



## Channels and Antenna Settings

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This appendix lists the IEEE 802.11a (5-GHz) and IEEE 802.11b (2.4-GHz) channels, maximum power levels, and antenna gains supported by the world's regulatory domains.

The following topics are covered in this appendix:

- [Channels, page D-2](#)
- [Maximum Power Levels and Antenna Gains, page D-4](#)

# Channels

## IEEE 802.11b (2.4 GHz Band)

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

*Table D-1 Channels for IEEE 802.11b*

Channel Identifier	Center Frequency	Regulatory Domains				
		Americas (-A)	EMEA (-E)	Japan (-J)	Israel (-I)	China (-C)
1	2412 MHz	X	X	X	-	X
2	2417 MHz	X	X	X	-	X
3	2422 MHz	X	X	X	X	X
4	2427 MHz	X	X	X	X	X
5	2432 MHz	X	X	X	X	X
6	2437 MHz	X	X	X	X	X
7	2442 MHz	X	X	X	X	X
8	2447 MHz	X	X	X	X	X
9	2452 MHz	X	X	X	X	X
10	2457 MHz	X	X	X	-	X
11	2462 MHz	X	X	X	-	X
12	2467 MHz	-	X	X	-	-
13	2472 MHz	-	X	X	-	-
14	2484 MHz	-	-	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 13 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 802.11a (5-GHz Band)

The channel identifiers, channel center frequencies, and regulatory domains of each 20-MHz-wide channel are shown in [Table D-2](#).

*Table D-2 Channels for IEEE 802.11a*

Channel Identifier	Center Frequency (MHz)	Regulatory Domains			
		Americas (-A)	Japan (-J)	Singapore (-S)	Taiwan (-T)
34	5170	-	X	-	-
36	5180	X	-	X	-
38	5190	-	X	-	-
40	5200	X	-	X	-
42	5210	-	X	-	-
44	5220	X	-	X	-
46	5230	-	X	-	-
48	5240	X	-	X	-
52	5260	X	-	-	X
56	5280	X	-	-	X
60	5300	X	-	-	X
64	5320	X	-	-	X

All channel sets are restricted to indoor usage, except the Americas (-A) allows for indoor and outdoor use on channels 52-64.

# 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 D-3](#) indicates the maximum power levels and antenna gains allowed for each regulatory domain.

*Table D-3 Maximum Power Levels Per Antenna Gain for IEEE 801.11b*

Regulatory Domain	Antenna Gain (dBi)	Maximum Power Level (mW)
Americas (-A) (4 watts EIRP maximum)	0	100
	2.2	100
	5.2	100
	6	100
	8.5	100
	12	100
	13.5	100
	21	20
EMEA (-E) (100 mW EIRP maximum)	0	100
	2.2	50
	5.2	30
	6	30
	8.5	5
	12	5
	13.5	5
	21	1
Japan (-J) (10 mW/MHz EIRP maximum)	0	50
	2.2	30
	5.2	30
	6	30
	8.5	n/a
	12	n/a
	13.5	5
	21	n/a

*Table D-3 Maximum Power Levels Per Antenna Gain for IEEE 801.11b (continued)*

Regulatory Domain	Antenna Gain (dBi)	Maximum Power Level (mW)
Israel (-I) (100 mW EIRP maximum)	0	100
	2.2	50
	5.2	30
	6	30
	8.5	5
	12	5
	13.5	5
	21	1

## 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 D-4](#) indicates the maximum power levels allowed with the Cisco integrated antenna for each regulatory domain.

*Table D-4 Maximum Power Levels Per Antenna Gain for IEEE 802.11a*

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

