

# Huawei OptiX OSN 3800 and Boards Datasheet



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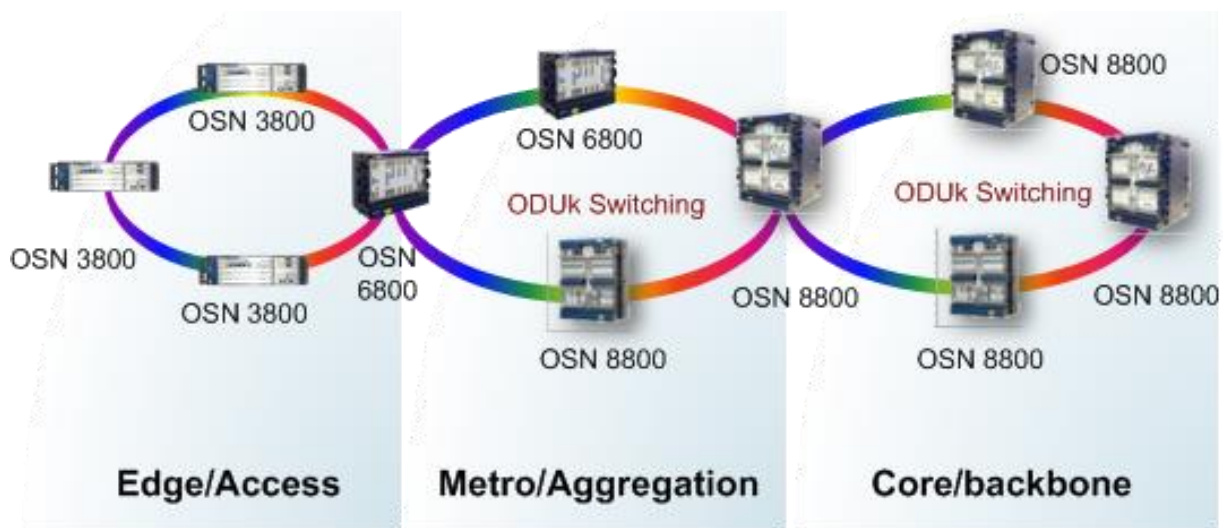
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## Overview

[Huawei OptiX OSN 3800 Compact Intelligent Optical Transport Platform](#) (OptiX OSN 3800 for short) is referred to as Huawei next generation intelligent optical transport platform. The OptiX OSN 3800 is for metropolitan convergence layers and metropolitan access layers. It may also work with other WDM, SDH/SONET equipment to offer a complete Metro WDM solution.



[OptiX OSN 3800](#)



Position of the [OptiX OSN 3800](#) / [6800](#) in the network hierarchy

## Specification

Table 1. OptiX OSN 3800 Specification.

|                                    |                                |
|------------------------------------|--------------------------------|
| Specifications                     | <a href="#">OptiX OSN 3800</a> |
| Dimensions (mm)                    | 436 (W) x 295 (D) x 134 (H)    |
| Number of slots for service boards | 4                              |

|  |  |   |
|--|--|---|
| <b>Wavelength (max)</b>                    | DWDM: 80-ch, CWDM: 8-ch  |   |
| <b>Wavelength range</b>                    | DWDM: 1529.16 nm to 1560.61 nm (Band-C, ITU-T G.694.1)<br>CWDM: 1471 nm to 1611 nm (Band S+C+L, ITU-T G.694.2) |   |
| <b>Max. rate per channel</b>               | 100 Gbit/s (OTU4)  |   |
| <b>Service types supported</b>             | SDH, SONET, Ethernet, SAN, OTN, Video  |   |
| <b>Line rate</b>                           | 2.5 Gbit/s, 10 Gbit/s, 100 Gbit/s  |   |
| <b>Supported pluggable optical modules</b> | eSFP, SFP+, XFP, CFP   |   |
| <b>Topology</b>                            | Point-to-point, chain, ring  |   |
| <b>Redundancy and protection</b>           | <b>Network level protection</b>  | Optical line protection, intra-board 1+1 protection, client 1+1 protection, ODUk SNCP, tributary SNCP, SW SNCP, MS SNCP, OWSP, board-Level protection |
|  |  | DBPS, DLAG, ERPS, LAG, LPT, MSTP, STP and RSTP, VLAN SNCP   |
|  | <b>Equipment level protection</b>  | Power redundancy, fan redundancy, system control and communication board redundancy   |
| <b>Optical power management</b>            | ALS, AGC, ALC, IPA   |   |
| <b>Nominal working voltage</b>             | -48 V DC/-60 V DC  |   |
| <b>Maximum subrack power consumption</b>   | AC power: 350 W<br>DC power: 420 W   |   |
| <b>Operation environment</b>               | Subrack temperature:<br><br>Long-term operation: 5°C (41 °F) to 45°C (113 °F)                                  |   |

