

BPL-20181217ABB - Amendment with Engineering Exhibit
Request move to Channel 243 / 96.5 MHz per §73.870(a)(1)

December 2018

Amendment to application BPL-20181217ABB, short-spaced to KROX-FM, seeks a change to Ch.243. 47 CFR §73.870(a)(1) provides for change to any frequency upon a showing of reduced interference.

Short-spacing. Applicant has been notified relocation to proposed site on current channel 268 would exceed current short-spacing allowances due to application BPH-20141229AGM KROX-FM previously granted on 3/9/2017. Whereas 73.208(c)(8) allows rounding to the nearest kilometer BLL-20180517AAB is currently spaced at a distance of 89.7 km in relation to BPH-20141229AGM, rounding to 90km, BPL-20181217ABB will only increase short-spacing to 89.1km from KROX-FM. Applicant received qualified advice that a waiver will not be possible at that location on the current channel.

Spacings were confirmed by channel studies for both the current and proposed sites (included below).

Interference. Additionally, by remaining the current channel 268, KROX-FM is poised to impose co-channel signal strength at 52.17 dBuV/m at the current authorized location, and 52.41 dBuV/m f(50,50) at new proposed location. A showing of the instant application in relation to the 60 dBu/40 dBu f(50,50) contours.

Application is therefore amended to propose operation on Ch. 243, which would be fully spaced to all other LPFM and Translator authorizations, and would impose significantly less interference. A channel study with spacing map for the proposed channel is attached within the following pages.

Channel Study: Current site – Ch. 268

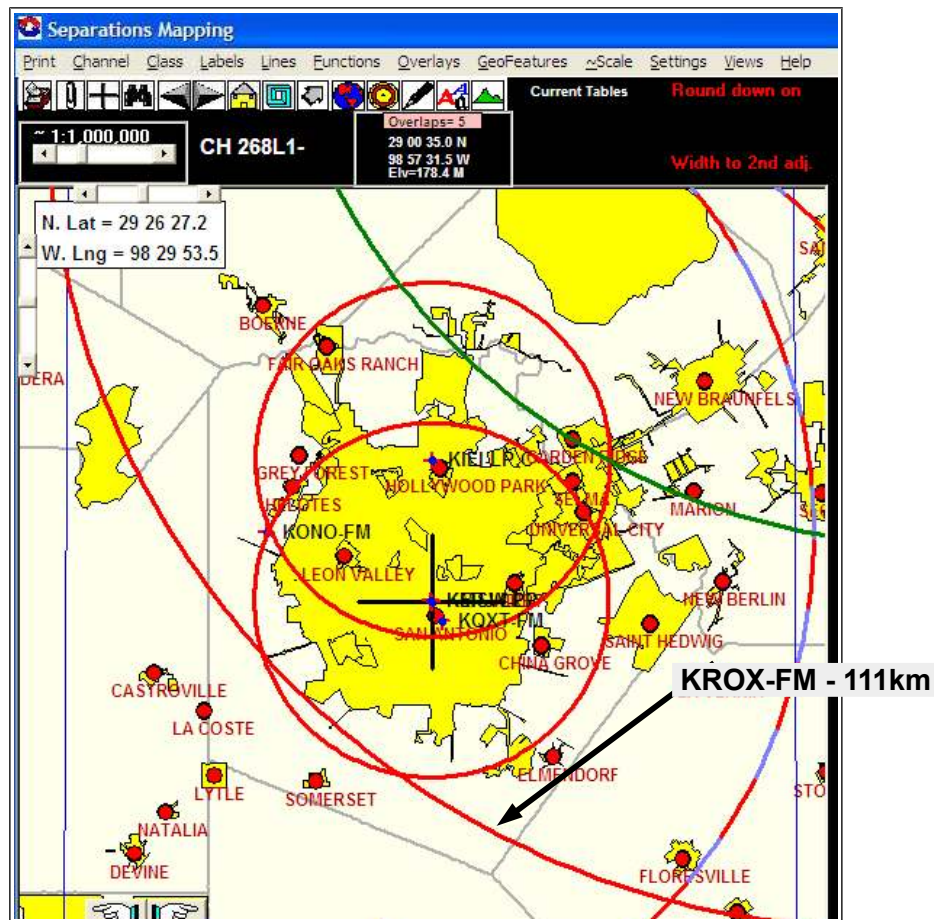
Current site - 101.5 MHz								
REFERENCE			CLASS = L1			DISPLAY DATES		
29 26 32.5 N.			Current Spacings to 2nd Adj.			DATA 12-07-18		
98 29 55.9 W.			Channel 268 - 101.5 MHz			SEARCH 12-19-18		
Call	Channel	Location	Azi	Dist	FCC	Margin		
KQXT-FM	LIC	270C1	San Antonio	TX	151.1	3.04	72.5	-69.5
KONO-FM	LIC	266C1	Helotes	TX	292.6	23.58	72.5	-48.9
KMSW-LP	LIC	268L1	San Antonio	TX	0.0	0.00	23.5	-23.5
> KROX-FM	CP	268C1	Buda	TX	41.5	89.66	110.5	-20.8
KIEI-LP	CP	268L1	San Antonio	TX	0.6	18.63	23.5	-4.9
KROX-FM	LIC-N	268C2	Buda	TX	34.3	118.57	90.5	28.1

