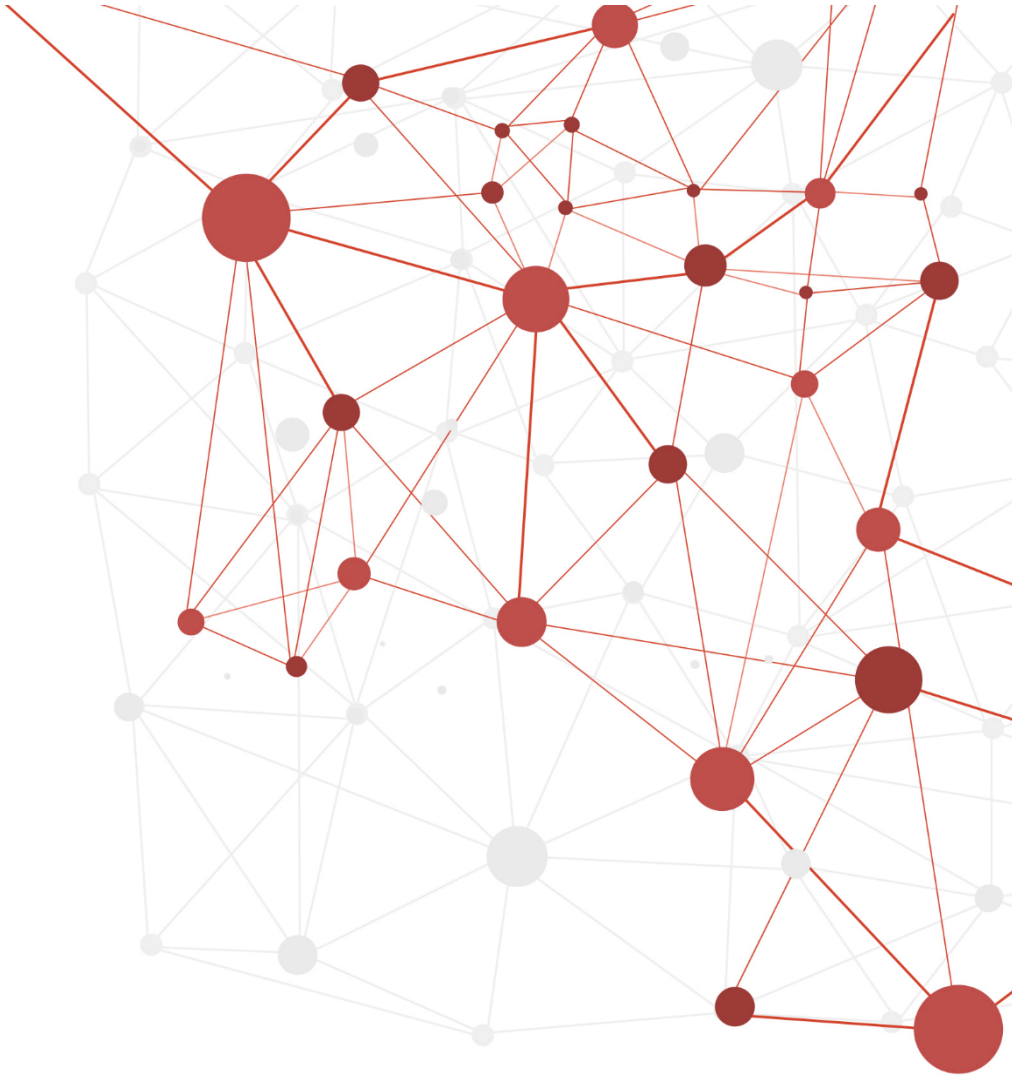

Huawei OptiX OSN 1800

OTN and Boards Datasheet

CONTENT

Contact Us

Tel: +1-626-239-8066 (USA) +852-3050-1066 / +852-3174-6166

Fax: +852-3050-1066 (Hong Kong)

Email: sales@router-switch.com (Sales Inquiries)

Overview

Huawei OptiX OSN1800 is a series of box architecture Multi-Service Optical Transport Network (MS-OTN) transmission equipment that supports Time Division Multiplexing (TDM), packet, and Optical Transmission Network (OTN) services over a metro or campus optical network. This equipment enables multiple high-bandwidth services (from 2 Mbit/s to 100 Gbit/s) to be delivered at less cost.

