Cisco 8400 Series Secure Routers

The Cisco 8400 Series Secure Routers are optimized for campus edge deployments. These routers are powered by a secure networking processor to accelerate encryption and threat protection throughput.

This document covers hardware installation-specific details only for the following routers:

- C8475-G2
- C8455-G2

For more information on the features and specifications, refer to the Cisco 8400 Series Secure Routers datasheet.

Features

This section describes the hardware features of the Cisco C8400 Series Secure Routers.

Table 1: Different features of Cisco C8400 Series Secure Routers

Feature	C8455-G2	C8475-G2
Ethernet Ports	8x 1GE SFP 2x 10GE SFP+ 2x 25GE SFP28	8x 1GE SFP 8x 10GE SFP+ 4x 25GE SFP28
Rack Unit	1RU	1RU

Feature	C8455-G2	C8475-G2
System Memory (DRAM)	32GB DRAM (16GB on-board memory + 16GB UDIMM)	Default: 32GB DRAM (2x 16GB UDIMMs) Upgrade option: 64GB DRAM (2x 32GB UDIMMs)
Storage	Default: 32GB M.2 USB Upgrade Options: 600GB, 2TB M.2 SSD	Default: 32GB M.2 USB Upgrade Options: 600GB, 2TB M.2 SSD
Boot Flash Storage	32GB	32GB
Management Interface	1x RJ45 10/100/1000 Mbps	1x RJ45 10/100/1000 Mbps
ConsolePort	1x RJ45 1x USB Micro-USB (Type B)	1x RJ45 1x USB Micro-USB (Type B)
USB Ports	1x USB 3.0 Type-C	1x USB 3.0 Type-C
Rack Installation	19 inch or 23 inch rack mount	19 inch or 23 inch rack four-post rack mount

Supported transceivers

- **1GE SFP ports**: Supports multi-rate up to 1GE interface. Auto-negotiation is supported.
- **10GE SFP+ ports**: Supports dual-rate 1GE or 10GE interface. Auto-negotiation is not supported.
- **25GE SFP28 ports**: Supports dual-rate 10GE or 25GE interface. Auto-negotiation is not supported.

Power supply

The Cisco 8400 Series Secure Routers have dual PSU slots and includes redundant PSUs by default.

This table lists the supported power supply PIDs for the different input types:

Table 2: Power supplies and PIDs

Input-type	Input	C8455-G2	C8475-G2
AC	100 to 240 VAC	PWR-CH1-250WAC	PWR-CH1-400WAC
DC	+48 to +60 VDC -48 to -60 VDC	PWR-CH1-400WDC	PWR-CH1-400WDC
HVDC	100 to 277 VAC 240 to 380 VDC	PWR-CC1-400WHV	PWR-CC1-400WHV

Note The Cisco 8400 Series Secure Routers can support two AC, DC, or High Voltage AC or DC (HVDC) power supplies. Do not install mixed AC and DC power supply units in the same chassis.

Table 3: DC power supply requirements

System Input Rating (Amps)	Circuit BreakerAmps		AWG # Wire
	Minimum	Maximum	
15A	20	30	14

Ethernet ports on C8475-G2 Secure Router

This section covers details on ethernet ports on Cisco C8475-G2 Secure Router.

GE and SFP ports

Management ethernet port

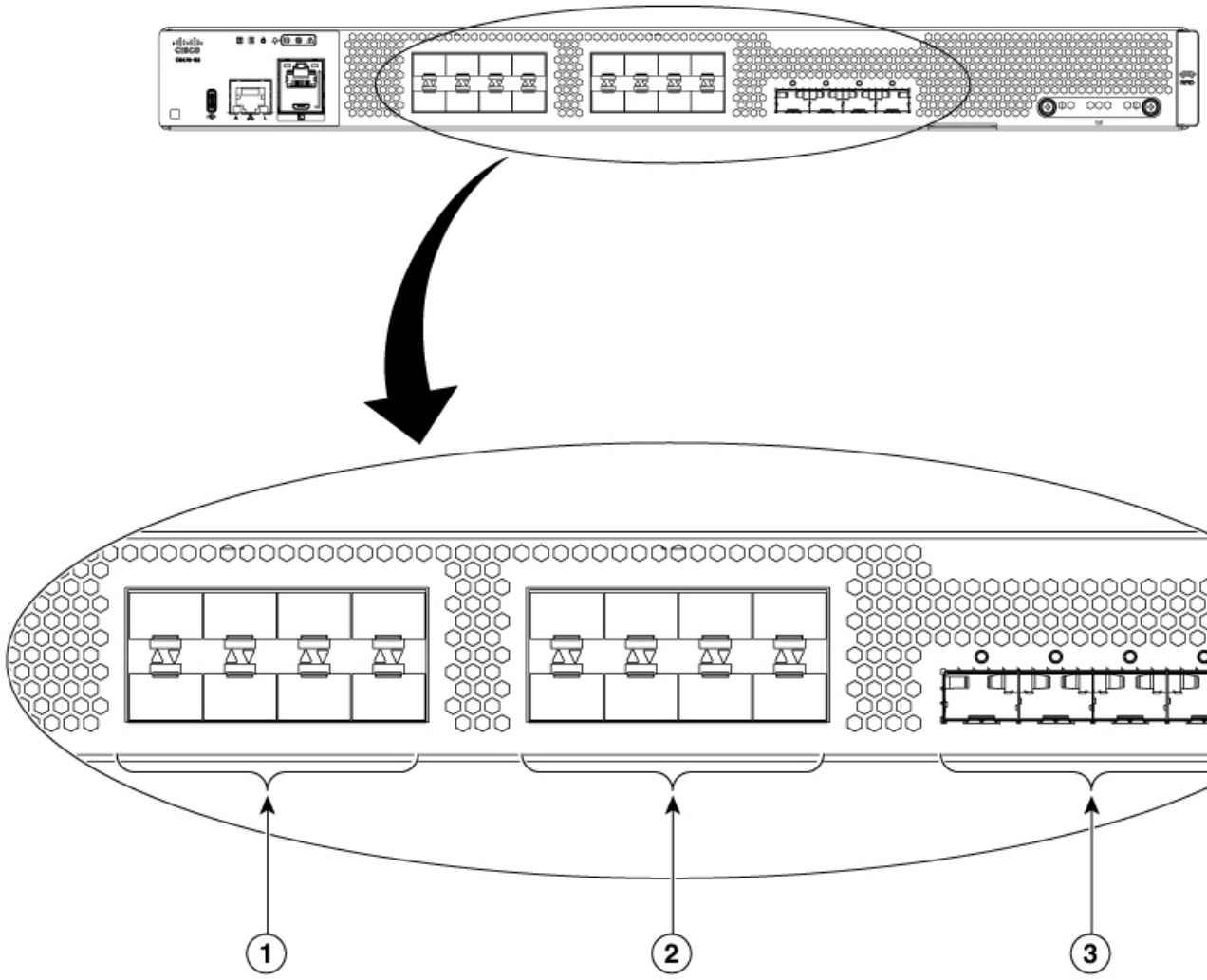
The C8475-G2 router has one gigabit ethernet management ethernet interface that supports 10/100/1000 Mbps speed. The purpose of this interface is to allow users to perform management tasks on the router, often through Telnet and SSH. It is not designed to forward network traffic.

