

Second-Adjacent Channel Protection

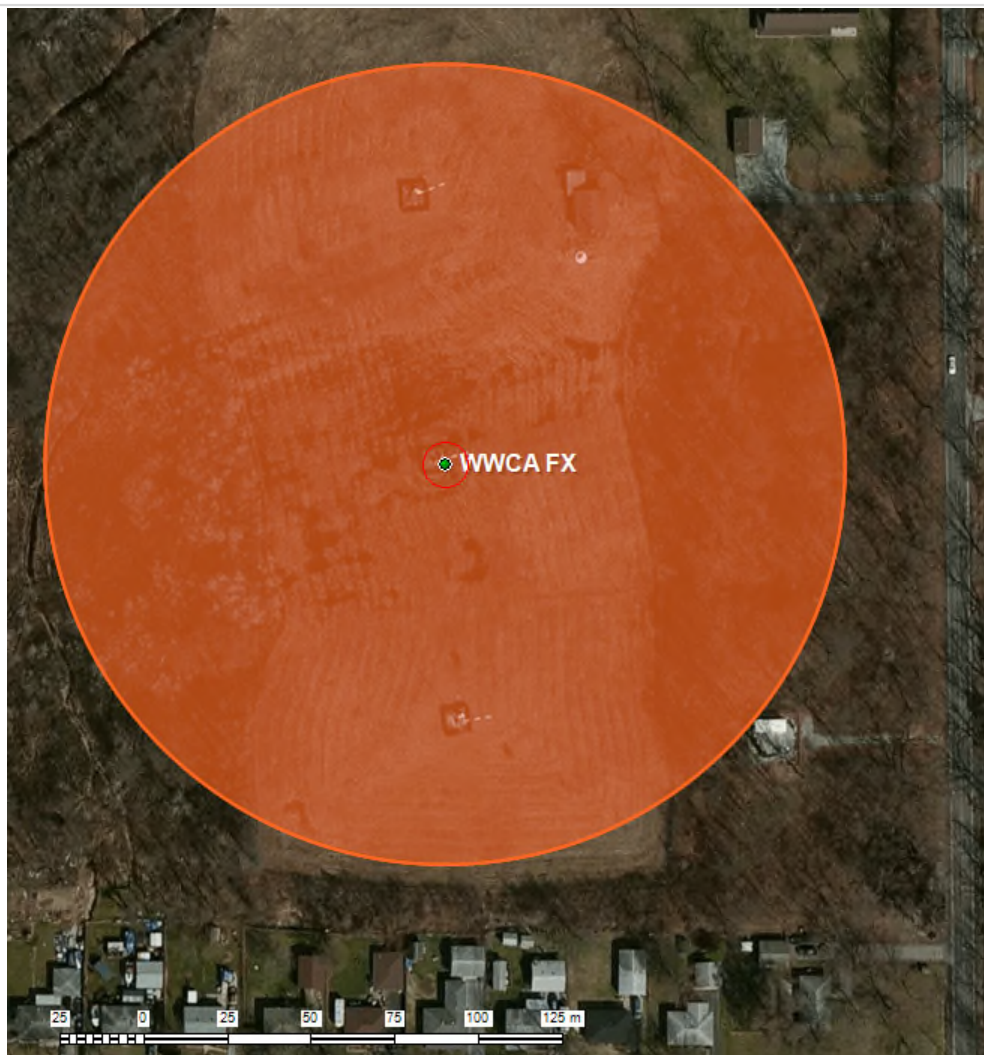
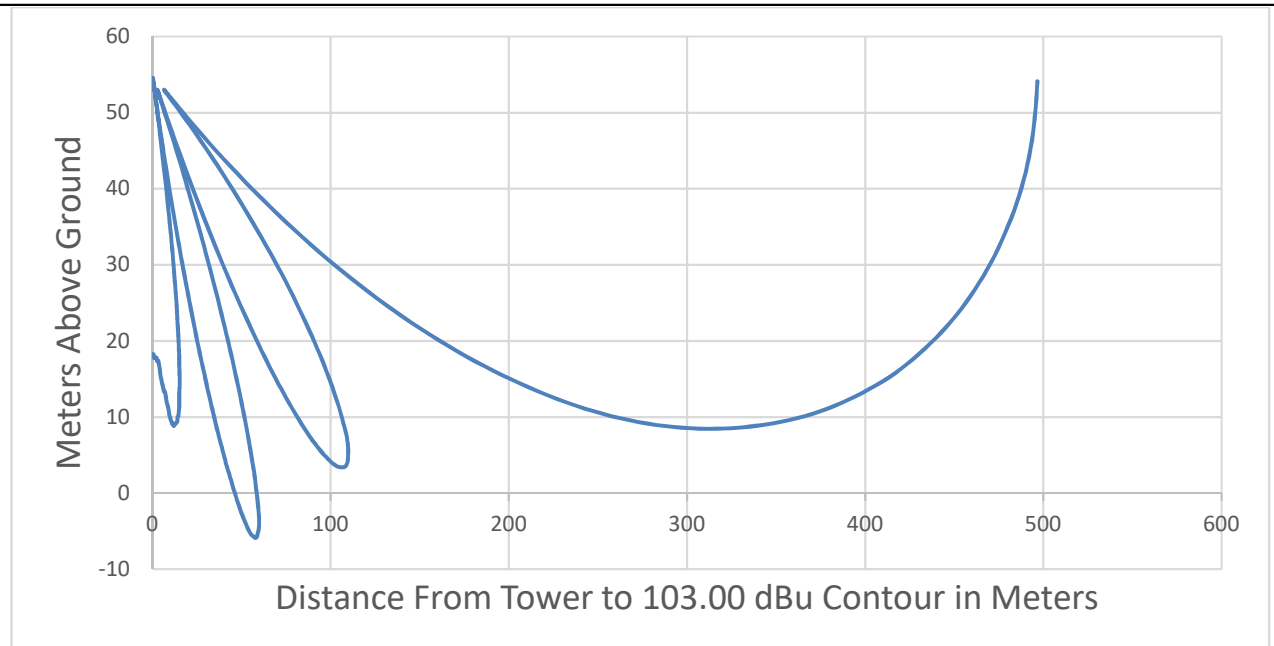
The proposed facility is located within the protected contour of second-adjacent channel stations WKQX (266B, FCC ID 19525), Chicago, Illinois and WTMX (270B, FCC ID 6377), Skokie, Illinois which are protected in accordance with §74.1204(d) at a +40 dB level. The proposed four bay $\frac{3}{4}$ -wave spaced antenna will be mounted with its center 55 meters above ground on an existing tower.

