

[Exhibit 13]

## **Non-Interference Compliance**

Regarding Facility id 200707

Channel 243

### **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 occupied building within the zone of predicted interference is 15ft (4.6m) in height. This proposal provides 5.8m (19.0ft) ground clearance so 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.**

## 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>
86984	BLH19860402KB	WKKT	76.4	76.4
	Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour			<b>76.4</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 **76.4 dB $\mu$** , this makes the proposed translator's worst-case interfering contour **116.4 dB $\mu$** . By the free-space equation, this contour is calculated to extend a maximum of **167.9 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 **5.8 m** at the lowest point.

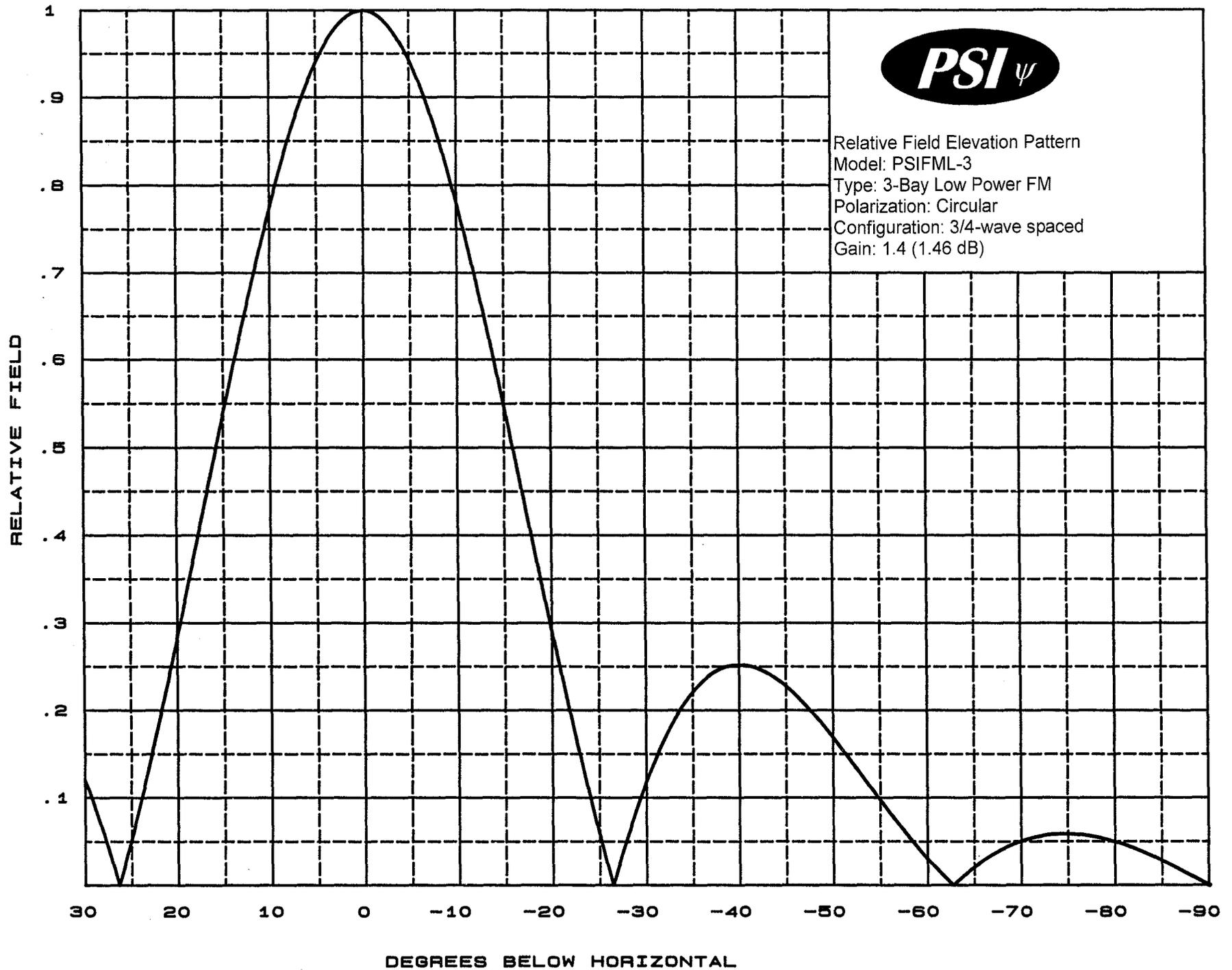
