

## **TECHNICAL REPORT**

### **Amendment K244FP Application # 0000197665**

#### **Non-adjacent channel change from channel 244 (96.7 MHz) to Channel 223 (92.5 MHz)**

This technical report is submitted in support of an amendment to the pending application for the minor modification to K244FP to 223D, FCC Facility I.D. 142340. A change in antenna mounting to a 20 foot mast/pole on an existing building is proposed. This meets the FAA 20 foot exception and does not require notification or registration.

Changes in tower site, COR and antenna are submitted for the non-adjacent move to channel 223D, in accordance with CFR §74.1233(a)(1). This non-adjacent move will reduce the area of interference received within the 60 dBu contour from 366.7 sq km (25.5% of the 60 dBu) to 122.5 sq km (12.5% of the 60 dBu) and the population receiving interference from 6,592 to 1,700. Therefore, it is respectfully proposed that it meets the §74.1233(a)(1) threshold showing.

The proposed move will also serve to provide a fill-in translator for AM station KVOM on 800 kHz at Morrilton, AR (FCC Facility # 43830) serving the Commission's policy of assisting AM stations with fill-in FM translators. It also will maintain service in the same area and on the same frequency as K223CR which has a construction permit on channel 255 at Conway, AR (K255DN - 0000189208) to serve another area of the KVOM 2 mV/m contour.

**Non-adjacent channel move per §74.1233(a)(1) analysis:**

A non-adjacent channel change to 223D (92.5 MHz) is requested in accordance with CFR §74.1233(a)(1) as modified in *FCC 19-40, May 9, 2019*. In that Report and Order, the Commission explained that:

*6. For these reasons, we modify section 74.1233(a)(1) of the Commission's rules (Rules) to define an FM translator's change to any available same-band FM channel as a minor change, upon a showing of actual or **predicted interference** to or from any other broadcast station (emphasis added).*

*8. Required showing. We agree with NAB that "a simple engineering statement of mitigation of interference at the requested frequency" is sufficient as a threshold standard to permit the translator applicant to request a channel change as a minor modification. (emphasis added)*

Exhibits E-1 and E-2 show the current incoming interference to K244FP from the co-channel station KXRD(FM) 244C2 CP at Fayetteville, AR to 25.5% of its 60 dBu contour area and a population of 6,592. The proposed channel 223D facility will reduce incoming interference to 12.5% of its area and a population of 1,700 (See E-3 and E-4).

**Allocation Analysis:**

An overlap study is provided for channel 223 at the proposed site in E-3 and an FM Over tabulation to KCON(FM) in exhibit E-5. Therefore, a modification to channel 223D is requested in accordance with the modified rules. Interference calculations were performed using the V-Soft Probe 4 FM interference feature, 1 second (30 meter) FCC terrain and the FCC -20 dB co-channel and -6 dB 1<sup>st</sup> adjacent channel U/D ratios.

The proposed K244FP 60 F(50-50) dBu contour overlaps the current facility, has less than 50% overlap to the K255DN, which also serves as a fill-in facility for KVOM(AM), and is within the 40 km radius and 2 mV/m of the primary KVOM(AM)

(exhibit E-6).

**Antenna System:**

The K244FP modification to 223D will be mounted on a 20 foot pole on an existing building at coordinates:

**35 08 54.0N 092 52 05.0W NAD 83**

A Nicom BKG77 two bay, 0.5 wavelength-spaced, directional antenna (exhibit E-7) is mounted at a COR AGL of 16.3 meters, 339.3 meters AMSL, 214.4 meter HAAT (exhibit E-8) and operate at 0.250 kW ERP. A TOWAIR determination shows the antenna tower does not require registration (exhibit E-9)

**RF Exposure Calculation:**

The RF contribution was calculated using FMModel (exhibit E-10). Since the antenna will be mounted above an existing building, the RF was evaluated at a height of 6 meters from the radiation center to the nearest possible person standing in the second story of the building to be 110.13  $\mu\text{W}/\text{cm}^2$  which is less than the 200  $\mu\text{W}/\text{cm}^2$  maximum permissible for general population exposure.

**Conclusion:**

It is concluded that the K244FP modification to 223D complies with all Commission rules and policies.



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# E-1 K244FP Lic. Overlap Study

