

Non-Interference Compliance

Regarding Facility id 149132

Channel 273

Description of Exhibit 12 Contents

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all of the applicable rule sections and that this application for a construction permit is in full compliance with 47 C.F.R. § 74.1204.

Let it be noted that should any actual real world interference occur, the applicant acknowledges that it will promptly suspend operation of this translator in accordance with 47 C.F.R. § 74.1203.

Page 2 of this exhibit is an explanation of the method used to demonstrate compliance with contour overlap and interference provisions based on 47 C.F.R. § 74.1204(d), which states:

[A]n application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.

Page 3 contains a tabulation of the vertical radiation pattern of the proposed antenna and the minimum ground clearance of the interfering contour based on this pattern.

Pages 4 through 6 include a plot and a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 7 of this exhibit contains the tabulated data from the interference analysis, which shows all stations whose protected contours come within 50 km of the 34 dBμ F(50,10) contour of the proposed translator. These tabulated values were calculated using data from the FCC's CDBS files and 30 arc second terrain data. The column labeled "Adj" shows the number of channels difference between the entry and the proposed translator. The column labeled "Dist" shows the distance in km. The column labeled "Overlap" shows the area of contour overlap in square kilometers.

Page 8 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 minute quadrangle at full scale with the calculated area of interference overlaid. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using the free space equation and 120 radials.

Compliance with 47 C.F.R. § 74.1204(d)

All authorized second and third adjacent stations with which the proposed translator has contour overlap are tabulated below. Column four show the station's signal level at the proposed translator's tower site, and column five gives the minimum value within the entire standard interfering contour of the proposed translator (100 dBμ for most classes, 94 for class B, 97 for class B1). The minimum second or third adjacent F(50,50) contour within the proposed translator's standard interfering contour was used to calculate the proposed translator's actual "worst-case" interfering contour.

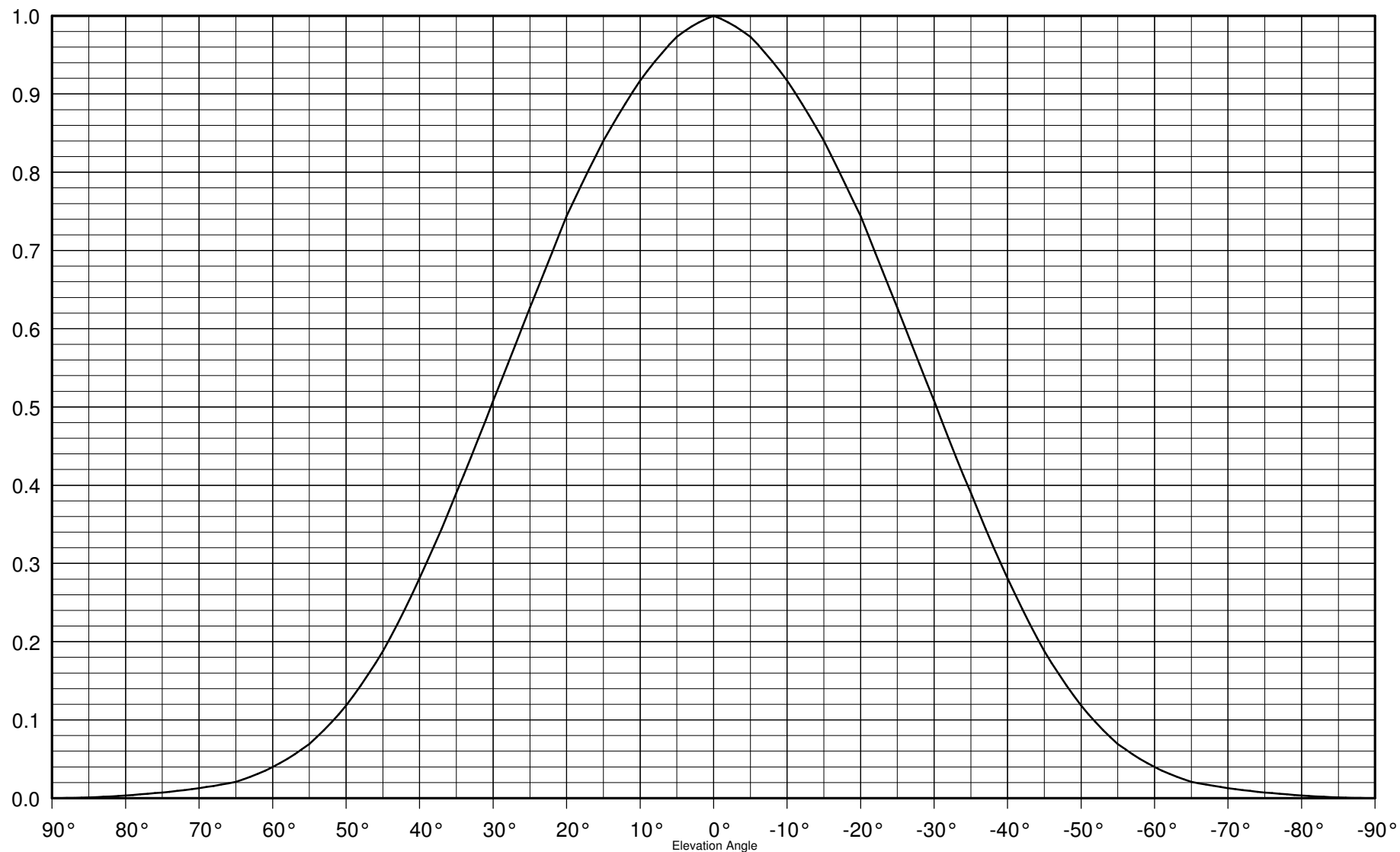
Application_id	File Number	Callsign	Contour at Tower	Min. Contour
563484	BPH20010103AAH	KSRC	70.5	70.4
576395	BMXPH20010802AAS	KSRC	63.4	63.3
613264	BMPH20020925ABQ	KMMO-FM	64.6	64.6
80063	BLH19850712KQ	KSRC	65.5	65.3
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				63.3

FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to Section 74.1204(d), an applicant may use the undesired-to-desired signal ratio method." The undesired-to-desired ratio for second and third adjacent stations required by § 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is **63.3 dBμ**, this makes the proposed translator's worst-case interfering contour **103.3 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **287.8 m** from the transmit antenna.

The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 8 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated on the following page at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free-space calculation that neglects any loss due to reflection, the vertical ground clearance of the proposed translator's interference contour has been tabulated. As shown on the following page, the area of interference clears the tower ground level (TGL) by **18.7 m** at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the area of interference. Hence, in accordance with 47 C.F.R. § 74.1204(d) and the clarification provided by the FCC in the decision *Re: Living Way Ministries* (FCC 02-244), a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.

Antenna Manufacturer:	SCA
Antenna Model:	2CA5-FM/CP/RM-0.5
CORAGL:	95 m
Maximum ERP:	0.036 kW
Interfering Contour:	103.3 dBμ
Max Int. Contour Distance:	287.8 m
Min Ground Clearance:	18.7 m

Depression Angle Below Horizontal	Antenna Relative Field	ERP (watts)	Distance to Interfering Contour from Antenna (m)	Horizontal Distance of Interfering Contour from Tower (m)	Vertical Clearance of Interfering Contour above TGL (m)
5	.973	34.1	280.1	279.0	70.6
10	.917	30.3	263.9	259.9	49.2
15	.840	25.4	241.8	233.5	32.4
20	.744	19.9	214.2	201.2	21.8
25	.627	14.2	180.5	163.6	18.7
30	.508	9.3	146.2	126.6	21.9
35	.390	5.5	112.3	92.0	30.6
40	.281	2.8	80.9	62.0	43.0
45	.188	1.3	54.1	38.3	56.7
50	.118	0.5	34.0	21.8	69.0
55	.069	0.2	19.9	11.4	78.7
60	.040	0.1	11.5	5.8	85.0
65	.021	0.0	6.0	2.6	89.5
70	.013	0.0	3.7	1.3	91.5
75	.010	0.0	2.9	0.7	92.2
80	.010	0.0	2.9	0.5	92.2
85	.010	0.0	2.9	0.3	92.1
90	.010	0.0	2.9	0.0	92.1
Minimum Clearance above TGL:					18.7 m



2xCA5-FM/CP/CV FM CP Yagi Array
2 antennas skewed 0 deg. w/ equal power
Vertically Stacked @ .5 Wavelength
Max Gain: 8.5 dBd / Power-x: 7.08
Circular Polarization
Vertical Plane Pattern

