

# Huawei SmartAX EA5800

## OLT Boards Datasheet



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Huawei SmartAX EA5800 series multiservice access device is designed to support various boards, including control boards, services boards, power boards.

★ An EA5800-X17 service subrack provides 22 slots, including 2 slots for control boards, 2 slots for power boards, 1 slot for the universal interface board, and 17 slots for service boards. MA5800-X17 supports 17 service slots with backplane H901BPLB and H901BPLD.

Fan Tray		
		19. Service Board
		18. Service Board
		17. Service Board
		16. Service Board
		15. Service Board
		14. Service Board
		13. Service Board
		12. Service Board
		11. Service Board
		10. Control Board
		9. Control Board
		8. Service Board
		7. Service Board
		6. Service Board
		5. Service Board
		4. Service Board
		3. Service Board
		2. Service Board
		1. Service Board
20. Power Board	21. Power Board	0. Universal Interface

★ An EA5800-X15 service subrack provides 20 slots, including 2 slots for control boards, 2 slots for power boards, 1 slot for the universal interface board, and 15 slots for service boards. EA5800-X15 supports 15 service slots with backplane H901BPIB.

Fan Tray		
17. Service Board		
16. Service Board		
15. Service Board		
14. Service Board		
13. Service Board		
12. Service Board		
11. Service Board		
10. Service Board		
9. Control Board		
8. Control Board		
7. Service Board		
6. Service Board		
5. Service Board		
4. Service Board		
3. Service Board		
2. Service Board		
1. Service Board		
18. Power Board	19. Power Board	0. Universal Interface

★ An EA5800-X7 service subrack provides 12 slots, 2 for control boards, 2 for power boards, 1 for the universal interface board, and 7 for service boards. EA5800-X7 supports 7 service slots with backplane H901BPMB.

0. Universal Interface Board	11. Power Board	10. Power Board	Fan Tray
1. Service Board			
2. Service Board			
3. Service Board			
4. Service Board			
5. Service Board			
6. Service Board			
7. Service Board			
8. Control Board			
9. Control Board			

★ An EA5800-X2 service subrack provides 5 slots, 2 for control boards, 1 for the power board, and 2 for service boards. EA5800-X2 supports 2 service slots with backplane H901BPSB.

3. Control Board	4. Control Board	0. Power Board	Fan Tray
1. Service Board			
2. Service Board			

**Table 1. Boards in the Service Subrack**

Slot Type	<a href="#">EA5800-X17</a>	<a href="#">EA5800-X15</a>	<a href="#">EA5800-X7</a>	<a href="#">EA5800-X2</a>	Supported Board	Remarks
Control board slot	9,10	8,9	8,9	3,4	Control board	The device is configured with both active and standby control boards of the same type in 2 slots.
Power board slot	20,21	18,19	10,11	0	Power board	-
Universal interface board slot	0	0	0	NA	Universal interface board	-
Service board slot	1-8,11-19	1-7,10-17	1-7	1,2	Uplink interface board Service board	Mixed configuration of service boards is supported.  Both control board and upstream interface board can be used for upstream transmission. Using the control board for upstream transmission is recommended.

## Control Boards

A control board, as the control and management unit of the system, configures, manages, and controls the device and also implements simple routing protocol functions.

**All control boards support the functions as below:**

- Active/standby switchover at the control panel
- Load sharing at the forwarding panel

· Local and remote maintenance through maintenance serial port CON or maintenance Ethernet port ETH

· Environmental monitoring through environment monitoring serial port ESC

**Table 2. Differences between control boards**

Board	<a href="#">H902MPLAE</a>	<a href="#">H901MPSCE</a>
<b>Maximum Bandwidth per Slot (load sharing mode)</b>	100 Gbit/s	80 Gbit/s
<b>Upstream transmission or cascading port</b>	4 x 10GE/GE ports	4 x 10GE/GE ports
<b>ALM port</b>	No	Yes (7 alarm digital inputs and 1 alarm digital output)
<b>BITS/TOD port</b>	No	Yes (1 external clock/time input and output)
<b>MAC address table</b>	262143	262143
<b>Access ONT</b>	17408	4096
<b>Multicast user</b>	17408	4096
<b>Number of static programs configurable</b>	8192	8192
<b>Maximum number of online programs supported</b>	IPv4: 8000 IPv6: 2000	IPv4: 8000 IPv6: 2000
<b>IPv4 routing table</b>	65536	65536
<b>IPv6 routing table</b>	16384	16384
<b>Service port</b>	139264	32768
<b>ND table</b>	16384	16384

<b>ARP table</b>	131072	· 131072 (V100R018C00 and V100R018C10 versions) · 32768 (V100R019C00 and later versions)
<b>Ethernet synchronization</b>	Yes	Yes
<b>1588v2</b>	Yes	Yes
<b>1588ACR</b>	Yes	No

## Upstream Interface Boards

Upstream interface boards provide upstream or cascading ports for the system.

