

Nokia 1830 PSS-24x 1 Terabit Programmable Uplink Card 2UC1T

Nokia's 2UC1T uplink card for the PSS-24x platform offers the highest levels of wavelength performance for maximum optical reach and capacity. Based on Nokia's latest generation Photonic Service Engine (PSE-Vs) DSP, the 2UC1T utilizes high-performance coherent pluggable optical modules, supporting 200G to 500G wavelengths. The 1 Terabit programmable high-speed uplink card provides an ideal solution for high-capacity applications over regional, long-haul, and ultra-long-haul networks.

The 2-carrier uplink 2UC1T card is a member of the Nokia's 1830 PSS-x family. The 1830 PSS-x platforms deliver multi-terabit switching scale along with integrated high-capacity wavelength division multiplexing (WDM) transport optics, and expanded range of service options using high-density, multi-rate client interfaces. The 1830 PSS-24x platform is optimized for core and large metro packet/optical transport network (OTN) switching applications, placing industry-leading electrical switching scale at international/ national, regional and metro core network locations.



Benefits

- High-performance, programmable 200G to 500G coherent WDM lines
- Pluggable modules BMDCO6 based on Nokia latest generation PSE-Vs technology
- Advanced probabilistic constellation shaping (PCS) and soft decision forward error correction (SD-FEC)
- Compact single slot size, 1 Tb/s capacity per slot
- Superior resiliency with line and channel protection
- Secure transport with protocol-agnostic, wire-speed Layer 1 encryption

Applications

- High-capacity regional, long-haul, and ultra-long-haul applications
- Business services, wholesale services, and multiservice transport applications
- Efficient, large-scale aggregation of low-speed services to high-speed WDM coherent lines
- Beyond 100G applications, including OTUCn line structure
- Transport wavelength of 400GE client services

Product description

The 2UC1T is a 2-port uplink card for the PSS-24x platform with up to 1 Tb/s per slot switching capacity. The high-performance uplink card offers optimized optical reach and capacity for regional, long-haul, and ultra-long-haul applications.

The high-speed card provides two programmable 200G-500G coherent WDM line interfaces, with configurable modulation and baud rate modes. The WDM line ports are fully tunable across C-Band or L-Band, Flexgrid-capable, and support N x OTU4 and OTUCn line structures. The card supports both single carrier and dual carrier modes, depending on network application needed.

Based on the Nokia PSE-Vs super coherent DSP, the WDM line interface utilizes the latest generation probabilistic constellation shaping (PCS), and advanced forward error correction (FEC). The 2UC1T provides flexible, modular lines using Nokia's BMDCO6 coherent pluggable modules. The BMDCO6 modules enable pay-as-you-grow options for the deployment of high-performance coherent WDM line optics.

The 2UC1T offers efficient and reliable multi-layer networking with ODUk switching and protection, including ODUFlex. In addition, the card supports robustness features like optical line and optical channel protection with GMPLS control plane.

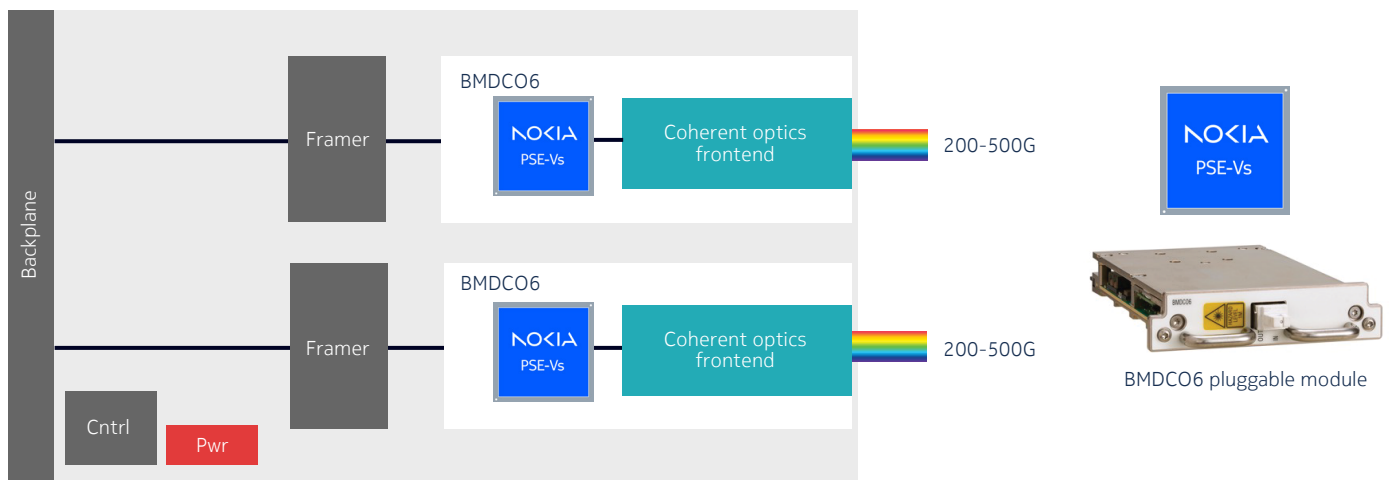
The 2UC1T supports Beyond 100G (B100G) applications including 400GE transport and OTUCn line structure. OTUCn is automatically configured where needed to transport 400GE clients resulting in operational continuity and seamless integration.

The 2UC1TE version of the card supports protocol-agnostic, wire-speed Layer 1 encryption. Advanced Encryption Standard (AES) 256 can be provisioned per ODU4 or per ODUCn line payload to provide end-to-end data protection.

Nokia supported products

The 2UC1T uplink card is supported on Nokia 1830 PSS-24x platform.

Figure 1. 1830 PSS-24x 2UC1T



Unit name	Part #	Description
2UC1T	3KC61122AA	2-port 200G-500G regional/LH/ULH uplink card
2UC1TE	3KC61279AA	2-port 200G-500G regional/LH/ULH uplink card with encryption



Technical specifications

Specifications	2UC1T
Applications	Metro, Regional, LH, ULH
Interfaces	2 x BMDCO6 WDM line ports 200G – 500G provisioned (QPSK, QAM16, sQAM16) 33 – 90 Gbaud Nokia PSE-Vs DSP
Transmission capacity	1 Tb/s
Power consumption	200 W (typ)
Features	200G to 500G Metro to ULH transport applications Up to 2 x C-Band tunable coherent pluggable modules BMDCO6 (part # 3KC93815AA) Up to 2 x L-Band tunable coherent pluggable modules BMDCO6L (part # 3KC94052AA) Probabilistic Constellation Shaping Gen 2 Nokia SD-FEC-G3 Line structure: N x OTU4, OTUCn ODUk switching (ODU0/1/2/2e/3/4/flex) Enhanced OCH PM monitoring Trail (TCM) based latency measurement Beyond 100G (B100G) applications GMPLS control plane
Protection and restoration	OLP/OMSP 1+1 optical line side protection OCHP (OPSUM) 1+1 protection ODUk/ODUflex 1+1 SNC protection L1, MRN restoration
Encryption (2UC1TE)	Low latency, ODU4 / ODUCn configurable line encryption (AES-256)
Operating environment	Normal 5°C to 40°C (41°F to 104°F) Short-term -5°C to 50°C (23°F to 122°F) Humidity 5% to 85%
Physical	1-slot, full height
1830 PSS shelves	24x
Compliance	UL/CSA 62368-1 IEC/EN 62368-1 AS/NZS 62368.1 IEC/EN 60825-1, 60825-2 GR-63 NEBS, GR-1089 ROHS6 CE Mark

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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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