[Exhibit 13]

Non-Interference Compliance

Regarding Facility id 153977 Channel 280

Description of Exhibit 13 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 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.

Page 9 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

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
1202155	BLH20070927AIC	KRFX	92.5	92.5
428877	BLH19991214ABH	KKFN	94.7	94.2
	Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour			**92.5**

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 **92.5 dBµ**, this makes the proposed translator's worst-case interfering contour **132.5 dBµ.** By the free-space equation, this contour is calculated to extend a maximum of **15.3 m** from the transmit antenna.

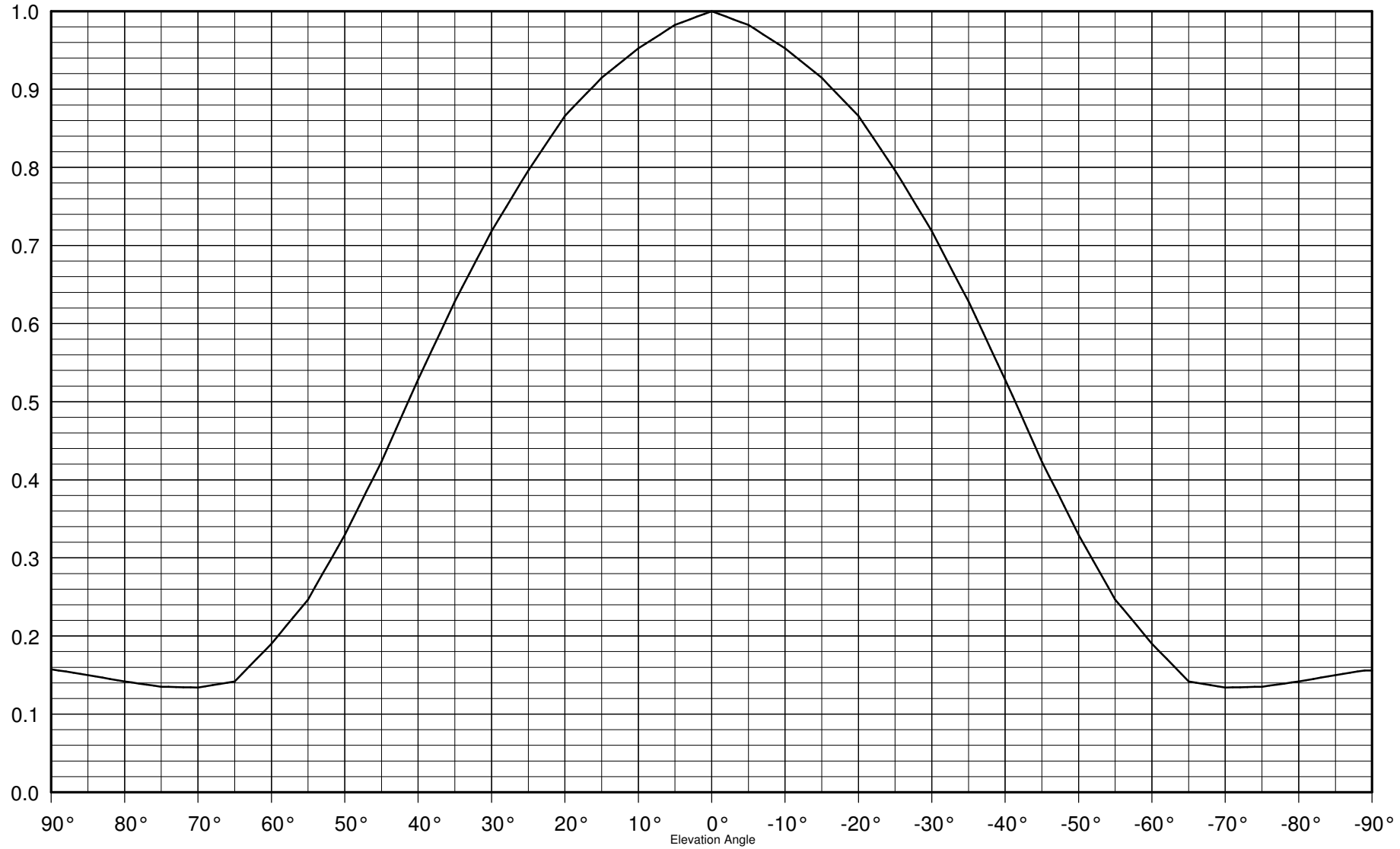
The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 8 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative 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 **240.5 m** at the lowest point.