REFERENCE		CH#	244D	- 96.7 MHz, Pwr= 0.25 kW, HAAT= 30.0 M, COR= 130 M						DISPLAY DATES		
35 28 13.30 N.		Average Protected F(50-50)= 7.09 km								DATA 08-09-22		
93 27 53.70 W.		Omni-directional								SEARCH 08-09-22		
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)		
244D	K244FP	APP DVN		144.8	32.91	35 13 41.70	0.250		---	Reference---		
Dardanelle		AR		324.9	0000197162	93 15 20.60		558				
244D	K244FP	CP DVN		144.8	32.91	35 13 41.70	0.250		---	Reference---		
Dardanelle		AR		324.9	0000170850	93 15 20.60		558				
244C2	KXRD	CP ZCN		310.0	74.85	35 54 06.00	25.000	119.7	43.0	-51.3*	5.8	
Fayetteville		AR		129.7	0000186659	94 06 05.20	216	719	Rox Radio Group, LLC			
244D	K244FP	LIC _CN		0.0	0.00	35 28 13.30	0.250		---	Reference---		
Clarksville		AR		0.0	BLFT20190715AMD	93 27 53.70		130				
244C3	KXRD	LIC NCN		319.3	99.52	36 08 50.00	4.100	89.2	31.4	3.5	43.2	
Fayetteville		AR		138.9	BLH20131126BUF	94 11 14.00	166	551	Rox Radio Group, LLC			
246D	K246CT	LIC _CN		144.8	32.94	35 13 41.30	0.250	1.1	25.4	24.7	6.4	
Dardanelle		AR		324.9	BLFT20190405AAO	93 15 20.60		551	Eab Of Russellville, LLC			
242C1	KTTG	LIC _CN		206.8	97.05	34 41 24.30	47.000	9.9	77.4	80.0	18.4	
Mena		AR		26.5	BLH19941216KA	93 56 35.70	401	753	Pearson Broadcasting Of Me			
244D	K244FJ	LIC _CN		261.9	88.53	35 21 15.30	0.250	55.2	17.4	26.3	47.2	
Fort Smith		AR		81.3	BLFT20160811ADS	94 25 53.80		314	G2 Media Group, LLC.			
241C2	KCWD	LIC NCN		28.5	81.20	36 06 41.20	8.000	4.9	52.7	69.2	27.1	
Harri son		AR		208.8	BMLH20181204AAQ	93 02 00.60	363	710	Harri son Radio Stations, I			
244A	KLXQ	ALO ____		160.2	110.57	34 32 01.30	6.000	76.7	20.2	27.3	64.4	
Hot Springs		AR ____		340.5		93 03 24.60	100	290	Us Stations, LLC			
241C2	KCWD	ALO ____		31.9	84.74	36 07 00.30	50.000	6.2	53.7	71.5	29.5	
Harri son		AR ____		212.2		92 58 00.60	150	496	Harri son Radio Stations, I			
244A	KLXQ	LIC _CN		165.1	122.64	34 24 14.00	0.940	82.2	29.2	33.4	69.7	
Hot Springs		AR		345.3	BMLH20050616AAK	93 07 15.00	246	411	Us Stations, LLC			
245C3	KWLR	LIC ZCN		123.6	115.08	34 53 33.30	19.000	62.6	41.7	45.4	63.0	
Bi gel ow		AR		304.2	0000120769	92 24 50.60	115	222	Educational Medi a Foundati			

Terrain database is FCC 30 meter , 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= West Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
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.  
« = Station meets FCC minimum distance spacing for its class.

# E-2 K244FP Lic. Interference Plot

**K244FP**  
**0000197162**  
 Latitude: 35-13-41.70 N  
 Longitude: 093-15-20.60 W  
 ERP: 0.25 kW  
 Channel: 244  
 Frequency: 96.7 MHz  
 AMSL Height: 558.0 m  
 Elevation: 518.0 m  
 Horiz. Pattern: Directional  
 Vert. Pattern: No  
 Prop Model: FCC Model  
 Loc. Variability: 50.0%  
 Time Variability: 50.0%  
 HAAT Mthd: FCC

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□ K244FP (244)  
 ■ KXRD.C (244)  
 ■ KLXQ (244)  
 ■ KWLR (245)

## Stations which cause interference:

Call Letters	Population	%Area	(sq. km)
KXRD.C (244)	6,355	9.553	335.27
KLXQ (244)	237	0.356	23.24
KWLR (245)	0	0.000	6.57

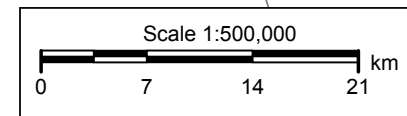
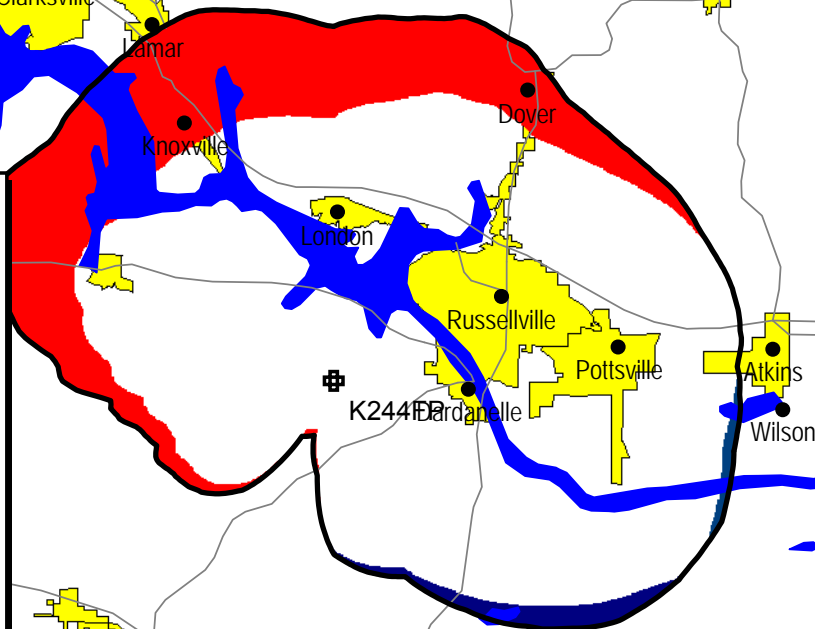
## Masking Summary:

Call Letters	Total Interference		Unique Interference	
	Population	%	Population	%
KXRD.C (244)	6,355	9.553	6,355	9.553
KLXQ (244)	237	0.356	237	0.356
KWLR (245)	0	0.000	0	0.000

## Totals for K244FP (244)

	Population	Area
Calculation Area Population:	66,521	1439.7 sq. km
Not Affected by Terrain Loss:	66,521	1439.7 sq. km
Interfered Population:	6,592	366.7 sq. km
Interference Free:	59,929	1073.0 sq. km

Percent 60 dBu Population Interference = 9.91 %  
 Percent 60 dBu Area Interference = 25.5%



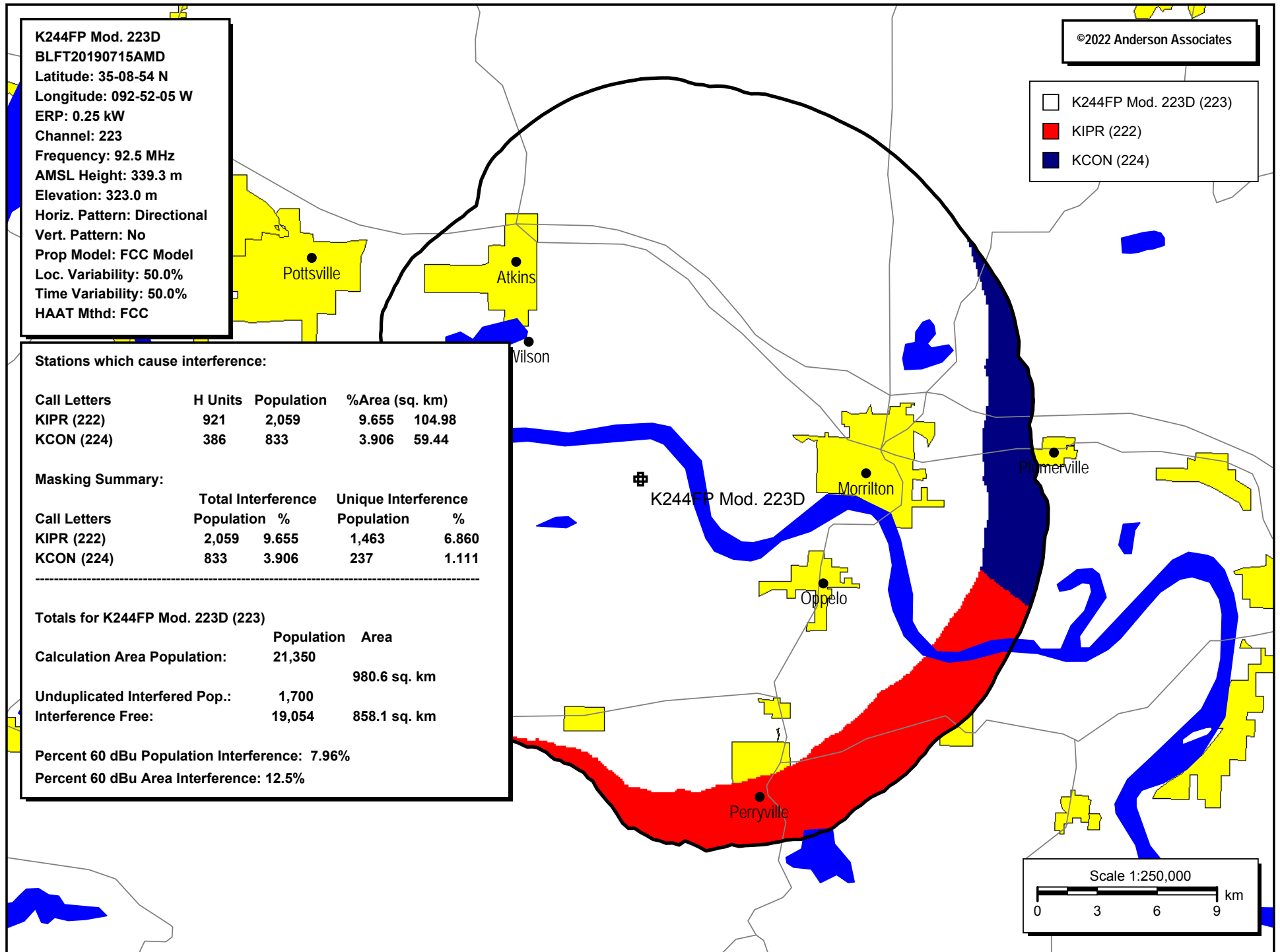
# E-1 K244FP.AP Mod. 223D Overlap Study

REFERENCE 35 08 54.00 N. 92 52 05.00 W.		CH# 223D - 92.5 MHz, Pwr= 0.25 kW DA, HAAT= 214.4 M, COR= 339.3 M Average Protected F(50-50)= 19.17 km Standard Directional								DISPLAY DATES DATA 09-12-22 SEARCH 09-12-22	
CH CITY	CALL	TYPE STATE	ANT AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
223D Morriton	K244FP	APP DCN AR	202.2 22.2	0.03 0000197665	35 08 52.80 92 52 05.60	0.250	351	---Reference--- Bobby D. Caldwell		Revocabl	
223D Morriton	K223CR	LIC DCN AR	196.1 16.1	0.05 BLFT20160915AAT	35 08 52.30 92 52 05.60	0.250	62.5 346	20.4 -77.1* East Arkansas Broadcasters		-68.5* (1)	
222C1 Pine Bluff	KIPR	ALO ____ AR	143.4 323.8	107.54	34 22 12.30 92 10 07.50	100.000 299	103.9 383	71.4 -16.1 Radio License Holding Cbc,		6.8	
222C1 Pine Bluff	KIPR	LIC _CN AR	143.4 323.8	107.54 BLH19860501KF	34 22 12.30 92 10 07.50	100.000 286	102.7 371	70.3 -14.9 Radio License Holding Cbc,		7.8	
224C3 Vilonia	KCON	LIC _CN AR	97.7 278.2	73.17 BLH20050721ABN	35 03 26.30 92 04 16.50	25.000 100	63.5 207	41.9 -10.8 Eab Of Morriton, LLC		0.9	
220A Perryville	KWOX	LIC _CN AR	176.2 356.2	27.16 BLED20111021AAA	34 54 16.30 92 50 54.60	0.140 75	0.8 282	13.5 7.8 Perry County Educational M		12.5	
