

**Goldman Engineering Management  
Auburn, CA**

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WJKL-FM2 Cicero to Chicago

NARRATIVE DESCRIPTION OF REQUEST FOR CP MODIFICATION

By this application, Educational Media Foundation (“EMF”), licensee of WJKL (FM) Channel 232A, Glendale Heights, IL respectfully requests a CP modification to BNPFTB-20180517AEW. This application requests a relocation of the currently permitted booster and a request for a different antenna.

FACILITIES REQUESTED

The requested facility will operate within the 60dBu contour of WJKL (FM) over land. As shown, the 60dBu contour will extend beyond the main 60dBu only over Lake Michigan. A map showing the coverage of this booster in relationship to the WJKL signal is shown in Exhibit A. The antenna being used will be a Double, Dual Shively 6025 1-2, dual element, log-periodic antenna. Elements are skewed by 50 degrees. The four antennas are rotated 30 degrees from vertical to achieve slant H+V polarization. The Azimuth Pattern is attached as Exhibit C.

Booster Location:	Chicago (Presidential Building)
ASR	NONE
Geographic Coordinates (NAD27):	41°52' 50.4" N, 87° 38' 37" W
Channel:	232 (94.3 MHz)
Effective Radiated Power:	99 W (V), 26w (H)
Antenna Type, Pattern:	Dual Shively 6025-1-2, dual log-periodic
Antenna Orientation:	70° True
Site Height AMSL	180 m
Pole Mount above roof	7 m
Building height	173m
Antenna Height :	
Above Roof	6m
Above ground:	179 m
Above mean sea level:	359 m

## ALLOCATION

As shown in the allocation chart below, WJKL-FM2 will be fully compliant with all rules:

ComStudy 2.2 search of channel 232 (94.3 MHz Class D) at 41-52-50.4 N, 87-38-37.0 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
WLS-FM	CHICAGO	IL 234 B	0.70	0.00	106.5	-74.17 dB 2nd ADJ
WLIT-FM	CHICAGO	IL 230 B	0.70	0.00	106.5	-73.76 dB 2nd ADJ
WJKL	GLENDALE HEIGHTS	IL 232 A	25.92	0.00	264.6	-36.59 dB PRIMARY
WOJO	EVANSTON	IL 286 B	2.65	15.00	40.0	-12.4 IF LIMIT 99w
W232CK	GARY	IN 232 D	46.12	0.00	141.3	1.26 dB
WZOC	PLYMOUTH	IN 232 B1	121.15	0.00	108.5	7.94 dB
WGFA-FM	WATSEKA	IL 231 B	121.08	0.00	184.4	18.23 dB
WZOC	PLYMOUTH	IN 232 B1	120.14	0.00	109.9	20.30 dB
WBCT	GRAND RAPIDS	MI 229 B	192.78	0.00	63.6	23.98 dB
WKTI	MILWAUKEE	WI 233 B	136.16	0.00	351.1	24.35 dB
WKLQ	HOLLAND	MI 233 B	175.79	0.00	51.3	28.22 dB
WJJO	WATERTOWN	WI 231 B	175.34	0.00	318.9	30.16 dB

As shown in Exhibit A the 60dBu contour of the booster will fall inside the 60dBu contour of WJKL (FM), Channel 232A over land. The proposed 60dBu contour will extend beyond the main 60dBu only over Lake Michigan. The proposed booster is within 15km distance to WOJO (FM), 286B (54 channels) and therefore the power has been limited to 99 watts as required. As shown in the study above, there is no impact by the proposed booster to any co-channel or first adjacent facility other than the WJKL (FM) Primary station.

## ENVIRONMENTAL CONSIDERATIONS

The Booster antenna will be attached at 6 meters above the roof. The roof is 173 meters above ground. Because this is an existing building with other collocated antennas it is exempt from environmental processing under CFR Section 1.1306.

