

Analysis of Signal Levels At Ground Level

Translator H AGL	49	
Translator ERP	250	
Translator channel	252	
Translator HAAT	100	
Interference Contour	107.1	
Highest signal on ground	106.71	Adequate Choice

Depression Angle, Degrees	Relative Field	ERP Watts	dBk	Distance to the Ground in Kilometers	Free Space Signal
90	0.000	0.0000	-331.2	0.0490	-198.12
85	0.020	0.0998	-40.0	0.0492	93.07
80	0.042	0.4401	-33.6	0.0498	99.42
75	0.067	1.1097	-29.5	0.0507	103.27
70	0.089	1.9779	-27.0	0.0521	105.54
65	0.098	2.4047	-26.2	0.0541	106.07
60	0.080	1.6150	-27.9	0.0566	103.95
55	0.027	0.1868	-37.3	0.0598	94.10
50	0.053	0.7029	-31.5	0.0640	99.27
45	0.128	4.1161	-23.9	0.0693	106.25
40	0.149	5.5366	-22.6	0.0762	106.71
35	0.077	1.4695	-28.3	0.0854	99.96
30	0.073	1.3240	-28.8	0.0980	98.31
25	0.209	10.9663	-19.6	0.1159	106.04
20	0.202	10.2283	-19.9	0.1433	103.90
15	0.032	0.2527	-36.0	0.1893	85.40
10	0.441	48.6364	-13.1	0.2822	104.78
5	0.836	174.8568	-7.6	0.5622	104.35
4	0.893	199.4652	-7.0	0.7024	102.99
3	0.939	220.4519	-6.6	0.9363	100.93
2	0.973	236.4980	-6.3	1.4040	97.71
1	0.993	246.5677	-6.1	2.8076	91.87
0	1.000	250.0000	-6.0	#DIV/0!	#DIV/0!

Notes:

Antenna radiation center above ground (meters):	49
Maximum ERP (watts) at 0° Depression angle:	250
Free Space Signal = 106.92 -20*log(distance in km) + dBk	

EXHIBIT 13-3

KMZT(AM) FM TRANSLATOR BASED ON SHIVELY 5 BAY ANTENNA WITH 90" SPACING BETWEEN BAYS 0.749 LAMBDA