CLI Commands

The Cisco Wireless LAN solution command-line interface (CLI) enables operators to connect an ASCII console to the Cisco Wireless LAN Controller and configure the controller and its associated access points.

show Commands

This section lists the **show** commands to display information about your Radio Resource Management (RRM) configuration settings.

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.
extended	Displays the 802.11a/b radio extended configurations.

Command Default

None.

Examples

This example shows how to display radio extended configurations:

```
> 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.

Examples

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

```
> 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 Commands

config advanced 802.11 channel add

config advanced 802.11 channel cleanair-event

config advanced 802.11 channel dca anchor-time

config advanced 802.11 channel dca chan-width-11n

config advanced 802.11 channel dca interval

config advanced 802.11 channel dca sensitivity

config advanced 802.11 channel foreign

config advanced 802.11 channel load

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.

Examples

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

```
> 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 Commands

config advanced 802.11 coverage

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

show advanced 802.11 coverage

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.

Examples

This example shows how to display Cisco radio RF group settings:

```
> 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 Commands

config advanced 802.11 group-mode

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.
mac_address	MAC address of the client.

Command Default

None.

Examples

This example shows how to display 802.11b Layer 2 client roaming information:

```
> 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
```

Related Commands

config 802.11 l2roam rf-params

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.

Examples

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

```
> 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 Commands

config advanced 802.11 logging channel

config advanced 802.11 logging coverage

config advanced 802.11 logging foreign

config advanced 802.11 logging load

config advanced 802.11 logging noise

config advanced 802.11 logging performance

show advanced 802.11 channel

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.

Examples

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

```
> 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 Commands

config advanced 802.11 monitor load

config advanced 802.11 monitor mode

config advanced 802.11 monitor noise

config advanced 802.11 monitor signal

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.
cisco_ap	Name of a specific Cisco lightweight access point.

Command Default

None.

Examples

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

```
> 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
```

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

```
>  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 Commands

config advanced 802.11 profile clients

config advanced 802.11 profile customize

config advanced 802.11 profile foreign

config advanced 802.11 profile noise

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.

Examples

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

```
> 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
```

Related Commands

config advanced 802.11 profile clients

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.

Examples

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

```
> 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 Commands

config advanced 802.11 7920VSIEConfig

config advanced 802.11 channel add

config advanced 802.11 channel

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.

Examples

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

```
> 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 Commands

config advanced 802.11 txpower-update

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.

Examples

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

```
> show advanced dot11-padding
dot11-padding..................................... Disabled
```

Related Commands

config advanced dot11-padding

debug dot11

debug dot11 mgmt interface

debug dot11 mgmt msg

debug dot11 mgmt ssid

debug dot11 mgmt state-machine

debug dot11 mgmt station

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

client_MAC	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.

Examples

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

```
> 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
```

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

```
> 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
```

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

```
> 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
```

Related Commands

config client ccx default-gw-ping

config client ccx dhcp-test

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.

Examples

This example shows how to display the location calibration summary information:

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

Related Commands

show client summary

show client summary guest-lan

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.

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

```
> 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**

config Commands

This section lists the **config** commands to configure Radio Resource Management (RRM).

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.
cisco_ap	Name of the access point to which the command applies.

Command Default

Disabled.

Examples

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

```
> config 802.11-a
```

Related Commands

show mesh public-safety

config 802.11-a antenna extAntGain

config 802.11-a txpower ap

config 802.11-a channel 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.
ant_gain	Value in .5-dBi units (for instance, 2.5 dBi = 5).
cisco_ap	Name of the access point to which the command applies.
global	Specifies the antenna gain value to all channels.
channel_no	Antenna gain value for a specific channel.

Command Default

Disabled.

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 reenable the 802.11 Cisco radio.

Examples

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

```
> config 802.11-a antenna extAntGain 10 AP1
```

Related Commands

config 802.11-a

config 802.11-a channel ap

config 802.11-a txpower ap

show 802.11a

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.
cisco_ap	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.
channel_no	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

Disabled.

