

GIGALIGHT Marketing Report

Special Issue on DAC Cables

2022 Q3 Vol.4

GIGALIGHT News

112G PAM4 DAC

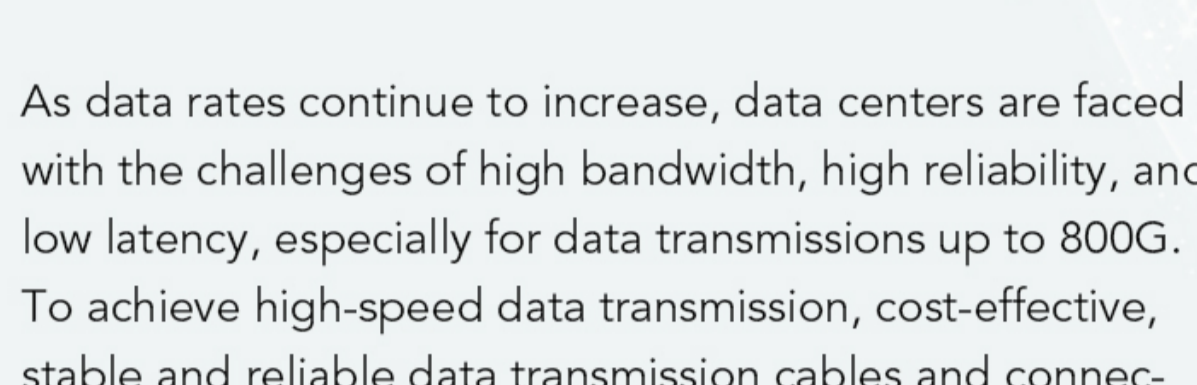
GIGALIGHT has Taken Another Step Forward with 112G PAM4 DAC

800G QSFP-DD PCC 400G QSFP12 PCC

- Data rate up to 112Gbps per channel
- COM > 3dB
- Length up to 2 meters
- Post-FEC BER<1E-15

Following the launch of the 400G QSFP-DD PCC based on 8x50G PAM4 technology in August 2021, GIGALIGHT began to lay out the plans of the next-generation data center server electrical interconnection market in advance, and launched the 800G QSFP-DD PCC based on 8x100G PAM4 technology and the 400G QSFP12 PCC based on 4x100G PAM4 technology in June this year. The data rate of the two new products can reach up to 112Gbps per channel.

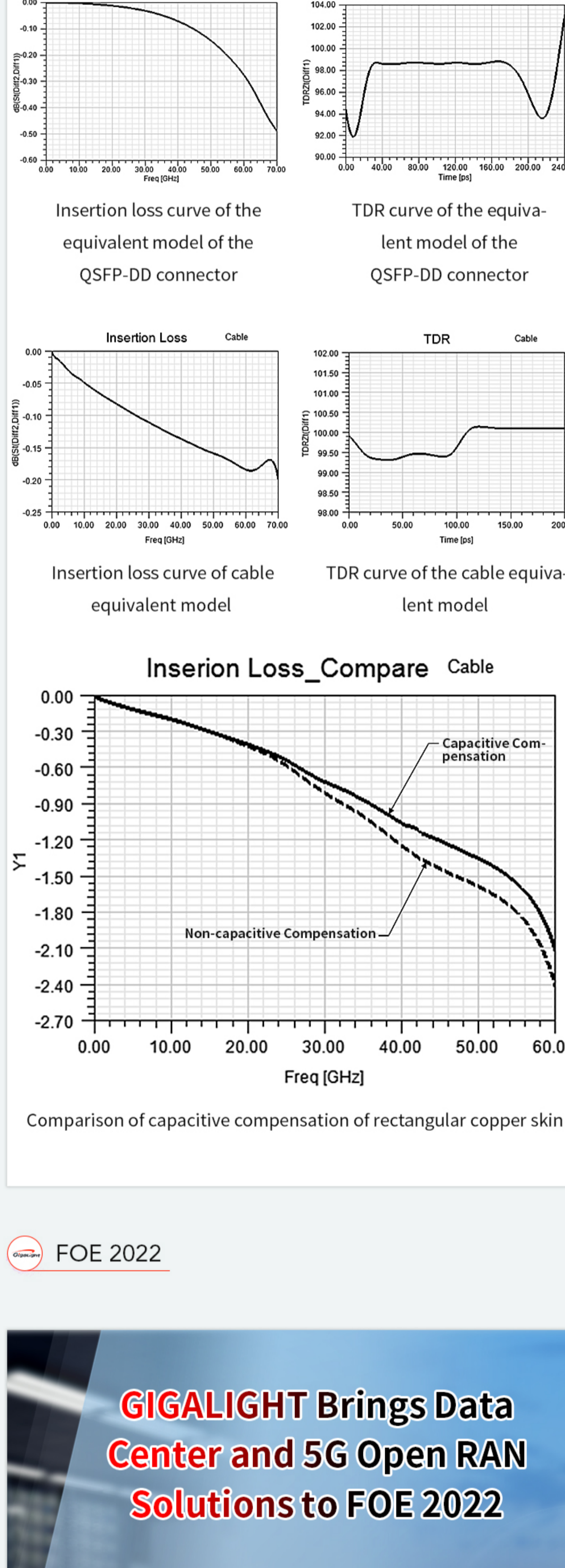
Further Reading >>> DAC R&D Practice and the Signal Integrity of 112G PAM4