Huawei OptiX OSN1800 provides five platforms: OptiX OSN 1800 I/II Compact, OptiX OSN 1800 I Enhanced, OptiX OSN 1800 II Enhanced and OptiX OSN 1800 V.

Platforms Features & Specifications

OptiX OSN 1800 I/II Compact

OptiX OSN 1800 I/II Compact platforms provide these features:

★ **Unified transmission**

Encapsulates all services, from low-bandwidth services (such as FE services) to high-bandwidth services, into OTN frames for unified transmission.

★ **Unified management**

Manages and maintains SDH and WDM/OTN equipment using a single NMS.

★ **Easy deployment**

Features compact design, high integration, and easy deployment.

Table 1. OptiX OSN 1800 I/II Compact Product Specifications.

Item		OptiX OSN 1800 I Chassis	OptiX OSN 1800 II Chassis
Dimensions (mm)		44 x 442 x 220 (H x W x D) (excluding mounting ears)	88 x 442 x 220 (H x W x D) (excluding mounting ears)
Number of service board slots		DC chassis: 3 AC chassis: 1	DC chassis: 7 AC chassis: 5
Cross-connection	**Optical layer**	1-degree to 9-degree ROADM	
	Electrical layer	- Inter-board cross-connection: supports cross-connections of Any services at a rate lower than 1.25 Gbit/s and 10GE LAN services. - Intra-board cross-connection: supports cross-connections of Any services at a rate lower than 2.5 Gbit/s and VC-4 or VC-12 and ODU0/ODU1/ODUflex/ODU2/ODU4 services.	
Wavelength		DWDM: 80-wavelength DWDM system CWDM: 8-wavelength CWDM system	
Maximum rate per channel		200 Gbit/s	
Supported service type		SDH/SONET, PDH, OTN, Ethernet, CPRI, OBSAI, SAN, video, and others	
Redundancy and protection	**Equipment-level protection**	Power supply backup and fan backup	
	Network-level protection (OTN)	Optical line protection, intra-board 1+1 protection, client 1+1 protection, ODUk SNCP, SW SNCP, and LPT	
	Network level protection (Ethernet)	ERPS, LAG, service-based LPT, MSTP, STP, RSTP, and VLAN SNCP	

Synchronization	- Physical-layer clock (OTN&SDH) - IEEE 1588v2 (OTN) - ITU-T G.8275.1/G.8273.2 (OTN)	
Power supply	**DC power input** · Standard operating voltage: –48 V DC/–60 V DC · Operating voltage range: – 48 V DC: –40 V to –57.6 V – 60 V DC: –48 V to –72 V **AC power input** · Standard operating voltage: 110 V AC/220 V AC · Operating voltage range: 100 V AC to 240 V AC	
Installation mode	· 19-inch cabinet or 19-inch open rack · F01S300 cabinet (only matching F3SCC)	· ETSI 300 mm deep cabinet, such as N63E, N63B, and A63B · Wall-mounted

OptiX OSN 1800 I Enhanced

OptiX OSN 1800 I Enhanced platforms provide these features:

★ **MS-OTN product, supporting unified transmission and access of any service**

Supports up to 40G OTN cross-connect capacity, 120G packet cross-connect capacity, 42.5G SDH higher-order cross-connect capacity, and 5G SDH lower-order cross-connect capacity per subrack.

★ **Eco-friendly, easy O&M, and easy deployment**

- Energy-saving design and high integration with a 1 U height, reducing OPEX

- Easy to deploy, supporting installation in a 19-inch or ETSI cabinet and AC and DC power supplies

★ **Excellent architecture design, high reliability, and reliable data transmission**

- Provides various network-level service protection schemes.

- Equipment-level protection: fan protection.

Table 2. OptiX OSN 1800 I Enhanced Product Specifications.

