

## **Non-Interference Compliance**

Regarding Facility id 146166

Channel 286

### **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 5 include a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 6 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 7 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 8 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

**Note: The tallest buildings within the zone of predicted interference are no taller than 20ft (6.1m). This proposal provides 9.3m (30.5ft) so 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.**

### 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.

<b>Application_id</b>	<b>File Number</b>	<b>Callsign</b>	<b>Contour at Tower</b>	<b>Min. Contour</b>
1540401	BLH20130204AAS	KOKZ	68.1	68.1
291710	BLH5113	KDAT	89.5	88.5
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				<b>68.1</b>

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 **68.1 dBμ**, this makes the proposed translator's worst-case interfering contour **108.1 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **326.6 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 7 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 **9.3 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.

**Note: The tallest buildings within the zone of predicted interference are no taller than 20ft (6.1m). This proposal provides 9.3m (30.5ft) so 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.**

<b>Antenna Manufacturer:</b>	<b>NIC</b>
<b>Antenna Model:</b>	<b>BKG77-2(.5)</b>
<b>CORAGL:</b>	<b>101 m</b>
<b>Maximum ERP:</b>	<b>0.14 kW</b>
<b>Interfering Contour:</b>	<b>108.1 dBμ</b>
<b>Max Int. Contour Distance:</b>	<b>326.6 m</b>
<b>Min Ground Clearance:</b>	<b>9.3 m</b>

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	132.5	317.8	316.6	73.3
10	.933	121.9	304.8	300.1	48.1
15	.855	102.3	279.3	269.8	28.7
20	.777	84.5	253.8	238.5	14.2
25	.664	61.7	216.9	196.6	9.3
30	.560	43.9	182.9	158.4	9.5
35	.456	29.1	148.9	122.0	15.6
40	.365	18.7	119.2	91.3	24.4
45	.292	11.9	95.4	67.4	33.6
50	.227	7.2	74.1	47.7	44.2
55	.172	4.1	56.2	32.2	55.0
60	.126	2.2	41.2	20.6	65.4
65	.096	1.3	31.4	13.3	72.6
70	.072	0.7	23.5	8.0	78.9
75	.056	0.4	18.3	4.7	83.3
80	.046	0.3	15.0	2.6	86.2
85	.039	0.2	12.7	1.1	88.3
90	.035	0.2	11.4	0.0	89.6
Minimum Clearance above TGL:					<b>9.3 m</b>

