



RRM Commands

- [config 802.11-a](#), on page 4
- [config 802.11-a antenna extAntGain](#), on page 5
- [config 802.11-a channel ap](#), on page 6
- [config 802.11-a txpower ap](#), on page 7
- [config 802.11-abgn](#), on page 8
- [config 802.11a 11acsupport](#), on page 9
- [config 802.11b 11gSupport](#), on page 10
- [config 802.11b preamble](#), on page 11
- [config 802.11h channelswitch](#), on page 12
- [config 802.11h powerconstraint](#), on page 13
- [config 802.11h setchannel](#), on page 14
- [config 802.11 11nsupport](#), on page 15
- [config 802.11 11nsupport a-mpdu tx priority](#), on page 16
- [config 802.11 11nsupport a-mpdu tx scheduler](#), on page 18
- [config 802.11 11nsupport antenna](#), on page 19
- [config 802.11 11nsupport guard-interval](#), on page 20
- [config 802.11 11nsupport mcs tx](#), on page 21
- [config 802.11 11nsupport rifs](#), on page 23
- [config 802.11 antenna diversity](#), on page 24
- [config 802.11 antenna extAntGain](#), on page 25
- [config 802.11 antenna mode](#), on page 26
- [config 802.11 antenna selection](#), on page 27
- [config 802.11 channel](#), on page 28
- [config 802.11 channel ap](#), on page 30
- [config 802.11 chan_width](#), on page 31
- [config 802.11 txPower](#), on page 33
- [config advanced 802.11 7920VSIEConfig](#), on page 35
- [config advanced 802.11 channel add](#), on page 36
- [config advanced 802.11 channel cleanair-event](#), on page 37
- [config advanced 802.11 channel dca anchor-time](#), on page 38
- [config advanced 802.11 channel dca chan-width-11n](#), on page 39
- [config advanced 802.11 channel dca interval](#), on page 40
- [config advanced 802.11 channel dca min-metric](#), on page 41

- [config advanced 802.11 channel dca sensitivity](#), on page 42
- [config advanced 802.11 channel foreign](#), on page 44
- [config advanced 802.11 channel load](#), on page 45
- [config advanced 802.11 channel noise](#), on page 46
- [config advanced 802.11 channel outdoor-ap-dca](#), on page 47
- [config advanced 802.11 channel pda-prop](#), on page 48
- [config advanced 802.11 channel update](#), on page 49
- [config advanced 802.11 coverage](#), on page 50
- [config advanced 802.11 coverage exception global](#), on page 51
- [config advanced 802.11 coverage fail-rate](#), on page 52
- [config advanced 802.11 coverage level global](#), on page 54
- [config advanced 802.11 coverage packet-count](#), on page 55
- [config advanced 802.11 coverage rssi-threshold](#), on page 56
- [config advanced 802.11 edca-parameters](#), on page 58
- [config advanced 802.11 factory](#), on page 61
- [config advanced 802.11 group-member](#), on page 62
- [config advanced 802.11 group-mode](#), on page 63
- [config advanced 802.11 logging channel](#), on page 64
- [config advanced 802.11 logging coverage](#), on page 65
- [config advanced 802.11 logging foreign](#), on page 66
- [config advanced 802.11 logging load](#), on page 67
- [config advanced 802.11 logging noise](#), on page 68
- [config advanced 802.11 logging performance](#), on page 69
- [config advanced 802.11 logging txpower](#), on page 70
- [config advanced 802.11 monitor channel-list](#), on page 71
- [config advanced 802.11 monitor coverage](#), on page 72
- [config advanced 802.11 monitor load](#), on page 73
- [config advanced 802.11 monitor mode](#), on page 74
- [config advanced 802.11 monitor ndp-type](#), on page 75
- [config advanced 802.11 monitor noise](#), on page 76
- [config advanced 802.11 monitor signal](#), on page 77
- [config advanced 802.11 profile foreign](#), on page 78
- [config advanced 802.11 profile noise](#), on page 79
- [config advanced 802.11 profile throughput](#), on page 80
- [config advanced 802.11 profile utilization](#), on page 81
- [config advanced 802.11 receiver](#), on page 82
- [config advanced 802.11 tpc-version](#), on page 83
- [config advanced 802.11 tpcv1-thresh](#), on page 84
- [config advanced 802.11 tpcv2-intense](#), on page 85
- [config advanced 802.11 tpcv2-per-chan](#), on page 86
- [config advanced 802.11 tpcv2-thresh](#), on page 87
- [config advanced 802.11 txpower-update](#), on page 88
- [config advanced dot11-padding](#), on page 89
- [config client location-calibration](#), on page 90
- [config network rf-network-name](#), on page 91
- [Configuring 802.11k and Assisted Roaming](#), on page 92

- [debug airewave-director](#), on page 96
- [debug dot11](#), on page 98
- [show 802.11 extended](#), on page 99
- [show advanced 802.11 channel](#), on page 100
- [show advanced 802.11 coverage](#), on page 102
- [show advanced 802.11 group](#), on page 103
- [show advanced 802.11 l2roam](#), on page 104
- [show advanced 802.11 logging](#), on page 105
- [show advanced 802.11 monitor](#), on page 106
- [show advanced 802.11 profile](#), on page 107
- [show advanced 802.11 receiver](#), on page 108
- [show advanced 802.11 summary](#), on page 109
- [show advanced 802.11 txpower](#), on page 110
- [show advanced dot11-padding](#), on page 111
- [show client ccx rm](#), on page 112
- [show client location-calibration summary](#), on page 114
- [show wps ap-authentication summary](#), on page 115

config 802.11-a

To enable or disable the 4.9-GHz and 5.8-GHz public safety channels on an access point, use the **config 802.11-a** command.

```
config {802.11-a49 | 802.11-a58} {enable | disable} cisco_ap
```

Syntax Description		
	802.11-a49	Specifies the 4.9-GHz public safety channel.
	802.11-a58	Specifies the 5.8-GHz public safety channel.
	enable	Enables the use of this frequency on the designated access point.
	disable	Disables the use of this frequency on the designated access point.
	<i>cisco_ap</i>	Name of the access point to which the command applies.

Command Default The default 4.9-GHz and 5.8-GHz public safety channels on an access point is disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the 4.9-GHz public safety channel on ap_24 access point:

```
(Cisco Controller) > config 802.11-a
```

Related Topics

[config 802.11-a antenna extAntGain](#)

[config 802.11-a channel ap](#)

[config 802.11-a txpower ap](#)

config 802.11-a antenna extAntGain

To configure the external antenna gain for the 4.9-GHz and 5.8-GHz public safety channels on an access point, use the **config 802.11-a antenna extAntGain** commands.

config { **802.11-a49** | **802.11-a58** } **antenna extAntGain** *ant_gain* *cisco_ap* { **global** | *channel_no* }

Syntax	Description
802.11-a49	Specifies the 4.9-GHz public safety channel.
802.11-a58	Specifies the 5.8-GHz public safety channel.
<i>ant_gain</i>	Value in .5-dBi units (for instance, 2.5 dBi = 5).
<i>cisco_ap</i>	Name of the access point to which the command applies.
global	Specifies the antenna gain value to all channels.
<i>channel_no</i>	Antenna gain value for a specific channel.

Command Default Channel properties are disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines Before you enter the **config 802.11-a antenna extAntGain** command, disable the 802.11 Cisco radio with the **config 802.11-a disable** command.

After you configure the external antenna gain, use the **config 802.11-a enable** command to reenab the 802.11 Cisco radio.

The following example shows how to configure an 802.11-a49 external antenna gain of 10 dBi for AP1:

```
(Cisco Controller) >config 802.11-a antenna extAntGain 10 AP1
```

Related Topics

[config 802.11-a channel ap](#)

config 802.11-a channel ap

To configure the channel properties for the 4.9-GHz and 5.8-GHz public safety channels on an access point, use the **config 802.11-a channel ap** command.

```
config {802.11-a49 | 802.11-a58} channel ap cisco_ap {global | channel_no}
```

Syntax Description		
	802.11-a49	Specifies the 4.9-GHz public safety channel.
	802.11-a58	Specifies the 5.8-GHz public safety channel.
	<i>cisco_ap</i>	Name of the access point to which the command applies.
	global	Enables the Dynamic Channel Assignment (DCA) on all 4.9-GHz and 5.8-GHz subband radios.
	<i>channel_no</i>	Custom channel for a specific mesh access point. The range is 1 through 26, inclusive, for a 4.9-GHz band and 149 through 165, inclusive, for a 5.8-GHz band.

Command Default Channel properties are disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the channel properties:

```
(Cisco Controller) >config 802.11-a channel ap
```

Related Topics

[config 802.11-a antenna extAntGain](#)

[config 802.11-a](#), on page 4

config 802.11-a txpower ap

To configure the transmission power properties for the 4.9-GHz and 5.8-GHz public safety channels on an access point, use the **config 802.11-a txpower ap** command.

```
config {802.11-a49 | 802.11-a58} txpower ap cisco_ap {global | power_level}
```

Syntax Description	802.11-a49	802.11-a58
	Specifies the 4.9-GHz public safety channel.	Specifies the 5.8-GHz public safety channel.
	txpower	Configures transmission power properties.
	ap	Configures access point channel settings.
	<i>cisco_ap</i>	Name of the access point to which the command applies.
	global	Applies the transmission power value to all channels.
	<i>power_level</i>	Transmission power value to the designated mesh access point. The range is from 1 to 5.

Command Default The default transmission power properties for the 4.9-GHz and 5.8-GHz public safety channels on an access point is disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure an 802.11-a49 transmission power level of 4 for AP1:

```
(Cisco Controller) >config 802.11-a txpower ap 4 AP1
```

Related Topics

[config 802.11-a antenna extAntGain](#)

[config 802.11-a](#), on page 4

[config 802.11-a channel ap](#)

config 802.11-abgn

To configure dual-band radio parameters on an access point, use the **config 802.11-abgn** command.

```
config 802.11-abgn {cleanair {enable | disable} {cisco_ap band band} | {enable | disable}
{cisco_ap}}
```

Syntax Description		
cleanair		Configures CleanAir on the dual-band radio.
enable		Enables CleanAir for both 2.4-GHz and 5-GHz radios.
disable		Disables CleanAir for both 2.4-GHz and 5-GHz radios.
<i>cisco_ap</i>		Name of the access point to which the command applies.
band		Configures the radio band.
<i>band</i>		Radio band that can be 2.4-GHz or 5-GHz.
enable		Enables the dual-band radio on an access point.
disable		Disables the dual-band radio on an access point.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines Only Cisco CleanAir-enabled access point radios can be configured for Cisco CleanAir.

The following example shows how to enable Cisco CleanAir on an access point:

```
(Cisco Controller) >config 802.11-abgn cleanair enable AP3600 band 5
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11a 11acsupport

To configure 802.11ac 5-GHz parameters, use the **config 802.11a 11acsupport**

```
config 802.11a 11acsupport {enable | disable | mcs tx mcs_index ss spatial_stream {enable | disable}}
```

Syntax Description	enable	disable	mcs tx	tx	mcs_index	ss	spatial_stream
	Enables 802.11ac 5-GHz mode.	Disables 802.11ac 5-GHz mode.	Configures 802.11ac 5-GHz Modulation and Coding Scheme (MCS) rates at which data can be transmitted between the access point and the client.	Configures 802.11ac 5-GHz MCS transmit rates.	MCS index value of 8 or 9. MCS data rates with index 8 or 9 are specific to 802.11ac. When you enable an MCS data rate with index 9, the data rate with MCS index 8 is automatically enabled.	Configures the 802.11ac 5-GHz MCS spatial stream (SS).	Spatial stream within which you can enable or disable an MCS data rate.
							Signals transmitted by the various antennae are multiplexed by using different spaces within the same spectral channel. These spaces are known as spatial streams. Three spatial streams are available within which you can enable or disable a MCS rate. The range is from 1 to 3.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines Disabling the 802.11n/ac mode applies only to access radios. Backhaul radios always have 802.11n/ac mode enabled if they are 802.11n capable.

The following example shows how to configure the MCS index for spatial stream 3:

```
(Cisco Controller) >config 802.11a 11acsupport mcs tx 9 ss 3
```

Related Topics

[config 802.11 11nsupport](#)

[config 802.11 chan_width](#), on page 31

[config 802.11 channel ap](#), on page 30

config 802.11b 11gSupport

To enable or disable the Cisco wireless LAN solution 802.11g network, use the **config 802.11b 11gSupport** command.

config 802.11b 11gSupport {enable | disable}

Syntax Description	enable	Disables the 802.11g network.
	enable	Enables the 802.11g network.
	disable	Disables the 802.11g network.

Command Default The default network for Cisco wireless LAN solution 802.11g is enabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines Before you enter the **config 802.11b 11gSupport** {enable | disable} command, disable the 802.11 Cisco radio with the **config 802.11 disable** command.

After you configure the support for the 802.11g network, use the **config 802.11 enable** command to enable the 802.11 radio.



Note To disable an 802.11a, 802.11b and/or 802.11g network for an individual wireless LAN, use the **config wlan radio** command.

The following example shows how to enable the 802.11g network:

```
(Cisco Controller) > config 802.11b 11gSupport enable
Changing the 11gSupport will cause all the APs to reboot when you enable
802.11b network.
Are you sure you want to continue? (y/n) n
11gSupport not changed!
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11b preamble

To change the 802.11b preamble as defined in subclause 18.2.2.2 to **long** (slower, but more reliable) or **short** (faster, but less reliable), use the **config 802.11b preamble** command.

config 802.11b preamble {**long** | **short**}

Syntax Description	long	Specifies the long 802.11b preamble.
	short	Specifies the short 802.11b preamble.