Examples

This example shows how to set the channel properties:

```
> config 802.11-a channel ap
```

Related Commands

config 802.11-a

config 802.11-a antenna extAntGain

config 802.11-a txpower ap

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

Command Default

Disabled.

Examples

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

```
> config 802.11-a txpower ap 4 AP1
```

Related Commands

config 802.11-a

config 802.11 channel ap

config 802.11 antenna extAntGain

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.
cisco_ap	Name of the access point to which the command applies.
band	Configures the radio band.
band	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.

Usage Guidelines

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

Examples

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

```
> config 802.11-abgn cleanair enable AP3600 band 5
```

Related Commands

config 802.11-a49

config 802.11-a58

config 802.11a

config 802.11b

config 802.11h

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	Enables the 802.11g network.
disable	Disables the 802.11g network.

Command Default

Enabled.

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.

Examples

This example shows how to enable the 802.11g network:

```
> 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 Commands

show sysinfo

show 802.11b

config 802.11b enable

config wlan radio

config 802.11b disable

config 802.11a disable

config 802.11a enable

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

Short.

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.

Examples

This example shows how to change the 802.11b preamble to short:

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

Related Commands

show 802.11b

config 802.11h channelswitch

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

config 802.11h channelswitch {**enable** *mode value* | **disable**}

Syntax Description

enable	Enables the 802.11h channel switch announcement.
mode	802.11h channel switch announcement mode.
value	802.11h channel announcement value.
disable	Disables the 802.11h channel switch announcement.

Command Default

None.

Examples

This example shows how to disable the 802.11h switch announcement:

```
> config 802.11h channelswitch disable
```

Related Commands

show 802.11h

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

value	802.11h power constraint value.

Command Default None.

Examples This example shows how to configure the 802.11h power constraint to 5:

```
> config 802.11h powerconstraint 5
```

Related Commands **show 802.11h**

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

cisco_ap	Cisco lightweight access point name.

Command Default

None.

Examples

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

```
> config 802.11h setchannel ap02
```

Related Commands

show 802.11h

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.

Examples

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

```
> config 802.11a 11nsupport enable
```

Related Commands

config 802.11 11nsupport mcs tx

config 802.11 11nsupport a-mpdu tx priority

config 802.11a disable network

config 802.11a disable

config 802.11a channel ap

config 802.11a txpower ap

config 802.11a chan_width

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

By 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.

Examples

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

```
> config 802.11a 11nsupport a-mpdu tx priority all enable
```

Related Commands

config 802.11 11nsupport mcs tx

config 802.11a disable network

config 802.11a disable

config 802.11a channel ap

config 802.11a txpower ap

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.
timeout-value	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.

Examples

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

```
> config 802.11 11nsupport a-mpdu tx scheduler timeout rt 100
```

Related Commands

config 802.11 11nsupport mcs tx

config 802.11a disable network

config 802.11a channel ap

config 802.11a txpower ap

config 802.11a chan_width

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.
cisco_ap	Access point.
A/B/C/D	Specifies an antenna port.
enable	Enables the configuration.
disable	Disables the configuration.

Command Default

None.

Examples

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

```
> config 802.11 11nsupport antenna AP1 C enable
```

Related Commands

config 802.11 11nsupport mcs tx

config 802.11a disable network

config 802.11a disable

config 802.11a channel ap

config 802.11a txpower ap

config 802.11a chan_width

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.

Examples

This example shows how to configure a long guard interval:

```
> config 802.11 11nsupport guard-interval long
```

Related Commands

config 802.11 11nsupport mcs tx
config 802.11a disable network
config 802.11a channel ap
config 802.11a txpower ap
config 802.11a chan_width

config 802.11 11nsupport 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 11nsupport mcs tx** command.

config 802.11{**a** | **b**} **11nsupport mcs tx** {**0-15**} {**enable** | **disable**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
11nsupport	Specifies support for 802.11n devices.
mcs tx	Specifies the modulation and coding scheme data rates as follows: • 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.

Examples

This example shows how to specify MCS rates:

```
> config 802.11a 11nsupport mcs tx 5 enable
```

Related Commands

config 802.11 11nsupport

config wlan wmm required

config 802.11 11nsupport a-mpdu tx priority

config 802.11a disable network

config 802.11a disable

config 802.11a channel ap

config 802.11a txpower ap

config 802.11a chan_width

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.

Examples

This example shows how to enable RIFS:

```
> config 802.11a 11nsupport rifs enable
```

Related Commands

config 802.11 11nsupport mcs tx

config 802.11a disable network

config 802.11a disable

config 802.11a channel ap

config 802.11a txpower ap

config 802.11a chan_width

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.
cisco_ap	Cisco lightweight access point name.

Command Default

None.

Examples

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

```
> config 802.11a antenna diversity enable AP01
```

This 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):

```
> config 802.11a antenna diversity sideA AP01
```

Related Commands

config 802.11 disable

config 802.11 enable

config 802.11 antenna extAntGain

config 802.11 antenna mode

config 802.11 antenna selection

show 802.11a

show 802.11b

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.
antenna_gain	Antenna gain in 0.5 dBm units (for example, 2.5 dBm = 5).
cisco_ap	Cisco lightweight access point name.

Command Default

None.

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.

Examples

This example shows how to configure an *802.11a* external antenna gain of *0.5 dBm* for *AP1*:

```
> config 802.11 antenna extAntGain 1 AP1
```

Related Commands

config 802.11 disable

config 802.11 enable

config 802.11 antenna mode

config 802.11 antenna selection

show 802.11a

show 802.11b

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.
cisco_ap	Cisco lightweight access point name.

Command Default

None.

Examples

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

```
> config 802.11 antenna mode omni AP01
```

Related Commands

config 802.11 disable

config 802.11 enable

config 802.11 antenna extAntGain

config 802.11 antenna diversity

config 802.11 antenna selection

show 802.11a

show 802.11b

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.
cisco_ap	Cisco lightweight access point name.

Command Default

None.

Examples

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

```
> config 802.11a antenna selection internal AP02
```

Related Commands

config 802.11 disable

config 802.11 enable

config 802.11 antenna extAntGain

config 802.11 antenna mode

config 802.11 antenna diversity

show 802.11a

show 802.11b

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.
ap_name	Access point name.
channel	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.

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.

Examples

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

```
> config 802.11a channel global auto
```

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

```
> config 802.11b channel global once
```

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

```
> config 802.11a channel global off
```

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

```
> config 802.11b AP01 channel global
```

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

```
> config 802.11a channel AP01 36
```

Related Commands

show 802.11a

show 802.11a disable

show 802.11a enable

show 802.11b channel

config country

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.
cisco_ap	Name of the Cisco access point.
global	Enables auto-RF on the designated access point.
channel_no	Default channel from 1 to 26, inclusive.

Command Default

None.

Examples

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

```
> config 802.11b channel ap AP01 global
```

Related Commands

show 802.11a

show 802.11a disable

show 802.11a enable

config 802.11b channel

config country

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**}

Syntax Description

a	Configures the 802.11a radio
b	Specifies the 802.11b/g radio.
cisco_ap	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.

Command Default

The default channel width is 20.

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- or 40-MHz mode overrides the globally configured DCA channel width setting (configured by using the **config advanced 802.11 channel dca chan-width-11n** 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.

Examples

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

```
> config 802.11a chan_width AP01 40
```

Related Commands

config 802.11 11nsupport

config wlan wmm required

config 802.11 11nsupport a-mpdu tx priority

config 802.11a disable network

config 802.11a disable

config 802.11a channel ap

config 802.11b disable

config 802.11b channel ap

config 802.11a txpower ap

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.
power_level	(Optional) Manual Transmit power level number for the access point.
ap	Configures the 802.11 transmit power level for a specified lightweight access point.
ap_name	Access point name.

Command Default

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

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.

Examples

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

```
> config 802.11a txPower auto
```

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

```
> config 802.11b txPower global 5
```

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

```
> config 802.11b txPower AP1 global
```

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

```
> config 802.11b txPower AP1 2
```

Related Commands

show ap config 802.11a

config 802.11b txPower

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.
limit	Call admission limit (from 0 to 255). The default value is 105.
quantum	G711 quantum value. The default value is 15.

Command Default

None.

Examples

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

```
> 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.
channel_number	Channel number to add to the 802.11 network auto RF channel list.