### H901NXED Board Description

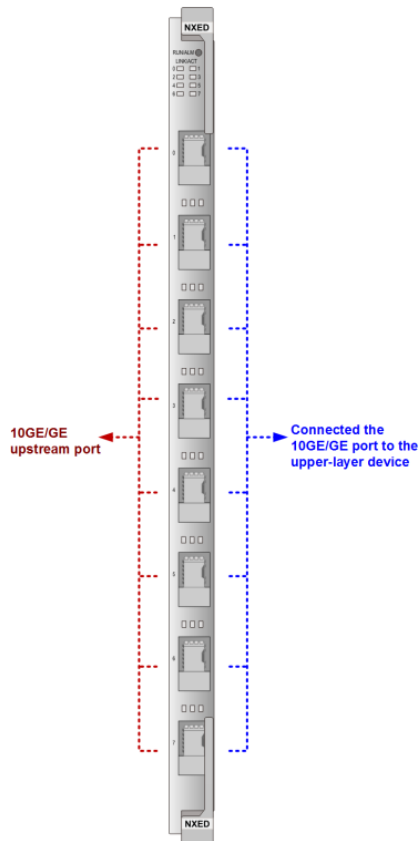
The [H901NXED](#) board is an 8-port upstream interface board that provides 10GE/GE optical ports.

**The H901NXED board supports the following features and specifications:**

- 8 ETH SFP+ ports that support 10GE/GE optical modules
- Line clock used as the system clock
- A maximum of 80 Gbit/s non-convergence upstream bandwidth
- Ethernet clock synchronization
- Temperature query and high temperature alarm
- Automatic power shutdown in case of a high temperature

**This is the front panel of the H901NXED:**





## Universal Interface Boards

Universal interface boards (installed in the GPIO slot) receive the clock signals and ESC parameters. GPIO is short for general purpose input/output.

### H901CIUA Board Description

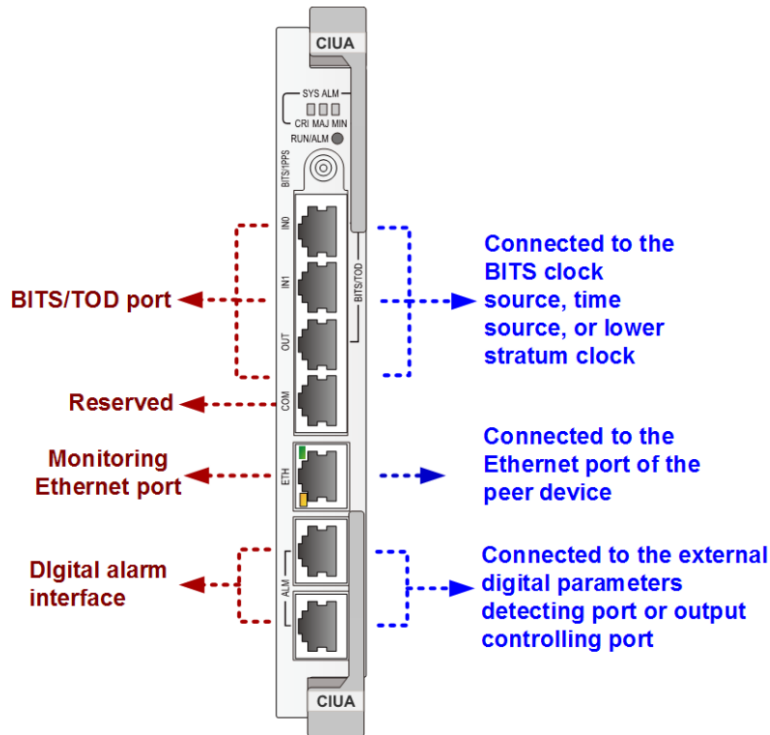
The [H901CIUA](#) board is a general interface board. It provides the input and output clock source for the system and supports functions such as input and output of alarm digital parameters.