Using the FCC program “FM Model for Windows”, using the type 2 setting of that program which is closest to the vertical pattern of the proposed antenna, the predicted RF power density at 2m

above the roof with a 6m center of radiation is  $54.2\mu\text{W}/\text{cm}^2$  which is 27.1% of the maximum allowable public exposure (MPE) of  $200\mu\text{W}/\text{cm}^2$ . Further as a facility operating below 100 watts, the proposed booster is considered an excluded facility for purposes of RFR compliance.

There are no other non-excluded RF sources on the tower.

The permittee agrees to reduce power or cease operations when it becomes necessary if workers are near the antenna in order to ensure that they will not be exposed to levels of radio frequency electromagnetic radiation that exceed FCC guidelines.

### CERTIFICATION

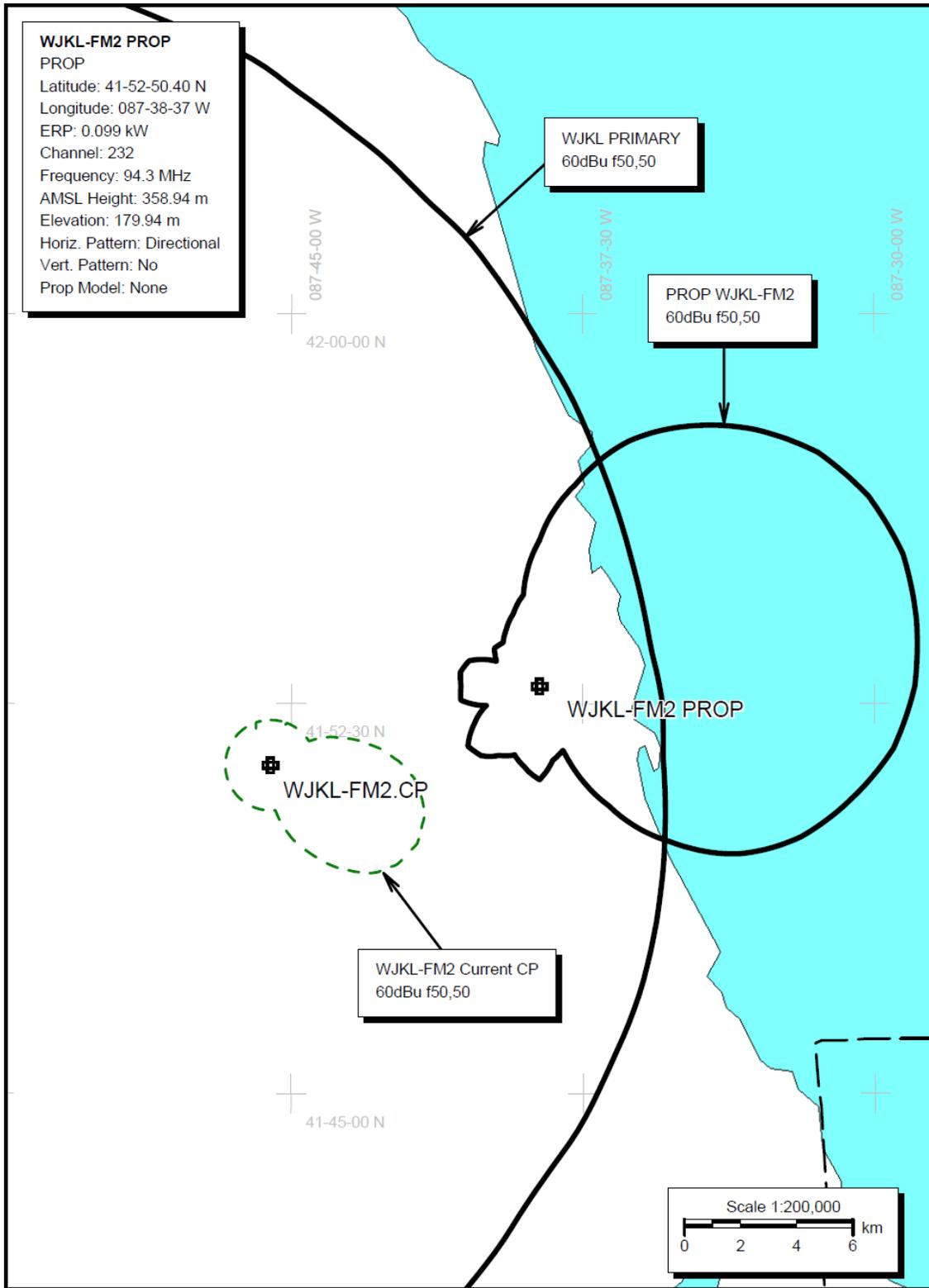
The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direct supervision, and that they are true and correct to the best of his knowledge and belief.



