

**WAVK 97.7 FM Comprehensive Technical Exhibit**

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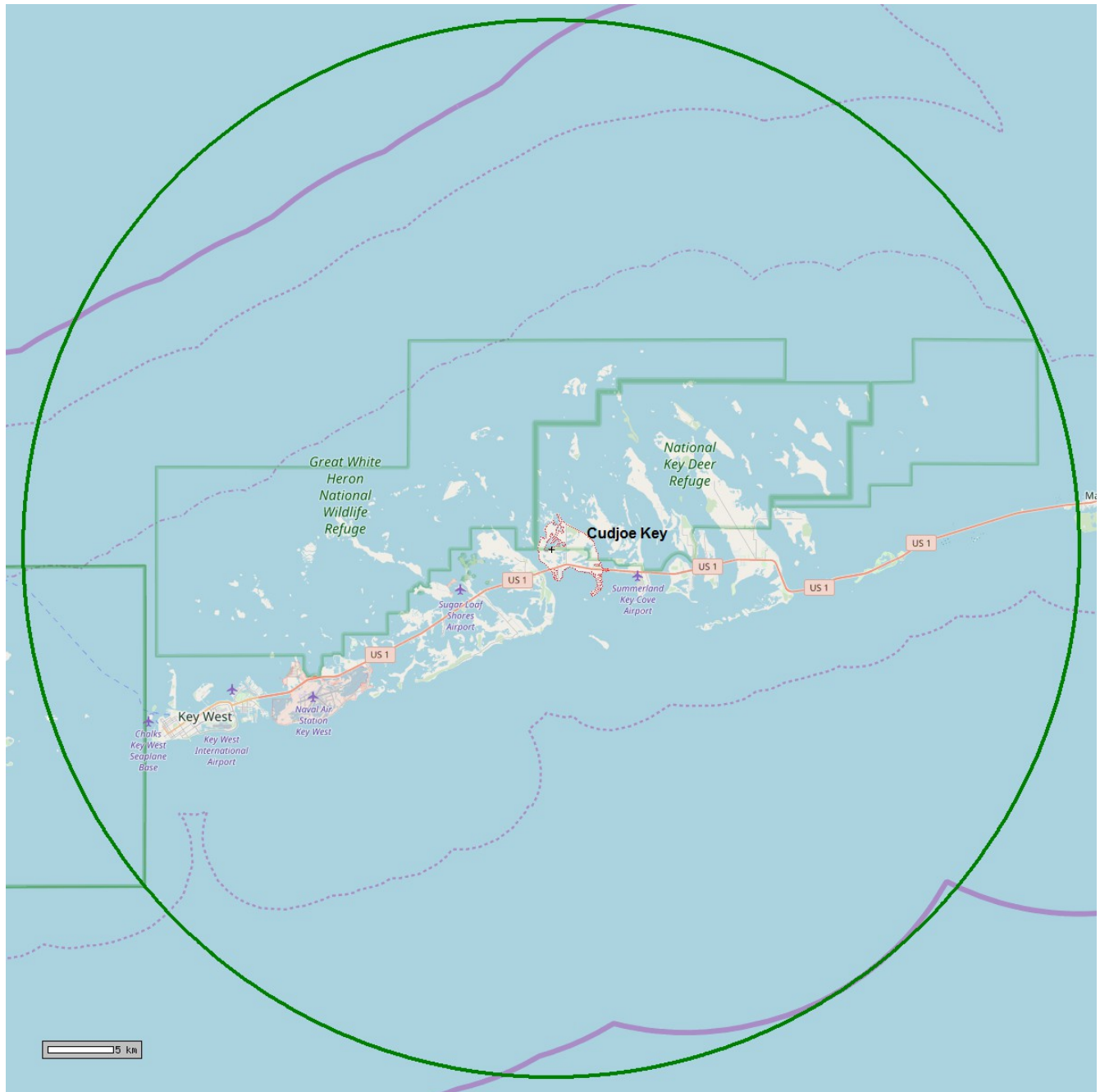
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## **SUMMARY**

Florida Keys Media, LLC ("Applicant"), licensee of station WAVK 97.7 FM (Facility ID #23294) at Marathon, Florida, hereby submits this application in furtherance of relocating its broadcast facility from its current antenna structure on Ramrod Key to another nearby tower site on Cudjoe Key, Florida. The total move is 9.41 kilometers west-northwest at an azimuth of 280.68 degrees, and the proposed facility will serve appreciably the same area as the licensed facility. Apart from the site change and slight increase in overall antenna height above mean sea level, Applicant is requesting a community of license from Marathon, Florida to Cudjoe Key, Florida. As Marathon is already well-served and Cudjoe Key has no licensed broadcast service, the proposed change in community of license would result in a preferential arrangement of the FM Table of Allotments.