Command Default The default 802.11b preamble value is short.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines



Note You must reboot the Cisco Wireless LAN Controller (reset system) with save to implement this command.

This parameter must be set to **long** to optimize this Cisco wireless LAN controller for some clients, including SpectraLink NetLink telephones.

This command can be used any time that the CLI interface is active.

The following example shows how to change the 802.11b preamble to short:

```
(Cisco Controller) >config 802.11b preamble short
(Cisco Controller) >(reset system with save)
```

config 802.11h channelswitch

To configure an 802.11h channel switch announcement, use the **config 802.11h channelswitch** command.

config 802.11h channelswitch { **enable** { **loud** | **quiet** } | **disable** }

Syntax Description	enable	disable
	Enables the 802.11h channel switch announcement.	Disables the 802.11h channel switch announcement.

Command Default None

Command History	Release	Modification
	7.6	<ul style="list-style-type: none"> This command was introduced in a release earlier than Release 7.6. The loud and quiet parameters were introduced.

The following example shows how to disable an 802.11h switch announcement:

```
(Cisco Controller) >config 802.11h channelswitch disable
```

config 802.11h powerconstraint

To configure the 802.11h power constraint value, use the **config 802.11h powerconstraint** command.

config 802.11h powerconstraint *value*

Syntax Description	<i>value</i>	802.11h power constraint value.
Command Default	None	
Command History	Release Modification	
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the 802.11h power constraint to 5:

```
(Cisco Controller) >config 802.11h powerconstraint 5
```

config 802.11h setchannel

To configure a new channel using 802.11h channel announcement, use the **config 802.11h setchannel** command.

config 802.11h setchannel *cisco_ap*

Syntax Description	
<i>cisco_ap</i>	Cisco lightweight access point name.

Command Default	
None	

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure a new channel using the 802.11h channel:

```
(Cisco Controller) >config 802.11h setchannel ap02
```

config 802.11 11nsupport

To enable 802.11n support on the network, use the **config 802.11 11nsupport** command.

```
config 802.11 {a | b} 11nsupport {enable | disable}
```

Syntax Description		
	a	Specifies the 802.11a network settings.
	b	Specifies the 802.11b/g network settings.
	enable	Enables the 802.11n support.
	disable	Disables the 802.11n support.

Command Default None

Command History

Release	Modification
---------	--------------

7.6	This command was introduced in a release earlier than Release 7.6.
-----	--

The following example shows how to enable the 802.11n support on an 802.11a network:

```
(Cisco Controller) >config 802.11a 11nsupport enable
```

config 802.11 11nsupport a-mpdu tx priority

To specify the aggregation method used for 802.11n packets, use the **config 802.11 11nsupport a-mpdu tx priority** command.

config 802.11 { a | b } 11nsupport a-mpdu tx priority { 0-7 | all } { enable | disable }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
0-7		Specifies the aggregated MAC protocol data unit priority level between 0 through 7.
all		Configures all of the priority levels at once.
enable		Specifies the traffic associated with the priority level uses A-MPDU transmission.
disable		Specifies the traffic associated with the priority level uses A-MSDU transmission.

Command Default Priority 0 is enabled.

Usage Guidelines Aggregation is the process of grouping packet data frames together rather than transmitting them separately. Two aggregation methods are available: Aggregated MAC Protocol Data Unit (A-MPDU) and Aggregated MAC Service Data Unit (A-MSDU). A-MPDU is performed in the software whereas A-MSDU is performed in the hardware.

Aggregated MAC Protocol Data Unit priority levels assigned per traffic type are as follows:

- 1—Background
- 2—Spare
- 0—Best effort
- 3—Excellent effort
- 4—Controlled load
- 5—Video, less than 100-ms latency and jitter
- 6—Voice, less than 10-ms latency and jitter
- 7—Network control
- all—Configure all of the priority levels at once.



Note Configure the priority levels to match the aggregation method used by the clients.

Command History

Release Modification

7.6 This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure all the priority levels at once so that the traffic associated with the priority level uses A-MSDU transmission:

```
(Cisco Controller) >config 802.11a 11nsupport a-mpdu tx priority all enable
```

config 802.11 11nsupport a-mpdu tx scheduler

To configure the 802.11n-5 GHz A-MPDU transmit aggregation scheduler, use the **config 802.11 11nsupport a-mpdu tx scheduler** command.

config 802.11 { a | b } 11nsupport a-mpdu tx scheduler { enable | disable | timeout rt *timeout-value* }

Syntax Description		
enable		Enables the 802.11n-5 GHz A-MPDU transmit aggregation scheduler.
disable		Disables the 802.11n-5 GHz A-MPDU transmit aggregation scheduler.
timeout rt		Configures the A-MPDU transmit aggregation scheduler realtime traffic timeout.
<i>timeout-value</i>		Timeout value in milliseconds. The valid range is between 1 millisecond to 1000 milliseconds.

Command Default None

Usage Guidelines Ensure that the 802.11 network is disabled before you enter this command.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the A-MPDU transmit aggregation scheduler realtime traffic timeout of 100 milliseconds:

```
(Cisco Controller) >config 802.11 11nsupport a-mpdu tx scheduler timeout rt 100
```

config 802.11 11nsupport antenna

To configure an access point to use a specific antenna, use the **config 802.11 11nsupport antenna** command.

```
config 802.11 {a | b} 11nsupport antenna cisco_ap {A | B | C | D} {enable | disable}
```

Syntax Description

a	Specifies the 802.11a/n network.
b	Specifies the 802.11b/g/n network.
<i>cisco_ap</i>	Access point.
A/B/C/D	Specifies an antenna port.
enable	Enables the configuration.
disable	Disables the configuration.

Command Default

None

Command History

Release Modification

7.6 This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure transmission to a single antenna for legacy orthogonal frequency-division multiplexing:

```
(Cisco Controller) >config 802.11 11nsupport antenna AP1 C enable
```

config 802.11 11nsupport guard-interval

To configure the guard interval, use the **config 802.11 11nsupport guard-interval** command.

```
config 802.11 {a | b} 11nsupport guard-interval {any | long}
```

Syntax Description	any	Enables either a short or a long guard interval.
	long	Enables only a long guard interval.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure a long guard interval:

```
(Cisco Controller) >config 802.11 11nsupport guard-interval long
```

config 802.11 11n support mcs tx

To specify the modulation and coding scheme (MCS) rates at which data can be transmitted between the access point and the client, use the **config 802.11 11n support mcs tx** command.

```
config 802.11 {a | b} 11n support mcs tx {0-15} {enable | disable}
```

Syntax Description	
a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
11n support	Specifies support for 802.11n devices.
mcs tx	Specifies the modulation and coding scheme data rates as follows: <ul style="list-style-type: none"> • 0 (7 Mbps) • 1 (14 Mbps) • 2 (21 Mbps) • 3 (29 Mbps) • 4 (43 Mbps) • 5 (58 Mbps) • 6 (65 Mbps) • 7 (72 Mbps) • 8 (14 Mbps) • 9 (29 Mbps) • 10 (43 Mbps) • 11 (58 Mbps) • 12 (87 Mbps) • 13 (116 Mbps) • 14 (130 Mbps) • 15 (144 Mbps)
enable	Enables this configuration.
disable	Disables this configuration.
Command Default	None

Command History

Release Modification

7.6 This command was introduced in a release earlier than Release 7.6.

The following example shows how to specify MCS rates:

```
(Cisco Controller) >config 802.11a 11nsupport mcs tx 5 enable
```

config 802.11 11nsupport rifs

To configure the Reduced Interframe Space (RIFS) between data frames and its acknowledgment, use the `config 802.11 11nsupport rifs` command.

```
config 802.11 {a | b} 11nsupport rifs {enable | disable}
```

Syntax Description	enable	Enables RIFS for the 802.11 network.
	disable	Disables RIFS for the 802.11 network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

This example shows how to enable RIFS:

```
(Cisco Controller) >config 802.11a 11nsupport rifs enable
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 antenna diversity

To configure the diversity option for 802.11 antennas, use the **config 802.11 antenna diversity** command.

config 802.11 { **a** | **b** } **antenna diversity** { **enable** | **sideA** | **sideB** } *cisco_ap*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
enable		Enables the diversity.
sideA		Specifies the diversity between the internal antennas and an external antenna connected to the Cisco lightweight access point left port.
sideB		Specifies the diversity between the internal antennas and an external antenna connected to the Cisco lightweight access point right port.
<i>cisco_ap</i>		Cisco lightweight access point name.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable antenna diversity for AP01 on an 802.11b network:

```
(Cisco Controller) >config 802.11a antenna diversity enable AP01
```

The following example shows how to enable diversity for AP01 on an 802.11a network, using an external antenna connected to the Cisco lightweight access point left port (sideA):

```
(Cisco Controller) >config 802.11a antenna diversity sideA AP01
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 antenna extAntGain

To configure external antenna gain for an 802.11 network, use the **config 802.11 antenna extAntGain** command.

config 802.11 { **a** | **b** } **antenna extAntGain** *antenna_gain* *cisco_ap*

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>antenna_gain</i>	Antenna gain in 0.5 dBm units (for example, 2.5 dBm = 5).
	<i>cisco_ap</i>	Cisco lightweight access point name.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines Before you enter the **config 802.11 antenna extAntGain** command, disable the 802.11 Cisco radio with the **config 802.11 disable** command.

After you configure the external antenna gain, use the **config 802.11 enable** command to enable the 802.11 Cisco radio.

The following example shows how to configure an *802.11a* external antenna gain of *0.5 dBm* for *API*:

```
(Cisco Controller) >config 802.11 antenna extAntGain 1 API
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 antenna mode

To configure the Cisco lightweight access point to use one internal antenna for an 802.11 sectorized 180-degree coverage pattern or both internal antennas for an 802.11 360-degree omnidirectional pattern, use the **config 802.11 antenna mode** command.

```
config 802.11 {a | b} antenna mode {omni | sectorA | sectorB} cisco_ap
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
omni		Specifies to use both internal antennas.
sectorA		Specifies to use only the side A internal antenna.
sectorB		Specifies to use only the side B internal antenna.
<i>cisco_ap</i>		Cisco lightweight access point name.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure access point AP01 antennas for a 360-degree omnidirectional pattern on an 802.11b network:

```
(Cisco Controller) >config 802.11 antenna mode omni AP01
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 antenna selection

To select the internal or external antenna selection for a Cisco lightweight access point on an 802.11 network, use the **config 802.11 antenna selection** command.

config 802.11 { **a** | **b** } **antenna selection** { **internal** | **external** } *cisco_ap*

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	internal	Specifies the internal antenna.
	external	Specifies the external antenna.
	<i>cisco_ap</i>	Cisco lightweight access point name.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure access point AP02 on an 802.11b network to use the internal antenna:

```
(Cisco Controller) >config 802.11a antenna selection internal AP02
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 channel

To configure an 802.11 network or a single access point for automatic or manual channel selection, use the **config 802.11 channel** command.

```
config 802.11 {a | b} channel {global [auto | once | off | restart]} | ap {ap_name [global | channel]}
```

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
global	Specifies the 802.11a operating channel that is automatically set by RRM and overrides the existing configuration setting.
auto	(Optional) Specifies that the channel is automatically set by Radio Resource Management (RRM) for the 802.11a radio.
once	(Optional) Specifies that the channel is automatically set once by RRM.
off	(Optional) Specifies that the automatic channel selection by RRM is disabled.
restarts	(Optional) Restarts the aggressive DCA cycle.
<i>ap_name</i>	Access point name.
<i>channel</i>	Manual channel number to be used by the access point. The supported channels depend on the specific access point used and the regulatory region.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

When configuring 802.11 channels for a single lightweight access point, enter the **config 802.11 disable** command to disable the 802.11 network. Enter the **config 802.11 channel** command to set automatic channel selection by Radio Resource Management (RRM) or manually set the channel for the 802.11 radio, and enter the **config 802.11 enable** command to enable the 802.11 network.