Item		OSN 1800 I Enhanced Chassis
Dimensions (mm)		44 x 442 x 220 (H x W x D) (excluding mounting ears)
Number of service board slots		2
Optical-layer cross-connect capability		1-degree to 9-degree ROADM
Device capacity	**OTN**	OTN capacity: 40 Gbit/s
	Packet	Packet switching capacity: 120 Gbit/s (128 bytes) Packet processing capability: 126 Mpps (64 bytes)
	TDM	42.5 Gbit/s higher-order capacity, 5 Gbit/s lower-order capacity
Maximum rate per channel		10 Gbit/s
Supported service type		SDH services: STM-1/4/16/64 PDH services: E1, T1, E3, and T3

		ETH services: FE (optical/electrical), GE (optical/electrical), and 10GE
Network application		Pure packet networking, pure OTN networking, pure TDM networking, MS-OTN networking (OTN + packet + TDM), and OTN+TDM networking
Redundancy and protection	**Network-level protection (packet)**	Tunnel APS, PW APS, LPT, LAG, ERPS, and packet SNCP
	Network-level protection (TDM)	- SDH protection: SNCP and linear MSP - EoS protection: LAG, DLAG, LCAS, LPT, and STP/RSTP
	Equipment-level protection	Fan backup
Synchronization		Physical-layer clock (OTN & packet & SDH)
Power supply		**DC power input** · Standard operating voltage: –48 V DC/–60 V DC · Operating voltage range: – 48 V DC: –40 V to –57.6 V – 60 V DC: –48 V to –72 V **AC power input** · Standard operating voltage: 110 V AC/220 V AC · Operating voltage range: 100 V AC to 240 V AC
Installation mode		- 19-inch cabinet or 19-inch open rack - ETSI 300 mm deep cabinet, such as N63E, N63B, and A63B

	- Wall-mounted

OptiX OSN 1800 II Enhanced

OptiX OSN 1800 II Enhanced platforms provide these features:

★ **MS-OTN product, supporting unified transmission and access of any service**

Supports up to 200G OTN cross-connect capacity, 160G packet cross-connect capacity, 50G SDH higher-order cross-connect capacity, and 20G SDH lower-order cross-connect capacity per subrack. Supports universal line boards, allowing services groomed on the OTN, SDH, PKT, and PCM service planes to seamlessly share line transmission bandwidth.

★ **Eco-friendly, easy O&M, and easy deployment**

Energy-saving design, and high integration with a 2 U height, reducing OPEX. Supports installation in a 19-inch or ETSI cabinet and DC power supply, and features easy deployment and high environmental suitability.

★ **Built-in PCM features, providing an all-in-one solution to meet requirements for low-rate service access of industry customers**

Avoids device stacking and simplifies network architecture. Provides unified management, easy network expansion, and smooth evolution on the multi-service transport platform.

Table 3. OptiX OSN 1800 II Enhanced Product Specifications.

Item	**OSN 1800 II Enhanced Chassis**
Dimensions (mm)	88 x 442 x 220 (H x W x D) (excluding mounting ears)
Number of service board slots	6
Optical-layer cross-connect capability	1-degree to 9-degree ROADM

Device capacity	**OTN**	- 160 Gbit/s OTN capacity (OTN+PKT+SDH) - 200 Gbit/s OTN capacity (OTN+SDH)
	Packet	Packet switching capacity: 160 Gbit/s (128 bytes) Packet processing capability: 150 Mpps (64 bytes)
	TDM	50 Gbit/s higher-order capacity, 20 Gbit/s lower-order capacity
Maximum number of wavelengths	**DWDM**	80
	CWDM	8
Maximum rate per channel		200 Gbit/s
Supported service type		SDH service (STM-1/4/16/64), PDH service (E1/T1/E3/T3/E4) OTN service (OTU1/2/2e/4), Ethernet service (FE/GE/10GE/40GE/100GE) CPRI service, OBSAI service, PCM service SAN service, video, and others
PCM interface		FXS/FXO, 2/4 line audio + E&M, G.703 64 kbit/s codirectional, V.35/V.24 (synchronous/asynchronous RS232)/X.21, RS449 (RS423A/RS422A)/RS530/RS530A/RS485/Dry Contact
Network application		Pure packet networking, pure OTN networking, and pure TDM networking MS-OTN networking (OTN + packet + TDM) and OTN+TDM networking
Redundancy and protection	**Network-level protection (packet)**	Tunnel APS, PW APS/FPS, LPT, LAG, ERPS, LMSP, packet SNCP, and MRPS

