

Federal Communications Commission

§ 80.759

§ 80.711 Use of U.S. Government frequencies.

Alaska-public fixed stations may be authorized to use frequencies assigned to U.S. Government radio stations for communications with Government stations or for coordination of Government activities.

Subpart P—Standards for Computing Public Coast Station VHF Coverage

§ 80.751 Scope.

This subpart specifies receiver antenna terminal requirements in terms of power, and relates the power available at the receiver antenna terminals to transmitter power and antenna height and gain. It also sets forth the co-channel interference protection that VHF public coast station geographic area licensees must provide to incumbents and to other VHF public coast station geographic area licensees.

[64 FR 26887, May 18, 1999]

§ 80.753 Signal strength requirements at the service area contour.

(a) The requirements for reception by a marine VHF shipboard receiver are satisfied if the field strength from the coast station, calculated in accordance with § 80.771 is at least +17 dBu above one microvolt.

(b) These field strengths, voltages and powers at the receiver input are equivalent:

- (1) -132 dBW (decibels referred to 1 watt).
- (2) 1.8 microvolts across 50 ohms.
- (3) +17 dBu (decibels referred to 1 microvolt per meter).
- (4) 7 microvolts per meter.

§ 80.755 Applicability.

Applications for maritime frequencies in the 156-162 MHz band must include a map showing the proposed service area contour. The service area contour must be computed in accordance with the following procedures.

§ 80.757 Topographical data.

(a) In the preparation of profile graphs and in determining the location and height above sea level of the antenna site, the elevations or contour

intervals must be taken from U.S. Geological Survey topographic quadrangle maps, U.S. Army Corps of Engineers maps or Tennessee Valley Authority maps, whichever is the latest, for all areas for which maps are available. If such maps are not published for the area in question, the next best topographic information must be used. The maps used must include the principal area to be served. U.S. Geological Survey topographic quadrangle maps may be obtained from the Eastern Distribution Branch, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202, for maps of areas east of the Mississippi River, including Minnesota, Puerto Rico, and the Virgin Islands, and from the Western Distribution Branch, U.S. Geological Survey, Federal Center, Denver CO 80225, for maps of areas west of the Mississippi River, including Alaska, Hawaii, Louisiana, Guam and American Samoa. Sectional aeronautical charts are available from the Distribution Division, National Ocean Service, Riverdale, MD 20840.

(b) In lieu of maps, the average terrain elevation may be computer generated, using elevations from a 30 second point or better topographic data file such as those available for the U.S. Geological Survey's National Geographic Information Center or the National Oceanic and Atmospheric Administration's National Geophysical Data Center. In case of dispute maps will be used to determine the correct value.

§ 80.759 Average terrain elevation.

(a)(1) Draw radials from the antenna site for each 45 degrees of azimuth starting with true north. Any such radial which extends entirely over land from the antenna site to the point of +17 dBu field strength need not be drawn.

(2) If the distance from the antenna site to the point of +17 dBu field strength between any of the 45 degree radials would be less than the distances calculated along these radials, an additional radial between such adjacent radials must be plotted and calculations made in each case. Each additional radial must be that radial along which it appears by inspection that transmission loss would be greatest.

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(b) Draw a circle of 16 km (10 statute mile) radius using the antenna site as the center. Divide each radial into 320 meter (0.2 statute mile) increments inside the circumference to the 3.2 km (2 statute mile) point.

(c) Calculate the height above sea level of each 320 meter (0.2 statute mile) division by interpolating the contour intervals of the map, and record the value.

(d) Average the values by adding them and dividing by the number of readings along each radial.

(e) Calculate the height above average terrain by averaging the values calculated for each radial.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

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§ 80.761 Conversion graphs.

The following graphs must be employed where conversion from one to the other of the indicated types of units is required.

(a) *Graph 1.* To convert effective radiated power in watts to dBk or to dBW, find the power in watts on the horizontal axis. Move vertically along the line representing the power to the diagonal line. Move horizontally from the diagonal to the right side to read dBW and to the left to read dBk.

(b) *Graph 2.* To convert microvolts across 50 ohms to received power in dBW, find the signal in microvolts on the horizontal axis. Move vertically to the diagonal line, then move right horizontally to read dBW.