Note

See the Channels and Maximum Power Settings for Cisco Aironet Lightweight Access Points document for the channels supported by your access point. The power levels and available channels are defined by the country code setting and are regulated on a country-by-country basis.

The following example shows how to have RRM automatically configure the 802.11a channels for automatic channel configuration based on the availability and interference:

```
(Cisco Controller) >config 802.11a channel global auto
```

The following example shows how to configure the 802.11b channels one time based on the availability and interference:

```
(Cisco Controller) >config 802.11b channel global once
```

The following example shows how to turn 802.11a automatic channel configuration off:

```
(Cisco Controller) >config 802.11a channel global off
```

The following example shows how to configure the 802.11b channels in access point AP01 for automatic channel configuration:

```
(Cisco Controller) >config 802.11b AP01 channel global
```

The following example shows how to configure the 802.11a channel 36 in access point AP01 as the default channel:

```
(Cisco Controller) >config 802.11a channel AP01 36
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 channel ap

To set the operating radio channel for an access point, use the **config 802.11 channel ap** command.

```
config 802.11 { a | b } channel ap cisco_ap { global | channel_no }
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
<i>cisco_ap</i>		Name of the Cisco access point.
global		Enables auto-RF on the designated access point.
<i>channel_no</i>		Default channel from 1 to 26, inclusive.

Command Default	
	None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable auto-RF for access point AP01 on an 802.11b network:

```
(Cisco Controller) >config 802.11b channel ap AP01 global
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 chan_width

To configure the channel width for a particular access point, use the **config 802.11 chan_width** command.

```
config 802.11 { a | b } chan_width cisco_ap { 20 | 40 | 80 | 160 | best }
```

Syntax Description

a	Configures the 802.11a radio on slot 1 and 802.11ac radio on slot 2.
b	Specifies the 802.11b/g radio.
<i>cisco_ap</i>	Access point.
20	Allows the radio to communicate using only 20-MHz channels. Choose this option for legacy 802.11a radios, 20-MHz 802.11n radios, or 40-MHz 802.11n radios that you want to operate using only 20-MHz channels.
40	Allows 40-MHz 802.11n radios to communicate using two adjacent 20-MHz channels bonded together.
80	Allows 80-MHz 802.11ac radios to communicate using two adjacent 40-MHz channels bonded together.
160	Allows 160-MHz 802.11ac radios to communicate.
best	In this mode, the device selects the optimum bandwidth channel.

Command Default

The default channel width is 20.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.3	This command was enhanced in this release with the inclusion of 160 MHz and best channel bandwidth modes.

Usage Guidelines

This parameter can be configured only if the primary channel is statically assigned.



Caution

We recommend that you do not configure 40-MHz channels in the 2.4-GHz radio band because severe co-channel interference can occur.

Statically configuring an access point's radio for 20-MHz or 40-MHz mode overrides the globally configured DCA channel width setting (configured by using the **config advanced 802.11 channel dca chan-width**

command). If you change the static configuration back to global on the access point radio, the global DCA configuration overrides the channel width configuration that the access point was previously using.

The following example shows how to configure the channel width for access point AP01 on an 802.11 network using 40-MHz channels:

```
(Cisco Controller) >config 802.11a chan_width AP01 40
```

Related Topics

[config 802.11-a](#), on page 4

config 802.11 txPower

To configure the transmit power level for all access points or a single access point in an 802.11 network, use the **config 802.11 txPower** command.

```
config 802.11 { a | b } txPower { global { power_level | auto | max | min | once } | ap cisco_ap }
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
global		Configures the 802.11 transmit power level for all lightweight access points.
auto		(Optional) Specifies the power level is automatically set by Radio Resource Management (RRM) for the 802.11 Cisco radio.
once		(Optional) Specifies the power level is automatically set once by RRM.
<i>power_level</i>		(Optional) Manual Transmit power level number for the access point.
ap		Configures the 802.11 transmit power level for a specified lightweight access point.
<i>ap_name</i>		Access point name.

Command Default The command default (**global, auto**) is for automatic configuration by RRM.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines The supported power levels depends on the specific access point used and the regulatory region. For example, the 1240 series access point supports eight levels and the 1200 series access point supports six levels. See the Channels and Maximum Power Settings for Cisco Aironet Lightweight Access Points document for the maximum transmit power limits for your access point. The power levels and available channels are defined by the country code setting and are regulated on a country-by-country basis.

The following example shows how to automatically set the 802.11a radio transmit power level in all lightweight access points:

```
(Cisco Controller) > config 802.11a txPower auto
```

The following example shows how to manually set the 802.11b radio transmit power to level 5 for all lightweight access points:

```
(Cisco Controller) > config 802.11b txPower global 5
```

The following example shows how to automatically set the 802.11b radio transmit power for access point AP1:

```
(Cisco Controller) > config 802.11b txPower AP1 global
```

The following example shows how to manually set the 802.11a radio transmit power to power level 2 for access point AP1:

```
(Cisco Controller) > config 802.11b txPower AP1 2
```

Related Commands

show ap config 802.11a

config 802.11b txPower

Related Topics

[config 802.11-a](#), on page 4

config advanced 802.11 7920VSIEConfig

To configure the Cisco unified wireless IP phone 7920 VISE parameters, use the **config advanced 802.11 7920VSIEConfig** command.

```
config advanced 802.11 { a | b } 7920VSIEConfig { call-admission-limit limit | G711-CU-Quantum quantum }
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
call-admission-limit		Configures the call admission limit for the 7920s.
G711-CU-Quantum		Configures the value supplied by the infrastructure indicating the current number of channel utilization units that would be used by a single G.711-20ms call.
<i>limit</i>		Call admission limit (from 0 to 255). The default value is 105.
<i>quantum</i>		G711 quantum value. The default value is 15.

Command Default None

Command History **Release Modification**

7.6 This command was introduced in a release earlier than Release 7.6.

This example shows how to configure the call admission limit for 7920 VISE parameters:

```
(Cisco Controller) >config advanced 802.11 7920VSIEConfig call-admission-limit 4
```

config advanced 802.11 channel add

To add channel to the 802.11 networks auto RF channel list, use the **config advanced 802.11 channel add** command.

config advanced 802.11 { **a** | **b** } **channel add** *channel_number*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
add		Adds a channel to the 802.11 network auto RF channel list.
<i>channel_number</i>		Channel number to add to the 802.11 network auto RF channel list.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to add a channel to the 802.11a network auto RF channel list:

```
(Cisco Controller) >config advanced 802.11 channel add 132
```

Related Topics

[config 802.11-a](#), on page 4

config advanced 802.11 channel cleanair-event

To configure CleanAir event driven Radio Resource Management (RRM) parameters for all 802.11 Cisco lightweight access points, use the **config advanced 802.11 channel cleanair-event** command.

```
config advanced 802.11 { a | b } channel cleanair-event { enable | disable | sensitivity [low | medium | high] | custom threshold threshold_value }
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
enable		Enables the CleanAir event-driven RRM parameters.
disable		Disables the CleanAir event-driven RRM parameters.
sensitivity		Sets the sensitivity for CleanAir event-driven RRM.
low		(Optional) Specifies low sensitivity.
medium		(Optional) Specifies medium sensitivity
high		(Optional) Specifies high sensitivity
custom		Specifies custom sensitivity.
threshold		Specifies the EDRRM AQ threshold value.
<i>threshold_value</i>		Number of custom threshold.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the CleanAir event-driven RRM parameters:

```
(Cisco Controller) > config advanced 802.11 channel cleanair-event enable
```

The following example shows how to configure high sensitivity for CleanAir event-driven RRM:

```
(Cisco Controller) > config advanced 802.11 channel cleanair-event sensitivity high
```

Related Topics

[show advanced 802.11 channel](#), on page 100

[config advanced 802.11 channel update](#), on page 49

[config 802.11-a](#), on page 4

config advanced 802.11 channel dca anchor-time

To specify the time of day when the Dynamic Channel Assignment (DCA) algorithm is to start, use the **config advanced 802.11 channel dca anchor-time** command.

config advanced 802.11 { **a** | **b** } **channel dca anchor-time** *value*

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>value</i>	Hour of the time between 0 and 23. These values represent the hour from 12:00 a.m. to 11:00 p.m.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the time of delay when the DCA algorithm starts:

```
(Cisco Controller) > config advanced 802.11 channel dca anchor-time 17
```

Related Commands

- config advanced 802.11 channel dca interval**
- config advanced 802.11 channel dca sensitivity**
- config advanced 802.11 channel**

Related Topics

[config advanced 802.11 channel dca chan-width-11n](#), on page 39

config advanced 802.11 channel dca chan-width-11n

To configure the Dynamic Channel Assignment (DCA) channel width for all 802.11n radios in the 5-GHz band, use the **config advanced 802.11 channel dca chan-width-11n** command.

```
config advanced 802.11 { a | b } channel dca chan-width-11n { 20 | 40 | 80 }
```

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	20	Sets the channel width for 802.11n radios to 20 MHz.
	40	Sets the channel width for 802.11n radios to 40 MHz.
	80	Sets the channel width for 802.11ac radios to 80-MHz.

Command Default The default channel width is 20.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines If you choose 40, be sure to set at least two adjacent channels in the **config advanced 802.11 channel {add | delete} channel_number** command (for example, a primary channel of 36 and an extension channel of 40). If you set only one channel, that channel is not used for the 40-MHz channel width.

To override the globally configured DCA channel width setting, you can statically configure an access point's radio for 20- or 40-MHz mode using the **config 802.11 chan_width** command. If you then change the static configuration to global on the access point radio, the global DCA configuration overrides the channel width configuration that the access point was previously using.

The following example shows how to add a channel to the 802.11a network auto channel list:

```
(Cisco Controller) >config advanced 802.11a channel dca chan-width-11n 40
```

The following example shows how to set the channel width for the 802.11ac radio as 80-MHz:

```
(Cisco Controller) >config advanced 802.11a channel dca chan-width-11n 80
```

Related Topics

[config advanced 802.11 channel dca anchor-time](#), on page 38

config advanced 802.11 channel dca interval

To specify how often the Dynamic Channel Assignment (DCA) is allowed to run, use the **config advanced 802.11 channel dca interval** command.

config advanced 802.11 { **a** | **b** } **channel dca interval** *value*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
<i>value</i>		Valid values are 0, 1, 2, 3, 4, 6, 8, 12, or 24 hours. 0 is 10 minutes (600 seconds).

Command Default The default DCA channel interval is 10 (10 minutes).

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines If your controller supports only OfficeExtend access points, we recommend that you set the DCA interval to 6 hours for optimal performance. For deployments with a combination of OfficeExtend access points and local access points, the range of 10 minutes to 24 hours can be used.

The following example shows how often the DCA algorithm is allowed to run:

```
(Cisco Controller) > config advanced 802.11 channel dca interval 8
```

Related Commands **config advanced 802.11 dca anchor-time**

config advanced 802.11 dca sensitivity

show advanced 802.11 channel

Related Topics

[config advanced 802.11 channel dca anchor-time](#), on page 38

config advanced 802.11 channel dca min-metric

To configure the 5-GHz minimum RSSI energy metric for DCA, use the **config advanced 802.11 channel dca min-metric** command.

config advanced 802.11 { **a** | **b** } **channel dca** *RSSI_value*

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>RSSI_value</i>	Minimum received signal strength indicator (RSSI) that is required for the DCA to trigger a channel change. The range is from -100 to -60 dBm.

Command Default The default minimum RSSI energy metric for DCA is -95 dBm.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the minimum 5-GHz RSSI energy metric for DCA:

```
(Cisco Controller) > config advanced 802.11a channel dca min-metric -80
```

In the above example, the RRM must detect an interference energy of at least -80 dBm in RSSI for the DCA to trigger a channel change.

Related Commands

- config advanced 802.11 dca interval**
- config advanced 802.11 dca anchor-time**
- show advanced 802.11 channel**

Related Topics

[config advanced 802.11 channel dca anchor-time](#), on page 38

config advanced 802.11 channel dca sensitivity

To specify how sensitive the Dynamic Channel Assignment (DCA) algorithm is to environmental changes (for example, signal, load, noise, and interference) when determining whether or not to change channels, use the **config advanced 802.11 channel dca sensitivity** command.

config advanced 802.11 { a | b } channel dca sensitivity { low | medium | high }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
low		Specifies the DCA algorithm is not particularly sensitive to environmental changes. See the “Usage Guidelines” section for more information.
medium		Specifies the DCA algorithm is moderately sensitive to environmental changes. See the “Usage Guidelines” section for more information.
high		Specifies the DCA algorithm is highly sensitive to environmental changes. See the “Usage Guidelines” section for more information.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines The DCA sensitivity thresholds vary by radio band as shown in the table below.