SFP ports

The C8475-G2 router has SFP, SFP+, and SFP28 ports.

- Bay 0 (0/0/0 - 0/0/7) ports support SFP transceivers with maximum 1 Gbps speed.
- Bay 0 (0/0/9 - 0/0/15) ports support SFP or SFP+ transceivers with 1 Gbps and 10 Gbps speeds, respectively.
- Bay 0 (0/0/16 - 0/0/19) ports support SFP+ or SFP28 transceivers, with 10 Gbps and 25 Gbps speeds, respectively.

Figure 1: GE and SFP ports



1	8X 1GE SFP Ports (0/0/0 - 0/0/7)
2	8X 1/10G SFP Ports (0/0/9 - 0/0/15)
3	4X 10/25G SFP Ports (0/0/16 - 0/0/19)

Ethernet ports on C8455-G2 Secure Router

The C8455-G2 Secure Router has these ports:

GE and SFP ports

Management ethernet port

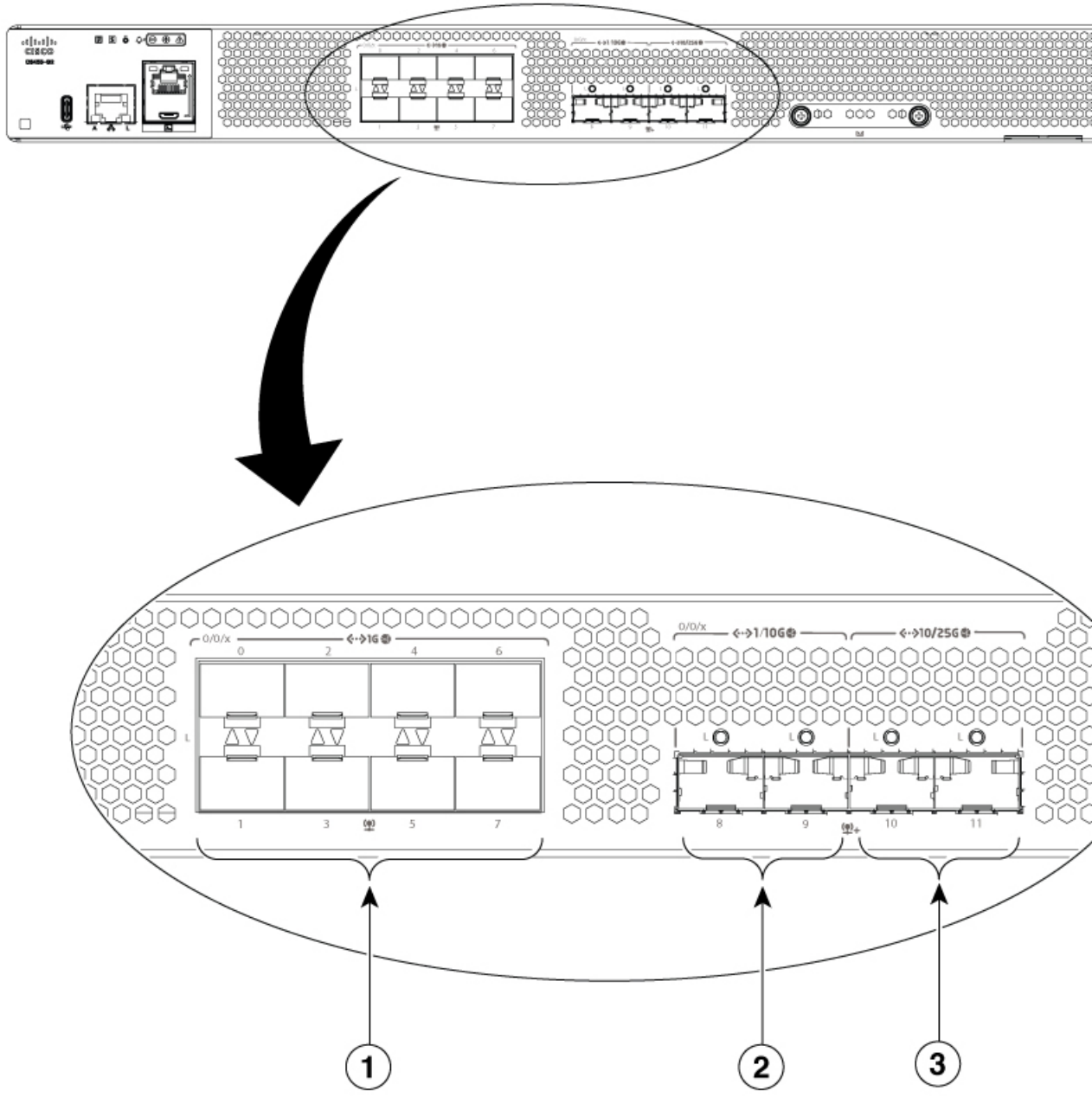
The C8455-G2 router has one Gigabit Ethernet management ethernet interface. The purpose of this interface is to allow users to perform management tasks on the router, often through Telnet andSSH. It is not designed to forward network traffic. The Gigabit Ethernet management ethernet interface supports 10/100/1000 Mbps speed.

