

INFOBRIEF

WaveLogic 6 Nano 400G–800G Coherent Pluggable Transceivers

WaveLogic™ 6 Nano (WL6n) 400G–800G Coherent Pluggable Transceivers harness Ciena’s advanced technology to power a wide range of applications, from 800ZR metro data center interconnect (DCI) to 400G long-haul and 800G metro/regional deployments. Interoperable probabilistic constellation shaping (PCS) is used to achieve 800G reach at 1,000 km distances and even longer reaches at 600G. Based on 3 nm CMOS, WL6n 400G–800G Pluggables allow for multiple customizable product offerings that deliver the optimal balance of performance and power as required per the application.

What are WL6n 400G–800G Pluggables?

These coherent pluggable transceivers use Ciena’s innovation in coherent DSP, electro-optic miniaturization, and high-speed packaging to deliver double the capacity within the same space as 400G pluggables—resulting in cost, power, and operational savings. Addressing requirements to get more capacity from deployed fiber, WL6n 400G–800G Pluggables are offered across both the C-band and L-band, and, in this way, deliver double the fiber capacity compared to 400G pluggable offerings.

Part of Ciena’s sixth generation of coherent optical solutions, WL6n builds from Ciena’s WaveLogic 5

Nano (WL5n), which introduced the industry’s lowest-power, highest-performance interoperable 400ZR and now extends Ciena’s innovation in coherent DSP, electro-optic miniaturization, and high-speed packaging to 400G–800G coherent pluggables. The WL6n 400G–800G pluggable transceiver design is born from active collaboration in standards and industry forums such as OIF, ITU-T, and OpenROADM. WL6n 400G–800G Pluggables support OIF 800ZR and ITU-T/OpenROADM-compliant 400G, 600G, and 800G modes, including 600G ZR+ and 800G ZR+ interop PCS. In addition to standard interoperable transmission modes, these pluggables also support higher baud and higher performance modes, enabling network providers to extend 800G pluggable connectivity across more network links.

Fully CMIS compliant, and available in both QSFP-DD800 and OSFP800 form factors, WL6n 400G–800G Pluggables allow for simple integration across a wide range of third-party host platforms. Furthermore, with support for customizable registers, these pluggables can be programmed to support specific host requirements.

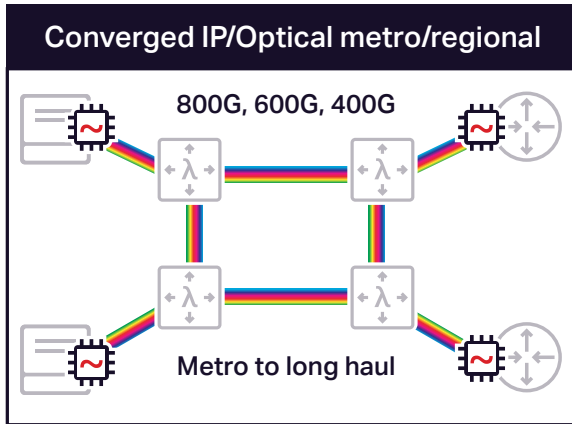
Where do WL6n 400G–800G Pluggables fit?

Addressing high-bandwidth connectivity requirements, WL6n 400G–800G Pluggables support OpenROADM-compliant 600G ZR+ and 800G ZR+ modes. These modes implement interoperable PCS to extend 800G pluggable reach to 1,000 km for the first time and 600G pluggables across longer distances.

For service providers focused on power and space efficiencies looking to extend 400G pluggable reach to long-haul applications, WL6n delivers a high-performance ITU-T/OpenROADM-compliant 400G QPSK mode that enables 400G across ultra-long-haul applications.

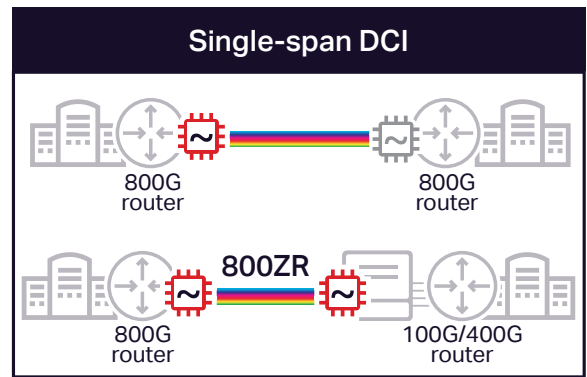
In addition to support for interoperable transmission, WL6n also supports high-performance 141 GBaud 400G–800G modes that implement PCS and other DSP enhancements, extending 800G pluggable reach beyond 1,500 km. Transmission modes optimized for both Ethernet and OTN client traffic are available, enabling flexible service mix support across the network.

With the wide range of 800 Gb/s pluggable transmission modes supported in WL6n pluggables, network providers can now extend 800G pluggable connectivity across more applications.



For cloud and content providers that need to scale up client rates from 200G to 800G and upgrade to support the next generation of 800G switches and routers for metro DCI, WL6n delivers interoperable 800G DWDM based on the OIF 800ZR Implementation Agreement (IA). Optimized for Ethernet transport and 150 GHz fixed-grid line systems, WL6n 800ZR supports single-span reaches up to and above the 120 km distance in the OIF IA. Additional enhancements extend the WL6n 800G 16QAM reach for packet transport to 500 km metro distances, compliant with ITU-T/OpenROADM Multi-Source Agreement (MSA) requirements.

WL6n 400G–800G Pluggables are supported across a range of Ciena optical and routing and switching



platforms and are also designed for ease of deployment in third-party products through support of standardized management interfaces.

The efficiencies of 3 nm CMOS in an 800G pluggable

Optimized for 400/800GbE client connectivity and ultimate power and space savings, WL6n 400G–800G Pluggables deliver:

- High-capacity 800G, 600G, and 400G connectivity in space- and power-efficient pluggable form factors, harnessing lowest-power CMOS technology
- 800ZR for DCI applications (120 km), with the ability to extend to 500 km
- 800G/600G ZR+ that implement interoperable PCS for 1,000 km reaches at 800 Gb/s and longer reaches at 600 Gb/s
- 400G ultra-long-haul transmission, compliant with ITU-T/FlexO standards and OpenROADM MSA
- Higher-performance, high-baud 400G, 600G, and 800G transmission modes to extend pluggable reach across more network links
- Ability to double fiber capacity with support for both C- and L-band OSFP800 pluggable variants
- Full CMIS compliance for ease of design and integration into third-party host platforms
- Ability to optimize transport for both Ethernet and OTN clients
- Fully customizable registers to address specific host requirements
- Choice in pluggable type, offered in both QSFP-DD800 and OSFP800 form factors

Network providers can count on Ciena to once again deliver best-of-breed technology and leading performance with WL6n 400G–800G Pluggables.

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