To aid in troubleshooting, the output of this command shows an error code for any failed calls. This table explains the possible error codes for failed calls.

Table 1: DCA Sensitivity Thresholds

Sensitivity	2.4-GHz DCA Sensitivity Threshold	5-GHz DCA Sensitivity Threshold
High	5 dB	5 dB
Medium	15 dB	20 dB
Low	30 dB	35 dB

The following example shows how to configure the value of DCA algorithm’s sensitivity to low:

```
(Cisco Controller) > config advanced 802.11 channel dca sensitivity low
```

Related Commands

config advanced 802.11 dca interval

config advanced 802.11 dca anchor-time

show advanced 802.11 channel

Related Topics

[config advanced 802.11 channel dca anchor-time](#), on page 38

config advanced 802.11 channel foreign

To have Radio Resource Management (RRM) consider or ignore foreign 802.11a interference avoidance in making channel selection updates for all 802.11a Cisco lightweight access points, use the **config advanced 802.11 channel foreign** command.

config advanced 802.11 { a | b } **channel foreign** { enable | disable }

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	enable	Enables the foreign access point 802.11a interference avoidance in the channel assignment.
	disable	Disables the foreign access point 802.11a interference avoidance in the channel assignment.

Command Default The default value for the foreign access point 802.11a interference avoidance in the channel assignment is enabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to have RRM consider foreign 802.11a interference when making channel selection updates for all 802.11a Cisco lightweight access points:

```
(Cisco Controller) > config advanced 802.11a channel foreign enable
```

Related Commands **show advanced 802.11a channel**

config advanced 802.11b channel foreign

Related Topics

[config advanced 802.11 channel load](#), on page 45

config advanced 802.11 channel load

To have Radio Resource Management (RRM) consider or ignore the traffic load in making channel selection updates for all 802.11a Cisco lightweight access points, use the **config advanced 802.11 channel load** command.

```
config advanced 802.11 { a | b } channel load { enable | disable }
```

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	enable	Enables the Cisco lightweight access point 802.11a load avoidance in the channel assignment.
	disable	Disables the Cisco lightweight access point 802.11a load avoidance in the channel assignment.

Command Default The default value for Cisco lightweight access point 802.11a load avoidance in the channel assignment is disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to have RRM consider the traffic load when making channel selection updates for all 802.11a Cisco lightweight access points:

```
(Cisco Controller) > config advanced 802.11 channel load enable
```

Related Commands

- show advanced 802.11a channel**
- config advanced 802.11b channel load**

Related Topics

[config advanced 802.11 channel foreign](#), on page 44

config advanced 802.11 channel noise

To have Radio Resource Management (RRM) consider or ignore non-802.11a noise in making channel selection updates for all 802.11a Cisco lightweight access points, use the **config advanced 802.11 channel noise** command.

config advanced 802.11 {a | b} **channel noise** {enable | disable}

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	enable	Enables non-802.11a noise avoidance in the channel assignment. or ignore.
	disable	Disables the non-802.11a noise avoidance in the channel assignment.

Command Default The default value for non-802.11a noise avoidance in the channel assignment is disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to have RRM consider non-802.11a noise when making channel selection updates for all 802.11a Cisco lightweight access points:

```
(Cisco Controller) > config advanced 802.11 channel noise enable
```

Related Commands **show advanced 802.11a channel**
config advanced 802.11b channel noise

Related Topics

[config advanced 802.11 channel foreign](#), on page 44

config advanced 802.11 channel outdoor-ap-dca

To enable or disable the controller to avoid checking the non-Dynamic Frequency Selection (DFS) channels, use the **config advanced 802.11 channel outdoor-ap-dca** command.

config advanced 802.11 { a | b } channel outdoor-ap-dca { enable | disable }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
enable		Enables 802.11 network DCA list option for outdoor access point.
disable		Disables 802.11 network DCA list option for outdoor access point.

Command Default The default value for 802.11 network DCA list option for outdoor access point is disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines The **config advanced 802.11 {a | b} channel outdoor-ap-dca {enable | disable}** command is applicable only for deployments having outdoor access points such as 1522 and 1524.

The following example shows how to enable the 802.11a DCA list option for outdoor access point:

```
(Cisco Controller) > config advanced 802.11a channel outdoor-ap-dca enable
```

Related Commands

- show advanced 802.11a channel**
- config advanced 802.11b channel noise**

Related Topics

[config advanced 802.11 channel pda-prop](#), on page 48

config advanced 802.11 channel pda-prop

To enable or disable propagation of persistent devices, use the **config advanced 802.11 channel pda-prop** command.

config advanced 802.11 { **a** | **b** } **channel pda-prop** { **enable** | **disable** }

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	enable	Enables the 802.11 network DCA list option for the outdoor access point.
	disable	Disables the 802.11 network DCA list option for the outdoor access point.
Command Default	The default 802.11 network DCA list option for the outdoor access point is disabled.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable or disable propagation of persistent devices:

```
(Cisco Controller) > config advanced 802.11 channel pda-prop enable
```

Related Topics

[config advanced 802.11 channel update](#), on page 49

config advanced 802.11 channel update

To have Radio Resource Management (RRM) initiate a channel selection update for all 802.11a Cisco lightweight access points, use the **config advanced 802.11 channel update** command.

config advanced 802.11 { a | b } channel update

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to initiate a channel selection update for all 802.11a network access points:

```
(Cisco Controller) > config advanced 802.11a channel update
```

Related Topics

[show advanced 802.11 channel](#), on page 100

[config advanced 802.11 channel update](#), on page 49

[config advanced 802.11 channel pda-prop](#), on page 48

config advanced 802.11 coverage

To enable or disable coverage hole detection, use the **config advanced 802.11 coverage** command.

```
config advanced 802.11 { a | b } coverage { enable | disable }
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
enable		Enables the coverage hole detection.
disable		Disables the coverage hole detection.

Command Default The default coverage hole detection value is enabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines If you enable coverage hole detection, the Cisco WLC automatically determines, based on data that is received from the access points, whether any access points have clients that are potentially located in areas with poor coverage.

If both the number and percentage of failed packets exceed the values that you entered in the **config advanced 802.11 coverage packet-count** and **config advanced 802.11 coverage fail-rate** commands for a 5-second period, the client is considered to be in a pre-alarm condition. The controller uses this information to distinguish between real and false coverage holes and excludes clients with poor roaming logic. A coverage hole is detected if both the number and percentage of failed clients meet or exceed the values entered in the **config advanced 802.11 coverage level global** and **config advanced 802.11 coverage exception global** commands over a 90-second period. The Cisco WLC determines whether the coverage hole can be corrected and, if appropriate, mitigates the coverage hole by increasing the transmit power level for that specific access point.

The following example shows how to enable coverage hole detection on an 802.11a network:

```
(Cisco Controller) > config advanced 802.11a coverage enable
```

Related Commands

- config advanced 802.11 coverage exception global**
- config advanced 802.11 coverage fail-rate**
- config advanced 802.11 coverage level global**
- config advanced 802.11 coverage packet-count**
- config advanced 802.11 coverage rssi-threshold**

Related Topics

[config advanced 802.11 channel update](#), on page 49

config advanced 802.11 coverage exception global

To specify the percentage of clients on an access point that are experiencing a low signal level but cannot roam to another access point, use the **config advanced 802.11 coverage exception global** command.

config advanced 802.11 { **a** | **b** } **coverage exception global** *percent*

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>percent</i>	Percentage of clients. Valid values are from 0 to 100%.
Command Default	The default percentage value for clients on an access point is 25%.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

If both the number and percentage of failed packets exceed the values that you entered in the **config advanced 802.11 coverage packet-count** and **config advanced 802.11 coverage fail-rate** commands for a 5-second period, the client is considered to be in a pre-alarm condition. The controller uses this information to distinguish between real and false coverage holes and excludes clients with poor roaming logic. A coverage hole is detected if both the number and percentage of failed clients meet or exceed the values entered in the **config advanced 802.11 coverage level global** and **config advanced 802.11 coverage exception global** commands over a 90-second period. The controller determines whether the coverage hole can be corrected and, if appropriate, mitigates the coverage hole by increasing the transmit power level for that specific access point.

The following example shows how to specify the percentage of clients for all 802.11a access points that are experiencing a low signal level:

```
(Cisco Controller) > config advanced 802.11 coverage exception global 50
```

Related Commands

- config advanced 802.11 coverage exception global**
- config advanced 802.11 coverage fail-rate**
- config advanced 802.11 coverage level global**
- config advanced 802.11 coverage packet-count**
- config advanced 802.11 coverage rssi-threshold**
- config advanced 802.11 coverage**

Related Topics

[config advanced 802.11 coverage fail-rate](#), on page 52

config advanced 802.11 coverage fail-rate

To specify the failure rate threshold for uplink data or voice packets, use the **config advanced 802.11 coverage fail-rate** command.

config advanced 802.11 { **a** | **b** } **coverage** { **data** | **voice** } **fail-rate** *percent*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
data		Specifies the threshold for data packets.
voice		Specifies the threshold for voice packets.
<i>percent</i>		Failure rate as a percentage. Valid values are from 1 to 100 percent.

Command Default The default failure rate threshold uplink coverage fail-rate value is 20%.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines If both the number and percentage of failed packets exceed the values that you entered in the **config advanced 802.11 coverage packet-count** and **config advanced 802.11 coverage fail-rate** commands for a 5-second period, the client is considered to be in a pre-alarm condition. The controller uses this information to distinguish between real and false coverage holes and excludes clients with poor roaming logic. A coverage hole is detected if both the number and percentage of failed clients meet or exceed the values entered in the **config advanced 802.11 coverage level global** and **config advanced 802.11 coverage exception global** commands over a 90-second period. The controller determines whether the coverage hole can be corrected and, if appropriate, mitigates the coverage hole by increasing the transmit power level for that specific access point.

The following example shows how to configure the threshold count for minimum uplink failures for data packets:

```
(Cisco Controller) > config advanced 802.11 coverage fail-rate 80
```

Related Commands

- config advanced 802.11 coverage exception global**
- config advanced 802.11 coverage level global**
- config advanced 802.11 coverage packet-count**
- config advanced 802.11 coverage rssi-threshold**
- config advanced 802.11 coverage**

Related Topics

[config advanced 802.11 coverage level global](#), on page 54

[config advanced 802.11 coverage packet-count](#), on page 55

config advanced 802.11 coverage level global

To specify the minimum number of clients on an access point with an received signal strength indication (RSSI) value at or below the data or voice RSSI threshold, use the **config advanced 802.11 coverage level global** command.

config advanced 802.11 { **a** | **b** } **coverage level global** *clients*

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>clients</i>	Minimum number of clients. Valid values are from 1 to 75.

Command Default The default minimum number of clients on an access point is 3.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines If both the number and percentage of failed packets exceed the values that you entered in the **config advanced 802.11 coverage packet-count** and **config advanced 802.11 coverage fail-rate** commands for a 5-second period, the client is considered to be in a pre-alarm condition. The controller uses this information to distinguish between real and false coverage holes and excludes clients with poor roaming logic. A coverage hole is detected if both the number and percentage of failed clients meet or exceed the values entered in the **config advanced 802.11 coverage level global** and **config advanced 802.11 coverage exception global** commands over a 90-second period. The controller determines whether the coverage hole can be corrected and, if appropriate, mitigates the coverage hole by increasing the transmit power level for that specific access point.

The following example shows how to specify the minimum number of clients on all 802.11a access points with an RSSI value at or below the RSSI threshold:

```
(Cisco Controller) > config advanced 802.11 coverage level global 60
```

Related Commands

- config advanced 802.11 coverage exception global**
- config advanced 802.11 coverage fail-rate**
- config advanced 802.11 coverage packet-count**
- config advanced 802.11 coverage rssi-threshold**
- config advanced 802.11 coverage**

Related Topics

[config advanced 802.11 coverage rssi-threshold](#), on page 56

config advanced 802.11 coverage packet-count

To specify the minimum failure count threshold for uplink data or voice packets, use the **config advanced 802.11 coverage packet-count** command.

```
config advanced 802.11 { a | b } coverage { data | voice } packet-count packets
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
data		Specifies the threshold for data packets.
voice		Specifies the threshold for voice packets.
<i>packets</i>		Minimum number of packets. Valid values are from 1 to 255 packets.

