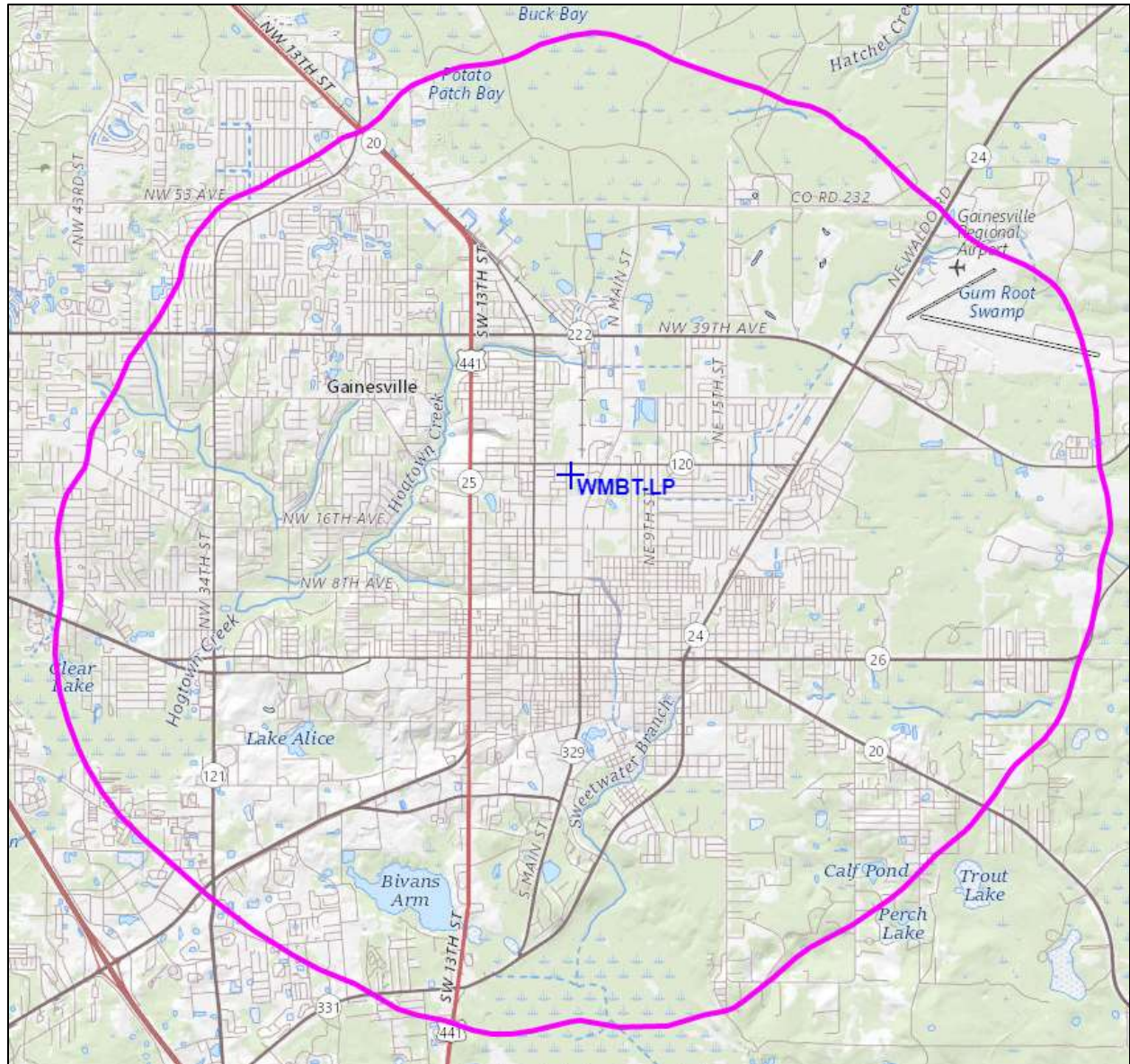




**REC Networks/Michelle Bradley, CBT**  
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Amendment to Minor Modification for **WMBT-LP**  
**GAINESVILLE, FL**  
**FAMILY OUTREACH MINISTRY, INC.**  
File No. 0000111765

### **PROPOSED 60dBu F(50,50) SERVICE CONTOUR**



GAINESVILLE, FL – Channel 215LP100 (90.9 MHz) ~ ERP 0.054 kW  
Elev: 57.9 meters ~ RCAGL: 25 meters ~ RCAMSL: 82.9 meters ~ HAAT: 41 m (GLOBE)  
Overall tower height: 57.9 meters – ASR: (pending application A1164732)  
NAD83 Latitude: 29° 40' 21.0" NL – Longitude: 82° 19' 34.3" WL.  
NAD27 Latitude: 29° 40' 20.1" NL – Longitude: 82° 19' 35.1" WL