## **EXHIBIT 28 – COMMUNITY COVERAGE / SECTION 73.315 EXHIBIT**

The proposed WAVK transmitter site lies within the proposed community of Cudjoe Key, Florida, and as such, the community is easily encompassed by the F(50,50) 70 dBu (3.16 mV/m) signal using the Commission's curves propagation methodology. Therefore, it is concluded that the proposed facility complies with the Commission's Rules pertaining to requisite community coverage.



**FIGURE 1:** Predicted F(50,50) 70 dBu contour of proposed WAVK 97.7 FM facility. The proposed community of license of Cudjoe Key is outlined above in a dashed red line.

### **EXHIBIT 30 – SEPARATION STUDY / SECTION 73.207 EXHIBIT**

Table 1 shows the spacing study performed for the proposed WAVK facility. All minimum distance requirements of 47 C.F.R. §73.207 are met with the exception of the licensed facility of station WTLQ 97.7 FM at Punta Rassa, Florida on FM Channel 249C3. §73.215 processing is requested to resolve this short-spacing (see Exhibit 34).

**TABLE 1: Section 73.207 Separation Study**

Proposed Station: WAVK, Cudjoe Key, Florida

Channel: 249C1

Coordinates: 24-40-36.0 N, 81-30-39.0 W

FAC ID	CDBS	CALL	TYPE	CHANNEL	COMMUNITY	STATE	DISTANCE	MINIMUM	DIFFERENCE
28901	492179	WTLQ-FM	LIC	249C3	PUNTA RASSA	FL	205.01	211.00	-5.99 *
20436	1705653	WRMF	LIC	250C	PALM BEACH	FL	245.92	209.00	36.92
20436	80803	WRMF	LIC	250C	PALM BEACH	FL	246.12	209.00	37.12
37253	171507	WRTO-FM	LIC	252C0	GOULDS	FL	142.17	94.00	48.17
72984	1047735	WFLC	LIC	247C	MIAMI	FL	193.99	105.00	88.99

