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every time and spectrum window during the frame period defined for the device.

(f) The frequency stability of the carrier frequency of the intentional radiator shall be maintained within ±10 ppm over 1 hour or the interval between channel access monitoring, whichever is shorter. The frequency stability shall be maintained over a temperature variation of −20° to +50 °C at normal supply voltage, and over a variation in the primary supply voltage of 85 percent to 115 percent of the rated supply voltage at a temperature of 20 °C. For equipment that is capable only of operating from a battery, the frequency stability tests shall be performed using a new battery without any further requirement to vary supply voltage.

Subpart E—Unlicensed National Information Infrastructure Devices

§ 15.401 Scope.

This subpart sets out the regulations for unlicensed National Information Infrastructure (U-NII) devices operating in the 5.15–5.35 GHz, 5.47–5.725 GHz and 5.725–5.85 GHz bands.

§ 15.403 Definitions.

(a) Access Point (AP). A U-NII transceiver that operates either as a bridge in a peer-to-peer connection or as a connector between the wired and wireless segments of the network.

(b) Available Channel. A radio channel on which a Channel Availability Check has not identified the presence of a radar.

(c) Average Symbol Envelope Power. The average symbol envelope power is the average, taken over all symbols in the signaling alphabet, of the envelope power for each symbol.

(d) Channel Availability Check. A check during which the U-NII device listens on a particular radio channel to identify whether there is a radar operating on that radio channel.

(e) Channel Move Time. The time needed by a U-NII device to cease all transmissions on the current channel upon detection of a radar signal above the DFS detection threshold.

(f) Digital modulation. The process by which the characteristics of a carrier wave are varied among a set of predetermined discrete values in accordance with a digital modulating function as specified in document ANSI C63.17–1998.

(g) Dynamic Frequency Selection (DFS) is a mechanism that dynamically detects signals from other systems and avoids co-channel operation with these systems, notably radar systems.

(h) DFS Detection Threshold. The required detection level defined by detecting a received signal strength (RSS) that is greater than a threshold specified, within the U-NII device channel bandwidth.

(i) Emission bandwidth. For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

(j) In-Service Monitoring. A mechanism to check a channel in use by the U-NII device for the presence of a radar.

(k) Non-Occupancy Period. The required period in which, once a channel has been recognized as containing a radar signal by a U-NII device, the channel will not be selected as an available channel.

(l) Operating Channel. Once a U-NII device starts to operate on an Available Channel then that channel becomes the Operating Channel.

(m) Maximum Power Spectral Density. The maximum power spectral density is the maximum power spectral density, within the specified measurement...
§ 15.405  Cross reference.

(a) The provisions of subparts A, B, and C of this part apply to unlicensed U-NII devices, except where specific provisions are contained in subpart E. Manufacturers should note that this includes the provisions of §§15.203 and 15.205.

(b) The requirements of subpart E apply only to the radio transmitter contained in the U-NII device. Other aspects of the operation of a U-NII device may be subject to requirements contained elsewhere in this chapter. In particular, a U-NII device that includes digital circuitry not directly associated with the radio transmitter also is subject to the requirements for unintentional radiators in subpart B.

[63 FR 40835, July 31, 1998]

§ 15.407  General technical requirements.

(a) Power limits:

(i) For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(iii) For fixed point-to-point access points operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.