Cisco Wi-Fi Interface Module Overview

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Cisco Wi-Fi Interface Module (WIM) Overview

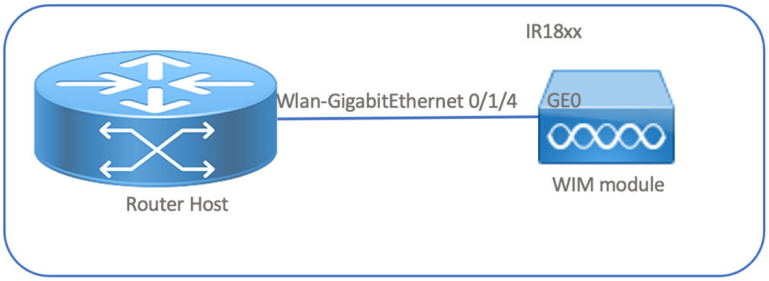
This section provides an overview of the Cisco Wi-Fi Interface Module (WIM). The PID is WP-WIFI6-*x* where x signifies the regulatory domain.

Highlights of the WIM are:

- Pluggable 802.11ax module for Cisco Catalyst IR1800 series
- WiFi-6 (802.11ax), 2x2 MIMO with 2 spatial streams
- Extended Temperature Range
- Field Replaceable Unit (FRU), however does not support OIR (Online Insertion and Removal)
- Versatile RF coverage with external RP-SMA antenna connectors
- Flexible Antenna Port feature support
- Based on the Cisco AP 9105AXI

Hardware Overview

The following diagram shows the control and data path of the WIM. The wired interface is connected to the IR1800 series Switch port (named wlan-GigabitEthernet 0/1/4).



The following graphic shows the front panel of the WIM.

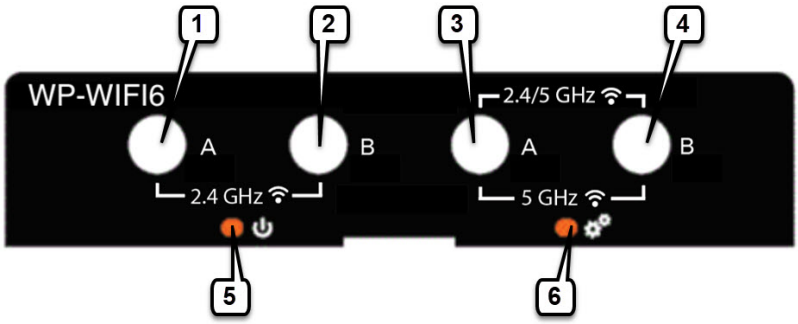


Table 1: WIM Front Panel

Item	Description
1	Disabled when the flexible antenna ports are set to dual-band mode (Default). 2.4 GHz when the flexible antenna ports are set to single-band mode.
2	Disabled when the flexible antenna ports are set to dual-band mode (Default). 2.4 GHz when the flexible antenna ports are set to single-band mode.
3	2.4/5 GHz when the flexible antenna ports are set to dual-band mode (Default). 5 GHz only when the flexible antenna ports are set to single-band mode.
4	2.4/5 GHz when the flexible antenna ports are set to dual-band mode (Default). 5 GHz only when the flexible antenna ports are set to single-band mode.
5	Enable LED
6	Wi-Fi LED

Note Refer to Flexible Antenna Port for additional details.

The following table describes the Enable LED:

LED Status	Description
Off	No Power
Yellow	Power is on, module is not yet functional
Green	Module is fully functional

The following table describes the Wi-Fi LED:

Note LED status information is not applicable to concurrent radio mode. Concurrent radio Root AP + wireless client displays the default LED behavior — Alternate blinking red/green.

LED Status	Status Type	Description
Solid Green	Association Status	Normal operating condition, but no wireless client associated.
Solid Blue	Association Status	• WP-WIFI6 (CAPWAP mode): Infra AP registered with WLC, Client connected to the AP • WP-WIFI6 (UIW WGB): 1 — WGB registered with Infra AP 2 — Both Radio Root AP(second radio) + wireless client connected: NA
Solid Green	Boot Loader Status	Executing Boot Loader
Flashing Green	Boot Loader Status	Boot Loader Error, signing verification error.
Flashing Blue	Operating Status	Software upgrade in progress.
Alternate between Green and Red	Operating Status	Discovery/Join process is in progress.
Cycle through Red-Off-Green-Off-Blue-Off	Access Point operating system error	General warning; insufficient inline power.

Software Overview

The WIM is supported on all four models of the IR1800 series.

Feature support has changed through different versions that run on the WIM software. The IR1800 router software must be running IOS-XE version 17.7.1 or greater. Features available on the WIM depend on what is available on the IOS XE software version of the router, and what mode the WIM is running in. The following table provides details:

Table 2: Feature Matrix

Router IOS XE Release	WIM IOS XE Release	Feature	WIM Software Image Type
17.7.1 and Greater		Three Modes Supported:	
	17.6.1 to 17.10.x	CAPWAP	ap1g8-k9w8
	17.6.1 to 17.10.x	EWC	C9800-AP-iosxe-wlc.bin
	17.6.1 to 17.10.x	WGB	ap1g8-k9w8
17.7.1 and Greater	17.11.1 and Greater	Unified Industrial Wireless (UIW) software image type is introduced to support the following: • UIW: WGB mode support move from ap1g8-k9w8 to ap1g8t-k9c1 • UIW: Concurrent Radio support with WGB uplink and Root AP mode • UIW: Concurrent Radio support with dual Root AP mode See more about the UIW image here. **Note** WGB mode in ap1g8-k9w8 discontinued starting with 17.11.1.	ap1g8t-k9c1

Feature set is aligned on AP 9105AXI. See the Feature Matrix for Cisco Wireless Access Points.

See the Software Download page for the different WIM software.

Ordering Information

In Cisco Commerce Configuration, Wi-Fi software offers three types of configurations, bundled with different image types. WIM module is shipped with pre-installed image bundle accordingly:

- SW-WPWIFI6-EWC — Default EWC Access Point with C9800-AP-iosxe-wlc.bin + ap1g8-k9w8 image bundle (EWC + CAPWAP)
- SW-WPWIFI6-CW — Default CAPWAP Access Point with ap1g8-k9w8 + ap1g8t-k9c1 image bundle (CAPWAP + UIW WGB)
- SW-WPWIFI6-WGB — Default WGB Access Point with ap1g8-k9w8 + ap1g8t-k9c1 image bundle (CAPWAP + UIW WGB)

The WIM is capable of booting up different images and converting the AP type to support different mode of operation, within the programmed image bundle capability. See the conversion section for details. EWC and WGB are exclusive.

Tip Cisco recommends you map the typical deployment use cases and order Wi-Fi software with pre-installed image bundle.

Related Documentation

There are many different options that can be configured on the Access Point depending on your installation scenario. Other sources of documentation are available here:

Cisco Catalyst 9100 Family of Access Points

Cisco Wireless Controller Configuration Guide

Cisco Embedded Wireless Controller on Catalyst Access Points FAQ

Cisco Catalyst 9800 Series Configuration Best Practices

Cisco Wave 2 Access Points as Workgroup Bridges

Cisco Industrial Wireless Workgroup Bridge and Universal WGB Deployment Guide