

**Non-Interference Compliance**  
**W236CT, Edison, NJ FAC# 138032**  
**8/21/2023**

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 created by V-Soft Xfield.

Page 4 of this exhibit is an adjacent channel study created by ComStudy 2,2

Page 5 is the vertical radiation data provided by the antenna manufacturer.

Page 6 of this exhibit is a Google Earth photo of the vicinity surrounding the proposed translator's tower site with the plotted zone of predicted interference.

### 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>File Number</b>	<b>Call Sign</b>	<b>Contour at Tower (dBμ)</b>
<b>0000197155</b>	<b>WXBK</b>	<b>62.1</b>
<b>0000199057</b>	<b>WPST</b>	<b>62.3</b>
<b>BMLED-20190222AAE</b>	<b>WPLJ</b>	<b>61.2</b>
<b>Minimum F(50,50) contour of Adjacent Station within Proposed Translator's Standard Interfering Contour</b>		<b>61.2</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 dBμ. Since the minimum protected contour strength within the proposed translator's standard interference contour is **61.2 dBμ**, this makes the proposed translator's worst-case interfering contour **101.2 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **681.1 m** from the transmit antenna.

The vertical ground clearance of the proposed translator's interference contour has been calculated using V-Soft, XField. As shown on the following page, the area of interference clears the tower ground level (Height Above Ground) by **13.6 m** at the lowest point.

**Note: The tallest buildings in the zone of predicted interference are 20ft (6.1m) in height. This application provides a minimum of 13.6m (44.6ft) of ground clearance, so 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>PSI</b>
<b>Antenna Model:</b>	<b>FMY-2(.75) @ 343°</b>
<b>CORAGL:</b>	<b>137 m</b>
<b>Maximum ERP:</b>	<b>.124 kW</b>
<b>Interfering Contour:</b>	<b>101.2 dBμ</b>
<b>Max Int. Contour Distance:</b>	<b>681.1 m</b>
<b>Min Ground Clearance:</b>	<b>13.6 m</b>

**Adjacent Channel Study**  
**W236CT, Edison, NJ FAC# 138032**  
**8/21/2023**

Callsign	State	City	Channel	ERP (W)	Class	Status	Distance (km)	Clr (km)
W236CT	NJ	EDISON	236	250	D	LIC	8.94	-68.69 dB
WXBK	NJ	NEWARK	234	40000	B	LIC	48.08	-8.60 dB
WPST	NJ	TRENTON	233	50000	B	LIC	45.1	-8.42 dB
WXBK	NJ	NEWARK	234	26000	B	CP	39.03	-8.01 dB
WPLJ	NY	NEW YORK	238	6600	B	LIC	51.06	-7.66 dB
WPLJ	NY	NEW YORK	238	6700	B	LIC	51.06	-7.68 dB
WPLJ	NY	NEW YORK	238	7600	B	LIC	51.04	-7.68 dB
WPLJ	NY	NEW YORK	238	7200	B	LIC	51.06	-7.76 dB
W236CH	NY	FORT GREENE	236	27	D	LIC	52.55	0.34 dB
WZZO	PA	BETHLEHEM	236	30000	B	LIC	71.08	0.09 dB
WPST	NJ	TRENTON	233	50000	B	LIC	41.21	-0.97 dB
WPLJ	NY	NEW YORK	238	19000	B	LIC	70.98	1.59 dB
WBEN-FM	PA	PHILADELPHIA	239	8900	B	LIC	81.16	6.95 dB
WBEN-FM	PA	PHILADELPHIA	239	11000	B	LIC	81.2	7.23 dB
WBEN-FM	PA	PHILADELPHIA	239	11000	B	LIC	81.2	7.23 dB
WAYV	NJ	ATLANTIC CITY	236	50000	B	LIC	121.95	8.60 dB
WZZO	PA	BETHLEHEM	236	4500	B	LIC	71.08	10.07 dB
WRKI	CT	BROOKFIELD	236	29500	B	LIC	142.95	14.33 dB
W237EH	NJ	PENNSAUKEN	237	250	D	LIC	78.7	28.96 dB
WDSD	DE	DOVER	234	50000	B	LIC	169.85	30.93 dB
W236CL	PA	PHILADELPHIA	236	7	D	LIC	86.51	31.16 dB
W235CE	PA	PHILADELPHIA	235	74	D	LIC	74.64	31.03 dB
WDAC	PA	LANCASTER	233	19000	B	LIC	163.61	32.17 dB
W235BZ	NJ	MARLTON	235	22	D	LIC	70.24	32.89 dB
W235BI	NY	MIDDLETOWN	235	155	D	LIC	108.42	34.41 dB
W237EW	PA	WEST CHESTER	237	240	D	LIC	113.67	34.62 dB
WDAC	PA	LANCASTER	233	13500	B	LIC	163.63	35.86 dB
W237EV	NY	MIDDLETOWN	237	250	D	LIC	108.42	37.71 dB
WRBT	PA	HARRISBURG	235	25000	B	LIC	210.92	37.74 dB
WQXR-FM	NJ	NEWARK	290	610	B1	LIC	51.06	39.1
WQXR-FM	NJ	NEWARK	290	1000	B1	LIC	51.53	39.5
WQXR-FM	NJ	NEWARK	290	710	B1	LIC	51.04	39
WQXR-FM	NJ	NEWARK	290	1590	B1	LIC	51.87	39.9
W235BB	NY	HAUPPAUGE	235	15	D	LIC	115.46	39.03 dB