220A Russellville	KXRJ	LIC _HN AR	303.9 123.8	29.57 BLED19890405KB	35 17 47.30 93 08 18.60	0.100 -28	0.7 124	5.6 13.3 Arkansas Tech University		23.3	
226D Russellville	K226CU	LIC DCN AR	284.2 104.0	36.32 BLFT20190405AAR	35 13 41.30 93 15 20.60	0.250	0.8 551	22.2 21.3 Eab Of Russellville, LLC		13.4	
226D Conway	KHDX	LIC _CN AR	97.7 278.0	39.15 BLED19810327AB	35 06 01.30 92 26 29.50	0.008 18	0.2 120	3.0 18.4 Hendrix College		35.1	
225C3 Hot Springs Village	KVRE	LIC _CN AR	198.3 18.2	59.24 BLH20140828ACW	34 38 32.30 93 04 17.60	25.000 99	4.1 338	32.6 38.6 Caddo Broadcasting Company		19.4	
224C3 Coal Hill	KDYN-FM	LIC _CN AR	292.3 111.7	100.16 BLH20130417ABG	35 29 09.40 93 53 30.20	12.500 144	64.7 327	44.0 20.4 Ozark Communications, Inc.		34.2	
221C3 Clinton	KHPQ	LIC NCN AR	33.8 214.0	66.37 BLH19940712KZ	35 38 37.20 92 27 33.50	10.000 156	4.5 439	44.6 41.3 King-Sullivan Radio		20.6	
225C3 Hot Springs Village	KVRE	ALO ____ AR	207.5 27.3	63.90	34 38 17.30 93 11 26.70	25.000 100	3.4 328	28.5 45.4 Caddo Broadcasting Company		29.6	
221C3 Clinton	KHPQ	ALO ____ AR	43.3 223.6	79.02	35 39 52.30 92 16 06.60	25.000 100	4.8 378	44.8 53.7 King-Sullivan Radio		31.8	
223C2 Wynne	KWYN-FM	ALO ____ AR	88.3 269.5	192.52	35 10 50.30 90 45 00.40	50.000 150	139.3 230	53.6 32.9 East Arkansas Broadcasters		77.4	
220A Clarksville	767530	CP DCN AR	303.6 123.3	63.05 0000166778	35 27 40.00 93 26 52.00	1.400 -7	1.5 157	8.2 46.0 Johnson County Community R		53.4	

Terrain database is FCC 30 meter , 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= West Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
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.

(1) K223CR has a construction permit on channel 255 in Conway, AR serving another portion of the KVOM(AM) 2 mV/m service area. This modification will not activated until K223Cr is activated at Conway.

