

[Exhibit 13]

## **Non-Interference Compliance**

Regarding Facility id 150872

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 dB $\mu$  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 building within the zone of interference is less than 30ft (9.1m) tall. This proposal provides 24.6 (80.7ft) of ground clearance 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 dB $\mu$  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>
628192	BLH20030130AHE	WZZK-FM	62.6	62.6
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				<b>62.6</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 **62.6 dB $\mu$** , this makes the proposed translator's worst-case interfering contour **102.6 dB $\mu$** . By the free-space equation, this contour is calculated to extend a maximum of **822.2 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 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 **24.6 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.

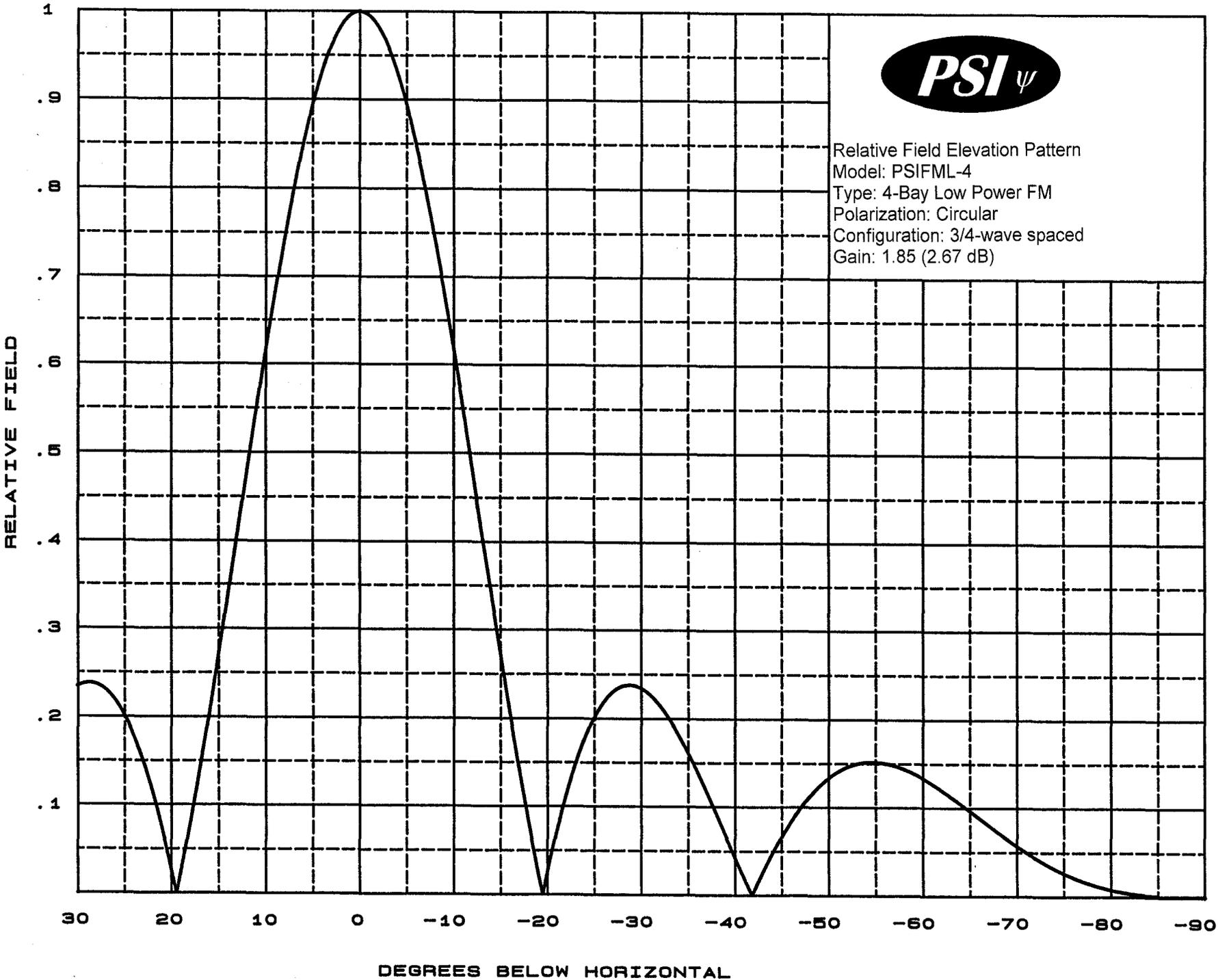
**Note: The tallest building within the zone of interference is less than 30ft (9.1m) tall. This proposal provides 24.6 (80.7ft) of ground clearance so a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.**

