

## **Non-Interference Compliance**

Regarding Facility id 148566

Channel 265

### **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.

<b>Application_id</b>	<b>File Number</b>	<b>Callsign</b>	<b>Contour at Tower</b>	<b>Min. Contour</b>
1221766	BLH20071210ADE	WAPI-FM	83	83
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				<b>83</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 **83 dBμ**, this makes the proposed translator's worst-case interfering contour **123 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **70.2 m** from the transmit antenna.

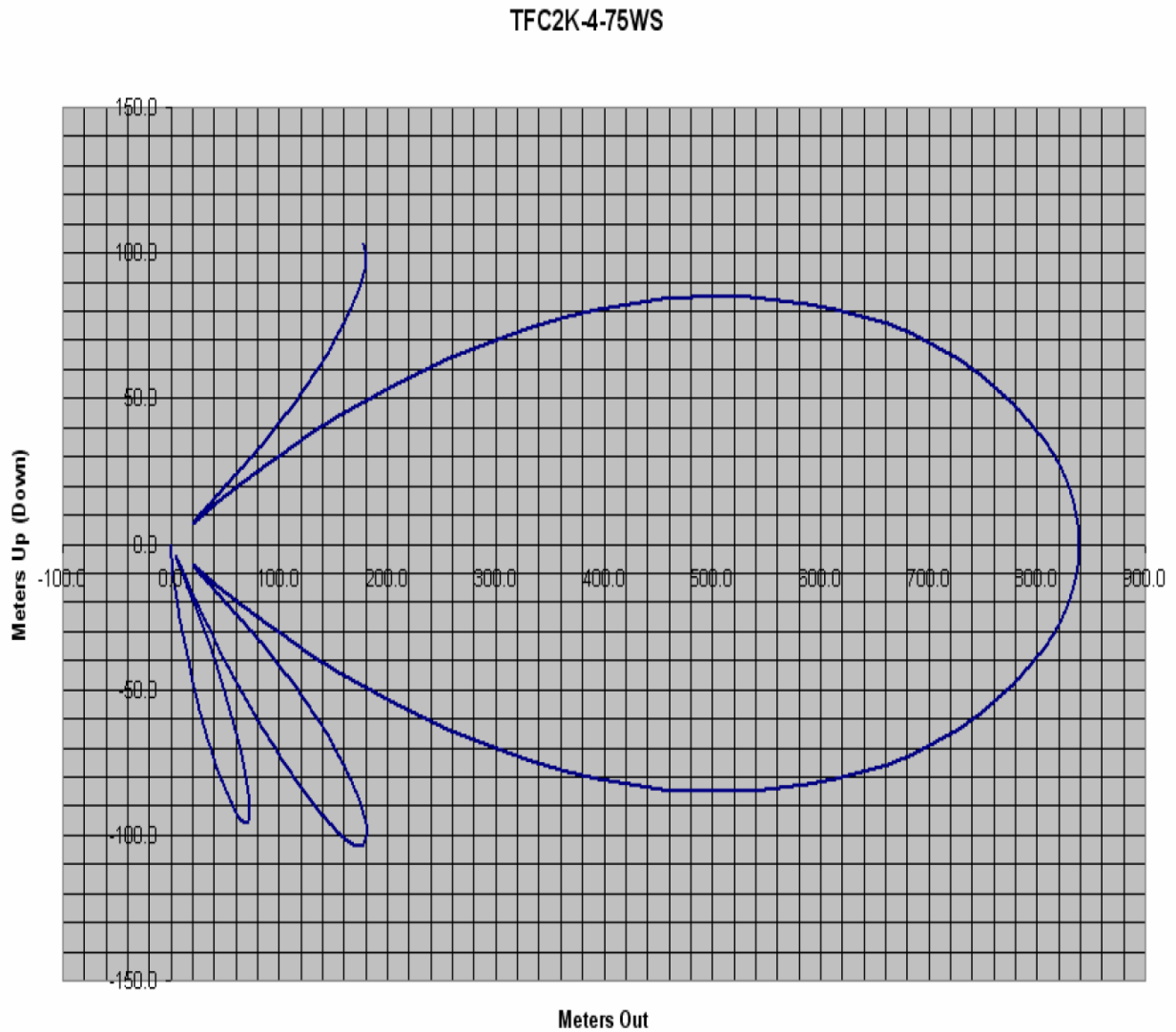
The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 8 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative 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 **138.4 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.