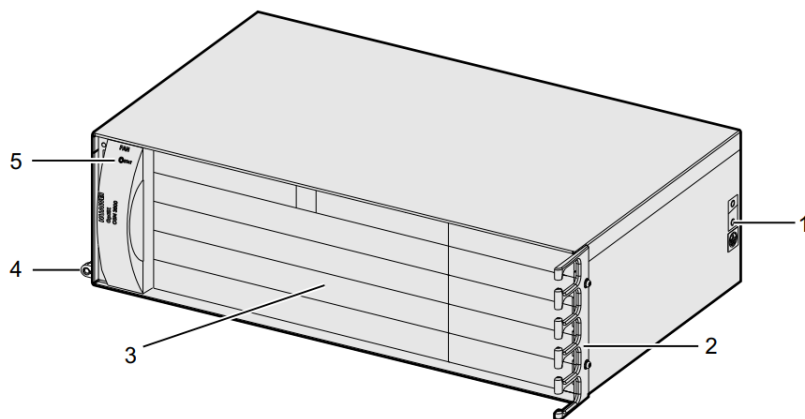
|  |  |
|--|--|
|  | Short-term operation: -5°C (23 °F) to 55°C (131 °F)<br><br>Relative humidity:<br><br>Long-term operation: 5% to 85%<br><br>Short-term operation: 5% to 95% |
| <b>Mean time to repair (MTTR)</b>        | 4 hours  |
| <b>Mean time between failures (MTBF)</b> | 27.35 years  |

## Hardware Description

### Structure

The 3U-high, case-shaped chassis is the basic working unit of the OptiX OSN 3800 compact intelligent optical transport platform (OptiX OSN 3800 for short). The chassis of the OptiX OSN 3800 can operate with an independent DC or AC power supply and can be installed in an ETSI 300 mm rear-column cabinet, a standard ETSI 300 mm cabinet, or a 19 and 23-inch open rack.

### OptiX OSN 3800 chassis



1. Grounding connector    2. Fiber frame    3. Board area    4. Antistatic jack    5. Fan indicator

- Ground connector: Access the ground cables.

- Fiber frame: Fiber jumpers in the service board area are routed through the fiber frame.

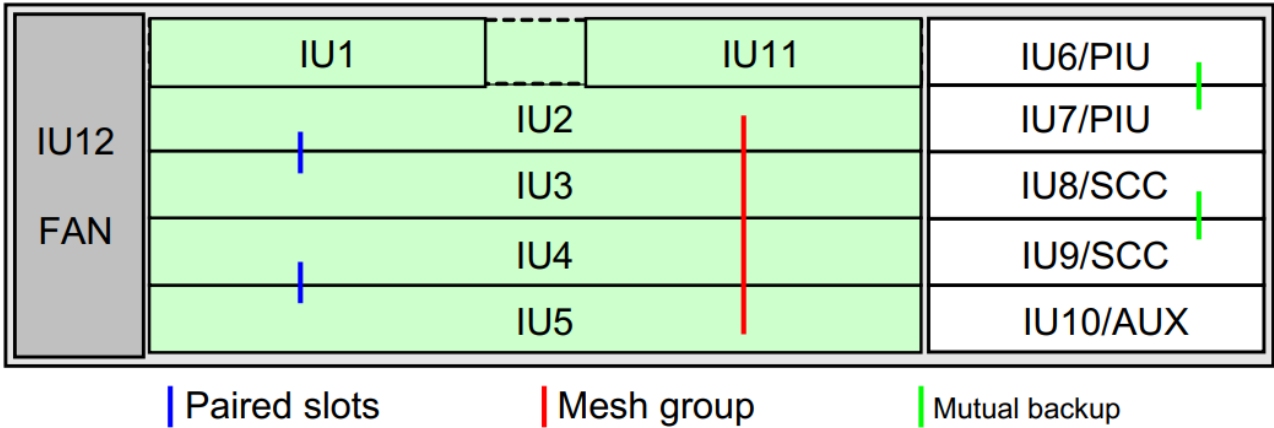
- Board area: All service boards are installed in this area. In total, 11 slots are available.

