

Second Adjacent Exhibit & Waiver Request

Application requests a second adjacent waiver in respect to WOXY (FM), FCC Facility ID 3653, and WRRM (FM) Facility ID 3142.

Data calculations shows signal strength for WOXY with an estimated field strength of 88.71 dBuV/m with standard f(50,50) calculations. Using Longley-Rice methodology ¹, reveals an increase in WOXY's estimated field strength to 95.32 dBuV/m. With an additional 40 dBu protection and rounded to the nearest decibel, WOXY is protected to 135.32 dBuV/m.

WRRM's predicted propagation using Longley-Rice methodology shows field strength increased to 74.768 dBuV/m. With an additional 40 dBu protection and rounded to the nearest decibel, WRRM is protected to 115 dBuV/m.

- Using a Scala FMV-3 antenna array centered at 38 meters above ground and factoring depression angle calculations below the horizon, worst-case interference of 80.02 meters radius would occur at at 14 meters below center of radiation, or 22.4 meters above ground.

Any residual interference will be fully cleared of populated areas. No population will be subject to interference from the proposed facility according to the undesired-to-desired (U/D) ratio method.

Detail of engineering parameters continue on the next pages.

¹ 47 CFR § 73.807(e)(1) ***Waiver of the second-adjacent channel separations*** states, in part: “In each case, the LPFM station must establish, using methods of predicting interference taking into account all relevant factors, including terrain-sensitive propagation models, that its proposed operations will not result in interference to any authorized radio service. The LPFM station may do so by demonstrating that no actual interference will occur due to intervening terrain or lack of population.”

Antenna system: Scala FMV-3 Three-bay array**Depression Angle calculations – Second Adjacent Waiver Exhibit**

Scala FMV – 3-Bay							
Power – 100 W				Height – 38 m		Contour – 115.00	
Elevation Angle (Degrees)	Relative Field (Meters)	db from relative	ERP	Radial Distance (Meters)	Vertical Distance (Meters)	Horizontal Distance (Meters)	Hght Above Base Elev. (Meters) clearance above ground
0	1.0000	0.00	100.00	124.657	0.000	124.657	38.0
1	0.9960	-0.03	99.20	124.159	2.167	124.140	35.8
2	0.9870	-0.11	97.42	123.037	4.294	122.962	33.7
3	0.9710	-0.26	94.28	121.042	6.335	120.876	31.7
4	0.9490	-0.45	90.06	118.300	8.252	118.012	29.7
5	0.9210	-0.71	84.82	114.809	10.006	114.373	28.0
10	0.7080	-3.00	50.13	88.257	15.326	86.917	22.7
11	0.6540	-3.69	42.77	81.526	15.556	80.028	22.4
12	0.5970	-4.48	35.64	74.420	15.473	72.794	22.5
13	0.5380	-5.38	28.94	67.066	15.086	65.347	22.9
14	0.4780	-6.41	22.85	59.586	14.415	57.816	23.6
15	0.4180	-7.58	17.47	52.107	13.486	50.331	24.5
20	0.1260	-17.99	1.59	15.707	5.372	14.760	32.6
25	0.0436	-27.21	0.19	5.435	2.297	4.926	35.7
30	0.1252	-18.05	1.57	15.607	7.804	13.516	30.2
35	0.1373	-17.25	1.89	17.115	9.817	14.020	28.2
40	0.1047	-19.60	1.10	13.052	8.389	9.998	29.6
45	0.0587	-24.63	0.34	7.317	5.174	5.174	32.8
50	0.0160	-35.92	0.03	1.995	1.528	1.282	36.5
55	0.0117	-38.64	0.01	1.458	1.195	0.837	36.8
60	0.0253	-31.94	0.06	3.154	2.731	1.577	35.3
65	0.0301	-30.43	0.09	3.752	3.401	1.586	34.6
70	0.0344	-29.27	0.12	4.288	4.030	1.467	34.0
75	0.0414	-27.66	0.17	5.161	4.985	1.336	33.0
80	0.0527	-25.56	0.28	6.569	6.470	1.141	31.5
85	0.0697	-23.14	0.49	8.689	8.656	0.757	29.3
90	0.0885	-21.06	0.78	11.032	11.032	0.000	27.0

Export of Data Calculations

Point Information Report

Latitude: 39-29-24.95 N

Longitude: 084-24-49.91 W

Signal Strength: 74.768 dBuV/m

Elevation: 218.33 m

Distance From Transmitter: 42.491 km

Azimuth From Transmitter: 15.73 degrees

Call Letters: WRRM

File Number: BMLH20150721ABF

Latitude: 39-07-18.99 N

Longitude: 084-32-52 W

ERP: 18.00 kW

Channel: 253

Frequency: 98.5 MHz

AMSL Height: 462.0 m

Elevation: 222.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Point Information Report

Latitude: 39-29-24.95 N

Longitude: 084-24-49.91 W

Signal Strength: 95.318 dBuV/m

Elevation: 218.33 m

Distance From Transmitter: 6.077 km

Azimuth From Transmitter: 242.17 degrees

Call Letters: WOXY

File Number: BLH20120917ACM

Latitude: 39-30-56.99 N

Longitude: 084-21-05.01 W

ERP: 2.70 kW

Channel: 249

Frequency: 97.7 MHz

AMSL Height: 399.0 m

Elevation: 263.1 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Study Information:

Coverage Study
Signal Resolution: 1.0 km

Study Date: 11/20/2023
FM Data Date: 11/20/2023

Primary Terrain: V-Soft 30 Second US Database
Secondary Terrain: V-Soft 3 Second Alaska Terrain
Coordinate System: NAD27

Call Sign	Area Of Calculation
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NewLP (251)	Circle: R = 44 km
WRRM (253)	Circle: R = 44 km
WOXY (249)	Circle: R = 44 km

Transmitters:

Transmitter Information:

Call Letters: NewLP
Latitude: 39-29-24.95 N
Longitude: 084-24-49.91 W
ERP: 0.05 kW
Channel: 251
Frequency: 98.1 MHz
AMSL Height: 232.9 m
Elevation: 192.4 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No
Propagation Model: Longley-Rice
Climate: Continental temperate
Conductivity: 0.0050
Dielectric Constant: 15.0
Refractivity: 311.0
Receiver Height AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Situation Variability: 50.0%
ITM Mode: Broadcast

Transmitter Information:

Call Letters: WRRM
File Number: BMLH20150721ABF
Latitude: 39-07-18.99 N
Longitude: 084-32-52 W
ERP: 18.00 kW
Channel: 253
Frequency: 98.5 MHz
AMSL Height: 462.0 m
Elevation: 222.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No
Propagation Model: Longley-Rice
Climate: Continental temperate
Conductivity: 0.0050
Dielectric Constant: 15.0
Refractivity: 311.0
Receiver Height AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Situation Variability: 50.0%
ITM Mode: Broadcast

Transmitter Information:

Call Letters: WOXY
File Number: BLH20120917ACM
Latitude: 39-30-56.99 N
Longitude: 084-21-05.01 W
ERP: 2.70 kW
Channel: 249
Frequency: 97.7 MHz
AMSL Height: 399.0 m
Elevation: 263.1 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No
Propagation Model: Longley-Rice
Climate: Continental temperate
Conductivity: 0.0050
Dielectric Constant: 15.0
Refractivity: 311.0
Receiver Height AG: 9.1 m
Receiver Gain: 0 dB
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