<b>Antenna Manufacturer:</b>	<b>BEX</b>
<b>Antenna Model:</b>	<b>TFC2K-4(3/4WS)</b>
<b>CORAGL:</b>	<b>147 m</b>
<b>Maximum ERP:</b>	<b>0.2 kW</b>
<b>Interfering Contour:</b>	<b>123 dBμ</b>
<b>Max Int. Contour Distance:</b>	<b>70.2 m</b>
<b>Min Ground Clearance:</b>	<b>138.4 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	.867	150.3	60.9	60.7	141.7
10	.582	67.7	40.9	40.3	139.9
15	.251	12.6	17.6	17.0	142.4
20	.027	0.1	1.9	1.8	146.4
25	.198	7.8	13.9	12.6	141.1
30	.245	12.0	17.2	14.9	138.4
35	.173	6.0	12.1	10.0	140.0
40	.045	0.4	3.2	2.4	145.0
45	.071	1.0	5.0	3.5	143.5
50	.133	3.5	9.3	6.0	139.8
55	.138	3.8	9.7	5.6	139.1
60	.112	2.5	7.9	3.9	140.2
65	.075	1.1	5.3	2.2	142.2
70	.043	0.4	3.0	1.0	144.2
75	.020	0.1	1.4	0.4	145.6
80	.006	0.0	0.4	0.1	146.6
85	.001	0.0	0.1	0.0	146.9
90	.000	0.0	0.0	0.0	147.0
Minimum Clearance above TGL:					<b>138.4 m</b>



## Vertical Radiation Pattern for BEXT TFC2K-4 (3/4 $\lambda$ )





## Vertical Radiation Pattern BEXT TFC2K (3/4λ)

TFC2K475.DAT

ELEV ANGLE	FIELD STRENGTH	FIELD DB	ELEV ERP(KW)	ELEV DBK	102.42DBU CNTR(M)	DISTANCE OUT (M)	DISTANCE UP(DOWN)	ELEVATION AMSL (M)
=====	=====	=====	=====	=====	=====	=====	=====	=====
-90	0.000	-73.50	0.0000	-79.52	0.2	0.0	-0.2	265.8
-88	0.000	-75.60	0.0000	-81.62	0.1	0.0	-0.1	265.9
-86	0.000	-77.40	0.0000	-83.42	0.1	0.0	-0.1	265.9
-84	0.001	-59.70	0.0000	-65.72	0.9	0.1	-0.9	265.1
-82	0.003	-51.00	0.0000	-57.02	2.4	0.3	-2.3	263.7
-80	0.006	-44.80	0.0000	-50.82	4.8	0.8	-4.8	261.2
-78	0.010	-40.00	0.0000	-46.02	8.4	1.7	-8.2	257.8
-76	0.016	-36.10	0.0001	-42.12	13.1	3.2	-12.8	253.2
-74	0.023	-32.70	0.0001	-38.72	19.4	5.4	-18.7	247.3
-72	0.032	-29.90	0.0003	-35.92	26.8	8.3	-25.5	240.5
-70	0.043	-27.40	0.0005	-33.42	35.8	12.2	-33.6	232.4
-68	0.054	-25.30	0.0007	-31.32	45.6	17.1	-42.3	223.7
-66	0.068	-23.30	0.0012	-29.32	57.4	23.3	-52.4	213.6
-64	0.082	-21.70	0.0017	-27.72	69.0	30.2	-62.0	204.0
-62	0.098	-20.20	0.0024	-26.22	82.0	38.5	-72.4	193.6
-60	0.112	-19.00	0.0031	-25.02	94.2	47.1	-81.5	184.5
-58	0.124	-18.10	0.0039	-24.12	104.4	55.3	-88.6	177.4
-56	0.135	-17.40	0.0045	-23.42	113.2	63.3	-93.8	172.2
-54	0.141	-17.00	0.0050	-23.02	118.5	69.7	-95.9	170.1
-52	0.141	-17.00	0.0050	-23.02	118.5	73.0	-93.4	172.6
-50	0.133	-17.50	0.0044	-23.52	111.9	71.9	-85.7	180.3
-48	0.116	-18.70	0.0034	-24.72	97.5	65.2	-72.4	193.6
-46	0.089	-21.00	0.0020	-27.02	74.8	52.0	-53.8	212.2
-44	0.052	-25.60	0.0007	-31.62	44.0	31.7	-30.6	235.4
-42	0.007	-43.20	0.0000	-49.22	5.8	4.3	-3.9	262.1
-40	0.045	-27.00	0.0005	-33.02	37.5	28.7	-24.1	241.9
-38	0.099	-20.10	0.0024	-26.12	83.0	65.4	-51.1	214.9
-36	0.151	-16.40	0.0057	-22.42	127.0	102.8	-74.7	191.3
-34	0.195	-14.20	0.0095	-20.22	163.6	135.7	-91.5	174.5
-32	0.229	-12.80	0.0131	-18.82	192.2	163.0	-101.9	164.1
-30	0.245	-12.20	0.0151	-18.22	206.0	178.4	-103.0	163.0
-28	0.243	-12.30	0.0147	-18.32	203.6	179.8	-95.6	170.4
-26	0.219	-13.20	0.0120	-19.22	183.6	165.0	-80.5	185.5
-24	0.176	-15.10	0.0077	-21.12	147.5	134.8	-60.0	206.0
-22	0.111	-19.10	0.0031	-25.12	93.1	86.3	-34.9	231.1
-20	0.027	-31.40	0.0002	-37.42	22.6	21.2	-7.7	258.3
-18	0.074	-22.60	0.0014	-28.62	62.2	59.2	-19.2	246.8
-16	0.188	-14.50	0.0089	-20.52	158.1	151.9	-43.6	222.4
-14	0.313	-10.10	0.0244	-16.12	262.3	254.5	-63.5	202.5
-12	0.447	-7.00	0.0499	-13.02	374.8	366.7	-77.9	188.1
-10	0.582	-4.70	0.0847	-10.72	488.5	481.1	-84.8	181.2
-8	0.708	-3.00	0.1253	-9.02	594.1	588.3	-82.7	183.3
-6	0.822	-1.70	0.1690	-7.72	690.0	686.2	-72.1	193.9
-4	0.912	-0.80	0.2079	-6.82	765.3	763.5	-53.4	212.6



