

Non-Interference Compliance

Regarding Facility id 147531

Channel 237

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.

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
97734	BMLH19870212KB	KGGO	74.1	74.1
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				74.1

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 **74.1 dBμ**, this makes the proposed translator's worst-case interfering contour **114.1 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **218.8 m** from the transmit antenna.

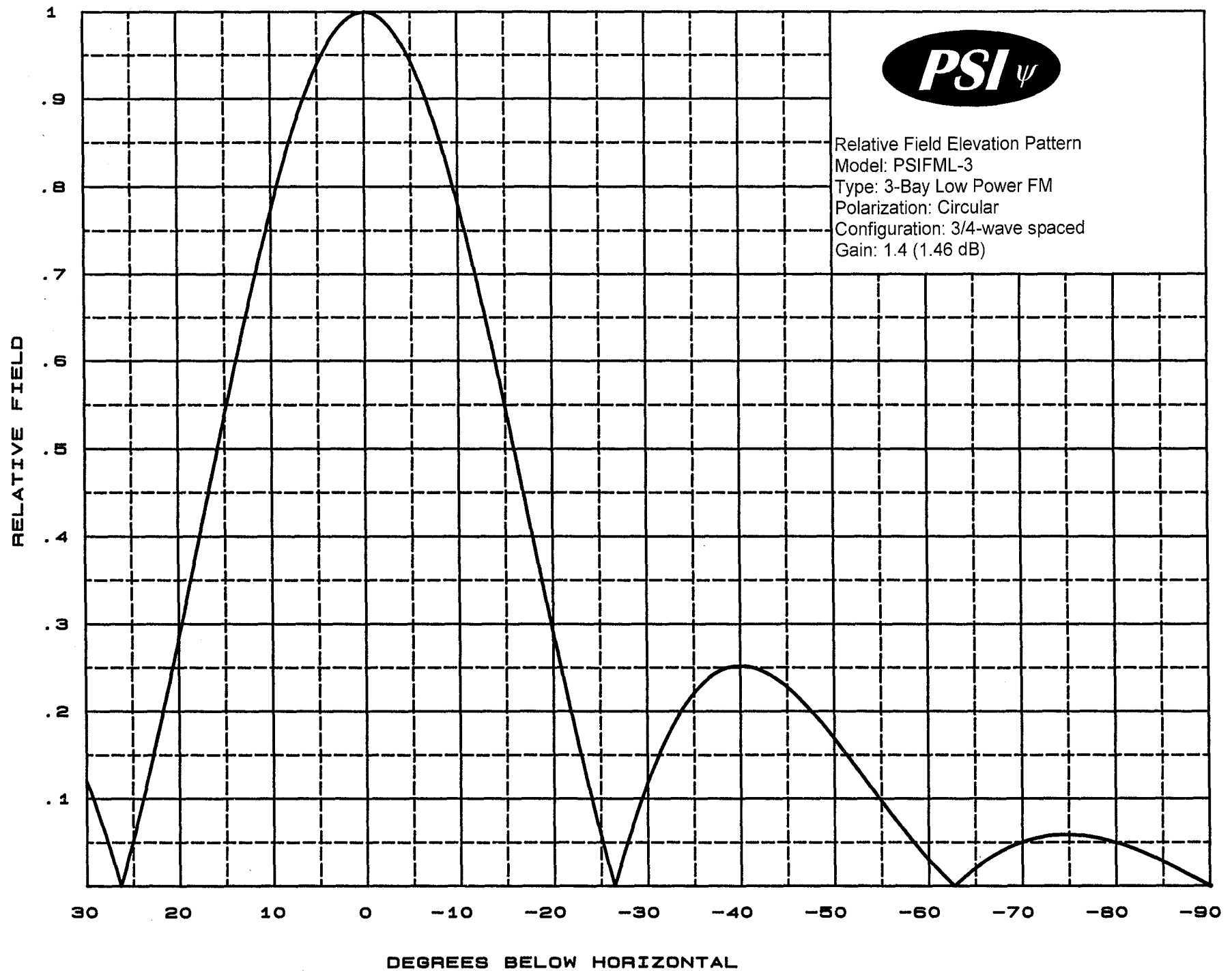
The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 7 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative 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 **11.6 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.