The building the tower is mounted on is 237.7 meters tall. Since the area of interference is predicted to clear the ground by 240.5 meters, it will clear the roof of the building by 2.8 meters.

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:	**2-CA5-FM/CP/RM**
CORAGL:	**246 m**
Maximum ERP:	**0.085 kW**
Interfering Contour:	**132.5 dBµ**
Max Int. Contour Distance:	**15.3 m**
Min Ground Clearance:	**240.5 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	.982	82.0	15.1	15.0	244.7
10	.952	77.0	14.6	14.4	243.5
15	.915	71.2	14.0	13.6	242.4
20	.866	63.7	13.3	12.5	241.5
25	.796	53.9	12.2	11.1	240.8
30	.718	43.8	11.0	9.5	240.5
35	.628	33.5	9.6	7.9	240.5
40	.528	23.7	8.1	6.2	240.8
45	.423	15.2	6.5	4.6	241.4
50	.329	9.2	5.0	3.2	242.1
55	.247	5.2	3.8	2.2	242.9
60	.190	3.1	2.9	1.5	243.5
65	.142	1.7	2.2	0.9	244.0
70	.134	1.5	2.1	0.7	244.1
75	.135	1.5	2.1	0.5	244.0
80	.142	1.7	2.2	0.4	243.9
85	.150	1.9	2.3	0.2	243.7
90	.157	2.1	2.4	0.0	243.6
			Minimum Clearance above TGL:		**240.5 m**



CA5-FM/CP/RM FM CP Yagi Antenna
Max Gain: 6.0 dBd
Power-x: 3.98
Circular Polarization
Vertical Plane Pattern

KATHREIN
SCALA DIVISION
Post Office Box 4580
Medford, OR 97501 (USA)
Phone:(541) 779-6500
Fax:(541) 779-3991
http://www.kathrein-scala.com

