 cycles, -55°C to +85°C
- Service life to exceed 5 years at 65°C

APPROVALS AND CERTIFICATIONS

- RoHS2 Compliant

SPECIFICATIONS

- Refer to the latest revision of the QSFP-DD hardware specification for QSFP double density 8X pluggable transceiver
- Applicable IEEE specifications
  - IEEE802.3by
  - IEEE802.3bj
  - IEEE802.3cd
  - IEEE802.3ck
- The InfiniBand™ architecture specification and annexes

PACKAGING

- Individually packed in anti-static bags
- Cable ends packaged with dust covers

TARGET MARKETS/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

PART NUMBERS

Data Rate	Length	AWG	Part Number	AWG
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

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