Reference station has protected zone issue: Mexico
All separation margins include rounding

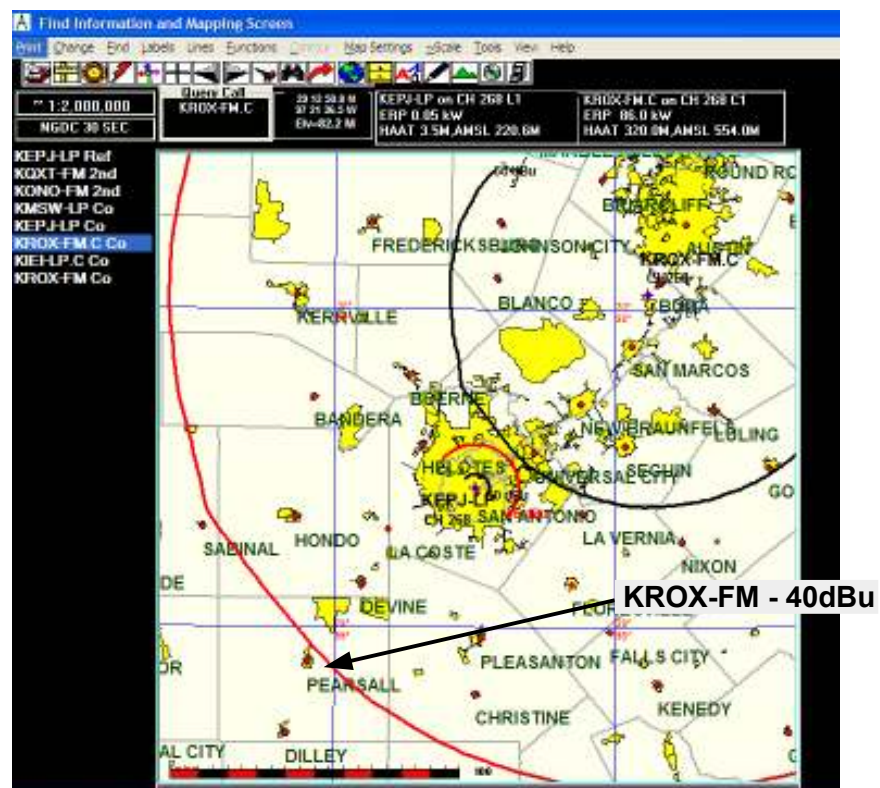
Proposed site – Ch. 268

Proposed site - 101.5 MHz								
REFERENCE			CLASS = L1			DISPLAY DATES		
29 26 41.9 N.			Current Spacings to 2nd Adj.			DATA 12-07-18		
98 29 37.1 W.			Channel 268 - 101.5 MHz			SEARCH 12-19-18		
Call	Channel	Location	Azi	Dist	FCC	Margin		
KQXT-FM	LIC	270C1	San Antonio	TX	161.9	3.10	72.5	-69.4
KONO-FM	LIC	266C1	Helotes	TX	291.5	23.94	72.5	-48.6
KMSW-LP	LIC	268L1	San Antonio	TX	240.2	0.58	23.5	-22.9
KEPJ-LP	LIC	268L1	San Antonio	TX	240.2	0.58	23.5	-22.9
> KROX-FM	CP	268C1	Buda	TX	41.4	89.11	110.5	-21.4
KIEI-LP	CP	268L1	San Antonio	TX	359.0	18.34	23.5	-5.2
KROX-FM	LIC-N	268C2	Buda	TX	34.2	118.04	90.5	27.5

