



# CleanAir

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Cisco CleanAir is a spectrum intelligence solution designed to proactively manage the challenges of a shared wireless spectrum. It allows you to see all of the users of the shared spectrum (both native devices and foreign interferers). It also enables you or your network to act upon this information. For example, you could manually remove the interfering device, or the system could automatically change the channel away from the interference.

## Information about CleanAir

A Cisco CleanAir system consists of CleanAir-enabled APs, controllers, and Cisco Prime Infrastructure (PI). These APs collect information about all devices that operate in the industrial, scientific, and medical (ISM) bands. They identify and evaluate the information as a potential interference source and forward it to the controller. The controller controls the APs, collects spectrum data, and forwards the information to PI or to a Cisco Mobility Services Engine (MSE) upon request. The controller provides a local user interface to configure basic CleanAir features and displays basic spectrum information. PI provides an advanced user interface to configure Cisco CleanAir features, display information, and keep records. The MSE is optional for the basic feature set, but is required for advanced features such as tracking the location of non-Wi-Fi interference devices.

For every device operating in the unlicensed band, Cisco CleanAir tells you what it is, where it is, how it is impacting your wireless network, and what actions you or your network should take. It simplifies RF so that you do not have to be an RF expert.

Wireless LAN systems operate in unlicensed 2.4- and 5-GHz ISM bands. Many devices, such as microwave ovens, cordless phones, and Bluetooth devices also operate in these bands and can negatively affect Wi-Fi operations.

Some of the most advanced WLAN services, such as Voice over Wireless (VoWLAN) and IEEE 802.11n radio communications could be significantly impaired by the interference caused by other legal users of the ISM bands. The integration of Cisco CleanAir functionality into the Cisco Unified Wireless Network resolves RF interference problems.

## CleanAir Configuration

CleanAir is disabled by default at the WLC/mobility controller level and must be enabled at all mobility controllers just like a WLC installation. In order to enable CleanAir on the switch, enter this command:

```
ap dot11 24 cleanair ap dot11 5  
cleanair Controller#show ap dot11 24 sum
```

Enter this command in order to enable or disable CleanAir on a single AP radio:

```
ap name AP0022.bd18.87c0dot11 24 cleanair
```

The no form of the command disables CleanAir.

Use this command in order to query CleanAir for devices and AirQuality (AQ) at the AP radio and the global levels:

```
show ap dot11 24 cleanair device type all
```

Use this command in order to show the CleanAir configuration for the mobility controller:

```
show ap dot11 24 cleanair config
```