Site: WMBT-LP  
 Coordinates: 29-40-20.1 N, 82-19-35.1 W  
 Freq: 90.90000 MHz  
 ERP: 54.00 W

Bearing	ERP W	HAAT	DH	Distance	Lat	Lon
0	54.00	40	20	5.55	29.722214	-82.326417
5	54.00	40	10	5.55	29.722024	-82.321402
10	54.00	39	10	5.49	29.720843	-82.316550
15	54.00	38	10	5.42	29.719312	-82.311896
20	54.00	36	0	5.26	29.716732	-82.307775
25	54.00	36	0	5.26	29.715150	-82.303382
30	54.00	37	10	5.34	29.713850	-82.298761
35	54.00	38	20	5.42	29.712157	-82.294240
40	54.00	38	20	5.42	29.709569	-82.290358
45	54.00	39	30	5.49	29.707135	-82.286246
50	54.00	40	20	5.55	29.704359	-82.282352
55	54.00	41	20	5.62	29.701256	-82.278713
60	54.00	45	30	5.89	29.698751	-82.273554
65	54.00	50	10	6.22	29.695892	-82.268019
70	54.00	53	20	6.42	29.692000	-82.263905
75	54.00	55	20	6.54	29.687463	-82.260993
80	54.00	56	20	6.60	29.682537	-82.259156
85	54.00	56	20	6.60	29.677404	-82.258382
90	54.00	56	20	6.60	29.672232	-82.258126
95	54.00	59	20	6.76	29.666932	-82.256698
100	54.00	59	30	6.76	29.661672	-82.257498
105	54.00	59	30	6.76	29.656494	-82.258823
110	54.00	59	30	6.76	29.651435	-82.260662
115	54.00	59	20	6.76	29.646535	-82.263001
120	54.00	58	20	6.71	29.642078	-82.266316
125	54.00	57	20	6.65	29.637920	-82.270029
130	54.00	57	10	6.65	29.633781	-82.273687
135	54.00	56	10	6.60	29.630284	-82.278148
140	54.00	56	10	6.60	29.626789	-82.282540
145	54.00	57	10	6.65	29.623234	-82.286939
150	54.00	57	10	6.65	29.620430	-82.292004
155	54.00	57	20	6.65	29.618022	-82.297331
160	54.00	60	20	6.82	29.614647	-82.302302
165	54.00	63	40	6.97	29.611728	-82.307764
170	54.00	62	40	6.92	29.610962	-82.313987
175	54.00	62	20	6.92	29.610254	-82.320178
180	54.00	60	20	6.82	29.610953	-82.326417
185	54.00	63	20	6.97	29.609833	-82.332698
190	54.00	64	20	7.01	29.610112	-82.339019
195	54.00	63	10	6.97	29.611728	-82.345069
200	54.00	62	10	6.92	29.613768	-82.350899
205	54.00	61	10	6.87	29.616252	-82.356451
210	54.00	61	10	6.87	29.618740	-82.361951
215	54.00	60	10	6.82	29.622032	-82.366861
220	54.00	59	10	6.76	29.625658	-82.371384
225	54.00	60	10	6.82	29.628897	-82.376280
230	54.00	62	10	6.92	29.632236	-82.381262
235	54.00	63	20	6.97	29.636299	-82.385465
240	54.00	62	10	6.92	29.641119	-82.388426
245	54.00	61	10	6.87	29.646124	-82.390845
250	54.00	59	10	6.76	29.651435	-82.392171
255	54.00	55	20	6.54	29.657005	-82.391821
260	54.00	52	20	6.36	29.662304	-82.391227
265	54.00	52	0	6.36	29.667250	-82.391980
270	54.00	49	10	6.16	29.672235	-82.390132
275	54.00	48	10	6.09	29.677007	-82.389192
280	54.00	45	20	5.89	29.681444	-82.386519
285	54.00	42	20	5.69	29.685491	-82.383349
290	54.00	40	20	5.55	29.689328	-82.380462
295	54.00	38	30	5.42	29.692831	-82.377249
300	54.00	40	30	5.55	29.697223	-82.376229
305	54.00	40	30	5.55	29.700900	-82.373535
310	54.00	37	20	5.34	29.703122	-82.368784
315	54.00	37	20	5.34	29.706213	-82.365525
320	54.00	33	30	5.03	29.706889	-82.359885
325	54.00	31	30	4.89	29.708283	-82.355468
330	54.00	31	30	4.89	29.710346	-82.351742
335	54.00	33	20	5.03	29.713235	-82.348423
340	54.00	34	10	5.11	29.715413	-82.344506
345	54.00	35	20	5.19	29.717305	-82.340318
350	54.00	35	20	5.19	29.718186	-82.335743
355	54.00	38	20	5.42	29.720787	-82.331306

