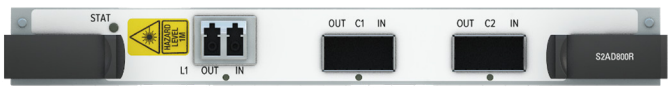
1830 PSS S2AD800R Transponder

Lower cost per bit, power and footprint for 100/400/800 GbE services

The 1830 PSS S2AD800R transponder provides a compact, high-performance solution for 100GE, 400GE, and 800GE service transport, while offering lower cost per bit, reduced power consumption, and a smaller footprint. As part of Nokia's comprehensive portfolio of thin transponders, the S2AD800R leverages the latest generation of Infinite Capacity Engine – Extensible (ICE-X) technology in its integrated line-side module. The WDM line port supports up to 800G wavelengths and offers several benefits, including low power consumption, multi-vendor probabilistic constellation shaping (PCS), and extended multi-haul reach.

The Nokia 1830 Photonic Service Switch (PSS) product family enables cost-effective, efficient aggregation and transport of client services across various optical network segments, including access, metro, regional, and long-haul networks. The new S2AD800R transponder is supported in the 1830 PSS-4ii, -8 and -16ii systems.



Benefits

- Cost- and power-efficient 100GE, 400GE, 800GE WDM transport up to 800G
- Compact, only half-height, single-slot wide
- WaveSuite tools and GMRE support
- Latest generation of Infinite Capacity Engine - Extensible (ICE-X) 800G coherent technology
- Supported on Nokia 300mm 1830 PSS-4ii, -8, -16ii systems for up to 3.2T, 6.4T, and 12.8T capacity per shelf respectively

Applications

- Deliver 100GE, 400GE, and 800GE client services with cost and power efficiency
- Data center interconnect (DCI) and metro/regional applications
- 800ZR and ZR+ modes
- 800G, 600G, and 400G higher-performance Nokia-proprietary modes
- Multi-vendor interoperability

Product description

The S2AD800R is a compact, high-capacity transponder designed for the aggregation and transport of 100GE, 400GE and 800GE client services. As part of Nokia's thin transponder portfolio, the S2AD800R transponder minimizes footprint and power consumption while delivering the performance needed for metro, regional, and long-haul applications.

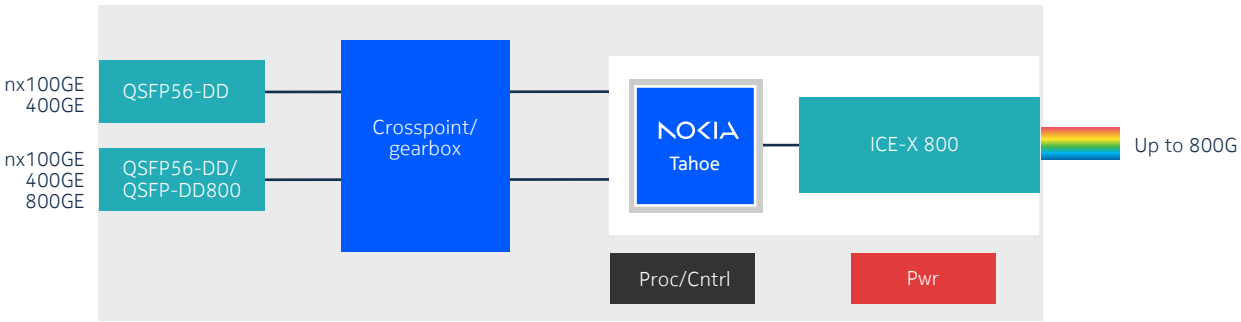
The S2AD800R transponder integrates the latest generation of Infinite Capacity Engine - Extensible (ICE-X) technology for its WDM line, featuring an 800G multi-haul coherent module with a state-of-the-art 3-nm CMOS process node digital ASIC/DSP. The ICE-X 800G module offers interoperability with multiple vendors through OpenROADM 6.0 for "open probabilistic shaping FEC" and is compliant with OIF-800ZR-01.0, OIF-400ZR-03.0, and OpenZR+ Rev 3.0.

The S2AD800R is a half-height, single-slot card designed for use in 1830 PSS 4ii, -8 and -16ii platforms. The card features two client ports, including a 400G port and a dual rate 400G/800G port. Additionally, up to eight 100GE services can be supported using DR4 client optics, each supporting 4 x 100G. The line port supports line rates of up to 800G and can be flexibly tuned to lower bit rates, enabling extended reach and optimized performance across a wide range of deployment scenarios.

Nokia supported products

The S2AD800R unit is supported on Nokia 1830 PSS-4ii, -8, -16ii platforms.

Figure 1. 1830 PSS S2AD800R



Unit Name	Part #	Description
S2AD800R	3KC72913AA	800G Transponder

Technical specifications

Specifications	S2AD800R	
Applications	Metro, Regional, DCI	
	800G aggregation and transport (n x 100G/400G/800G clients)	
Line port	1 x WDM line port	
	400G – 800G provisioned (QPSK, QAM16, Shaped-QAM16)	
	OIF ZR/ZR+, OpenRoadm6.0, and high-performance Nokia modes	
	60 – 140 GBaud	
	oFEC (15%), Nokia FEC	
	Nokia ICE-X 800G multi-haul coherent integrated module	
	OEO regeneration	
Client port	1 x QSFP56-DD	100GE/400GE
	1 x QSFP56-DD/-DD800	100GE/400GE/800GE
Power consumption	100 W (typ)	
Features	Full C-band tuning	
	High-capacity 800G transport using ZR/ZR+ and higher-performance Nokia modes	
	Multi-vendor interoperability	
	LLDP snooping	
	Remote DCN extension over the line	
	Integrated test signal	
	Comprehensive optical & digital PMs	
	Low-power / stand-by mode	
	Optical protection switching and L0 Restoration (GMPLS)	
Operating environment	Normal	5°C to 40°C (41°F to 104°F)
	Humidity	5% to 85%
Physical	Half height, single slot	
1830 PSS applications	-4ii, -8, -16ii	

About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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