- Antistatic jack: The ESD strap is in this area.

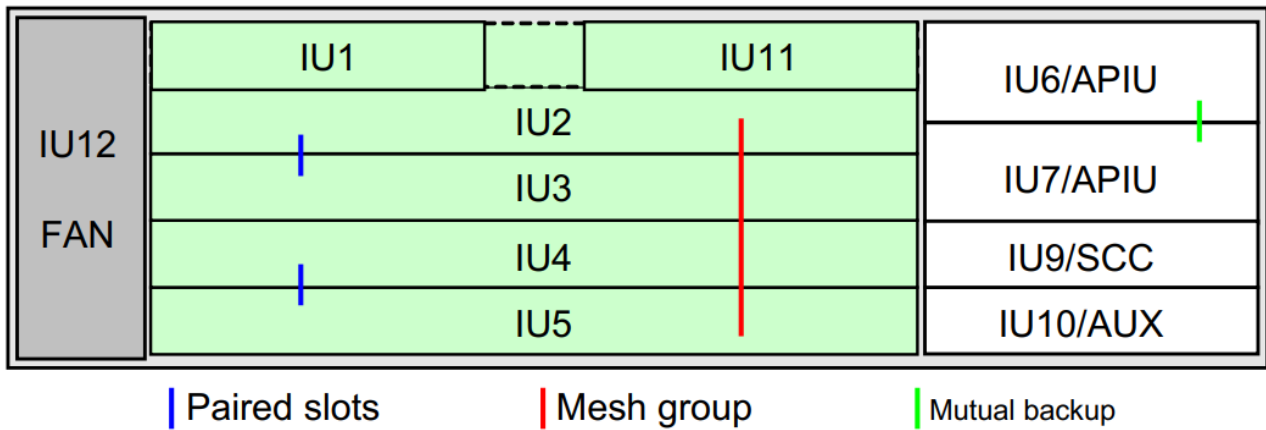
- Fan indicator: The fan indicator indicates the status of the fans.

**Slot Description**

The board area of the chassis has 11 slots, labeled IU1 to IU11 from left to right.



Slots of the chassis (DC power)



Slots of the chassis (AC power)

**NOTE:**

-  : service boards.

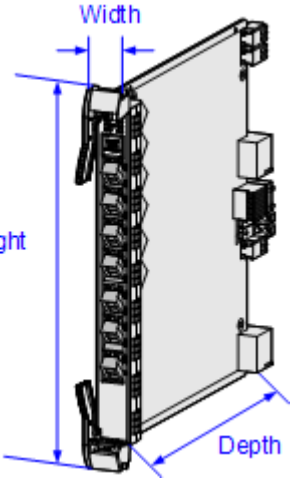
- Slots IU1 and IU11 can be used as two independent slots, each for housing an FOADM board with a height of 118.9 mm (4.7 in.). They can be also used as one slot for housing a service board with a height of 264.6 mm (10.4 in.). When the two slots are used as one slot, the slot ID is represented as IU11.

