

Overview

The Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers are the next generation Cisco Catalyst CW9800 Series Wireless LAN Controllers engineered on an open, programmable architecture that features inherent security, streaming telemetry, and rich analytics.

These controllers occupy a single rack-unit and support upto 6000 APs and 64000 Clients with 80 Gbps of maximum throughput. Additionaly, the Cisco Catalyst CW9800H1 Wireless Controller supports 8x1-GE or 10-GE and 4x25-GE uplink ports, while the Cisco Catalyst CW9800H2 Wireless Controller supports 8x1-GE or 10-GE and 2x40-GE uplink ports to meet high throughput demands of 6 GHz wireless technology.

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Summary of Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers

The Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers support:

Table 1: Cisco Catalyst CW9800H1 Wireless Controller and Cisco Catalyst CW9800H2 Wireless Controller Features

Feature	Description
Chassis Height	One rack-unit (1RU)
Processor	Intel Ice Lake D, 20-cores, 2 GHz
Memory Options	• Control Plane Memory—128 GB DDR4 • Bootflash storage—32 GB • Hard disk - 480 GB
Throughput	80 Gbps
Number of APs supported	6000
Number of clients supported	64000

Feature	Description
TCAM	80 Mb
Ethernet Port Adapter (EPA)	3 built-in EPA • Built-in Bay 0: Cisco Catalyst CW9800H1 Wireless Controller and Cisco Catalyst CW9800H2 Wireless Controller: 8X1 GE or 10 GE SFP interfaces. • Built-in Bay 1: Cisco Catalyst CW9800H1 Wireless Controller: 3X25 GE SFP interfaces and Cisco Catalyst CW9800H2 Wireless Controller: 2X40 GE QSFP interfaces. • Built-in Bay 2:Cisco Catalyst CW9800H1 Wireless Controller: 1X25 GE SFP interface.
Redundancy Ports	One 1 GE RJ-45 or 1 (1 GB or 10 GB) SFP port.
Console Port	One RJ-45 or one micro-USB console port
Service Ports	1 service port (one RJ-45)
Data Ports	• Cisco Catalyst CW9800H1 Wireless Controller: Supports four 25 GE ports. • Cisco Catalyst CW9800H2 Wireless Controller: Supports two 40 GE ports.
USB	Two USB 3.0 ports
Operating Temperature	41° to 104° F (5° to 40° C)
Short-term operating temperature	41° to 122° F (5° to 50° C)
Nominal Operating Humidity	5 to 85% non-condensing
Short-term Operating Humidity	5% to 90% non-condensing
Storage temperature	–4° to 158° F (–20° to +70° C)
Operational Altitude	0 to 10,000 feet (0 to 3000 meters).
Field-replaceable units (FRU).	See Chapter 2: **Supported Hardware Components** for information on supported FRUs.

Front View

The following figures show the front view of the Cisco Catalyst CW9800H1 Wireless Controller and Cisco Catalyst CW9800H2 Wireless Controller.