NAD27 LATITUDE: 29 - 40' 20.1" - LONGITUDE: 82 - 19' 35.1"  
CHANNEL: 215 - CLASS: LP100

CHAN	FREQ	CALL	LOCATION	CLS	DIST	REQ	CLEAR	BEAR
213	90.5	WYFB	GAINESVILLE	FL C1	25.0	73.0	-48.0	28.6
: BIBLE BROADCASTING NETWORK, INC. > See second adjacent channel waiver request herein.								
214	90.7	WMFE-FM	ORLANDO	FL C1	168.7	100.0	68.7	134.5
: COMMUNITY COMMUNICATIONS, INC. * Station carries radio reading service.								
215	90.9	WAQV	CRYSTAL RIVER	FL A	72.2	67.0	5.2	189.5
: RADIO TRAINING NETWORK, INC.								
215	90.9	WMBT-LP	GAINESVILLE	FL L1	0.0	24.0	-24.0	135.4
: FAMILY UNITY OUTREACH MINISTRY, INC. > Instant application being amended.								
215	90.9	WJKV	JACKSONVILLE	FL C2	99.5	91.0	8.5	47.3
: EDUCATIONAL MEDIA FOUNDATION								
215	90.9	WVVS-FM	VALDOSTA	GA A	156.9	67.0	89.9	326.4
: BOARD REGENTS, UNIV SYSTEM OF GA/VALDOSTA STATE UNIV								
216	91.1	WKES	LAKELAND	FL C1	178.7	100.0	78.7	171.0
: THE MOODY BIBLE INSTITUTE OF CHICAGO								
216	91.1	WHYZ	PALM COAST	FL C3	116.4	67.0	49.4	102.8
: CENTRAL FLORIDA EDUCATIONAL FOUNDATION, INC.								
216	91.1	WUJC	ST. MARKS	FL C1	175.8	100.0	75.8	302.5
: CALVARY CHAPEL OF TWIN FALLS, INC.								
217	91.3	WHIF	PALATKA	FL A	71.1	29.0	42.1	91.6
: PUTNAM RADIO MINISTRIES, INC.								
217	91.3	WYFZ	BELLEVUE	FL A	57.7	29.0	28.7	162.3
: BIBLE BROADCASTING NETWORK, INC.								
217	91.3	WOLR	LAKE CITY	FL C3	62.8	40.0	22.8	311.8
: FAITH RADIO NETWORK, INC								

**REQUEST FOR HANDLING UNDER §73.870(a)**  
**NON-ADJACENT CHANNEL CHANGE**

WMBT-LP  
Channel 215LP100 (90.9 MHz)  
Gainesville, Florida

In order to be considered a minor change, §73.870(a)(1) of the Commission's Rules requires any channel changes of LPFM stations to be on an adjacent or intermediate frequency, or upon a technical showing of reduced interference to any frequency.<sup>1</sup>

In the instant application, the applicant is requesting a change from Channel 211LP100 to Channel 215LP100. Such a channel change is considered non-adjacent, therefore, a study of reduced interference must be made.

In last year's *Translator Interference* proceeding<sup>2</sup>, the Commission determined the 45 dBu F[50, 50] contour "best balances full-service, secondary service and listener interests" that "encompasses the bulk of full-service core listenership".<sup>3</sup> We also note that §73.870(a)(1) only specifies *reduced interference* therefore giving the applicant greater flexibility to determine the type of interference, such as "inward" interference where a new channel is selected based on decreased contours or noise floor at the LPFM station or "outward" interference based on reducing the applicant LPFM station's interference towards other full-service or secondary facilities.<sup>4</sup> In this technical showing, we are proposing to reduce *outward* interference between two Jacksonville stations as well as reduce the interfering contour in respect to a second-adjacent channel short-spaced station.