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Angle	Field	Rel dB	PWR mult	dBd	Angle	Field	Rel dB	PWR mult	dBd
90	.157	-16.06	.10	-10.06	45	.423	-7.47	.71	-1.47
89	.156	-16.14	.10	-10.14	44	.444	-7.05	.79	-1.05
88	.154	-16.23	.09	-10.23	43	.465	-6.64	.86	-.64
87	.153	-16.31	.09	-10.31	42	.486	-6.26	.94	-.26
86	.151	-16.39	.09	-10.39	41	.507	-5.89	1.02	.11
85	.150	-16.48	.09	-10.48	40	.528	-5.54	1.11	.46
84	.148	-16.58	.09	-10.58	39	.548	-5.22	1.20	.78
83	.147	-16.67	.09	-10.67	38	.568	-4.91	1.29	1.09
82	.145	-16.77	.08	-10.77	37	.588	-4.61	1.38	1.39
81	.143	-16.87	.08	-10.87	36	.608	-4.32	1.47	1.68
80	.142	-16.97	.08	-10.97	35	.628	-4.04	1.57	1.96
79	.140	-17.06	.08	-11.06	34	.646	-3.79	1.66	2.21
78	.139	-17.14	.08	-11.14	33	.664	-3.55	1.76	2.45
77	.138	-17.22	.08	-11.22	32	.682	-3.32	1.85	2.68
76	.136	-17.31	.07	-11.31	31	.700	-3.09	1.95	2.91
75	.135	-17.39	.07	-11.39	30	.718	-2.87	2.05	3.13
74	.135	-17.41	.07	-11.41	29	.734	-2.69	2.14	3.31
73	.135	-17.42	.07	-11.42	28	.749	-2.51	2.24	3.49
72	.134	-17.43	.07	-11.43	27	.765	-2.33	2.33	3.67
71	.134	-17.44	.07	-11.44	26	.780	-2.15	2.42	3.85
70	.134	-17.46	.07	-11.46	25	.796	-1.98	2.52	4.02
69	.136	-17.36	.07	-11.36	24	.810	-1.83	2.61	4.17
68	.137	-17.26	.07	-11.26	23	.824	-1.68	2.70	4.32
67	.139	-17.16	.08	-11.16	22	.838	-1.54	2.80	4.46
66	.140	-17.07	.08	-11.07	21	.852	-1.39	2.89	4.61
65	.142	-16.97	.08	-10.97	20	.866	-1.25	2.99	4.75
64	.151	-16.40	.09	-10.40	19	.876	-1.15	3.05	4.85
63	.161	-15.86	.10	-9.86	18	.885	-1.06	3.12	4.94
62	.171	-15.36	.12	-9.36	17	.895	-.96	3.19	5.04
61	.180	-14.88	.13	-8.88	16	.905	-.87	3.26	5.13
60	.190	-14.42	.14	-8.42	15	.915	-.77	3.33	5.23
59	.201	-13.92	.16	-7.92	14	.922	-.70	3.39	5.30
58	.213	-13.45	.18	-7.45	13	.930	-.63	3.44	5.37
57	.224	-13.00	.20	-7.00	12	.937	-.56	3.50	5.44
56	.235	-12.57	.22	-6.57	11	.945	-.49	3.55	5.51
55	.247	-12.16	.24	-6.16	10	.952	-.42	3.61	5.58
54	.263	-11.59	.28	-5.59	9	.958	-.37	3.66	5.63
53	.280	-11.07	.31	-5.07	8	.964	-.32	3.70	5.68
52	.296	-10.57	.35	-4.57	7	.970	-.26	3.75	5.74
51	.313	-10.09	.39	-4.09	6	.976	-.21	3.79	5.79
50	.329	-9.65	.43	-3.65	5	.982	-.15	3.84	5.85
49	.348	-9.17	.48	-3.17	4	.986	-.12	3.87	5.88
48	.367	-8.71	.54	-2.71	3	.989	-.09	3.90	5.91
47	.386	-8.27	.59	-2.27	2	.993	-.06	3.93	5.94
46	.405	-7.86	.65	-1.86	1	.996	-.03	3.95	5.97