Figure 1: Cisco Catalyst CW9800H1 Wireless Controller Front View

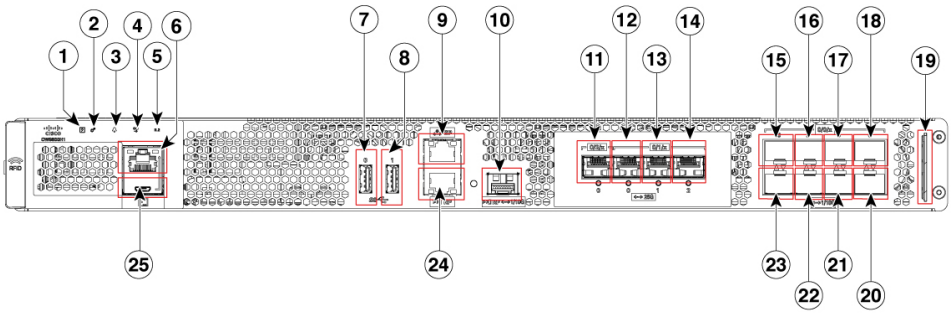


Table 2: Cisco Catalyst CW9800H1 Wireless Controller Front View

1	PWR—Power LED
2	SYS—System LED
3	ALM—Alarm LED
4	HA—High-Availability LED
5	M.2 SSD
6	RJ-45 compatible console port
7	USB Port 0
8	USB Port 1
9	SP— RJ-45 1 GE management port
10	RP— 1/10-GE SFP port
11	TwentyFiveGigE0/2/0 - 25-GE SFP+ EPA2 Port 0
12	TwentyFiveGigE0/1/0 - 25-GE SFP+ EPA1 Port 0
13	TwentyFiveGigE0/1/1 - 25-GE SFP+ EPA1 Port 1
14	TwentyFiveGigE0/1/2 - 25-GE SFP+ EPA1 Port 2
15	Te0/0/0—1-GE SFP/ 10-GE SFP+ Port 0
16	Te0/0/2—1-GE SFP/ 10-GE SFP+ Port 2
17	Te0/0/4—1-GE SFP/ 10-GE SFP+ Port 4
18	Te0/0/6—1-GE SFP/ 10-GE SFP+ Port 6
19	Carrier Label Tray
20	Te0/0/7—1-GE SFP/ 10-GE SFP+ Port 7

21	Te0/0/5—1-GE SFP/ 10-GE SFP+ Port 5
22	Te0/0/3—1-GE SFP/ 10-GE SFP+ Port 3
23	Te0/0/1—1-GE SFP/ 10-GE SFP+ Port 1
24	RP— RJ-45 1 GE redundancy port
25	CON— 5-pin Micro-B USB console port

Figure 2: Cisco Catalyst CW9800H2 Wireless Controller Front View

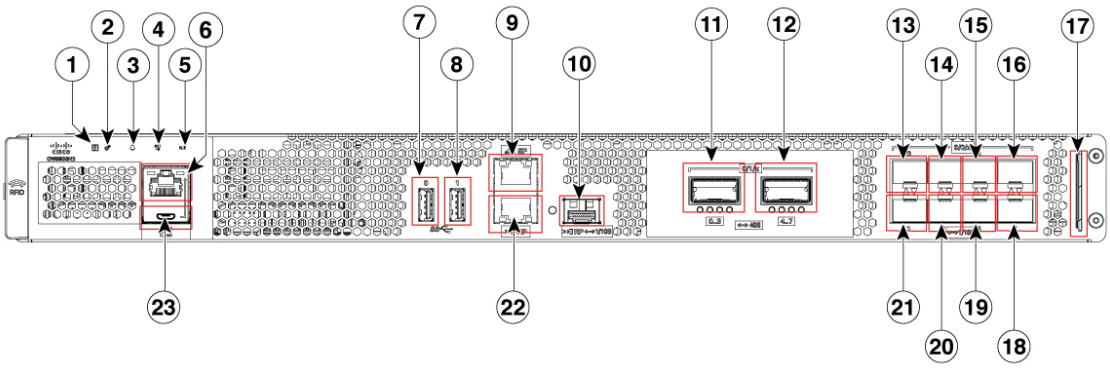


Table 3: Cisco Catalyst CW9800H2 Wireless Controller Front View

1	PWR—Power LED
2	SYS—System LED
3	ALM—Alarm LED
4	HA—High-Availability LED
5	SSD
6	RJ-45 compatible console port
7	USB Port 0
8	USB Port 1
9	SP— RJ-45 1 GE management port
10	RP— 1/10-GE SFP port
11	Fo0/1/0 - 40-GE QSFP Port 0-3
12	Fo0/1/1 - 40-GE QSFP Port 4-7
13	Te0/0/0—1-GE SFP/ 10-GE SFP+ Port 0
14	Te0/0/2—1-GE SFP/ 10-GE SFP+ Port 2

15	Te0/0/4—1-GE SFP/ 10-GE SFP+ Port 4
16	Te0/0/6—1-GE SFP/ 10-GE SFP+ Port 6
17	Carrier Label Tray
18	Te0/0/7—1-GE SFP/ 10-GE SFP+ Port 7
19	Te0/0/5—1-GE SFP/ 10-GE SFP+ Port 5
20	Te0/0/3—1-GE SFP/ 10-GE SFP+ Port 3
21	Te0/0/1—1-GE SFP/ 10-GE SFP+ Port 1
22	RP— RJ-45 1 GE redundancy port
23	CON— Micro-USB console port



Warning **Never install an AC power module and a DC power module in the same chassis.**

Statement 1050



Note For the Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers, the power supplies (PEM 0 and PEM1), are located in the rear side of the chassis. See the **Rear View** section.

