

## **Non-Interference Compliance**

Regarding Facility id 138539

Channel 287

### **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 20ft (6.1m) in height. This application provides 8.2m (26.9ft) 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.

Application_id	File Number	Callsign	Contour at Tower	Min. Contour
126364	BLH19890323KA	WHCN	71.1	71.1
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				<b>71.1</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 **71.1 dBμ**, this makes the proposed translator's worst-case interfering contour **111.1 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **307.1 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 **8.2 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.

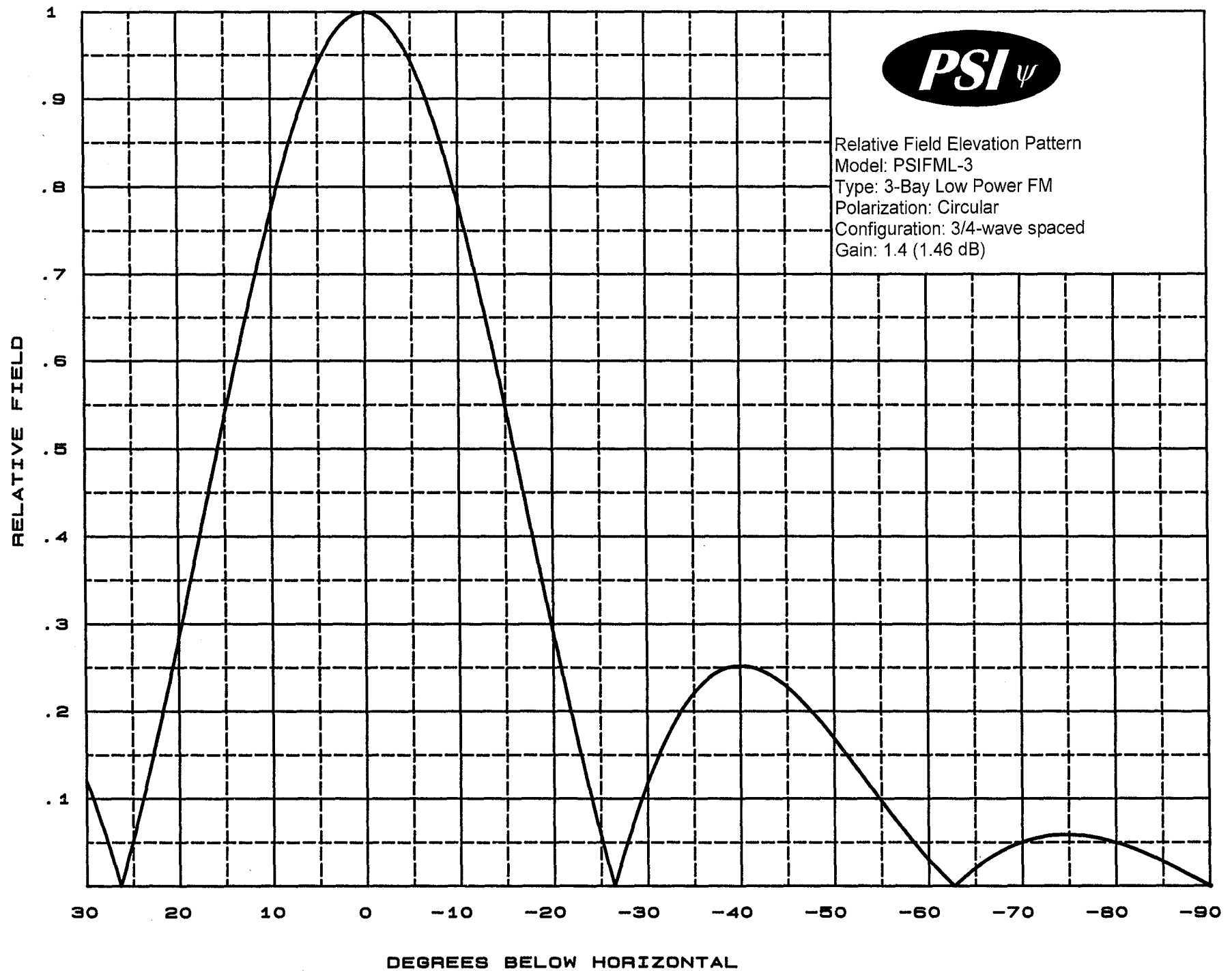
**Note: The tallest buildings within the zone of predicted interference are 20ft (6.1m) in height. This application provides 8.2m (26.9ft) so a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.**

