

D4AD1T6H Transponder

The high capacity, high performance Nokia D4AD1T6H transponder provides an ideal solution for transporting 100GE/400GE/800GE services over metro, regional, and long haul networks. Based on Nokia's latest generation PSE-6s coherent DSP, the D4AD1T6H includes 2 x WDM line ports, supporting up to 800G per line port.

The Nokia 1830 Photonic Service Switch (PSS) product family provides versatile solutions for aggregation and transport of client services over access, metro, regional and long-haul optical networks. The new D4AD1T6H transponder is supported in the 1830 PSS-16ii system, providing aggregation of 100GE/OTU4, 400GE, and 800GE client services.



Benefits

- High performance transport for 100GE/OTU4, 400GE, and 800GE interfaces
- Advanced probabilistic shaped modulation (PCS) and soft-decision FEC based on the latest generation PSE-6s technology
- PSE-6 chip-chip interface enables client bandwidth sharing across 2 x WDM line ports
- High capacity transport from metro to long-haul distances
- Backward compatibility with existing PSE-Vs based transponders
- Supported on 1830 PSS-16ii systems

Applications

- High capacity (1.6 Tb) transponder for DCI, metro, regional, and long haul applications
- Aggregation and transport of 400GE / 800GE router interfaces over optical networks
- Aggregation of up to 16x100GE/OTU4 interfaces
- Mixed 100GE/OTU4, 400GE, and 800GE services over same line wavelength – up to 800G Tb per WDM line port
- Efficient, cost-effective transponder for 800G applications

Product description

The D4AD1T6H is a high-performance transponder for aggregating 100GE, 400GE, and 800GE client services. The unit supports two WDM coherent line ports, incorporating the latest generation Nokia PSE coherent digital signal processor (DSP).

The D4AD1T6H is designed for use in 1830 PSS -16ii platforms. The unit includes two 400G client ports and two dual-rate 400G/800G ports. In addition, up to 16x100GE/OTU4 services are supported using DR4 client optics supporting 4 x 100G each. The two WDM line ports support up to 800GB line rates per port, with provisioned baud rate and probabilistic constellation shaping (PCS) to maximize wavelength capacity over any network route.

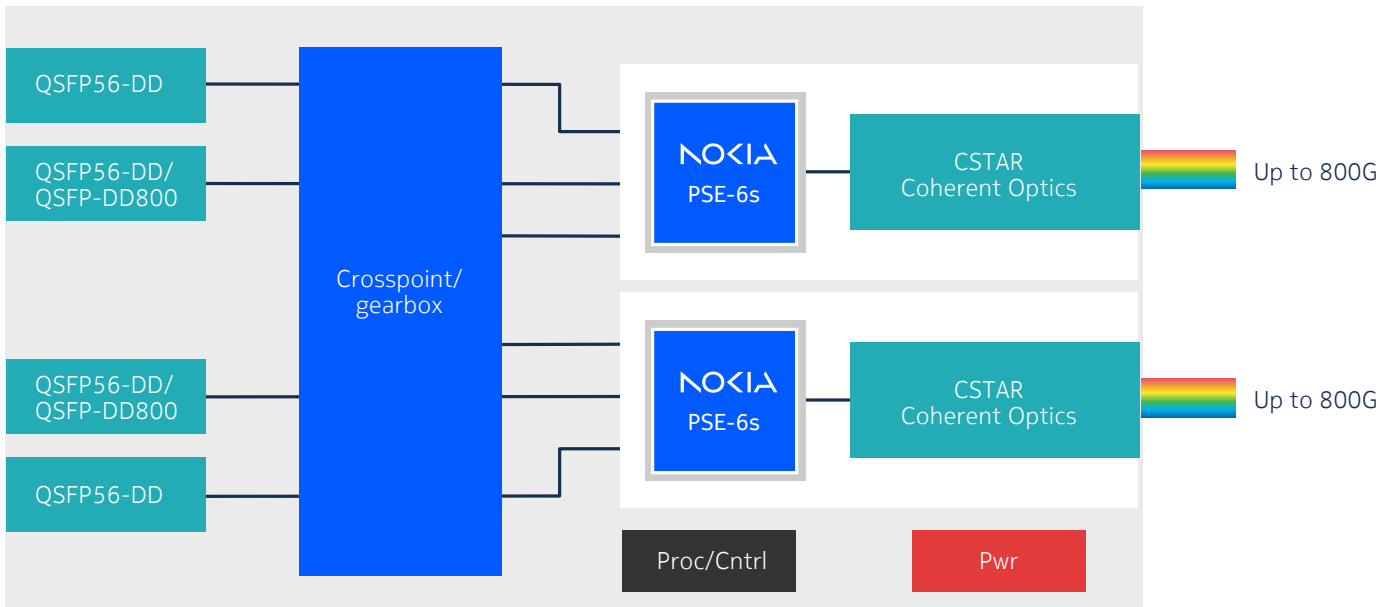
The WDM coherent line interface utilize Nokia’s latest generation of Nokia PSE-6s coherent DSP and CSTAR silicon photonics. The PSE-6 coherent DSP

incorporates Nokia advanced probabilistic constellation shaping (PCS), strong forward error correction (FEC), and fine baud rate tuning. The PSE-6 also includes a DSP chip to chip interface enabling bandwidth sharing between client ports and the two WDM line ports. Bandwidth sharing maximizes optical reach, especially when transporting odd numbers of client interfaces. As an example, 3x400GE clients can transported as 2x600G line wavelengths. The D4AD1T6H is optimized for metro, regional, and long-haul applications for efficient, cost effective 800G applications.

Nokia supported products

The D4AD1T6H unit is supported on the Nokia 1830 PSS-16ii platform.

Figure 1. D4AD1T6H Diagram





Unit	Part #	Description
D4AD1T6H	3KC72295AA	1.6T Transponder

Specifications	D4AD1T6H
Application	Metro, Regional, LH, n x 400GE/800GE Transponder Up to 16 x 100GE/OTU4 support, via DR4+/DR4++ client optics Mixed 100G /400G / 800G transport
Line Port	2 x WDM line ports, 130 Gbaud Up to 800G per line port Modulation QPSK, PCS Shaped-QAM16 Nokia SD-FEC (15%, 25%, variable) Continuous baudrate adjustment via baudrate flexible profiles Non-linear compensation Bandwidth line port sharing via PSE-6 chip-chip interface Full C-band with 0.1 GHz central frequency tuning
Client ports	2 x QSFP56-DD 400GE (4x100GE/OTU4 via DR4 optics) 2 x QSFP56-DD/QSFP800 400GE/800GE (4x100GE/OTU4 via DR4 optics)
Features	Integrated test signal with loopbacks Comprehensive analog and digital PMs with fast telemetry Client / Line GCC0 LLDP snooping
Protection	O-SNCP (OPSB5) / OCHP (OPSUM) optical channel protection OLP / OMSP optical line protection LO Restoration (GMPLS)
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	2-slot, half-height
Power consumption	330 W (typical)

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Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.

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