Built-In SFP and SFP+ Ports

The following figures show the port numbering for the built-in ports.

Figure 3: Cisco Catalyst CW9800H1 Wireless Controller Port Numbering

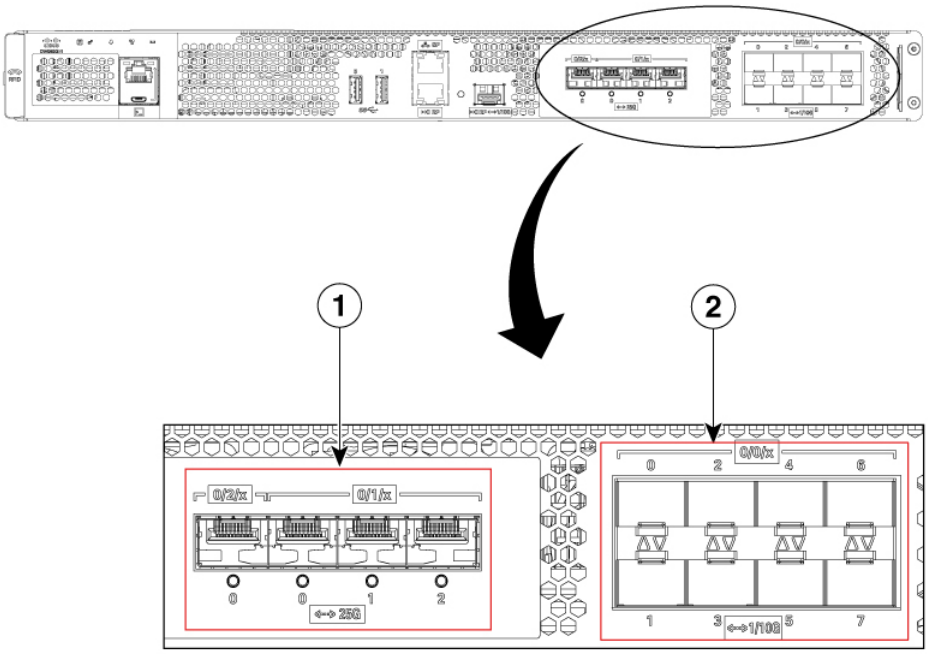


Table 4: Cisco Catalyst CW9800H1 Wireless Controller Port Numbering

1	• Bay 1—3 X 25-GE SFP ports. The supported ports are: • TwentyFiveGigE0/1/0—25-GE SFP+ Port 0 • TwentyFiveGigE0/1/1—25-GE SFP+ Port 1 • TwentyFiveGigE0/1/2—25-GE SFP+ Port 2 • Bay 2—1 X25-GE SFP port. The supported port is TwentyFiveGigE0/2/0—25-GE SFP+ Port 0.	2	Bay 0—8 X 1-GE/10-GE SFP ports. The supported ports are: • Te0/0/0—1-GE SFP/ 10-GE SFP+ Port 0 • Te0/0/1—1-GE SFP/ 10-GE SFP+ Port 1 • Te0/0/2—1-GE SFP/ 10-GE SFP+ Port 2 • Te0/0/3—1-GE SFP/ 10-GE SFP+ Port 3 • Te0/0/4—1-GE SFP/ 10-GE SFP+ Port 4 • Te0/0/5—1-GE SFP/ 10-GE SFP+ Port 5 • Te0/0/6—1-GE SFP/ 10-GE SFP+ Port 6 • Te0/0/7—1-GE SFP/ 10-GE SFP+ Port 7

