S13X400H 400G Transponder

The Nokia 1830 PSS 400G Transponder (S13X400H) supports aggregation and transport for a wide array of Ethernet, OTN, and Fibre Channel client services. The S13X400H reduces carrier costs by eliminating the need to engineer, order, stock, and spare different card types for each service type or optical rate. All client ports feature pluggable optics, so only the client ports and services provisioned need to be populated. Powered by Nokia Photonic Service Engine (PSE-Vc) coherent optics, the S13X400H delivers the ultimate combination of performance and flexibility for aggregation applications.

The Nokia 1830 Photonic Service Switch (PSS) product family enables cost-effective, efficient aggregation and optical transport for Ethernet, optical transport network (OTN), time division multiplexing (TDM), and wavelength services over access, metro, regional and long-haul networks. The Nokia 1830 product portfolio consists of common hardware units, software, and management to offer seamless operations across carrier networks

Benefits

- Reduce costs and simplify network operations with a single card supporting 10G to 400G services
- Integrated OTN switch ensures efficient service grooming into 400G WDM wavelengths
- Support standalone transponder or muxponder applications, along with ADM applications using paired S13X400H cards
- Modern PSE-Vc coherent optics ensures optimal performance over metro, regional, long-haul networks.

Applications

- Universal service aggregation, supporting Ethernet, OTN, Fibre Channel client services
- Metro/regional service aggregation and transport networks
- Multi-service applications requiring 10G, 25G, 100G Ethernet, OTN, or FC services
- ADM application is ideal for networks requiring protected services between locations.

Product description

The S13X400H is a new, high-capacity Transponder for aggregating Ethernet, OTN, and Fibre Channel services, including 10GE/25GE, 100GE, 400GE, OTU2/OTU4, and 16/32 FC services. The multi-service S13X400H card provides a complete service delivery solution for metro and regional networks. The WDM line interface supports 100G – 400G wavelengths using Nokia's advanced PSE-Vc coherent optics.

The S13X400H can be used in standalone transponder or muxponder applications, as well as paired ADM applications. ADM applications are ideal for aggregation rings with 10G client services. The integrated OTN switch fabric provides grooming between East – West through traffic and add/drop traffic, as well as providing optional E-SNCP service protection.

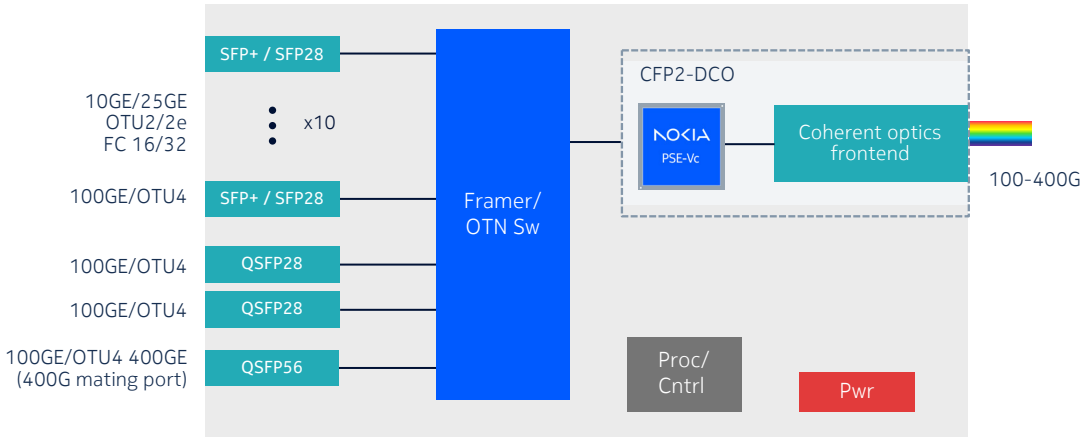
The S13X400H is a single slot card for 1830 PSS -8, -16ii platforms. The unit includes ten SFP+/SFP28 client ports for 10GE/25GE, OTU2/2e and fibre channel services, two QSPF28 ports for 100G/OTU4 services, and a combination QSFP28/QSFP56-DD port that supports 100GE/OTU4 and 400GE services.

The WDM line interface utilizes the Nokia CFP2-DCO module (C2DCO4), incorporating the latest newest generation PSE-Vc coherent optics. Supporting a high performance multi-haul optical interface, the CFP2-DCO module offers the simplicity and low cost of a pluggable module, combined with the performance required for metro, regional, or long-haul distances.

Nokia supported products

The S13X400H unit is supported on Nokia 1830 PSS-8 and -16ii platforms.

Figure 1. S13X400H Diagram



Unit name	Part #	Description
S13X400H	3KC72184AA	400G Transponder
S13X400E	3KC72293AA	400G Transponder – Encryption
C2DCO4	3KC93911AA	CFP2-DCO coherent module, 100G-400G, high performance

Technical specifications

Specifications	S13X400H	
Application	Metro, Regional, LH, DCI	
Line Port	1 x CFP2-DCO WDM line port 100G – 400G (QPSK / 8QAM / 16QAM modulation) 28 – 63 Gbaud Nokia PSE-Vc coherent optics	
FEC Options	Nokia SDFEC-G2	
Client ports	10 x SFP28/SFP+ 2 x QSFP28 1 x QSFP28/QSFP56-DD	10GE/25GE, OTU2/2e, FC 16/32G 100GE/OTU4 400GE
Power consumption	143 W (typ)	
Features	Integrated OTN switch Standalone or mated (ADM) applications OTN overhead (GCC, delay measurement, etc.) GCC0 Line/Client PTP/SyncE clock recovery & distribution	
Protection	OPSB5 OPSUM 1+1 OLP / OMSP E-SNCP in ADM mode	
Operating environment	Normal Short-term Humidity	5°C to 40°C (41°F to 104°F) -5°C TO 50°C (23°F to 122°F) 5% to 85%
Physical	1-slot	
1830 PSS shelves	-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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