

Nokia 1830 PSS-8, PSS-16ii, PSS-32 and PSI-L platforms

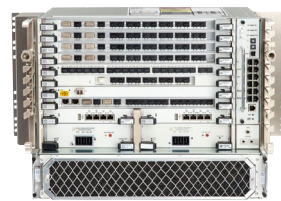
The Nokia 1830 Photonic Service Switch (PSS) and Nokia 1830 Photonic Service Interconnect – Line (PSI-L) systems consist of a wide array of shelf options providing optimized solutions for access, metro, regional and long-haul optical networks. With common optical networking cards supported across the shelf types, carriers can choose the shelf option optimized for each network application.

The 1830 PSS-8, PSS-16ii, PSS-32 and PSI-L platforms support multiple transport applications including multiservice metro aggregation, metro, regional, long-haul WDM networks, data center interconnect (DCI), packet/OTN aggregation, as well as the most advanced colorless, directionless, Contentionless, Flexgrid (CDC-F) and colorless, Flexgrid (C-F) ROADMs architectures.

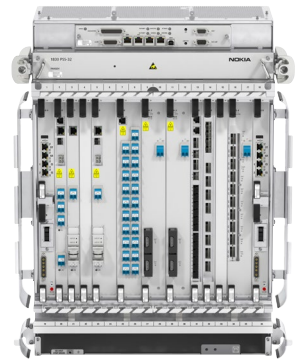
Nokia 1830 platforms ensure carriers have the intelligence, flexibility, and capacity to deliver modern, high-capacity services. The wide array of platform choices ensures cost efficient, optimized solutions for every carrier and network application.



1830 PSS-8



1830 PSS-16ii



1830 PSS-32



1830 PSI-4L



1830 PSI-8L

Technologies

Nokia PSE coherent optics

- Latest generation of Nokia Photonic Service Engine (PSE) coherent optics
- Wide array of transponders supporting 100G to 2.4 Tb/s per card
- Support for multi-baud rate/modulation formats, ensuring maximum wavelength capacity over any optical route
- Advanced probabilistic constellation shaping (PCS) enabling performance to near Shannon limit
- Next-generation soft decision forward error correction (SD-FEC)
- Nokia designed and developed coherent DSP and silicon photonics

OTN switching

- Card based OTN aggregation and multi-card distributed OTN switching – ideal for metro applications
- Also available, Nokia centralized OTN switching platforms, 1830 PSS-8x, PSS-12x, PSS-24x.

Advanced ROADM architectures

- Advanced CDC-F and C-F ROADM solutions enabling dynamic reconfigurable networks
- Range of application-optimized integrated ROADM (iROADM) cards designated iR4, iR9, iRDM20, and iRDM32
- Industry leading Nokia 1830 PSS C+L band WDM line system doubles network fiber capacity

Integrated packet transport

- MEF-certified packet interface cards enable efficient metro / regional packet aggregation networks
- Fully managed, end-to-end packet solution with common service, operations, and management model across optical and Ethernet/IP networks

Synchronization

- Support for ITU-T G.8262 SyncE for frequency synchronization distribution
- IEEE 1588v2 packet-based time/phase synchronization

Protection / Restoration

- Multiple service protection options, including per wavelength protection (1+1), optical line protection, OTN eSNCP protection, L0 GMPLS restoration, L1 GMPLS restoration
- Advanced L0/L1 GMPLS restoration options ensures efficient network protection, including coordinated multi-layer protection for combined WDM and OTN switch networks

Management

- Nokia WaveSuite tools to monitor, manage, and optimize networks, including WaveSuite NOC, Health & Analytics, Optimizer
- WaveSuite Planner for WDM simulation and network planning

Flexibility

- Reduce TCO through flexible, modular 1830 PSS-8, -16ii, -32 and PSI-4L / -8L shelves that utilize the same cards, software, and management across the 1830 portfolio

Product descriptions

1830 PSS-8

The 1830 PSS-8 shelf is ideal for access and metro packet / OTN aggregation applications, point to point WDM applications such as interconnecting data centers, as well as metro ROADM applications. The 3RU shelf provides (4) full-size cards slots or (8) half-size card slots.