SFP ports

The C8455-G2 router has SFP, SFP+, and SFP28 ports.

- Bay 0 (0/0/0 - 0/0/7) ports support SFP transceivers with maximum 1Gbps speed.
- Bay 0 (0/0/8 - 0/0/9) ports support SFP or SFP+ transceivers with 1Gbps and 10Gbps speeds, respectively.
- Bay 0 (0/0/10 - 0/0/11) ports support SFP+ or SFP28 transceivers with 10Gbps and 25Gbps speeds, respectively.

Figure 2: GE and SFP ports



1	8X 1GE SFP Ports (0/0/0-0/0/7)
2	2X 1/10G SFP Ports (0/0/8-0/0/9)
3	2X 10/25G SFP Ports (0/0/10-0/0/11)

Chassis views for C8475-G2 Secure Router

Figure 3: C8475-G2 Chassis - I/O Side

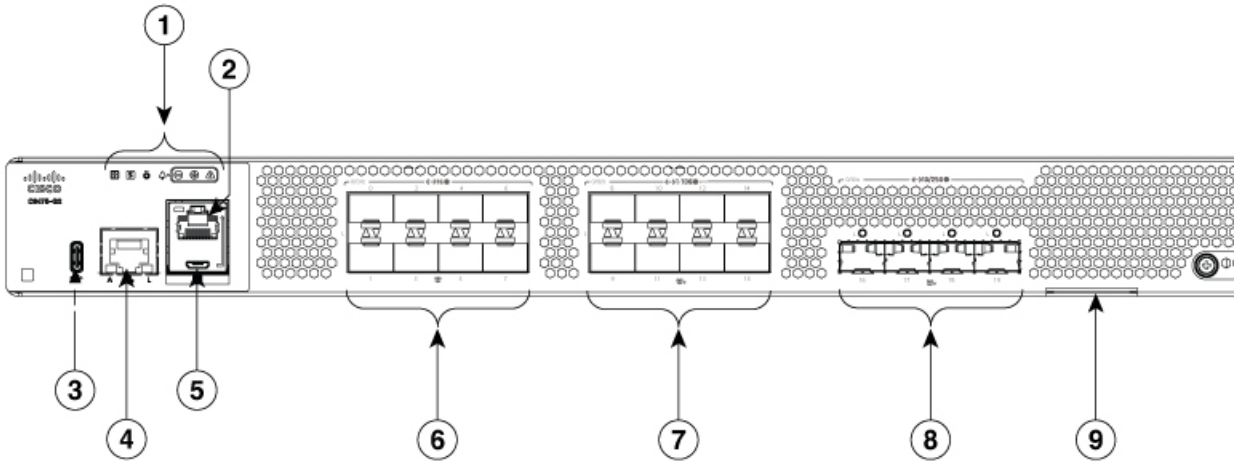
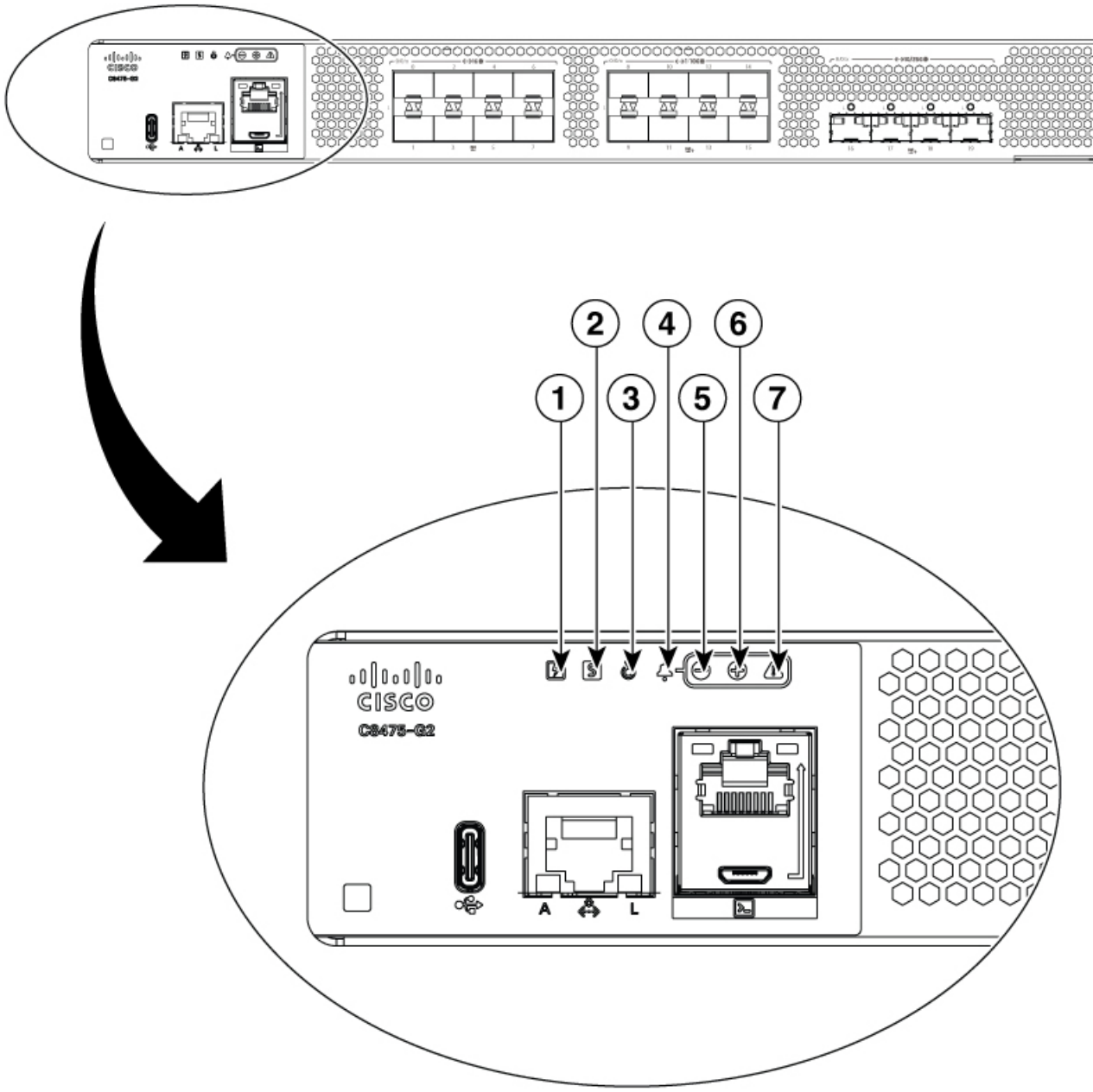