Figure 4: Cisco Catalyst CW9800H2 Wireless Controller Port Numbering

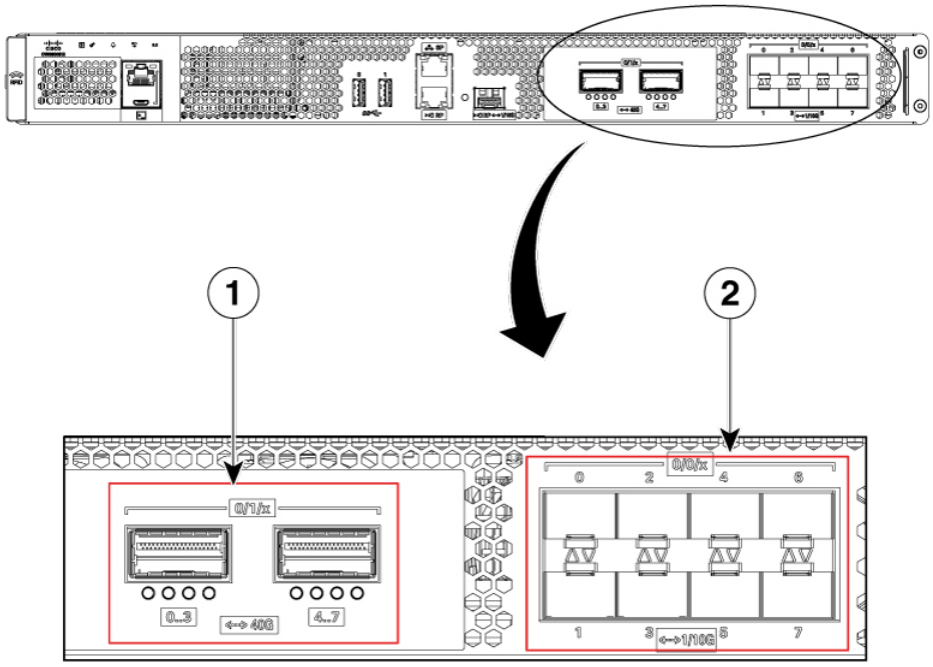


Table 5: Cisco Catalyst CW9800H2 Wireless Controller Port Numbering

1	Bay 1—2 X 40-GE QSFP ports. The supported ports are: • Fo0/1/0—40-GE QSFP Port 0 • Fo0/1/1—40-GE QSFP Port 1	2	Bay 0—8 X 1-GE/10-GE SFP ports. The supported ports are: • Te0/0/0—1-GE SFP/ 10-GE SFP+ Port 0 • Te0/0/1—1-GE SFP/ 10-GE SFP+ Port 1 • Te0/0/2—1-GE SFP/ 10-GE SFP+ Port 2 • Te0/0/3—1-GE SFP/ 10-GE SFP+ Port 3 • Te0/0/4—1-GE SFP/ 10-GE SFP+ Port 4 • Te0/0/5—1-GE SFP/ 10-GE SFP+ Port 5 • Te0/0/6—1-GE SFP/ 10-GE SFP+ Port 6 • Te0/0/7—1-GE SFP/ 10-GE SFP+ Port 7

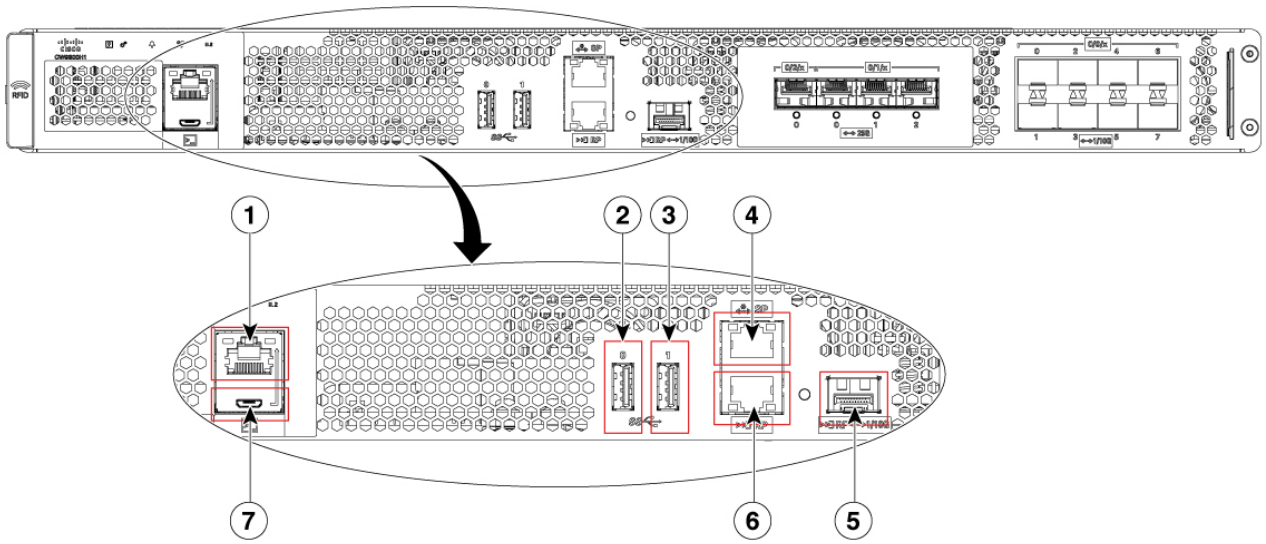
The port LEDs behave as follows:

- Off—Indicates the port is not enabled by software.
- Amber—Indicates the port is enabled by software but there is a problem with the link.
- Green—Indicates the port is enabled by software and there is valid link.

Management and Storage Connections

The following figure shows the management and storage connections for the Cisco Catalyst CW9800H1 Wireless Controller and the Cisco Catalyst CW9800H2 Wireless Controller.

Figure 5: Management and Storage Connections for Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers

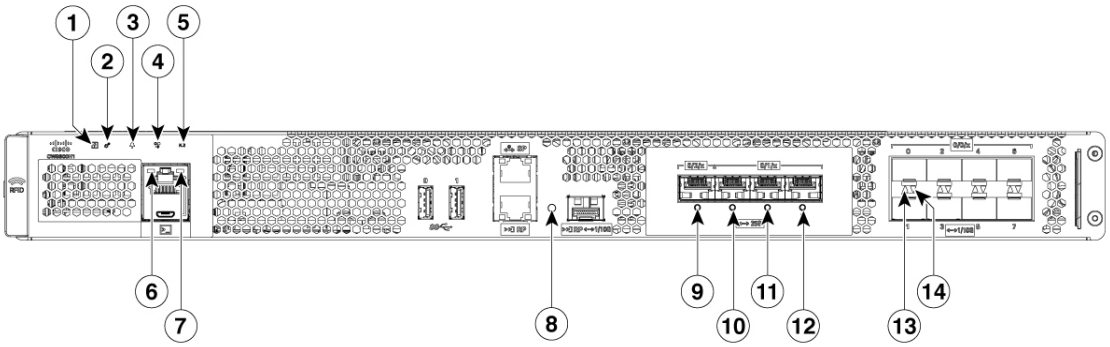


1	RJ-45 compatible console port	5	RP—1-GE/10-GE SFP port
2	USB port 0	6	RP—RJ-45 1 GE redundancy port
3	USB port 1	7	CON-Micro-USB console port
4	SP—RJ-45 1 GE management port		

LEDs

The following figure shows the LEDs on the front panel of the Cisco Catalyst CW9800H1 Wireless Controller and Cisco Catalyst CW9800H2 Wireless Controller.

Figure 6: Cisco Catalyst CW9800H1 Wireless Controller LEDs

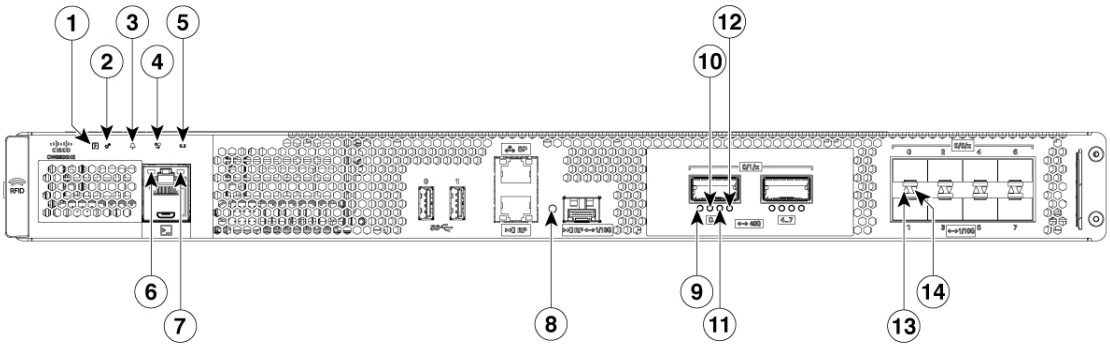


No.	LED Label	Description	LED Color	Behavior
1	PWR	Power	Green	If all the power rails are based on the specification.
2	SYS	System	On	Remains ON during IOS boot complete.
			Blinking Green	Remains blinking when IOS booting is in progress.
			Amber	Remains ON during system crash.
			Blinking Amber	Remains blinking during secure boot failure.
			Off	Remains OFF during ROMMON boot.

