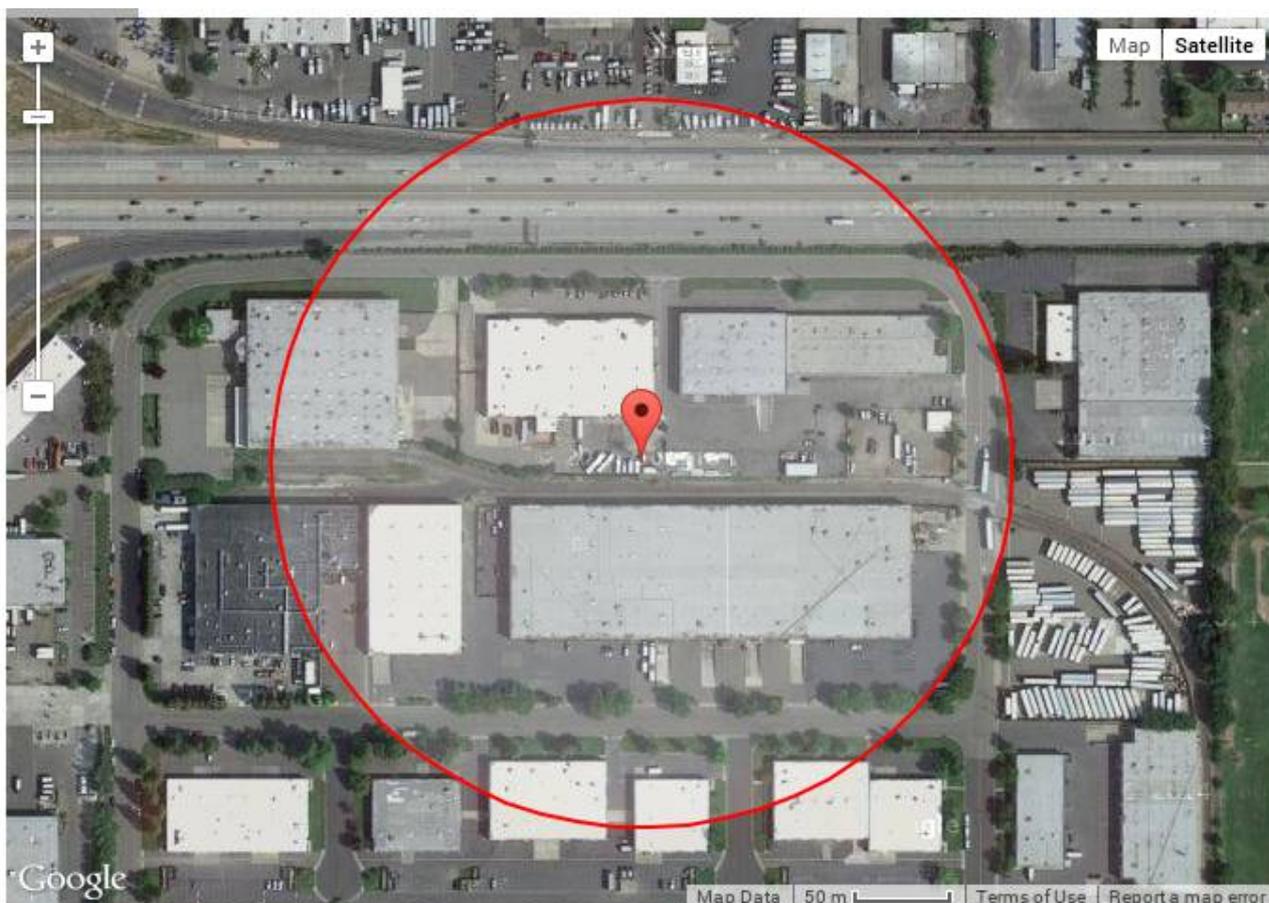


Application requests a waiver for a location which is short-spaced on a second-adjacent channel with BLH-19931005KB, callsign KRXQ, class B, status LIC, SACRAMENTO, CA, channel 253, facility ID 20354[3]

Undesired-to-Desired Ratio Method

BLH-19931005KB f(50,50) signal: 71.6 dBu [1][2]  
Second-adjacent protection: + 40 dB  
Interference-zone boundary: 111.6 dBu  
Distance to 111.6 dBu: 184 m (HAAT = 19 m, ERP <= 0.1 kW) [1]

The interference zone produces a worst-case circle of radius 184 meters on the ground which is shown on the following map. There are occupied structures and major roadways within 184 meters of the radiation center, so further study is required.



[1] tvfmfs\_metric() C-language subroutine as distributed by the FCC. At distances less than or equal to 1.5 km, tvfmfs\_metric() uses the free-space method.

[2] FCC HAAT Calculator web page,  
[http://transition.fcc.gov/mb/audio/bickel/haat\\_calculator.html](http://transition.fcc.gov/mb/audio/bickel/haat_calculator.html)

[3] CDBS database downloaded 2014-09-26 03:05:00

This application proposes a 4-bay full-wave-spaced antenna and reduced power of 50 watts.

At 100 watts, the interfering contour would extend to a distance of 184 meters from the antenna. However, using only 50 watts and a 4-bay full-wave spaced antenna, the field strength of the proposed LPFM's antenna system falls quickly at depression angles below the horizon. Using elevation pattern data provided by Shively (see below) the distance to the 111.6 dBu contour is tabulated below.

The data shows that the lowest point at which the signal strength rises to 111.6 dBu is 17.925 meters below the center of radiation of the antenna system, or 2.075 meters above the ground.

All buildings nearby have only one floor, at essentially ground level, so there will be no interference to KRXQ.

depression angle below horizon	relative field	db from relative	ERP	angular distance to contour	vertical distance	horizontal distance	clearance above ground
0	1	0.00	50.00	130.378	0.000	130.378	20.000
5	0.866	-1.25	37.50	112.907	9.840	112.477	10.160
10	0.529	-5.53	13.99	68.970	11.976	67.922	8.024
15	0.14	-17.08	0.98	18.253	4.724	17.631	15.276
20	0.146	-16.71	1.07	19.035	6.510	17.887	13.490
25	0.247	-12.15	3.05	32.203	13.610	29.186	6.390
30	0.181	-14.85	1.64	23.598	11.799	20.437	8.201
35	0.032	-29.90	0.05	4.172	2.393	3.418	17.607
40	0.108	-19.33	0.58	14.081	9.051	10.787	10.949
45	0.18	-14.89	1.62	23.468	16.594	16.594	3.406
46	0.185	-14.66	1.71	24.120	17.350	16.755	2.650
47	0.186	-14.61	1.73	24.250	17.735	16.539	2.265
48	0.185	-14.66	1.71	24.120	17.925	16.139	2.075
49	0.181	-14.85	1.64	23.598	17.810	15.482	2.190
50	0.174	-15.19	1.51	22.686	17.378	14.582	2.622
55	0.112	-19.02	0.63	14.602	11.961	8.376	8.039
60	0.03	-30.46	0.05	3.911	3.387	1.956	16.613
65	0.042	-27.54	0.09	5.476	4.963	2.314	15.037
70	0.087	-21.21	0.38	11.343	10.659	3.879	9.341
75	0.1	-20.00	0.50	13.038	12.594	3.374	7.406
80	0.084	-21.51	0.35	10.952	10.785	1.902	9.215
85	0.049	-26.20	0.12	6.389	6.364	0.557	13.636
90	0.001	-60.00	0.00	0.130	0.130	0.000	19.870