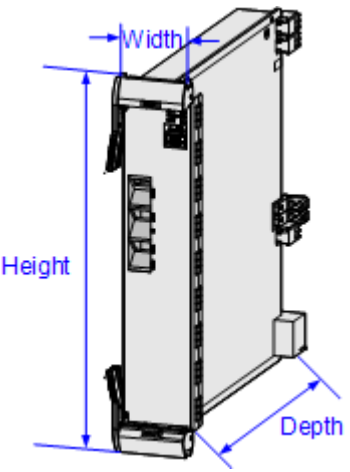
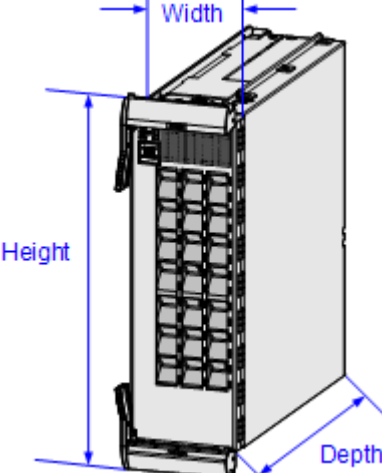
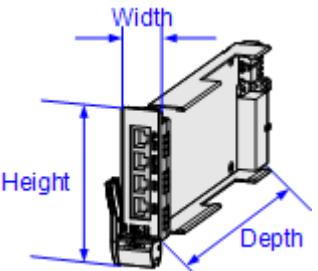
- Pair slots refer to a pair of slots whose resident boards' overhead can be processed by the buses on the backplanes.

- A mesh group refers to a group of slots housing the boards whose overhead can be processed by the buses on the backplane.

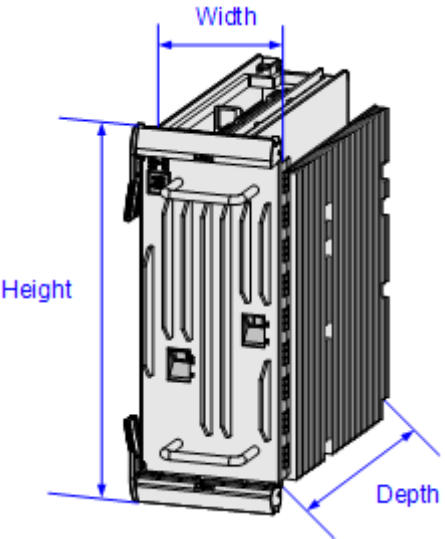
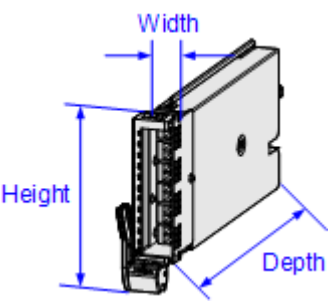
## Boards Description

**Table 2. Appearance and Dimensions of Boards**

| Board Appearance  | Board Name | Number of Slots Per Board | Height (mm) | Width (mm) | Depth (mm) |
|---|------------|---------------------------|-------------|------------|------------|
|  <p>The diagram shows a perspective view of a board. Three blue dimension lines with arrows indicate the board's size: 'Height' is the vertical dimension, 'Width' is the horizontal dimension across the top, and 'Depth' is the dimension from the front edge to the back edge.</p> | TN11L4G    | 1                         | 264.6       | 25.4       | 220.0      |

| Board Appearance  | Board Name | Number of Slots Per Board | Height (mm) | Width (mm) | Depth (mm) |
|---|------------|---------------------------|-------------|------------|------------|
|  <p>A perspective diagram of the TN110AU1 board. Blue dimension lines indicate the Height (vertical), Width (horizontal across the top), and Depth (horizontal from front to back).</p>  | TN110AU1   | 2                         | 264.6       | 50.8       | 220.0      |
|  <p>A perspective diagram of the TN11M40 board. Blue dimension lines indicate the Height (vertical), Width (horizontal across the top), and Depth (horizontal from front to back).</p>  | TN11M40    | 3                         | 264.6       | 76.2       | 220.0      |
|  <p>A perspective diagram of the TN11AUX board. Blue dimension lines indicate the Height (vertical), Width (horizontal across the top), and Depth (horizontal from front to back).</p> | TN11AUX    | 1                         | 107.6       | 25.4       | 220.0      |



| Board Appearance   | Board Name | Number of Slots Per Board | Height (mm) | Width (mm) | Depth (mm) |
|--|------------|---------------------------|-------------|------------|------------|
|   | TN11LSXL   | 4                         | 264.6       | 101.6      | 220.0      |
|  | TN21MR4    | 1                         | 118.9       | 25.4       | 220.0      |