No.	LED Label	Description	LED Color	Behavior
3	ALM	Alarm	Green 	Remains ON during ROMMON boot complete.
			Blinking Green 	Remains blinking when system upgrade is in progress.
			Amber 	Remains ON during ROMMON and SYSTEM bootups.
			Blinking Amber 	Remains blinking during temperature error and secure boot failure.
			Red	Indicates that the system detects critical warnings.
			Off	Remains OFF during IOS boot. Normal Operation
4	HA	High Availability	Green 	Remains ON when HA is active.
			Blinking Green 	Remains blinking when HA Standby Hot.
			Amber 	Blinks slowly when booted or HA Standby Cold.
			Blinks Fast	Blinks fast during HA maintenance.
5	M.2 SSD	SSD Activity	Green 	Indicates active usage of the hard disk SSD memory devices in the unit.
6		RJ-45 Console Port Status LED	Green 	Indicates that the RJ-45 console port is active.
7		USB console Port LED	Green 	Indicates that the micro USB connector is used as the console.

No.	LED Label	Description	LED Color	Behavior
8		RP SFP Port	Green 	Indicates that the port is enabled and there is a valid Ethernet Link
			Amber 	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			OFF	Indicates that the port is not enabled.
9, 10, 11, 12		Built-in EPA 1 and EPA 2 (SFP + status LEDs with 1 per port)	OFF	Indicates that the port is not enabled.
			Amber 	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			Green 	Indicates that the port is enabled and there is a valid Ethernet Link
13		1/10 GE SFP Port Status LED (1 per port for ports 0,2,4, and 6)	OFF	Indicates that the port is not enabled.
			Amber 	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			Green 	Indicates that the port is enabled and there is a valid Ethernet Link
14		1/10 GE SFP Port Status LED (1 per port for ports 1, 3,5, and 7)	OFF	Indicates that the port is not enabled.
			Amber 	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			Green 	Indicates that the port is enabled and there is a valid Ethernet Link

Figure 7: Cisco Catalyst CW9800H2 Wireless Controller LEDs



No.	LED Label	Description	LED Color	Behavior
1	PWR	Power	Green	If all the power rails are based on the specification.
2	SYS	System	On	Remains ON during IOS boot complete.
			Blinking Green	Remains blinking when IOS booting is in progress.
			Amber	Remains ON during system crash.
			Blinking Amber	Remains blinking during secure boot failure.
			Off	Remains OFF during ROMMON boot.

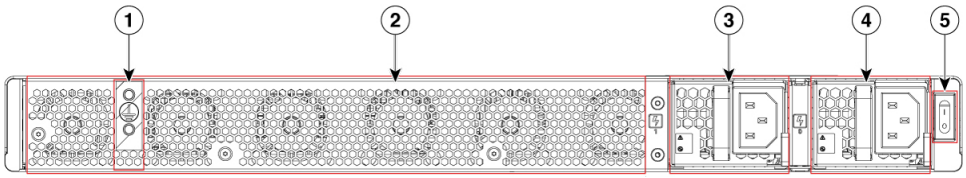
No.	LED Label	Description	LED Color	Behavior
3	ALM	Alarm	Green 	Remains ON during ROMMON boot complete.
			Blinking Green 	Remains blinking when system upgrade is in progress.
			Amber 	Remains ON during ROMMON and SYSTEM bootups.
			Blinking Amber 	Remains blinking during temperature error and secure boot failure.
			Red	Indicates that the system detects critical warnings.
			Off	Remains OFF during IOS boot. Normal Operation
4	HA	High Availability	Green 	Remains ON when HA is active.
			Blinking Green 	Remains blinking when HA Standby Hot.
			Amber 	Blinks slowly when booted or HA Standby Cold.
			Blinks Fast	Blinks fast during HA maintenance.
5	M.2 SSD	SSD Activity	Green 	Indicates active usage of the hard disk SSD memory devices in the unit.
6		RJ-45 Console Port Status LED	Green 	Indicates that the RJ-45 console port is active.
7		USB console Port LED	Green 	Indicates that the micro USB connector is used as the console.