Command Default

None.

Examples

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

```
> config advanced 802.11 channel add 132
```

Related Commands

show advanced 802.11a channel

config advanced 802.11b channel update

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.
threshold_value	Number of custom threshold.

Command Default

None.

Examples

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

```
> config advanced 802.11 channel cleanair-event enable
```

This example shows how to set the high sensitivity for CleanAir event-driven RRM:

```
> config advanced 802.11 channel cleanair-event sensitivity high
```

Related Commands

show advanced 802.11a channel

config advanced 802.11b channel update

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.
value	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.

Examples

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

```
> 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

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**}

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.

Command Default

The default channel width is 20.

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.

Examples

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

```
> config advanced 802.11a channel dca chan-width-11n 40
```

Related Commands

config 802.11 chan_width

config advanced 802.11 dca interval

config advanced 802.11 dca sensitivity

show advanced 802.11 channel

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.
value	Valid values are 0, 1, 2, 3, 4, 6, 8, 12, or 24 hours. 0 is 10 minutes (600 seconds).

Command Default

0 (10 minutes).

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.

Examples

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

```
> 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

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.
RSSI_value	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

–95 dBm.

Examples

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

```
> 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

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 dcasensitivity** {**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.

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

Examples

This example shows how to configure the value of DCA algorithm's sensitivity to low:

```
> 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

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

Enabled.

Examples

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

```
> config advanced 802.11a channel foreign enable
```

Related Commands

show advanced 802.11a channel

config advanced 802.11b channel foreign

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

Disabled.

Examples

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

```
> config advanced 802.11 channel load enable
```

Related Commands

show advanced 802.11a channel

config advanced 802.11b channel load

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

Disabled.

Examples

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

```
> config advanced 802.11 channel noise enable
```

Related Commands

show advanced 802.11a channel

config advanced 802.11b channel noise

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

Disabled.

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.

Examples

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

```
> config advanced 802.11a channel outdoor-ap-dca enable
```

Related Commands

show advanced 802.11a channel

config advanced 802.11b channel noise

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

Disabled.

Examples

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

```
> config advanced 802.11 channel pda-prop enable
```

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.

Examples

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

```
> config advanced 802.11a channel update
```

Related Commands

show advanced 802.11a channel

config advanced 802.11b channel update

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

Enabled.

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.

Examples

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

```
> 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

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.
percent	Percentage of clients. Valid values are from 0 to 100%.

Command Default

25%.

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.

Examples

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

```
> 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

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.
percent	Failure rate as a percentage. Valid values are from 1 to 100 percent.

Command Default

20.

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.

Examples

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

```
> 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

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.
clients	Minimum number of clients. Valid values are from 1 to 75.

Command Default

3.

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.

Examples

This 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:

```
> 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

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.
packets	Minimum number of packets. Valid values are from 1 to 255 packets.

Command Default

10.

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.

Examples

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

```
> 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

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.
rssi	Valid values are from –60 to –90 dBm.

Command Default

- Data packets: –80 dBm.
- Voice packets: –75 dBm.

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.

Examples

This 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:

```
> 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

config advanced 802.11 edca-parameters

To enable a specific enhanced distributed channel access (EDCA) profile on the 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**}

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 when 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 when voice services other than Spectralink are deployed on your network.
optimized-video-voice	Enables EDCA voice- 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 (ACM) 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.

Command Default

wmm-default

Examples

This example shows how to enable Spectralink voice priority parameters:

```
> config advanced 802.11 edca-parameters svp-voice
```

Related Commands

show 802.11a

config advanced 802.11b edca-parameters

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.

Examples

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

```
> config advanced 802.11a factory
```

Related Commands

show advanced 802.11a channel

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.
controller	Name of the controller to be added.
controller-ip-address	IP address of the controller to be added.

Command Default

None.