*Currently on Channel 211.* WJCT-FM, Jacksonville, Florida is a first-adjacent channel station. The 45 dBu contour reaches past the current WMBT-LP site. A significant portion of the 39 dBu interfering contour of the current WMBT-LP site overlaps into the WJCT-FM 45 dBu contour covering 635 square kilometers which includes a population of 109,260 persons. Using Longley/Rice, WMBT-LP places a 39 dBu field strength to a 457 square kilometer area within the contour overlap area comprising 106,378 persons (97.3 percent of overlap area).

*On proposed channel 215.* There is an overlap between the 25 dBu interfering contour of the proposed LPFM station and the 45 dBu contour of WJKV, Jacksonville, Florida. The overlap area consists of 2418.5 square km with a population of 69,317 persons. The Longley/Rice

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<sup>1</sup> 47 C.F.R §73.870(a)(1).

<sup>2</sup> *Amendment of Part 74 of the Commission's Rules Regarding FM Translator Interference*, Report and Order, 34 FCC Rcd. 3457 (2019) ("*Translator Interference*").

<sup>3</sup> *Id.* at 3477, ¶ 40.

<sup>4</sup> The Commission has found that the use of undesired-to-desired ratio ("U/D ratio") is "an adequate threshold causation test to establish [...] a 'zone of potential interference' by the subject [...] station to the desired station." (See *Id.* at 3469-3470, ¶ 26). The standard methods for U/D ratio are -20 dB for co-channel, -6 dB for first-adjacent channel and 40 dB for second and third adjacent channels. (See *Id.* at 3469, ¶ 23; See also 47 CFR §74.1204(a)).

prediction shows that 571 square km of area and 13,402 persons could receive a minimum 25 dB field strength from the proposed LPFM facility (19.3 percent of the overlap area).<sup>5</sup>

*Second-adjacent channel station WYFB.* Both the current and proposed facilities do not meet the distance separation requirements in respect to WYFB, Gainesville, Florida. We will discuss the demonstration of protection to WYFB in this exhibit *infra*. The current WMBT-LP facility is located within the 79.1 dBu service contour of WYFB. Applying the 40 dB U/D standard, this would result in a 119.1 dBu interfering contour of 53 meters from the current site based on a 47 watt ERP. The proposed facility is at WYFB's 80.3 dBu service contour. Following the U/D standard, this would result in a 120.3 dBu interfering contour of 50 meters from the proposed site based on a 54 watt ERP. Therefore, it can be concluded that the area of interference to WYFB is reduced as a result of his change.

Based on the information presented, we have determined that a change from Channel 211 to Channel 215 at the new proposed site would reduce first-adjacent channel interference for fringe area listeners to WJCT-FM for their unique programming to move to a channel that not only has far fewer listeners within the WJKV U/D overlap area, but has an impact reduction further compounded by another local FM station within the overlap zone airing the same programming (WLSF), thus eliminating the need for most fringe listenership. We have also shown that with the move, the interfering contour in respect to second-adjacent channel short-spaced station WYFB is further reduced as a result of this over. Therefore, it can be concluded that a showing of reduced interference can be made and therefore, the applicant is requesting handling under §73.870(a) for a non-adjacent channel minor change.