No.	LED Label	Description	LED Color	Behavior
8		RP SFP Port	Green	Indicates that the port is enabled and there is a valid Ethernet Link
			Amber	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			OFF	Indicates that the port is not enabled.
9,10, 11, and 12		Built-in EPA 1 (QSFP + status LEDs with 1 per port)	OFF	Indicates that the port is not enabled.
			Amber	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			Green	Indicates that the port is enabled and there is a valid Ethernet Link
13		1/10 GE SFP Port Status LED (1 per port for ports 0,2,4, and 6)	OFF	Indicates that the port is not enabled.
			Amber	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			Green	Indicates that the port is enabled and there is a valid Ethernet Link
14		1/10 GE SFP Port Status LED (1 per port for ports 1, 3,5, and 7)	OFF	Indicates that the port is not enabled.
			Amber	Indicates that the port is enabled, but there is a problem with the Ethernet Link.
			Green	Indicates that the port is enabled and there is a valid Ethernet Link

Rear View

The following figure shows the rear view of the Cisco Catalyst CW9800H1 and Cisco Catalyst CW9800H2 Wireless Controllers.

Figure 8: Cisco Catalyst CW9800H1 and Cisco Catalyst CW9800H2 Wireless Controllers Rear View



1	Grounding lug	2	Fans
3	Power supply (PEM 1)	4	Power supply (PEM 0)
5	Power/standby switch		

The chassis has a front-to-rear airflow. Six internal fans draw cooling air in through the front of the chassis and across internal components to maintain an acceptable operating temperature. The fans are located at the rear of the chassis. The fans are numbered from 0 to 5, right to left.

Caution The power supplies used in the controllers are different and they should not be mixed or swapped. The size and structural dimensions are the same, therefore they both look alike. It would be hazardous, if you accidentally inserted the wrong power supply into the PEM slot.

Cisco Product Identification Standard

This section describes the Cisco products and services product identification standard. This feature provides you with the ability to effectively integrate and manage Cisco products in your network and business operations.

Unique Device Identifier

The Unique Device Identifier (UDI) is the Cisco product identification standard for hardware products. A product identification standard removes barriers to enterprise automation and can help you reduce operating expenses.

The UDI provides a consistent electronic, physical, and associated business-to-business information product identification standard.

The UDI is a combination of five data elements. The following table lists the UDI elements.

Table 6: UDI Elements

UDI Data Element	Electronic Visibility	Physical Visibility	Description
PID	Yes	Yes	Product ID, also known as product name, model name, product number
VID	Yes	Yes	Version ID
SN	Yes	Yes	Serial number, the unique instance of the PID

Entity Name	Yes	—	Type, such as chassis, slot, or power supply
Product Description	Yes	—	Additional product information

The combination of serial number and product ID (PID) is unique and consistent across all Cisco products. The PID that is coded on hardware is called a base product identifier.

Additional orderable PIDs can be associated to a base PID. For instance, an orderable PID may describe a packaging configuration for a product or a bundled group of products sold, tested, and shipped together. Specific unique device identifier (UDI) benefits include the following:

- Identifies:
  - Individual Cisco products in your networks
  - PIDs and serial numbers for service and replaceable products
  - Version IDs (VIDs) for product version visibility
- Facilitates discovery of products subject to recall or upgrade
- Enhances inventory automation of Cisco products

The Cisco product identification standard provides the following features:

- Version visibility—Cisco continuously improves products through feature additions. Product changes are indicated by incrementing the VID, which provides version visibility to help you understand and manage product changes. VID management ensures consistency of changes from product to product.
- Operating expense reduction—Cisco UDIs provide accurate and detailed network inventory information; identifying each Cisco product in a network element through a standard interface. Cisco operating systems can view and use this data, allowing you to automate your electronic inventory.
- Consistency across product layers—The UDIs are embedded in the hardware products and cannot be overwritten. Operating and management systems discover UDIs through standard interfaces and display UDIs in standard outputs. Standard interfaces include the IETF standard ENTITY-MIB.

show diag chassis eeprom detail Command

The **show diag chassis eeprom** command displays the PID, VID, PCB serial number, hardware revision, and other such information.