Command Default The default failure count threshold for uplink data or voice packets is 10.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines If both the number and percentage of failed packets exceed the values that you entered in the **config advanced 802.11 coverage packet-count** and **config advanced 802.11 coverage fail-rate** commands for a 5-second period, the client is considered to be in a pre-alarm condition. The controller uses this information to distinguish between real and false coverage holes and excludes clients with poor roaming logic. A coverage hole is detected if both the number and percentage of failed clients meet or exceed the values entered in the **config advanced 802.11 coverage level global** and **config advanced 802.11 coverage exception global** commands over a 90-second period. The controller determines whether the coverage hole can be corrected and, if appropriate, mitigates the coverage hole by increasing the transmit power level for that specific access point.

The following example shows how to configure the failure count threshold for uplink data packets:

```
(Cisco Controller) > config advanced 802.11 coverage packet-count 100
```

Related Commands

- config advanced 802.11 coverage exception global**
- config advanced 802.11 coverage fail-rate**
- config advanced 802.11 coverage level global**
- config advanced 802.11 coverage rssi-threshold**
- config advanced 802.11 coverage**

Related Topics

[config advanced 802.11 coverage fail-rate](#), on page 52

config advanced 802.11 coverage rssi-threshold

To specify the minimum receive signal strength indication (RSSI) value for packets that are received by an access point, use the **config advanced 802.11 coverage rssi-threshold** command.

config advanced 802.11 { **a** | **b** } **coverage** { **data** | **voice** } **rssi-threshold** *rssi*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
data	Specifies the threshold for data packets.
voice	Specifies the threshold for voice packets.
<i>rssi</i>	Valid values are from -60 to -90 dBm.

Command Default

- The default RSSI value for data packets is -80 dBm.
- The default RSSI value for voice packets is -75 dBm.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

The *rssi* value that you enter is used to identify coverage holes (or areas of poor coverage) within your network. If the access point receives a packet in the data or voice queue with an RSSI value that is below the value that you enter, a potential coverage hole has been detected.

The access point takes RSSI measurements every 5 seconds and reports them to the controller in 90-second intervals.

If both the number and percentage of failed packets exceed the values that you entered in the **config advanced 802.11 coverage packet-count** and **config advanced 802.11 coverage fail-rate** commands for a 5-second period, the client is considered to be in a pre-alarm condition. The controller uses this information to distinguish between real and false coverage holes and excludes clients with poor roaming logic. A coverage hole is detected if both the number and percentage of failed clients meet or exceed the values entered in the **config advanced 802.11 coverage level global** and **config advanced 802.11 coverage exception global** commands over a 90-second period. The controller determines whether the coverage hole can be corrected and, if appropriate, mitigates the coverage hole by increasing the transmit power level for that specific access point.

The following example shows how to configure the minimum receive signal strength indication threshold value for data packets that are received by an 802.11a access point:

```
(Cisco Controller) > config advanced 802.11a coverage rssi-threshold -60
```

Related Commands

config advanced 802.11 coverage exception global
config advanced 802.11 coverage fail-rate

config advanced 802.11 coverage level global

config advanced 802.11 coverage packet-count

config advanced 802.11 coverage

Related Topics

[config advanced 802.11 coverage fail-rate](#), on page 52

config advanced 802.11 edca-parameters

To enable a specific Enhanced Distributed Channel Access (EDCA) profile on a 802.11a network, use the **config advanced 802.11 edca-parameters** command.

```
config advanced 802.11 { a | b } edca-parameters { wmm-default | svp-voice | optimized-voice |
optimized-video-voice | custom-voice | | custom-set { QoS Profile Name } { aifs AP-value
(0-16) Client value (0-16) | ecwmax AP-Value (0-10) Client value (0-10) | ecwmin AP-Value (0-10)
Client value (0-10) | txop AP-Value (0-255) Client value (0-255) } }
```

Syntax Description	
a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
wmm-default	Enables the Wi-Fi Multimedia (WMM) default parameters. Choose this option if voice or video services are not deployed on your network.
svp-voice	Enables Spectralink voice-priority parameters. Choose this option if Spectralink phones are deployed on your network to improve the quality of calls.
optimized-voice	Enables EDCA voice-optimized profile parameters. Choose this option if voice services other than Spectralink are deployed on your network.
optimized-video-voice	Enables EDCA voice-optimized and video-optimized profile parameters. Choose this option when both voice and video services are deployed on your network. Note If you deploy video services, admission control must be disabled.
custom-voice	Enables custom voice EDCA parameters for 802.11a. The EDCA parameters under this option also match the 6.0 WMM EDCA parameters when this profile is applied.

custom-set	<p>Enables customization of EDCA parameters</p> <ul style="list-style-type: none"> • aifs—Configures the Arbitration Inter-Frame Space. AP Value (0-16) Client value (0-16) • ecwmax—Configures the maximum Contention Window. AP Value(0-10) Client Value (0-10) • ecwmin—Configures the minimum Contention Window. AP Value(0-10) Client Value(0-10) • txop—Configures the Arbitration Transmission Opportunity Limit. AP Value(0-255) Client Value(0-255) <p>QoS Profile Name - Enter the QoS profile name:</p> <ul style="list-style-type: none"> • bronze • silver • gold • platinum
-------------------	---

Command Default

The default EDCA parameter is **wmm-default**.

Command History**Release Modification**

7.6 This command was introduced in a release earlier than Release 7.6.

8.2.110.0 In this release, custom-set keyword was added to edca-parameters command.

Examples

The following example shows how to enable Spectralink voice-priority parameters:

```
(Cisco Controller) > config advanced 802.11 edca-parameters svp-voice
```

Related Commands

config advanced 802.11b edca-parameters	Enables a specific Enhanced Distributed Channel Access (EDCA) profile on the 802.11a network.
show 802.11a	Displays basic 802.11a network settings.

Related Topics

[config advanced 802.11 coverage fail-rate](#), on page 52

[config advanced 802.11 channel update](#), on page 49

config advanced 802.11 factory

To reset 802.11a advanced settings back to the factory defaults, use the **config advanced 802.11 factory** command.

config advanced 802.11{ a | b} factory

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to return all the 802.11a advanced settings to their factory defaults:

```
(Cisco Controller) > config advanced 802.11a factory
```

Related Commands [show advanced 802.11a channel](#)

Related Topics

[config advanced 802.11 group-mode](#), on page 63

config advanced 802.11 group-member

To configure members in 802.11 static RF group, use the **config advanced 802.11 group-member** command.

config advanced 802.11 {a | b} **group-member** {add | remove} *controller controller-ip-address*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
add		Adds a controller to the static RF group.
remove		Removes a controller from the static RF group.
<i>controller</i>		Name of the controller to be added.
<i>controller-ip-address</i>		IP address of the controller to be added.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to add a controller in the 802.11a automatic RF group:

```
(Cisco Controller) > config advanced 802.11a group-member add cisco-controller 209.165.200.225
```

Related Commands

- show advanced 802.11a group
- config advanced 802.11 group-mode

Related Topics

[config advanced 802.11 group-mode](#), on page 63

config advanced 802.11 group-mode

To set the 802.11a automatic RF group selection mode on or off, use the **config advanced 802.11 group-mode** command.

config advanced 802.11 { a | b } group-mode { auto | leader | off | restart }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
auto		Sets the 802.11a RF group selection to automatic update mode.
leader		Sets the 802.11a RF group selection to static mode, and sets this controller as the group leader.
off		Sets the 802.11a RF group selection to off.
restart		Restarts the 802.11a RF group selection.

Command Default The default 802.11a automatic RF group selection mode is auto.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the 802.11a automatic RF group selection mode on:

```
(Cisco Controller) > config advanced 802.11a group-mode auto
```

The following example shows how to configure the 802.11a automatic RF group selection mode off:

```
(Cisco Controller) > config advanced 802.11a group-mode off
```

Related Commands **show advanced 802.11a group**
config advanced 802.11 group-member

Related Topics

[config advanced 802.11 group-member](#), on page 62

config advanced 802.11 logging channel

To turn the channel change logging mode on or off, use the **config advanced 802.11 logging channel** command.

config advanced 802.11 { a | b } logging channel { on | off }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
logging channel		Logs channel changes.
on		Enables the 802.11 channel logging.
off		Disables 802.11 channel logging.

Command Default The default channel change logging mode is Off (disabled).

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to turn the 802.11a logging channel selection mode on:

```
(Cisco Controller) > config advanced 802.11a logging channel on
```

Related Commands [show advanced 802.11a logging](#)
[config advanced 802.11b logging channel](#)

Related Topics

[config advanced 802.11 group-mode](#), on page 63

config advanced 802.11 logging coverage

To turn the coverage profile logging mode on or off, use the **config advanced 802.11 logging coverage** command.

config advanced 802.11 { a | b } logging coverage { on | off }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
on		Enables the 802.11 coverage profile violation logging.
off		Disables the 802.11 coverage profile violation logging.

Command Default The default coverage profile logging mode is Off (disabled).

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to turn the 802.11a coverage profile violation logging selection mode on:

```
(Cisco Controller) > config advanced 802.11a logging coverage on
```

Related Commands

- show advanced 802.11a logging
- config advanced 802.11b logging coverage

Related Topics

- [config advanced 802.11 logging channel](#), on page 64
- [config advanced 802.11 logging performance](#), on page 69

config advanced 802.11 logging foreign

To turn the foreign interference profile logging mode on or off, use the **config advanced 802.11 logging foreign** command.

config advanced 802.11 { a | b } logging foreign { on | off }

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
on	Enables the 802.11 foreign interference profile violation logging.
off	Disables the 802.11 foreign interference profile violation logging.

Command Default

The default foreign interference profile logging mode is Off (disabled).

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to turn the 802.11a foreign interference profile violation logging selection mode on:

```
(Cisco Controller) > config advanced 802.11a logging foreign on
```

Related Commands

show advanced 802.11a logging

config advanced 802.11b logging foreign

Related Topics

[config advanced 802.11 logging channel](#), on page 64

[config advanced 802.11 logging performance](#), on page 69

config advanced 802.11 logging load

To turn the 802.11a load profile logging mode on or off, use the **config advanced 802.11 logging load** command.

```
config advanced 802.11 { a | b } logging load { on | off }
```

Syntax Description		
a	Specifies the 802.11a network.	
b	Specifies the 802.11b/g network.	
on	Enables the 802.11 load profile violation logging.	
off	Disables the 802.11 load profile violation logging.	
Command Default	The default 802.11a load profile logging mode is Off (disabled).	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to turn the 802.11a load profile logging mode on:

```
(Cisco Controller) > config advanced 802.11 logging load on
```

Related Commands

- show advanced 802.11a logging**
- config advanced 802.11b logging load**

Related Topics

- [config advanced 802.11 logging channel](#), on page 64
- [config advanced 802.11 logging performance](#), on page 69

config advanced 802.11 logging noise

To turn the 802.11a noise profile logging mode on or off, use the **config advanced 802.11 logging noise** command.

config advanced 802.11 {a | b} **logging noise** {on | off}

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	on	Enables the 802.11 noise profile violation logging.
	off	Disables the 802.11 noise profile violation logging.

Command Default The default 802.11a noise profile logging mode is off (disabled).

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to turn the 802.11a noise profile logging mode on:

```
(Cisco Controller) > config advanced 802.11a logging noise on
```

Related Commands [show advanced 802.11a logging](#)
[config advanced 802.11b logging noise](#)

Related Topics

[config advanced 802.11 logging channel](#), on page 64

[config advanced 802.11 logging performance](#), on page 69

config advanced 802.11 logging performance

To turn the 802.11a performance profile logging mode on or off, use the **config advanced 802.11 logging performance** command.

config advanced 802.11 { a | b } logging performance { on | off }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
on		Enables the 802.11 performance profile violation logging.
off		Disables the 802.11 performance profile violation logging.

Command Default The default 802.11a performance profile logging mode is off (disabled).

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to turn the 802.11a performance profile logging mode on:

```
(Cisco Controller) > config advanced 802.11a logging performance on
```

Related Commands

- show advanced 802.11a logging**
- config advanced 802.11b logging performance**

Related Topics

- [config advanced 802.11 logging channel](#), on page 64
- [config advanced 802.11 logging load](#), on page 67

config advanced 802.11 logging txpower

To turn the 802.11a transmit power change logging mode on or off, use the **config advanced 802.11 logging txpower** command.

```
config advanced 802.11 {a | b} logging txpower {on | off}
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
on		Enables the 802.11 transmit power change logging.
off		Disables the 802.11 transmit power change logging.

Command Default The default 802.11a transmit power change logging mode is off (disabled).

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to turn the 802.11a transmit power change mode on:

```
(Cisco Controller) > config advanced 802.11 logging txpower off
```

Related Commands **show advanced 802.11 logging**
config advanced 802.11b logging power

Related Topics

[config advanced 802.11 logging channel](#), on page 64

[config advanced 802.11 logging performance](#), on page 69

config advanced 802.11 monitor channel-list

To set the 802.11a noise, interference, and rogue monitoring channel list, use the **config advanced 802.11 monitor channel-list** command.

