

Comprehensive Technical Statement
in support of
Apple Country Radio, Inc.
Application for Minor Change
WACF-LP, FCC Facility ID # 195317
Channel 251L1, 98.1 MHz
Brookfield, MA

Introduction

The applicant has been informed by the antenna site owner that the building supporting the antenna is being sold, and they must vacate the premises. A lease on a new location about a block away has been secured.

The following changes are proposed:

- Transmitter location
- Antenna height

Data Sources

Distances were calculated using the FCC method defined in ¶73.208¹ of the Commission's Rules.

The data used is from the LMS download of March 23, 2024.

¹ Throughout this statement, ¶ is shorthand for "47 CFR."

Allocation Study

The following table shows all LMS records that do not exceed the required spacings in ¶73.807 by at least 25 km:

facid	adj	chan	tpclass	rrs	status	call	st	city	kw	da	haat	brg	km	req	Δ	eval
195317	0	251L1	L1		LICEN	WACF-LP	MA	BROOKFIELD	0.1	N	24.2	97	0.16	24	-23.84	STUDY
63474	2	249D	T0		LICEN	W249DP	MA	SPRINGFIELD	0.25	Y	356.0	248	21.95	21	0.95	NO INT
25833	1	252A	A	Y	LICEN	WHA1	MA	GREENFIELD	2.4	N	111.0	312	59.68	56	3.68	NO INT
66179	1	252A	A		LICEN	WILI-FM	CT	WILLIMANTIC	1.05	N	160.0	189	59.82	56	3.82	NO INT
1901	2	253B	B		LICEN	WBZ-FM	MA	BOSTON	9	N	349.0	82	73.16	67	6.16	NO INT
25869	0	251B	B		LICEN	WCTK	MA	NEW BEDFORD	44	N	159.0	124	118.18	112	6.18	INT-OK
193860	1	250L1	L1		LICEN	WUTY-LP	MA	WORCESTER	0.1	N	26.0	78	25.47	14	11.47	NO INT
200871	0	251D	T1		LICEN	W251CT	MA	SPRINGFIELD	0.25	Y	103.0	254	43.69	32	11.69	INT-OK
46965	1	250A	A		LICEN	WUCS	CT	WINDSOR LOCKS	3.4	Y	135.0	224	68.95	56	12.95	NO INT
201705	0	251D	T2		LICEN	W251CQ	MA	GARDNER	0.25	Y	-9999.9	12	42.78	26	16.78	NO INT

The first record shows the current license. The relocation amounts to 0.16 km, which falls under the 11.2 km maximum limit for LPFM minor change relocations.

As shown in the table, the proposal is fully-spaced to all other stations and proposals.

Television Channel 6 Interference

Channel 251 is not implicated in TV6 interference, and ¶73.807 contains no TV6 separation requirements for this channel.

International

The FM Agreements with Canada and Mexico require evaluation and potential coordination of any proposal within 320 km of the border.

The distance to the nearest point along the US/Canada border is 310.1 km from the proposed site. Evaluation with respect to Canadian facilities and proposals is required.

Paragraph 4.4 of the February 1991 Working Agreement with Canada, as amended in 2007, provides that LPFM coordination is required only for proposals in which the 34 dBu f(50,10) contour would cross the border.

The maximum extent of the 34 dBu f(50,10) contour is 29.2 km. Given that the border is more than 300 km away, it is clear that the 34 dBu f(50,10) contour would not cross the border. Therefore, notification of the changes proposed herein may be indicated, but prior coordination with Canada should not be required.

The distance to the nearest point along the US/Mexico border is 2,908 km. Coordination with Mexico is not required.

Quiet Zones

The proposed site is outside the National Radio Quiet Zone (National Radio Astronomy Observatory Notification Area) in West Virginia.

The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

The proposed site is not within a 100 km extension of the Table Mountain Radio Receiving Zone in Colorado.

