



Channels, Power Levels, and Antenna Gains

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

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 | | | |
|--------------------|--------------------|--------------------|------------|----------------|-------------|
| | | 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 |
| 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.

IEEE 802.11b

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

Table D-2 Channels for IEEE 802.11b

| Channel Identifier | Frequency (in MHz) | Regulatory Domains | | | |
|--------------------|--------------------|--------------------|-----------|-------------|------------|
| | | Americas (-A) | EMEA (-E) | Israel (-I) | Japan (-J) |
| 1 | 2412 | X | X | – | X |
| 2 | 2417 | X | X | – | X |
| 3 | 2422 | X | X | – | X |
| 4 | 2427 | 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 |
| 10 | 2457 | X | X | – | X |
| 11 | 2462 | X | X | – | X |
| 12 | 2467 | – | X | – | X |
| 13 | 2472 | – | X | – | X |
| 14 | 2484 | – | – | – | X |



Note

Mexico is included in the Americas 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 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 power levels and antenna gains allowed for each IEEE 802.11a regulatory domain.

Table D-3 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 34-48, 800 mW EIRP maximum on channels 52-64) | 20 |
| Japan (-J) (10 mW/MHz EIRP maximum) | 20 |
| Singapore (-S) (100 mW EIRP maximum) | 20 |
| Taiwan (-T) (800 mW EIRP maximum) | 20 |

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 power levels and antenna gains allowed for each IEEE 802.11b regulatory domain.

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

| Regulatory Domain | Antenna Gain (dBi) | Maximum Power Level (mW) |
|-------------------------------------|--------------------|--------------------------|
| Americas (-A) (4 W EIRP maximum) | 0 | 100 |
| | 2.2 | 100 |
| | 5.2 | 100 |
| | 6 | 100 |
| | 8.5 | 100 |
| | 12 | 100 |
| | 13.5 | 100 |
| | 21 | 20 |

Table D-4 Maximum Power Levels Per Antenna Gain for IEEE 802.11b (continued)

| Regulatory Domain | Antenna Gain (dBi) | Maximum Power Level (mW) |
|--|--------------------|--------------------------|
| 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 |
| 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 |
| 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 |