W236CT Edison, NJ, Showing Protection to WPLJ, Channel: 238

Geographic Coordinates: N. 402845.0 W. 742829.9

74.1204(d) Study - Using FCC 30 SEC Terrain Database

Translator or LPFM Maximum Antenna ERP = 0.124 kW, Channel: 236

Translator or LPFM Antenna Height AG = 137 meters

W236CT Antenna Azimuth Model = Reference Station Antenna (NAD 83), Vertical Model = FML-2-75

Protected Station's Contour = 61.17908 dBu

Translator's or LPFM's full Interference contour 101.17908

Review Azimuth = 160 Degrees True

Relative Field on the horizontal at Review Azimuth = 0.662

Translator/LPFM ERP on the horizontal at Review Azimuth = 0.054 kW

Distance between stations = 51.0 km

Protected Station=WPLJ, 6.7 kW, 422 M meters COR AMSL

Depression Angle From Horiz. (Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle (m)	Dist to IX Contour From Tower Base (m)	Height IX Above Ground (m)
00.0	1.0	0.66	0.0821	554.8631	554.8631	137.000
05.0	0.975	0.66	0.0780	540.9915	538.9329	089.849
10.0	0.903	0.66	0.0669	501.0414	493.4294	049.995
15.0	0.792	0.66	0.0515	439.4516	424.4776	023.262
20.0	0.650	0.66	0.0347	360.6610	338.9105	013.647
25.0	0.493	0.66	0.0200	273.5475	247.9182	021.394
30.0	0.331	0.66	0.0090	183.6597	159.0540	045.170
35.0	0.178	0.66	0.0026	098.7656	080.9041	080.350
40.0	0.043	0.66	0.0002	023.8591	018.2771	121.664
45.0	0.068	0.66	0.0004	037.7307	026.6796	110.320
50.0	0.149	0.66	0.0018	082.6746	053.1422	073.668
55.0	0.202	0.66	0.0033	112.0823	064.2878	045.188
60.0	0.227	0.66	0.0042	125.9539	062.9770	027.921
65.0	0.226	0.66	0.0042	125.3991	052.9959	023.350
70.0	0.206	0.66	0.0035	114.3018	039.0935	029.591
75.0	0.168	0.66	0.0023	093.2170	024.1263	046.959
80.0	0.118	0.66	0.0011	065.4738	011.3694	072.521
85.0	0.061	0.66	0.0003	033.8466	002.9499	103.282
90.0	0.061	0.66	0.0003	033.8466	000.0000	103.153

