

Educational Media Foundation
5700 West Oaks Boulevard
Rocklin, CA 95765

WKWR
Key West, FL

Purpose of Application

The purpose of this minor modification to a licensed station, WKWR FIN 90274, is to change the channel of operation from channel 211A (90.1mhz) to channel 210A (89.9mhz). No changes to the transmission system will be necessary as a result of a grant of this proposal. No changes to the effective radiated power, center of radiation, or location are proposed.

EMF acknowledges nearby WKWF-AM 1600khz non directional signal. The tower that the WKWR FM antenna is mounted on has a detuning skirt to prevent resonating at 1600khz. This detuning skirt will be verified for proper tuning upon the proposed WKWR channel change. No physical changes will occur as a result of a grant of the WKWR proposal. The existing antenna and transmission feed line will continue to be in use as was previously licensed. EMF believes there will be no effect on the operation of WKWF-AM and will verify this upon the operation of the proposed channel change.

Channel Study

REFERENCE		CH# 210A - 89.9 MHz, Pwr= 0.35 kW, HAAT= 37.0 M, COR= 37 M							DISPLAY DATES		
24 34 21.0 N.		Average Protected F(50-50)= 8.6 km							DATA 11-13-21		
81 44 24.0 W.		Omni-directional							SEARCH 11-15-21		
CH	CALL	TYPE	ANT	AZI.	DIST	LAT.	Pwr (kW)	INT (km)	PRO (km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG.	HAAT (M)	COR (M)	LICENSEE	(Overlap in km)	
211A	WKWR!	LIC	CN	0.0	0.00	24 34 21.00	0.350			---	Reference---
Key West			FL	0.0	0000136583	81 44 24.00	37	37	Educational Media Foundati		
06---	WFIB-LD	LI	DHN	253.0	6.47	24 33 19.50	3.000	5.6	11.7	17.3R	-10.9M
Key West			FL	73.0	0000021275	81 48 04.30		26			
263D	W263BO!	LIC	DEN	294.0	2.92	24 34 59.50	0.237	30.5	20.7	9.5R	-6.6M
Key West, Etc.			FL	113.9	BLFT20060518ACA	81 45 59.30	46	46	The School Board Of Miami		
207D	W207CE!	LIC	CN	249.1	6.26	24 33 08.50	0.180	0.9	6.7	-3.2*	-1.8*
Key West			FL	69.0	BLFT20131024ACH	81 47 52.30	32	32	CSN International		
213D	W213BF!	LIC	CN	253.1	6.52	24 33 19.50	0.050	0.5	5.0	-2.5*	0.2
Key West			FL	73.1	BMLFT20171023AAK	81 48 06.30	34	34	Family Worship Center Chur		
212C1	768682	APP	CN	76.7	65.95	24 42 26.40	10.000	2.6	25.4	54.8	39.3
Key Colony Beach			FL	257.0	0000167098	81 06 16.00	61	61	Ethree Group, Inc.		

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM											
In & Out distances between contours are shown at closest points. Reference Zone= - Zone 2, Co to 3rd adjacent.											
All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.											
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)											
***affixed to 'IN' or 'OUT' values = site inside restricted contour.											
Reference station has protected zone issue: AM tower											

WKWR Key West, FL Community of License Coverage

Exhibit 2

WKWR.P

BLED20051031ADJ

Latitude: 24-34-21 N

Longitude: 081-44-24 W

ERP: 0.35 kW

Channel:210 Frequency:

90.1 MHz AMSL Height:

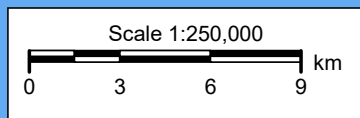
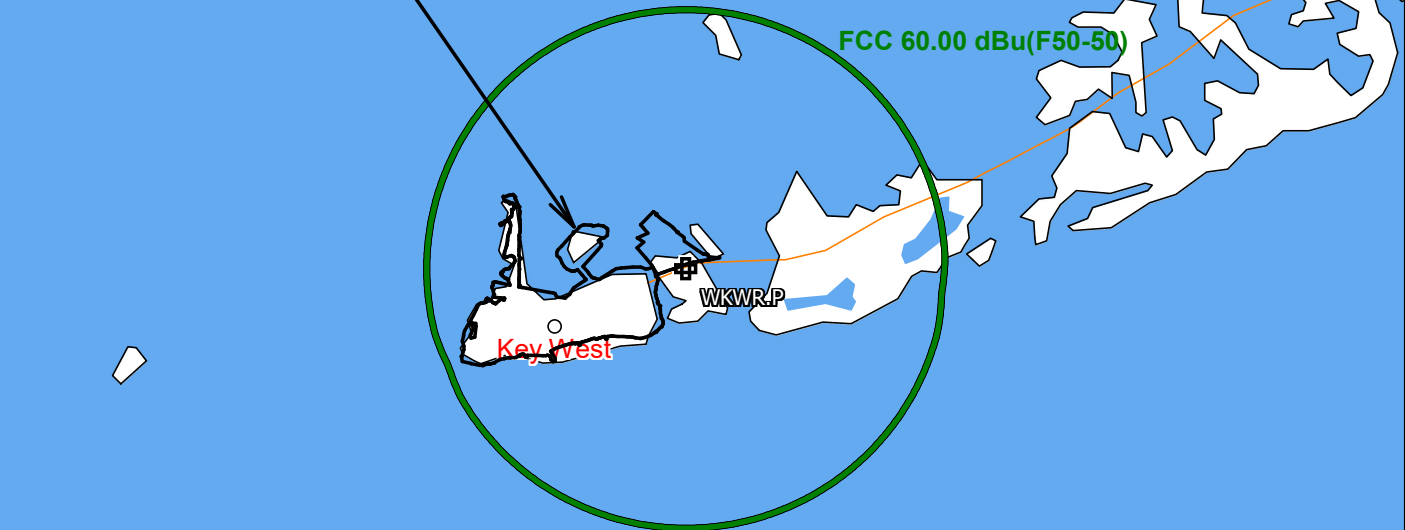
37.0 m Elevation: 1.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

Black Outline - Key West, FL Community of License Corporate Bounday
The corporate boundary is 100% encompassed by the proposed 60dbu
service contour.



Environmental Protection

There are two main factors that need to be addressed in order to make sure that the environment around a proposed facility is protected.

1) Significant affects to the environment.

EMF's proposed facility will be constructed on an existing tower (tower ID 1029778) and will cause no adverse effects to the surrounding environment at the site.

2) Human exposure to excess levels of radiofrequency radiation.

The proposed facility is to be built using a 1-bay circularly polarized antenna.

According to OET 65, "Applicants and licensees should be able to calculate, based on considerations of frequency, power and antenna characteristics the distance from their transmitter where their signal produces an RF field equal to, or greater than, the 5% threshold limit. The applicant or licensee then shares responsibility for compliance in any accessible area or areas within this 5% "contour" where the appropriate limits are found to be exceeded."

As can be seen in Exhibit 3-A, the proposed facility's maximum contribution to RF on the site is $4.96\mu\text{W}/\text{cm}^2$ at a distance of 37 meters from the tower, which is 2.48% of the uncontrolled (public) exposure limit.

Therefore, because the proposed facility will not cause an RF field that is equal to or greater than 5% of the $200\mu\text{W}/\text{cm}^2$ limit for uncontrolled exposure at any point, the proposed facility complies with the requirements of OET 65.

EMF will fully cooperate with other site users to temporarily reduce power or cease broadcasting, as necessary, to protect workers and others having access to the site from excessive levels of RF Radiation.