Table 4: I/O Side

1	Status indicator LEDs	2	RJ45 console port
3	USB port	4	Gigabit Ethernet management port
5	Micro-USB console	6	SFP ports (0/0/0-0/0/7)
7	SFP+ ports (0/0/8-0/0/15)	8	SFP28 ports (0/0/16-0/0/19)
9	Device label tray	10	M.2 storage slot
11	RFID (Provisionable)		

LEDs for C8475-G2 Secure Router

Figure 4: LEDs for C8475-G2 Secure Router



1	Power	2	Status
3	Blue beacon	4	Alarm icon (not lit)
5	Minor alarm	6	Major alarm

7	Critical alarm		

Table 5: LEDs Indicators

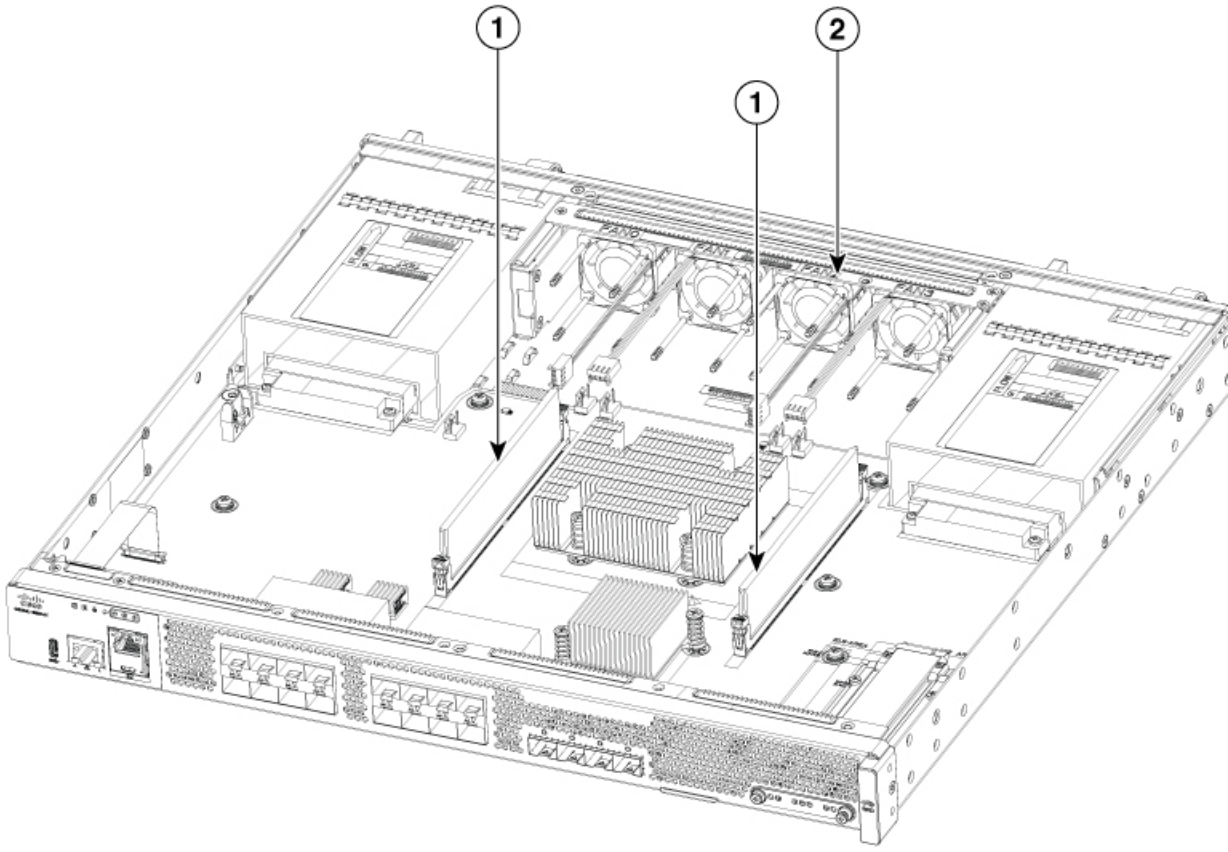
LED	Color	Description
PSU	Green/Amber	**Power Supply Status** Off: The system is powered off. Amber: A power supply has malfunctioned (or is not installed). Green: Both installed power supplies are operating correctly.
Status	Green/Amber/Red	**System Status** Blinking Amber: The system is booting ROMMON. Amber: System is at ROMMON prompt or booting router software. Green: Normal System Operation. Blinking Red: The system has failed a hardware integrity check.
Beacon	Blue	**Beacon LED** Blinking Blue: Beacon requested.
Minor Alarm	Amber	**Minor Alarm** Off: No Minor Alarm. Amber: Minor Alarm Asserted.
Major Alarm	Red	**Major Alarm** Off: No Major Alarm. Red: Major Alarm Asserted.
Critical Alarm	Red	**Critical Alarm** Off: No Critical Alarm. Red: Critical Alarm Asserted.
Link	Green	**RJ-45 Management Ethernet Link LED** Off: No link. Green: Ethernet cable present and link established with other side.

LED	Color	Description
Activity	Green	**RJ-45 Management Ethernet Activity LED** Blinking Green: Ethernet activity detected.
USB con	Green	**USB Console Active** Green: indicates that the active console port is USB. When this is “On” the SER CON LED will be “Off”.
SER con	Green	**Serial Console Active** Green: indicates that the active console port is RJ-45. When this is “On” the USB CON LED will be “Off”.
SFP	Green/Amber	**SFP port 0/1 Link LED** Off: SFP not present or port not configured (i.e., admin down). Amber: Link down / Loss of Signal. Green: Link established.

C8475-G2 summary

The figure below shows the internal view of C8475-G2 router with parts and module locations.