**Note: The tallest occupied building within the zone of predicted interference is 15ft (4.6m) in height. This proposal provides 5.8m (19.0ft) ground clearance so accordance with 47 C.F.R. § 74.1204(d) and the clarification provided by the FCC in the decision *Re: Living Way Ministries* (FCC 02-244), 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:** PSI  
**Antenna Model:** FML-3(.75)  
**CORAGL:** 33 m  
**Maximum ERP:** 0.25 kW  
**Interfering Contour:** 116.4 dB $\mu$   
**Max Int. Contour Distance:** 167.9 m  
**Min Ground Clearance:** 5.8 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	.941	221.4	158.0	157.4	19.2
10	.777	150.9	130.4	128.5	10.4
15	.543	73.7	91.2	88.0	9.4
20	.287	20.6	48.2	45.3	16.5
25	.055	0.8	9.2	8.4	29.1
30	.120	3.6	20.1	17.4	22.9
35	.222	12.3	37.3	30.5	11.6
40	.252	15.9	42.3	32.4	5.8
45	.227	12.9	38.1	26.9	6.1
50	.168	7.1	28.2	18.1	11.4
55	.096	2.3	16.1	9.2	19.8
60	.030	0.2	5.0	2.5	28.6
65	.021	0.1	3.5	1.5	29.8
70	.050	0.6	8.4	2.9	25.1
75	.059	0.9	9.9	2.6	23.4
80	.050	0.6	8.4	1.5	24.7
85	.028	0.2	4.7	0.4	28.3
90	.001	0.0	0.2	0.0	32.8
Minimum Clearance above TGL:					<b>5.8 m</b>



