



## Channels, Power Levels, and Antenna Gains

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This appendix lists the IEEE 802.11a, b, and g channels supported by the world's regulatory domains as well as the maximum power levels and antenna gains allowed per data rate.

The following topics are covered in this appendix:

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

# Channels

## IEEE 802.11a

The channel identifiers, channel center frequencies, and regulatory domains of each IEEE 802.11a 20-MHz-wide channel are shown in [Table D-1](#).

**Table D-1** Channels for IEEE 802.11a

Channel Identifier	Frequency (in MHz)	Regulatory Domains				
		America (-A)	EMEA (-E)	Japan (-J)	Japan (-P)	Rest of World (-W)
34	5170	—	—	X	X	—
36	5180	X	X	—	X	X
38	5190	—	—	X	X	—
40	5200	X	X	—	X	X
42	5210	—	—	X	X	—
44	5220	X	X	—	X	X
46	5230	—	—	X	X	—
48	5240	X	X	—	X	X
52	5260	X	X	—	X	X
56	5280	X	X	—	X	X
60	5300	X	X	—	X	X
64	5320	X	X	—	X	X
100	5500	—	X	—	—	X
104	5520	—	X	—	—	X
108	5540	—	X	—	—	X
112	5560	—	X	—	—	X
116	5580	—	X	—	—	X
120	5600	—	X	—	—	X
124	5620	—	X	—	—	X
128	5640	—	X	—	—	X
132	5660	—	X	—	—	X
136	5680	—	X	—	—	X
140	5700	—	X	—	—	X
149	5745	X	—	—	—	X
153	5765	X	—	—	—	X
157	5785	X	—	—	—	X
161	5805	X	—	—	—	X



**Note** All channel sets are restricted to indoor usage except America (-A), which allows for indoor and outdoor use on channels 52 through 161 in the United States.



**Note** The Japan (-J) channels apply only to AIR-CB21AG-J-K9 and AIR-PI21AG-J-K9 client adapters, and the Japan (-P) channels apply only to AIR-CB21AG-P-K9 and AIR-PI21AG-P-K9 client adapters.

## IEEE 802.11b/g

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

**Table D-2** Channels for IEEE 802.11b/g

Channel Identifier	Frequency (in MHz)	Regulatory Domains			
		America (-A)	EMEA (-E)	Japan (-J)	Rest of World (-W)
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
6	2437	X	X	X	X
7	2442	X	X	X	X
8	2447	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	X
13	2472	–	X	X	X
14	2484	–	–	X	–



**Note** Mexico is included in the Rest of World 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.



**Note** In Japan, channel 14 is not supported for 802.11g mode.

# Maximum Power Levels and Antenna Gains

## IEEE 802.11a

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 EIRP supported for all regulatory domains for each 5 GHz IEEE 802.11a data rate.

**Table D-3** Maximum EIRP for IEEE 802.11a

Data Rate	Maximum EIRP for PC-Cardbus Card with 0-dBi Antenna Gain and PCI Card with 1-dBi Antenna Gain	
	mW	dBm
6 Mbps	40	16
9 Mbps	40	16
12 Mbps	40	16
18 Mbps	40	16
24 Mbps	40	16
36 Mbps	25.1	14
48 Mbps	20	13
54 Mbps	20	13

## IEEE 802.11b

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 EIRP supported for all regulatory domains for each 2.4 GHz IEEE 802.11b data rate.

**Table D-4** Maximum EIRP for IEEE 802.11b

Data Rate	Maximum EIRP for PC-Cardbus Card with 0-dBi Antenna Gain and PCI Card with 1-dBi Antenna Gain	
	mW	dBm
1 Mbps	100	20
2 Mbps	100	20
5.5 Mbps	100	20
11 Mbps	100	20

## IEEE 802.11g

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-5](#) indicates the maximum EIRP supported for all regulatory domains for each 2.4 GHz IEEE 802.11g data rate.

**Table D-5** Maximum EIRP for IEEE 802.11g

Data Rate	Maximum EIRP for PC-Cardbus Card with 0-dBi Antenna Gain and PCI Card with 1-dBi Antenna Gain	
	mW	dBm
6 Mbps	50	17
9 Mbps	50	17
12 Mbps	50	17
18 Mbps	50	17
24 Mbps	50	17
36 Mbps	40	16
48 Mbps	31.6	15
54 Mbps	20	13

