

WUGR-LP – Miramar, Florida - Facility ID# 191819

Engineering Study Exhibits – December 2020

Minor move modification for Low Power FM facility

Exhibit A: Channel Study

Location complies with minimum distance separations per 47 CFR § 73.807(a) & (b).

Exhibit B: Second Adjacent Waiver Request

Waiver requested pursuant to 73.807(e)(1) with respect to WMIB and WMXJ (FM).

Exhibits C & D: Grandfathered distances between LPFM and Translator

Grandfathered distances from the LPFM's original licensed site and new location calculate to a difference of 0.3 km in respect to Translator W276DV.

Per 47 CFR § 73.208(c)(8), both locations round to the nearest kilometer at 22 km.

Engineering Parameters

NAD 83 Coordinates	25 58 3.3 N, 080 12 33.2 W
Elevation	2.1 meters
AGL	27.5 meters
AMSL	30.0 meters
HAAT	30 meters
Channel	276
Power ERP	100 watts
Antenna system:	Non-Directional

EXHIBIT A

Channel Study

REFERENCE	CH# 276L - 103.1 MHz, Pwr= 0.1 kw, HAAT= 30.0 M, COR= 30.0 M	WUGR-LP	DISPLAY DATES
25 58 1.97 N.	Average Protected F(50-50)= 5.7 km	Omni-directional	DATA 12-19-20
80 12 34.03 W.			SEARCH 12-29-20

Call	Type	Ch	Location		Azi	Dist	FCC	Margin
WMIB	GRA	278B	Fort Lauderdale	FL	90	0.01	67.5	-67*
WMIB	GRA	278C	Fort Lauderdale	FL	90	0.01	93.5	-93*
WMXJ	GRA	274B	Pompano Beach	FL	90	0.01	97.5	-97*
WMXJ	GRA	274C0	Pompano Beach	FL	90	0.01	111.5	-111*
WIRK	GRA	276B	Indiantown	FL	1	117.27	97.5	20.3
WIRK	GRA	276C1	Indiantown	FL	1	117.27	100.5	17.3
WMBX	GRA	272C1	Jensen Beach	FL	1	117.27	73.5	44.3
WMBX	GRA	272B	Jensen Beach	FL	8	93.19	67.5	26.2
WMIB	GRA	278B	Fort Lauderdale	FL	37	2.60	67.5	-64.4*
WIRK	GRA	276B	Indiantown	FL	8	93.19	97.5	-3.8*
** W272DS	GRA	272D	Miami	FL	174	21.59	21.5	0.6
WFKZ	GRA	276C1	Plantation KEY	FL	198	117.53	100.5	17.5
WEXI-LP	GRA	272L1	Hallandale	FL	76	8.33	6.8	2
W276DV	GRA	276D	Miami	FL	175	21.70	28.5	-6.3*
WUGR-LP	GRA	276L1	Miaramar	FL	298	4.69		
** WUGR-LP -	APP	276L1	Miami	FL	273			
--> WUGR-LP - BLL-20170330ABK grandfathered short-spacing (** see footnote)								

Terrain database is FCC 30 Meter Terrain, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference Zone= - Zone 1A, Co to 3rd adjacent.
All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.
« = Station meets FCC minimum distance spacing for its class.

**** Note:** WUGR-LP BLL-20170330ABK grandfathered distance to W276DV and new site round to 22km (see Exhibits C & D)

EXHIBIT B

Second Adjacent Exhibit & Waiver Request

Waiver requested pursuant to 73.807(e)(1) with respect to **WMIB** and **WMXJ (FM)**.
Instant application will co-locate to the same tower hosting both 2nd adjacent facilities.

At the proposed site, signal strength of both WMIB and WMXJ (FM) calculate to 184 dBu EFS.
With additional 40 dBu, the worst-case interference protection radius will not exceed .5 meters.

Radiation center will be placed at 27.5 meters on the tower. No population will be subject to interference in accordance to the undesired-to-desired ratio method.

Second adjacent facilities colocated on tower (ASRN # 1028046)