```
config advanced 802.11 { a | b } monitor channel-list { all | country | dca }
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
all		Monitors all channels.
country		Monitors the channels used in the configured country code.
dca		Monitors the channels used by the automatic channel assignment.

Command Default The default 802.11a noise, interference, and rogue monitoring channel list is country.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to monitor the channels used in the configured country:

```
(Cisco Controller) > config advanced 802.11 monitor channel-list country
```

Related Commands [show advanced 802.11a monitor coverage](#)

Related Topics

[config advanced 802.11 monitor signal](#), on page 77

[config advanced 802.11 monitor load](#), on page 73

config advanced 802.11 monitor coverage

To set the coverage measurement interval between 60 and 3600 seconds, use the **config advanced 802.11 monitor coverage** command.

config advanced 802.11 { **a** | **b** } **monitor coverage** *seconds*

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>seconds</i>	Coverage measurement interval between 60 and 3600 seconds.
Command Default	The default coverage measurement interval is 180 seconds.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the coverage measurement interval to 60 seconds:

```
(Cisco Controller) > config advanced 802.11 monitor coverage 60
```

Related Commands

- show advanced 802.11a monitor**
- config advanced 802.11b monitor coverage**

Related Topics

[config advanced 802.11 monitor signal](#), on page 77

[config advanced 802.11 monitor load](#), on page 73

config advanced 802.11 monitor load

To set the load measurement interval between 60 and 3600 seconds, use the **config advanced 802.11 monitor load** command.

config advanced 802.11 { a | b } monitor load *seconds*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
<i>seconds</i>		Load measurement interval between 60 and 3600 seconds.

Command Default The default load measurement interval is 60 seconds.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the load measurement interval to 60 seconds:

```
(Cisco Controller) > config advanced 802.11 monitor load 60
```

Related Commands

- show advanced 802.11a monitor**
- config advanced 802.11b monitor load**

Related Topics

- [config advanced 802.11 monitor signal](#), on page 77
- [config advanced 802.11 monitor mode](#), on page 74

config advanced 802.11 monitor mode

To enable or disable 802.11a access point monitoring, use the **config advanced 802.11 monitor mode** command.

config advanced 802.11 {a | b} monitor mode {enable | disable}

Syntax Description		
a	Specifies the 802.11a network.	
b	Specifies the 802.11b/g network.	
enable	Enables the 802.11 access point monitoring.	
disable	Disables the 802.11 access point monitoring.	
Command Default	The default 802.11a access point monitoring is enabled.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the 802.11a access point monitoring:

```
(Cisco Controller) > config advanced 802.11a monitor mode enable
```

Related Commands **show advanced 802.11a monitor**

config advanced 802.11b monitor mode

Related Topics

[config advanced 802.11 monitor signal](#), on page 77

[config advanced 802.11 monitor load](#), on page 73

config advanced 802.11 monitor ndp-type

To configure the 802.11 access point radio resource management (RRM) Neighbor Discovery Protocol (NDP) type, use the **config advanced 802.11 monitor ndp-type** command:

```
config advanced 802.11 { a | b } monitor ndp-type { protected | transparent }
```

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	protected	Specifies the Tx RRM protected NDP.
	transparent	Specifies the Tx RRM transparent NDP.

Command Default	None
-----------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines Before you configure the 802.11 access point RRM NDP type, ensure that you have disabled the network by entering the **config 802.11 disable network** command.

The following example shows how to enable the 802.11a access point RRM NDP type as protected:

```
(Cisco Controller) > config advanced 802.11 monitor ndp-type protected
```

Related Commands

- config advanced 802.11 monitor**
- config advanced 802.11 monitor mode**
- config advanced 802.11 disable**

Related Topics

[config advanced 802.11 monitor signal](#), on page 77

[config advanced 802.11 monitor load](#), on page 73

config advanced 802.11 monitor noise

To set the 802.11a noise measurement interval between 60 and 3600 seconds, use the **config advanced 802.11 monitor noise** command.

config advanced 802.11 { **a** | **b** } **monitor noise** *seconds*

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>seconds</i>	Noise measurement interval between 60 and 3600 seconds.
Command Default	The default 802.11a noise measurement interval is 80 seconds.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the noise measurement interval to 120 seconds:

```
(Cisco Controller) > config advanced 802.11 monitor noise 120
```

Related Commands **show advanced 802.11a monitor**

config advanced 802.11b monitor noise

Related Topics

[config advanced 802.11 monitor signal](#), on page 77

[config advanced 802.11 monitor load](#), on page 73

config advanced 802.11 monitor signal

To set the signal measurement interval between 60 and 3600 seconds, use the **config advanced 802.11 monitor signal** command.

config advanced 802.11 { **a** | **b** } **monitor signal** *seconds*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
<i>seconds</i>		Signal measurement interval between 60 and 3600 seconds.
Command Default	The default signal measurement interval is 60 seconds.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the signal measurement interval to 120 seconds:

```
(Cisco Controller) > config advanced 802.11 monitor signal 120
```

Related Commands

- show advanced 802.11a monitor**
- config advanced 802.11b monitor signal**

Related Topics

[config advanced 802.11 monitor load](#), on page 73

config advanced 802.11 profile foreign

To set the foreign 802.11a transmitter interference threshold between 0 and 100 percent, use the **config advanced 802.11 profile foreign** command.

```
config advanced 802.11 {a | b} profile foreign {global | cisco_ap} percent
```

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
global	Configures all 802.11a Cisco lightweight access points.
<i>cisco_ap</i>	Cisco lightweight access point name.
<i>percent</i>	802.11a foreign 802.11a interference threshold between 0 and 100 percent.

Command Default

The default foreign 802.11a transmitter interference threshold value is 10.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the foreign 802.11a transmitter interference threshold for all Cisco lightweight access points to 50 percent:

```
(Cisco Controller) >config advanced 802.11a profile foreign global 50
```

The following example shows how to set the foreign 802.11a transmitter interference threshold for AP1 to 0 percent:

```
(Cisco Controller) >config advanced 802.11 profile foreign AP1 0
```

Related Topics

[config advanced 802.11 profile throughput](#)

config advanced 802.11 profile noise

To set the 802.11a foreign noise threshold between -127 and 0 dBm, use the **config advanced 802.11 profile noise** command.

```
config advanced 802.11{ a | b} profile noise {global | cisco_ap} dBm
```

Syntax Description		
a		Specifies the 802.11a/n network.
b		Specifies the 802.11b/g/n network.
global		Configures all 802.11a Cisco lightweight access point specific profiles.
<i>cisco_ap</i>		Cisco lightweight access point name.
<i>dBm</i>		802.11a foreign noise threshold between -127 and 0 dBm.

Command Default The default foreign noise threshold value is -70 dBm.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the 802.11a foreign noise threshold for all Cisco lightweight access points to -127 dBm:

```
(Cisco Controller) >config advanced 802.11a profile noise global -127
```

The following example shows how to set the 802.11a foreign noise threshold for AP1 to 0 dBm:

```
(Cisco Controller) >config advanced 802.11a profile noise AP1 0
```

Related Topics

[config advanced 802.11 profile throughput](#)

[config advanced 802.11 profile foreign](#)

config advanced 802.11 profile throughput

To set the Cisco lightweight access point data-rate throughput threshold between 1000 and 10000000 bytes per second, use the **config advanced 802.11 profile throughput** command.

config advanced 802.11 { **a** | **b** } **profile throughput** { **global** | *cisco_ap* } *value*

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	global	Configures all 802.11a Cisco lightweight access point specific profiles.
	<i>cisco_ap</i>	Cisco lightweight access point name.
	<i>value</i>	802.11a Cisco lightweight access point throughput threshold between 1000 and 10000000 bytes per second.

Command Default The default Cisco lightweight access point data-rate throughput threshold value is 1,000,000 bytes per second.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set all Cisco lightweight access point data-rate thresholds to 1000 bytes per second:

```
(Cisco Controller) >config advanced 802.11 profile throughput global 1000
```

The following example shows how to set the AP1 data-rate threshold to 10000000 bytes per second:

```
(Cisco Controller) >config advanced 802.11 profile throughput AP1 10000000
```

Related Topics

[config advanced 802.11 profile foreign](#)

config advanced 802.11 profile utilization

To set the RF utilization threshold between 0 and 100 percent, use the **config advanced 802.11 profile utilization** command. The operating system generates a trap when this threshold is exceeded.

config advanced 802.11 { **a** | **b** } **profile utilization** { **global** | *cisco_ap* } *percent*

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
global		Configures a global Cisco lightweight access point specific profile.
<i>cisco_ap</i>		Cisco lightweight access point name.
<i>percent</i>		802.11a RF utilization threshold between 0 and 100 percent.

Command Default The default RF utilization threshold value is 80 percent.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the RF utilization threshold for all Cisco lightweight access points to 0 percent:

```
(Cisco Controller) >config advanced 802.11 profile utilization global 0
```

The following example shows how to set the RF utilization threshold for AP1 to 100 percent:

```
(Cisco Controller) >config advanced 802.11 profile utilization AP1 100
```

Related Topics

[config advanced 802.11 profile throughput](#)

[config advanced 802.11 profile foreign](#)

config advanced 802.11 receiver

To set the advanced receiver configuration settings, use the **config advanced 802.11 receiver** command.

config advanced 802.11 { **a** | **b** } **receiver** { **default** | **rxstart jumpThreshold** *value* }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
receiver		Specifies the receiver configuration.
default		Specifies the default advanced receiver configuration.
rxstart jumpThreshold		Specifies the receiver start signal.
	Note	We recommend that you do not use this option as it is for Cisco internal use only.
<i>value</i>		Jump threshold configuration value between 0 and 127.

Command Default None

Usage Guidelines

- Before you change the 802.11 receiver configuration, you must disable the 802.11 network.
- We recommend that you do not use the **rxstart jumpThreshold** *value* option as it is for Cisco internal use only.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to prevent changes to receiver parameters while the network is enabled:

```
(Cisco Controller) > config advanced 802.11 receiver default
```

Related Topics

[config advanced 802.11 monitor signal](#), on page 77

config advanced 802.11 tpc-version

To configure the Transmit Power Control (TPC) version for a radio, use the **config advanced 802.11 tpc-version** command.

```
config advanced 802.11 { a | b } tpc-version { 1 | 2 }
```

Syntax Description	1	2
	Specifies the TPC version 1 that offers strong signal coverage and stability.	Specifies TPC version 2 is for scenarios where voice calls are extensively used. The Tx power is dynamically adjusted with the goal of minimum interference. It is suitable for dense networks. In this mode, there could be higher roaming delays and coverage hole incidents.
Command Default	The default TPC version for a radio is 1.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the TPC version as 1 for the 802.11a radio:

```
(Cisco Controller) > config advanced 802.11a tpc-version 1
```

Related Commands `config advanced 802.11 tpcv1-thresh`

Related Topics

[config advanced 802.11 tpcv2-intense](#), on page 85

config advanced 802.11 tpcv1-thresh

To configure the threshold for Transmit Power Control (TPC) version 1 of a radio, use the **config advanced 802.11 tpcv1-thresh** command.

```
config advanced 802.11 {a | b} tpcv1-thresh threshold
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g/n network.
<i>threshold</i>		Threshold value between -50 dBm to -80 dBm.
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the threshold as -60 dBm for TPC version 1 of the 802.11a radio:

```
(Cisco Controller) > config advanced 802.11 tpcv1-thresh -60
```

Related Commands

- config advanced 802.11 tpc-thresh**
- config advanced 802.11 tpcv2-thresh**

Related Topics

[config advanced 802.11 tpc-version](#), on page 83

config advanced 802.11 tpcv2-intense

To configure the computational intensity for Transmit Power Control (TPC) version 2 of a radio, use the `config advanced 802.11 tpcv2-intense` command.