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Angle	Field	Rel dB	PWR mult	dBd	Angle	Field	Rel dB	PWR mult	dBd
90	.000	-102.29	.00	-93.79	45	.188	-14.52	.25	-6.02
89	.000	-86.96	.00	-78.46	44	.205	-13.76	.30	-5.26
88	.000	-76.18	.00	-67.68	43	.223	-13.04	.35	-4.54
87	.000	-69.46	.00	-60.96	42	.242	-12.34	.41	-3.84
86	.001	-64.63	.00	-56.13	41	.261	-11.67	.48	-3.17
85	.001	-60.88	.00	-52.38	40	.281	-11.02	.56	-2.52
84	.001	-57.83	.00	-49.33	39	.302	-10.41	.64	-1.91
83	.002	-55.27	.00	-46.77	38	.323	-9.83	.74	-1.33
82	.002	-53.06	.00	-44.56	37	.344	-9.26	.84	-.76
81	.003	-51.12	.00	-42.62	36	.367	-8.71	.95	-.21
80	.003	-49.40	.00	-40.90	35	.390	-8.18	1.08	.32
79	.004	-47.84	.00	-39.34	34	.413	-7.69	1.21	.81
78	.005	-46.42	.00	-37.92	33	.436	-7.22	1.34	1.28
77	.006	-45.12	.00	-36.62	32	.459	-6.76	1.49	1.74
76	.006	-43.92	.00	-35.42	31	.483	-6.31	1.65	2.19
75	.007	-42.82	.00	-34.32	30	.508	-5.88	1.83	2.62
74	.008	-41.72	.00	-33.22	29	.531	-5.50	2.00	3.00
73	.009	-40.69	.00	-32.19	28	.555	-5.12	2.18	3.38
72	.010	-39.72	.00	-31.22	27	.579	-4.75	2.37	3.75
71	.011	-38.80	.00	-30.30	26	.603	-4.40	2.57	4.10
70	.013	-37.94	.00	-29.44	25	.627	-4.06	2.78	4.44
69	.014	-37.00	.00	-28.50	24	.650	-3.74	2.99	4.76
68	.016	-36.11	.00	-27.61	23	.674	-3.43	3.21	5.07
67	.017	-35.26	.00	-26.76	22	.697	-3.13	3.44	5.37
66	.019	-34.44	.00	-25.94	21	.721	-2.85	3.68	5.65
65	.021	-33.65	.00	-25.15	20	.744	-2.57	3.92	5.93
64	.024	-32.41	.00	-23.91	19	.764	-2.34	4.13	6.16
63	.027	-31.23	.01	-22.73	18	.783	-2.12	4.34	6.38
62	.031	-30.11	.01	-21.61	17	.802	-1.91	4.56	6.59
61	.035	-29.05	.01	-20.55	16	.821	-1.71	4.78	6.79
60	.040	-28.02	.01	-19.52	15	.840	-1.51	5.00	6.99
59	.045	-26.97	.01	-18.47	14	.856	-1.35	5.19	7.15
58	.050	-25.97	.02	-17.47	13	.872	-1.19	5.39	7.31
57	.056	-25.01	.02	-16.51	12	.888	-1.03	5.58	7.47
56	.062	-24.09	.03	-15.59	11	.903	-.89	5.77	7.61
55	.069	-23.21	.03	-14.71	10	.917	-.75	5.95	7.75
54	.078	-22.18	.04	-13.68	9	.930	-.63	6.12	7.87
53	.087	-21.21	.05	-12.71	8	.941	-.52	6.27	7.98
52	.097	-20.28	.07	-11.78	7	.953	-.42	6.42	8.08
51	.107	-19.39	.08	-10.89	6	.963	-.33	6.57	8.17
50	.118	-18.54	.10	-10.04	5	.973	-.24	6.70	8.26
49	.131	-17.66	.12	-9.16	4	.980	-.18	6.80	8.32
48	.144	-16.83	.15	-8.33	3	.986	-.12	6.88	8.38
47	.158	-16.03	.18	-7.53	2	.991	-.07	6.96	8.43
46	.173	-15.26	.21	-6.76	1	.996	-.03	7.02	8.47