**RF Analysis: WKWR
90274**

Site type: Application
Channel: 210
Class: A
ERP: .35kw
Antenna: Nicom
 BKG77
 1 Bay

COR AGL: 37m
Polarization: Circular Pol

Distance From Tower (m)	WFRJ Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
0	1.2634	1.26	0.632
1	1.2875	1.29	0.644
2	1.3129	1.31	0.656
3	1.3393	1.34	0.670
4	1.4501	1.45	0.725
5	1.5772	1.58	0.789
6	1.7054	1.71	0.853
7	1.8508	1.85	0.925
8	2.0084	2.01	1.004
9	2.1687	2.17	1.084
10	2.3335	2.33	1.167
11	2.5056	2.51	1.253
12	2.6786	2.68	1.339
13	2.8508	2.85	1.425
14	3.0361	3.04	1.518
15	3.2241	3.22	1.612
16	3.4116	3.41	1.706
17	3.5876	3.59	1.794
18	3.7237	3.72	1.862
19	3.8521	3.85	1.926
20	3.9723	3.97	1.986
21	4.0877	4.09	2.044
22	4.2085	4.21	2.104
23	4.3214	4.32	2.161
24	4.4260	4.43	2.213
25	4.5222	4.52	2.261
26	4.5715	4.57	2.286
27	4.6033	4.60	2.302
28	4.6280	4.63	2.314
29	4.6460	4.65	2.323
30	4.6574	4.66	2.329
31	4.7163	4.72	2.358
32	4.7811	4.78	2.391
33	4.8378	4.84	2.419
34	4.8868	4.89	2.443
35	4.9282	4.93	2.464
36	4.9625	4.96	2.481
37	4.9642	4.96	2.482
38	4.9609	4.96	2.480
39	4.9530	4.95	2.476
40	4.9407	4.94	2.470
41	4.9244	4.92	2.462
42	4.9043	4.90	2.452
43	4.8786	4.88	2.439
44	4.8292	4.83	2.415
45	4.7781	4.78	2.389

Distance From Tower (m)	0.0000 Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
46	4.7255	4.73	2.363
47	4.6716	4.67	2.336
48	4.6165	4.62	2.308
49	4.5606	4.56	2.280
50	4.5039	4.50	2.252
51	4.4467	4.45	2.223
52	4.3870	4.39	2.194
53	4.3258	4.33	2.163
54	4.2647	4.26	2.132
55	4.2037	4.20	2.102
56	4.1430	4.14	2.071
57	4.0825	4.08	2.041
58	4.0224	4.02	2.011
59	3.9628	3.96	1.981
60	3.9037	3.90	1.952
61	3.8452	3.85	1.923
62	3.7873	3.79	1.894
63	3.7287	3.73	1.864
64	3.6704	3.67	1.835
65	3.6128	3.61	1.806
66	3.5561	3.56	1.778
67	3.5003	3.50	1.750
68	3.4454	3.45	1.723
69	3.3913	3.39	1.696
70	3.3381	3.34	1.669
71	3.2858	3.29	1.643
72	3.2344	3.23	1.617
73	3.1839	3.18	1.592
74	3.1342	3.13	1.567
75	3.0854	3.09	1.543
76	3.0375	3.04	1.519
77	2.9905	2.99	1.495
78	2.9421	2.94	1.471
79	2.8941	2.89	1.447
80	2.8471	2.85	1.424
81	2.8011	2.80	1.401
82	2.7561	2.76	1.378
83	2.7120	2.71	1.356
84	2.6688	2.67	1.334
85	2.6266	2.63	1.313
86	2.5852	2.59	1.293
87	2.5446	2.54	1.272
88	2.5049	2.50	1.252
89	2.4661	2.47	1.233
90	2.4280	2.43	1.214
91	2.3908	2.39	1.195
92	2.3542	2.35	1.177
93	2.3185	2.32	1.159
94	2.2835	2.28	1.142
95	2.2492	2.25	1.125
96	2.2156	2.22	1.108
97	2.1826	2.18	1.091
98	2.1504	2.15	1.075
99	2.1183	2.12	1.059
100	2.0821	2.08	1.041