Enable 4.9GHz Channel on Industrial Wireless Access Points

Contents

Introduction

This document describes the steps needed to enable the 4.9GHz frequency support on Industrial Wireless Access Points.

Background Information

The Cisco Catalyst IW9167E, IW9165D, and IW9165E APs bring in support for 4.9 GHz frequency band in URWB mode for Canada (-A) and -B (United States) domains.

URWB delivers reliable wireless through a specialized implementation of Multiprotocol Label Switching (MPLS)-over-wireless link protocol, created to overcome the limits of standard wireless protocols when transmitting any IP-compatible traffic with very low latency in a mobility context. A “make-before-break” approach enables moving vehicles to reliably move the connection to the next access point along their path without any interruption in connectivity.

Supported APs and Firmware

• Currently, only regulatory domains –A and –B (Canada and US) support IW-49 license.

• Regulatory domain –Q supports 4.9 GHz frequencies, without activating any license.

• Other regulatory domains (for example -ROW, -F) do not support IW-49 license and 4.9 GHz frequencies.

This support is specifically for the APs running in Ultra Reliable Wireless Backhaul (URWB) mode.

Steps before activation:

1. Please provide the authorization to use these frequencies issued typically by a regulatory body.
2. The reference copy for authorization is shared with the TAC for further validation with Engineering.

3. Once confirmed, the TAC team can initiate the process flow for enabling the 4.9 GHz.

4. The TAC Engineers must have IW-Admin or IW-Viewmode access to your organization in IoT Operations Dashboard (IoT OD).

5. Please on-board the IW Access points in the organization to the IW service in IoT OD. Both online and offline mode are supported. The TAC team would need to unlock the IW-49 license within the tenant.

IW Service in IoT Operations Dashboard

The IW Service in IoT Operations Dashboard (IoT OD) is needed for this entire procedure. Industrial Wireless (IW) service is a secure, cloud-native service to provision and manage Industrial Wireless devices.

Catalyst IW9167E, IW9165E and IW9165D access points and IEC-6400 gateway operating in the Cisco Ultra-Reliable Wireless Backhaul (URWB) mode can be configured and managed here.

This end-user IoT Operations Dashboard service also allows to configure and upgrade the firmware of connected industrial wireless devices remotely.

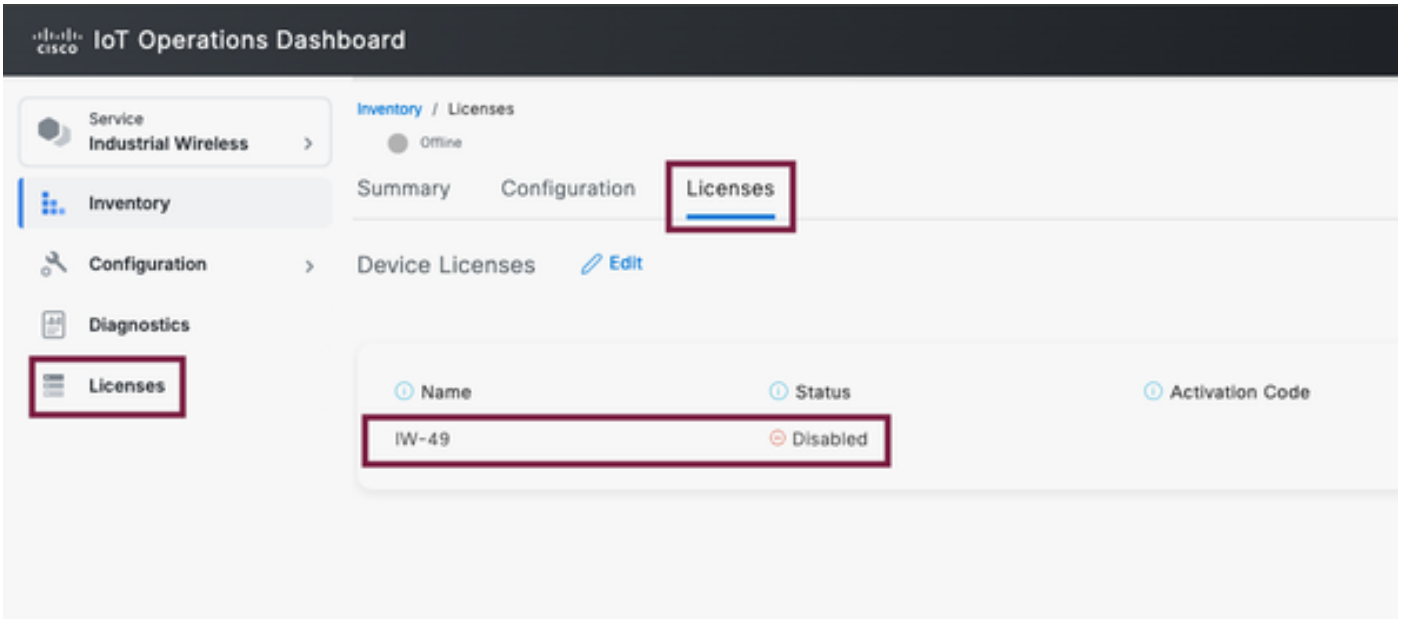
Unlocking IW-49 license in the tenant (for the TAC team)

Enable IW-49 license from IW service

These steps can be done by any user with IW-Admin access to the organization (TAC or customers).

6. Navigate to **Inventory**.
7. Select the device for which IW-49 is required.
8. Go to **Licenses** sub-section.
9. Click **Edit**.

10. After clicking **Edit**, right sidebar appears.
11. Click **Enable**.
12. Click **Confirm**.
    Note: IW-49 license cannot be deactivated.



Enable IW-49 license on the device

IW-49 license is now active on the device in IW service but not yet on the physical device (AP).

Note: There is no Activation code like the FM licenses.

13. Go to **Configuration**.
14. Click **Edit**.
15. Select a frequency in 4900 - 4990 MHz range for Radio 1 and/or Radio 2. Without activating IW-49 license, these frequencies are NOT available in the dropdown.

Edit Device Configuration

Search

- General
- Wireless Radio
- Advanced Radio Settings
- Key Control
- FluidMAX
- Multicast
- SNMP
- Radius
- NTP
- L2TP
- Vlan
- Fluidity
- Fluidity Advanced
- Fluidity Pole Proximity
- Fluidity Frequency Scan
- Fluidity MPO
- Fast Failover (TITAN)
- Misc
- Spanning Tree
- MPLS

Wireless Radio

Passphrase *

CiscoURWB2

Radio 1 enabled

Radio 1 role *

Fixed

Indoor Deployment

Radio 1 Frequency (MHz) *

5180 MHz

- 4945 MHz
- 4950 MHz
- 4955 MHz
- 4960 MHz
- 4965 MHz

Push / download configuration

16. Apply the configuration in IW service to the physical device. There are 2 ways to do this:

- **Online mode:** push configuration to the connected device.
- **Offline mode:** download configuration and upload it to the device.

17. Wait for device reboot

After reboot, 4.9Ghz frequencies are available on the physical device.

After enabling 4.9 frequencies, it is not mandatory to manage the device in IW service on IoT Operations Dashboard (IoT OD).