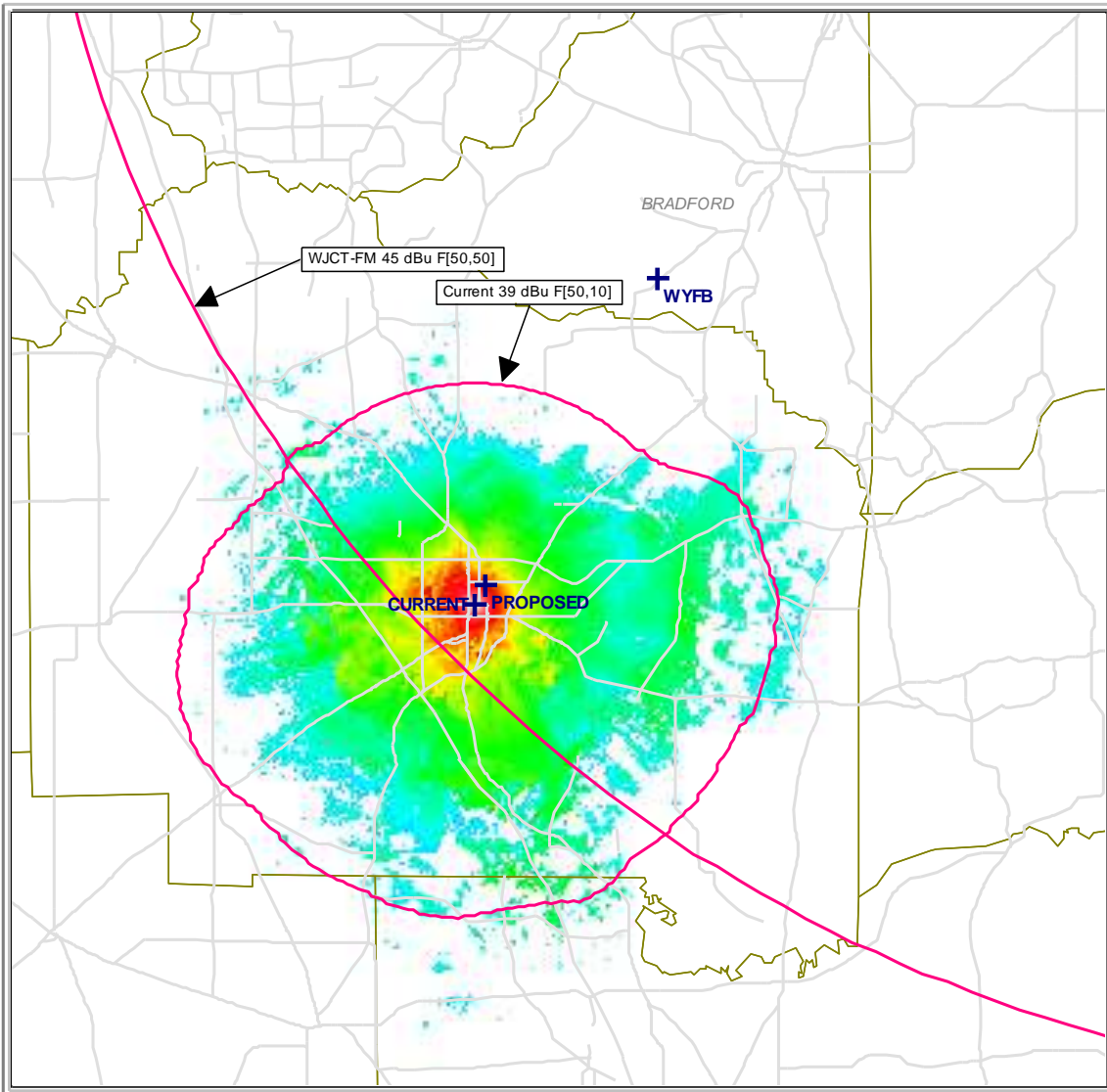
Report prepared by:  
Michelle Bradley, CBT  
REC Networks  
July 9, 2020

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<sup>5</sup> On Channel 215, WJKV is owned by Educational Media Foundation and according to EMF's official website, WJKV carries K-Love programming. (See: <https://ww2.klove.com/music/station-finder/stations/>). We also note that per that same website information, K-Love programming is also carried on commonly owned station WLSF, Starke, Florida. The 60 dBu service contour of WLSF is well inside the overlap area including a significant number of potential listeners described in the Longley/Rice study. Since K-Love programming is simulcasted to all affiliate stations by satellite on a full time basis, it is much less likely that listeners in the overlap area will attempt to tune to a Jacksonville station to receive K-Love programming when there is a local option available. In contrast, WJCT-FM is a public radio station with no other cross ownership with any other FM facility. Unlike K-Love, WJCT-FM carries its own NPR and local programming not simultaneously with any other public station such as WUFT-FM, Gainesville. Therefore, there would be a higher probability that WJCT-FM would have fringe listeners in the overlap area than would WJKV would as WKJV's programming is available more locally.