**Table 3. OptiX OSN 3800 Board Category**

| Board Category           | Board Name | Board Description   |
|--------------------------|------------|---|
| Optical transponder unit | TN11ECOM   | Enhanced communication interface unit                                   |
|                          | TN11L4G    | Line wavelength conversion unit with 4 x Gigabit Ethernet line capacity |
|                          | TN11LDGS   | 2 x Gigabit Ethernet unit, single fed and single receiving              |
|                          | TN11LDGD   | 2 x Gigabit Ethernet unit, dual fed and selective receiving             |

|                  |  |
|------------------|--|
| <b>TN12LDM</b>   | 2-channel multi-rate (100Mbit/s-2.5Gbit/s) wavelength conversion board                                   |
| <b>TN11LDMD</b>  | 2-channel multi-rate (100Mbit/s-2.5Gbit/s) wavelength conversion board, dual fed and selective receiving |
| <b>TN11LDMS</b>  | 2-channel multi-rate (100Mbit/s-2.5Gbit/s) wavelength conversion board, single fed and single receiving  |
| <b>TN12LDX</b>   | 2 x 10 Gbit/s wavelength conversion unit   |
| <b>TN11LEM24</b> | 22 x GE + 2 x 10GE and 2 x OTU2 Ethernet Switch board  |
| <b>TN11LOA</b>   | 8 x Any-rate MUX OTU2 Wavelength Conversion Board  |
| <b>TN11LOG</b>   | 8 x Gigabit Ethernet unit  |
| <b>TN12LOG</b>   |  |
| <b>TN11LOM</b>   | 8-port multi-service multiplexing & optical wavelength conversion board                                  |
| <b>TN12LOM</b>   |  |
| <b>TN11LQG</b>   | 4 x GE-multiplex-optical wavelength conversion board   |
| <b>TN13LQM</b>   | 4-channel multi-rate (100Mbit/s-2.5Gbit/s) wavelength conversion unit                                    |
| <b>TN11LQMD</b>  | 4-channel multi-rate (100Mbit/s-2.5Gbit/s) wavelength conversion unit, dual fed and selective receiving  |
| <b>TN12LQMD</b>  |  |
| <b>TN11LQMS</b>  | 4-channel multi-rate (100Mbit/s-2.5Gbit/s) wavelength conversion unit, single fed and single receiving   |
| <b>TN12LQMS</b>  |  |
| <b>TN12LSC</b>   | 100Gbit/s wavelength conversion board  |

|                           |                 |   |
|---------------------------|-----------------|---|
|                           | <b>TN13LSC</b>  |   |
|                           | <b>TN15LSCb</b> |   |
|                           | <b>TN17LSCM</b> | 100 Gbit/s wavelength conversion board  |
|                           | <b>TN11LSX</b>  | 10 Gbit/s wavelength conversion unit  |
|                           | <b>TN12LSX</b>  |   |
|                           | <b>TN13LSX</b>  |   |
|                           | <b>TN14LSX</b>  |   |
|                           | <b>TN11LSXR</b> | 10 Gbit/s wavelength conversion relay unit  |
|                           | <b>TN11LTX</b>  | 10-Port 10Gbit/s Service Multiplexing & Optical Wavelength Conversion Board       |
|                           | <b>TN12LTX</b>  |   |
|                           | <b>TN11LWX2</b> | arbitrary rate (16Mbit/s-2.7Gbit/s) dual-wavelength conversion board              |
|                           | <b>TN11LWXD</b> | arbitrary rate (16Mbit/s-2.7Gbit/s) wavelength conversion board (double transmit) |
|                           | <b>TN11LWXS</b> | arbitrary rate (16Mbit/s-2.7Gbit/s) wavelength conversion board (single transmit) |
|                           | <b>TN12LWXS</b> |   |
|                           | <b>TN11TMX</b>  | 4 channels STM-16/OC-48/OTU1 asynchronism mux OTU-2 wavelength conversion board   |
|                           | <b>TN12TMX</b>  |   |
| <b>OTN Tributary unit</b> | <b>TN11TBE</b>  | 10 Gigabit ethernet tributary board   |
|                           | <b>TN11TDG</b>  | 2 x GE tributary service processing board   |

