AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

High VHF Channels			
152.24	152.84	158.10	158.70
UHF Channels			
931.0125	931.2625	931.5125	931.7625
931.0375	931.2875	931.5375	931.7875
931.0625	931.3125	931.5625	931.8125
931.0875	931.3375	931.5875	931.8375
931.1125	931.3625	931.6125	931.8625
931.1375	931.3875	931.6375	931.8875
931.1625	931.4125	931.6625	931.9125
931.1875	931.4375	931.6875	931.9375
931.2125	931.4625	931.7125	931.9625
931.2375	931.4875	931.7375	931.9875

(a)–(b) [Reserved]

(c) Upon application using FCC Form 601, common carriers may be authorized to provide one-way paging service using the leased subcarrier facilities of broadcast stations licensed under part 73 of this chapter.

(d) Occasionally in case law and other formal and informal documents, the low VHF channels have been referred to as ''lowband'' channels, and the high VHF channels have been referred to as ''guardband'' channels.

(e) Pursuant to the U.S.-Canada Interim Coordination Considerations for 929–932 MHz, as amended, only the following UHF channels may be assigned in the continental United States North of Line A or in the State of Alaska East of Line C, within the indicated longitudes:

(1) From longitude W.73° to longitude W.75° and from longitude W.78° to longitude W.81°:

931.0125	931.1125	931.1875	931.2625
931.0375	931.1375	931.2125	931.8625
931.0625	931.1625	931.2375	

(2) From longitude W.81° to longitude W.85°:

931.0125	931.2125	931.3875	931.5875
931.0375	931.2375	931.4125	931.6125
931.0625	931.2625	931.4625	931.6375
931.1125	931.2875	931.4875	931.8625
931.1375	931.3125	931.5125	
931.1625	931.3375	931.5375	
931.1875	931.3625	931.5625	

(3) Longitudes other than specified in paragraphs (e)(1) and (e)(2) of this section:

931.0125	931.1625	931.2875	931.4125
931.0375	931.1875	931.3125	931.4625
931.0625	931.2125	931.3375	931.8625
931.1125	931.2375	931.3625	
931.1375	931.2625	931.3875	

(4) At any longitude, with authorization condition requiring coordinated, shared use and equal access by licensees in both countries:

931.4375	931.8875	931.9125	931.9375

(f) For the purpose of issuing paging geographic authorizations, the paging geographic areas used for UHF channels are the MEAs, and the paging geographic areas used for the low and high VHF channels are the EAs (see § 22.503(b)).

[59 FR 59507, Nov. 17, 1994, as amended at 59 FR 59954, Nov. 21, 1994; 62 FR 11635, Mar. 12, 1997; 63 FR 68945, Dec. 14, 1998; 64 FR 33784, June 24, 1999; 70 FR 19309, Apr. 13, 2005]

§ 22.535 Effective radiated power limits.

The effective radiated power (ERP) of transmitters operating on the channels listed in § 22.531 must not exceed the limits in this section.

(a) *Maximum ERP.* The ERP must not exceed the applicable limits in this paragraph under any circumstances.

Frequency range (MHz)	Maximum ERP (Watts)
35–36	600
43–44	500
152–159	1400
931–932	3500

(b) *Basic power limit.* Except as provided in paragraph (d) of this section, the ERP of transmitters on the VHF channels must not exceed 500 Watts.

(c) *Height-power limit.* Except as provided in paragraph (d) of this section, the ERP of transmitters on the VHF channels must not exceed the amount that would result in an average distance to the service contour of 32.2 kilometers (20 miles). The average distance to the service contour is calculated by taking the arithmetic mean of the distances determined using the procedures specified in § 22.537 for the eight cardinal radial directions, excluding cardinal radial directions for which 90% or more of the distance so calculated is over water.

(d) *Encompassed interfering contour areas.* Transmitters are exempt from the basic power and height-power limits of this section if the area within their interfering contours is totally encompassed by the interfering contours of operating co-channel base transmitters controlled by the same licensee.

For the purpose of this paragraph, operating transmitters are authorized transmitters that are providing service to subscribers.

(e) *Adjacent channel protection.* The ERP of transmitters must not exceed 500 Watts if they:

(1) Transmit on a channel in the 152–159 MHz frequency range and are located less than 5 kilometers (3.1 miles) from any station licensed in the Private Radio Services that receives on an adjacent channel; or,

(2) Transmit on channel 158.10 or 158.70 MHz and are located less than 5 kilometers (3.1 miles) from any station licensed in the Public Mobile Services that receives on either of the following adjacent channels: 158.07 MHz or 158.67 MHz.

(f) *Signal boosters.* The effective radiated power of signal boosters must not exceed 5 watts ERP under any normal operating condition.

[59 FR 59507, Nov. 17, 1994, as amended at 61 FR 31051, June 19, 1996]

§ 22.537 Technical channel assignment criteria.

The rules in this section establish technical assignment criteria for the channels listed in § 22.531. These criteria permit channel assignments to be made in a manner such that reception by public paging receivers of signals from base transmitters, within the service area of such base transmitters, is protected from interference caused by the operation of independent co-channel base transmitters.

(a) *Contour overlap.* The FCC may grant an application requesting assignment of a channel to a proposed base transmitter only if:

(1) The interfering contour of the proposed transmitter does not overlap the service contour of any protected co-channel transmitter controlled by a carrier other than the applicant, unless that carrier has agreed in writing to accept any interference that may result from operation of the proposed transmitter; and,

(2) The service contour of the proposed transmitter does not overlap the interfering contour of any protected co-channel transmitter controlled by a carrier other than the applicant, unless the applicant agrees to accept any interference that may result from operation of the protected co-channel transmitter; and,

(3) The area and/or population to which service would be provided by the proposed transmitter is substantial, and service gained would exceed that lost as a result of agreements to accept interference.

(b) *Protected transmitter.* For the purposes of this section, protected transmitters are authorized transmitters for which there is a current FCC public record and transmitters proposed in prior-filed pending applications.

(c) *VHF service contour.* For paging stations transmitting on the VHF channels, the distance from the transmitting antenna to the service contour along each cardinal radial is calculated as follows:

$$d=1.243\times h^{0.40}\times p^{0.20}$$

where d is the radial distance in kilometers
h is the radial antenna HAAT in meters
p is the radial ERP in Watts

(1) Whenever the actual HAAT is less than 30 meters (98 feet), 30 must be used as the value for h in the above formula.

(2) The value used for p in the above formula must not be less than 27 dB less than the maximum ERP in any direction or 0.1 Watt, whichever is more.

(3) The distance from the transmitting antenna to the service contour along any radial other than the eight cardinal radials is routinely calculated by linear interpolation of distance as a function of angle. However, in resolving petitions to deny, the FCC may calculate the distance to the service contour using the formula in paragraph (c) of this section with actual HAAT and ERP data for the inter-station radial and additional radials above and below the inter-station radial at 2.5° intervals.

(d) *VHF interfering contour.* For paging stations transmitting on the VHF channels, the distance from the transmitting antenna to the interfering contour along each cardinal radial is calculated as follows:

$$d=6.509\times h^{0.28}\times p^{0.17}$$

where d is the radial distance in kilometers
h is the radial antenna HAAT in meters
p is the radial ERP in Watts