

Nokia 1830 PSS-24x Uplink Card 2UC1TH

Nokia's 2UC1TH uplink card for the 1830 PSS-24x platform enhances performance and capacity for maximum optical reach and better network utilization. Based on Nokia's latest generation Photonic Service Engine (PSE-6s), the 2UC1TH utilizes high-performance coherent pluggable optical modules, supporting up to 1 Tb/s wavelengths. The programmable uplink card provides an ideal solution for high-capacity applications over regional, long-haul, and ultra-long-haul networks.

The 2-carrier uplink 2UC1TH 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 up to 1 Tb/s coherent WDM line
- Flexible single or dual port configuration
- Pluggable modules BMDCO12 based on Nokia latest generation PSE-6s 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

Applications

- High-performance metro, 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
- High-capacity applications, including OTU4, OTUCn line structure
- 800 Gb/s long-haul transport on single wavelength

Product description

The 2UC1TH is a high-performance, 2-port uplink card for the 1830 PSS-24x platform, supporting the latest generation of Nokia PSE coherent optics. The programmable uplink card offers optimized optical reach and capacity for regional, long-haul, and ultra-long-haul applications.

The high-speed card provides two programmable coherent WDM line interfaces, with configurable modulation and baud rate modes. The card supports both single carrier and dual carrier modes, depending on network application needed. One line interface can be provisioned up to 500 Gb/s and the other interface up to 1 Tb/s for a total of 1 Tb/s per slot switching capacity. The WDM line ports are fully tunable across C-Band, Flexgrid-capable, and support N x OTU4 and OTUCn line structures.

Based on the sixth generation Nokia PSE-6s super-coherent DSP and CSTAR silicon optics, the WDM line interface utilizes the latest generation probabilistic

constellation shaping (PCS), and advanced forward error correction (FEC). The 2UC1TH provides flexible, modular lines using Nokia's BMDC012 coherent pluggable modules. The BMDC012 modules enable pay-as-you-grow options for the deployment of high-performance coherent WDM line optics.

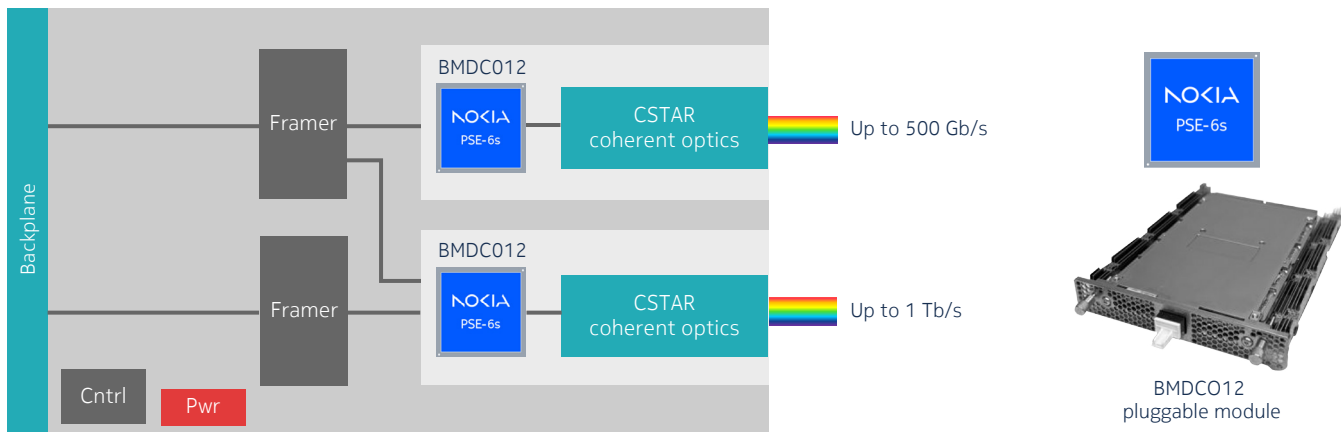
The 2UC1TH offers efficient and reliable multi-layer networking with ODUk switching and protection, including ODUFlex. In addition, the card supports robustness features like optical line and optical channel protection with GMPLS control plane.

The 2UC1TH 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.

Nokia supported products

The 2UC1TH uplink card is supported on Nokia 1830 PSS-24x platform.

Figure 1. 1830 PSS-24x 2UC1TH



Unit Name	Part #	Description
2UC1TH	3KC60794AA	2-port high-performance regional/LH/ULH uplink card



Technical specifications

Specifications	2UC1TH
Application	Metro, Regional, LH, ULH
Interfaces	2 x coherent WDM line ports Port 1: up to 500 Gb/s, Port 2: up to 1 Tb/s, Total: 1 Tb/s Up to 130Gbaud, 150 GHz spacing QPSK, Shaped-QAM16, Shaped-QAM64 Nokia PSE-6s DSP
Power consumption	240 / 320 W (typ)
Features	Up to 2 x C-Band tunable coherent pluggable modules BMDCO12 (part # 3TL04135AA) Up to 2 x L-Band tunable coherent pluggable modules BMDCO12L (prepared) Up to 2 x cost-optimized 800G multi-haul coherent pluggable modules BMDCO8 (prepared) Single or dual carrier operation Probabilistic Constellation Shaping Gen 3 Nokia SD-FEC 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 Low power mode 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
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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