#### The H901CIUA board supports the following functions:

- Seven inputs of alarm digital parameters and one output of digital controlling parameters SmartAX EA5800 Multi-service Access Module
- Two inputs of 2 Mbit/s or 2 MHz BITS clock signals
- Two inputs of 1PPS+TOD time signals
- One output of 2 Mbit/s or 2 MHz clock signals
- One output of 1PPS+TOD time signals
- External monitoring Ethernet port to transparently transmit monitored data

- RS485 port to transparently transmit data
- Multiple working modes, such as holdover and free-run

This is the front panel of the H901CIUA:



## Power Boards

Power boards lead in DC or AC power for supplying power to the device EA5800.

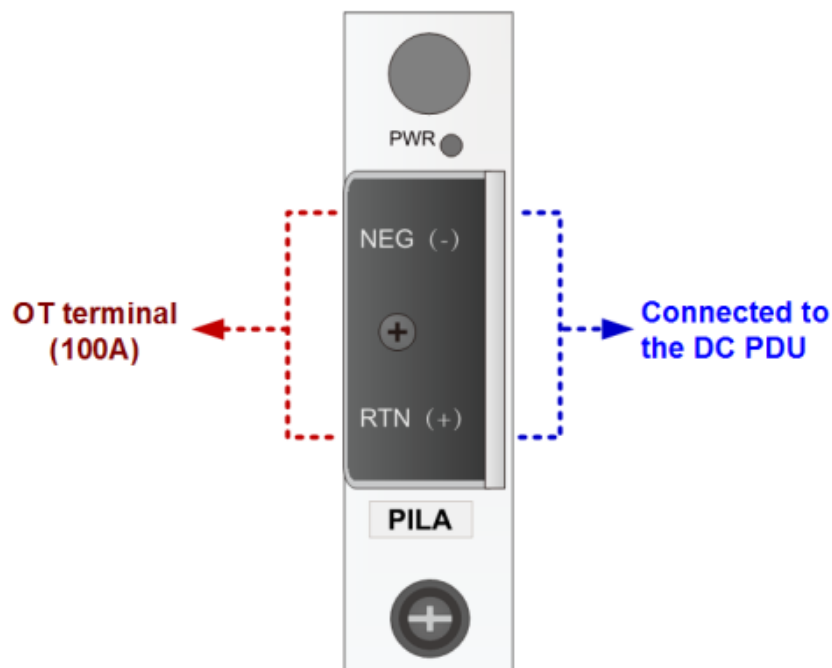
### H901PILA Board Description

The [H901PILA](#) board leads in one -48 V or -60 V DC power through two 100 A OT terminals, and transfers the power to the protection circuit, then to the filter circuit, and finally to the backplane, supplying power to the service subrack and other boards.

The H901PILA board supports the following features and specifications:

- One -48 V or -60 V DC power input (input voltage range: -38.4 V to -72 V)
- Filtering and current-limiting for the power input port
- Power input detection and protection fuse fault detection
- Reporting of the protection alarm and board online signal

This is the front panel of the H901PILA:



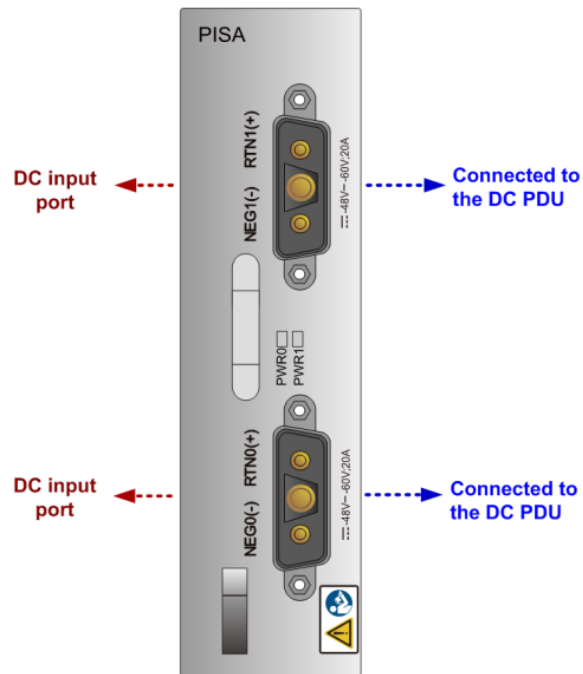
## H901PISA Board Description

The [H901PISA](#) board is a power transfer board. It leads in 2 channels of -48 V or -60 V DC power, and transfers the power to the protection circuit, then to the filter circuit, and finally to the backplane, supplying power to other boards in the service subrack.