**Antenna Manufacturer:** PSI  
**Antenna Model:** FML-4 (.75)  
**CORAGL:** 127 m  
**Maximum ERP:** 0.25 kW  
**Interfering Contour:** 102.6 dB $\mu$   
**Max Int. Contour Distance:** 822.2 m  
**Min Ground Clearance:** 24.6 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	.894	199.8	735.0	732.2	62.9
10	.617	95.2	507.3	499.6	38.9
15	.272	18.5	223.6	216.0	69.1
20	.027	0.2	22.2	20.9	119.4
25	.201	10.1	165.3	149.8	57.2
30	.234	13.7	192.4	166.6	30.8
35	.161	6.5	132.4	108.4	51.1
40	.043	0.5	35.4	27.1	104.3
45	.086	1.8	70.7	50.0	77.0
50	.133	4.4	109.4	70.3	43.2
55	.152	5.8	125.0	71.7	24.6
60	.133	4.4	109.4	54.7	32.3
65	.097	2.4	79.8	33.7	54.7
70	.057	0.8	46.9	16.0	83.0
75	.027	0.2	22.2	5.7	105.6
80	.008	0.0	6.6	1.1	120.5
85	.001	0.0	0.8	0.1	126.2
90	.001	0.0	0.8	0.0	126.2
Minimum Clearance above TGL:					<b>24.6 m</b>



Relative Field Elevation Pattern  
Model: PSIFML-4  
Type: 4-Bay Low Power FM  
Polarization: Circular  
Configuration: 3/4-wave spaced  
Gain: 1.85 (2.67 dB)





**Propagation Systems Inc.**  
 Elevation Pattern Tabulation  
 Antenna: PSIFML-4 Special  
 Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.828	-50.0	0.133	-17.511	-10.0	0.617	-4.190
-89.0	0.001	-60.828	-49.0	0.124	-18.146	-9.0	0.682	-3.325
-88.0	0.001	-60.828	-48.0	0.112	-18.995	-8.0	0.743	-2.583
-87.0	0.001	-60.828	-47.0	0.099	-20.093	-7.0	0.799	-1.950
-86.0	0.001	-60.828	-46.0	0.083	-21.568	-6.0	0.850	-1.415
-85.0	0.001	-60.828	-45.0	0.066	-23.581	-5.0	0.894	-0.974
-84.0	0.002	-54.807	-44.0	0.047	-26.536	-4.0	0.931	-0.618
-83.0	0.003	-50.816	-43.0	0.027	-31.530	-3.0	0.961	-0.346
-82.0	0.004	-47.448	-42.0	0.004	-47.143	-2.0	0.982	-0.154
-81.0	0.006	-44.350	-41.0	0.018	-34.664	-1.0	0.996	-0.038
-80.0	0.008	-41.584	-40.0	0.043	-27.417	0.0	1.000	0.000
-79.0	0.011	-39.244	-39.0	0.067	-23.482	1.0	0.996	-0.038
-78.0	0.014	-37.021	-38.0	0.092	-20.770	2.0	0.983	-0.153
-77.0	0.018	-35.027	-37.0	0.116	-18.740	3.0	0.961	-0.345
-76.0	0.022	-33.164	-36.0	0.139	-17.134	4.0	0.931	-0.618
-75.0	0.027	-31.481	-35.0	0.161	-15.860	5.0	0.894	-0.972
-74.0	0.032	-29.946	-34.0	0.181	-14.829	6.0	0.850	-1.415
-73.0	0.037	-28.537	-33.0	0.199	-14.006	7.0	0.799	-1.948
-72.0	0.044	-27.203	-32.0	0.215	-13.370	8.0	0.743	-2.582
-71.0	0.050	-25.968	-31.0	0.226	-12.904	9.0	0.682	-3.325
-70.0	0.057	-24.841	-30.0	0.234	-12.607	10.0	0.617	-4.188
-69.0	0.065	-23.782	-29.0	0.238	-12.473	11.0	0.550	-5.193
-68.0	0.072	-22.802	-28.0	0.237	-12.517	12.0	0.481	-6.361
-67.0	0.080	-21.905	-27.0	0.230	-12.748	13.0	0.411	-7.728
-66.0	0.088	-21.078	-26.0	0.219	-13.200	14.0	0.341	-9.347
-65.0	0.097	-20.308	-25.0	0.201	-13.920	15.0	0.272	-11.305
-64.0	0.105	-19.614	-24.0	0.178	-14.983	16.0	0.205	-13.752
-63.0	0.112	-18.995	-23.0	0.149	-16.540	17.0	0.141	-16.993
-62.0	0.120	-18.427	-22.0	0.114	-18.867	18.0	0.081	-21.840
-61.0	0.127	-17.926	-21.0	0.073	-22.712	19.0	0.025	-32.147
-60.0	0.133	-17.491	-20.0	0.027	-31.431	20.0	0.027	-31.481
-59.0	0.139	-17.125	-19.0	0.025	-32.201	21.0	0.073	-22.730
-58.0	0.144	-16.827	-18.0	0.081	-21.840	22.0	0.114	-18.867
-57.0	0.148	-16.602	-17.0	0.141	-16.993	23.0	0.149	-16.540
-56.0	0.150	-16.452	-16.0	0.205	-13.752	24.0	0.178	-14.990
-55.0	0.152	-16.374	-15.0	0.272	-11.310	25.0	0.201	-13.920
-54.0	0.152	-16.391	-14.0	0.341	-9.351	26.0	0.219	-13.200
-53.0	0.150	-16.496	-13.0	0.411	-7.731	27.0	0.230	-12.748
-52.0	0.146	-16.709	-12.0	0.481	-6.364	28.0	0.237	-12.517
-51.0	0.141	-17.040	-11.0	0.550	-5.195	29.0	0.238	-12.473
						30.0	0.234	-12.607