	Network-level protection (TDM)	- SDH protection: SNCP, linear MSP, TPS, and ring MSP - EoS protection: LAG, DLAG, LCAS, LPT, and STP/RSTP - PCM protection: E1 SNCP, 64K SNCP, and hitless protection switching
	Equipment-level protection	- Backup of cross-connect, system control, and clock units - Power supply backup - Fan backup
	Network-level protection (OTN)	Client 1+1 protection, intra-board 1+1 protection, ODUk SNCP, optical line protection, tributary SNCP, and LPT
Easy O&M		OD and FD systems
Synchronization		- Physical-layer clock (OTN & packet & SDH) - IEEE 1588v2 (OTN & packet) - ITU-T G.8275.1/G.8273.2 (OTN & packet)
Power supply		DC power input Standard operating voltage: –48 V DC/–60 V DC

OptiX OSN 1800 V

OptiX OSN 1800 V platforms provide these features:

★ **MS-OTN product with a 5 U height, supporting ultra-high integration and access of any service**

- Supports up to 700G OTN cross-connect capacity, 700G packet cross-connect capacity, 280G SDH higher-order cross-connect capacity, and 40G SDH lower-order cross-connect capacity per subrack, greatly increasing line bandwidth utilization.
- Supports universal line boards, allowing services groomed on the OTN, SDH, and PKT service planes to seamlessly share line transmission bandwidth.

★ **Eco-friendly, easy O&M, and easy deployment**

- Energy-saving design, reducing OPEX
- Easy to deploy, supporting installation in a 19-inch or ETSI cabinet and using AC or DC power supplies

★ **Built-in PCM features, providing an all-in-one solution to meet requirements for low-rate service access of industry customers**

- Avoids device stacking and simplifies network architecture.
- Provides unified management, easy network expansion, and smooth evolution on the multi-service transport platform.

Table 4. OptiX OSN 1800 V Product Specifications.

Item		**OSN 1800 V Chassis**
Dimensions (mm)		221 x 442 x 224 (H x W x D) (excluding mounting ears)
Number of service board slots		DC chassis: 15 AC chassis: 12
Optical-layer cross-connect capability		1-degree to 9-degree ROADM
Device capacity	**OTN**	700 Gbit/s
	Packet	700 Gbit/s
	TDM	2800 Gbit/s higher-order capacity, 40 Gbit/s lower-order capacity
	DWDM	80

Maximum number of wavelengths	**CWDM**	8
Maximum rate per channel		200 Gbit/s
Supported service type		SDH service (STM-1/4/16/64), PDH service (E1/T1/E3/T3/E4), OTN service (OTU1/2/2e/4), Ethernet service (FE/GE/10GE/40GE/100GE), PCM service, CPRI service, OBSAI service, SAN service, video, and others
PCM interface		FXS/FXO, 2/4 line audio+E&M, G.703 64 kbit/s codirectional, V.35/V.24 (synchronous/asynchronous RS232)/X.21, RS449 (RS423A/RS422A)/RS530/RS530A/RS485/Dry Contact
Network application		Pure packet networking, pure OTN networking, pure TDM networking, MS-OTN networking (OTN+packet+TDM), hybrid networking (packet+TDM), OTN+packet networking, and OTN+TDM networking
Redundancy and protection	**Network-level protection (packet)**	Tunnel APS, PW APS/FPS, MC-PW APS, MC-LAG, LPT, LAG, ERPS, MRPS, LMSP, and packet SNCP
	Network-level protection (TDM)	- SDH protection: SNCP, linear MSP, ring MSP, TPS, E1 SNCP, 64K SNCP, and hitless protection switching - EoS protection: LAG, DLAG, LCAS, LPT, STP/RSTP - PCM protection: E1 SNCP, 64K SNCP, and hitless protection switching
	Equipment-level protection	- Backup of cross-connect, system control, and clock units - Power supply backup - Fan backup

	Network-level protection (OTN)	Client 1+1 protection, intra-board 1+1 protection, ODUk SNCP, optical line protection, tributary SNCP, and LPT
Easy O&M		OD and FD systems
Synchronization		- Physical-layer clock (OTN & packet & SDH) - IEEE 1588v2 (OTN & packet) - ITU-T G.8275.1/G.8273.2 (OTN & packet)
ASON		OTN network: electrical-layer ASON (only for Z series cross-connections)
Power supply		- DC power input: standard operating voltage: –48 V DC/–60 V DC - AC power input: standard operating voltage: 110 V AC/220 V AC

Boards Description

There are various boards for Huawei OptiX OSN 1800.

Table 5. This table lists the boards.