TX station: TV Mondiale

Site name: Monte Alto

Frequency: 100.00 MHz

## Vertical diagram at an azimuth of 0° degrees

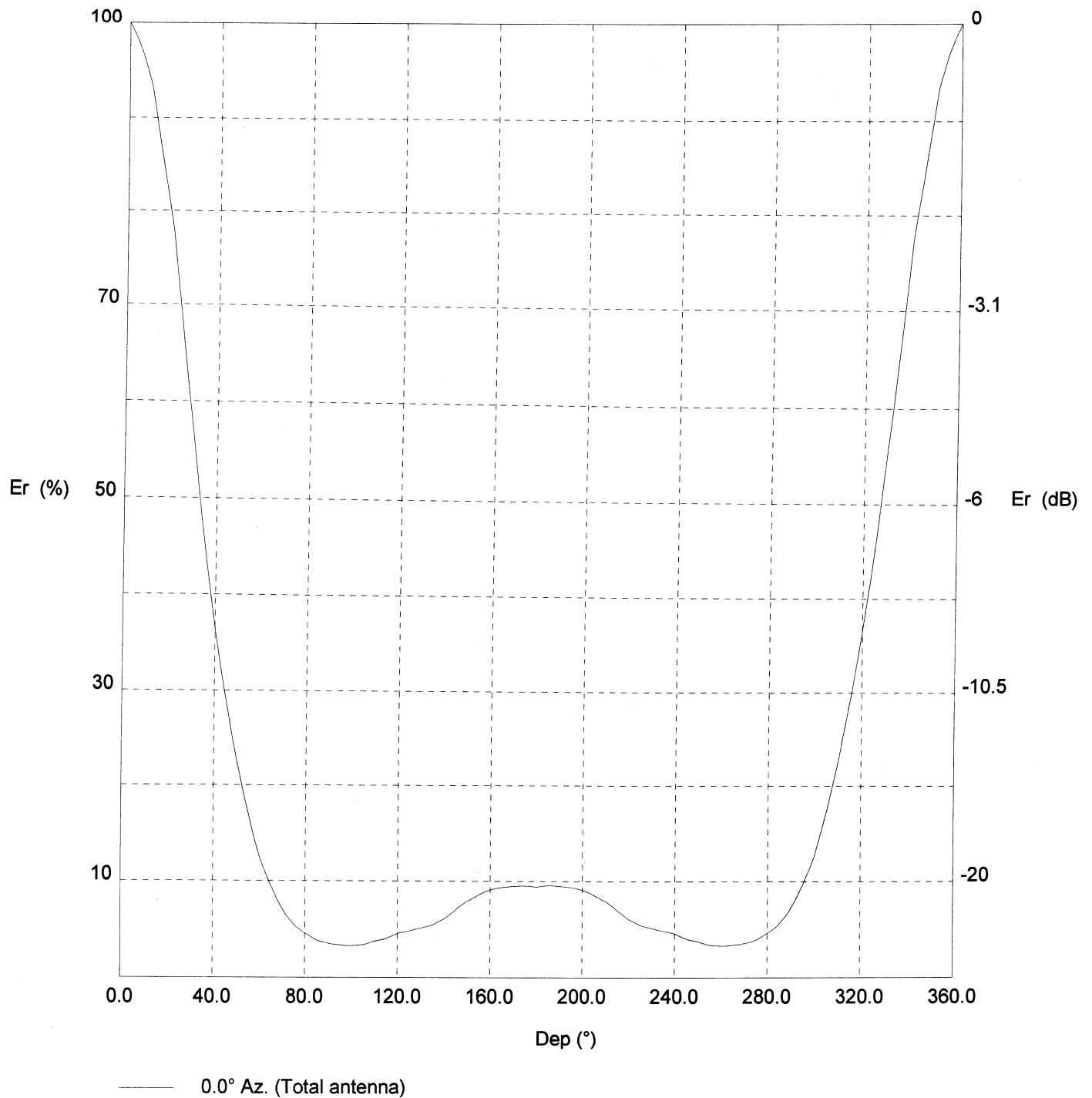
Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)
0.0	100.0	8.73	120.0	4.5	0.02	240.0	4.5	0.02
2.0	99.1	8.57	122.0	4.6	0.02	242.0	4.3	0.02
4.0	98.0	8.38	124.0	4.7	0.02	244.0	4.1	0.01
6.0	96.6	8.15	126.0	4.9	0.02	246.0	3.9	0.01
8.0	95.1	7.89	128.0	5.0	0.02	248.0	3.8	0.01
10.0	93.3	7.60	130.0	5.1	0.02	250.0	3.7	0.01
12.0	90.3	7.11	132.0	5.3	0.02	252.0	3.6	0.01
14.0	87.1	6.62	134.0	5.4	0.03	254.0	3.4	0.01
16.0	83.9	6.15	136.0	5.6	0.03	256.0	3.3	0.01
18.0	80.9	5.71	138.0	5.8	0.03	258.0	3.3	0.01
20.0	77.7	5.28	140.0	6.1	0.03	260.0	3.3	0.01
22.0	73.1	4.67	142.0	6.5	0.04	262.0	3.3	0.01
24.0	68.6	4.10	144.0	6.8	0.04	264.0	3.3	0.01
26.0	64.2	3.60	146.0	7.2	0.05	266.0	3.4	0.01
28.0	60.0	3.15	148.0	7.6	0.05	268.0	3.4	0.01
30.0	56.0	2.73	150.0	7.9	0.05	270.0	3.5	0.01
32.0	51.7	2.33	152.0	8.2	0.06	272.0	3.6	0.01
34.0	47.5	1.97	154.0	8.4	0.06	274.0	3.8	0.01
36.0	43.6	1.66	156.0	8.7	0.07	276.0	4.0	0.01
38.0	40.0	1.40	158.0	8.9	0.07	278.0	4.2	0.02
40.0	36.5	1.17	160.0	9.1	0.07	280.0	4.6	0.02
42.0	33.5	0.98	162.0	9.2	0.07	282.0	4.9	0.02
44.0	30.5	0.81	164.0	9.3	0.08	284.0	5.3	0.02
46.0	27.8	0.67	166.0	9.4	0.08	286.0	5.9	0.03
48.0	25.1	0.55	168.0	9.5	0.08	288.0	6.5	0.04
50.0	22.7	0.45	170.0	9.5	0.08	290.0	7.2	0.05
52.0	20.3	0.36	172.0	9.5	0.08	292.0	8.1	0.06
54.0	18.2	0.29	174.0	9.5	0.08	294.0	9.1	0.07
56.0	16.2	0.23	176.0	9.5	0.08	296.0	10.1	0.09
58.0	14.3	0.18	178.0	9.5	0.08	298.0	11.3	0.11
60.0	12.6	0.14	180.0	9.4	0.08	300.0	12.6	0.14
62.0	11.3	0.11	182.0	9.5	0.08	302.0	14.3	0.18
64.0	10.1	0.09	184.0	9.5	0.08	304.0	16.2	0.23
66.0	9.1	0.07	186.0	9.6	0.08	306.0	18.2	0.29
68.0	8.1	0.06	188.0	9.5	0.08	308.0	20.3	0.36
70.0	7.2	0.05	190.0	9.5	0.08	310.0	22.7	0.45
72.0	6.5	0.04	192.0	9.5	0.08	312.0	25.1	0.55
74.0	5.9	0.03	194.0	9.4	0.08	314.0	27.8	0.67
76.0	5.3	0.02	196.0	9.3	0.08	316.0	30.5	0.81
78.0	4.9	0.02	198.0	9.2	0.07	318.0	33.5	0.98
80.0	4.6	0.02	200.0	9.1	0.07	320.0	36.5	1.17
82.0	4.2	0.02	202.0	8.9	0.07	322.0	40.0	1.40
84.0	4.0	0.01	204.0	8.7	0.07	324.0	43.6	1.66
86.0	3.8	0.01	206.0	8.4	0.06	326.0	47.5	1.97
88.0	3.6	0.01	208.0	8.2	0.06	328.0	51.7	2.33
90.0	3.5	0.01	210.0	7.9	0.05	330.0	56.0	2.73
92.0	3.4	0.01	212.0	7.6	0.05	332.0	60.0	3.15
94.0	3.4	0.01	214.0	7.2	0.05	334.0	64.2	3.60
96.0	3.3	0.01	216.0	6.8	0.04	336.0	68.6	4.10
98.0	3.3	0.01	218.0	6.5	0.04	338.0	73.1	4.67
100.0	3.3	0.01	220.0	6.1	0.03	340.0	77.7	5.28
102.0	3.3	0.01	222.0	5.8	0.03	342.0	80.9	5.71
104.0	3.3	0.01	224.0	5.6	0.03	344.0	83.9	6.15
106.0	3.4	0.01	226.0	5.4	0.03	346.0	87.1	6.62
108.0	3.6	0.01	228.0	5.3	0.02	348.0	90.3	7.11
110.0	3.7	0.01	230.0	5.1	0.02	350.0	93.3	7.60
112.0	3.8	0.01	232.0	5.0	0.02	352.0	95.1	7.89
114.0	3.9	0.01	234.0	4.9	0.02	354.0	96.6	8.15
116.0	4.1	0.01	236.0	4.7	0.02	356.0	98.0	8.38
118.0	4.3	0.02	238.0	4.6	0.02	358.0	99.1	8.57