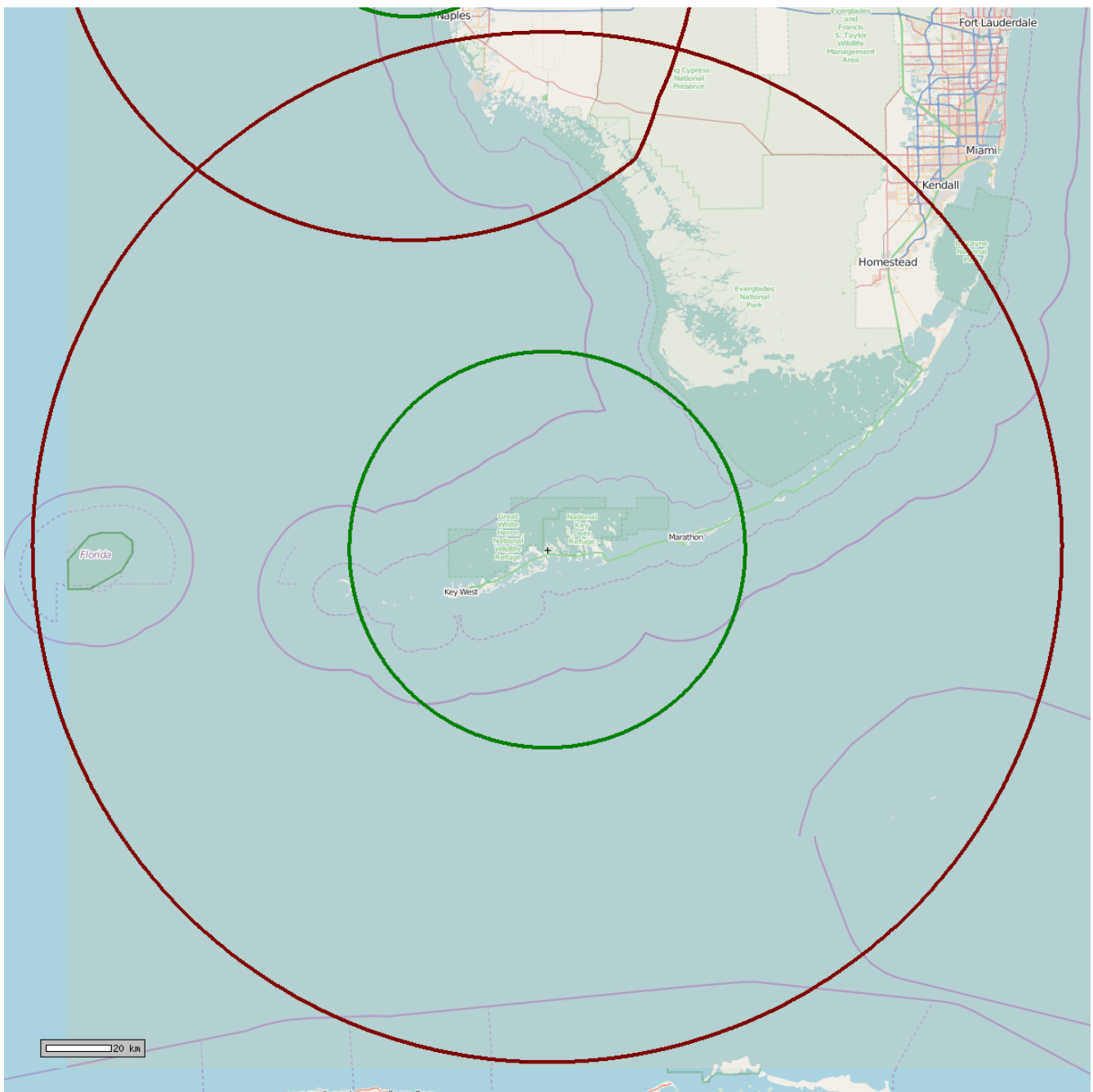
\* 73.215 processing is requested to resolve the short-spacing to WTLQ-FM.

## **EXHIBIT 34 – CONTOUR PROTECTION STUDY / SECTION 73.215 EXHIBIT**

Although the proposed WAVK facilities do not satisfy the minimum spacing requirements of §73.207 with regards to the licensed facilities of station WTLQ-FM, Punta Rassa, Florida, the contour protection requirements for short-spaced assignments of §73.215 are met.

The distance between the proposed WAVK (249C1) transmitter site and the WTLQ-FM (249C3) transmitter site is 205.01 km. Although this distance is less than the 211 km spacing required under §73.207, it exceeds the 200 km minimum distance requirement of §73.215(e). The locations of the protected and interfering contours of WTLQ-FM and the proposed WAVK facility were determined and are shown in Figure 2. No prohibited overlap is expected between the protected and interfering contours.