# E-4 K244FP.AP Mod. 223D Interference Plot



# E-5 K244FP.AP Mod. 223D FMOver Tabulation to KCON(FM) 224C3

KCON BLH20050721ABN

K244FP.A

Channel = 224C3

Max ERP = 25 kW

RCAMSL = 206.7 m

N. Lat. 35 03 26.30

W. Lng. 92 04 16.50

Protected

60 dBu

Channel = 223D

Max ERP = 0.25 kW

RCAMSL = 339.3 m

N. Lat. 35 08 54.00

W. Lng. 92 52 05.00

Interfering

Terrain Data: FCC 30 meter 54 dBu

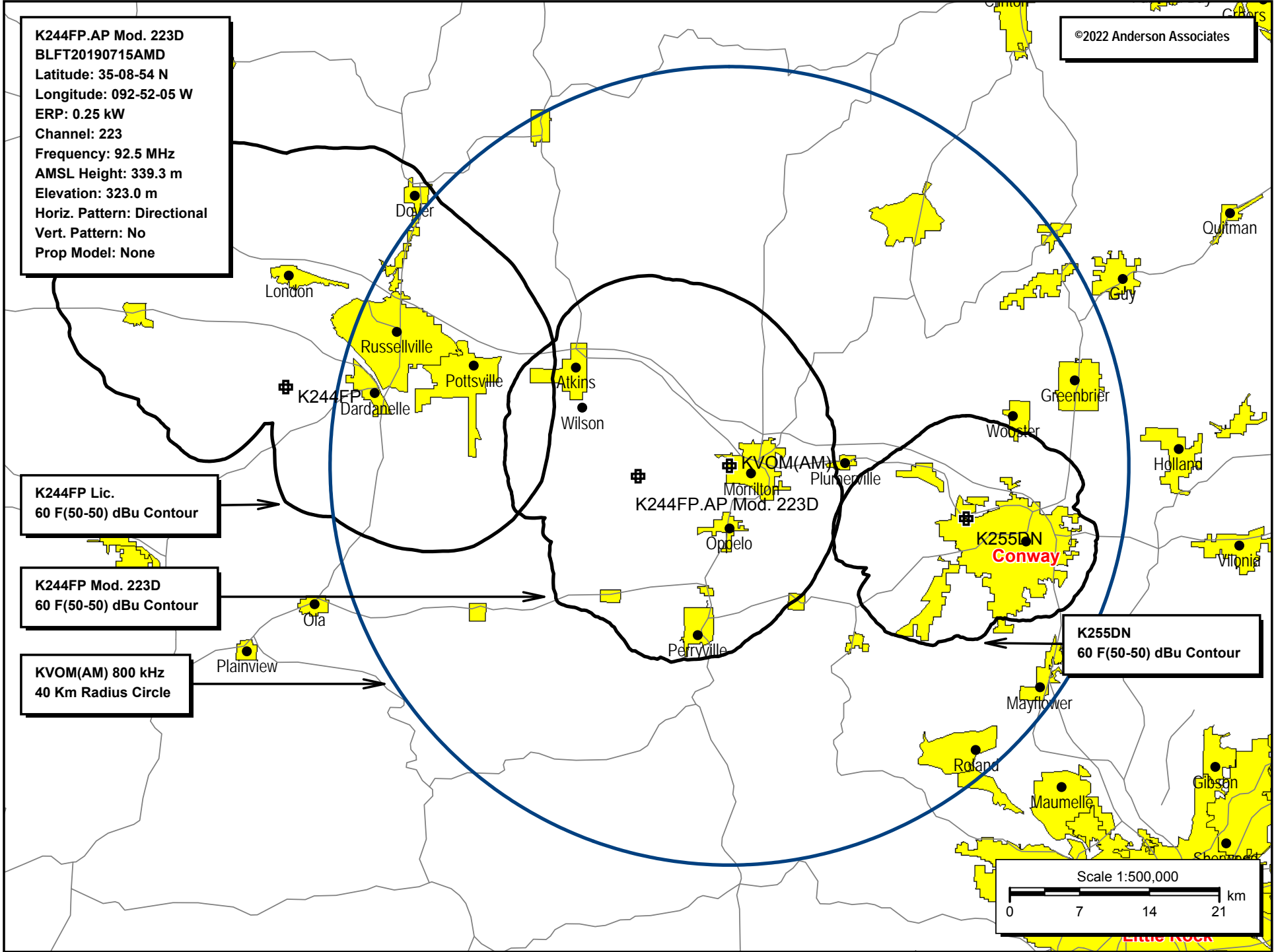
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
218.0	025.0000	0093.5	038.0	129.0	000.2440	0235.5	063.5	39.28	
219.0	025.0000	0093.8	038.0	129.0	000.2440	0235.4	062.8	39.51	
220.0	025.0000	0093.4	037.9	129.0	000.2440	0235.5	062.2	39.76	
221.0	025.0000	0092.3	037.7	128.8	000.2440	0235.9	061.5	40.02	
222.0	025.0000	0091.6	037.6	128.6	000.2440	0236.4	060.9	40.27	
223.0	025.0000	0091.4	037.6	128.5	000.2440	0236.6	060.2	40.53	
224.0	025.0000	0089.8	037.3	128.2	000.2440	0238.0	059.6	40.82	
225.0	025.0000	0088.1	037.0	127.8	000.2440	0239.0	059.0	41.10	
226.0	025.0000	0087.0	036.8	127.6	000.2440	0239.4	058.4	41.35	
227.0	025.0000	0086.8	036.7	127.4	000.2440	0239.6	057.7	41.60	
228.0	025.0000	0086.1	036.6	127.2	000.2440	0240.1	057.1	41.86	
229.0	025.0000	0084.2	036.2	126.7	000.2440	0240.9	056.6	42.11	
230.0	025.0000	0084.3	036.2	126.6	000.2440	0241.3	056.0	42.37	
231.0	025.0000	0083.4	036.1	126.3	000.2440	0242.2	055.4	42.63	
232.0	025.0000	0081.1	035.6	125.6	000.2440	0243.1	054.9	42.86	
233.0	025.0000	0078.3	035.0	124.9	000.2440	0244.1	054.5	43.07	
234.0	025.0000	0076.6	034.7	124.3	000.2440	0244.4	054.0	43.27	
235.0	025.0000	0074.4	034.2	123.6	000.2440	0244.4	053.6	43.43	
236.0	025.0000	0072.4	033.8	123.0	000.2440	0245.6	053.2	43.63	
237.0	025.0000	0073.1	033.9	122.9	000.2440	0245.7	052.6	43.88	
238.0	025.0000	0072.1	033.7	122.4	000.2440	0246.1	052.2	44.08	
239.0	025.0000	0069.4	033.2	121.5	000.2440	0246.1	051.9	44.19	
240.0	025.0000	0066.3	032.5	120.5	000.2440	0246.1	051.7	44.26	
241.0	025.0000	0062.1	031.5	119.3	000.2437	0245.5	051.7	44.24	
242.0	025.0000	0061.1	031.3	118.8	000.2435	0245.0	051.4	44.36	
243.0	025.0000	0062.1	031.5	118.7	000.2435	0244.9	050.8	44.60	
244.0	025.0000	0064.2	032.0	118.8	000.2435	0245.0	050.0	44.89	
245.0	025.0000	0063.4	031.8	118.2	000.2435	0245.2	049.7	45.04	
246.0	025.0000	0062.7	031.7	117.7	000.2434	0245.6	049.4	45.19	
247.0	025.0000	0064.6	032.1	117.7	000.2434	0245.6	048.7	45.48	
248.0	025.0000	0067.6	032.8	117.9	000.2435	0245.4	047.8	45.82	
249.0	025.0000	0069.9	033.3	117.9	000.2435	0245.4	047.0	46.13	
250.0	025.0000	0068.4	032.9	117.1	000.2431	0245.9	046.8	46.23	



Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
251.0	025.0000	0069.0	033.1	116.8	000.2430	0246.2	046.3	46.45
252.0	025.0000	0068.0	032.8	116.1	000.2430	0246.4	046.0	46.57
253.0	025.0000	0071.4	033.6	116.2	000.2430	0246.3	045.1	46.96
254.0	025.0000	0079.9	035.4	117.2	000.2432	0245.8	043.4	47.67
255.0	025.0000	0084.8	036.3	117.5	000.2433	0245.8	042.3	48.17
256.0	025.0000	0089.4	037.2	117.7	000.2434	0245.6	041.2	48.64
257.0	025.0000	0095.0	038.2	117.9	000.2435	0245.4	040.0	49.18
258.0	025.0000	0097.0	038.6	117.5	000.2433	0245.7	039.3	49.50
259.0	025.0000	0098.3	038.8	116.9	000.2430	0245.9	038.7	49.78
260.0	025.0000	0099.5	039.0	116.3	000.2430	0246.2	038.1	50.05
261.0	025.0000	0099.6	039.0	115.5	000.2428	0246.6	037.7	50.26
262.0	025.0000	0098.2	038.8	114.5	000.2426	0246.8	037.5	50.35
263.0	025.0000	0101.9	039.4	114.1	000.2426	0247.2	036.6	50.78
264.0	025.0000	0110.1	040.7	114.2	000.2426	0247.1	035.2	51.47
265.0	025.0000	0111.9	040.9	113.4	000.2422	0247.9	034.6	51.77
266.0	025.0000	0113.2	041.1	112.4	000.2421	0248.7	034.1	52.04
267.0	025.0000	0112.9	041.1	111.3	000.2421	0249.9	033.8	52.21
268.0	025.0000	0112.7	041.0	110.2	000.2417	0250.4	033.6	52.36
269.0	025.0000	0110.7	040.7	108.9	000.2416	0250.8	033.6	52.36
270.0	025.0000	0110.4	040.7	107.7	000.2416	0251.1	033.4	52.46
271.0	025.0000	0113.9	041.2	106.8	000.2416	0251.2	032.7	52.81
272.0	025.0000	0115.4	041.4	105.6	000.2416	0251.2	032.3	53.01
273.0	025.0000	0115.2	041.4	104.4	000.2416	0251.0	032.2	53.07
274.0	025.0000	0115.0	041.4	103.1	000.2416	0251.3	032.1	53.13
275.0	025.0000	0116.4	041.6	101.9	000.2416	0251.4	031.8	53.29
276.0	025.0000	0117.3	041.7	100.6	000.2416	0250.8	031.6	53.37
277.0	025.0000	0119.1	041.9	099.3	000.2423	0249.5	031.3	53.49
278.0	025.0000	0119.1	041.9	098.0	000.2431	0248.9	031.3	53.51
279.0	025.0000	0118.8	041.9	096.6	000.2444	0250.9	031.3	53.57
280.0	025.0000	0117.5	041.7	095.3	000.2457	0250.4	031.5	53.46
281.0	025.0000	0116.9	041.6	094.0	000.2465	0249.3	031.7	53.36
282.0	025.0000	0116.9	041.6	092.7	000.2478	0246.3	031.8	53.23
283.0	025.0000	0116.6	041.6	091.4	000.2488	0239.9	031.9	52.95
284.0	025.0000	0115.9	041.5	090.2	000.2498	0231.4	032.2	52.53
285.0	025.0000	0113.5	041.2	089.1	000.2491	0233.4	032.7	52.35
286.0	025.0000	0111.0	040.8	088.1	000.2486	0235.7	033.2	52.15
287.0	025.0000	0108.0	040.4	087.2	000.2477	0233.7	033.9	51.74
288.0	025.0000	0106.8	040.2	086.2	000.2467	0229.9	034.3	51.37
289.0	025.0000	0104.6	039.8	085.3	000.2462	0229.9	034.9	51.07
290.0	025.0000	0104.5	039.8	084.3	000.2453	0228.7	035.2	50.86
291.0	025.0000	0103.3	039.6	083.4	000.2445	0230.0	035.6	50.67
292.0	025.0000	0101.9	039.4	082.6	000.2437	0229.4	036.2	50.37
293.0	025.0000	0100.7	039.2	081.9	000.2430	0229.9	036.7	50.13
294.0	025.0000	0099.1	038.9	081.2	000.2426	0232.7	037.3	49.96
295.0	025.0000	0097.6	038.7	080.5	000.2421	0234.9	037.9	49.76
296.0	025.0000	0096.4	038.5	079.9	000.2416	0236.7	038.4	49.56
297.0	025.0000	0094.2	038.1	079.4	000.2416	0237.9	039.1	49.28
298.0	025.0000	0093.4	037.9	078.8	000.2416	0238.7	039.6	49.07
299.0	025.0000	0093.3	037.9	078.1	000.2416	0239.9	040.1	48.91
300.0	025.0000	0092.7	037.8	077.4	000.2416	0240.8	040.6	48.71
301.0	025.0000	0092.3	037.8	076.8	000.2416	0241.9	041.1	48.53