|   |                                      |  |
|---|--------------------------------------|--|
|   | <b>TN11TDX</b>                       | 2 x 10G tributary service processing board               |
|   | <b>TN52TOG</b>                       | 8 x GE tributary service processing board                |
|   | <b>TN11TOM</b>                       | 8 x multi-rate ports service processing board            |
|   | <b>TN52TOM</b>                       |  |
|   | <b>TN11TQM</b>                       | 4 x multi-rate tributary service processing board        |
|   | <b>TN12TQM</b>                       |  |
|   | <b>TN11TQS</b>                       | 4 x STM-16/OC-48/OTU1 tributary service processing board |
| <b>OTN Line unit</b>                              | <b>TN11NS2</b>                       | 10G Line Service Processing Board                        |
|   | <b>TN12NS2</b>                       |  |
|   | <b>TN52NS2</b>                       |  |
|   | <b>TN53NS2</b>                       |  |
| <b>Optical multiplexer and demultiplexer unit</b> | <b>TN21DFIU</b>                      | bidirectional fiber interface board                      |
|   | <b>TN13FIUa</b>                      | fiber interface unit                                     |
|   | <b>TN14FIU</b>                       |  |
|   | <b>TN15FIU</b>                       |  |
|   | <b>TN16FIU</b>                       |  |
|   | <b>TN21FIU</b>                       |  |
| <b>TN11SFIU</b>                                   | fiber interface unit for sync timing |  |
|   | <b>TN21CMR1</b>                      | CWDM 1-channel optical add/drop multiplexing unit        |

|   |                               |  |
|---|-------------------------------|--|
| <b>Optical add and drop multiplexing unit</b> | <b>TN11CMR2</b>               | CWDM 2-channel optical add/drop multiplexing unit                |
|   | <b>TN21CMR2</b>               |  |
|   | <b>TN11CMR4</b>               | CWDM 4-channel optical add/drop multiplexing unit                |
|   | <b>TN21CMR4</b>               |  |
|   | <b>TN11DMR1</b>               | CWDM 1-channel bidirectional optical add/drop multiplexing board |
|   | <b>TN21DMR1</b>               |  |
|   | <b>TN11MR2</b>                | 2-channel optical add/drop multiplexing unit                     |
|   | <b>TN21MR2</b>                |  |
|   | <b>TN11MR4</b>                | 4-channel optical add/drop multiplexing unit                     |
|   | <b>TN21MR4</b>                |  |
|   | <b>TN11SBM2</b>               | 2-channel CWDM single-fiber bidirectional add/drop board         |
|   | <b>Optical amplifier unit</b> | <b>TN11DAS1</b>  |
| <b>TN11OAU1</b>                               |                               | optical amplifier unit   |
| <b>TN12OAU1</b>                               |                               |  |
| <b>TN13OAU1</b>                               |                               |  |
| <b>TN11OBU1</b>                               |                               | optical booster unit   |
| <b>TN12OBU1</b>                               |                               |  |
| <b>TN13OBU1</b>                               |                               |  |
| <b>TN11OBU2</b>                               |                               | optical booster unit   |

