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 degrees 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.

(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]

§ 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.

EFFECTIVE RADIATED POWER (ERP)

Translation: ERP to dBk   0 dBk = 1,000 Watts
            ERP to dBW   0 dBW = 1   Watt

ERP – Watts

RECEIVED POWER

Translation: dBW to uv/50 Ohms
uv/50 Ohms to dBW

0 dBW = 1 Watt
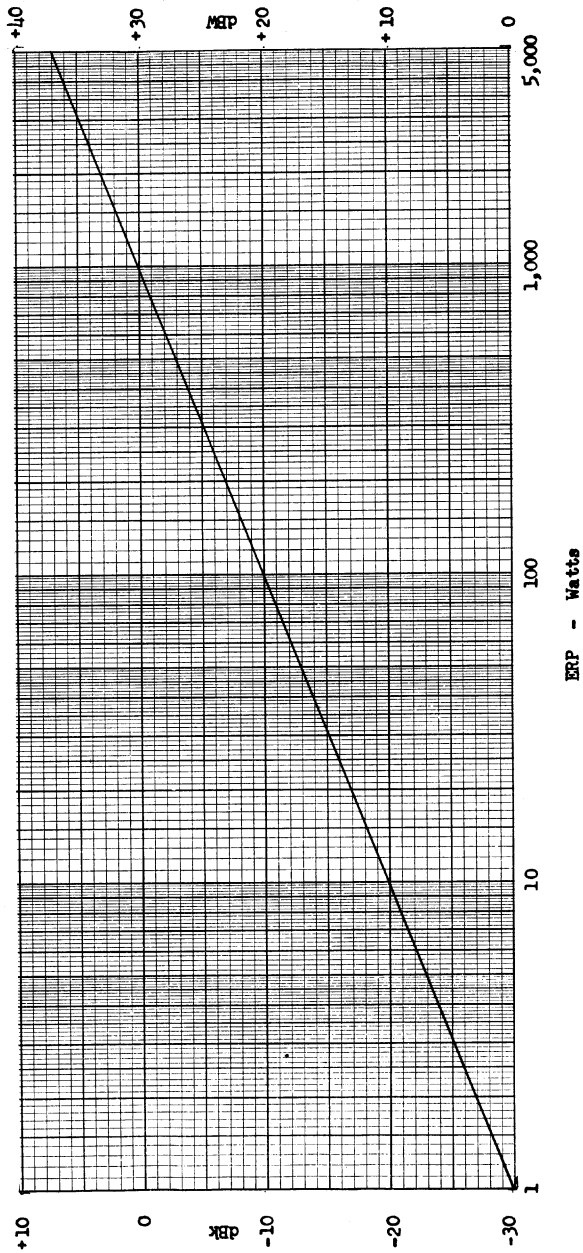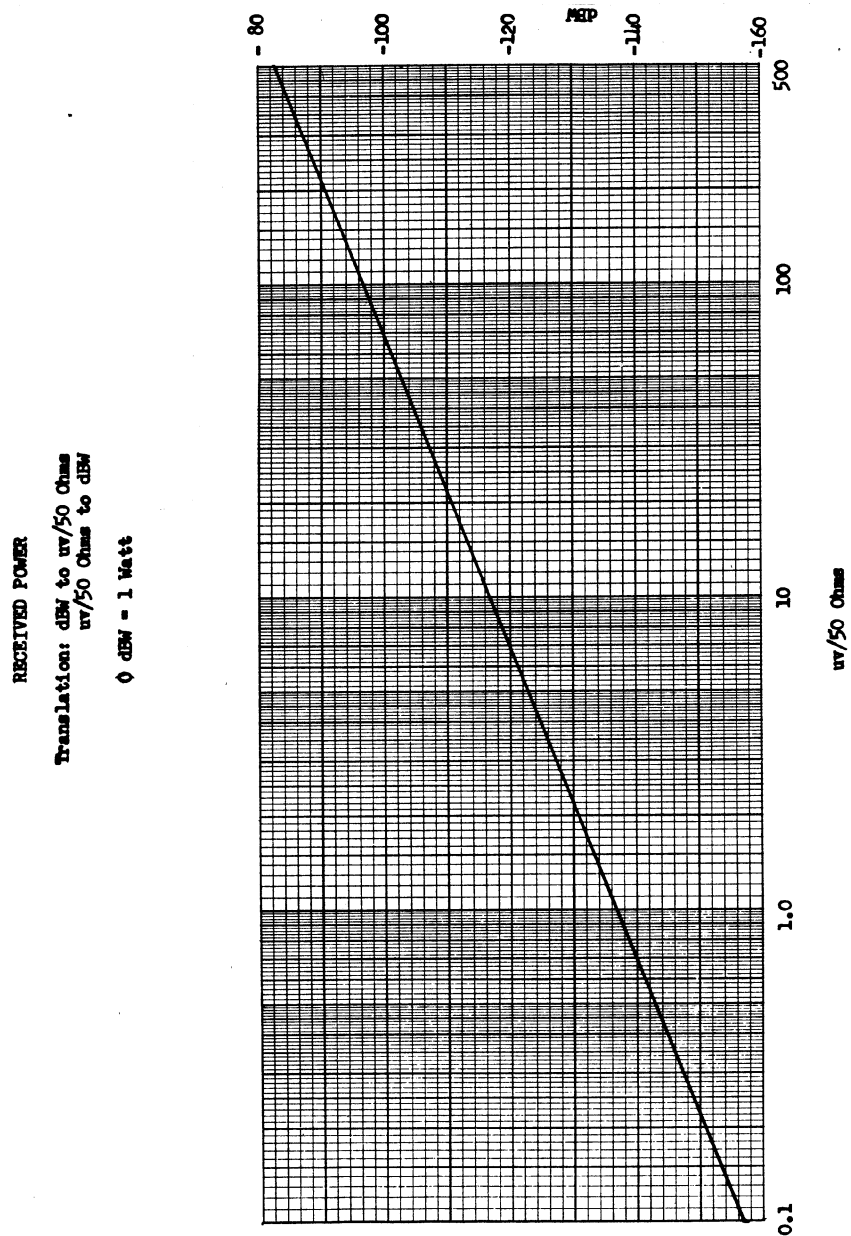