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
302.0	025.0000	0093.3	037.9	076.0	000.2416	0242.1	041.4	48.38
303.0	025.0000	0094.3	038.1	075.2	000.2416	0241.2	041.8	48.19
304.0	025.0000	0093.8	038.0	074.7	000.2416	0240.7	042.3	47.92
305.0	025.0000	0092.5	037.8	074.3	000.2416	0241.7	043.0	47.68
306.0	025.0000	0093.1	037.9	073.7	000.2416	0241.7	043.4	47.48
307.0	025.0000	0092.0	037.7	073.4	000.2416	0240.7	044.1	47.17
308.0	025.0000	0091.2	037.6	073.0	000.2416	0238.4	044.7	46.82
309.0	025.0000	0091.6	037.6	072.5	000.2416	0235.2	045.2	46.48
310.0	025.0000	0091.4	037.6	072.1	000.2416	0235.1	045.8	46.23
311.0	025.0000	0091.0	037.5	071.7	000.2416	0235.2	046.4	45.99
312.0	025.0000	0092.5	037.8	071.0	000.2416	0238.3	046.8	45.93
313.0	025.0000	0093.8	038.0	070.4	000.2416	0240.8	047.3	45.84
314.0	025.0000	0094.3	038.1	069.9	000.2416	0242.1	047.8	45.66
315.0	025.0000	0094.1	038.1	069.6	000.2418	0242.6	048.4	45.43
316.0	025.0000	0093.0	037.9	069.5	000.2418	0242.7	049.1	45.16
317.0	025.0000	0094.0	038.1	069.0	000.2421	0243.2	049.6	44.97
318.0	025.0000	0093.9	038.0	068.7	000.2421	0243.2	050.3	44.71
319.0	025.0000	0094.2	038.1	068.4	000.2421	0243.7	050.9	44.49
320.0	025.0000	0095.6	038.3	067.9	000.2421	0244.7	051.4	44.30
321.0	025.0000	0095.7	038.3	067.7	000.2421	0244.9	052.1	44.05
322.0	025.0000	0095.5	038.3	067.5	000.2421	0245.1	052.7	43.79
323.0	025.0000	0096.8	038.5	067.1	000.2421	0246.0	053.3	43.59
324.0	025.0000	0097.5	038.7	066.8	000.2422	0246.3	053.9	43.34
325.0	025.0000	0098.9	038.9	066.4	000.2424	0246.9	054.5	43.12
326.0	025.0000	0099.1	038.9	066.2	000.2425	0247.1	055.2	42.86
327.0	025.0000	0099.3	039.0	066.0	000.2425	0247.4	055.8	42.61
328.0	025.0000	0101.2	039.3	065.6	000.2426	0248.0	056.5	42.38
329.0	025.0000	0101.4	039.3	065.5	000.2426	0248.1	057.1	42.12
330.0	025.0000	0101.3	039.3	065.4	000.2426	0248.2	057.8	41.85
331.0	025.0000	0102.5	039.5	065.2	000.2426	0248.4	058.5	41.59
332.0	025.0000	0103.1	039.6	065.0	000.2426	0248.4	059.2	41.33
333.0	025.0000	0103.8	039.7	064.9	000.2426	0248.5	059.9	41.07
334.0	025.0000	0102.9	039.6	065.0	000.2426	0248.4	060.6	40.80
335.0	025.0000	0101.9	039.4	065.2	000.2426	0248.4	061.3	40.54
336.0	025.0000	0102.2	039.4	065.1	000.2426	0248.4	061.9	40.28
337.0	025.0000	0101.6	039.3	065.2	000.2426	0248.4	062.6	40.03