Board	Description
TMA1UXCL	The TMA1UXCL board is a system control, cross-connect, timing, and service integrated board. It provides the functions of a system control, cross-connect, timing board, and implements cross-connections of VC-4/VC-3/VC-12 services and switching of packet services. The board can also be configured as a universal line board (SDH+packet services), a TDM board, or a packet board for transmitting various services
TNF1AST4	As a type of optical supervisory channel unit, the AST4 board processes four channels of supervisory signals in opposite directions.
TNF1AUX	The TNF1AUX is an auxiliary interface board that provides one 64 kbit/s synchronous transparent data port or one 19.2 kbit/s asynchronous transparent data port, and alarm input/output ports.

TNF1CE6	The CE6 is mainly used to map six channels of Any service signals at a rate in the range of 125 Mbit/s to 10.5 Gbit/s into two OTU2 signals. At the same time, the board completes the reverse process.
TNF1CQ1	The CQ1 is mainly used to transmit/receive channelized STM-1 services on the packet ring, and manage bandwidths.
TNF1DAP	The DAP board is a C-band dual-channel pluggable OA base board that amplifies optical signals. The boards are configured at the transmit and receive ends of the equipment respectively.
TNF1DFIU	As a type of optical multiplexing and demultiplexing unit, The DFIU board multiplexes and demultiplexes signals in two directions transmitted along the main path and optical supervisory channel.
TNF1DMS	The DMS board is an interface board that provides ports for the PD1 board.
TNF1DSFIU01	As a type of optical multiplexing and demultiplexing unit, the DSFIU board multiplexes and demultiplexes signals transmitted along the main optical path and optical supervisory channel.
TNF1EF8F	The TNF1EF8F is mainly used in the packet data transmission field to transmit/receive data packets, manage bandwidths, and implement switching of data packets.
TNF1EFS8	Serves as a TDM processing board that apply to transmit/receive Ethernet services, manage bandwidths, and realize Layer 2 switching of Ethernet services and performs 8xFE electrical signals switching and processing.
TNF1EGS4	The EGS4 is used to transmit/receive Ethernet services, manage bandwidths, and realize Layer 2 switching of Ethernet services.
TNF1EMR4	Serves as an enhanced four channel optical add/drop multiplexer board, the EMR4 is mainly used to add/drop four channels of wavelength signals to/from the multiplexed signals in a direction.

TNF1EMR8	Serves as an enhanced eight channel optical add/drop multiplexer board, the EMR8 is mainly used to add/drop eight channels of wavelength signals to/from the multiplexed signals in a direction.
TNF1EX40	Serves as an enhanced 40-channel multiplexing or demultiplexing board. The EX40 can be used in three scenarios: multiplexing or demultiplexing of 40 channels of optical signals in the two-fiber bidirectional system, multiplexing and demultiplexing of 18/35 channels of optical signals synchronously in the single-fiber bidirectional system with optical amplifiers, and multiplexing and demultiplexing of 20/40 channels of optical signals synchronously in the single-fiber bidirectional system without optical amplifiers.
TNF1ITL	The ITL board implements multiplexing/demultiplexing between the optical signals at a channel spacing of 100 GHz and the signals at a channel spacing of 50 GHz.
TNF1LDCA	The LDCA board is an optical transponder board. Applied in coherent systems, the board maps optical signals received on the client side into one OTUC2 or OTU4 signal, and performs mutual conversion between the OTUC2/OTU4 signal and the optical signal carried over an ITU-T-compliant WDM wavelength.
TNF1LDX / TNF2LDX	Mainly used to map two channels of 10 Gbit/s service signals into OTU2 or OTU2e signals and completes the reverse process, or implement the regeneration of two channels of OTU2 or OTU2e signals.
TNF1LSC	Serves as a wavelength conversion board and performs 100GE/OTU4 <-> OTU4 conversions.
TNF1LSX	Serves as a wavelength conversion board that maps one channel of 10 Gbit/s service signals into OTU2 or OTU2e signals and performs conversion between the 10 Gbit/s service signal and WDM signals that comply with ITU-T Recommendations and regeneration of one channel of OTU2 or OTU2e optical signals.
TNF1LTX	Serves as a wavelength conversion board that applies to metro 100G and performs 10 x 10GE LAN/10GE WAN/STM-64/OC-192/OTU2/OTU2e/FC1200/FC800/FICON 8G/FICON 10G<-> OTU4 conversions.

