



Channels and Antenna Settings

This appendix lists the access point radio channels and the maximum power levels supported by the world's regulatory domains.

The following topics are covered in this appendix:

- [Channels, page A-2](#)
- [Maximum Power Levels and Antenna Gains, page A-5](#)

Channels

IEEE 802.11b (2.4-GHz Band)

The channel identifiers, channel center frequencies, and regulatory domains of each IEEE 802.11b 22-MHz-wide channel are shown in [Table A-1](#).

Table A-1 Channels for IEEE 802.11b

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

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 A-2](#).

Table A-2 Channels for IEEE 802.11g

Channel Identifier	Center Frequency (MHz)	Regulatory Domains							
		Americas (–A)		EMEA (–E)		Israel (–I)		Japan (–J)	
		CCK	OFDM	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	X	X
6	2437	X	X	X	X	X	X	X	X
7	2442	X	X	X	X	X	X	X	X
8	2447	X	X	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	–

IEEE 802.11a (5-GHz Band)

The channel identifiers, channel center frequencies, and regulatory domains of each IEEE 802.11a 20-MHz-wide channel are shown in [Table A-3](#).

Table A-3 5-GHz Radio Band

Channel Identifier	Center Frequency (MHz)	Regulatory Domains				
		North America (–A)	Taiwan (–T)	ETSI	Singapore (–S)	Japan (–J)
34	5170	–	–	–	–	X
36	5180	X	–	X	X	–
38	5190	–	–	–	–	X
40	5200	X	–	X	X	–
42	5210	–	–	–	–	X
44	5220	X	–	X	X	–
46	5230	–	–	–	–	X

Table A-3 5-GHz Radio Band (continued)

Channel Identifier	Center Frequency (MHz)	Regulatory Domains				
		North America (-A)	Taiwan (-T)	ETSI	Singapore (-S)	Japan (-J)
48	5240	X	–	X	X	–
52	5260	X	X	X	–	–
56	5280	X	X	X	–	–
60	5300	X	X	X	–	–
64	5320	X	X	X	–	–
100	5500	–	–	X	–	–
104	5520	–	–	X	–	–
108	5540	–	–	X	–	–
112	5560	–	–	X	–	–
116	5580	–	–	X	–	–
120	5600	–	–	X	–	–
124	5620	–	–	X	–	–
128	5640	–	–	X	–	–
132	5660	–	–	X	–	–
136	5680	–	–	X	–	–
140	5700	–	–	X	–	–
149	5745	–	–	–	–	–
153	5765	–	–	–	–	–
157	5785	–	–	–	–	–
161	5805	–	–	–	–	–

**Note**

All channel sets are restricted to indoor usage except the Americas (–A), which allows for indoor and outdoor use on channels 52 through 64 in the United States.

Maximum Power Levels and Antenna Gains

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 A-4](#) indicates the maximum power levels and antenna gains allowed for each IEEE 802.11b regulatory domain.

Table A-4 Maximum Power Levels Per Antenna Gain for IEEE 802.11b

Regulatory Domain	Antenna Gain (dBi)	Maximum Power Level (mW)
Americas (-A) (4W EIRP maximum)	2.2	100
	5.2	100
	6	100
	8.5	100
	12	100
	13.5	100
EMEA (-E) (100 mW EIRP maximum)	2.2	50
	5.2	30
	6	30
	8.5	5
	12	5
	13.5	5
Japan (-J) (10 mW/MHz EIRP maximum)	2.2	30
	5.2	30
	6	30
	8.5	n/a
	12	n/a
	13.5	5
Israel (-I) (100 mW EIRP maximum)	2.2	50
	5.2	30
	6	30
	8.5	5
	12	5
	13.5	5

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 A-5](#) indicates the maximum power levels and antenna gains allowed for each IEEE 802.11g regulatory domain.

Table A-5 Maximum Power Levels Per Antenna Gain for IEEE 802.11g

Regulatory Domain	Antenna Gain (dBi)	Maximum Power Level (mW)	
		CCK	OFDM
Americas (–A) (4W EIRP maximum)	2.2	100	30
	5.2	100	30
	6	100	30
	8.5	100	30
	10	100	30
EMEA (–E) (100 mW EIRP maximum)	2.2	50	30
	5.2	30	10
	6	30	10
	8.5	10	5
	10	10	5
Japan (–J) (10 mW/MHz EIRP maximum)	2.2	30	30
	5.2	30	30
	6	30	30
	8.5	n/a	n/a
	10	n/a	n/a
Israel (–I) (100 mW EIRP maximum)	2.2	50	30
	5.2	30	10
	6	30	10
	8.5	10	5
	10	10	5

IEEE 802.11a (5-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 A-6](#) indicates the maximum power levels allowed with the Cisco integrated antenna for each IEEE 802.11a regulatory domain.

Table A-6 Maximum Power Levels Per Antenna Gain for IEEE 802.11a

Regulatory Domain	Maximum Power Level (mW) with 6-dBi Antenna Gain
Americas (-A) (160 mW EIRP maximum on channels 36-48, 800 mW EIRP maximum on channels 52-64)	40
Japan (-J) (10 mW/MHz EIRP maximum)	40
Singapore (-S) (100 mW EIRP maximum)	20
Taiwan (-T) (800 mW EIRP maximum)	40