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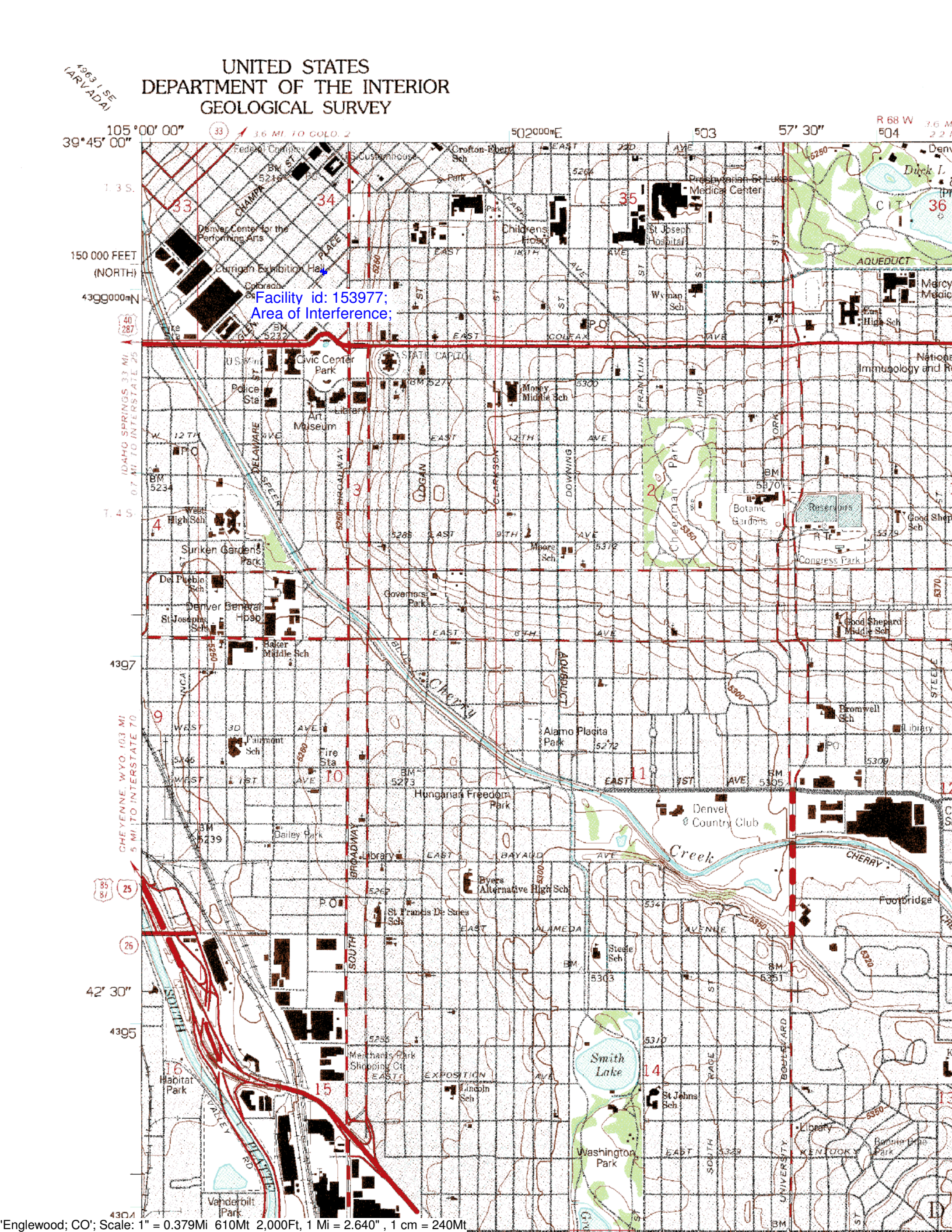
Angle	Field	Rel dB	PWR mult	dBd	Angle	Field	Rel dB	PWR mult	dBd
0	1.000	.00	3.98	6.00	-45	.423	-7.47	.71	-1.47
-1	.996	-.03	3.95	5.97	-46	.405	-7.86	.65	-1.86
-2	.993	-.06	3.93	5.94	-47	.386	-8.27	.59	-2.27
-3	.989	-.09	3.90	5.91	-48	.367	-8.71	.54	-2.71
-4	.986	-.12	3.87	5.88	-49	.348	-9.17	.48	-3.17
-5	.982	-.15	3.84	5.85	-50	.329	-9.65	.43	-3.65
-6	.976	-.21	3.79	5.79	-51	.313	-10.09	.39	-4.09
-7	.970	-.26	3.75	5.74	-52	.296	-10.57	.35	-4.57
-8	.964	-.32	3.70	5.68	-53	.280	-11.07	.31	-5.07
-9	.958	-.37	3.66	5.63	-54	.263	-11.59	.28	-5.59
-10	.952	-.42	3.61	5.58	-55	.247	-12.16	.24	-6.16
-11	.945	-.49	3.55	5.51	-56	.235	-12.57	.22	-6.57
-12	.937	-.56	3.50	5.44	-57	.224	-13.00	.20	-7.00
-13	.930	-.63	3.44	5.37	-58	.213	-13.45	.18	-7.45
-14	.922	-.70	3.39	5.30	-59	.201	-13.92	.16	-7.92
-15	.915	-.77	3.33	5.23	-60	.190	-14.42	.14	-8.42
-16	.905	-.87	3.26	5.13	-61	.180	-14.88	.13	-8.88
-17	.895	-.96	3.19	5.04	-62	.171	-15.36	.12	-9.36
-18	.885	-1.06	3.12	4.94	-63	.161	-15.86	.10	-9.86
-19	.876	-1.15	3.05	4.85	-64	.151	-16.40	.09	-10.40
-20	.866	-1.25	2.99	4.75	-65	.142	-16.97	.08	-10.97