TNF1MB1	Serves as a bandpass filter 1-channel optical add/drop Multiplexing board, the MB1 is mainly used to perform multiplexing and demultiplexing for wavelengths in the red and blue bands in two transmission directions and can be applied in single-fiber, bidirectional, optical transmission systems.
TNF1MD1	The MD1 is mainly used to transmit/receive CES E1 services on the packet ring, and manage bandwidths.
TNF1MR8	The MR8 board mainly serves to add/drop eight channels of wavelength signals to/from the multiplexed signals in a direction.
TNF1OBU / TNF2OBU	The OBU board is used at the transmit or receive end to amplify optical signals in the C band.
TNF1OLP	Serves as an optical line protection board. For the OptiX OSN 1800I/II compact, the OLP board can implement optical line protection, intra-board 1+1 protection, inter-subrack optical channel protection, and client 1+1 protection. For the OptiX OSN 1800 V and 1800 II Enhanced, the OLP board can implement optical line protection, intra-board 1+1 protection, and client 1+1 protection.
TNF1OPM8	The OPM8 board provides eight ports and each of the ports supports optical power monitor of up to 80 wavelengths.
TNF1PD1	The PD1 board is a TDM processing board. When the PD1 board is used together with the DMS interface board, 32 E1 or T1 signals can be transmitted and received on the OSN series of equipment.
TNF1PL3T	The PL3T is a PDH processing board. The PL3T can be used on the OptiX OSN equipment series to add and drop PDH signals. The PL3T transmits/receives and processes 3xE3/T3 signals.
TNF1PL4D	The PL4D is a PDH processing board. The PL4D can be used on the OptiX OSN series equipment to add and drop PDH signals. The PL4D transmits/receives and processes two E4 signals.

TNF1SBM4	Serves as a single fiber bidirectional four channels optical add/drop multiplexing configuration board, the SBM4 is mainly used to drop four channels of signal from the multiplexed signals and add another four channels into the multiplexed signals.
TNF1SBM8	Serves as a single fiber bidirectional eight channels optical add/drop multiplexing configuration board, the SBM4 is mainly used to drop eight channels of signal from the multiplexed signals and add another eight channels into the multiplexed signals.
TNF1SCS	Serves as an sync optical channel separator board. The SCS board provides client 1+1 protection.
TNF1SL1Q	Serves as an optical interface board that transmits and receives 4xSTM-1 optical/electrical signals and performs O/E for STM-1 optical signals extracts and inserts overhead bytes, and reports alarms generated on the line.
TNF1SL4D	Receives/Transmits 2xSTM-4 optical signals, performs O/E conversion for STM-4 optical signals, extracts and inserts overhead bytes, and reports alarms generated on the line.
TNF1SP3D	The SP3D is a PDH processing board. The SP3D can be used on the OptiX OSN equipment series to add and drop PDH signals. The SP3D transmits/receives and processes 42xE1/T1 signals.
TNF1WSMD4	As a ROADM unit, the WSMD4 board is used with optical multiplexer boards, optical demultiplexer boards, or other OADM boards to perform wavelength grooming at DWDM network nodes.
TNF1WSMD9XF	The WSMD9XF board is a ROADM board and is used together with the optical demultiplexer board, optical multiplexer board, or optical add/drop multiplexer board to implement wavelength grooming on DWDM nodes. The board is equipped with XFIU modules to demultiplex or multiplex OSC signals and main optical channel signals.
TNF1X40	Serves as a 40-channel multiplexing or demultiplexing board, the X40 can be used in three scenarios: multiplexing or demultiplexing of 40 channels of optical signals in the two-fiber bidirectional system, multiplexing and demultiplexing of 18 channels of optical signals synchronously in the single-fiber bidirectional system with optical amplifiers, and

