

New LPFM Application
Channel 256-LP100 Amarillo TX
Technical Exhibit

Site Information:

Tower Structure - Building with Mast (Owned by Applicant)
Structure Coordinates 35-11-19.3 N 101-49-35.1 W (NAD 83)
Ground Elevation: 1115.2 m Overall Structure Height: 17.5 m
Antenna: Circular Antenna Height: 17.0 m.

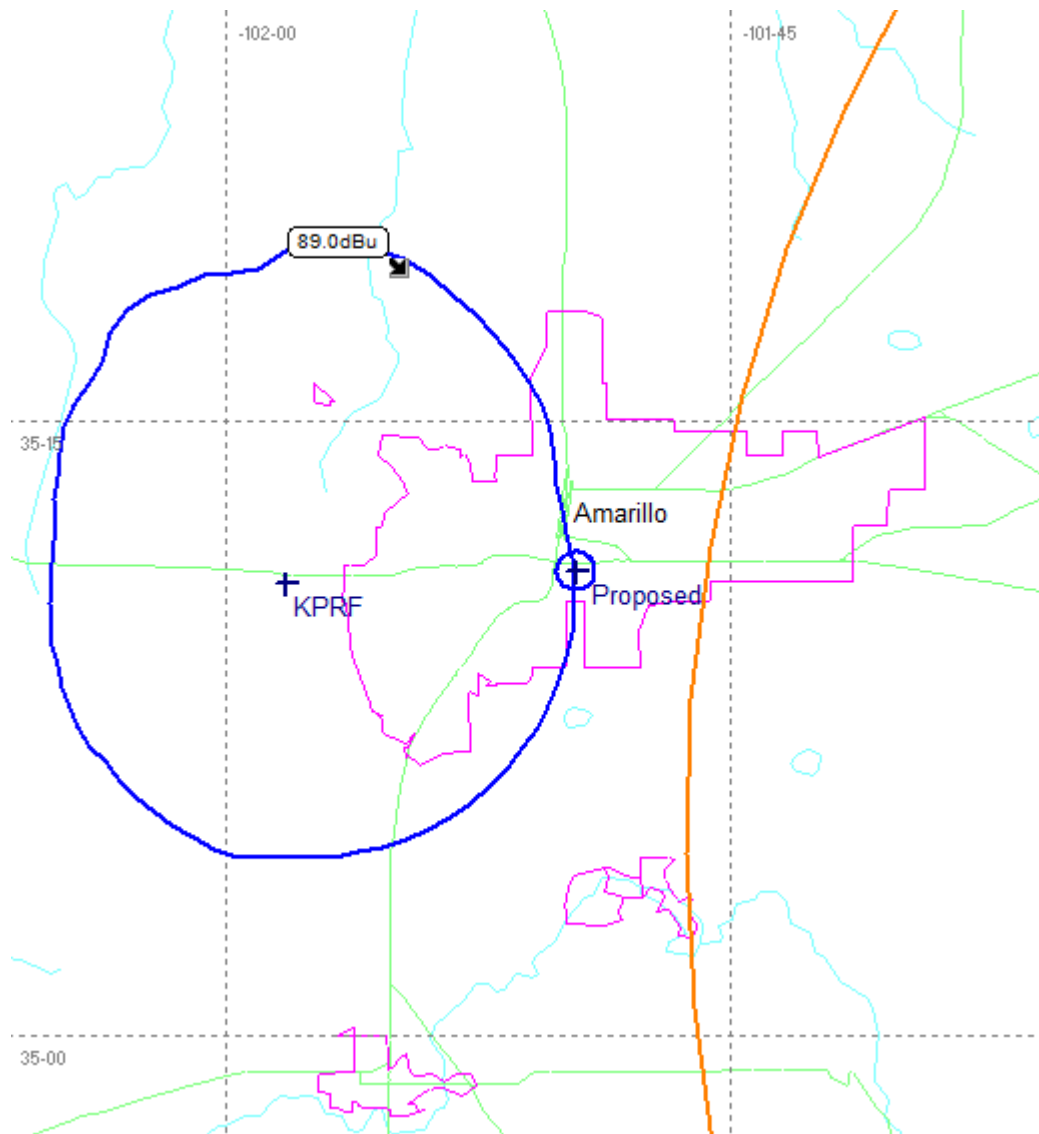
The Proposed location meets all distance separation requirements with respect to co-channel and first adjacent facilities.

The proposed 100dBu contour is located inside the protected 60dBu contour of KPRF (FM) Channel 254-C1 which is located 13.11km away from the proposed facility. An interference analysis has been conducted based on the U/D ratio of +40 dB at the proposed site. The signal of KPRF(FM) is 89.0dBu (50,50) making the relevant interfering contour of the proposed facility 129.0 (50, 10). The free space distance to the 129.0dBu in a worse-case scenario utilizing a single dipole antenna at 24.1 meters from the aperture of the antenna.

The use of any common single-bay circularly polarized FM antenna would limit the downward radiation from the antenna to the point that the 129.0 dBu (50,10) contour will not reach a point 2 meters above the ground at any depression angle. See attached chart.

A waiver to operate on a second adjacent channel to KPRF(FM) is respectfully requested on the basis of zero population in the area of real interference.