**The H901PISA board supports the following features and specifications:**

- Two -48 V or -60 V DC power input (input voltage range: -38.4 V to -72 V)
- Filtering and current-limiting for the power input port
- Power input detection and protection fuse fault detection
- Reporting of the protection alarm and board online signal

This is the front panel of the H901PISA:



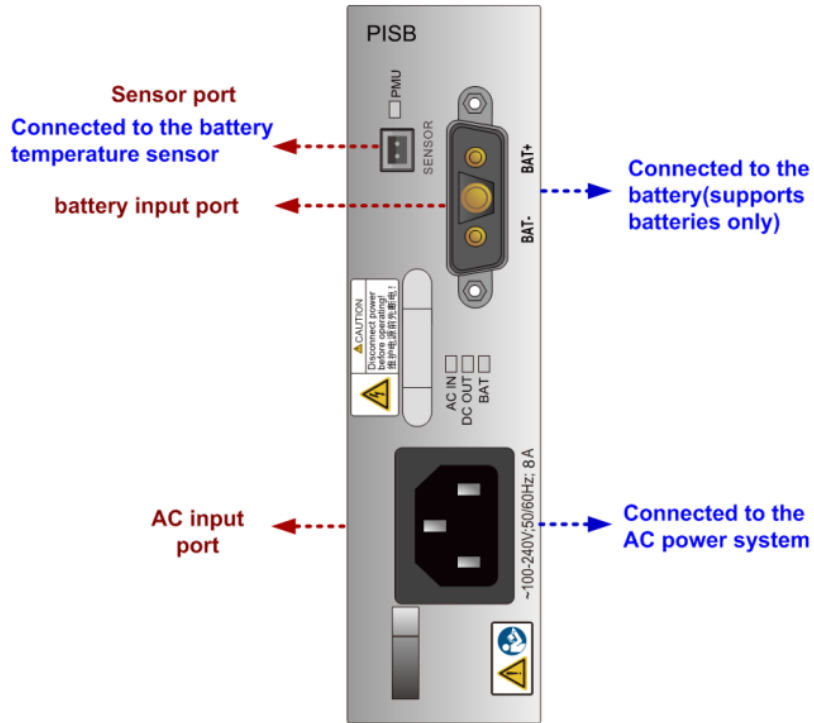
## H901PISB Board Description

The [H901PISB](#) board is an AC power board, consisting of an AC power unit and a monitoring unit. The board supplies power to the device and supports the lead-acid battery for power backup. The AC power unit provides overcurrent protection, output overvoltage protection, short circuit protection, and over-temperature protection. The monitoring unit provides comprehensive management for the power system and storage battery, and also provides certain environment monitoring functions.

### The H901PISB board supports the following features and specifications:

- 1 channel of 220 V AC or 110 V AC input
- Rated output power: 600 W
- 1 battery for power backup
- Input overcurrent protection
- Input power monitoring
- Temperature query and high-temperature alarm

**This is the front panel of the H901PISB:**



## Services Boards

EA5800 supports GPON, XG-PON, XGS-PON, TDM, and Ethernet service boards.

**Table 3. XG-PON and XGS-PON Interface Boards Comparison**

Specification	<a href="#">H901XGHDE</a>	<a href="#">H901TWEDE</a>
Port quantity	8	8
Forwarding capability	80 Gbit/s	80 Gbit/s
Rate mode	Asymmetric rate	Supports two modes: I Asymmetric I Symmetric
Port Rate	upstream: 2.488 Gbit/s downstream: 9.953 Gbit/s	upstream: 9.953 Gbit/s & 2.488 Gbit/s downstream: 9.953 Gbit/s
Maximum split ratio	1:256	1:64