-2	0.977	-0.20	0.2387	-6.22	820.1	819.6	-28.6	237.4
0	1.000	0.00	0.2500	-6.02	839.2	839.2	0.0	266.0
2	0.977	-0.20	0.2387	-6.22	820.1	819.6	28.6	294.6
4	0.912	-0.80	0.2079	-6.82	765.3	763.5	53.4	319.4
6	0.822	-1.70	0.1690	-7.72	690.0	686.2	72.1	338.1
8	0.708	-3.00	0.1253	-9.02	594.1	588.3	82.7	348.7
10	0.582	-4.70	0.0847	-10.72	488.5	481.1	84.8	350.8
12	0.447	-7.00	0.0499	-13.02	374.8	366.7	77.9	343.9
14	0.313	-10.10	0.0244	-16.12	262.3	254.5	63.5	329.5
16	0.188	-14.50	0.0089	-20.52	158.1	151.9	43.6	309.6
18	0.074	-22.60	0.0014	-28.62	62.2	59.2	19.2	285.2
20	0.027	-31.40	0.0002	-37.42	22.6	21.2	7.7	273.7
22	0.111	-19.10	0.0031	-25.12	93.1	86.3	34.9	300.9
24	0.176	-15.10	0.0077	-21.12	147.5	134.8	60.0	326.0
26	0.219	-13.20	0.0120	-19.22	183.6	165.0	80.5	346.5
28	0.243	-12.30	0.0147	-18.32	203.6	179.8	95.6	361.6
30	0.245	-12.20	0.0151	-18.22	206.0	178.4	103.0	369.0