Allocation Distances and 2nd Adjacent Waiver Contour Map:



NICOM BKG-88
1-Bay Circularly Polarized FM Antenna



Frequency =

99.1
129

 Mhz
Interfering Contour

dBu (50,10)

ERP=

100

 watts
Height =

15

 m AGL

Depression Angle	Relative Field (o)	Effective Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	Clearance (m)
1	1.000	100.0	24.89	859.48	835
2	1.000	100.0	24.89	429.81	405
3	0.999	99.8	24.86	286.61	262
4	0.999	99.8	24.86	215.03	190
5	0.999	99.8	24.86	172.11	147
6	0.999	99.8	24.86	143.50	119
7	0.995	99.0	24.76	123.08	98
8	0.991	98.2	24.66	107.78	83
9	0.987	97.5	24.57	95.89	71
10	0.982	96.4	24.44	86.38	62
11	0.977	95.5	24.32	78.61	54
12	0.970	94.1	24.14	72.15	48
13	0.966	93.3	24.04	66.68	43
14	0.960	92.2	23.89	62.00	38
15	0.954	91.0	23.74	57.96	34
16	0.947	89.7	23.57	54.42	31
17	0.941	88.5	23.42	51.30	28
18	0.934	87.2	23.25	48.54	25
19	0.926	85.7	23.05	46.07	23
20	0.918	84.3	22.85	43.86	21
21	0.910	82.8	22.65	41.86	19
22	0.900	81.0	22.40	40.04	18
23	0.891	79.4	22.18	38.39	16
24	0.881	77.6	21.93	36.88	15
25	0.872	76.0	21.70	35.49	14
26	0.862	74.3	21.45	34.22	13
27	0.852	72.6	21.21	33.04	12
28	0.840	70.6	20.91	31.95	11
29	0.829	68.7	20.63	30.94	10
30	0.818	66.9	20.36	30.00	10
31	0.806	65.0	20.06	29.12	9
32	0.795	63.2	19.79	28.31	9
33	0.783	61.3	19.49	27.54	8
34	0.771	59.4	19.19	26.82	8
35	0.758	57.5	18.87	26.15	7
36	0.745	55.5	18.54	25.52	7
37	0.732	53.6	18.22	24.92	7
38	0.719	51.7	17.89	24.36	6
39	0.706	49.8	17.57	23.84	6
40	0.691	47.7	17.20	23.34	6
41	0.676	45.7	16.82	22.86	6
42	0.661	43.7	16.45	22.42	6
43	0.646	41.7	16.08	21.99	6
44	0.631	39.8	15.70	21.59	6
45	0.616	37.9	15.33	21.21	6

Depression Angle	Relative Field	Effective Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	Clearance (m)
46	0.600	36.0	14.93	20.85	6
47	0.584	34.1	14.53	20.51	6
48	0.568	32.3	14.14	20.18	6
49	0.553	30.6	13.76	19.88	6
50	0.540	29.1	13.43	19.58	6
51	0.523	27.4	13.02	19.30	6
52	0.508	25.8	12.64	19.04	6
53	0.494	24.4	12.29	18.78	6
54	0.479	22.9	11.92	18.54	7
55	0.465	21.6	11.57	18.31	7
56	0.450	20.3	11.20	18.09	7
57	0.436	19.0	10.85	17.89	7
58	0.421	17.7	10.48	17.69	7
59	0.406	16.5	10.10	17.50	7
60	0.391	15.3	9.73	17.32	8
61	0.376	14.1	9.36	17.15	8
62	0.361	13.0	8.98	16.99	8
63	0.345	11.9	8.59	16.83	8
64	0.329	10.8	8.19	16.69	9
65	0.313	9.8	7.79	16.55	9
66	0.297	8.8	7.39	16.42	9
67	0.282	8.0	7.02	16.30	9
68	0.268	7.2	6.67	16.18	10
69	0.253	6.4	6.30	16.07	10
70	0.230	5.3	5.72	15.96	10
71	0.225	5.1	5.60	15.86	10
72	0.211	4.5	5.25	15.77	11
73	0.199	4.0	4.95	15.69	11
74	0.188	3.5	4.68	15.60	11
75	0.176	3.1	4.38	15.53	11
76	0.166	2.8	4.13	15.46	11
77	0.155	2.4	3.86	15.39	12
78	0.145	2.1	3.61	15.34	12
79	0.138	1.9	3.43	15.28	12
80	0.129	1.7	3.21	15.23	12
81	0.120	1.4	2.99	15.19	12
82	0.115	1.3	2.86	15.15	12
83	0.110	1.2	2.74	15.11	12
84	0.105	1.1	2.61	15.08	12
85	0.103	1.1	2.56	15.06	12
86	0.102	1.0	2.54	15.04	12
87	0.100	1.0	2.49	15.02	13
88	0.102	1.0	2.54	15.01	12
89	0.104	1.1	2.59	15.00	12
90	0.105	1.1	0.00	15.00	15

NOTES:

- HEIGHT HAS BEEN REDUCED BY 2 METERS TO ALLOW FOR HUMAN EXPOSURE
- DISTANCE FROM ANTENNA TO GROUND IS ACTUALLY TO A POINT 2 METERS ABOVE GROUND