TX station: TV Mondiale

Site name: Monte Alto

Frequency: 100.00 MHz

### Vertical diagram



## Adjacent Channel Study For Station K286BY, Facility\_id: 146166

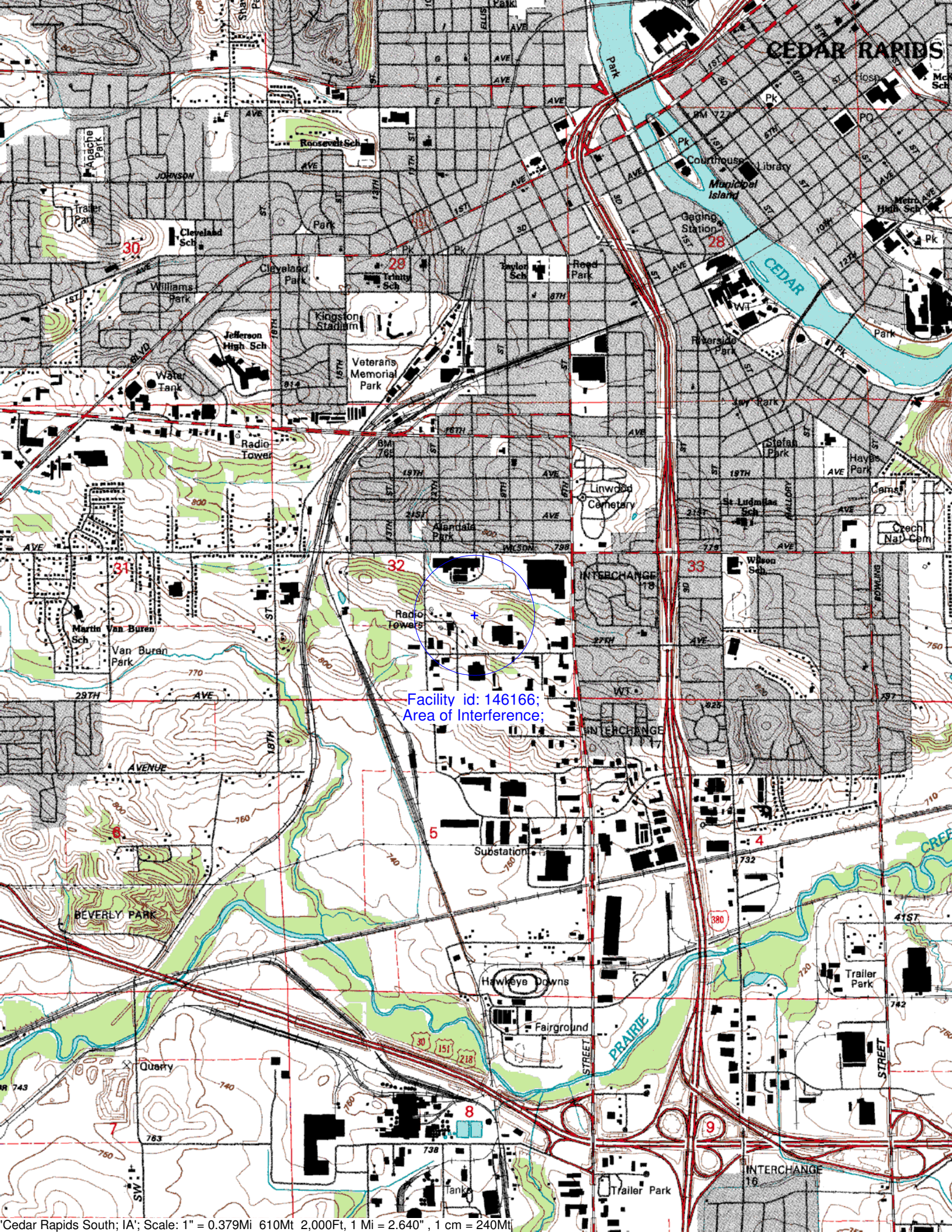
### Co-channel through third adjacent:

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Chan	Adj	Dist	Overlap
291710	54165	BLH-5113	KDAT	TOWNSQUARE MEDIA CEDAR RA	C1	CEDAR RAPIDS	IA	LIC	100	422	283	3	14.3	0.8354
1540401	35949	BLH-20130204AAS	KOKZ	NRG LICENSE SUB, LLC	C0	WATERLOO	IA	LIC	100	677	289	3	60.7	0.8354
1595131	197428	BNPL-20131115ATB	NEW	EXTEND THE DREAM FOUNDATIK	L1	IOWA CITY	IA	APP	0	253	287	1	35.4	0
1445708	134691	BLL-20110923ABB	KTDC-LP	MUSCATINE EDUCATIONAL ASSC	L1	MUSCATINE	IA	LIC	0	233	287	1	79.1	0
1672717	144718	BLFT-20150303ACL	K286CI	FIFE COMMUNICATION COMPAN	D	WAVERLY	IA	LIC	0.25	373	286	0	80.5	0
265021	12234	BLH-19980401KH	KQCS	TOWNSQUARE MEDIA QUAD CIT	C3	DE WITT	IA	LIC	12.5	351	285	1	95.8	0
1241940	12717	BLH-20080404ADR	KLYV	TOWNSQUARE MEDIA DUBUQUE	C2	DUBUQUE	IA	LIC	50	359	287	1	101	0
1669086	140115	BMPFT-20150127AA	K283BV	CITICASTERS LICENSES, L.P.	D	DAVENPORT	IA	CP MOD	0.25	276	283	3	102.9	0
164859	31909	BLH-19910919KB	KBOE-FM	JOMAST CORPORATION	C2	OSKALOOSA	IA	LIC	50	391	285	1	106.5	0
1548219	142445	BNPFT-20130328AG	K284BT	STARBOARD MEDIA FOUNDATIO	D	MOUNT PLEASAN	IA	CP	0.25	293	284	2	109.1	0
180231	34604	BLH-19921228KA	KILJ-FM	KILJ, INC.	C3	MOUNT PLEASAN	IA	LIC	24	309	288	2	112.1	0
1633376	153553	BLFT-20140408ABE	K289BI	FIRST VENTURES CAPITAL PART	D	DAVENPORT	IA	LIC	0.25	323	289	3	113.1	0
1084093	165358	BSFH-20050812ASC	NEW	CUMULUS LICENSING LLC	A	ERIE	IL	APP	0	0	288	2	133.3	0

### Intermediate Frequencies (53 and 54 channels difference):

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Clr
636762	144461	BNPFT-20030314CD	NEW	UNIVERSITY OF NORTHERN IOW	D	IOWA CITY	IA	APP	0.25	287	233	53	33.9	23.9





Facility id: 146166;  
Area of Interference;