Figure 5: Summary of C8475-G2



1	DIMMs
2	Fan tray

Chassis views for C8455-G2 Secure Router

Figure 6: C8455-G2 Chassis - I/O Side

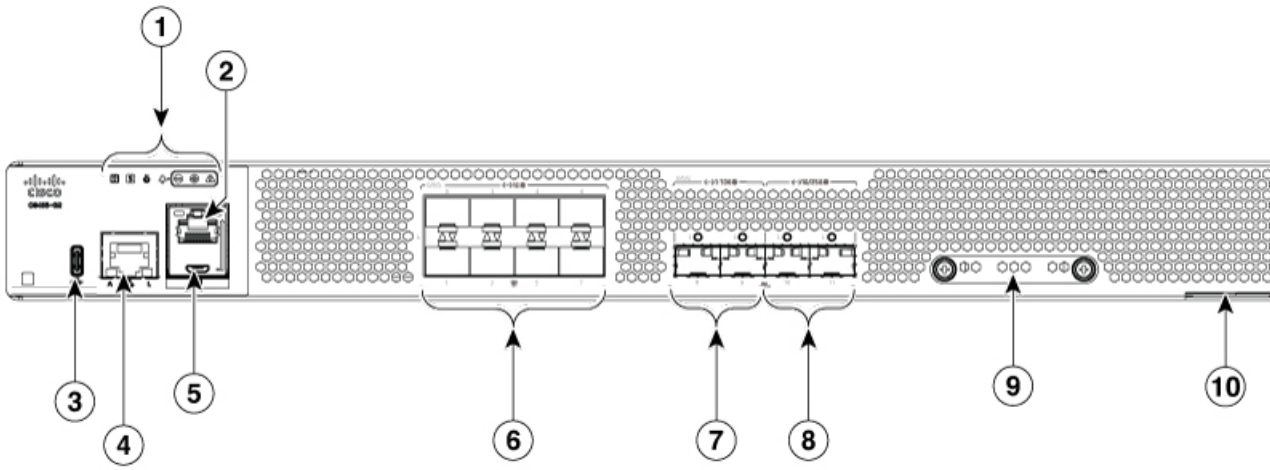
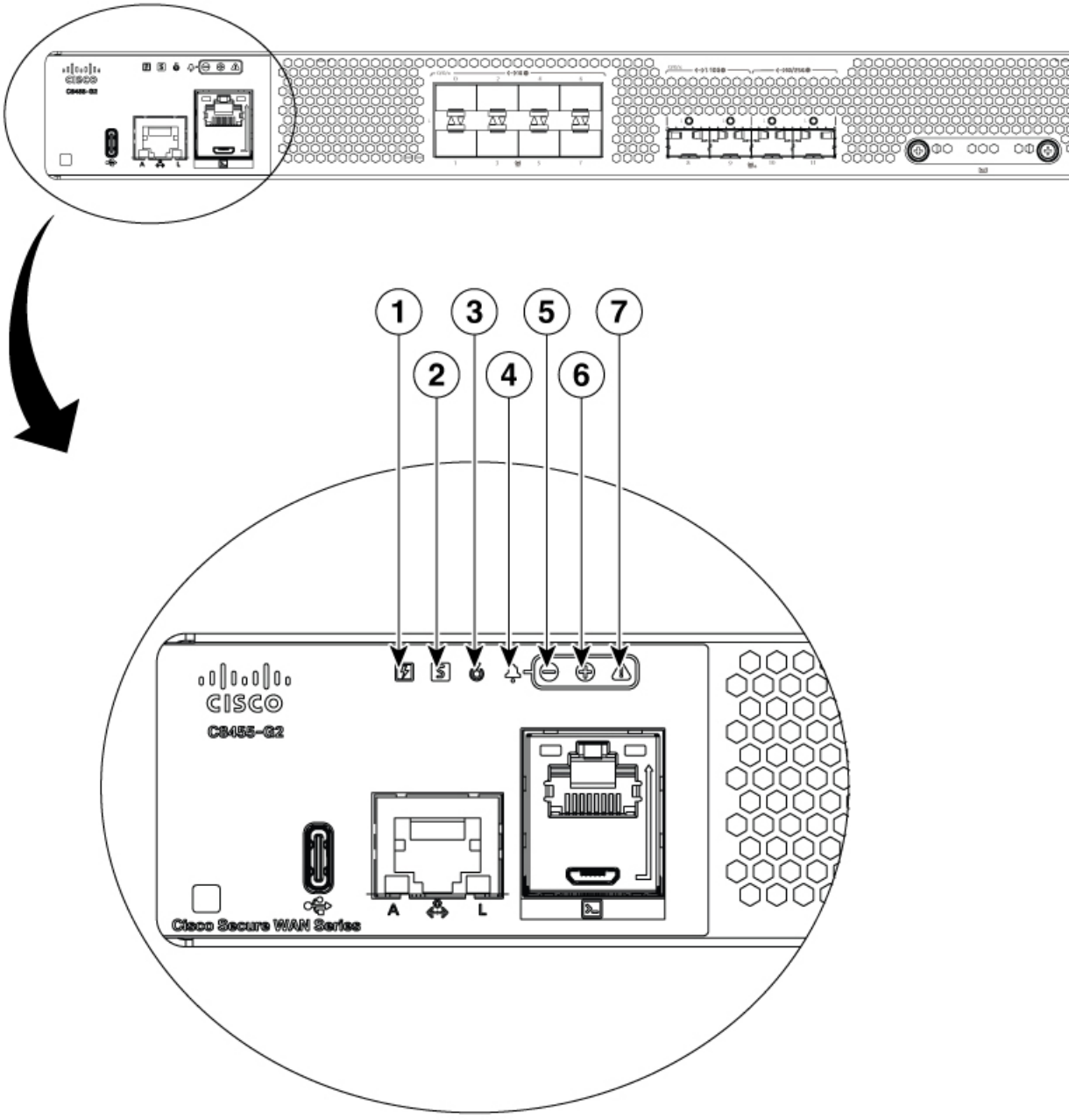


Table 6: I/O Side

1	Status indicator LEDs	2	RJ45 console port
3	USB type C port	4	GigabitEthernet management port
5	Micro-USB console	6	SFP ports (0/0/0-0/0/7)
7	SFP+ ports (0/0/8-0/0/9)	8	SFP28 ports (0/0/10-0/0/11)
9	M.2 USB/NVMe card slot	10	Device label tray
11	RFID (Provisionable)		