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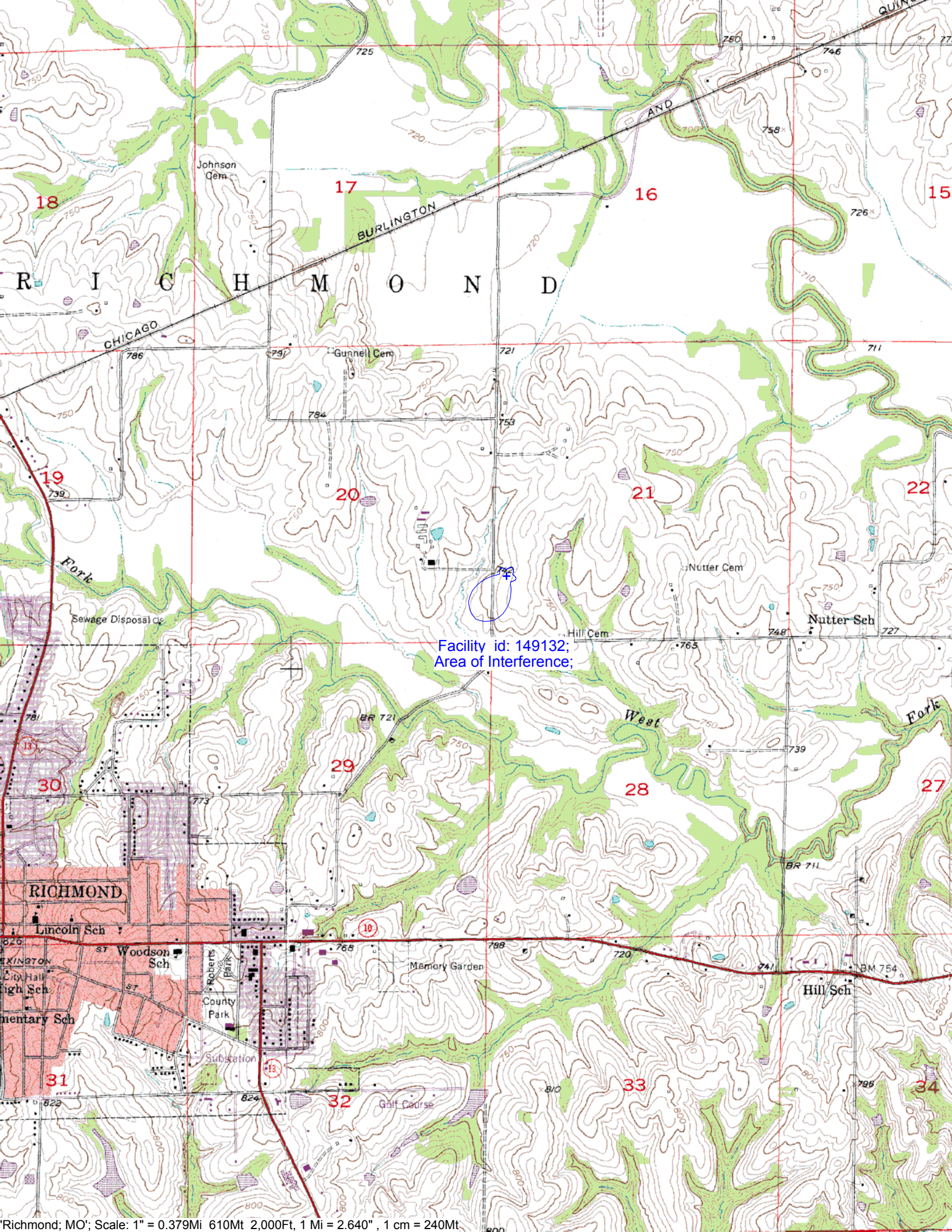


