

Application requests a waiver for a location which is short-spaced on a second-adjacent channel with BMLH-20080402AAP, callsign WAMZ, class C1, status LIC, Louisville, KY, channel 248, facility ID 11921[3]

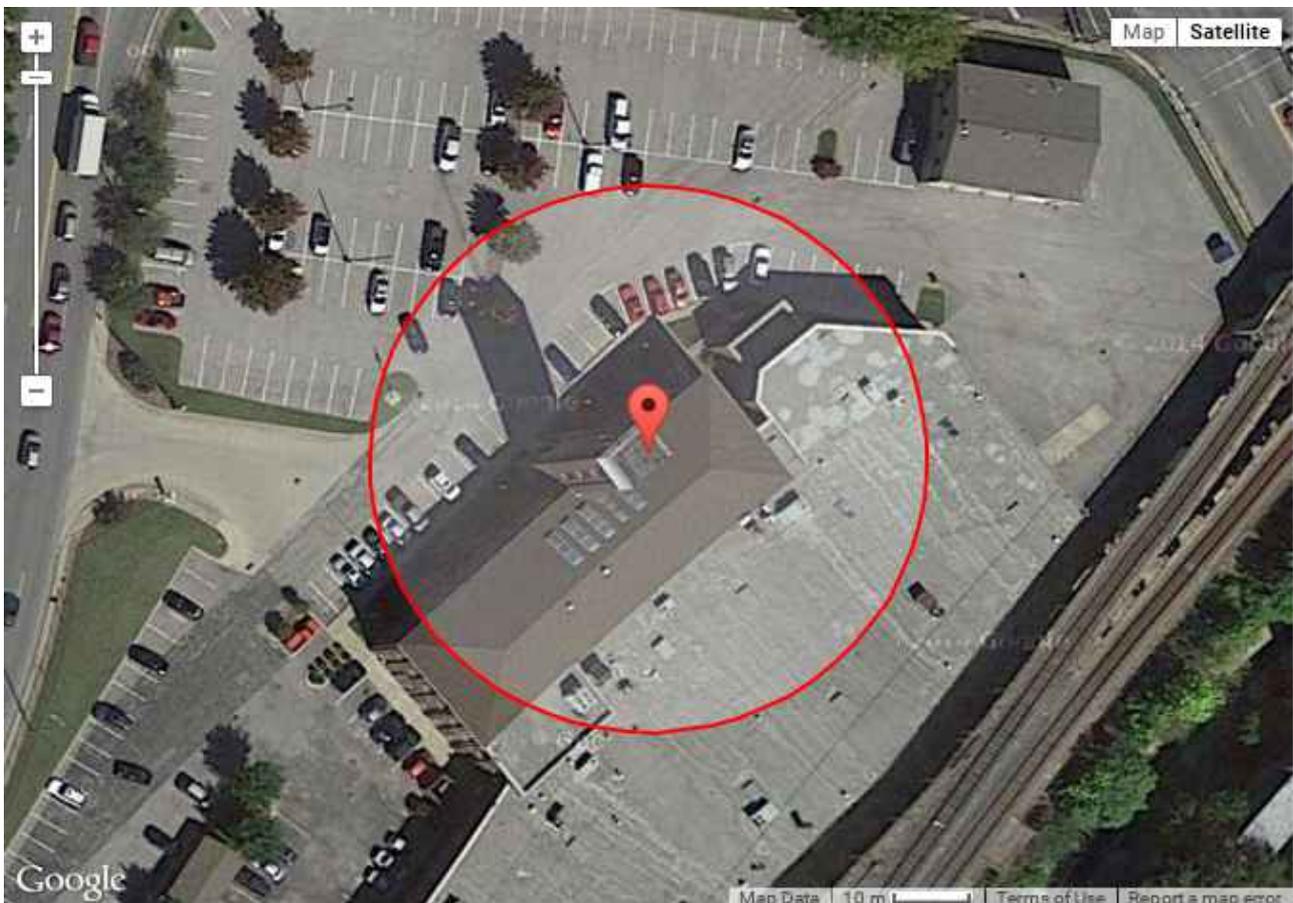
Undesired-to-Desired Ratio Method	
BMLH-20080402AAP f(50,50) signal	85.4 dBu [1][2]
Second-adjacent protection	+ 40 dB
Interference-zone boundary	125.4 dBu
Distance to 125.4 dBu	32.5 m (ERP <= 0.0751 kW) [1]

The interference zone produces a worst-case circle of radius 32.5 meters on the ground.

