

CFP2 Silicon Photonics for Subways



Summary of Content

CFP2 silicon photonics-based coherent optical modules provide compact, high-capacity, and cost-efficient solutions ideal for metro-scale subway networks.

Overview of CFP2 Silicon Photonics Modules

CFP2 pluggable modules leverage silicon photonics (SiPh) technology to integrate optical and electronic components on a single chip, enabling high-speed coherent transmission in a small form factor. These modules support 100G to 400G per wavelength, using modulation formats such as QPSK, 8-QAM, and 16-QAM, and are optimized for metro and short-reach applications typical of subway networks. Silicon photonics allows for low power consumption, high integration, and reduced module costs, which is critical for dense urban deployments where space and energy efficiency are important.

Key Features for Subway Applications

- **Compact Form Factor:** CFP2 modules fit into existing network equipment, enabling upgrades without major infrastructure changes.
- **High Capacity:** Supports up to 400G per wavelength, allowing multiple high-bandwidth services such as surveillance, ticketing systems, and passenger Wi-Fi.
- **Short to Medium Reach:** CFP2-ACO and CFP2-DCO modules are optimized for single-span distances up to 80–120 km, covering typical subway metro rings and inter-station links.
- **Operational Efficiency:** Coherent detection simplifies network engineering, supports bidirectional transmission on a single fiber, and reduces the need for complex amplification.

Article Content

100G CFP2 Coherent 3000 km (OM8569XX100) Databrief

Power consumption: 21 W (100G) Application The OM8569XX100 module is designed to be used on the host board of system

CFP2-DCO Pluggable Coherent Optical Modules | Acacia

High-speed highly compact and scalable optical integrated circuits in silicon. Industry leading innovative low power and high optical

NeoPhotonics Introduces CFP2-DCO Module with 0 dBm Optical

NeoPhotonics (NYSE: NPTN) with new 400G Multi-Rate CFP2-DCO coherent pluggable transceiver for metro, regional

The revolution of silicon photonics

The idea of using silicon photonics for guiding, filtering and manipulating light was first explored in the 1980s¹⁻³, but only in the past

Silicon Photonic ZR/ZR+ DCO-CFP2 Interface for DCI and

Silicon Photonic ZR/ZR+ DCO-CFP2 Interface for DCI and Metro-Regional 400G Optical Communications. In Optical Fiber

Coriant favours silicon photonics-powered coherent for short-reach

Silicon photonics is ready to make its mark in metro and short-reach data centre interconnect (DCI) networks, judging from an

Nokia CSTAR Coherent Optical Engines

Nokia CSTAR Coherent Optical Engines Nokia's CSTAR family of coherent silicon photonic optical engines provide a compact,

Coriant Announces CFP2-ACO Solution

Coriant's silicon photonics-powered Short Reach CFP2-ACO delivers 200G pluggable interconnect for groove network

Launch of 800G CFP2-DCO Coherent Transceiver

FOC launches the 800G CFP2-DCO coherent transceiver, supporting flexible modulation formats and high

Databrief

The OM8669XX100 module uses a 104-pin CFP2 MSA connector for all electrical interfaces with the host card, whereas the optical

Coherent BiDi for Edge and Access Network Applications

Acacia's 3D Siliconization approach, which utilizes high-volume manufacturing processes and benefits from the

Interoperable CFP-DCO and CFP2-DCO Pluggable Optic Interfaces

PDF Article More Like This Silicon Photonic ZR/ZR+ DCO-CFP2 Interface for DCI and Metro-Regional 400G Optical

DATA SHEET 100G/200G CFP2-DCO COHERENT MODULE

DESCRIPTION The Jabil Photonics CFP2-DCO module can be used on host board to support transmission over DWDM links in

Ultra-High-Speed Optical Devices for Building High-Performance

Ultra-High-Speed Optical Devices for Building High-Performance Optical Infrastructure Key Technologies Key

Optical sub-systems advance coherent transport |Nokia

CSTAR™ -400 module The CSTAR™ -400 is a small form factor BGA packaged, DSP-agnostic Silicon

Pluggable Optical Modules: Transceivers for the Cisco ONS Family

The 400G CFP2-DCO module incorporates a 7nm CMOS technology, and a silicon photonic integrated circuit (PIC) for an optimized

Jabil Photonics Strengthens Relationship with Nokia to Expand ...

Jabil (NYSE: JBL) today announced that its Photonics business unit, a leading provider of customized design,

Cisco Digital CFP2-DCO Coherent Optical Module Data

These small, modular optical interface transceivers offer a convenient and cost-effective

400G-CFP2-DCO : Optical Transceiver Module | NEC

The 400G CFP2-DCO optical transceiver is designed for interconnecting data centers and metropolitan areas and supports OIF

High Quality Optical Module Wholesaler

Hyper Photonix is a leading optical transceiver supplier for high-speed networking applications in data

Multi-Rate Multi-Format CFP/CFP2 Digital Coherent Interfaces for Data ...

New customer usages, such as high-definition videos, business analytics, and cloud services, stress more and more

"Silicon Photonic Multi-Rate DCO-CFP2 Interface for DCI, Metro ...

Bibliographic details on Silicon Photonic Multi-Rate DCO-CFP2 Interface for DCI, Metro, and Long-Haul Optical Communications.

CFP2-DCO Pluggable Coherent Optical Modules | Acacia

CFP2-DCO product family supports the faceplate density of CFP-DCO four times.
Learn about our pluggable coherent optical

NeoPhotonics ships 400G ClearLight CFP2-DCO coherent optical ...

The company says the optical module is the first in an expected line of coherent transmission offerings based on its patented

Silicon Photonic ZR/ZR+ DCO-CFP2 Interface for DCI and Metro

For the first time, a 400-Gbps DP-16QAM silicon photonic DCO-CFP2 interface using standardized C-FEC (400-ZR) and O-FEC (400

Coherent for Service Provider Edge and Access Network Applications

Figure 9. Integration in silicon enables a path to coherent transceivers for service provider edge/access in compact

Nokia CSTAR Coherent Optical Engines

Ideal for use in QSFP-DD, OSFP, and CFP2-DCO pluggable modules, as well as in fixed optics transponder cards, Nokia CSTAR

NeoPhotonics Unveils New Transceiver for Metro, Regional and Long

NeoPhotonics Corporation, a leading developer of silicon photonics and advanced hybrid photonic integrated circuit

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