	multiplexing and demultiplexing of 20 channels of optical signals synchronously in the single-fiber bidirectional system without optical amplifiers.
TNF2ELOM	Serves as an Enhanced 8 x Multi-rate Ports Wavelength Conversion Board that performs Any service <-> OTU2(e) conversions.
TNF2LQM	The TNF2LQM board mainly used to converge a maximum of four channels of Any (at a rate of 125 Mbit/s to 2.5 Gbit/s) signals to one channel of OTU1. At the same time, the board completes the reverse process. The TNF2LQM board also can regenerate one or two OTU1 services as a regeneration board.
TNF2LSX	Serves as a wavelength conversion board that maps one channel of 10 Gbit/s service signals into OTU2 or OTU2e signals and performs conversion between the 10 Gbit/s service signal and WDM signals that comply with ITU-T Recommendations.
TNF2LTX	The TNF2LTX board is an optical transponder board. It applies to metro 100G transmission systems, maps the optical signals received on the client side to one OTU4 signal, and performs mutual conversion between the OTU4 signal and the optical signal carried over an ITU-T-compliant WDM wavelength.
TNF3LTX	The TNF3LTX board is an optical transponder board. It applies to metro 100G transmission systems, maps the optical signals received on the client side to one OTU4 signal, and performs mutual conversion between the OTU4 signal and the optical signal carried over an ITU-T-compliant WDM wavelength.
TNF3SCC	The SCC works with the NMS to manage the boards and transmits various maintenance and management signals.
TNF5HSNQ2 / TNF6HSNQ2	The HSNQ2 board is a universal line board and supports hybrid transmission of ODU0, ODU1, ODU2, ODU2e, ODUflex, and VC4 with the total bandwidth not exceeding 40 Gbit/s (the total bandwidth of SDH services does not exceed 20 Gbit/s). The HSNQ2 board processes and converts the received service signals into four OTU2/OTU2e signals.
TNF5ND2	Serves as a 10Gbit/s line board that uses coherent technologies and performs 16 x ODU0/4 x ODUflex/8 x ODU1/2 x ODU2<-> 2 x OTU2 conversions or 2 x ODU2e <-> 2 x OTU2e conversions.

TNF5SL64D	Receives/Transmits 2xSTM-64 optical signals, performs O/E conversion for STM-64 optical signals, extracts and inserts overhead bytes, and reports alarms generated on the line.
TNF5SLNO	Serves as a 4-port STM-16/8-port STM-4/8-port STM-1 line board, receives/transmits 2xSTM-4 optical signals, performs O/E conversion for STM-16/STM-4/STM-1 optical signals, extracts and inserts overhead bytes, and reports alarms generated on the line.
TNF5TOA / TNF6TOA	As a type of tributary board, the maximum access capacity of the TOA at the client side is 20 Gbit/s.
TNF5TQX	As a type of tributary board, the TQX board converts between four channels of optical signals at a rate in the range of 8Gbit/s to 10Gbit/s and four ODU2/ODU2e/ODUflex electrical signals through cross-connection.
TNF5XCH	The UXCME board is a cross-connect board. It implements non-blocked cross-connections of 700 Gbit/s ODUk (k = 0, 1, 2, 2e, 4, and flex) signals.
TNF6HSNS4	The HSNS4 board supports hybrid transmission of OTN and SDH services with a maximum bandwidth of 100 Gbit/s. The HSNS4 board processes and converts the received service signals into one OTU4 signal.
TNF6TTA	As a tributary board, the TTA board can accept a maximum of 40 Gbit/s client services.
TNF7TTA	As a tributary board, the TTA board can accept a maximum of 40 Gbit/s client services.
TNW1AT8	The AT8 board provides eight 2-/4-wire audio and E&M analog trunk ports that transparently transmit signaling and voice signals over a long distance.
TNW1DIO	The DIO board provides ten input and four output housekeeping alarm signals.
TNW1DXM	The DXM boards are used on OptiX OSN equipment to receive and aggregate services and cross-connect 64 kbit/s system-side E1 signals.
TNW1FXSO12	The FXSO12 board provides 12xFXS/FXO ports, and transmits or receives analog voice signals