Relative Field Elevation Pattern  
Model: PSIFML-3  
Type: 3-Bay Low Power FM  
Polarization: Circular  
Configuration: 3/4-wave spaced  
Gain: 1.4 (1.46 dB)





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

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.168	-15.500	-10.0	0.777	-2.194
-89.0	0.006	-44.795	-49.0	0.181	-14.829	-9.0	0.817	-1.761
-88.0	0.012	-38.775	-48.0	0.194	-14.240	-8.0	0.853	-1.379
-87.0	0.017	-35.329	-47.0	0.206	-13.714	-7.0	0.886	-1.049
-86.0	0.023	-32.869	-46.0	0.217	-13.266	-6.0	0.916	-0.766
-85.0	0.028	-31.047	-45.0	0.227	-12.881	-5.0	0.941	-0.529
-84.0	0.033	-29.622	-44.0	0.235	-12.562	-4.0	0.962	-0.338
-83.0	0.038	-28.467	-43.0	0.242	-12.308	-3.0	0.978	-0.190
-82.0	0.042	-27.510	-42.0	0.248	-12.126	-2.0	0.990	-0.085
-81.0	0.046	-26.705	-41.0	0.251	-12.010	-1.0	0.998	-0.021
-80.0	0.050	-26.073	-40.0	0.252	-11.968	0.0	1.000	0.000
-79.0	0.053	-25.559	-39.0	0.251	-12.004	1.0	0.998	-0.021
-78.0	0.055	-25.169	-38.0	0.248	-12.126	2.0	0.990	-0.085
-77.0	0.057	-24.887	-37.0	0.242	-12.336	3.0	0.978	-0.190
-76.0	0.058	-24.682	-36.0	0.233	-12.657	4.0	0.962	-0.338
-75.0	0.059	-24.614	-35.0	0.222	-13.092	5.0	0.941	-0.529
-74.0	0.059	-24.637	-34.0	0.207	-13.676	6.0	0.916	-0.766
-73.0	0.058	-24.772	-33.0	0.190	-14.432	7.0	0.886	-1.049
-72.0	0.056	-25.027	-32.0	0.170	-15.414	8.0	0.853	-1.379
-71.0	0.054	-25.411	-31.0	0.146	-16.700	9.0	0.817	-1.759
-70.0	0.050	-25.968	-30.0	0.120	-18.427	10.0	0.777	-2.194
-69.0	0.046	-26.733	-29.0	0.090	-20.871	11.0	0.734	-2.683
-68.0	0.041	-27.731	-28.0	0.058	-24.704	12.0	0.689	-3.233
-67.0	0.035	-29.081	-27.0	0.023	-32.754	13.0	0.642	-3.848
-66.0	0.028	-30.954	-26.0	0.015	-36.745	14.0	0.593	-4.534
-65.0	0.021	-33.656	-25.0	0.055	-25.217	15.0	0.543	-5.301
-64.0	0.012	-38.221	-24.0	0.098	-20.213	16.0	0.492	-6.156
-63.0	0.003	-50.816	-23.0	0.142	-16.928	17.0	0.441	-7.116
-62.0	0.007	-42.949	-22.0	0.189	-14.460	18.0	0.389	-8.196
-61.0	0.018	-34.880	-21.0	0.238	-12.484	19.0	0.338	-9.425
-60.0	0.030	-30.546	-20.0	0.287	-10.839	20.0	0.287	-10.834
-59.0	0.042	-27.541	-19.0	0.338	-9.425	21.0	0.238	-12.484
-58.0	0.055	-25.217	-18.0	0.389	-8.199	22.0	0.189	-14.460
-57.0	0.068	-23.307	-17.0	0.441	-7.116	23.0	0.143	-16.919
-56.0	0.082	-21.711	-16.0	0.492	-6.159	24.0	0.098	-20.200
-55.0	0.096	-20.335	-15.0	0.543	-5.301	25.0	0.055	-25.193
-54.0	0.111	-19.124	-14.0	0.593	-4.536	26.0	0.015	-36.745
-53.0	0.125	-18.051	-13.0	0.642	-3.850	27.0	0.023	-32.754
-52.0	0.140	-17.106	-12.0	0.689	-3.234	28.0	0.058	-24.704
-51.0	0.154	-16.253	-11.0	0.734	-2.683	29.0	0.090	-20.871
						30.0	0.120	-18.438