<b>Antenna Manufacturer:</b>	<b>PSI</b>
<b>Antenna Model:</b>	<b>FMLE-3(.75) @ 98°</b>
<b>CORAGL:</b>	<b>58 m</b>
<b>Maximum ERP:</b>	<b>0.247 kW</b>
<b>Interfering Contour:</b>	<b>111.1 dBμ</b>
<b>Max Int. Contour Distance:</b>	<b>307.1 m</b>
<b>Min Ground Clearance:</b>	<b>8.2 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	.941	218.7	289.0	287.9	32.8
10	.777	149.1	238.7	235.0	16.6
15	.543	72.8	166.8	161.1	14.8
20	.287	20.3	88.2	82.8	27.9
25	.055	0.7	16.9	15.3	50.9
30	.120	3.6	36.9	31.9	39.6
35	.222	12.2	68.2	55.9	18.9
40	.252	15.7	77.4	59.3	8.2
45	.227	12.7	69.7	49.3	8.7
50	.168	7.0	51.6	33.2	18.5
55	.096	2.3	29.5	16.9	33.8
60	.030	0.2	9.2	4.6	50.0
65	.021	0.1	6.5	2.7	52.2
70	.050	0.6	15.4	5.3	43.6
75	.059	0.9	18.1	4.7	40.5
80	.050	0.6	15.4	2.7	42.9
85	.028	0.2	8.6	0.7	49.4
90	.001	0.0	0.3	0.0	57.7
Minimum Clearance above TGL:					<b>8.2 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 W278AN, Facility\_id: 138539**

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

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Char	Adj	Dist	Overlap
126364	72144	BLH-19890323KA	WHCN	CAPSTAR TX, LLC	B	HARTFORD	CT	LIC	16	362	290	3	33.6	2.7289
134774	13634	BLH-19891024KI	WIHS	CONNECTICUT RADIO FELLOWS	A	MIDDLETOWN	CT	LIC	3.1	193	285	2	31.3	0
1702223	196980	BMLL-20151117AYQ	WJYC-LP	RIVERSIDE BAPTIST CHURCH	L1	TERRYVILLE	CT	LIC	0	203	287	0	37.8	0
1721412	158594	BPFT-20160302AEK	W286AP	TORRINGTON COMMUNITY RADI	D	TORRINGTON	CT	CP	0.1	195	286	1	46.9	0
1172087	158594	BLFT-20070228ABE	W286AP	TORRINGTON COMMUNITY RADI	D	TORRINGTON	CT	LIC	0.01	195	286	1	46.9	0
1656630	11295	BMLH-20141103AER	WWEI	ENTERCOM LICENSE, LLC	A	EASTHAMPTON	MA	LIC	0.72	377	288	1	52.3	0
1016760	10455	BMLH-20040712AAF	WQGN-FM	RADIO LICENSE HOLDING CBC, I	A	GROTON	CT	LIC	3	130	288	1	59.5	0
1568780	156042	BNPFT-20130829AA\	W286CL	TOWN OF MONROE, CONNECTIC	D	SHELTON	CT	CP	0.01	219	286	1	65.3	0
1243507	128387	BLFTB-20080424AA\	WDBY-FM1	TOWNSQUARE MEDIA DANBURY	D	BROOKFIELD	CT	LIC	1.2	185	288	1	84.7	0
252557	70847	BLED-19970827KA	WAMQ	WAMC	A	GREAT BARRING	MA	LIC	0.73	594	286	1	87.4	0
120065	26348	BLFT-19881108TE	W288AZ	HARVEST BROADCASTING ASSN	D	BERNARDSTON, I	MA	LIC	0.005	310	288	1	88.7	0
1171373	64838	BMLH-20070206ABO	WWLI	RADIO LICENSE HOLDING CBC, I	B	PROVIDENCE	RI	LIC	50	214	286	1	90.2	0
1158467	156169	BLFT-20061106AAT	W287AZ	TOWN OF MONROE, CONNECTIC	D	SOUTHPORT	CT	LIC	0.05	30	287	0	90.7	0
185594	67815	BLH-19930420KG	WDBY	TOWNSQUARE MEDIA DANBURY	A	PATTERSON	NY	LIC	0.9	409	288	1	93.9	0
182244	7996	BLH-19930226KB	WELJ	JOULE BROADCASTING LLC	A	MONTAUK	NY	LIC	6	97	284	3	95.8	0
994142	31754	BLH-20040121ABV	WPTY	JVC MEDIA, LLC	A	CALVERTON-ROA	NY	LIC	0.66	199	287	0	103.9	0
558910	67813	BLH-20010402AAV	WYRY	TRI-VALLEY BROADCASTING CO	A	HINSDALE	NH	LIC	4.1	344	285	2	111.5	0
71503	19630	BLH-19840802CR	WSPK	6 JOHNSON ROAD LICENSES, IN	B	POUGHKEEPSIE	NY	LIC	7.4	504	284	3	119.9	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
1455327	36543	BLH-20111107ARY	WMAS-FM	RADIO LICENSE HOLDING CBC, I	B	ENFIELD	CT	LIC	50	117	234	53	37.3	22.3
1657969	198393	BNPH-20141124AIU	NEW	RED WOLF BROADCASTING COF	A	SAGAPONACK	NY	APP	5.6	109	233	54	91.1	81.1