WKQX is located 45.92 kilometers distant with a calculated field of 63.00 dBu at the proposed site based on an ERP of 5.7 KW and height above average terrain along a 153.7° radial from WKQX to the proposed site of 426 meters. The translator would require a field intensity of 103.00 dBu to cause interference to the WKQX signal. Using the free-space formula to calculate distance to the proposed 103.00 dBu using an ERP of 100 watts we arrive at a worst-case potential interference area radius around the antenna of 497 meters.

WTMX is located 44.44 kilometers distant with a calculated field of 63.64 dBu at the proposed site based on an ERP of 4.2 KW and height above average terrain along a 151.2° radial from WTMX to the proposed site of 477.0 meters. The translator would require a field intensity of 103.64 dBu to cause interference to the WTMX signal. Using the free-space formula to calculate distance to the proposed 103.64 dBu using an ERP of 100 watts we arrive at a worst-case potential interference area radius around the antenna of 461 meters.

Applying the vertical plane pattern of the proposed four bay $\frac{3}{4}$ -wave spaced antenna the lowest of the two interference contours (103.00 dBu) is above ground at 59 meters from the tower. The 103.64 dBu contour has slightly better clearance. The closest occupied structure is at 145 meters.

As there are no occupied structures inside this predicted interference contour area there is zero population and the proposed operation is in compliance with §74.1204(d).