Angle	Field	Rel dB	PWR mult	dBd	Angle	Field	Rel dB	PWR mult	dBd
0	1.000	.00	7.08	8.50	-45	.188	-14.52	.25	-6.02
-1	.996	-.03	7.02	8.47	-46	.173	-15.26	.21	-6.76
-2	.991	-.07	6.96	8.43	-47	.158	-16.03	.18	-7.53
-3	.986	-.12	6.88	8.38	-48	.144	-16.83	.15	-8.33
-4	.980	-.18	6.80	8.32	-49	.131	-17.66	.12	-9.16
-5	.973	-.24	6.70	8.26	-50	.118	-18.54	.10	-10.04
-6	.963	-.33	6.57	8.17	-51	.107	-19.39	.08	-10.89
-7	.953	-.42	6.42	8.08	-52	.097	-20.28	.07	-11.78
-8	.941	-.52	6.27	7.98	-53	.087	-21.21	.05	-12.71
-9	.930	-.63	6.12	7.87	-54	.078	-22.18	.04	-13.68
-10	.917	-.75	5.95	7.75	-55	.069	-23.21	.03	-14.71
-11	.903	-.89	5.77	7.61	-56	.062	-24.09	.03	-15.59
-12	.888	-1.03	5.58	7.47	-57	.056	-25.01	.02	-16.51
-13	.872	-1.19	5.39	7.31	-58	.050	-25.97	.02	-17.47
-14	.856	-1.35	5.19	7.15	-59	.045	-26.97	.01	-18.47
-15	.840	-1.51	5.00	6.99	-60	.040	-28.02	.01	-19.52
-16	.821	-1.71	4.78	6.79	-61	.035	-29.05	.01	-20.55
-17	.802	-1.91	4.56	6.59	-62	.031	-30.11	.01	-21.61
-18	.783	-2.12	4.34	6.38	-63	.027	-31.23	.01	-22.73
-19	.764	-2.34	4.13	6.16	-64	.024	-32.41	.00	-23.91
-20	.744	-2.57	3.92	5.93	-65	.021	-33.65	.00	-25.15
-21	.721	-2.85	3.68	5.65	-66	.019	-34.43	.00	-25.93
-22	.697	-3.13	3.44	5.37	-67	.017	-35.25	.00	-26.75
-23	.674	-3.43	3.21	5.07	-68	.016	-36.11	.00	-27.61
-24	.650	-3.74	2.99	4.76	-69	.014	-37.00	.00	-28.50
-25	.627	-4.06	2.78	4.44	-70	.013	-37.94	.00	-29.44
-26	.603	-4.40	2.57	4.10	-71	.011	-38.80	.00	-30.30
-27	.579	-4.75	2.37	3.75	-72	.010	-39.72	.00	-31.22
-28	.555	-5.12	2.18	3.38	-73	.009	-40.69	.00	-32.19
-29	.531	-5.50	2.00	3.00	-74	.008	-41.72	.00	-33.22
-30	.508	-5.88	1.83	2.62	-75	.007	-42.82	.00	-34.32
-31	.483	-6.31	1.65	2.19	-76	.006	-43.92	.00	-35.42
-32	.459	-6.76	1.49	1.74	-77	.006	-45.12	.00	-36.62
-33	.436	-7.22	1.34	1.28	-78	.005	-46.42	.00	-37.92
-34	.413	-7.69	1.21	.81	-79	.004	-47.84	.00	-39.34
-35	.390	-8.18	1.08	.32	-80	.003	-49.40	.00	-40.90
-36	.367	-8.71	.95	-.21	-81	.003	-51.12	.00	-42.62
-37	.344	-9.26	.84	-.76	-82	.002	-53.06	.00	-44.56
-38	.323	-9.83	.74	-1.33	-83	.002	-55.27	.00	-46.77
-39	.302	-10.41	.64	-1.91	-84	.001	-57.83	.00	-49.33
-40	.281	-11.02	.56	-2.52	-85	.001	-60.88	.00	-52.38
-41	.261	-11.67	.48	-3.17	-86	.001	-64.63	.00	-56.13
-42	.242	-12.34	.41	-3.84	-87	.000	-69.46	.00	-60.96
-43	.223	-13.04	.35	-4.54	-88	.000	-76.18	.00	-67.68
-44	.205	-13.76	.30	-5.26	-89	.000	-86.95	.00	-78.45

Adjacent Channel Study **For Station NEW, Facility_id: 149132**

Co-channel through third adjacent:

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCMSL	Channel	Adj	Dist	Overlap
576395	11279	BMXPH	20010802AAS	KSRC	INFINITY RADIO LICENSE INC.	C	KANSAS CITY	MO	CP	52	475	271	2	50.8	0.0366
563484	11279	BPH	20010103AAH	KSRC	INFINITY RADIO LICENSE INC.	C	KANSAS CITY	MO	CP	100	600.5	271	2	50.8	0.0366
613264	43226	BMPH	20020925ABQ	KMMO-FM	MISSOURI VALLEY BROADCASTING, INC.	C1	MARSHALL	MO	CP MOD	76	522	275	2	58.7	0.0366
80063	11279	BLH	19850712KQ	KSRC	INFINITY RADIO LICENSE INC.	C	KANSAS CITY	MO	LIC	100	572	271	2	61.4	0.0366
641944	149106	BNPFT	20030317FWW	NEW	EDGEWATER BROADCASTING INC.	D	CAMERON	MO	APP	0.14	401	273	0	47.8	0
641957	149119	BNPFT	20030317FXX	NEW	EDGEWATER BROADCASTING INC.	D	KANSAS CITY	MO	APP	0.075	396.6	273	0	49.3	0
641949	149111	BNPFT	20030317FXD	NEW	EDGEWATER BROADCASTING INC.	D	CHILLICOTHE	MO	APP	0.075	389.7	273	0	56.6	0
192931	43226	BLH	19931213KB	KMMO-FM	MISSOURI VALLEY BROADCASTING, INC.	C1	MARSHALL	MO	LIC	100	337	275	2	64.8	0
641938	149100	BNPFT	20030317FWI	NEW	EDGEWATER BROADCASTING INC.	D	BELTON	MO	APP	0.034	560	273	0	73.3	0



Facility id: 149132;
Area of Interference;