Examples

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

```
> 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

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

Auto.

Examples

This example shows how to turn the 802.11a automatic RF group selection mode on:

```
> config advanced 802.11a group-mode auto
```

This example shows how to turn the 802.11a automatic RF group selection mode off:

```
> config advanced 802.11a group-mode off
```

Related Commands

show advanced 802.11a group

config advanced 802.11 group-member

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

Off (disabled).

Examples

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

```
> config advanced 802.11a logging channel on
```

Related Commands

show advanced 802.11a logging

config advanced 802.11b logging channel

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

Off (disabled).

Examples

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

```
> config advanced 802.11a logging coverage on
```

Related Commands

show advanced 802.11a logging

config advanced 802.11b logging coverage

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

Off (disabled).

Examples

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

```
> config advanced 802.11a logging foreign on
```

Related Commands

show advanced 802.11a logging

config advanced 802.11b logging foreign

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

Off (disabled).

Examples

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

```
> config advanced 802.11 logging load on
```

Related Commands

show advanced 802.11a logging

config advanced 802.11b logging load

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

Off (disabled).

Examples

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

```
> config advanced 802.11a logging noise on
```

Related Commands

show advanced 802.11a logging

config advanced 802.11b logging noise

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

Off (disabled).

Examples

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

```
> config advanced 802.11a logging performance on
```

Related Commands

show advanced 802.11a logging

config advanced 802.11b logging performance

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

Off (disabled).

Examples

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

```
> config advanced 802.11 logging txpower off
```

Related Commands

show advanced 802.11 logging

config advanced 802.11b logging power

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

Country.

Examples

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

```
> config advanced 802.11 monitor channel-list country
```

Related Commands

show advanced 802.11a monitor coverage

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.
seconds	Coverage measurement interval between 60 and 3600 seconds.

Command Default

180 seconds.

Examples

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

```
> config advanced 802.11 monitor coverage 60
```

Related Commands

show advanced 802.11a monitor

config advanced 802.11b monitor coverage

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.
seconds	Load measurement interval between 60 and 3600 seconds.

Command Default

60 seconds.

Examples

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

```
> config advanced 802.11 monitor load 60
```

Related Commands

show advanced 802.11a monitor

config advanced 802.11b monitor load

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

Enabled.

Examples

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

```
> config advanced 802.11a monitor mode enable
```

Related Commands

show advanced 802.11a monitor

config advanced 802.11b monitor mode

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.

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.

Examples

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

```
> 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

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.
seconds	Noise measurement interval between 60 and 3600 seconds.

Command Default

180 seconds.

Examples

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

```
> config advanced 802.11 monitor noise 120
```

Related Commands

show advanced 802.11a monitor

config advanced 802.11b monitor noise

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.
seconds	Signal measurement interval between 60 and 3600 seconds.

Command Default

60 seconds.

Examples

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

```
> config advanced 802.11 monitor signal 120
```

Related Commands

show advanced 802.11a monitor

config advanced 802.11b monitor signal

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.
cisco_ap	Cisco lightweight access point name.
percent	802.11a foreign 802.11a interference threshold between 0 and 100 percent.

Command Default

10.

Examples

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

```
> config advanced 802.11a profile foreign global 50
```

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

```
> config advanced 802.11 profile foreign AP1 0
```

Related Commands

show advanced 802.11a profile

config advanced 802.11b profile foreign

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 network.
b	Specifies the 802.11b/g network.
global	Configures all 802.11a Cisco lightweight access point specific profiles.
cisco_ap	Cisco lightweight access point name.
dBm	802.11a foreign noise threshold between –127 and 0 dBm.

Command Default

–70 dBm.

Examples

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

```
> config advanced 802.11a profile noise global -127
```

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

```
> config advanced 802.11a profile noise AP1 0
```

Related Commands

show advanced 802.11 profile

config advanced 802.11b profile noise

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.
cisco_ap	Cisco lightweight access point name.
value	802.11a Cisco lightweight access point throughput threshold between 1000 and 10000000 bytes per second.

Command Default

1,000,000 bytes per second.