Separations Map: Short-spacing with KROX-FM



Ch.268 - 60 dBu / 40 dBu KROX-FM vs BPL-20181217ABB



BPL-20181217ABB – Analysis of Ch.243

Short-spacing. Location is not short-spaced to any authorized co-channel or first-adjacent facilities.

Interference. Whereas interference on Ch.268 is imposed with calculated EFS of 52.41 dBu by KROX, the worst-case co-channel interference on proposed 96.5 would be reduced to EFS of 35.84 dBu f(50,50) by BNPFT-20180508AAO. The worst-case first-adjacent channel interference from pending application for KXJT-LP at EFS calculated at 43.66 f(50,50), over 8 dBu lower than 52.41 dBu by KROX on Ch.268.

Channel Availability. Channel availability is due to Dismissal of application BLL-20180123AAA, FacID. 196084 (excerpt of Public Notice of Dec. 7, 2018, Report No. 49378: "Application dismissed pursuant to 47 CFR § 73.3568(a)(1) for failure to respond to Media Bureau letter dated 11/15/2018").

Another dismissed LPFM application, BLL-20180213AAX, FacID. 194840, was previously deleted on November 15, 2018, further clearing channel availability at the proposed location.

Amendment to Channel 243 is otherwise fully spaced to all other LPFM and Translator authorizations, and pending applications.

Channel Study: Proposed site – Ch. 243

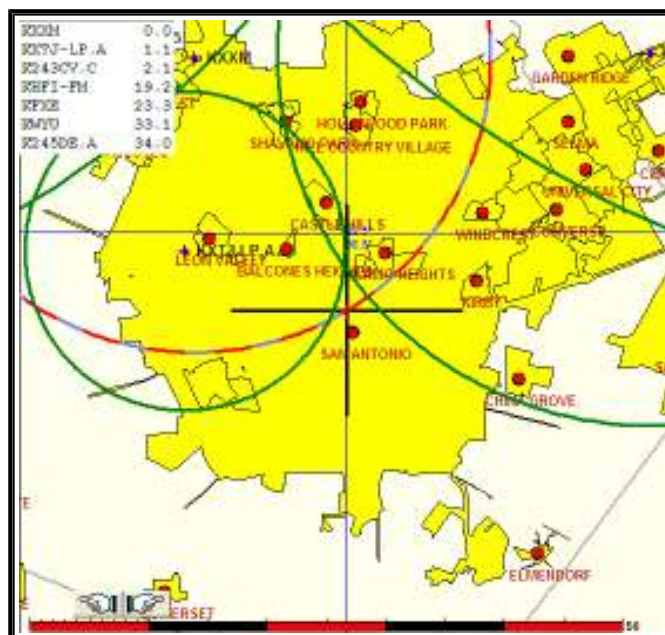
REFERENCE		Proposed site - 96.5 MHz				DISPLAY DATES		
29 26 41.9 N.		CLASS = L1				DATA	12-07-18	
98 29 37.1 W.		Current Spacings to 2nd Adj.				SEARCH	12-19-18	
		Channel 243 - 96.5 MHz						
Call	Channel	Location		Azi	Dist	FCC	Margin	
KXXM	LIC	241C1	San Antonio	TX	327.6	24.82	72.5	-47.7
** KXZL-LP	CP	244L1	San Antonio	TX	343.5	11.53	13.5	2.0
* KXTJ-LP	APP	244L1	San Antonio	TX	287.9	14.83	13.5	1.3
K243CV	CP	243D	San Antonio	TX	49.8	32.96	31.5	1.5
KHFI-FM	LIC	244C1	Georgetown	TX	34.2	118.04	99.5	18.5
KFXE	LIC-N	243C3	Ingram	TX	318.1	100.76	77.5	23.3
KWYU	LIC-N	245C3	Christine	TX	168.2	72.95	39.5	33.5
K245DE	APP-D	245D	Boerne	TX	324.0	54.36	20.5	33.9

Reference station has protected zone issue: Mexico
All separation margins include rounding

* KXZL-LP application BLL-20180123AAA dismissed (Public Notice 12/7/2018)

** KXTJ-LP application BPL-20181108AAK is currently pending

Separations Map: Channel 243 / 96.5 MHz



Second Adjacent Channel Exhibit

At proposed site, second adjacent station KXXM FM is estimated at 82.3 dBuV/m. With an additional 40 dBu, KXXM is protected to 122.3 dBu, producing a worst-case interference radius of 38.04 meters.