file: FML 4-bay elevation tabulation  
 revision: A  
 Date: 1/28/08

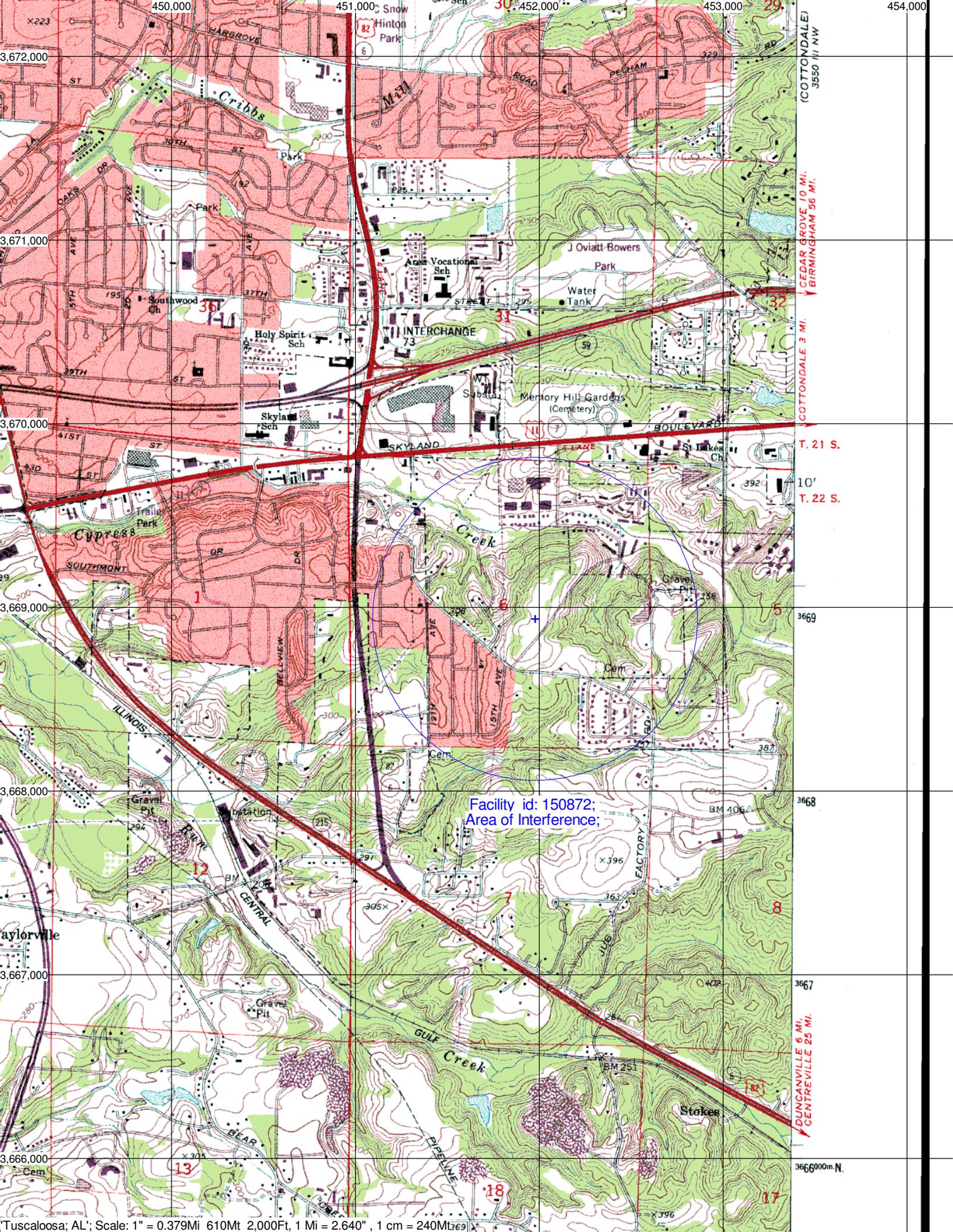
## Adjacent Channel Study For Station W286BV, Facility\_id: 150872