# **Adjacent Channel Study** **For Station W267BF, Facility\_id: 148566**

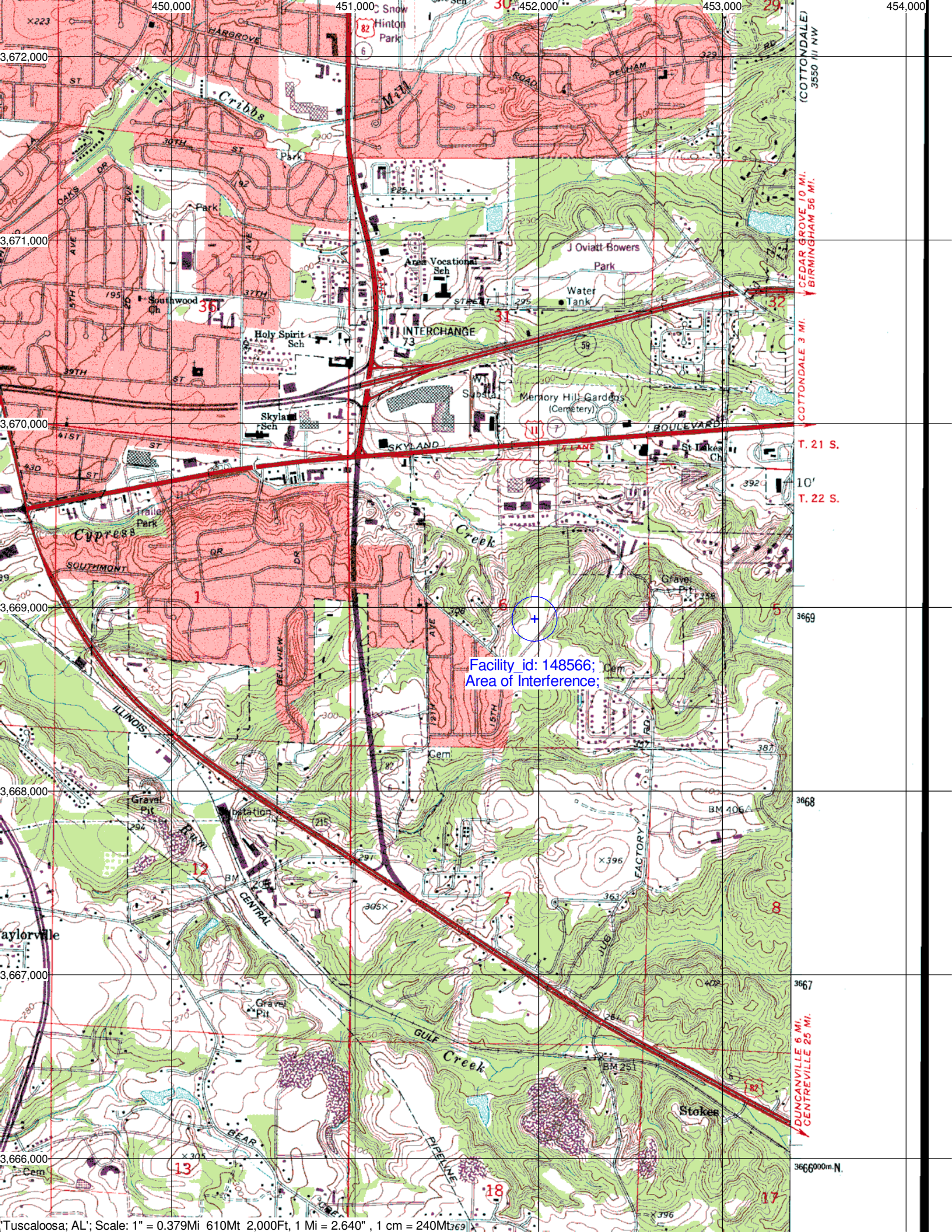
## **Co-channel through third adjacent:**

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCMSL	Channel	Adj	Dist	Overlap
1221766	70914	BLH	20071210ADE	WAPI-FM	RADIO LICENSE HOLDING CBC, LLC	C1	HELENA	AL	LIC	69	430.4	263	2	25.3	1.1934
1183005	70914	BXLH	20070504ACQ	WAPI-FM	RADIO LICENSE HOLDING CBC, LLC	C1	NORTHPORT	AL	LIC	35	368.8	263	2	25.3	1.1934
1102133	41641	BLED	20051201BVO	WQEM	GLEN IRIS BAPTIST SCHOOL	A	COLUMBIANA	AL	LIC	1.8	365	268	3	74.8	0
1332546	150814	BLFT	20090904ADA	W268BM	WILLIAM NEECK	D	JASPER	AL	LIC	0.25	241	268	3	78.1	0
152016	950	BLH	19900830KA	WALX	SCOTT COMMUNICATIONS, INC.	C2	SELMA	AL	LIC	3	152	265	0	87.7	0
1189380	150848	BLFT	20070601BSG	W262BQ	EDGEWATER BROADCASTING, INC.	D	LIVINGSTON	AL	LIC	0.038	111	262	3	88.2	0
641167	148352	BNPFT	20030317CTT	NEW	RADIO ASSIST MINISTRY, INC.	D	SELMA	AL	APP	0.013	151	268	3	93.5	0
1290723	950	BLH	20090130AAJ	WALX	SCOTT COMMUNICATIONS, INC.	C2	ORRVILLE	AL	LIC	50	202	265	0	107.1	0
1414853	151004	BPFT	20101122AAF	W212CB	EDGEWATER BROADCASTING, INC.	D	YORK	AL	CP	0.08	103	265	0	114.3	0
628532	70452	BLH	20030225AAB	WYDE-FM	KIMTRON, INC.	C0	CULLMAN	AL	LIC	100	615	266	1	117.1	0
1061876	70452	BXMLH	20050106AAI	WYDE-FM	KIMTRON, INC.	C0	CULLMAN	AL	LIC	100	579	266	1	117.1	0
1327715	6194	BPH	20090612AJR	WKBB	TELESOUTH COMMUNICATIONS, INC.	C2	MANTEE	MS	CP	47	230	265	0	132.9	0
990977	6194	BLH	20040513AAR	WKBB	TELESOUTH COMMUNICATIONS, INC.	C3	WEST POINT	MS	LIC	10	231.6	265	0	132.9	0
937028	7067	BMLH	20040112ADF	WMSO	CC LICENSES, LLC	C1	MERIDIAN	MS	LIC	100	301	267	2	145	0

