



AFC Support for 6 GHz Standard Power Mode

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AFC Support for 6 GHz Standard Power Mode

The Cisco Catalyst IW91671 supports the Automated Frequency Coordination (AFC) 6 GHz Standard Power mode. A standard power AP joins the system. Before enabling standard power, the AP must get the available frequencies and the power in each frequency range from the AFC system.

The AFC system computes the available frequencies and maximum allowable power based on the information provided by the regulatory body (FCC for United States). The response is sent back to controller, which may assign a standard power channel to the AP based on the allowed channel list returned by the AFC system.

Standard Power AP coordinate through an AFC service. The AFC accesses information and, along with the AP's geographical location and antenna characteristics, creates a topographical propagation map modeling the AP's interference radius. This map allows you to assign maximum transmission power and coordinate/configure the channel settings to avoid interference.

The IW91671 is compatible with Self Identifiable Antenna (SIA) antennas for the 6 GHz band.



Note A power cycle is mandatory after the first installation of the SIA antenna.

Table 1: Radio 6 GHz power mode support

| Deployment Mode | Low-power Indoor Support | Standard Power Support |
|-----------------|--------------------------|------------------------|
| Outdoor | Yes | Yes |

The transmission power is limited to a maximum of 36 dB Effective Isotropic Radiated Power (EIRP), and APs must be coordinated through an AFC service. The APs are allowed to operate in the UNII-5 (5.925-6.425 GHz) and UNII-7 (6.525-7.125 GHz) in the U.S.

Table 2: 6 GHz Target Power

| Conductor Per Path Power | | Antenna Gain | Tx x Rx Chains | Max EIRP | Max EIRP (SP/AFC) |
|--------------------------|--------|--------------|----------------|----------|-------------------|
| 20-80Mhz | 160Mhz | | | | |
| 10 dBm | 10 dBm | 5 dBi | 4x4 | 21 dBm | 36 dBm |

Verifying AFC Status on AP

To verify the AFC request and response data on AP, run the **show rrm afc** command.

```
Device#show rrm afc
Location Type: 1
Deployment Type: 2
Height: 129
Uncertainty: 5
Height Type: 0
Request Status: 5
Request Status Timestamp: 2023-08-31T06:20:17Z
Request Id Sent: 5546388983266789933
Ellipse 1: longitude: -121.935066 latitude: 37.512830 major axis: 43 minor axis:
 9 orientation: 36.818100
AFC Response Request ID: 5546388983266789933
AFC Response Ruleset ID: US_47_CFR_PART_15_SUBPART_E
```

To verify the current operating power mode, run the **show controllers dot11Radio 2 | i Radio** command.

```
Device#show controllers dot11Radio 2 | i Radio
Dot11Radio2      Link encap:Ethernet  HWaddr 24:16:1B:F8:06:C0
Radio Info Summary:
Radio: 6.0GHz (SP)
```