-21	.852	-1.39	2.89	4.61	-66	.140	-17.07	.08	-11.07
-22	.838	-1.54	2.80	4.46	-67	.139	-17.16	.08	-11.16
-23	.824	-1.68	2.70	4.32	-68	.137	-17.26	.07	-11.26
-24	.810	-1.83	2.61	4.17	-69	.136	-17.36	.07	-11.36
-25	.796	-1.98	2.52	4.02	-70	.134	-17.46	.07	-11.46
-26	.780	-2.15	2.42	3.85	-71	.134	-17.44	.07	-11.44
-27	.765	-2.33	2.33	3.67	-72	.134	-17.43	.07	-11.43
-28	.749	-2.51	2.24	3.49	-73	.135	-17.42	.07	-11.42
-29	.734	-2.69	2.14	3.31	-74	.135	-17.41	.07	-11.41
-30	.718	-2.87	2.05	3.13	-75	.135	-17.39	.07	-11.39
-31	.700	-3.09	1.95	2.91	-76	.136	-17.31	.07	-11.31
-32	.682	-3.32	1.85	2.68	-77	.138	-17.22	.08	-11.22
-33	.664	-3.55	1.76	2.45	-78	.139	-17.14	.08	-11.14
-34	.646	-3.79	1.66	2.21	-79	.140	-17.06	.08	-11.06
-35	.628	-4.04	1.57	1.96	-80	.142	-16.97	.08	-10.97
-36	.608	-4.32	1.47	1.68	-81	.143	-16.87	.08	-10.87
-37	.588	-4.61	1.38	1.39	-82	.145	-16.77	.08	-10.77
-38	.568	-4.91	1.29	1.09	-83	.147	-16.67	.09	-10.67
-39	.548	-5.22	1.20	.78	-84	.148	-16.58	.09	-10.58
-40	.528	-5.54	1.11	.46	-85	.150	-16.48	.09	-10.48
-41	.507	-5.89	1.02	.11	-86	.151	-16.39	.09	-10.39
-42	.486	-6.26	.94	-.26	-87	.153	-16.31	.09	-10.31
-43	.465	-6.64	.86	-.64	-88	.154	-16.23	.09	-10.23
-44	.444	-7.05	.79	-1.05	-89	.156	-16.14	.10	-10.14