Antenna Manufacturer:	PSI
Antenna Model:	FML-3(.75)
CORAGL:	47 m
Maximum ERP:	0.25 kW
Interfering Contour:	114.1 dBμ
Max Int. Contour Distance:	218.8 m
Min Ground Clearance:	11.6 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	.941	221.4	205.9	205.1	29.1
10	.777	150.9	170.0	167.4	17.5
15	.543	73.7	118.8	114.7	16.3
20	.287	20.6	62.8	59.0	25.5
25	.055	0.8	12.0	10.9	41.9
30	.120	3.6	26.3	22.7	33.9
35	.222	12.3	48.6	39.8	19.1
40	.252	15.9	55.1	42.2	11.6
45	.227	12.9	49.7	35.1	11.9
50	.168	7.1	36.8	23.6	18.8
55	.096	2.3	21.0	12.0	29.8
60	.030	0.2	6.6	3.3	41.3
65	.021	0.1	4.6	1.9	42.8
70	.050	0.6	10.9	3.7	36.7
75	.059	0.9	12.9	3.3	34.5
80	.050	0.6	10.9	1.9	36.2
85	.028	0.2	6.1	0.5	40.9
90	.001	0.0	0.2	0.0	46.8
Minimum Clearance above TGL:					11.6 m



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 K237DH, Facility_id: 147531

Co-channel through third adjacent:

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCMSL	Channel	Adj	Dist	Overlap
291560	12965	Null	Null	KGGO	RADIO LICENSE HOLDING CBC, LLC	C0	DES MOINES	IA	USE	0	0	235	2	43.9	1.4918
97734	12965	BMLH	19870212KB	KGGO	RADIO LICENSE HOLDING CBC, LLC	C0	DES MOINES	IA	LIC	100	597	235	2	43.9	1.4918
292027	9899	Null	Null	KCOB-FM	NEWTON LICENSE CO, LLC	A	NEWTON	IA	USE	0	0	240	3	41	0
645334	152213	BNPFT	20030317DSX	NEW	RADIO ASSIST MINISTRY, INC.	D	DES MOINES	IA	APP	0.17	358.1	238	1	44	0
187646	9899	BLH	19930628KF	KCOB-FM	NEWTON LICENSE CO, LLC	A	NEWTON	IA	LIC	5.1	385	240	3	45.4	0
107836	12965	BLH	19871218KE	KGGO	RADIO LICENSE HOLDING CBC, LLC	C0	DES MOINES	IA	LIC	58	362	235	2	49.7	0
1459444	12965	BXLH	20111109AQG	KGGO	RADIO LICENSE HOLDING CBC, LLC	C0	DES MOINES	IA	LIC	15	444	235	2	75.6	0
298916	14846	Null	Null	KZAT-FM	GRUPO ROBLE, LLC	A	BELLE PLAINE	IA	USE	0	0	238	1	80.8	0
1059102	148032	BLFT	20050426ABM	K238AN	FOURTHSTREAM MEDIA, INC.	D	AMES	IA	LIC	0.025	329	238	1	88.4	0
248180	14846	BLH	19970605KA	KZAT-FM	GRUPO ROBLE, LLC	A	BELLE PLAINE	IA	LIC	4.4	382	238	1	90.1	0
292023	23037	Null	Null	KKFD-FM	FAIRFIELD LICENSE CO, LLC	A	FAIRFIELD	IA	USE	0	0	240	3	93.7	0
174242	23037	BLH	19920604KD	KKFD-FM	FAIRFIELD LICENSE CO, LLC	A	FAIRFIELD	IA	LIC	4.1	349	240	3	93.7	0
291725	52020	Null	Null	KIFG-FM	TIMES-CITIZEN COMMUNICATIONS, INC.	A	IOWA FALLS	IA	USE	0	0	237	0	131.6	0
161463	24661	BLH	19910522KA	KQWC-FM	NRG LICENSE SUB, LLC	C3	WEBSTER CITY	IA	LIC	25	450	239	2	138.3	0
299444	24661	Null	Null	KQWC-FM	NRG LICENSE SUB, LLC	C3	WEBSTER CITY	IA	USE	0	0	239	2	139.9	0
283786	70573	BLH	19990412KB	KOKX-FM	W. RUSSELL WITHERS, JR.	C1	KEOKUK	IA	LIC	100	424	237	0	165	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
1439957	164102	BMLED	20110816ABF	KICP	IOWA STATE UNIVERSITY OF SCIENCE AND TECH	C3	PATTERSON	IA	LIC	15	428.2	290	53	60.7	48.7
586766	21594	BLFT	20011207ABC	K290AJ	EDUCATIONAL MEDIA FOUNDATION	D	GILBERT	IA	LIC	0.25	338	290	53	94.5	84.5

