Application requests a waiver for a location which is short-spaced on a second-adjacent channel with BLH-19880311KC, callsign KJMY, class C, status LIC, Bountiful, UT, channel 258, facility ID 6543[3]

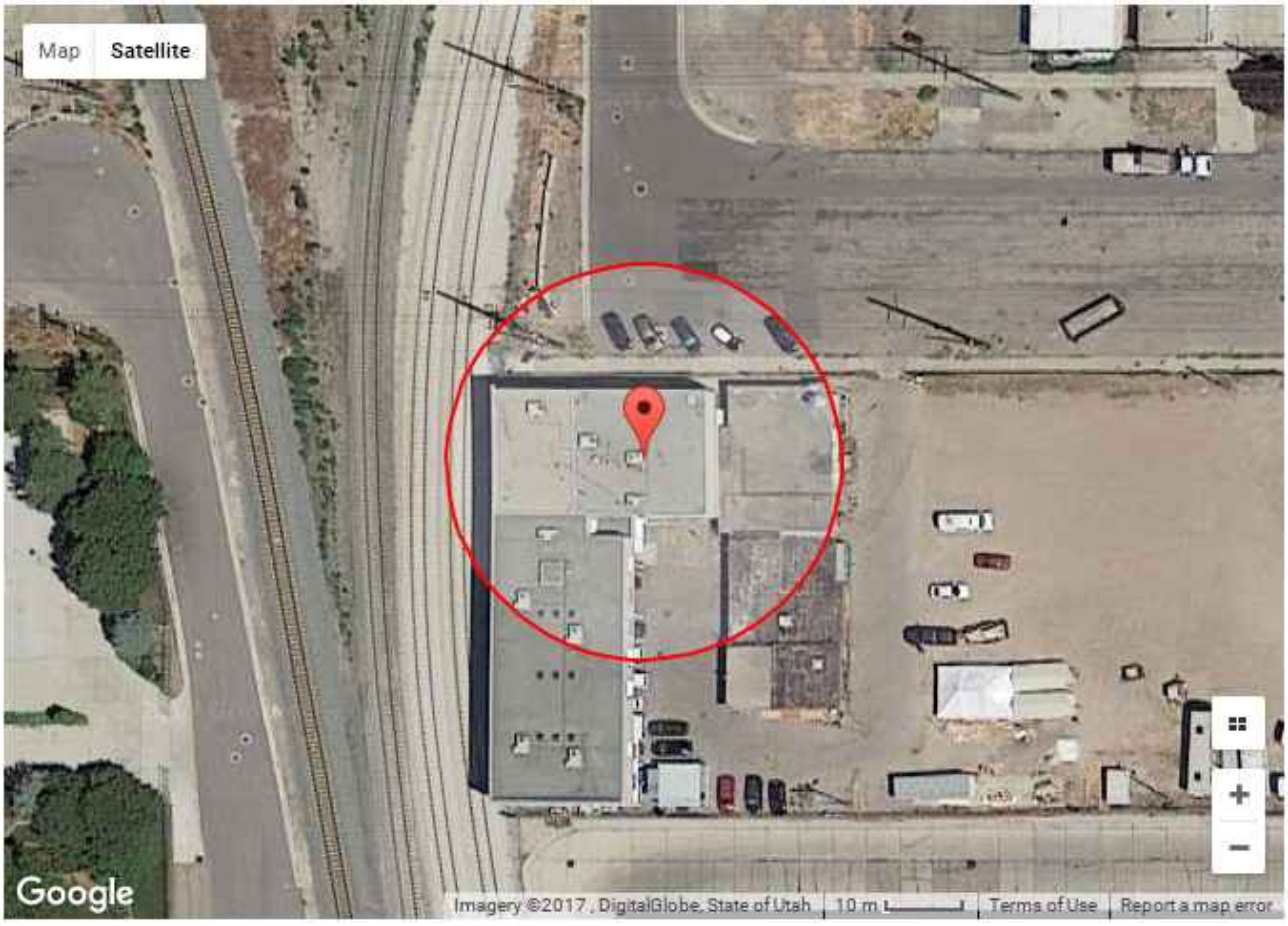
Undesired-to-Desired Ratio Method	
BLH-19880311KC f(50,50) signal	90.1 dBu [1][2]
Second-adjacent protection	+ 40 dB
Interference-zone boundary	130.1 dBu
Distance to 130.1 dBu	22 m (ERP <= 0.1 kW) [1]

Application requests a waiver for a location which is short-spaced on a second-adjacent channel with BMLH-20021113AAK, callsign KSFI, class C, status LIC, Salt Lake City, UT, channel 262, facility ID 60452[3]

Undesired-to-Desired Ratio Method	
BMLH-20021113AAK f(50,50) signal	89.4 dBu [1][2]
Second-adjacent protection	+ 40 dB
Interference-zone boundary	129.4 dBu
Distance to 129.4 dBu	23.8 m (ERP <= 0.1 kW) [1]

Since KSFI is the weaker signal with the stricter requirement, we will consider only KSFI, so KJMY will be implicitly protected.

The interference zone produces a worst-case circle of radius 23.8 meters on the ground which is shown on the following map. The antenna height above ground is 12 meters and there is an occupied structure nearby, so further study is required.



[1] tvfmfs() Fortran subroutine as distributed by the FCC. At distances less than or equal to 1.5 km, tvfmfs() uses the free-space method.
[2] FCC HAAT Calculator web page, http://transition.fcc.gov/mb/audio/bickel/haat_calculator.html
[3] CDBS database downloaded 2017-02-15 09:29:00

At 100 watts, the interfering contour would extend to a distance of 23.8 meters from the antenna. However, using a 2-bay .75-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 PSI (see below) the distance to the 129.4 dBu contour is tabulated below.

The data shows that the lowest point at which the signal strength rises to 129.4 dBu is 5.3 meters below the center of radiation of the antenna system, or 6.7 meters above the ground. This easily clears the second floor, which is 4 meters above ground.

depression angle below horizon	relative field	db from relative	ERP	angular distance to contour	vertical distance	horizontal distance	clearance above ground	height above ground
0	1	0.00	100.00	23.753	0.000	23.753	12.000	12
5	0.975	-0.22	95.06	23.159	2.018	23.071	9.982	12
10	0.903	-0.89	81.54	21.449	3.725	21.123	8.275	12
15	0.792	-2.03	62.73	18.812	4.869	18.171	7.131	12
20	0.65	-3.74	42.25	15.439	5.281	14.508	6.719	12
25	0.493	-6.14	24.30	11.710	4.949	10.613	7.051	12
30	0.331	-9.60	10.96	7.862	3.931	6.809	8.069	12
35	0.178	-14.99	3.17	4.228	2.425	3.463	9.575	12
40	0.043	-27.33	0.18	1.021	0.657	0.782	11.343	12
45	0.068	-23.35	0.46	1.615	1.142	1.142	10.858	12
50	0.149	-16.54	2.22	3.539	2.711	2.275	9.289	12
55	0.202	-13.89	4.08	4.798	3.930	2.752	8.070	12
60	0.227	-12.88	5.15	5.392	4.670	2.696	7.330	12
65	0.226	-12.92	5.11	5.368	4.865	2.269	7.135	12
70	0.205	-13.76	4.20	4.869	4.576	1.665	7.424	12
75	0.168	-15.49	2.82	3.990	3.855	1.033	8.145	12
80	0.118	-18.56	1.39	2.803	2.760	0.487	9.240	12
85	0.061	-24.29	0.37	1.449	1.443	0.126	10.557	12
90	0.001	-60.00	0.00	0.024	0.024	0.000	11.976	12