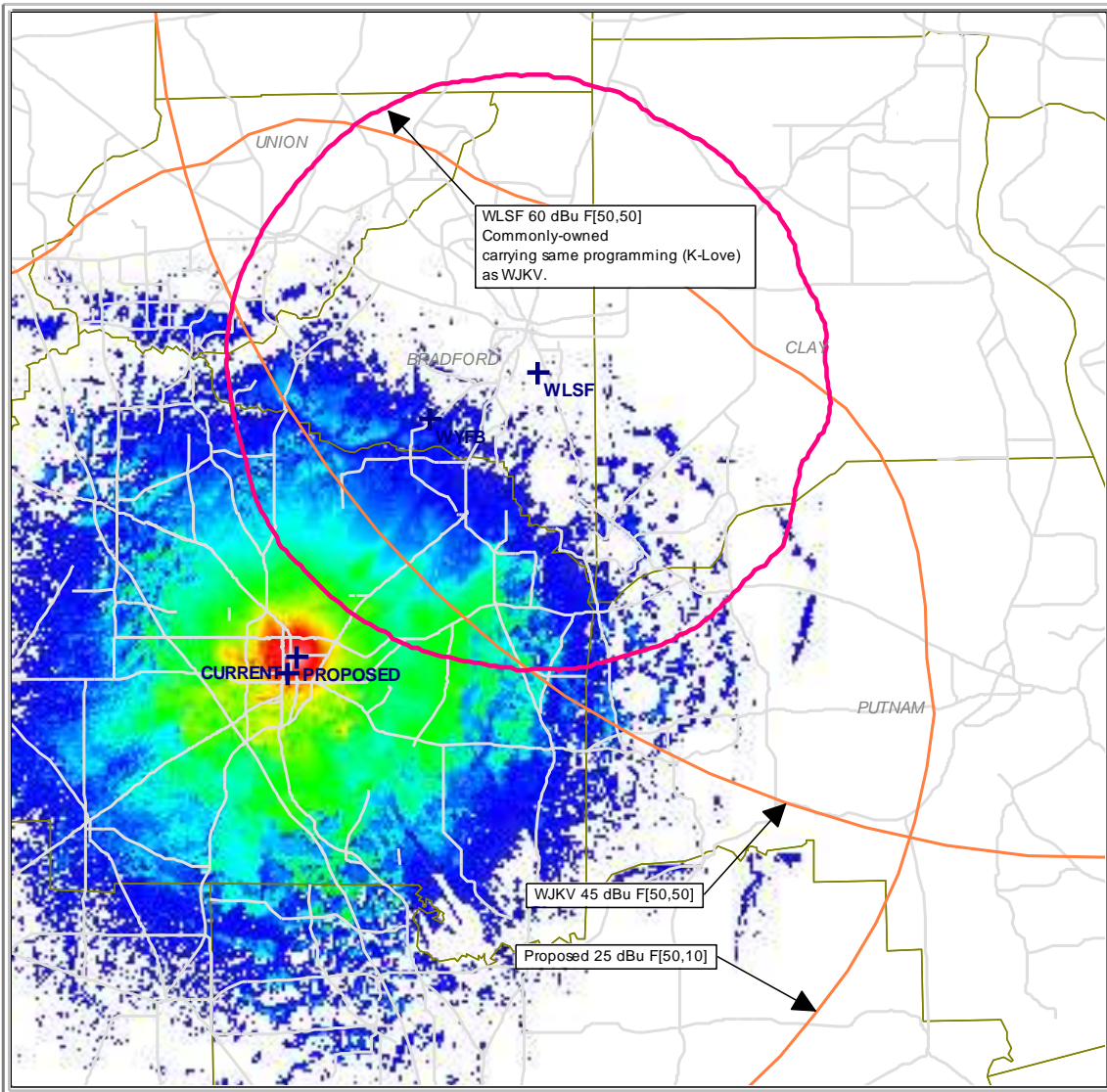
## Current Facility (Channel 211) vs. WJCT-FM



Longley Rice shows 39 dB or stronger.