|   |                  |  |
|---|------------------|--|
|   | <b>TN12OBU2</b>  |  |
|   | <b>TN11RAU1</b>  | backward raman and erbium doped fiber hybrid optical amplifier unit            |
|   | <b>TN12RAU1</b>  |  |
|   | <b>TN11RAU2</b>  |  |
|   | <b>TN12RAU2</b>  |  |
|   | <b>TN52DAP</b>   |  |
|   | <b>TN52DAPXF</b> | extended C-band optical amplifier board with 2 pluggable ports (XFIU embedded) |
| <b>System and communication unit</b>    | <b>TN22SCC</b>   | system control and communication unit  |
|   | <b>TN23SCC</b>   |  |
|   | <b>TN21AUX</b>   | system auxiliary interface board   |
|   | <b>TN22AUX</b>   |  |
| <b>Optical supervisory channel unit</b> | <b>TN11HSC1</b>  | high power unidirectional optical supervisory channel board                    |
|   | <b>TN12HSC1</b>  |  |
|   | <b>TN11SC1</b>   | unidirectional optical supervisory channel unit                                |
|   | <b>TN12SC1</b>   |  |
|   | <b>TN11SC2</b>   | bidirectional optical supervisory channel unit                                 |
|   | <b>TN12SC2</b>   |  |

|                                |   |  |
|--------------------------------|---|--|
|                                | <b>TN11ST2</b><br><b>TN12ST2</b><br><b>TN13ST2</b><br><b>TN11AST2</b> | ST2: Bidirectional optical supervisory channel and timing transmission unit<br><br>AST2: Bidirectional optical supervisory channel and timing transmission unit (with Advanced OTDR) |
| <b>Optical protection unit</b> | <b>TN11DCP</b>  | 2-channel optical path protection unit   |
|                                | <b>TN12DCP</b>  |  |
|                                | <b>TN13DCP</b>  |  |
|                                | <b>TN11OLP</b>  | optical line protection unit   |
|                                | <b>TN12OLP</b>  |  |
|                                | <b>TN13OLP</b>  |  |
|                                | <b>TN11OLSP</b>   | Optical line switch protection board   |
|                                | <b>TN11OLSPA/TN11OLSPB</b>  | Optical line switch protection board that supports synchronous information transmission  |
|                                | <b>TN11QCP</b>  | 4-channel optical path protection unit   |
| <b>TN11SCS</b>                 | sync optical channel separator unit                                   |  |
| <b>Spectrum analyzer unit</b>  | <b>TN11MCA4</b>   | 4-channel spectrum analyzer unit   |
|                                | <b>TN11MCA8</b>   | 8-channel spectrum analyzer unit   |
|                                | <b>TN11OPM8</b>   | 8-channel optical power monitoring board   |
|                                | <b>TN12OPM8</b>   |  |
|                                | <b>TN15OPM8</b>   |  |

|  |                               |  |
|--|-------------------------------|--|
| <b>Variable optical attenuator unit</b>  | TN11VA1<br>TN12VA1<br>TN13VA1 | 1-channel variable optical attenuator unit |
|  | TN11VA4<br>TN12VA4<br>TN13VA4 | 4-channel variable optical attenuator unit |
| <b>Dispersion equalizing unit</b>  | TN11DCU                       | dispersion compensation board              |
| <b>Interface area unit<sup>b</sup></b>   | TN21PIU                       | power interface unit                       |
|  | TN21APIU                      | AC Power Interface Unit                    |
| <b>Fan</b>   | TN21FAN                       | Fan  |
| <p><b>a:</b> For TN13FIU: OptiX OSN 3800 does not support the TN13FIU02 type.</p> <p><b>b:</b> For TN15LSC: OptiX OSN 3800 only supports the TN15LSCT01.</p> |                               |  |

## Basic Ordering Information

**Table 4. Ordering information of Huawei OptiX OSN 3800 chassis.**

| <b>Model</b>                          | <b>Description</b>  |
|---------------------------------------|---|
| <a href="#">Huawei Optix OSN 3800</a> | Huawei OptiX OSN 3800, supports synchronous digital hierarchy (SDH) services, synchronous optical network (SONET) services, Ethernet services, storage area network (SAN) services, optical transmission network (OTN) services, and video services |



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| <a href="#">Huawei OptiX OSN 7500</a> | <a href="#">Huawei OptiX OSN 7500 II</a> |
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200+

Countries we Sold



16,000+

Customer Trusted



\$20,000,000

Inventory Available



50%-98%

Off Global List Price



100%

Safe Online Shopping



Global

Price List Tool

## Sources

<https://support.huawei.com/enterprise/en/transmission-network/optix-osn-3800-pid-16165>