	for voice sessions.
TNW1PF4E8	The PF4E8 board provides four 2 Mbit/s optical ports and eight E1/T1 electrical ports.
TNW1PL1	The PL1 is a PDH processing board. The PL1 can be used on the OptiX OSN equipment series to add and drop PDH signals. The PL1 transmits/receives and processes 16xE1/T1 signals.
TNW1SL16Q	Receives/Transmits 4xSTM-16 optical signals, performs O/E conversion for STM-16 optical signals, extracts and inserts overhead bytes, and reports alarms generated on the line.
TNW1SL64S	Receives/Transmits 1xSTM-64 optical signals, performs O/E conversion for STM-64 optical signals, extracts and inserts overhead bytes, and reports alarms generated on the line.
TNZ1UXCL / TNZ2UXCL	The TNZ1UXCL board is a system control, cross-connect, timing, and service integrated board. It provides the functions of a system control, cross-connect, timing board, and implements cross-connections of ODUk (k = 0, 1, 2, 2e, flex)/VC-4/VC-3/VC-12 services and switching of packet services. The board can also be configured as a universal line board (SDH+packet services), a TDM board, or a packet board for transmitting various services.
TNZ5EC1	The EC1 board is a packet board. It supports access of 100GE services and transmits service signals to cross-connect boards for packet data processing and centralized grooming at the equipment level. On the WDM side, the EC1 board works with a board providing the packet service processing function to implement packet service transmission on the WDM network.
TNZ5EG10	EG10 board receives and transmits a maximum of 10 GE/FE services, processes packet services, and transmits packets to the cross-connect board for centralized cross-connections. On the WDM side, a universal line board or packet service board can be used to direct packet services to the WDM network for transmission.
TNZ5EX4	The EX4 board receives and transmits 10GE LAN services, processes packet services, and transmits the packets to the cross-connect board for centralized cross-connections. On the WDM side, a universal line board or packet service board can be used to direct packet services to the WDM network for transmission.

TNZ5TSC	As a type of tributary board, the TSC board converts between one channel of 100GE/OTU4 optical signals and one channel of ODU4 or n (n = 1-80) channels of ODUflex electrical signals through cross-connection.
TNZ5UNQ2	The UNQ2 board supports hybrid transmission of OTN, SDH and packet services with the total bandwidth not exceeding 40 Gbit/s. It can also receive and transmit only one or two of the three services. The UNQ2 board processes and converts the received service signals into four OTU2/OTU2e signals.
TNZ5UNS4	The UNS4 board is a universal line board. It supports hybrid transmission of OTN, SDH and packet services with a maximum bandwidth of 100 Gbit/s. The UNS4 board processes and converts the received service signals into one OTU4 signal.
TNZ5UXCMS	The UXCMS board is a cross-connect board. It implements cross-connections of ODUk(k=0, 1, 2, 2e, flex, 3, 4)/VC-4/VC-3/VC-12 services and packet switching of Ethernet services.
TNZ7EG10	EG10 board receives and transmits a maximum of 10 GE/FE services, processes packet services, and transmits packets to the cross-connect board for centralized cross-connections. On the WDM side, a universal line board or packet service board can be used to direct packet services to the WDM network for transmission.

Basic Ordering Information

Table 6. Ordering information of Huawei OptiX OSN 1800 OTN chassis.

Model	Description
Huawei Optix Osn 1800 I Compact	Huawei OptiX OSN 1800 I Compact, 1 U height, OTN equipment supporting only OTN services, Applied at the metropolitan access layer
Huawei Optix Osn 1800 I Enhanced	Huawei OptiX OSN 1800 I Enhanced chassis, supports a maximum of 40 Gbit/s OTN capacity, 120 Gbit/s packet capacity, 42.5 Gbit/s SDH higher-order and 5 Gbit/s SDH lower-order capacities
Huawei Optix Osn 1800 Ii Compact	Huawei OptiX OSN 1800 II Compact, 2 U height, OTN equipment supporting only OTN services, Applied at the metropolitan access layer

Huawei Optix Osn 1800 Ii Enhanced	Huawei OptiX OSN 1800 II Enhanced chassis, supports full-granularity cross-connections and multiplexing, a maximum of 200 Gbit/s OTN capacity, 160Gbit/s packet capacity, 50 Gbit/s SDH higher-order and 20 Gbit/s SDH lower-order capacities, and supports ODUk (k = 0, 1, 2, 2e, C2, flex)
Huawei Optix Osn 1800 V	Huawei OptiX OSN 1800 V chassis, supports full-granularity cross-connections and multiplexing (only Z-series cross-connections support ODU3), a maximum of 700 Gbit/s OTN capacity, 700 Gbit/s packet capacity, 280 Gbit/s SDH higher-order and 40 Gbit/s SDH lower-order capacities, and supports ODUk (k = 0, 1, 2, 2e, 3, 4, C2, flex)

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Sources

https://support.huawei.com/enterprise/en/transmission-network/optix-osn-1800-pid-16311