```
config advanced 802.11 { a | b } tpcv2-intense intensity
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g/n network.
<i>intensity</i>		Computational intensity value between 1 to 100.
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the computational intensity as 50 for TPC version 2 of the 802.11a radio:

```
(Cisco Controller) > config advanced 802.11 tpcv2-intense 50
```

Related Commands

- `config advanced 802.11 tpc-thresh`
- `config advanced 802.11 tpcv2-thresh`
- `config advanced 802.11 tpcv2-per-chan`

Related Topics

[config advanced 802.11 tpc-version](#), on page 83

config advanced 802.11 tpcv2-per-chan

To configure the Transmit Power Control Version 2 on a per-channel basis, use the **config advanced 802.11 tpcv2-per-chan** command.

config advanced 802.11 {a | b} tpcv2-per-chan {enable | disable}

Syntax Description		
	enable	Enables the configuration of TPC version 2 on a per-channel basis.
	disable	Disables the configuration of TPC version 2 on a per-channel basis.
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable TPC version 2 on a per-channel basis for the 802.11a radio:

```
(Cisco Controller) > config advanced 802.11 tpcv2-per-chan enable
```

Related Commands

config advanced 802.11 tpc-thresh

config advanced 802.11 tpcv2-thresh

config advanced 802.11 tpcv2-intense

Related Topics

[config advanced 802.11 tpc-version](#), on page 83

config advanced 802.11 tpcv2-thresh

To configure the threshold for Transmit Power Control (TPC) version 2 of a radio, use the **config advanced 802.11 tpcv2-thresh** command.

```
config advanced 802.11 { a | b } tpcv2-thresh threshold
```

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
<i>threshold</i>		Threshold value between –50 dBm to –80 dBm.
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the threshold as –60 dBm for TPC version 2 of the 802.11a radio:

```
(Cisco Controller) > config advanced 802.11a tpcv2-thresh -60
```

Related Commands

- config advanced 802.11 tpc-thresh**
- config advanced 802.11 tpcv1-thresh**
- config advanced 802.11 tpcv2-per-chan**

Related Topics

[config advanced 802.11 tpc-version](#), on page 83

config advanced 802.11 txpower-update

To initiate updates of the 802.11a transmit power for every Cisco lightweight access point, use the **config advanced 802.11 txpower-update** command.

config advanced 802.11 {a | b} txpower-update

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to initiate updates of 802.11a transmit power for an 802.11a access point:

```
(Cisco Controller) > config advanced 802.11 txpower-update
```

Related Commands [config advance 802.11b txpower-update](#)

Related Topics

[config client location-calibration](#), on page 90

config advanced dot11-padding

To enable or disable over-the-air frame padding, use the **config advanced dot11-padding** command.

```
config advanced dot11-padding {enable | disable}
```

Syntax Description	enable	Enables the over-the-air frame padding.
	disable	Disables the over-the-air frame padding.
Command Default	The default over-the-air frame padding is disabled.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable over-the-air frame padding:

```
(Cisco Controller) > config advanced dot11-padding enable
```

Related Commands

debug dot11
debug dot11 mgmt interface
debug dot11 mgmt msg
debug dot11 mgmt ssid
debug dot11 mgmt state-machine
debug dot11 mgmt station
show advanced dot11-padding

Related Topics

[config client location-calibration](#), on page 90

config client location-calibration

To configure link aggregation, use the **config client location-calibration** command.

config client location-calibration { **enable** *mac_address interval* | **disable** *mac_address* }

Syntax Description	enable	(Optional) Specifies that client location calibration is enabled.
	<i>mac_address</i>	MAC address of the client.
	<i>interval</i>	Measurement interval in seconds.
	disable	(Optional) Specifies that client location calibration is disabled.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the client location calibration for the client 37:15:85:2a with a measurement interval of 45 seconds:

```
(Cisco Controller) >config client location-calibration enable 37:15:86:2a:Bc:cf 45
```

Related Topics

[debug airewave-director](#), on page 96

config network rf-network-name

To set the RF-Network name, use the **config network rf-network-name** command.

config network rf-network-name *name*

Syntax Description	<i>name</i>	RF-Network name. The name can contain up to 19 characters.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to set the RF-network name to travelers:

```
(Cisco Controller) > config network rf-network-name travelers
```

Related Commands [show network summary](#)

Related Topics

[debug airewave-director](#), on page 96

Configuring 802.11k and Assisted Roaming

config assisted-roaming

To configure assisted roaming parameters on the controller, use the **config assisted-roaming** command.

config assisted-roaming { **denial-maximum** *count* | **floor-bias** *RSSI* | **prediction-minimum** *number_of_APs* }

Syntax Description	Parameter	Description
	denial-maximum	Configures the maximum number of counts for association denial.
	<i>count</i>	Maximum number of times that a client is denied for association when the association request that was sent to an access point does not match any access point on the prediction list. The range is from 1 to 10.
	floor-bias	Configures the RSSI bias for access points on the same floor.
	<i>RSSI</i>	RSSI bias for access points on the same floor. The range is from 5 to 25. Access points on the same floor have more preference.
	prediction-minimum	Configures the minimum number of optimized access points for the assisted roaming feature.
	<i>number_of_APs</i>	Minimum number of optimized access points for the assisted roaming feature. The range is from 1 to 6. If the number of access points in the prediction assigned to the client is smaller than this number, the assisted roaming feature does not work.

Command Default The default RSSI bias for access points on the same floor is 15 dBm.

Usage Guidelines 802.11k allows a client to request a neighbor report that contains information about known neighbor access points, which can be used for a service set transition. The neighbor list reduces the need for active and passive scanning.

This example shows how to configure the minimum number of optimized access points for the assisted roaming feature:

```
(Cisco Controller) >config assisted-roaming prediction-minimum 4
```

Related Topics

[show assisted-roaming](#) , on page 93

config wlan assisted-roaming

To configure assisted roaming on a WLAN, use the **config wlan assisted-roaming** command.

config wlan assisted-roaming { **neighbor-list** | **dual-list** | **prediction** } { **enable** | **disable** } *wlan_id*

Syntax Description	Parameter	Description
	neighbor-list	Configures an 802.11k neighbor list for a WLAN.

dual-list	Configures a dual band 802.11k neighbor list for a WLAN. The default is the band that the client is currently associated with.
prediction	Configures an assisted roaming optimization prediction for a WLAN.
enable	Enables the configuration on the WLAN.
disable	Disables the configuration on the WLAN.
<i>wlan_id</i>	Wireless LAN identifier between 1 and 512 (inclusive).

Command Default

The 802.11k neighbor list is enabled for all WLANs.

By default, dual band list is enabled if the neighbor list feature is enabled for the WLAN.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

When you enable the assisted roaming prediction list, a warning appears and load balancing is disabled for the WLAN, if load balancing is already enabled on the WLAN.

The following example shows how to enable an 802.11k neighbor list for a WLAN:

```
(Cisco Controller) >config wlan assisted-roaming neighbor-list enable 1
```

show assisted-roaming

To display assisted roaming and 802.11k configurations, use the **show assisted-roaming** command.

show assisted-roaming**Syntax Description**

This command has no arguments or keywords.

Command Default

None.

This example shows how to display assisted roaming and 802.11k configurations:

```
(Cisco Controller) >show assisted-roaming
Assisted Roaming and 80211k Information:
Floor RSSI Bias..... 15 dBm
Maximum Denial..... 2 counts
Minimum Optimized Neighbor Assigned..... 2 neighbors

Assisted Roaming Performance Chart:
Matching Assigned Neighbor..... [0] = 0
Matching Assigned Neighbor..... [1] = 0
Matching Assigned Neighbor..... [2] = 0
Matching Assigned Neighbor..... [3] = 0
Matching Assigned Neighbor..... [4] = 0
Matching Assigned Neighbor..... [5] = 0
Matching Assigned Neighbor..... [6] = 0
Matching Assigned Neighbor..... [7] = 0
No Matching Neighbor..... [8] = 0
```

```
No Neighbor Assigned..... [9] = 0
```

Related Commands

config assisted-roaming
config wlan assisted-roaming
debug 11k

Related Topics

[config assisted-roaming](#), on page 92

debug 11k

To configure the debugging of 802.11k settings, use the **debug 11k** command.

debug 11k { **all** | **detail** | **errors** | **events** | **history** | **optimization** | **simulation** } { **enable** | **disable** }

Syntax Description

all	Configures the debugging of all 802.11k messages.
detail	Configures the debugging of 802.11k details.
errors	Configures the debugging of 802.11k errors.
events	Configures the debugging of all 802.11k events.
history	Configures the debugging of all 802.11k history. The Cisco WLC collects roam history of the client.
optimization	Configures the debugging of 802.11k optimizations. You can view optimization steps of neighbor lists.
simulation	Configures the debugging of 802.11k simulation data. You can view details of client roaming parameters and import them for offline simulation.
enable	Enables the 802.1k debugging.
disable	Disables the 802.1k debugging.

Command Default

None.

This example shows how to enable the debugging of 802.11k simulation data:

```
(Cisco Controller) >debug 11k simulation enable
```

Related Commands

config assisted-roaming
config wlan assisted-roaming
show assisted-roaming

Related Topics

[debug dot11](#), on page 98

[debug airewave-director](#), on page 96

debug airewave-director

To configure the debugging of Airewave Director software, use the **debug airewave-director** command.

```
debug airewave-director {all | channel | detail | error | group | manager | message |
packet | power | profile | radar | rf-change} {enable | disable}
```

Syntax	Description
all	Configures the debugging of all Airewave Director logs.
channel	Configures the debugging of the Airewave Director channel assignment protocol.
detail	Configures the debugging of the Airewave Director detail logs.
error	Configures the debugging of the Airewave Director error logs.
group	Configures the debugging of the Airewave Director grouping protocol.
manager	Configures the debugging of the Airewave Director manager.
message	Configures the debugging of the Airewave Director messages.
packet	Configures the debugging of the Airewave Director packets.
power	Configures the debugging of the Airewave Director power assignment protocol and coverage hole detection.
profile	Configures the debugging of the Airewave Director profile events.
radar	Configures the debugging of the Airewave Director radar detection/avoidance protocol.
rf-change	Configures the debugging of the Airewave Director rf changes.
enable	Enables the Airewave Director debugging.
disable	Disables the Airewave Director debugging.
Command Default	None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of Airewave Director profile events:

```
(Cisco Controller) > debug airewave-director profile enable
```

Related Commands

debug disable-all

show sysinfo

Related Topics

[debug 11k](#), on page 94

[debug dot11](#), on page 98

debug dot11

To configure the debugging of 802.11 events, use the **debug dot11** command.

```
debug dot11 {all | load-balancing | management | mobile | nmsp | probe | rldp | rogue
| state} {enable | disable}
```

Syntax Description		
	all	Configures the debugging of all 802.11 messages.
	load-balancing	Configures the debugging of 802.11 load balancing events.
	management	Configures the debugging of 802.11 MAC management messages.
	mobile	Configures the debugging of 802.11 mobile events.
	nmsp	Configures the debugging of the 802.11 NMSP interface events.
	probe	Configures the debugging of probe.
	rldp	Configures the debugging of 802.11 Rogue Location Discovery.
	rogue	Configures the debugging of 802.11 rogue events.
	state	Configures the debugging of 802.11 mobile state transitions.
	enable	Enables the 802.11 debugging.
	disable	Disables the 802.11 debugging.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of 802.11 settings:

```
(Cisco Controller) > debug dot11 state enable
(Cisco Controller) > debug dot11 mobile enable
```

show 802.11 extended

To display access point radio extended configurations, use the **show 802.11 extended** command.

show 802.11 {a | b} extended

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	<i>extended</i>	Displays the 802.11a/b radio extended configurations.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display radio extended configurations:

```
(Cisco Controller) > show 802.11a extended
Default 802.11a band radio extended configurations:
  beacon period 300, range 60;
  multicast buffer 45, rate 200;
  RX SOP -80; CCA threshold -90;
AP0022.9090.b618 00:24:97:88:99:60
  beacon period 300, range 60; multicast buffer 45, rate 200;
  RX SOP -80; CCA threshold -77
AP0022.9090.bb3e 00:24:97:88:c5:d0
  beacon period 300, range 0; multicast buffer 0, rate 0;
  RX SOP -80; CCA threshold -0
ironRap.ddbf 00:17:df:36:dd:b0
  beacon period 300, range 0; multicast buffer 0, rate 0;
  RX SOP -80; CCA threshold -0
```

show advanced 802.11 channel

To display the automatic channel assignment configuration and statistics, use the **show advanced 802.11 channel** command.

