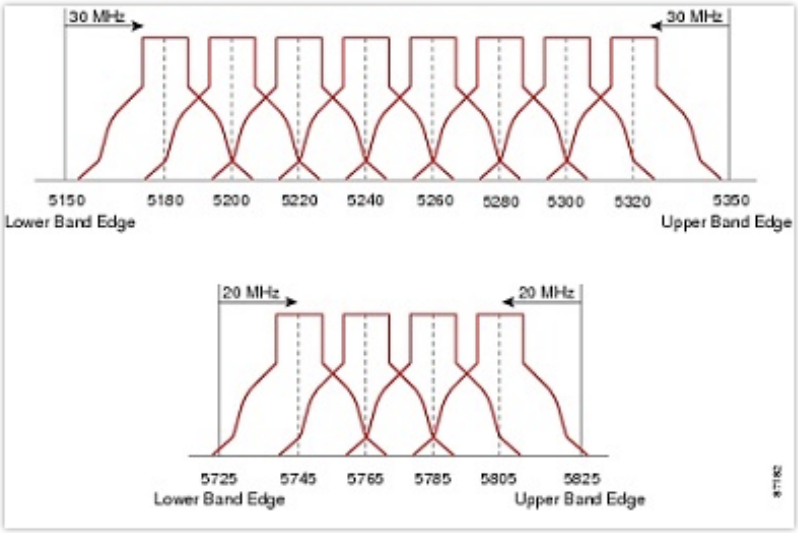
5GHz

The 802.11 standard defines 23 20MHz wide channels in the 5GHz spectrum. Each channel is spaced 20MHz apart and separated into three Unlicensed National Information Infrastructure (UNII) bands. Wireless devices specified as 802.11a/n/ac are capable of operating within these bands. In the United States, UNII-1 (5.150 to 5.250 GHz) containing channels 36, 40, 44, and 48 and UNII-3 (5.725-5.825) containing channels 149, 153, 157, 161 are permitted. UNII-2 (5.250-5.350 GHz and 5.470-5.725GHz) which contains channels 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, and 140 are not permitted in the United States. This UNII-2 band is also shared with radar systems. APs operating on UNII-2 channels are required to use Dynamic Frequency Selection (DFS) to avoid interfering with radar signals. If an AP detects a radar signal, it must immediately stop using that channel and randomly pick a new channel. In the United States, even without the use of the UNII-2 band, 5GHz is well suited for high density deployments due to its greater number of non-overlaping channels. Below is a diagram showing the U.S. 5GHz channel plan.

U.S. 5 GHz Channel Plan



Service Provider Wi-Fi, Challenges of Unlicensed Wi-Fi Deployments,

A Practical Guide for Cable Operators, Courtesy of Cisco Systems Inc.

Note: 802.11n devices can operate on either band and are backwards compatible with older 802.11 standards.