LEDs for C8455-G2 Secure Router

Figure 7: LEDs for C8455-G2 Secure Router



1	Power	2	Status
3	Blue Beacon	4	Alarm icon (not lit)
5	Minor Alarm	6	Major Alarm

7	Critical Alarm		

Table 7: LED indicators

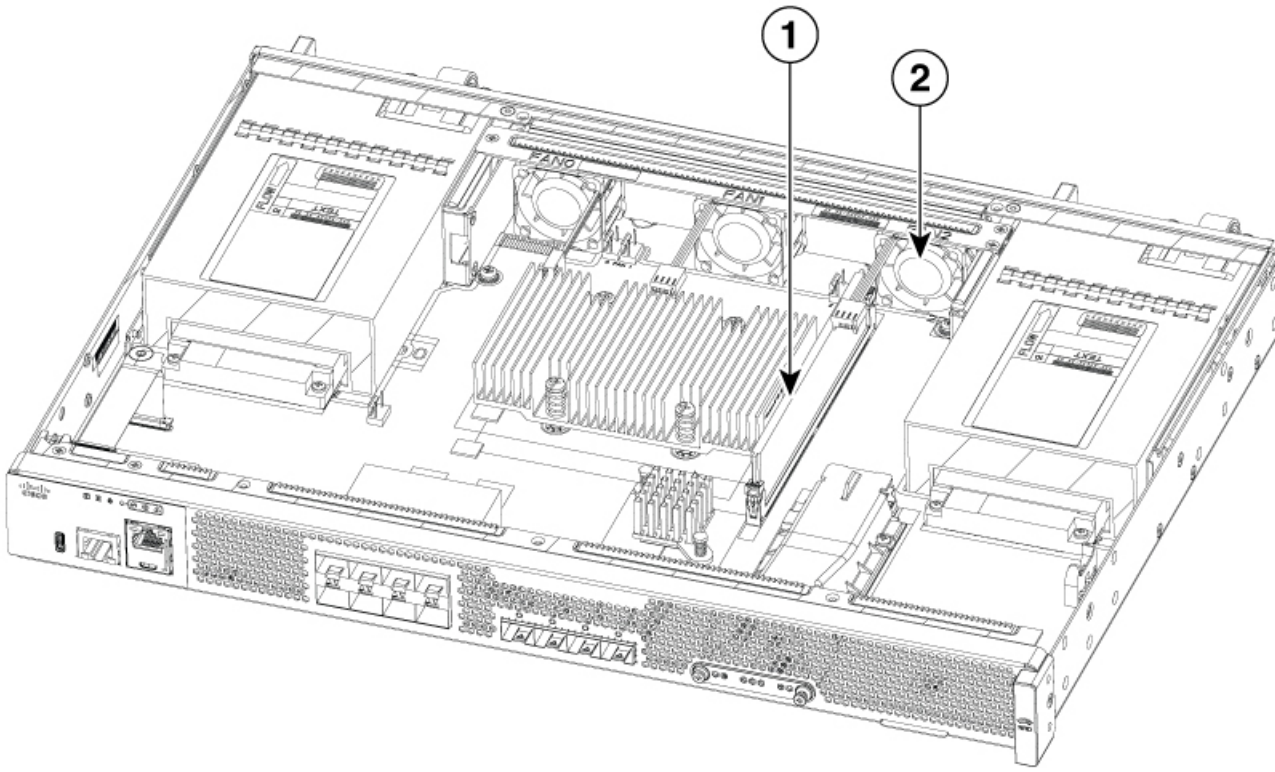
LED	Color	Description
PSU	Green/Amber	**Power Supply Status** Off: The system is powered off. Amber: A power supply has malfunctioned (or is not installed). Green: Both installed power supplies are operating correctly.
STATUS	Green/Amber/Red	**System Status** Blinking Amber: The system is booting ROMMON. Amber: System is at ROMMON prompt or booting platform software. Green: Normal System Operation. Blinking Red: The system has failed a hardware integrity check.
BEACON	Blue	**Beacon LED** Blinking Blue: Beacon requested.
MINOR ALARM	Amber	**Minor Alarm** Off: No Minor Alarm. Amber: Minor Alarm Asserted.
MAJOR ALARM	Red	**Major Alarm** Off: No Major Alarm. Red: Major Alarm Asserted.
CRITICAL ALARM	Red	**Critical Alarm** Off: No Critical Alarm. Red: Critical Alarm Asserted.
LINK	Green	**RJ-45 Management Ethernet Link LED** Off: No link. Green: Ethernet cable present and link established with other side.

LED	Color	Description
ACTIVITY	Green	**RJ-45 Management Ethernet Activity LED** Blinking Green: Ethernet activity detected.
USB CON	Green	**USB Console Active** Green: indicates that the active console port is USB. When this is “On” the SER CON LED will be “Off”.
SER CON	Green	**Serial Console Active** Green: indicates that the active console port is RJ-45. When this is “On” the USB CON LED will be “Off”.
SFP	Green/Amber	**SFP port 0/1 Link LED** Off: SFP not present or port not configured (i.e., admin down). Amber: Link down / Loss of Signal. Green: Link established.

C8455-G2 summary

The figure below shows the internal view of with parts and module locations.