show advanced 802.11{ a | b} **channel**

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the automatic channel assignment configuration and statistics:

```
(Cisco Controller) > show advanced 802.11a channel
Automatic Channel Assignment
  Channel Assignment Mode..... AUTO
  Channel Update Interval..... 600 seconds [startup]
  Anchor time (Hour of the day)..... 0
  Channel Update Contribution..... SNI.
  Channel Assignment Leader..... 00:1a:6d:dd:1e:40
  Last Run..... 129 seconds ago
  DCA Sensitivity Level: ..... STARTUP (5 dB)
  DCA Minimum Energy Limit..... -95 dBm
Channel Energy Levels
  Minimum..... unknown
  Average..... unknown
  Maximum..... unknown
Channel Dwell Times
  Minimum..... unknown
  Average..... unknown
  Maximum..... unknown
Auto-RF Allowed Channel List.....
36, 40, 44, 48, 52, 56, 60, 64, 149,
..... 153, 157, 161
Auto-RF Unused Channel List.....
100, 104, 108, 112, 116, 132, 136,
..... 140, 165, 190, 196
DCA Outdoor AP option..... Enabled
```

Related Topics

[config advanced 802.11 channel add](#), on page 36

[config advanced 802.11 channel cleanair-event](#), on page 37
[config advanced 802.11 channel dca anchor-time](#), on page 38
[config advanced 802.11 channel dca chan-width-11n](#), on page 39
[config advanced 802.11 channel dca interval](#), on page 40

show advanced 802.11 coverage

To display the configuration and statistics for coverage hole detection, use the **show advanced 802.11 coverage** command.

show advanced 802.11{ a | b} coverage

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the statistics for coverage hole detection:

```
(Cisco Controller) > show advanced 802.11a coverage
Coverage Hole Detection
 802.11a Coverage Hole Detection Mode..... Enabled
 802.11a Coverage Voice Packet Count..... 100 packets
 802.11a Coverage Voice Packet Percentage..... 50%
 802.11a Coverage Voice RSSI Threshold..... -80 dBm
 802.11a Coverage Data Packet Count..... 50 packets
 802.11a Coverage Data Packet Percentage..... 50%
 802.11a Coverage Data RSSI Threshold..... -80 dBm
 802.11a Global coverage exception level..... 25 %
 802.11a Global client minimum exception lev.... 3 clients
```

Related Topics

- [config advanced 802.11 coverage exception global](#), on page 51
- [config advanced 802.11 coverage fail-rate](#), on page 52
- [config advanced 802.11 coverage level global](#), on page 54
- [config advanced 802.11 coverage packet-count](#), on page 55
- [config advanced 802.11 coverage rssi-threshold](#), on page 56
- [config advanced 802.11 edca-parameters](#)

show advanced 802.11 group

To display 802.11a or 802.11b Cisco radio RF grouping, use the **show advanced 802.11 group** command.

show advanced 802.11 {a | b} group

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display Cisco radio RF group settings:

```
(Cisco Controller) > show advanced 802.11a group
Radio RF Grouping
 802.11a Group Mode..... AUTO
 802.11a Group Update Interval..... 600 seconds
 802.11a Group Leader..... xx:xx:xx:xx:xx:xx
   802.11a Group Member..... xx:xx:xx:xx:xx:xx
 802.11a Last Run..... 133 seconds ago
```

Related Topics

[config advanced 802.11 group-mode](#), on page 63

show advanced 802.11 l2roam

To display 802.11a or 802.11b/g Layer 2 client roaming information, use the **show advanced 802.11 l2roam** command.

show advanced 802.11 { **a** | **b** } **l2roam** { **rf-param** | **statistics** } *mac_address* }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
rf-param		Specifies the Layer 2 frequency parameters.
statistics		Specifies the Layer 2 client roaming statistics.
<i>mac_address</i>		MAC address of the client.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show advanced 802.11b l2roam rf-param** command:

```
(Cisco Controller) > show advanced 802.11b l2roam rf-param

L2Roam 802.11bg RF Parameters.....
  Config Mode..... Default
  Minimum RSSI..... -85
  Roam Hysteresis..... 2
  Scan Threshold..... -72
  Transition time..... 5
```


show advanced 802.11 logging

To display 802.11a or 802.11b RF event and performance logging, use the **show advanced 802.11 logging** command.

show advanced 802.11 { a | b } logging

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display 802.11b RF event and performance logging:

```
(Cisco Controller) > show advanced 802.11b logging
RF Event and Performance Logging
  Channel Update Logging..... Off
  Coverage Profile Logging..... Off
  Foreign Profile Logging..... Off
  Load Profile Logging..... Off
  Noise Profile Logging..... Off
  Performance Profile Logging..... Off
  TxPower Update Logging..... Off
```

Related Topics

- [config advanced 802.11 logging channel](#), on page 64
- [config advanced 802.11 logging coverage](#), on page 65
- [config advanced 802.11 logging foreign](#), on page 66
- [config advanced 802.11 logging load](#), on page 67
- [config advanced 802.11 logging noise](#), on page 68
- [config advanced 802.11 logging performance](#), on page 69

show advanced 802.11 monitor

To display the 802.11a or 802.11b default Cisco radio monitoring, use the **show advanced 802.11 monitor** command.

show advanced 802.11{a | b} monitor

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the radio monitoring for the 802.11b network:

```
(Cisco Controller) > show advanced 802.11b monitor
Default 802.11b AP monitoring
 802.11b Monitor Mode..... enable
 802.11b Monitor Channels..... Country channels
 802.11b RRM Neighbor Discovery Type..... Transparent
 802.11b AP Coverage Interval..... 180 seconds
 802.11b AP Load Interval..... 60 seconds
 802.11b AP Noise Interval..... 180 seconds
 802.11b AP Signal Strength Interval..... 60 seconds
```

Related Topics

- [config advanced 802.11 monitor load](#), on page 73
- [config advanced 802.11 monitor mode](#), on page 74
- [config advanced 802.11 monitor noise](#), on page 76
- [config advanced 802.11 monitor signal](#), on page 77

show advanced 802.11 profile

To display the 802.11a or 802.11b lightweight access point performance profiles, use the **show advanced 802.11 profile** command.

```
show advanced 802.11 {a | b} profile {global | cisco_ap}
```

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	global	Specifies all Cisco lightweight access points.
	<i>cisco_ap</i>	Name of a specific Cisco lightweight access point.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the global configuration and statistics of an 802.11a profile:

```
(Cisco Controller) > show advanced 802.11 profile global
Default 802.11a AP performance profiles
 802.11a Global Interference threshold..... 10%
 802.11a Global noise threshold..... -70 dBm
 802.11a Global RF utilization threshold..... 80%
 802.11a Global throughput threshold..... 1000000 bps
 802.11a Global clients threshold..... 12 clients
 802.11a Global coverage threshold..... 12 dB
 802.11a Global coverage exception level..... 80%
 802.11a Global client minimum exception lev..... 3 clients
```

The following example shows how to display the configuration and statistics of a specific access point profile:

```
(Cisco Controller) > show advanced 802.11 profile AP1
Cisco AP performance profile not customized
```

This response indicates that the performance profile for this lightweight access point is using the global defaults and has not been individually configured.

Related Topics

- [config advanced 802.11 profile noise](#)
- [config advanced 802.11 profile foreign](#)

show advanced 802.11 receiver

To display the configuration and statistics of the 802.11a or 802.11b receiver, use the **show advanced 802.11 receiver** command.

show advanced 802.11{a | b} receiver

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the configuration and statistics of the 802.11a network settings:

```
(Cisco Controller) > show advanced 802.11 receiver
802.11a Receiver Settings
RxStart   : Signal Threshold..... 15
RxStart   : Signal Lamp Threshold..... 5
RxStart   : Preamble Power Threshold..... 2
RxReStart : Signal Jump Status..... Enabled
RxReStart : Signal Jump Threshold..... 10
TxStomp   : Low RSSI Status..... Enabled
TxStomp   : Low RSSI Threshold..... 30
TxStomp   : Wrong BSSID Status..... Enabled
TxStomp   : Wrong BSSID Data Only Status..... Enabled
RxAbort   : Raw Power Drop Status..... Disabled
RxAbort   : Raw Power Drop Threshold..... 10
RxAbort   : Low RSSI Status..... Disabled
RxAbort   : Low RSSI Threshold..... 0
RxAbort   : Wrong BSSID Status..... Disabled
RxAbort   : Wrong BSSID Data Only Status..... Disabled
```

show advanced 802.11 summary

To display the 802.11a or 802.11b Cisco lightweight access point name, channel, and transmit level summary, use the **show advanced 802.11 summary** command.

show advanced 802.11 {a | b} summary

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display a summary of the 802.11b access point settings:

```
(Cisco Controller) > show advanced 802.11b summary
AP Name          MAC Address      Admin State  Operation State  Channel
TxPower
-----
CJ-1240          00:21:1b:ea:36:60  ENABLED      UP                161
1 ( )
CJ-1130          00:1f:ca:cf:b6:60  ENABLED      UP                56*
1 (*)
```



Note An asterisk (*) next to a channel number or power level indicates that it is being controlled by the global algorithm settings.

Related Topics

[config advanced 802.11 7920VSIEConfig](#)

[config advanced 802.11 channel add](#), on page 36

show advanced 802.11 txpower

To display the 802.11a or 802.11b automatic transmit power assignment, use the **show advanced 802.11 txpower** command.

show advanced 802.11{ a | b} **txpower**

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the configuration and statistics of the 802.11b transmit power cost:

```
(Cisco Controller) > show advanced 802.11b txpower
Automatic Transmit Power Assignment
  Transmit Power Assignment Mode..... AUTO
  Transmit Power Update Interval..... 600 seconds
  Transmit Power Threshold..... -65 dBm
  Transmit Power Neighbor Count..... 3 APs
  Transmit Power Update Contribution..... SN.
  Transmit Power Assignment Leader..... xx:xx:xx:xx:xx:xx
  Last Run..... 384 seconds ago
```

Related Topics

[config 802.11 txPower](#), on page 33

show advanced dot11-padding

To display the state of over-the-air frame padding on a wireless LAN controller, use the **show advanced dot11-padding** command.

show advanced dot11-padding

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to view the state of over-the-air frame padding:

```
(Cisco Controller) > show advanced dot11-padding
dot11-padding..... Disabled
```

Related Topics

[config advanced dot11-padding](#)

[debug dot11](#), on page 98

show client ccx rm

To display Cisco Client eXtension (CCX) client radio management report information, use the **show client ccx rm** command.

```
show client ccx rm client_MAC {status | {report {chan-load | noise-hist | frame | beacon | pathloss}}}
```

Syntax Description		
	<i>client_MAC</i>	Client MAC address.
	status	Displays the client CCX radio management status information.
	report	Displays the client CCX radio management report.
	chan-load	Displays radio management channel load reports.
	noise-hist	Displays radio management noise histogram reports.
	beacon	Displays radio management beacon load reports.
	frame	Displays radio management frame reports.
	pathloss	Displays radio management path loss reports.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the client radio management status information:

```
(Cisco Controller) >show client ccx rm 00:40:96:15:21:ac status

Client Mac Address..... 00:40:96:15:21:ac
Channel Load Request..... Enabled
Noise Histogram Request..... Enabled
Beacon Request..... Enabled
Frame Request..... Enabled
Interval..... 30
Iteration..... 10
```

The following example shows how to display the client radio management load reports:

```
(Cisco Controller) >show client ccx rm 00:40:96:15:21:ac report chan-load

Channel Load Report
Client Mac Address..... 00:40:96:ae:53:bc
Timestamp..... 788751121
Incapable Flag..... On
Refused Flag..... On
Chan CCA Busy Fraction
-----
```



```
1 194
2 86
3 103
4 0
5 178
6 82
7 103
8 95
9 13
10 222
11 75
```

The following example shows how to display the client radio management noise histogram reports:

```
(Cisco Controller) >show client ccx rm 00:40:96:15:21:ac report noise-hist
```

```
Noise Histogram Report
Client Mac Address..... 00:40:96:15:21:ac
Timestamp..... 4294967295
Incapable Flag..... Off
Refused Flag..... Off
Chan RPI0 RPI1 RPI2 RPI3 RPI4 RPI5 RPI6 RPI7
```

show client location-calibration summary

To display client location calibration summary information, use the **show client location-calibration summary** command.

show client location-calibration summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display the location calibration summary information:

```
(Cisco Controller) >show client location-calibration summary
MAC Address Interval
-----
10:10:10:10:10:10 60
21:21:21:21:21:21 45
```

show wps ap-authentication summary

To display the access point neighbor authentication configuration on the controller, use the **show wps ap-authentication summary** command.

show wps ap-authentication summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display a summary of the Wireless Protection System (WPS) access point neighbor authentication:

```
(Cisco Controller) > show wps ap-authentication summary
AP neighbor authentication is <disabled>.
Authentication alarm threshold is 1.
RF-Network Name: <B1>
```

Related Commands **config wps ap-authentication**

show wps ap-authentication summary