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

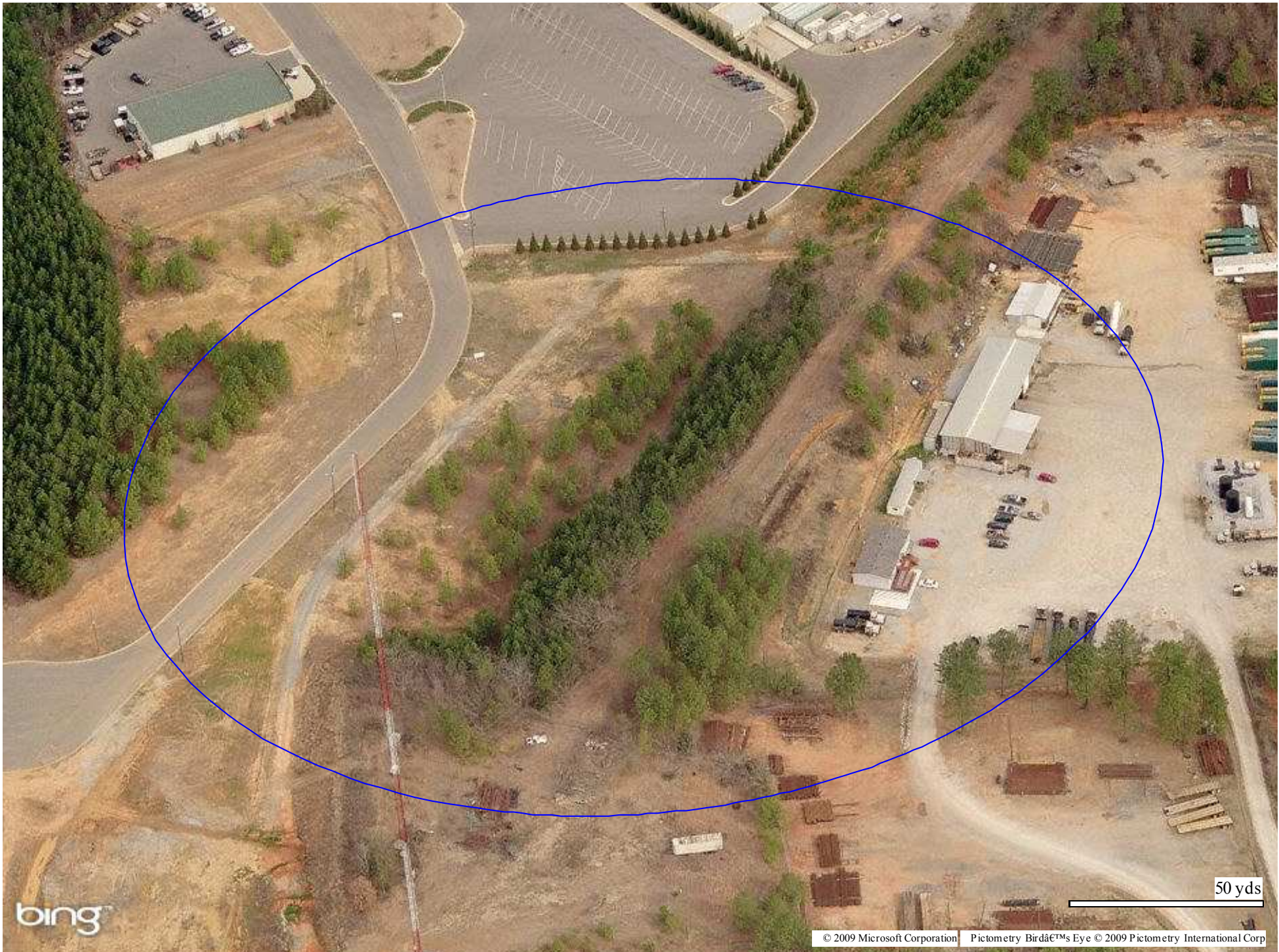
Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCMSL	Channel	Adj	Dist	Clr
118674	4240	BLED	19880929KC	WBHM	BD OF TRUSTEES/U OF AL AT BIRMINGHAM	C1	BIRMINGHAM	AL	LIC	32	566	212	53	75.9	53.9





Facility id: 148566;  
Area of Interference;





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