Figure 8: Summary of C8455-G2

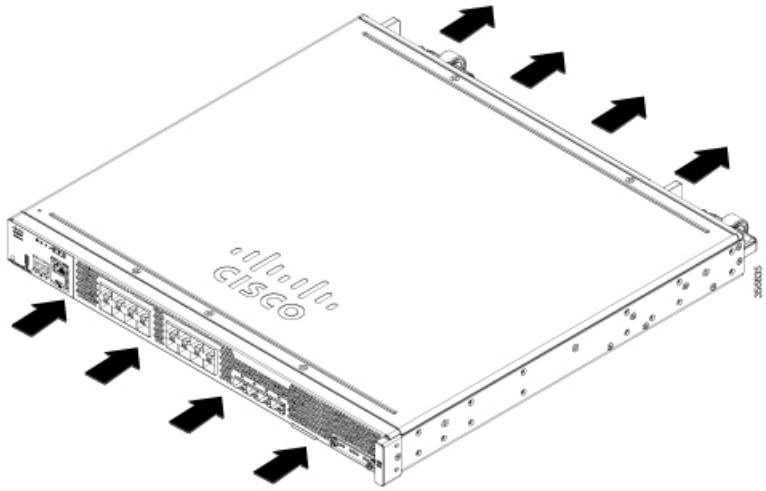


1	DIMMs
2	Fan tray

Chassis ventilation

The chassis temperature is regulated with internal fans. An onboard temperature sensor and pressure sensor controls the fan speed. The fans are always on when the device is powered on. Under all conditions, the fans operate at the slowest speed possible to conserve power and reduce noise. The fans operate at higher speeds under conditions of higher ambient temperature and altitude or under fault conditions like a fan failure. The air intake is on the I/O side.

Figure 9: Airflow of Cisco 8400 Series Secure Routers



Locate labels

Use the Cisco Product Identification (CPI) tool to find labels on the platform. The tool provides detailed illustrations and descriptions of where labels are located on Cisco products. It includes the following features:

- A search option that allows browsing for models by using a tree-structured product hierarchy.
- A search field on the final results page that makes it easier to look up multiple products.
- End-of-sale products clearly identified in results lists.

The tool streamlines the process of locating serial number labels and identifying products. Serial number information expedites the entitlement process and is required for access to support services.

Location of labels on Cisco C8400 Secure Routers

The figures below shows the location of the labels on the Cisco 8400 Series Secure Routers.

The Serial number (SN), Common language equipment identifier (CLEI), Tax deduction and collection account (TAN), Product ID (PID), PID version ID (VID), and Quick response (QR) code are printed at the same location on a label tray located on the chassis on all the Cisco 8400 Secure Routers.