<b>T-CONTs per PON port</b>	2048	2048
<b>Service flows per PON board</b>	16376	16376
<b>Maximum number of MAC addresses</b>	131072	131072
<b>Maximum distance difference between two ONUs under the same PON port</b>	40 km	40 km
<b>ONUs supported</b>	10G/2.5G (downstream rate/ upstream rate)	l 10G/2.5G (downstream rate/upstream rate) l 10G/10G (downstream rate/upstream rate)
<b>FEC</b>	Bidirection	Bidirection
<b>CAR group</b>	Yes	Yes
<b>HQoS</b>	Yes	Yes
<b>PON ISSU</b>	Yes	No
<b>Variable-length OMCI</b>	Yes	Yes
<b>ONU-based shaping or queue-based shaping</b>	Yes	Yes
<b>Type B protection (single-homing)</b>	Yes	Yes

<b>Type B protection (dual-homing)</b>	Yes	No
<b>Rogue ONT detection and isolation</b>	Yes	Yes
<b>Automatic shutdown at high temperature</b>	Yes	Yes
<b>Energy saving for service boards</b>	Yes	Yes

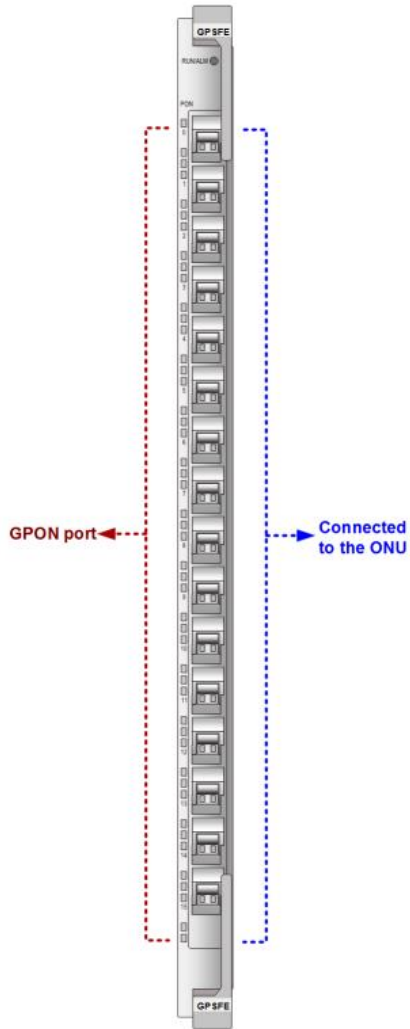
## H901GPSFE Board Description

The [H901GPSFE](#) board is a 16-port GPON interface board. It works together with the optical network unit (ONU) to provide GPON access services.

### The H901GPSFE board supports the following features and specifications:

- 16 GPON SFP ports
- A maximum of split ratio:
  - Class B+ : 1:64
  - Class C+/C++: 1:128
- Class B+/C+/C++ one-fiber bi-directional optical modules
- Optical signal transmission control of the optical module
- ONU-based traffic shaping
- Temperature reading and high-temperature alarm
- Automatic power-off in case of high temperature
- Upstream and downstream forward error correction (FEC)
- Type B Protection (single-homing and dual-homing)/Type C protection (single-homing and dual-homing)
- Rogue ONU detection and isolation

### This is the front panel port of the H901GPSFE:

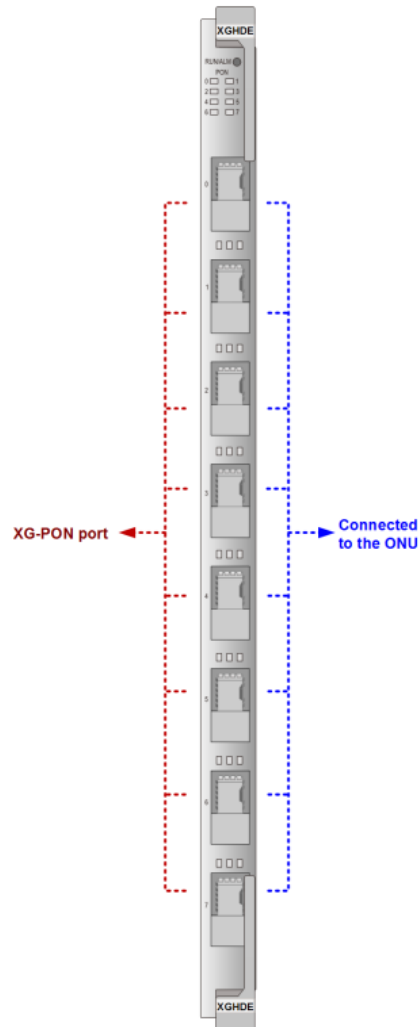


## H901XGHDE Board Description

The [H901XGHDE](#) board is an 8-port XG-PON interface board. It works together with the optical network unit (ONU) to provide XG-PON access services.