Dep (')	Er (%)	DTC	Slant	Clearance	Radius	Dep (')	Er (%)	DTC	Slant	Clearance	Radius	Dep (')	Er (%)	DTC	Slant	Clearance	Radius
0	100.0	496.68	31512.69	31016.01	31512.65	22.5	22.6	112.25	143.72	31.47	132.78	45	17.0	84.44	77.78	-6.65	54.05
0.5	99.8	495.69	6302.62	5806.92	6302.38	23	23.3	115.73	140.76	25.03	129.57	45.5	17.0	84.44	77.11	-7.32	53.11
1	99.4	493.70	3151.43	2657.72	3150.95	23.5	23.9	118.71	137.93	19.22	126.49	46	17.0	84.44	76.46	-7.98	52.19
1.5	98.7	490.23	2101.09	1610.86	2100.37	24	24.2	120.20	135.22	15.03	123.53	46.5	16.9	83.94	75.82	-8.12	51.29
2	97.7	485.26	1575.95	1090.69	1574.99	24.5	24.3	120.69	132.63	11.93	120.69	47	16.7	82.95	75.20	-7.74	50.40
2.5	96.4	478.80	1260.91	782.10	1259.71	25	24.3	120.69	130.14	9.45	117.95	47.5	16.5	81.95	74.60	-7.35	49.52
3	94.9	471.35	1050.90	579.55	1049.46	25.5	24.1	119.70	127.76	8.05	115.31	48	16.2	80.46	74.01	-6.45	48.66
3.5	93.1	462.41	900.92	438.51	899.24	26	23.7	117.71	125.46	7.75	112.77	48.5	15.8	78.48	73.44	-5.04	47.81
4	91.1	452.48	788.46	335.98	786.54	26.5	23.2	115.23	123.26	8.03	110.31	49	15.4	76.49	72.88	-3.61	46.97
4.5	88.8	441.06	701.00	259.95	698.84	27	22.5	111.75	121.15	9.39	107.94	49.5	14.9	74.01	72.33	-1.68	46.15
5	86.3	428.64	631.05	202.42	628.65	27.5	21.7	107.78	119.11	11.33	105.65	50	14.4	71.52	71.80	0.27	45.34
5.5	83.6	415.23	573.84	158.61	571.20	28	20.8	103.31	117.15	13.84	103.44	50.5	13.8	68.54	71.28	2.74	44.54
6	80.6	400.33	526.17	125.84	523.29	28.5	19.8	98.34	115.27	16.92	101.30	51	13.3	66.06	70.77	4.71	43.75
6.5	77.5	384.93	485.85	100.92	482.73	29	18.6	92.38	113.45	21.06	99.22	51.5	12.6	62.58	70.28	7.70	42.97
7	74.2	368.54	451.30	82.76	447.94	29.5	17.4	86.42	111.69	25.27	97.21	52	12.0	59.60	69.80	10.19	42.20
7.5	70.7	351.16	421.37	70.22	417.77	30	16.1	79.97	110.00	30.03	95.26	52.5	11.3	56.13	69.33	13.20	41.45
8	67.1	333.28	395.19	61.92	391.35	30.5	14.7	73.01	108.37	35.35	93.37	53	10.6	52.65	68.87	16.22	40.70
8.5	63.4	314.90	372.10	57.20	368.01	31	13.2	65.56	106.79	41.23	91.54	53.5	9.8	48.68	68.42	19.75	39.96
9	59.6	296.02	351.58	55.56	347.26	31.5	11.7	58.11	105.26	47.15	89.75	54	9.1	45.20	67.98	22.79	39.23
9.5	55.7	276.65	333.24	56.58	328.67	32	10.2	50.66	103.79	53.13	88.02	54.5	8.3	41.22	67.56	26.33	38.51
10	51.7	256.79	316.73	59.95	311.92	32.5	8.6	42.71	102.36	59.65	86.33	55	7.5	37.25	67.14	29.89	37.80