Adjacent Channel Study
For Station K280GB, Facility_id: 153977

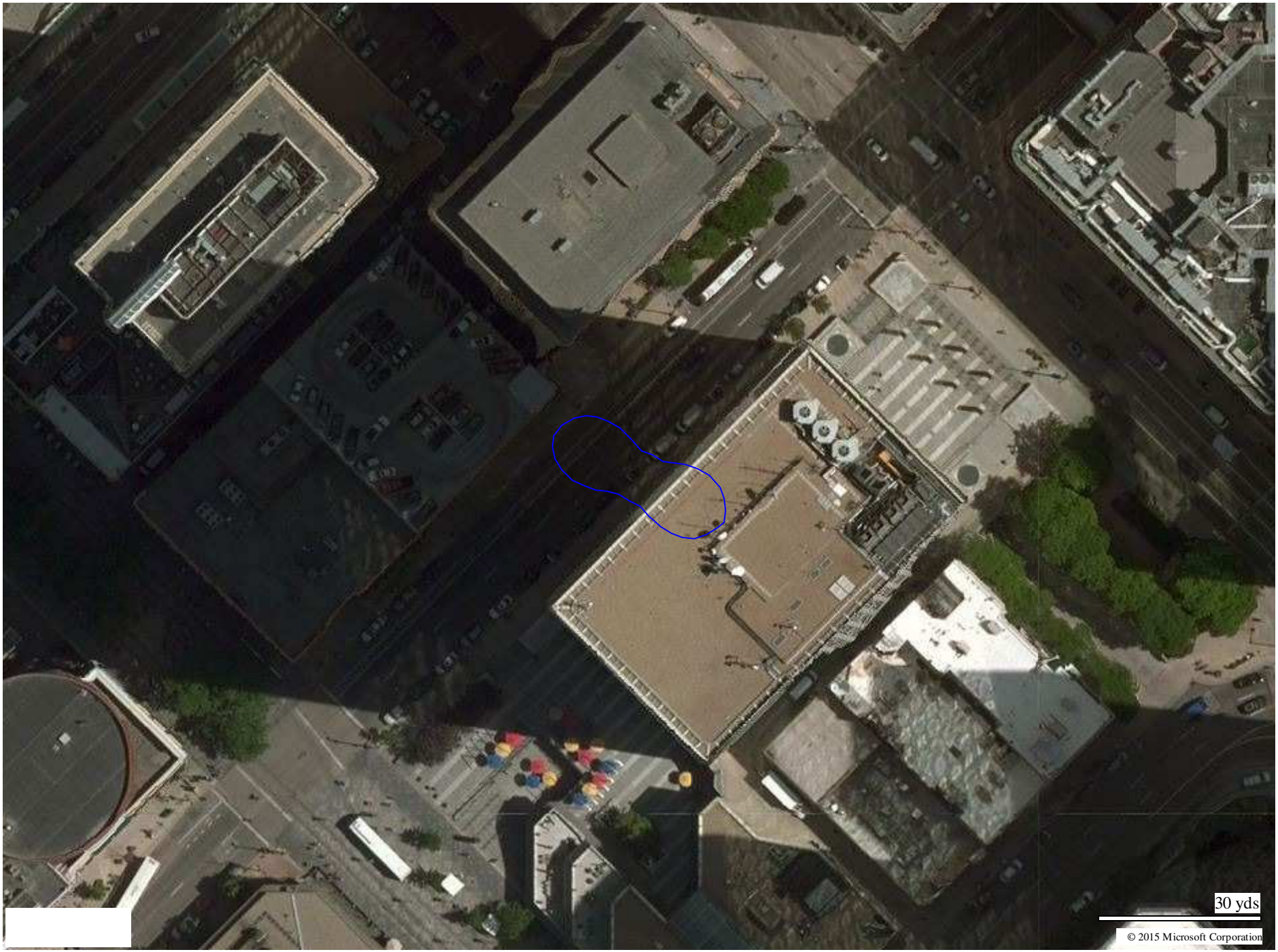
Co-channel through third adjacent:

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Chan	Adj	Dist	Overlap
1627269	194263	BNPL-20131112AMB	NEW	SOUTH DENVER COMMUNITY RADIO	L1	DENVER	CO	APP	0	1749	280	0	12.5	102.739
428877	71767	BLH-19991214ABH	KKFN	LINCOLN FINANCIAL MEDIA COMPANY OF COLOR	C1	LONGMONT	CO	LIC	91	2081	282	2	16	0.4902
1202155	29731	BLH-20070927AIC	KRFX	CITICASTERS LICENSES, INC.	C0	DENVER	CO	LIC	100	2256	278	2	21.2	0.4902
1636030	154318	BMPFT-20140508ABX	K280FZ	CLEAR CREEK RADIO, INC.	D	BLACK HAWK	CO	CP MOD	0.026	2960	280	0	47.6	0
1646196	148259	BLFT-20140805AAW	K283CF	MARY MEDICUS	D	MASONVILLE	CO	LIC	0.01	2079	283	3	85	0
1571412	158405	BNPFT-20130828AAC	K280FU	MITCHELL A. BERANEK	D	BRECKENRIDGE	CO	CP	0.023	3227	280	0	93.3	0
1567550	164151	BMLED-20130916AAT	KRKA	EDUCATIONAL MEDIA FOUNDATION	C1	SEVERANCE	CO	LIC	16.5	2560	280	0	101.4	0
1177012	53845	BLH-20070326AGF	KRXP	COLORADO SPRINGS RADIO BROADCASTERS, INC	C2	PUEBLO WEST	CO	LIC	1.75	2912	280	0	111.5	0

Prepared by Weston McCarron
February 20, 2015



'Englewood; CO'; Scale: 1" = 0.379Mi 610Mt 2,000Ft, 1 Mi = 2.640" , 1 cm = 240Mt


30 yds
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