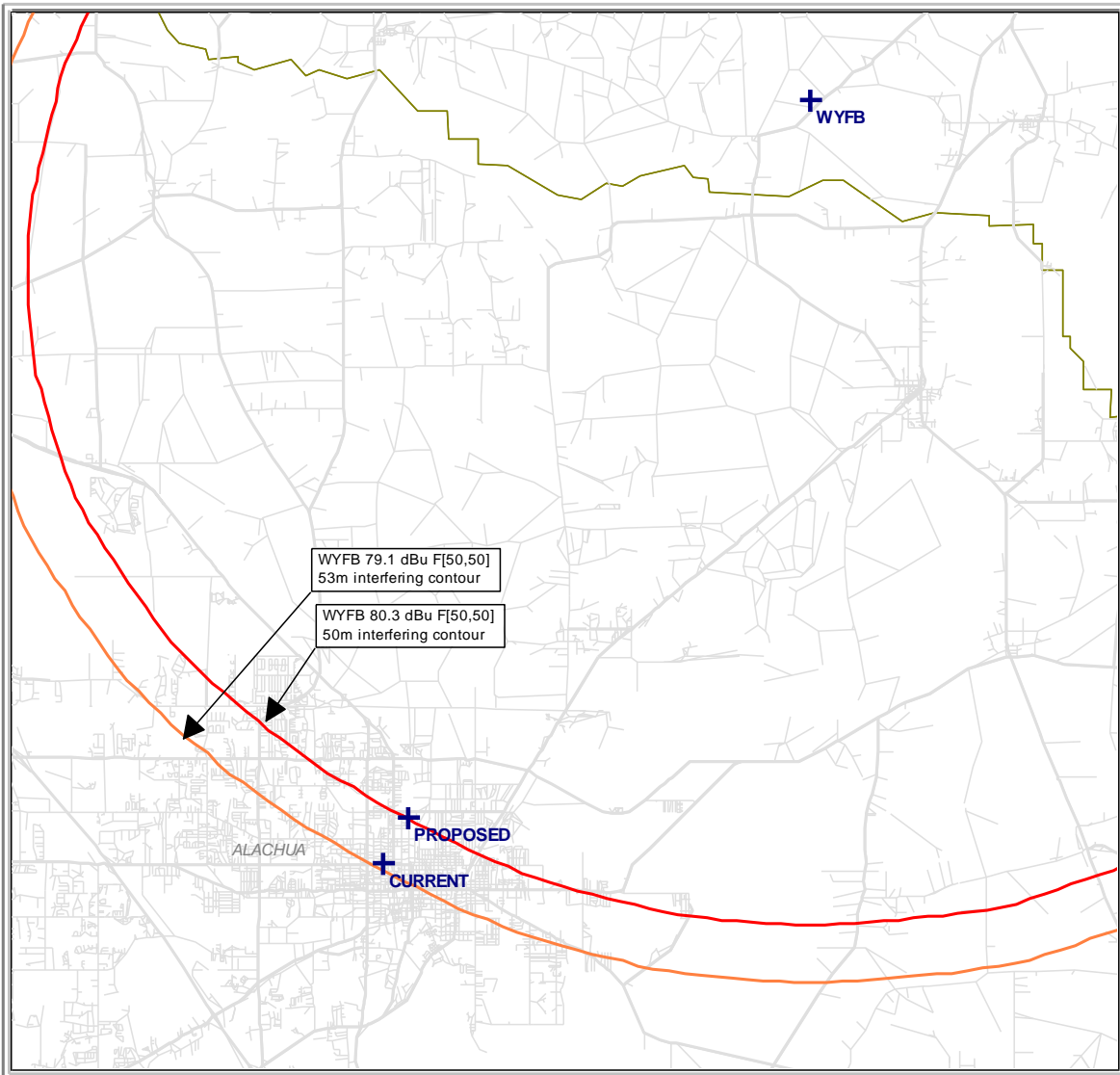
## Proposed: Channel 215 vs. WJKV. WLSF/WJKV simulcast area.



Longley Rice shows a 25 dB field strength or greater.



## Second-adjacent channel station WYFB.





**WAIVER OF §73.807 REQUEST**  
**SHORT-SPACED SECOND-ADJACENT CHANNEL**

WMBT-LP  
Channel 215LP100 (90.9 MHz)  
Gainesville, Florida

The proposed facility is located within the 60 dBu protected service contour of second-adjacent channel facility WYFB, Gainesville, Florida.<sup>6</sup>

WYFB operates on Channel 213C1 with 97 kW into a directional antenna at 202 meters above average terrain. WYFB places an 80.3 dBu F[50,50] service contour at the proposed LPFM site.

Using the U/D method<sup>7</sup>, the proposed translator station is predicted to produce an undesired interference overlap in respect to WYFB to the proposed LPFM station's 120.3 dBu interference contour ("overlap zone"). At 54 watts ERP, the overlap zone extends to 50 meters from the radiation center. As the proposed radiation center is 25 meters above ground level, the interference will reach the ground. To address the interference, applicant is proposing to operate a 1-bay Progressive Concepts CIRPA circularly polarized antenna.<sup>8</sup> Based on specifications, at 25 meters above ground level, the interfering contour along the -40 degree depression angle will not exceed 119.96 dBu.

Based on these findings, the proposed modified LPFM station will not create any interference to listeners or potential listeners of WYFB. The applicant is requesting a waiver of §73.807 in respect to second adjacent channel short-spaced station WYFB, Gainesville, Florida.