As data rates continue to increase, data centers are faced with the challenges of high bandwidth, high reliability, and low latency, especially for data transmissions up to 800G. To achieve high-speed data transmission, cost-effective, stable and reliable data transmission cables and connectors are required. The high-speed DAC cable has the advantages of high simplicity, flexibility and low power consumption, and is a cost-effective solution to realize short-distance high-speed transmission in data centers.

The 800G QSFP-DD DAC cable supports a data rate of up to 800Gbps with 8 channels of 112Gbps PAM4 signals. The high-speed transmission of 112Gbps per channel means a faster rising edge and higher bandwidth, which will inevitably bring great challenges to the signal integrity. To meet the required insertion loss, return loss, TDR and crosstalk, etc., high-speed signal integrity simulation is inevitable. There are three main solutions at present.

- Building simulation models of QSFP-DD connectors to balance realism and equivalence—only simulate the high-speed lines, signal vias, and capacitors, but not simulate cable soldering and the QSFP-DD connectors (connected with gold fingers).
- Building simulation models of cables to balance realism and equivalence—simulate the high-speed lines, signal vias, capacitors, cable pads, and QSFP-DD connector pads, and simulate directly by adding excitation ports to cable pads and QSFP-DD connector pads, without establishing the equivalent model of cables and the QSFP-DD connectors.
- Making capacitive compensation at the cable pad outlet position to avoid serious impedance mismatch caused by the high-speed line impedance being pulled up—simulate the high-speed lines, signal vias, capacitors, cable soldering, and QSFP-DD connectors, under the premise of establishing equivalent models of cables and QSFP-DD connectors.



FOE 2022

GIGALIGHT Brings Data Center and 5G Open RAN Solutions to FOE 2022

GIGALIGHT participated in FOE2022 with data center and 5G Open RAN solutions from June 29 to July 1, 2022, to communicate with Japanese industry colleagues and help the construction of global optical interconnection.

SALE Brand Sales

The First Choice for Data Center Short-distance Interconnection

25G SFP28 DAC

From **\$8.56**

[Order Now >](#)

Zero BER Low Insertion Loss Up to 5m

10G QSFP28 DAC

From **\$20.90**

[Order Now >](#)