Application requests a waiver for a location which is short-spaced on a second-adjacent channel with BPH-20120419AAB, callsign WAMZ, class C1, status CP, Louisville, KY, channel 248, facility ID 11921[3]

Undesired-to-Desired Ratio Method	
BPH-20120419AAB f(50,50) signal	85.0 dBu [1][2]
Second-adjacent protection	+ 40 dB
Interference-zone boundary	125 dBu
Distance to 125 dBu	34.3 m (ERP <= 0.0751 kW) [1]

The interference zone produces a worst-case circle of radius 34.3 meters on the ground which is shown on the following map.



- [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 2015-07-21 03:47:00

The antenna is mounted 43 meters above ground, so the 34.3 meter interference zone does not reach the ground. Its lowest point is 8.7 meters above ground.

The building shown is a two story office building. Assuming common commercial construction, figuring 4 meters per floor puts the second floor at 4 meters, the flat portion of the roof at about 8 meters thus no population will be subject to interference from the proposed station according to the undesired-to-desired ratio method.

The brick tower is not an occupied space in the usual sense, but it does house some equipment including our transmitter. As a caution, in case it could become occupied space. The fourth and fifth floors of the tower are within 34.5 meters of the antenna.

However, even with a single bay antenna, the field strength falls quickly at depression angles below the horizon. Using elevation pattern data provided by Shively (see below) the distance to the 125 dBu contour is tabulated below.

The data shows that the lowest point at which the signal strength rises to 125 dBu is 17.3 meters below the center of radiation of the antenna system, or 25.6 meters above the ground. The brick tower is 24 meters tall to the roof, so even if it is occupied the interference zone does not reach any space that could be occupied.

depression angle below horizon	relative field	db from relative	ERP	angular distance to contour	vertical distance	horizontal distance	clearance above ground	height above interfering ground V/m	interfering dbu	
0	1	0.00	75.00	34.139	0.000	34.139	43.000	43	1.778	125
5	0.996	-0.03	74.40	34.002	2.963	33.873	40.037	43	1.778	125
10	0.985	-0.13	72.77	33.627	5.839	33.116	37.161	43	1.778	125
15	0.967	-0.29	70.13	33.012	8.544	31.887	34.456	43	1.778	125
20	0.942	-0.52	66.55	32.159	10.999	30.219	32.001	43	1.778	125
25	0.91	-0.82	62.11	31.066	13.129	28.156	29.871	43	1.778	125
30	0.871	-1.20	56.90	29.735	14.867	25.751	28.133	43	1.778	125
35	0.826	-1.66	51.17	28.199	16.174	23.099	26.826	43	1.778	125
40	0.774	-2.23	44.93	26.423	16.985	20.242	26.015	43	1.778	125
45	0.717	-2.89	38.56	24.478	17.308	17.308	25.692	43	1.778	125
50	0.654	-3.69	32.08	22.327	17.103	14.351	25.897	43	1.778	125
55	0.586	-4.64	25.75	20.005	16.387	11.475	26.613	43	1.778	125
60	0.514	-5.78	19.81	17.547	15.196	8.774	27.804	43	1.778	125
65	0.437	-7.19	14.32	14.919	13.521	6.305	29.479	43	1.778	125
70	0.357	-8.95	9.56	12.188	11.453	4.168	31.547	43	1.778	125
75	0.273	-11.28	5.59	9.320	9.002	2.412	33.998	43	1.778	125
80	0.186	-14.61	2.59	6.350	6.253	1.103	36.747	43	1.778	125
85	0.096	-20.35	0.69	3.277	3.265	0.286	39.735	43	1.778	125
90	0.001	-60.00	0.00	0.034	0.034	0.000	42.966	43	1.778	125