Prepared by  
Michelle Bradley, CBT  
REC Networks  
July 9, 2020

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<sup>6</sup> WMBT-LP on Channel 211LP100 is currently second-adjacent channel short-spaced to WYFB on Channel 213C1. The proposed change further short-spaces WMBT-LP towards WYFB, therefore a new second-adjacent channel study and waiver request must be made. (See 47 C.F.R. §73.807)

<sup>7</sup> See *Living Way Ministries, Inc.* Memorandum Opinion and Order, 17 FCC Rcd 17054, 17056 (2002) at 5. *Recon denied* 23 FCC Rcd 15070 (2008).

<sup>8</sup> The CIRPA has a design and specifications similar to other "knockoffs" of the Nicom BKG-77.

Proposed Power:				<b>0.052 kW</b>				
Antenna Height AGL:				<b>25 m</b>				
Interference Contour:				<b>123.3 dBu</b>				
Artificial RX Antenna Height:				<b>2 m</b>				
Antenna Type:				CIRPA - 1 bay 0 wave spacing				
Angle Below Horizon	Antenna Relative Field	ERP in kW	ERP in dBk	Distance from Ant to Interference Contour	Distance from Ant to Artificial Plane	Field Strength in dBu @ Artificial Plane	Distance from Ant to Ground Level	Field Strength in dBu @ Ground Level
5	<b>0.999</b>	0.052	-12.85	34.56	263.90	105.64	286.84	104.92
10	<b>0.982</b>	0.050	-13.00	33.97	132.45	111.48	143.97	110.76
15	<b>0.954</b>	0.047	-13.25	33.00	88.87	114.70	96.59	113.97
20	<b>0.918</b>	0.044	-13.58	31.76	67.25	116.78	73.10	116.06
25	<b>0.872</b>	0.040	-14.03	30.17	54.42	118.17	59.16	117.45
30	<b>0.818</b>	0.035	-14.58	28.30	46.00	119.08	50.00	118.36
35	<b>0.758</b>	0.030	-15.25	26.22	40.10	119.61	43.59	118.89
40	<b>0.691</b>	0.025	-16.05	23.90	35.78	119.80	38.89	119.07
45	<b>0.616</b>	0.020	-17.05	21.31	32.53	119.63	35.36	118.90
50	<b>0.538</b>	0.015	-18.22	18.61	30.02	119.15	32.64	118.42
55	<b>0.465</b>	0.011	-19.49	16.09	28.08	118.46	30.52	117.74
60	<b>0.391</b>	0.008	-21.00	13.53	26.56	117.44	28.87	116.72
65	<b>0.313</b>	0.005	-22.93	10.83	25.38	115.90	27.58	115.18
70	<b>0.239</b>	0.003	-25.27	8.27	24.48	113.87	26.60	113.15
75	<b>0.176</b>	0.002	-27.93	6.09	23.81	111.45	25.88	110.73
80	<b>0.129</b>	0.001	-30.63	4.46	23.35	108.92	25.39	108.20
85	<b>0.103</b>	0.001	-32.58	3.56	23.09	107.07	25.10	106.34
90	<b>0.105</b>	0.001	-32.42	3.63	23.00	107.27	25.00	106.55



The tower is preexisting as it was previously used for Part 90 land mobile purposes. No FM broadcast antenna is currently constructed. In order to meet modern requirements, an application for antenna structure registration has already been filed and is now pending public notice and grant. For more information, see File No. A1164732 in the ULS ASR system.

## **PROTECTION TO AM BROADCAST TOWERS**

WMBT-LP  
Channel 215LP100 (90.9 MHz)  
Gainesville, Florida

The following AM broadcast facilities are located within 5 miles of the proposed facility:

Call sign	Frequency/ Wavelength	Antenna type	Operating schedule	Distance (m)		Electrical Degrees		Notification required?
				Required	Actual	Required	Actual	
WTMN	1430 kHz (210m)	ND	Day	210	6460	60	99.36	NO
		ND	Night	210	6460	60	99.36	NO
WLUS	980 kHz (306m)	ND	Day	306	6460	60	68.09	NO
		ND	Night	306	6460	60	68.09	NO
WAJD	1390 kHz (216m)	ND	Day	216	3498	60	96.58	NO
		ND	Night	216	3498	60	96.58	NO

As indicated, the proposed facility does not impact any AM broadcast stations therefore, notification is not required in accordance with 47 C.F.R. §1.30002(g).

## **RF EXPOSURE**

WMBT-LP  
Channel 215LP100 (90.9 MHz)  
Gainesville, Florida

The proposed tower is at 25 meters above ground level directly adjacent to a single-story warehouse building with a raised roof. This distance well meets the minimum requirements on Worksheet 3 in the Form 318 Instructions. There are no non-excluded RF sources currently using the tower.