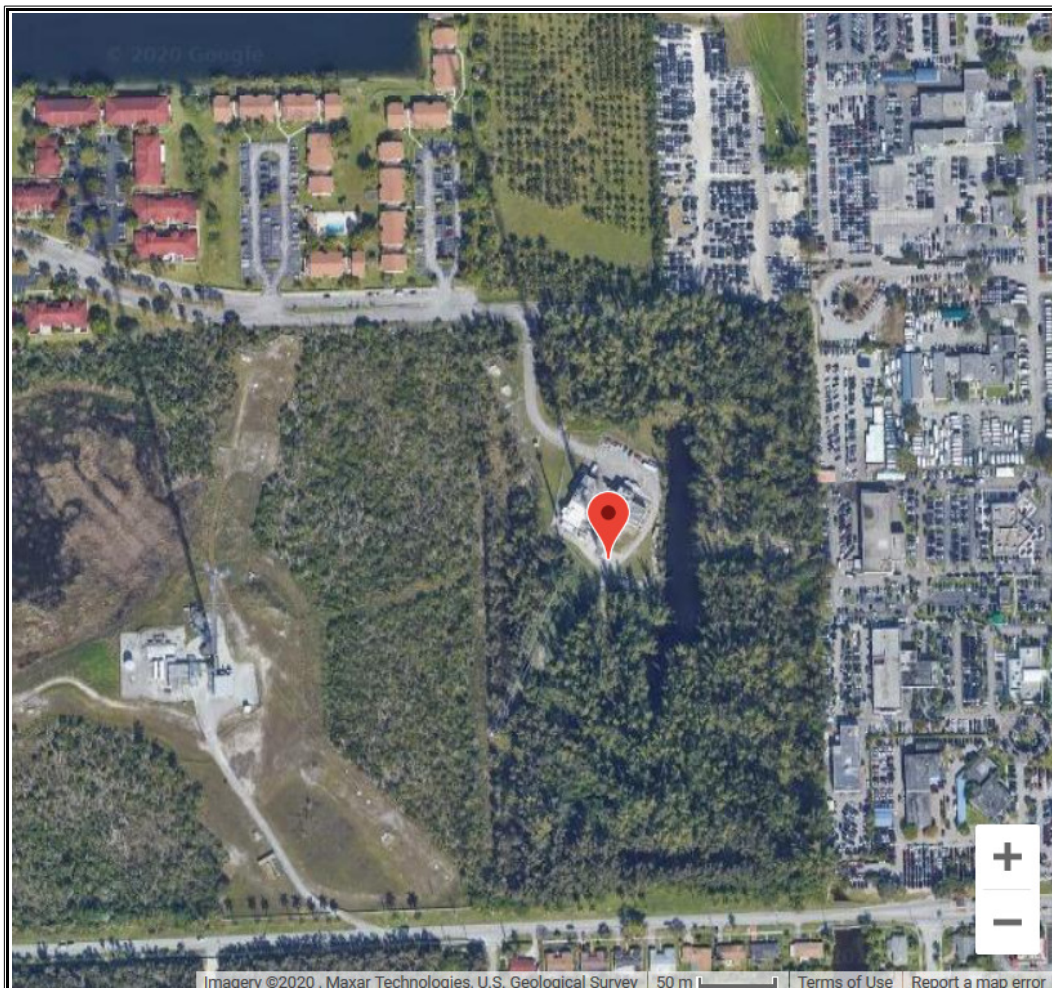


EXHIBIT C

Grandfathered short-spacing

**WUGR-LP - BLL-20170330ABK
& W276DV - BNPFT-20180131AGG**

- Grandfathered short-spaced distance calculated to 22 kilometers
- Original application coordinates in NAD-83

Results tabulated via FCC.gov website:

Distance and Azimuths Between Two Sets of Coordinates

<https://www.fcc.gov/media/radio/distance-and-azimuths>

Distance between:

25 58 8.03 N Latitude, 80 13 18.97 W Longitude (Point 1)

As decimals: 25.9688972 Latitude, -80.2219361 Longitude

and

25 46 21.36 N Latitude, 80 11 19.17 W Longitude (Point 2)

As decimals: 25.7726000 Latitude, -80.1886583 Longitude

Distance = 22.000 km (13.670 miles)

via the method in Sections 73.208 and 73.611(d)

This method is only suitable for distances up to 475 km (295 miles).

Azimuth, Point 1 to Point 2: 171.32° True

Azimuth, Point 2 to Point 1: 351.33° True

[Return to Data Input](#)

[Print Results](#)

To find the terminal coordinates given a bearing and a distance
use the [Terminal Coordinates](#) function.

EXHIBIT D

Grandfathered short-spacing

**WUGR-LP - new site ASRN 1028046
& W276DV - BNPFT-20180131AGG**

- 21.7 km rounded to nearest kilometer = **22 km**
- Distance of new site complies with grandfathered short-spacing
- Application coordinates in NAD-83

Results tabulated via FCC.gov website:

Distance and Azimuths Between Two Sets of Coordinates

<https://www.fcc.gov/media/radio/distance-and-azimuths>

Distance between:

25 58 3.3 N Latitude, 80 12 33.2 W Longitude (Point 1)

As decimals: 25.9675833 Latitude, -80.2092222 Longitude

and

25 46 21.36 N Latitude, 80 11 19.17 W Longitude (Point 2)

As decimals: 25.7726000 Latitude, -80.1886583 Longitude

Distance = 21.699 km (13.483 miles)

via the method in Sections 73.208 and 73.611(d)

This method is only suitable for distances up to 475 km (295 miles).

Azimuth, Point 1 to Point 2: 174.57° True

Azimuth, Point 2 to Point 1: 354.58° True

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