**Propagation Systems Inc.**

Elevation Pattern Tabulation

Antenna: PSIFML-2 Special

Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.00	0.001	-60.000	-50.00	0.149	-16.513	-10.00	0.903	-0.883
-89.00	0.012	-38.221	-49.00	0.135	-17.364	-9.00	0.921	-0.713
-88.00	0.025	-32.201	-48.00	0.120	-18.405	-8.00	0.937	-0.561
-87.00	0.037	-28.679	-47.00	0.104	-19.677	-7.00	0.952	-0.429
-86.00	0.049	-26.207	-46.00	0.086	-21.289	-6.00	0.964	-0.315
-85.00	0.061	-24.285	-45.00	0.068	-23.404	-5.00	0.975	-0.219
-84.00	0.073	-22.748	-44.00	0.048	-26.425	-4.00	0.984	-0.139
-83.00	0.085	-21.443	-43.00	0.027	-31.481	-3.00	0.991	-0.079
-82.00	0.096	-20.349	-42.00	0.005	-46.848	-2.00	0.996	-0.036
-81.00	0.107	-19.378	-41.00	0.018	-34.664	-1.00	0.999	-0.009
-80.00	0.118	-18.538	-40.00	0.043	-27.417	0.00	1.000	0.000
-79.00	0.129	-17.792	-39.00	0.068	-23.365	1.00	0.999	-0.009
-78.00	0.139	-17.125	-38.00	0.094	-20.529	2.00	0.996	-0.036
-77.00	0.149	-16.522	-37.00	0.121	-18.329	3.00	0.991	-0.079
-76.00	0.159	-15.984	-36.00	0.149	-16.531	4.00	0.984	-0.139
-75.00	0.168	-15.508	-35.00	0.178	-14.998	5.00	0.975	-0.219
-74.00	0.176	-15.072	-34.00	0.207	-13.669	6.00	0.964	-0.315
-73.00	0.184	-14.685	-33.00	0.237	-12.489	7.00	0.952	-0.429
-72.00	0.192	-14.335	-32.00	0.268	-11.431	8.00	0.937	-0.561
-71.00	0.199	-14.026	-31.00	0.299	-10.475	9.00	0.921	-0.713
-70.00	0.205	-13.752	-30.00	0.331	-9.602	10.00	0.903	-0.882
-69.00	0.211	-13.518	-29.00	0.363	-8.801	11.00	0.884	-1.072
-68.00	0.216	-13.315	-28.00	0.395	-8.061	12.00	0.863	-1.279
-67.00	0.220	-13.146	-27.00	0.428	-7.377	13.00	0.841	-1.508
-66.00	0.224	-13.009	-26.00	0.460	-6.742	14.00	0.817	-1.757
-65.00	0.226	-12.904	-25.00	0.493	-6.151	15.00	0.792	-2.029
-64.00	0.228	-12.834	-24.00	0.525	-5.599	16.00	0.765	-2.322
-63.00	0.229	-12.800	-23.00	0.557	-5.083	17.00	0.738	-2.639
-62.00	0.229	-12.794	-22.00	0.589	-4.603	18.00	0.710	-2.979
-61.00	0.228	-12.829	-21.00	0.620	-4.154	19.00	0.680	-3.344
-60.00	0.227	-12.898	-20.00	0.650	-3.736	20.00	0.650	-3.736
-59.00	0.224	-13.009	-19.00	0.680	-3.344	21.00	0.620	-4.154
-58.00	0.220	-13.158	-18.00	0.710	-2.979	22.00	0.589	-4.603
-57.00	0.215	-13.351	-17.00	0.738	-2.639	23.00	0.557	-5.083
-56.00	0.209	-13.600	-16.00	0.765	-2.323	24.00	0.525	-5.599
-55.00	0.202	-13.894	-15.00	0.792	-2.029	25.00	0.493	-6.151
-54.00	0.194	-14.260	-14.00	0.817	-1.759	26.00	0.460	-6.742
-53.00	0.184	-14.685	-13.00	0.840	-1.510	27.00	0.428	-7.377
-52.00	0.174	-15.192	-12.00	0.863	-1.281	28.00	0.395	-8.061
-51.00	0.162	-15.795	-11.00	0.884	-1.072	29.00	0.363	-8.801
						30.00	0.331	-9.602



Aerial Photo Zone of Predicted Interference  
W236CT, Edison, NJ FAC# 138032  
January 4, 2023

