

Table II

**Computation of Signal Level
on the Ground
from Proposed Channel 284D FM Translator
Chapman, Oregon**

August, 2003

Depression Angle, Degrees	Relative Field	ERP Watts	dBk	Distance to the Ground in Kilometers	Free Space Signal	dB Loss for Reflection	Signal Strength dBu
90	0.010	0.0010	-60.0	0.0300	77.4	2.47	74.9
85	0.001	0.0000	-80.0	0.0301	57.3	2.47	54.9
80	0.004	0.0002	-68.0	0.0305	69.3	2.47	66.8
75	0.012	0.0014	-58.4	0.0311	78.7	2.47	76.2
70	0.027	0.0073	-51.4	0.0319	85.5	2.47	83.0
65	0.051	0.0260	-45.8	0.0331	90.7	2.47	88.2
60	0.084	0.0706	-41.5	0.0346	94.6	2.47	92.1
55	0.121	0.1464	-38.3	0.0366	97.3	2.47	94.8
50	0.156	0.2434	-36.1	0.0392	98.9	2.47	96.5
45	0.177	0.3133	-35.0	0.0424	99.3	2.47	96.9
40	0.168	0.2822	-35.5	0.0467	98.0	2.47	95.6
35	0.112	0.1254	-39.0	0.0523	93.5	2.47	91.1
30	0.010	0.0010	-60.0	0.0600	71.4	2.47	68.9
25	0.167	0.2789	-35.5	0.0710	94.4	2.47	91.9
20	0.377	1.4213	-28.5	0.0877	99.6	2.47	97.1
15	0.605	3.6603	-24.4	0.1159	101.3	2.47	98.8
10	0.810	6.5610	-21.8	0.1728	100.3	2.47	97.9
5	0.950	9.0250	-20.4	0.3442	95.7	2.47	93.3

Notes:

Antenna radiation center above ground (meters): 30

Maximum ERP (watts) at 0° Depression angle: 10

Free Space Signal = $106.92 - 20 \cdot \log(\text{distance in km}) + \text{dBk}$

Relative field based on 4 bay 0.5 wavelength interbay spacing antenna.