OTN and packet aggregation is supported by a pay-as-you-grow distributed switching fabric that scales with the number of services, from single card aggregation to multi-card aggregation via the 1.6T distributed switching fabric.

The 1830 PSS-8 is a front access shelf that is 300mm deep and supports both DC and AC power options. Additional slot capacity can be added using interconnected extension shelves to create a single node.

1830 PSS-16ii

The mid-size 1830 PSS-16ii shelf is 8RU high and supports (8) full-sized cards or (16) half-sized cards.

The 1830 PSS-16ii supports OTN and packet aggregation at the card level, as well as across the entire shelf via a distributed switching fabric supporting up to 3.2T of capacity.

In addition to the packet/OTN applications, the slightly larger shelf size and additional slot capacity of the 1830 PSS-16ii is ideal for WDM networks, ROADM application, in-line amplifier (ILA) sites.

The 1830 PSS-16ii is a front access shelf that is 300mm deep and supports both DC and AC power options. Multiple shelves can be interconnected to create a single node

1830 PSS-32

The full-size 1830 PSS-32 shelf is 14RU high and supports (16) full-sized cards or (32) half-sized cards. The large shelf is ideal for large ROADM configurations with large numbers of transponder cards.

The 1830 PSS-8 is a front access shelf that is 300mm deep and supports DC power. As with the other shelf options, additional extension shelves can be added to enable additional slot capacity, with all interconnected shelves operating as a single node.

1830 PSI-4L / 8L

The 1830 PSI-4L and PSI-8L are new compact, modular shelves supporting (4) and (8) full-sized slots, respectively. The PSI-4L/8L physical shelf sizes are optimized for data center applications, however these system can be used in traditional carrier networks as well.

The Photonic Service Interconnect – Line (PSI-L) shelves support 1830 WDM line units only, including iROADM cards, Raman amplifier cards and CDC-F and C-F add/drop units. The 1830 PSI-4L and PSI-8L systems can be paired with 1830 PSI-M transponders, supporting similar data center optimized physical size, or transponders mounted in 1830 PSS-8/-16ii/-32 shelves.

The PSI-L shelves offer front-to-back airflow, AC or DC power, and the flexibility to mount in data center racks or cabinets as well as in traditional 19-in, 23-in and ETSI telco racks.



Technical specifications

Specifications	1830 PSS-8	1830 PSS-16 ii	1830 PSS-32	1830 PSI-4L	1830 PSI-8L
Interface card slots (full height)	4	8	16	4	8
Dimensions (HxWxD)	133 x 438 x 259mm 5.2 x 17.2 x 10.2 in	399 x 440 x 290 15.7 x 17.3 x 11.4 in	622 x 439 x 279 mm 24.5 x 17.2 x 11 in	132 x 449 x 461mm 5.2 x 17.7 x 18.1 in	221 x 449 x 461 8.7 x 17.7 x 18.1 in
Weight	7.2 kg (15.9 lb)	13.10 kg (28.87 lb)	15.77 kg (34.77 lb)	11.8 kg (26 lb)	16 kg (35 lb)
Unit / Card support	WDM / ROADM Transponders Packet / OTN (distributed sw)	WDM / ROADM Transponders Packet / OTN (distributed sw)	WDM / ROADM Transponders Packet / OTN (card level)	WDM/ROADM units	WDM/ROADM units
Controller card slots	2 protected	2 protected	2 protected	2 protected	2 protected
Power modules	Redundant power modules	Redundant power modules	Redundant power modules	Redundant power modules	Redundant power modules
Power options	48V DC, 110/220V AC	48V DC, 10/220V AC	48V DC	48V DC, 110/220V AC	48V DC, 10/220V AC
Operating temperature	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)
Humidity	5% to 85%	5% to 85%	5% to 85%	5% to 85%	5% to 85%
Multi-shelf extensions	Up to 24 1830 PSS shelves per NE	Up to 24 1830 PSS shelves per NE	Up to 24 1830 PSS shelves per NE	Up to 31 shelves per NE	Up to 31 shelves per NE

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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