**This is the front panel port of the H901XGHDE:**





## H9010GHK Board Description

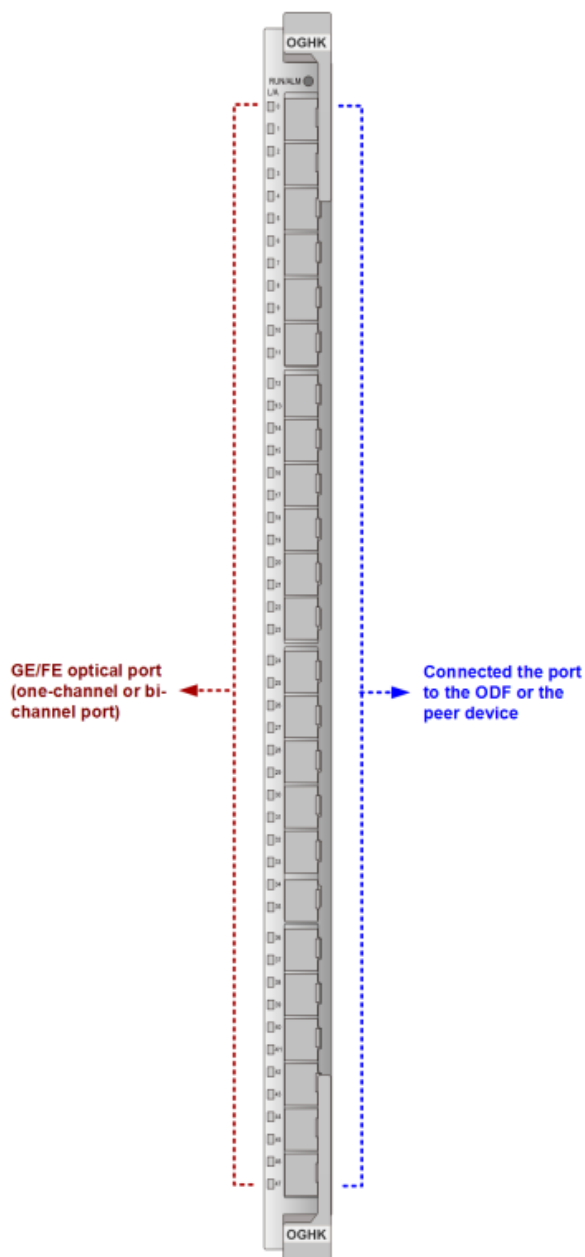
The [H9010GHK](#) board is a 48-port GE/FE optical interface board, providing Ethernet optical access. It supports up to 48 channels of GE/FE P2P access services, and is applicable to Ethernet access.

**The H9010GHK board supports the following features and specifications:**

- 48-channel (CSFP) or 24-channel (SFP) GE/FE P2P optical access
- Cascading and aggregation
- Two-channel one-fiber bidirectional CSFP optical modules, one-channel two-fiber bidirectional SFP modules, and one-channel one-fiber bidirectional SFP modules
- GE port issuing synchronous Ethernet clock signals
- SyncE

- Temperature query and high-temperature alarm
- Automatic shutdown at high temperature
- Board power-off for energy conservation

This is the front panel port of the H901OGHK:



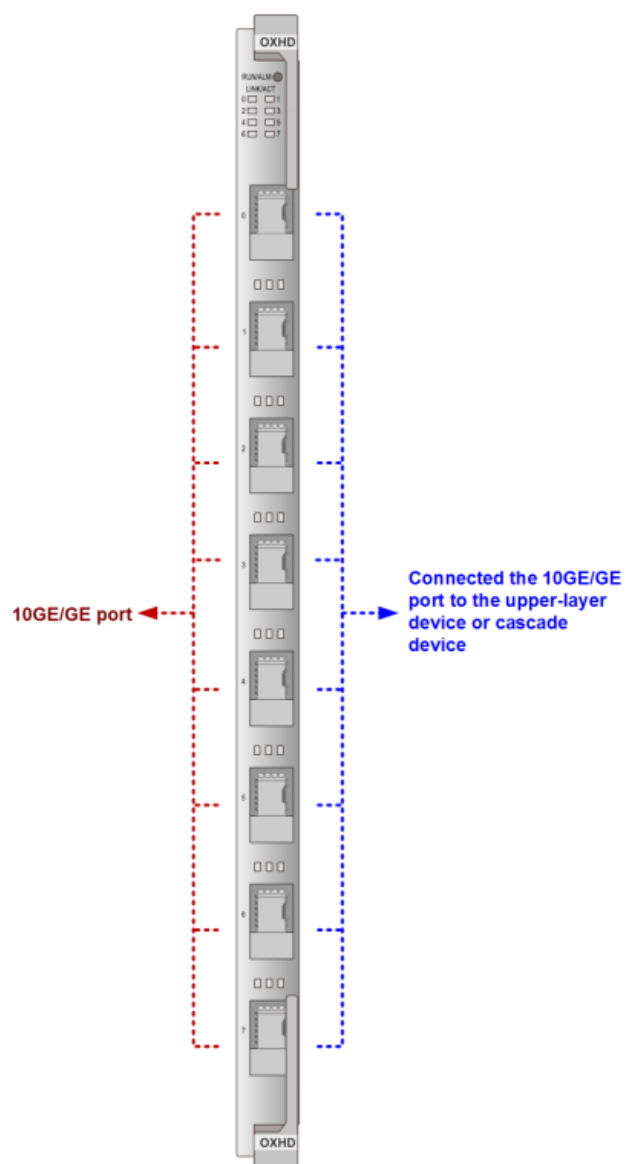
## H901OXHD Board Description

The [H901OXHD](#) board is an 8-port 10GE/GE optical interface board.

**The H901OXHD board supports the following features and specifications:**

- 8 channels of 10GE/GE optical access
- Cascading and aggregation
- Port issuing synchronous Ethernet clock signals
- SyncE
- Temperature query and high-temperature alarm
- Automatic shutdown at high temperature

**This is the front panel port of the H901OXHD:**



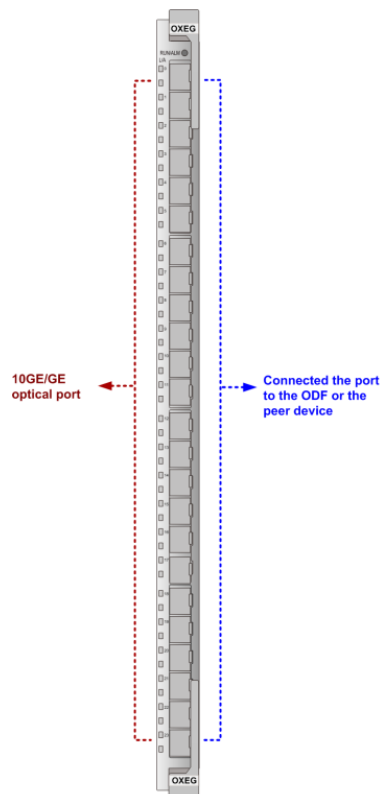
## H901OXEG Board Description

The [H901OXEG](#) board is a 24-port 10GE/GE optical interface board, providing Ethernet optical access. It supports up to 24 channels of 10GE/GE P2P access services, and is applicable to Ethernet access.

### The H901OXEG board supports the following features and specifications:

- 24 channels of 10GE/GE P2P optical access service
- Upstream transmission (port network role UPLINK)
- Cascading and aggregation
- GE port issuing synchronous Ethernet clock signals
- Temperature reading and high-temperature alarm
- Automatic power-off in case of high temperature
- Board power-off for energy conservation
- D-CCAP

