1830 PSI-M DMAT6 Muxponder

The high capacity 1830 PSI-M DMAT6 muxponder provides an ideal solution for 400GE/800GE aggregation applications over metro, regional, and long haul networks. Based on Nokia's latest generation Photonic Service Engine (PSE-6s) coherent optics, the DMAT6 includes 2 x WDM line ports, supporting up to 2.4 Tb/s bandwidth.

The Nokia PSI-M is a compact modular optical networking platform, optimized for data center interconnect applications over metro, regional and long haul distances. As the software industry transitioned to cloud-based applications, it created a tremendous need for optical networks and bandwidth to interconnect data centers over regional and long-haul networks, as well as to connect local data caching sites to their respective metro point of presence locations.

Benefits

- High performance transport for 400GE/800GE interfaces, along with 100G clients via breakout cable
- Advanced probabilistic shaped modulation (PCS) and FEC based on Nokia latest generation PSE-6s technology
- PSE-6s chip-chip interface enables client bandwidth sharing across 2 x WDM line ports
- High capacity transport from metro to LH/ULH distances
- Backward compatibility with existing Nokia PSE-Vs based transponders

Applications

- High capacity (2.4 Tb/s) muxponder for DCI, metro, regional, long haul, and subsea applications
- Aggregation and transport of 400GE / 800GE router interfaces over optical networks
- Aggregation of 24x100GE/OTU4 interfaces, via breakout cable
- Mixed 100GE/OTU4, 400GE, and 800GE services over same wavelength – up to 1.2 Tb/s per line port
- Transport 3 x 800GE router services over (2) x 1.2 Tb/s WDM line ports, via n x 400GE/800GE client ports

Product description

The DMAT6 is a new, high-performance muxponder for aggregating 400GE/800GE client services. The unit supports two WDM coherent line ports, designed using the latest generation Nokia PSE coherent optics.

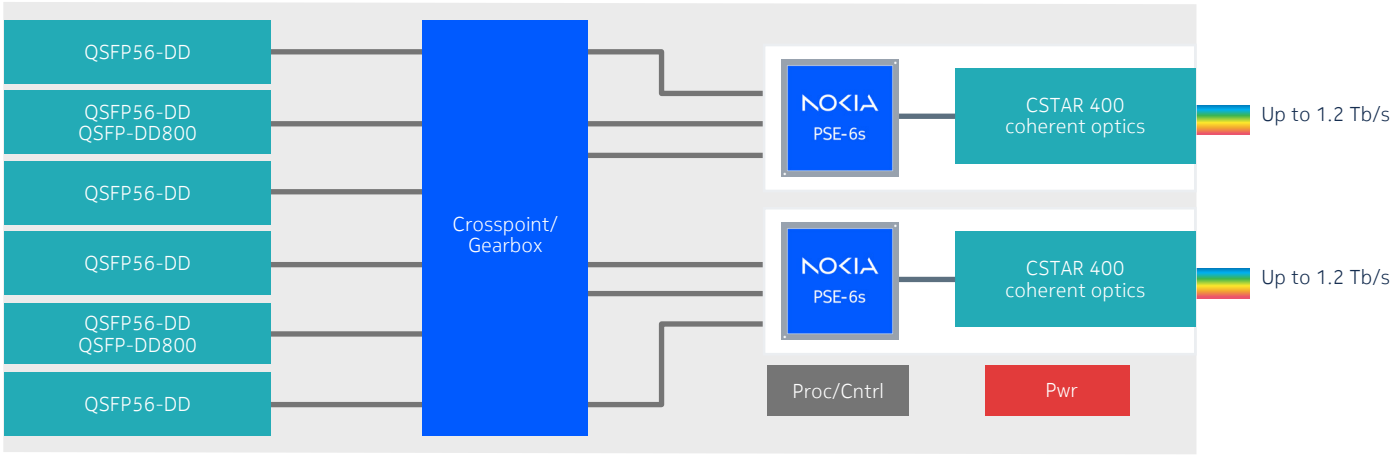
The DMAT6 muxponder is a double-width module designed for use in the 1830 PSI-M platform. The DMAT6 includes four 400G client ports and two dual rate 400G/800G ports. In addition, up to 24x100GE/ OTU4 services are supported via breakout cables. The two WDM line ports support up to 1.2 Tb/s line rates per port, with provisioned baud rate and probabilistic constellation shaping (PCS) to maximize wavelength capacity over each network route.

The WDM coherent line interfaces utilize Nokia's latest generation photonic service engine, incorporating Nokia's sixth generation coherent DSP and CSTAR silicon optics. The PSE-6s incorporates probabilistic constellation shaping (PCS), advanced forward error correction (FEC), and fine baud rate tuning. The PSE-6s 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 DMAT6 is optimized for metro, regional, long-haul, and subsea applications, where high-capacity and high-performance optical reach are required.

Nokia supported products

The DMAT6 unit is supported on Nokia 1830 PSI-M platform.

Figure 1. 1830 PSS DMAT6



Unit	Part #	Description
DMAT6	3KC82399AA	n x 400GE/800GE Muxponder
DMAT6 Subsea	3KC82780AA	n x 400GE/800GE Muxponder, subsea
DMAT6L	3KC82671AA	n x 400GE/800GE Muxponder, L-Band

Specifications	DMAT6		
Application	Metro, Regional, LH, Subsea n x 400GE/800GE Muxponder Up to 24 x 100GE/OTU4 support, via breakout cables Mixed 100G /400G / 800G transport		
Line Port	2 x WDM line ports, 130 Gbaud Up to 1.2T per line port Probabilistic Constellation Shaping (PCS Gen3), Shaped-QAM16, Shaped-QAM64 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 tunning		
Client ports	4 x QSFP56-DD	400GE	(4x100GE/OTU4 via breakout cable)
	2 x QSFP56-DD/QSFP800	400GE/800GE	(4x100GE/OTU4 via breakout cable)
Features	Integrated test signal with loopbacks Comprehensive analog and digital PMs with fast telemetry Client / Line GCC0 LLDP snooping Support up to (2) x DMAT6 modules per PSI-M chassis (4.8 Tb)		
Protection	O-SNCP (OPSB5) / OCHP (OPSUM) optical channel protection OLP / OMSP optical line protection L0 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	Double-width module, PSI-M		
Power consumption	346 W (typical)		

About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

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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