The following are the sample outputs of the **show diag chassis eeprom** command on the Cisco Catalyst CW9800H1 Wireless Controller and the Cisco Catalyst CW9800H2 Wireless Controller

```
Device# show diag chassis eeprom

MIDPLANE EEPROM data:

Product Identifier (PID) : CW9800H1
Version Identifier (VID) : V00
PCB Serial Number        : JAE2721096A
Top Assy. Part Number    : 68-7672-03
Hardware Revision        : 0.4
Asset ID                 :
CLEI Code                : CMM0000000
```

```
Power/Fan Module P0 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FCEM
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA

Power/Fan Module P1 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FCEK
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA
Device#
```

```
Device# show diag chassis eeprom

MIDPLANE EEPROM data:

Product Identifier (PID) : CW9800H2
Version Identifier (VID) : V00
PCB Serial Number        : JAE27210962
Top Assy. Part Number    : 68-7673-03
Hardware Revision        : 0.4
Asset ID                 :
CLEI Code                : CMM0000000

Power/Fan Module P0 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FDB4
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA

Power/Fan Module P1 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FDER
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA
Device#
```

Note Common Language Equipment Identification (CLEI) code is a ten-digit character code that identifies a specific product. A CLEI code is applied to each part within the controllers as they are programmed in manufacturing for shipment to customers.

show license udi Command

The **show license udi** command displays UDI information.

The following is sample output from the **show license udi** command:

```
Device# show license udi

UDI: PID:CW9800H2,SN:FLX271000V1
```

Note For complete information on the product identification standard, see https://www.cisco.com/c/en/us/products/unique-device-identifier-udi.html.

PID Label Location

The following figures show the location of the PID label on the Cisco Catalyst CW9800H1 Wireless Controller and the Cisco Catalyst CW9800H2 Wireless Controller.

Figure 9: Cisco Catalyst CW9800H1 Wireless Controller PID/VID Label Location

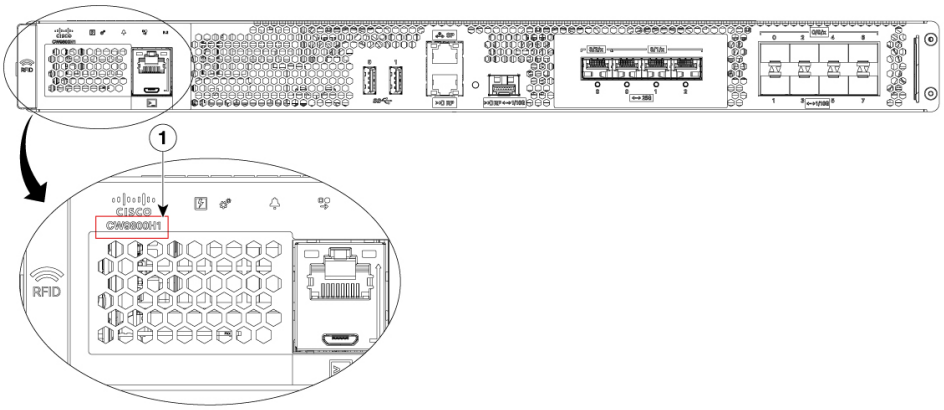
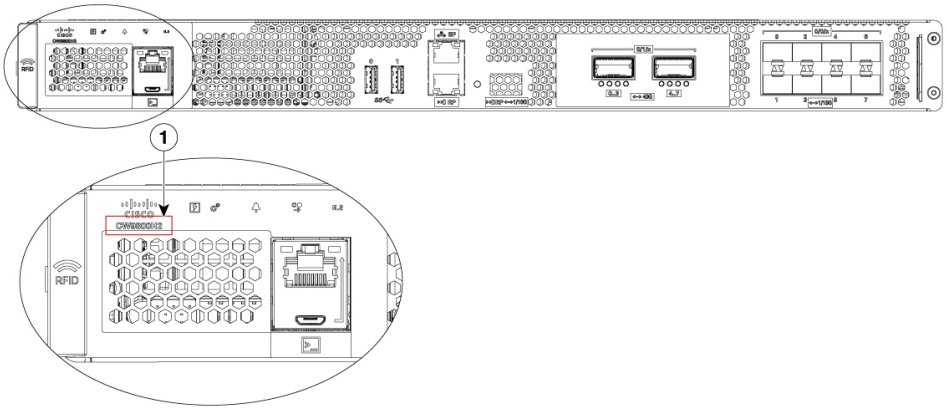


Figure 10: Cisco Catalyst CW9800H2 Wireless Controller PID/VID Label Location



1	PID