Bertram S. Goldman  
Goldman Engineering Management

EXHIBIT A

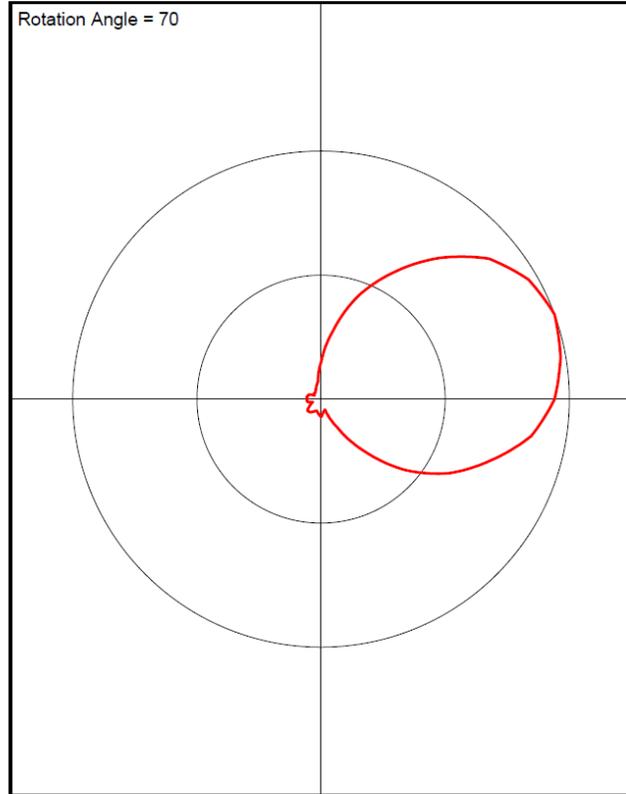
WJKL-FM2 Proposed Booster, 232D, 179m AGL, 99w ERP



# EXHIBIT C

WJKL-FM2 CPMOD Antenna Pattern  
Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
5.0	0.9895
10.0	0.979
15.0	0.9595
20.0	0.94
25.0	0.8995
30.0	0.859
35.0	0.792
40.0	0.725
45.0	0.661
50.0	0.597
55.0	0.5215
60.0	0.446
65.0	0.3615
70.0	0.277
75.0	0.206
80.0	0.135
85.0	0.09
90.0	0.045
95.0	0.0485
100.0	0.052
105.0	0.062
110.0	0.072
115.0	0.066
120.0	0.06
125.0	0.055
130.0	0.05
135.0	0.0535
140.0	0.057
145.0	0.063
150.0	0.069
155.0	0.0705
160.0	0.072
165.0	0.062
170.0	0.052
175.0	0.0435
180.0	0.035
185.0	0.046
190.0	0.057
195.0	0.0565
200.0	0.056
205.0	0.057
210.0	0.058
215.0	0.055
220.0	0.052
225.0	0.041
230.0	0.03
235.0	0.0335
240.0	0.037
245.0	0.036
250.0	0.035
255.0	0.039
260.0	0.043
265.0	0.0485
270.0	0.054
275.0	0.063
280.0	0.072
285.0	0.1105
290.0	0.149
295.0	0.2145
300.0	0.28
305.0	0.3625
310.0	0.445
315.0	0.5185



320.0	0.592
325.0	0.6675
330.0	0.743
335.0	0.812
340.0	0.881
345.0	0.9225
350.0	0.964
355.0	0.982