file: FML 3-bay elevation tabulation

revision: A

Date: 1/28/08

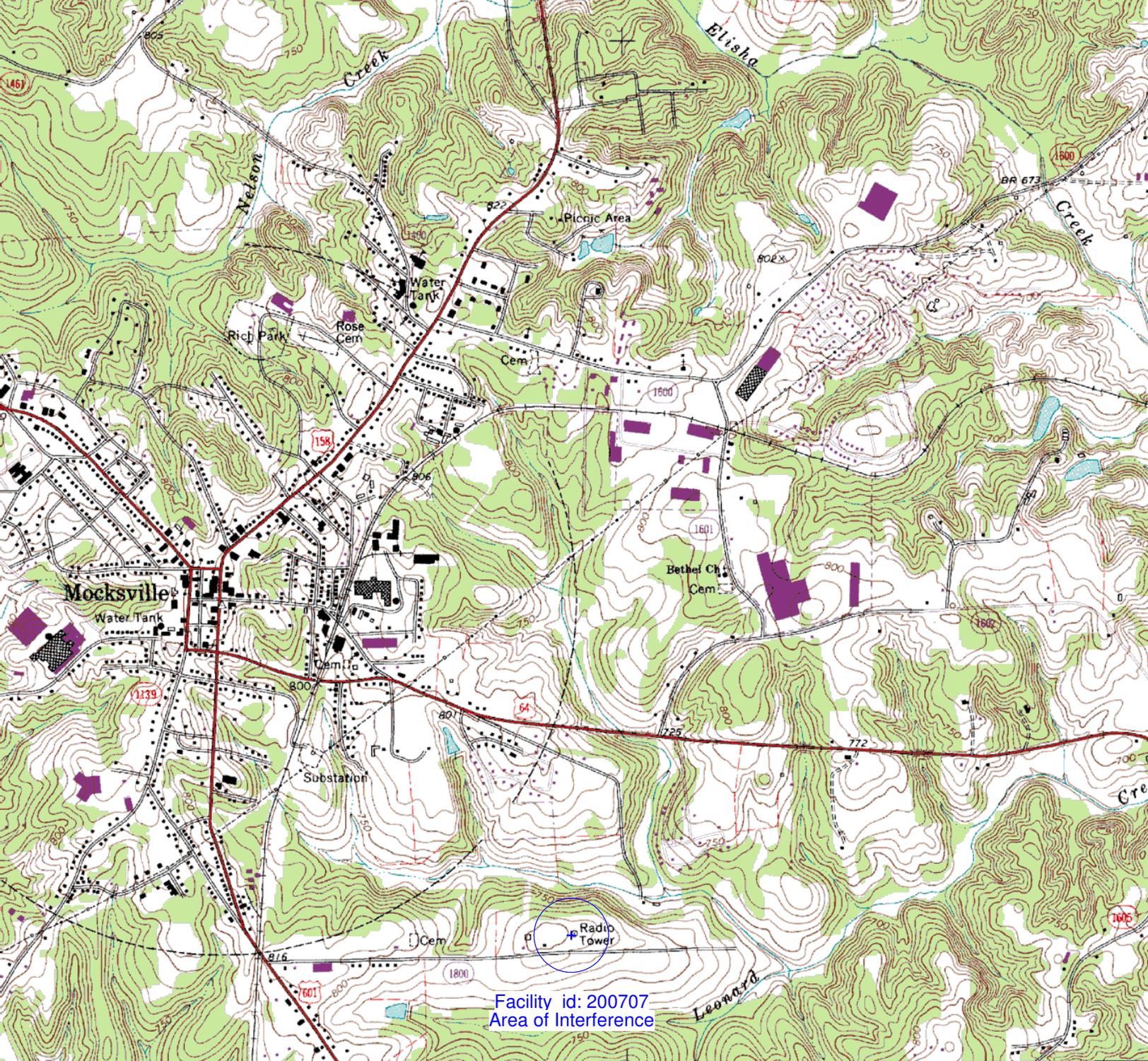
## Adjacent Channel Study For Station W243EC, Facility\_id: 200707