Examples

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

```
> config advanced 802.11 profile throughput global 1000
```

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

```
> config advanced 802.11 profile throughput AP1 10000000
```

Related Commands

show advanced 802.11 profile

config advanced 802.11b profile data-rate

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.
cisco_ap	Cisco lightweight access point name.
percent	802.11a RF utilization threshold between 0 and 100 percent.

Command Default

80 percent.

Examples

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

```
> config advanced 802.11 profile utilization global 0
```

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

```
> config advanced 802.11 profile utilization AP1 100
```

Related Commands

show advanced 802.11a profile

config advanced 802.11b profile utilization

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.
rxstartjumpThreshold	Specifies the receiver start signal.
value	Jump threshold configuration value between 0 and 127.

Command Default

None.

Examples

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

```
> config advanced 802.11 receiver default
```

Related Commands

config advanced 802.11b receiver

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	Specifies the TPC version 1 that offers strong signal coverage and stability.
2	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.

Examples

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

```
> config advanced 802.11a tpc-version 1
```

Related Commands

config advanced 802.11 tpcv1-thresh

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.
threshold	Threshold value between –50 dBm to –80 dBm.

Examples

This example shows how to configure the threshold as –60 dBm for TPC version 1 of the 802.11a radio:

```
> config advanced 802.11 tpcv1-thresh -60
```

Related Commands

config advanced 802.11 tpc-thresh

config advanced 802.11 tpcv2-thresh

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.
intensity	Computational intensity value between 1 to 100.

Examples

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

```
> 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

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.

Examples

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

```
> 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

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.
threshold	Threshold value between –50 dBm to –80 dBm.

Examples

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

```
> 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

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.

Examples

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

```
> config advanced 802.11 txpower-update
```

Related Commands

config advance 802.11b txpower-update

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

Disabled.

Examples

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

```
> 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

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.
mac_address	MAC address of the client.
interval	Measurement interval in seconds.
disable	(Optional) Specifies that client location calibration is disabled.

Command Default

None.

Examples

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

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

Related Commands

show client location-calibration summary

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

name	RF-Network name. The name can contain up to 19 characters.

Command Default None.

Examples This example shows how to set the RF-network name to travelers:

```
> config network rf-network-name travelers
```

Related Commands **show network summary**

Configuring 802.11k and Assisted Roaming

This section lists the commands for configuring, displaying, and debugging 802.11k and assisted roaming settings on the controller.

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

denial-maximum	Configures the maximum number of counts for association denial.
count	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.
RSSI	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.
number_of_APs	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.

Examples

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

```
> config assisted-roaming prediction-minimum 4
```

Related Commands

config wlan assisted-roaming

show assisted-roaming

debug 11k

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

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.
wlan_id	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.

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.

Examples

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

```
> config wlan assisted-roaming neighbor-list enable 1
```

Related Commands

config assisted-roaming

show assisted-roaming

debug 11k

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.

Examples

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

```
> show assisted-roaming
Assisted Roaming and 80211k Information:
Floor RSSI Bias.............................. 15 dBm
Maximum Denial............................... 2 counts
Minimium 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

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.

Examples

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

```
> debug 11k simulation enable
```

Related Commands

config assisted-roaming

config wlan assisted-roaming

show assisted-roaming

debug Commands

This section lists the **debug** commands to manage Radio Resource Management (RRM) settings of the controller.

Caution Debug commands are reserved for use only under the direction of Cisco personnel. Do not use these commands without direction from Cisco-certified staff.

debug airewave-director

To configure the debugging of Airewave Director software, use the **debug airwave-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.

Examples This example shows how to enable the debugging of Airewave Director profile events:

```
> debug airewave-director profile enable
```

Related Commands

debug disable-all

show sysinfo

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.

Examples

This example shows how to enable the debugging of 802.11 settings:

```
> debug dot11 state enable
> debug dot11 mobile enable
```

Related Commands

debug disable-all

debug dot11 mgmt interface

debug dot11 mgmt msg

debug dot11 mgmt ssid

debug dot11 mgmt state-machine

debug dot11 mgmt station