Figure 10: Label location on C8475-G2

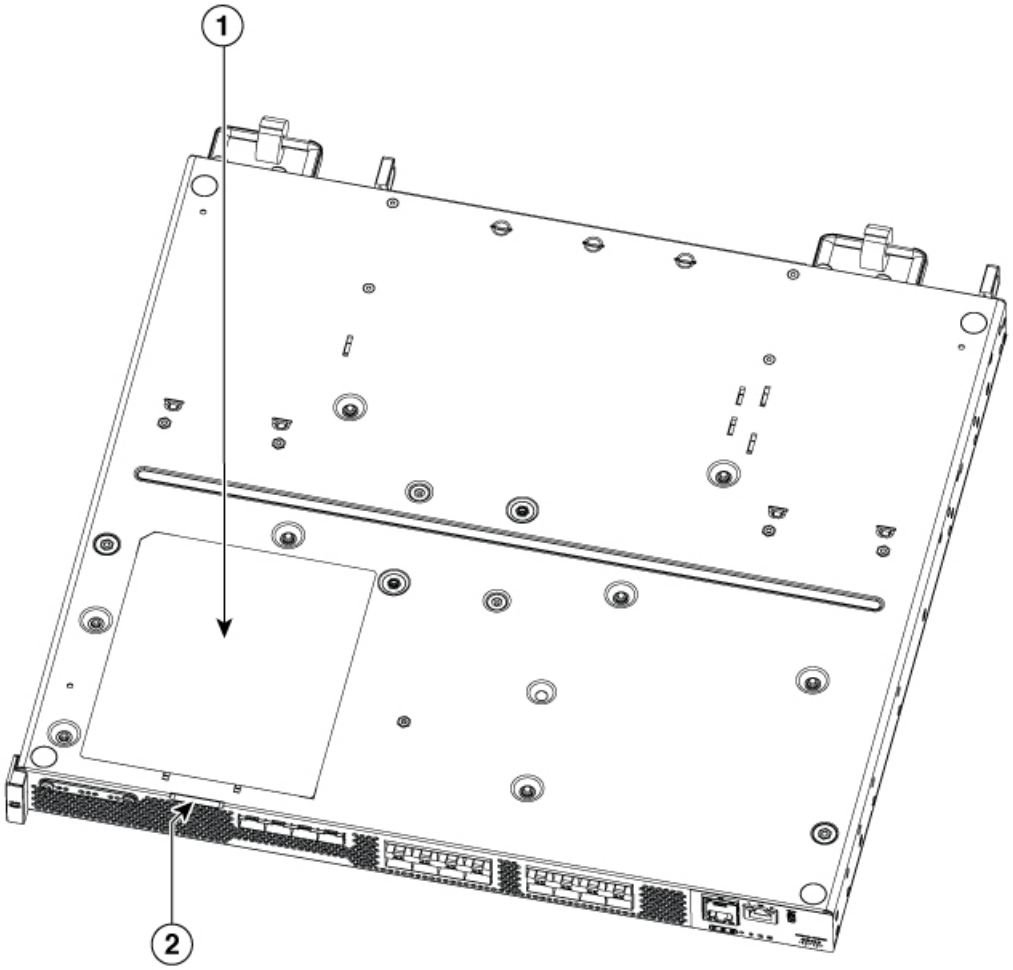
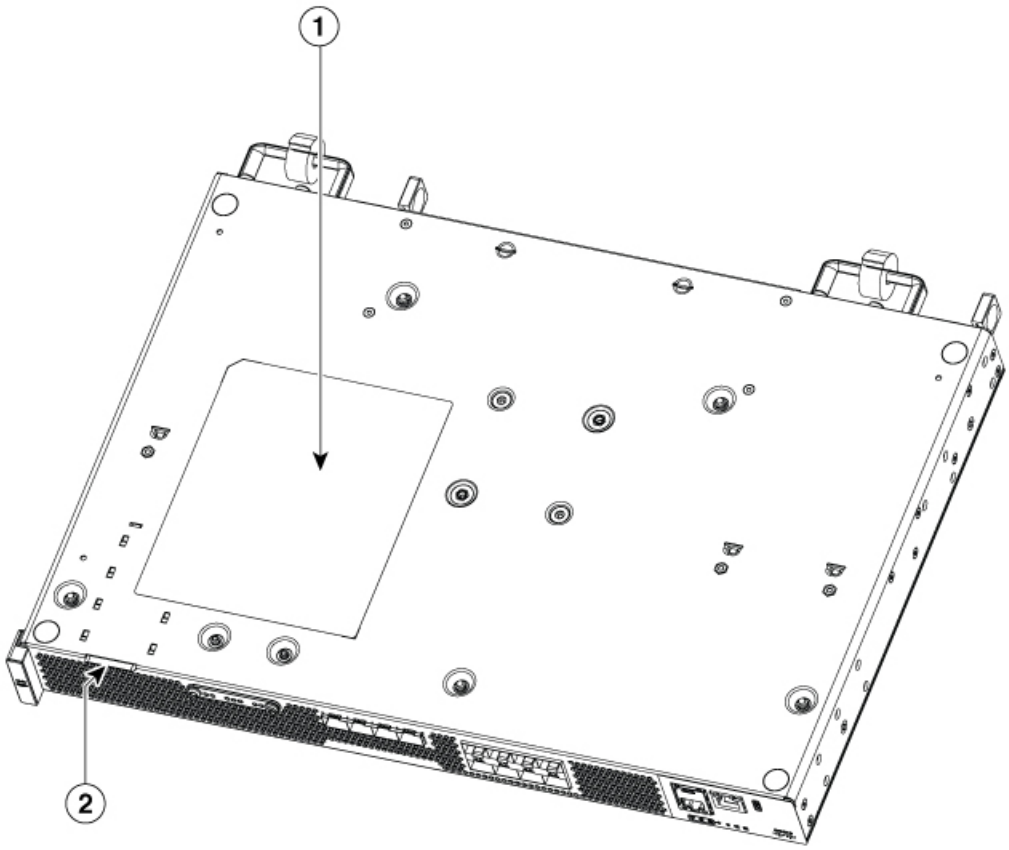
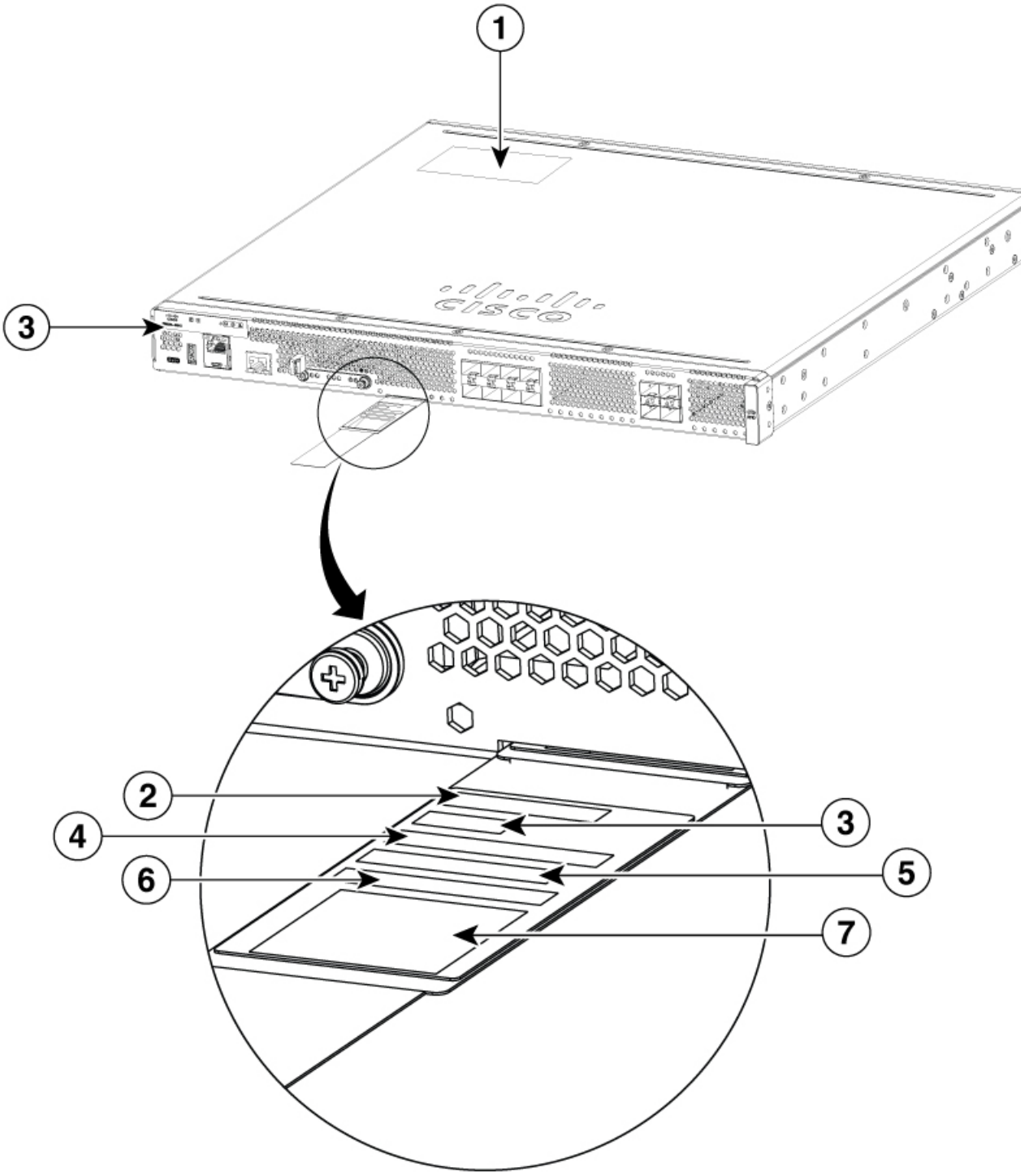


Figure 11: Label location on C8455-G2





1	Compliance label	2	Label tray
3	PID location	4	SN

5	CLEI	6	TAN
7	MAC		

Locate product identification details

The serial number (SN), product ID (PID), version ID (VID), and Common Language Equipment Identifier (CLEI) are printed on a label on the bottom of the device or on the label tray.

To obtain a software license, you need the unique device identifier (UDI) of the device where the license is to be installed.

The UDI has two main components:

- Product ID (PID)
- Serial number (SN)

The UDI can be viewed using the **show license udi** command in privileged Exec mode in Cisco Internet Operating System (IOS) software.