



CHAPTER 2

Cisco Aironet 1100 Series Access Points

This chapter lists the 1100 series lightweight (AIR-LAP1121G) access point IEEE 802.11b (2.4-GHz) and IEEE 802.11g (2.4-GHz) channels and the maximum power levels supported by the world's regulatory domains. For additional product hardware information refer to the *Cisco Aironet 1100 Series Access Point Hardware Installation Guide*.

The following topics are covered in this chapter:

- [Channels, page 2-10](#)
- [Maximum Power Levels, page 2-11](#)
- [Changing the Lightweight Access Point Output Power, page 2-12](#)

Channels

AIR-LAP1121G IEEE 802.11g (2.4-GHz Band)

The channel identifiers, channel center frequencies, and regulatory domains of each IEEE 802.11g 22-MHz-wide channel are shown in [Table 2-2](#).

Table 2-1 Channels for IEEE 802.11g

Channel Identifier	Center Frequency (MHz)	Regulatory Domains					
		Americas (-A)		EMEA (-E)		Japan (-J)	
		CCK	OFDM	CCK	OFDM	CCK	OFDM
1	2412	X	X	X	X	X	X
2	2417	X	X	X	X	X	X
3	2422	X	X	X	X	X	X
4	2427	X	X	X	X	X	X
5	2432	X	X	X	X	X	X
6	2437	X	X	X	X	X	X
7	2442	X	X	X	X	X	X
8	2447	X	X	X	X	X	X
9	2452	X	X	X	X	X	X
10	2457	X	X	X	X	X	X
11	2462	X	X	X	X	X	X
12	2467	–	–	X	X	X	X
13	2472	–	–	X	X	X	X
14	2484	–	–	–	–	X	–



Note

Mexico is included in the Americas (-A) regulatory domain; however, channels 1 through 8 are for indoor use only while channels 9 through 11 can be used indoors and outdoors. Users are responsible for ensuring that the channel set configuration is in compliance with the regulatory standards of Mexico.

Maximum Power Levels

IEEE 802.11b (2.4-GHz Band)

An improper combination of power level and antenna gain can result in equivalent isotropic radiated power (EIRP) above the amount allowed per regulatory domain. [Table 2-2](#) indicates the maximum power levels allowed with the Cisco integrated antenna for each IEEE 802.11b regulatory domain.

Table 2-2 Maximum Power Levels Per Antenna Gain for IEEE 802.11b

Regulatory Domain	Antenna Gain (dBi)	Maximum Power Level (mW)
Americas (-A) (4 watts EIRP maximum)	2.2	100
EMEA (-E) (100 mW EIRP maximum)	2.2	50
Japan (-J) (10 mW/MHz EIRP maximum)	2.2	30

IEEE 802.11g (2.4-GHz Band)

An improper combination of power level and antenna gain can result in equivalent isotropic radiated power (EIRP) above the amount allowed per regulatory domain. [Table 2-3](#) shows the maximum power levels allowed with the Cisco integrated antenna for each IEEE 802.11g regulatory domain.

Table 2-3 Maximum Power Levels Per Antenna Gain for IEEE 802.11g

Regulatory Domain	Antenna Gain (dBi)	Maximum Power Level (mW)	
		CCK	OFDM
Americas (-A) (4 watts EIRP maximum)	2.2	100	30
EMEA (-E) (100 mW EIRP maximum)	2.2	50	30
Japan (-J) (10 mW/MHz EIRP maximum)	2.2	30	30

Changing the Lightweight Access Point Output Power

This section provides instructions for changing the 1100 series lightweight access point output power to comply with the maximum power limits imposed by regulatory domains (see the “[Maximum Power Levels](#)” section on page 2-11). Follow these instructions to change the output power settings using your browser:



Note

Administrator privileges may be required in order to change access point settings.



Note

Regulatory domains are set at the factory and cannot be changed by the user.

The output power on the AIR-LAP1121G-*x*-K9 (where *x* is the regulatory domain) access points can be changed only by using a Cisco wireless LAN controller, the controllers on a Cisco Wireless Services Module (WiSM), or using Cisco Wireless Control System (WCS).



Note

See the *Cisco Wireless LAN Controller Configuration Guide* for more details on how to configure your access point using the web-browser interface.

Follow these steps to change the AIR-LAP1121G-*x*-K9 (where *x* is the regulatory domain) access point’s output power to meet local regulations using a controller:


- Step 1** Open your Internet browser. You must use Microsoft Internet Explorer 6.0.2800 or a later release.
 - Step 2** Enter **https://IP address** (where *IP address* is the controller’s IP address) in the browser address line and press **Enter**. A user login screen appears.
 - Step 3** Enter the username and password and press **Enter**. The controller’s summary page appears.
-  **Note** The username and password are case-sensitive.
- Step 4** Click **Wireless > 802.11b/g Radio** and a list of associated access points appears.
 - Step 5** Choose the desired access point from the displayed list and click **Configure**. The radio settings page appears.
 - Step 6** Scroll down to the Tx Power Level Assignment field, and click **Custom**. Custom indicates that the radio output power is manually controlled by the Tx Power Configuration setting field.
 - Step 7** In the Tx Power Level field, select the appropriate power level setting (1 to 8).

Table 2-4 lists the controller power settings and the corresponding output power levels for this example:

- 2.4-GHz (802.11b/g) operation:
 - EMEA (-E) regulatory domain

Table 2-4 Available Output Power Levels

Controller Tx Power Settings ¹	Radio Output Power	
	802.11b (mW)	802.11g (mW)
1 (maximum) ²	50	30
2	25	15
3	12	8
4	6	4
5	3	2
6	2	1
7	-1	–
8		–

1. The Tx Power Level setting of 1 represents the maximum conducted power setting for the access point. Each subsequent power level (such as 2, 3, 4, etc.) represents an approximate 3-dBm reduction in transmit power from the previous power level.
2. See Table 2-3 for the maximum power levels in the -E regulatory domain.

Step 8 Click **Apply**.

Step 9 Close your Internet browser.

For additional configuration information, refer to the *Cisco Wireless LAN Controller Configuration Guide*.