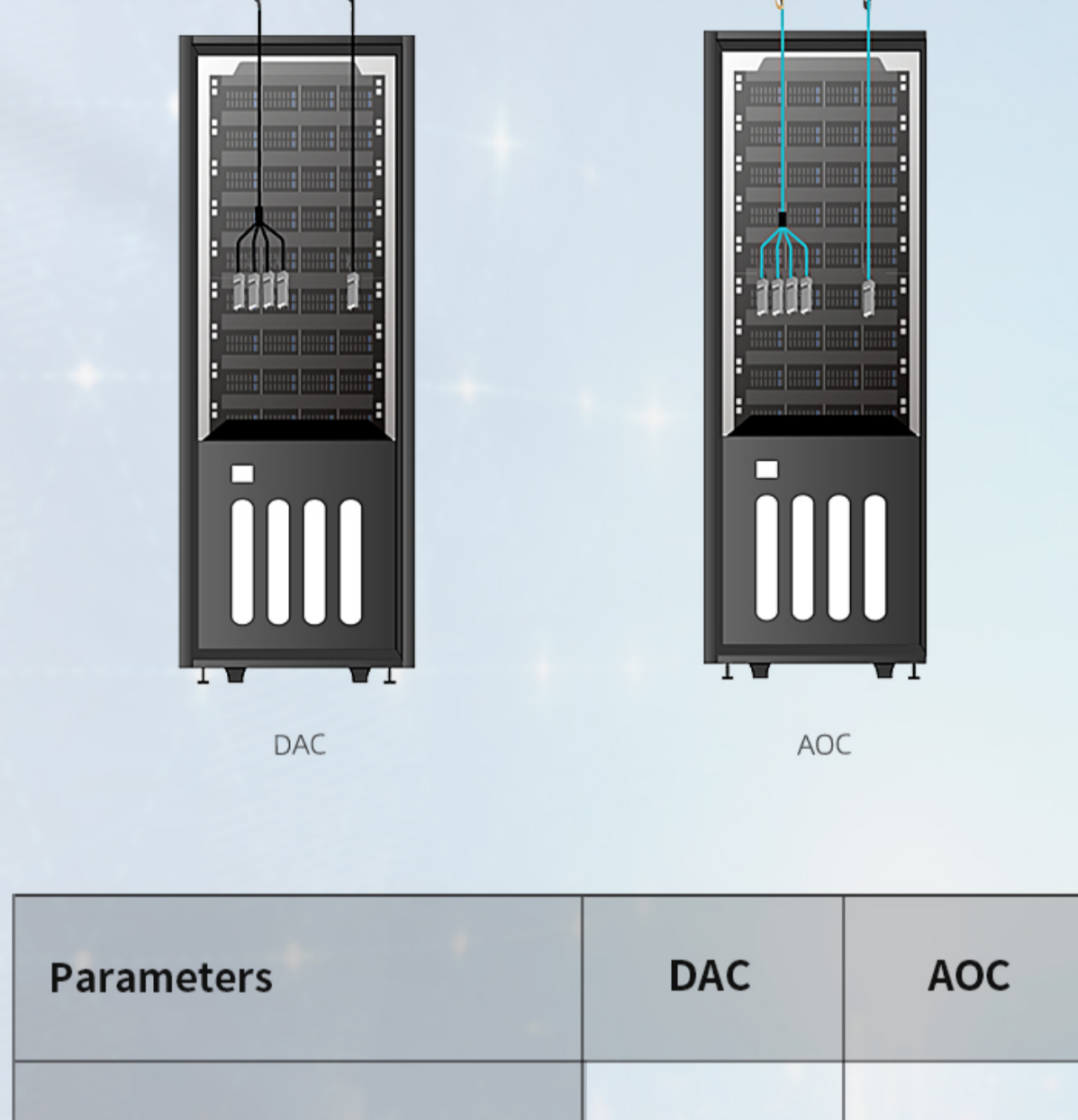
Zero BER Low Insertion Loss Up to 5m

200G QSFP56 DAC

From **\$22.20**

[Order Now >](#)

Zero BER Low Insertion Loss Up to 3m



Parameters	DAC	AOC
Signal Type	Electrical	Optical
Media Type	Copper	Fiber
Laser Type	N/A	VCSEL
Consumption	Lower (Win)	Higher
Reach	Shorter	Longer (Win)
Cost	Lower (Win)	Higher
Weight & Dimensions	Higher	Lower (Win)
Transmission Performance	Lower	Higher (Win)
Bendability	Lower	Higher (Win)

Hot Products for Data Center Server Connection

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- Superb simulation technology
- Automation equipment and processes
- Ensured signal integrity by testing of COM and S parameters
- Ensured product reliability and installation reliability

*If you are interested in our products or solutions, please reply to the email directly to explain your needs, and our sales manager will get in touch with you as soon as possible!