(c) *Graph 3*. To convert received power in dBW to field intensity in dBu find the received power in dBW on the horizontal axis. Move vertically to the diagonal line, then move right horizontally to read dBu.
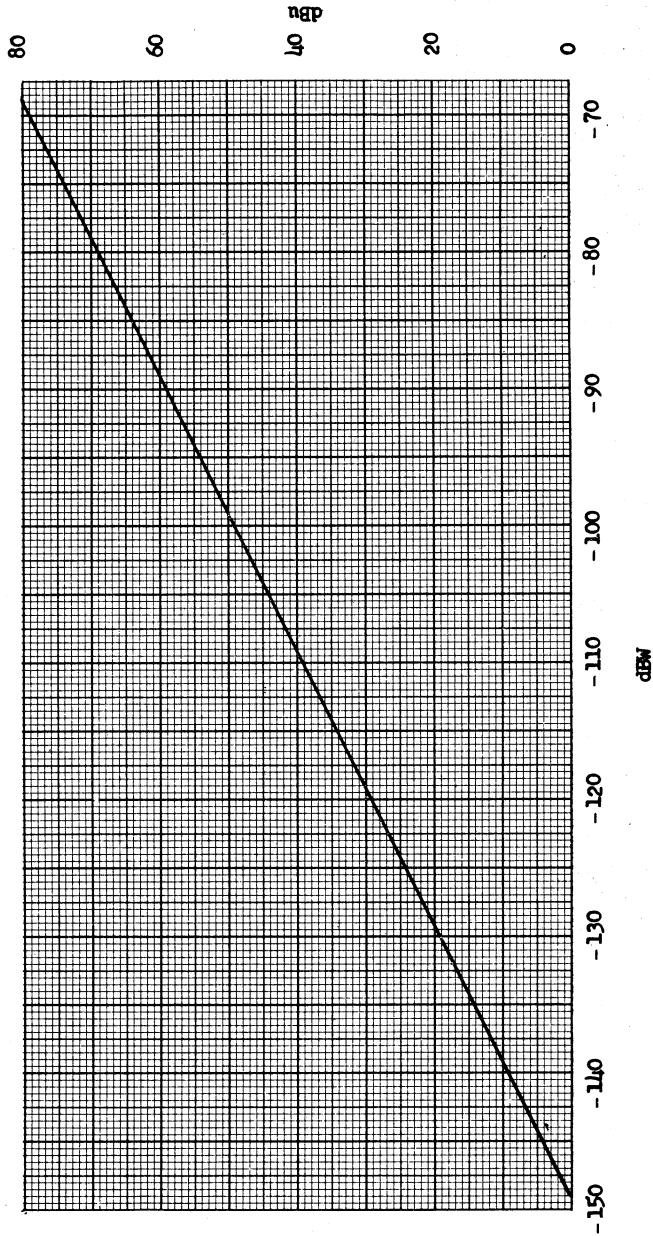
FIELD INTENSITY VS RECEIVED POWER

For Half-Wave Dipole

Received Power in uv/50 Ohms

0 dBW = 1 Watt
0 dBu = 1 microvolt/meter

§ 80.763   Effective antenna height.

The effective height of the antenna is the vertical distance between the center of the radiating system above the mean sea level and the average terrain elevation.

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