Depression angles from a Shively single-bay 6812b antenna fall quickly to a worst-case interference radius of 19.28 meters at 12.72 m above ground level. Signal will be sufficiently cleared above all populated areas, occupied structures, and 4-lane roadways. Zero population would be receive interference from the proposed station according to the undesired-to-desired ratio method.

The antenna relative fields are tabulated below at 5 degree increments, followed by the manufacturer's data sheet for relative field strength at various depression angles.

Shively 6812 – 1 Bay

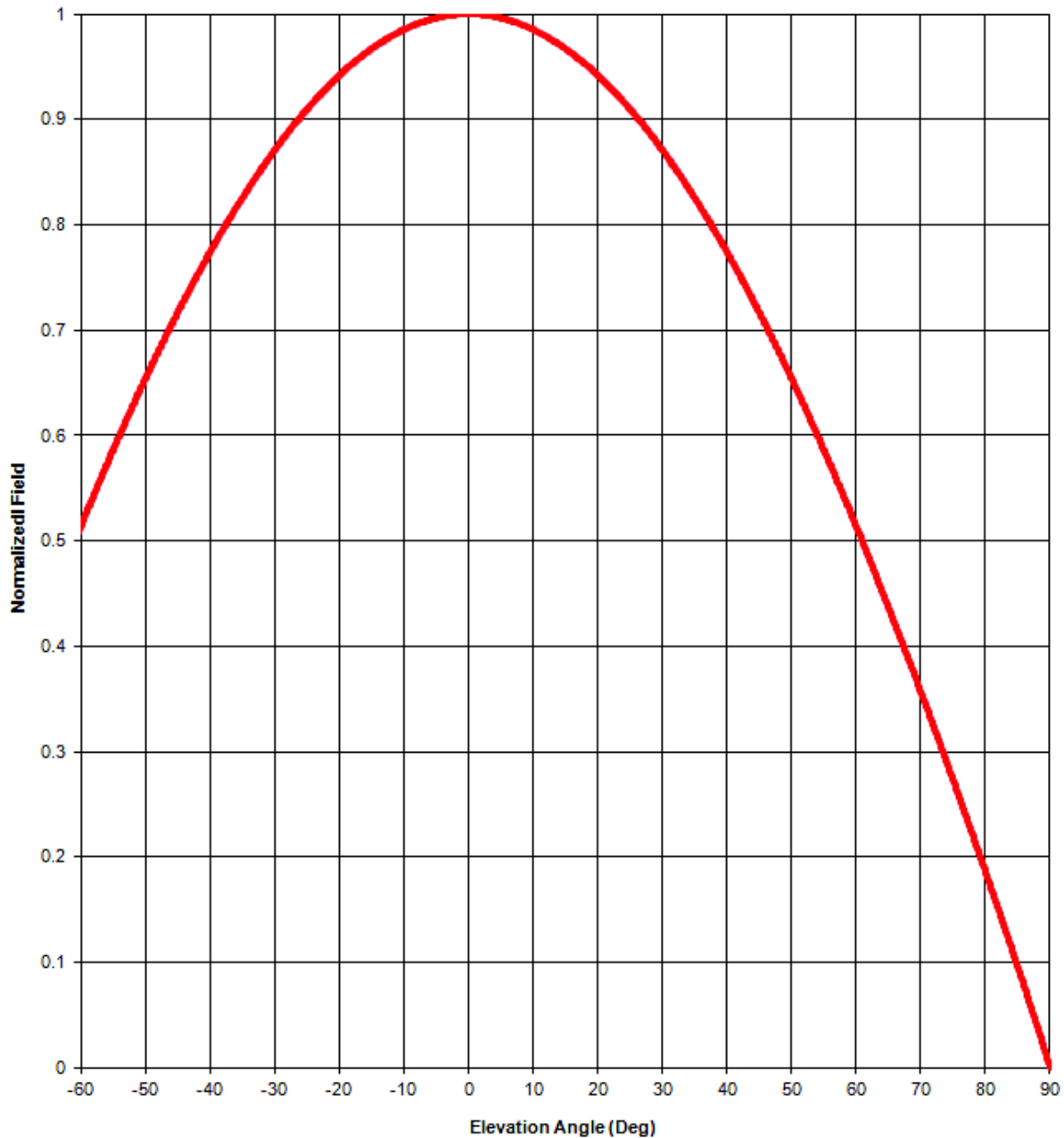
Power – 50 W

Height – 32 m

Contour – 122.3

depression angle below horizon	relative field	db from relative	ERP	angular distance to contour	vertical distance	horizontal distance	clearance above ground
0	1.000	0.00	50.00	38.037	0.000	38.037	32.000
5	0.996	-0.03	49.60	37.885	3.302	37.740	28.698
10	0.985	-0.13	48.51	37.466	6.506	36.897	25.494
15	0.967	-0.29	46.75	36.782	9.520	35.528	22.480
20	0.942	-0.52	44.37	35.831	12.255	33.670	19.745
25	0.910	-0.82	41.41	34.613	14.628	31.370	17.372
30	0.871	-1.20	37.93	33.130	16.565	28.691	15.435
35	0.826	-1.66	34.11	31.418	18.021	25.736	13.979
40	0.774	-2.23	29.95	29.440	18.924	22.553	13.076
45	0.717	-2.89	25.70	27.272	19.284	19.284	12.716
50	0.654	-3.69	21.39	24.876	19.056	15.990	12.944
55	0.586	-4.64	17.17	22.290	18.259	12.785	13.741
60	0.514	-5.78	13.21	19.551	16.932	9.775	15.068