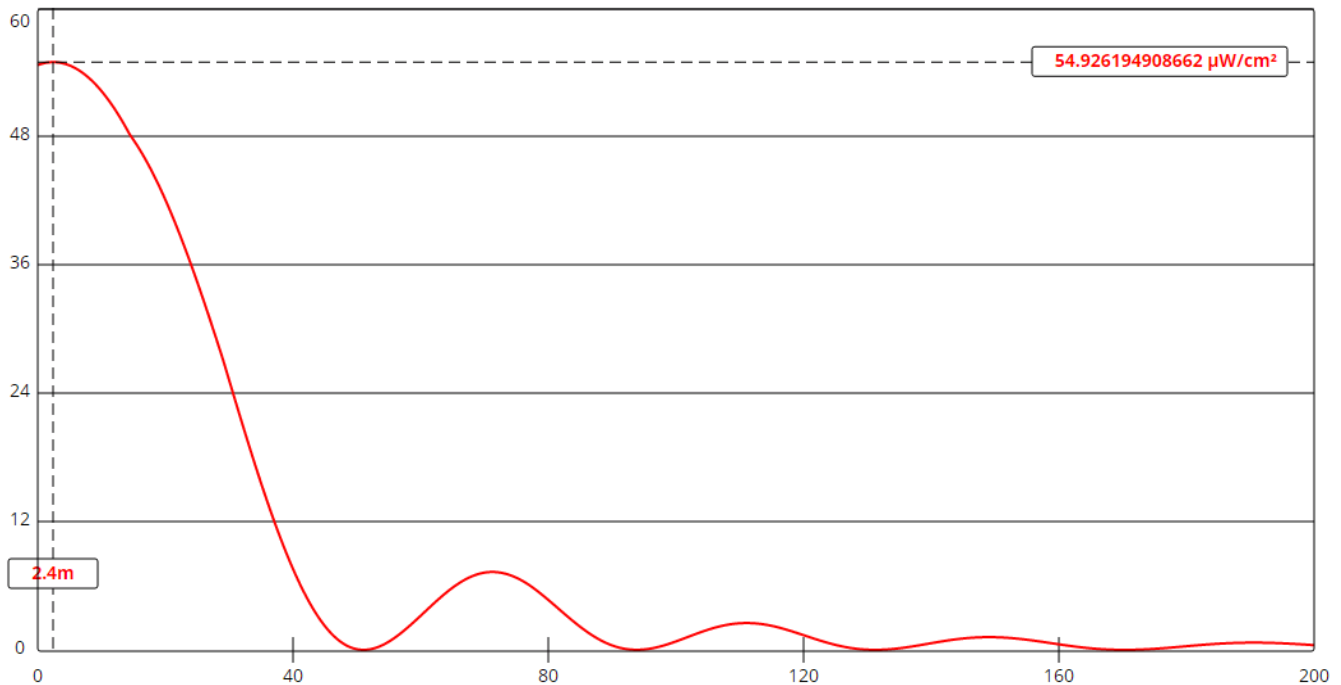
Relevant contour plots were generated by computer using the methods specified in §73.313. Antenna height above average terrain was computed using the standard eight-radial method specified in §73.313(d). Average terrain along additional azimuths was computed and used in conjunction with the F(50,50) and F(50,10) curves to determine distances to protected and interfering contours respectively. These additional azimuths were not included in the computation of the antenna eight-radial height above average terrain. Elevation data used in the computation of average terrain was determined by linear interpolation of USGS 30-arcsecond digital elevation model files consistent with §73.312.



**FIGURE 2:** The above image depicts the F(50,50) 60 dBu contour of the proposed WAVK facilities (green, center of image), and the licensed facilities of WTLQ-FM F(50,50) 60 dBu contour (green, upper left of image), as well as the F(50,10) 40 dBu contours of both stations. As shown above, at no point does the WAVK F(50,10) 40 dBu interfering contour overlap the WTLQ-FM F(50,50) 60 dBu primary service area.

### **EXHIBIT 35 – RF EXPOSURE EXHIBIT**

Although the proposed facilities herein do not comply with the basic Commission RF worksheet for radiation exposure, use of the Commission's FM Model program shows clear compliance and negligible radiation when considering the actual broadcast antenna (12-bay, single-spaced). Therefore, it is concluded that Applicant is in compliance with all applicable RF exposure rules:



**FIGURE 3:** The Commission's FM Model program indicates that the proposed facility's antenna will only yield a power density at ground level of 0.5 Microwatts per centimeter squared. Radiation exposure exceeding 20.0 Microwatts per centimeter squared does not occur within 134.2 meters of the ground, meaning impermissible radiation exposure will be well above ground level or any structures.

## **SECTION 307(B) COMMUNITY OF LICENSE CHANGE**

In its application herein, Applicant is requesting a community of license change of WAVK from Marathon, Florida to Cudjoe Key, Florida. The community of Marathaon is already well-served by stations WKWM 91.5 FM (Facility ID 122606), WGMX 94.3 FM (Facility ID 65663), and WFFG 1300 AM (Facility ID 65664). Cudjoe Key, Florida, on the other hand, has no licensed service. It is therefore concluded that the proposed community of license change represents a preferential arrangement of the FM Table of Allotments.

Cudjoe Key is a bona-fide community for allotment purposes, home to numerous businesses and organizations that identify as being a part of that community. Although not an incorporated community, Cudjoe Key is a recognized Census Designated Place, with a 2010 population of 1,763 persons. Numerous road signs in the area and mileage markers identify Cudjoe Key as a destination, and the community is home to the Monroe County Waste Management refuse transfer station.