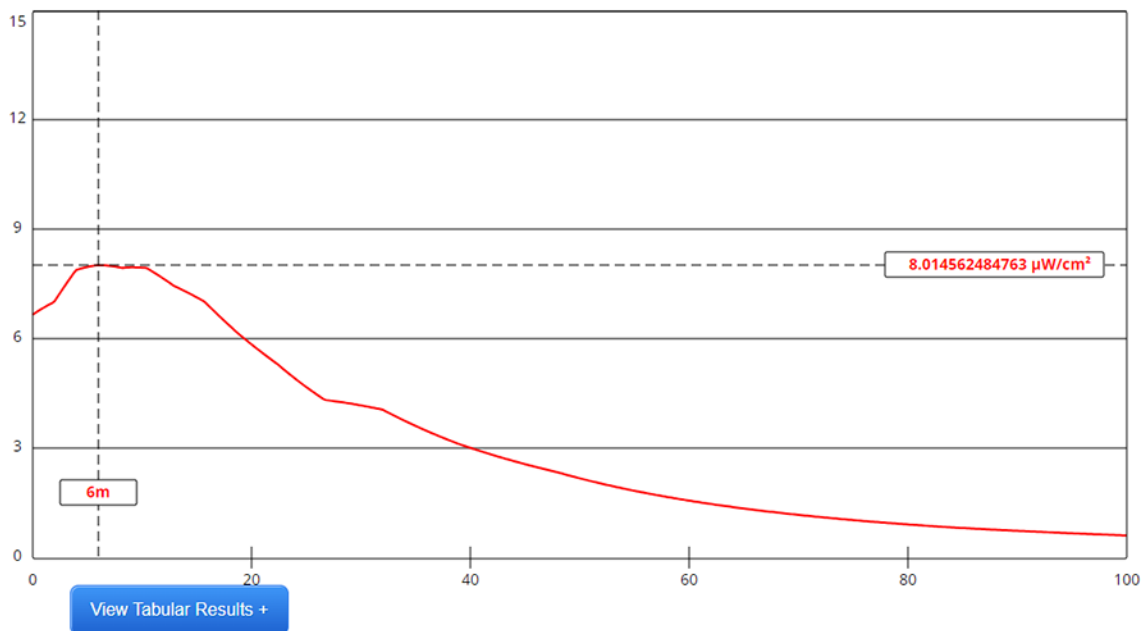
Protected Monitoring Stations

The nearest Protected Monitoring Station is 348 km distant, in Belfast, ME. This is well beyond any potential 80 dBu contour.

Environmental / RF Exposure

The proposed antenna will be mounted 24.4 m above the ground on an existing 27.7 m clock tower. No excavation or change to the height of the structure is proposed.

Assuming the worst-case antenna, FM Model returns a maximum exposure of $8.0 \mu\text{W}/\text{cm}^2$, which is 4% of the limit for casual / uncontrolled exposure:



Channel Selection	Channel 250 (97.9 MHz) ▼		
Antenna Type +	EPA Type 1: Ring-and-Stub or "Other" ▼		
Height (m)	24.4	Distance (m)	100
ERP-H (W)	100	ERP-V (W)	100
Num of Elements	1	λ	1
Num of Points	500	Apply	

Appropriate safety signage and access control measures will be provided. The applicant agrees to reduce power or shut down temporarily to protect workers in the area of the antenna.

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LMS Technical Information

Channel & Facility Information							
	Community	State		Brookfield			
		City		MA			
	Facility	Channel		251			
		Frequency		98.1			
Antenna Location Data							
	ASR	Present?		Not Required. See TOWAIR below			
		Number					
	Coordinates	Latitude		42 12 54.9 N			
	(NAD-83)	Longitude		72 06 05.3 W			
	Structure	Type		BPIPE			
		Overall height		27.7 m			
		Support height		0.0 m			
		Site elevation		215.3 m			
				H		V	
	Antenna Data	RCAGL		24.4 m		24.4 m	
		RCAMSL		239.7 m		239.7 m	
		Max ERP		0.1 kW		0.1 kW	
	Antenna Tech Data	Antenna type		Non-directional			

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TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results	
Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.	
Your Specifications	
NAD83 Coordinates	
Latitude	42-12-54.9 north
Longitude	072-06-05.3 west
Measurements (Meters)	
Overall Structure Height (AGL)	27.7
Support Structure Height (AGL)	0
Site Elevation (AMSL)	215.3
Structure Type	
BPIPE - Building with Pipe	

-0-