

KVLL-FM Showing of Coverage of Wells, TX

Methodology:

It is noted that the 72-radial method generally employed for Longley-Rice mapping may, in fact, over or understate the true coverage. In particular, the 340 and 345 degree radials, which would typically be used in a 72-radial map, do not even cross through the Community of License in this case.

In the interest of precision, individual Longley-Rice calculations were done at one-degree intervals with origin at the proposed tower site. Beginning at bearing 340 degrees True, through 345 degrees True, the instantaneous signal strengths were determined at each 0.5 KM to a distance of 50 KM. This shows trending and is also offered as evidence that the F[50,50] propagation model underestimates the effective coverage of KVLL by the required 10% or more on each of the plotted radials.

MapInfo was then used to determine at what distances from the proposed site each of these one-degree radials entered and exited the principle community boundary of Wells, TX. The values (as tabulated below) were used to determine total area as well as the area covered by the 70 dBu contour. This last value was taken from the L-R tabulations and is identified for each radial by bold type. Where boundaries were in between even 0.5 KM increments, linear interpolation was employed if appropriate.

Community Coverage Distance Summary

KVLL-FM 70 dBu as forecast by Longley-Rice

Bearing	Community of Wells, TX		Covered Distance	Sector Area	Covered Area
	Enters Boundary At	Exits Boundary At			
340	Does not pass through Wells, TX				
341	43.38	43.98	0.6	0.4668	0.4668
342	43.06	45.61	2.55	1.9839	1.7038
343	42.83	45.1	2.27	1.76606	1.7661
344	43.43	44.24	0.81	0.63018	
345	Does not pass through Wells, TX				
			Totals	4.84694	3.93668
			Percent	100.0%	81.2%

Distances are KM from Proposed Tower Site

Areas are SQ KM by sectoring

Covered Distance is determined from the Longley-Rice Tabulations of instantaneous signal levels at 0.5 KM intervals

As shown above, the 70 dBu contour of the proposed KVLL-FM covers Wells, TX.