65	0.437	-7.19	9.55	16.622	15.065	7.025	16.935
70	0.357	-8.95	6.37	13.579	12.760	4.644	19.240
75	0.273	-11.28	3.73	10.384	10.030	2.688	21.970
80	0.186	-14.61	1.73	7.075	6.967	1.229	25.033
85	0.096	-20.35	0.46	3.652	3.638	0.318	28.362
90	0.001	-60.00	0.00	0.038	0.038	0.000	31.962

Elevation pattern



Antenna model: 6812b, single bay

Test frequency: 98.1 MHz

Gain (maximum):

Power	dB
0.46	-3.39 dB

Document No. 6812b 1-bay fw (130701)

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Degrees	Rel. Field
1	1.000
2	0.999
3	0.999
4	0.998
5	0.996
6	0.995
7	0.993
8	0.991
9	0.988
10	0.985
11	0.982
12	0.979
13	0.975
14	0.971
15	0.967
16	0.963
17	0.958
18	0.953

Degrees	Rel. Field
19	0.948
20	0.942
21	0.936
22	0.930
23	0.924
24	0.917
25	0.910
26	0.903
27	0.895
28	0.887
29	0.879
30	0.871
31	0.862
32	0.854
33	0.845
34	0.835
35	0.826
36	0.816

Degrees	Rel. Field
37	0.806
38	0.796
39	0.785
40	0.774
41	0.763
42	0.752
43	0.741
44	0.729
45	0.717
46	0.705
47	0.693
48	0.680
49	0.667
50	0.654
51	0.641
52	0.628
53	0.614
54	0.600

Degrees	Rel. Field
55	0.586
56	0.572
57	0.558
58	0.544
59	0.529
60	0.514
61	0.499
62	0.484
63	0.469
64	0.453
65	0.437
66	0.422
67	0.406
68	0.390
69	0.373
70	0.357
71	0.341
72	0.324

Degrees	Rel. Field
73	0.307
74	0.290
75	0.273
76	0.256
77	0.239
78	0.221
79	0.204
80	0.186
81	0.168
82	0.151
83	0.133
84	0.114
85	0.096
86	0.078
87	0.059
88	0.040
89	0.021
90	0.000

Elevation Pattern Tabulation

Antenna model: 6812b, single bay

Relative Field at 0° Depression = 1.000