### Co-channel through third adjacent:

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Char	Adj	Dist	Overlap
86984	68207	BLH-19860402KB	WKKT	CAPSTAR TX, LLC	C	STATESVILLE	NC	LIC	100	710	245	2	44.8	1.4918
1725614	90671	BLFT-20160401ADD	W240CU	POSITIVE ALTERNATIVE RADIO,	D	LEXINGTON	NC	LIC	0.14	477	240	3	22.9	0
1726833	138683	BLFT-20160421AEX	W242CC	DELMARVA EDUCATIONAL ASSC	D	BETHANIA	NC	LIC	0.25	328	242	1	33.8	0
1733072	147990	BMPFT-20160129AZ	W244DO	TRIAD FAMILY NETWORK, INC	D	WINSTON-SALEM	NC	CP MOD	0.025	384	244	1	35.9	0
1751310	195433	BLL-20170213ACC	WLUL-LP	THOMASVILLE EDUCATIONAL R/	L1	THOMASVILLE	NC	LIC	0	297.3	243	0	43.7	0
1771566	199984	BNPFT-20171201AHI	W240DQ	GOSPEL BROADCASTING, INC	D	DOBSON	NC	CP	0.25	421	240	3	59.4	0
700856	47078	BLH-20031112AID	WQMG	ENTERCOM LICENSE, LLC	C0	GREENSBORO	NC	LIC	100	565	246	3	61.8	0
1694051	142274	BPFT-20151023AIP	W242CD	DELMARVA EDUCATIONAL ASSC	D	GREENSBORO	NC	CP	0.25	299	242	1	70.4	0
1575852	142274	BLFT-20130927ASB	W242CD	DELMARVA EDUCATIONAL ASSC	D	GREENSBORO	NC	LIC	0.25	299	242	1	70.4	0
1161328	88246	BLFT-20061122AGL	W244CD	CALVARY CHAPEL OF TWIN FALI	D	BROWNS SUMMIT	NC	LIC	0.01	383	244	1	77.4	0
1480317	74194	BLH-20111221ADF	WHQC	CLEAR CHANNEL BROADCASTIN	C	SHELBY	NC	LIC	98	767.6	241	2	79.8	0
1348311	148112	BLFT-20091217AEC	W243BY	RADIO TRAINING NETWORK, INC	D	CHARLOTTE	NC	LIC	0.25	367	243	0	81.5	0
1762852	201251	BNPFT-20170727AG	NEW	TWIN COUNTY BROADCASTING	D	GALAX	VA	APP	0.25	933	243	0	92.3	0
631860	140513	BNPFT-20030317AO	NEW	CLEAR CHANNEL BROADCASTIN	D	EDEN	NC	APP	0.25	300	240	3	95.1	0
631012	139909	BNPFT-20030317AK	NEW	CAPSTAR TX LIMITED PARTNER	D	EDEN	NC	APP	0.027	287	240	3	95.1	0
1772982	88564	BMPFT-20171129AAI	W243DV	VANCE PATTERSON	D	VALDESE	NC	CP MOD	0.25	685	243	0	97.5	0
1749256	88564	BLFT-20170123GBF	W243DV	VANCE PATTERSON	D	VALDESE	NC	LIC	0.015	670	243	0	97.6	0
1721784	155887	BLFT-20160308AAH	W243DH	EASTERN AIRWAVES, LLC	D	BOONE	NC	LIC	0.014	1444	243	0	110.9	0

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

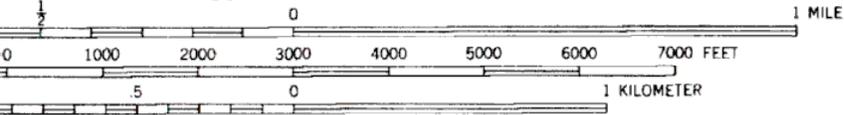
App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Clr
1729277	148858	BLFT-20160518ACC	W296CV	EDUCATIONAL MEDIA FOUNDAT	D	HIGH POINT	NC	LIC	0.11	495	296	53	61.8	51.8
1771152	200898	BNPFT-20171201AEI	W297CE	STANLY COMMUNICATIONS, INC	D	ALBEMARLE	NC	CP	0.25	232	297	54	63.4	53.4
1770595	199982	BNPFT-20170726AD	NEW	GOSPEL BROADCASTING, INC	D	SPARTA	NC	APP	0.25	944	297	54	83.1	73.1
1552483	148136	BLFT-20130426ABN	W297CX	RADIO TRAINING NETWORK, INC	D	VALDESE	NC	LIC	0.25	691	297	54	97.5	87.5



Facility id: 200707  
Area of Interference

539 (COOLEEMEE) 4855 1 SE 540 541 32'30" 542 543

SCALE 1:24000



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929



QUADRANGLE LOCATION

- Primary highway, hard surface
- Secondary highway, hard surface
- Interstate Ro

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY  
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092  
DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Revisions shown in purple compiled in cooperation with  
State of North Carolina agencies from aerial photographs  
taken 1991 and other sources. This information not  
field checked. Map edited 1994

Information shown in purple may not meet USGS content  
standards and may conflict with previously mapped contours