### Co-channel through third adjacent:

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Overlap
628192	48724	BLH	20030130AHE	WZZK-FM	COX RADIO, INC.	C0	BIRMINGHAM	AL	LIC	97.8	597	284	2	75	1.1934
1408358	150242	BLFT	20101118APN	W286AQ	WILLIAM NEECK	D	NORTHPORT	AL	LIC	0.25	127	286	0	56.4	0
1412959	150239	BLFT	20101228ABF	W286BK	WAY-FM MEDIA GROUP, INC.	D	BIRMINGHAM	AL	LIC	0.01	331	286	0	67.3	0
1408594	150242	BPFT	20101122AAY	W286AQ	WILLIAM NEECK	D	NORTHPORT	AL	CP	0.218	221	286	0	72.8	0
1083281	62278	BLH	20050829ACX	WERC-FM	CAPSTAR TX LLC	C2	HOOVER	AL	LIC	29.5	383	288	2	75	0
1418614	150239	BPFT	20110222ACM	W286BK	WAY-FM MEDIA GROUP, INC.	D	BIRMINGHAM	AL	APP	0.01	415	286	0	75	0
1420394	150242	BPFT	20110314AAV	W286AQ	WILLIAM NEECK	D	NORTHPORT	AL	APP	0.25	165	286	0	88.8	0
569708	81739	BLH	20010615AFL	WBFZ	IMANI COMMUNICATIONS CORPORATION, INC	C2	SELMA	AL	LIC	50	194	287	1	101.7	0
1220722	84434	BLH	20071126AAI	WQJB	GEORGE S. FLINN, JR.	C3	STATE COLLEGE	MS	LIC	12	226	283	3	112	0
201828	24820	BLH	19940822KB	WSLY	SARAH P. GRANT	C2	YORK	AL	LIC	50	211	285	1	119.7	0
1200315	65200	BLH	20070817AAQ	WACR-FM	URBAN RADIO LICENSES, LLC	C2	COLUMBUS AFB	MS	LIC	50	174	287	1	121.1	0
286874	81878	BLH	19990708KB	WJXM	MISSISSIPPI BROADCASTERS, L.L.C.	C2	DE KALB	MS	LIC	50	219	289	3	122.6	0
270606	48737	BLH	19980702KG	WQAH-FM	ABERCROMBIE BROADCASTING FM, INC.	A	ADDISON	AL	LIC	6	338	289	3	133.7	0
1045836	8649	BLH	20050210AHX	WZHT	CAPSTAR TX LLC	C	TROY	AL	LIC	100	684	289	3	182.9	0

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

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Clr
1177220	16901	BXLH	20070411ACW	WJOX-FM	RADIO LICENSE HOLDING CBC, LLC	C0	BIRMINGHAM	AL	LIC	50	456.5	233	53	70.4	45.4
523802	16901	BLH	20000929AEE	WJOX-FM	RADIO LICENSE HOLDING CBC, LLC	C0	BIRMINGHAM	AL	LIC	100	491	233	53	70.4	45.4
1410735	66024	BLFT	20101202AAK	W232AN	GRACE BAPTIST TEMPLE	D	SUTTLE	AL	LIC	0.213	55	232	54	76.6	66.6



Facility id: 150872;  
Area of Interference;

COTTONDALE 3 MI.  
CEDAR GROVE 10 MI.  
BIRMINGHAM 56 MI.  
T. 21 S.  
10'  
T. 22 S.  
3669  
3668  
3667  
DUNCANVILLE 6 MI.  
CENTREVILLE 25 MI.  
3666000m N.