10.5	47.6	236.42	301.81	65.39	296.75	33	7.0	34.77	100.98	66.22	84.69	55.5	6.7	33.28	66.74	33.46	37.10
11	43.4	215.56	288.25	72.69	282.95	33.5	5.4	26.82	99.65	72.83	83.10	56	6.0	29.80	66.34	36.54	36.40
11.5	39.3	195.20	275.87	80.67	270.33	34	3.8	18.87	98.36	79.48	81.54	56.5	5.2	25.83	65.96	40.13	35.72
12	35.2	174.83	264.54	89.70	258.75	34.5	2.3	11.42	97.10	85.68	80.03	57	4.4	21.85	65.58	43.73	35.04
12.5	31.1	154.47	254.11	99.64	248.09	35	0.7	3.48	95.89	92.41	78.55	57.5	3.6	17.88	65.21	47.33	34.37
13	27.1	134.60	244.50	109.90	238.23	35.5	0.8	3.97	94.71	90.74	77.11	58	2.8	13.91	64.85	50.95	33.70
13.5	23.1	114.73	235.60	120.87	229.09	36	2.3	11.42	93.57	82.15	75.70	58.5	2.1	10.43	64.51	54.08	33.05
14	19.3	95.86	227.35	131.49	220.59	36.5	3.7	18.38	92.46	74.09	74.33	59	1.3	6.46	64.16	57.71	32.40
14.5	15.5	76.99	219.67	142.68	212.67	37	5.1	25.33	91.39	66.06	72.99	59.5	0.6	2.98	63.83	60.85	31.75
15	11.8	58.61	212.50	153.89	205.26	37.5	6.4	31.79	90.35	58.56	71.68	60	0.1	0.50	63.51	63.01	31.12
15.5	8.3	41.22	205.81	164.58	198.32	38	7.7	38.24	89.33	51.09	70.40	60.5	0.8	3.97	63.19	59.22	30.49
16	4.9	24.34	199.54	175.20	191.81	38.5	8.9	44.20	88.35	44.15	69.14	61	1.5	7.45	62.88	55.43	29.86
16.5	1.7	8.44	193.65	185.21	185.68	39	10.0	49.67	87.40	37.73	67.92	61.5	2.1	10.43	62.58	52.15	29.24
17	1.4	6.95	188.12	181.16	179.90	39.5	11.1	55.13	86.47	31.34	66.72	62	2.7	13.41	62.29	48.88	28.63
17.5	4.3	21.36	182.90	161.55	174.44	40	12.0	59.60	85.56	25.96	65.55	62.5	3.3	16.39	62.01	45.62	28.02
18	7.1	35.26	177.98	142.72	169.27	40.5	12.9	64.07	84.69	20.62	64.40	63	3.9	19.37	61.73	42.36	27.42
18.5	9.6	47.68	173.33	125.65	164.38	41	13.7	68.05	83.83	15.79	63.27	63.5	4.5	22.35	61.46	39.11	26.83
19	11.9	59.11	168.94	109.83	159.73	41.5	14.4	71.52	83.00	11.48	62.17	64	5.0	24.83	61.19	36.36	26.23
19.5	14.1	70.03	164.77	94.73	155.32	42	15.0	74.50	82.20	7.69	61.08	64.5	5.5	27.32	60.94	33.62	25.65
20	16.1	79.97	160.81	80.84	151.11	42.5	15.6	77.48	81.41	3.93	60.02	65	5.9	29.30	60.69	31.38	25.06
20.5	17.8	88.41	157.05	68.64	147.10	43	16.0	79.47	80.65	1.18	58.98	65.5	6.4	31.79	60.44	28.65	24.49
21	19.3	95.86	153.47	57.61	143.28	43.5	16.4	81.46	79.90	-1.56	57.96	66	6.8	33.77	60.20	26.43	23.91
21.5	20.6	102.32	150.07	47.75	139.63	44	16.7	82.95	79.18	-3.77	56.95	66.5	7.1	35.26	59.97	24.71	23.35
22	21.7	107.78	146.82	39.04	136.13	44.5	16.9	83.94	78.47	-5.47	55.97	67	7.5	37.25	59.75	22.50	22.78