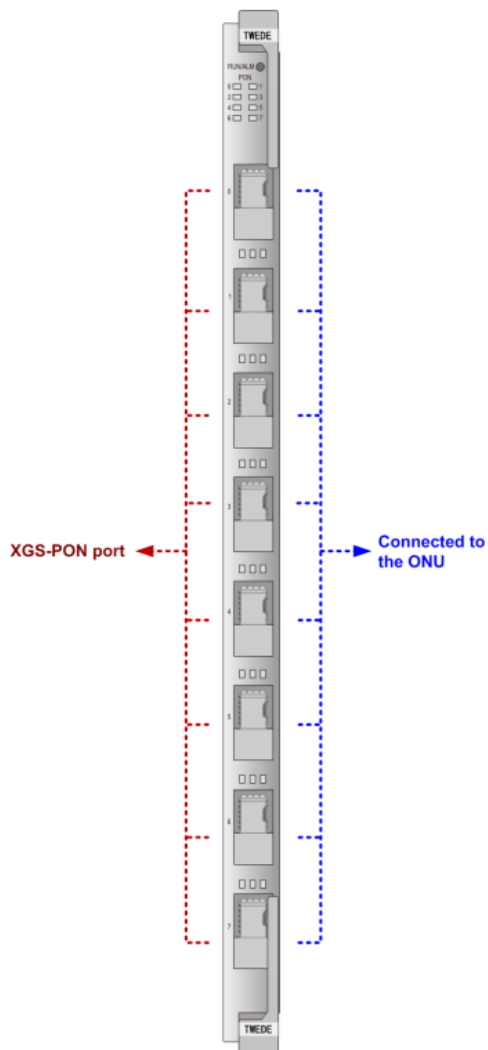
### This is the front panel port of the H901OXEG:



## H901TWEDE Board Description

The [H901TWEDE](#) board is an 8-port XGS-PON interface board. It works together with the optical network unit (ONU) to provide XGS-PON access services.

This is the front panel port of the H901TWEDE:



## Basic Ordering Information

Table 4. Ordering Information.

SKU	Description
<a href="#">H902MPLAE</a>	Huawei SmartAX EA5800 Main Processing Board

<a href="#"><u>H901MPSC</u></a>	Huawei SmartAX EA5800 Main Processing Board
<a href="#"><u>H901CIUA</u></a>	Huawei SmartAX EA5800 Combo Interface Transfer Board
<a href="#"><u>H901XGHDE</u></a>	Huawei SmartAX EA5800 8-port Advanced XG-PON OLT Interface Board
<a href="#"><u>H901OGHK</u></a>	Huawei SmartAX EA5800 48-port Advanced GE/FE Optical Interface Board
<a href="#"><u>H901NXED</u></a>	Huawei SmartAX EA5800 8-port Enhanced 10GE Uplink Interface Board
<a href="#"><u>H901OXHD</u></a>	Huawei SmartAX EA5800 8-port Advanced 10GE Optical Interface Board
<a href="#"><u>H902OXHD</u></a>	Huawei SmartAX EA5800 8-port Advanced 10GE Optical Interface Board
<a href="#"><u>H901GPSFE</u></a>	Huawei SmartAX EA5800 16-port GPON OLT Interface Board
<a href="#"><u>H901OXEG</u></a>	Huawei SmartAX EA5800 24 port Aggregated 10GE/GE Optical Interface Board
<a href="#"><u>H901TWEDE</u></a>	Huawei SmartAX EA5800 8-port Enhanced XGS-PON OLT Interface Board
<a href="#"><u>H901XSHF</u></a>	Huawei SmartAX EA5800 16-port XGS-PON OLT Interface Board
<a href="#"><u>H902GPHFE</u></a>	Huawei SmartAX EA5800 16-port GPON OLT Interface Board
<a href="#"><u>H901PILA</u></a>	Huawei SmartAX EA5800 Power Transfer Board
<a href="#"><u>H901PISA</u></a>	Huawei SmartAX EA5800 Power Transfer Board
<a href="#"><u>H901PISB</u></a>	Huawei SmartAX EA5800 Power Transfer Board
<a href="#"><u>H902PISB</u></a>	Huawei SmartAX EA5800 Power Transfer Board
<a href="#"><u>H901FMFLA</u></a>	Huawei SmartAX EA5800 EA5800-X15/X17 fan tray
<a href="#"><u>H901FMMA</u></a>	Huawei SmartAX EA5800 EA5800-X7 fan tray
<a href="#"><u>H901FMMSA</u></a>	Huawei SmartAX EA5800 EA5800-X2 fan tray

## Where to Buy

**Want to buy this series of products? please contact:**

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## Sources

<https://e.huawei.com/us/products/enterprise-transmission-access/access/olt/ea5800>