E-6 K244FP.AP Mod. 223D 60 F(50-50) dBu Contour Plot



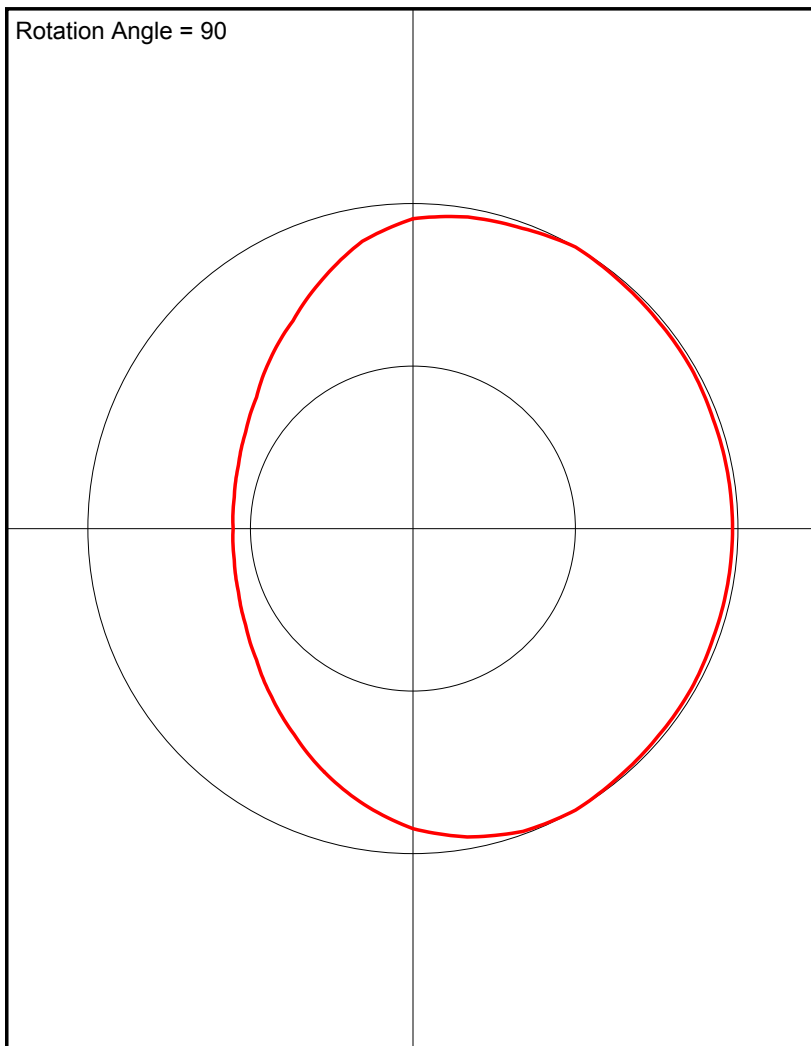
# E-7 K244FP Mod. 223D Antenna Pattern

Azimuth (deg)

Relative Field

0.0	0.953
10.0	0.973
20.0	0.983
30.0	1.0
40.0	0.992
50.0	0.988
60.0	0.988
70.0	0.983
80.0	0.983
90.0	0.983
100.0	0.983
110.0	0.983
120.0	0.988
130.0	0.988
140.0	0.992
150.0	1.0
160.0	0.991
170.0	0.963
180.0	0.923
190.0	0.862
200.0	0.797
210.0	0.731
220.0	0.676
230.0	0.628
240.0	0.594
250.0	0.571
260.0	0.558
270.0	0.553
280.0	0.558
290.0	0.571
300.0	0.594
310.0	0.628
320.0	0.682
330.0	0.738
340.0	0.815
350.0	0.897

Rotation Angle = 90



# E-8 K244FP Mod. 223D HAAT Calculation

N. Lat. = 35-08-54.0 W. Lng. = 92-52-05.0  
HAAT and Distance to Contour,  
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 Meter

K244FP.A, Bobby D. Caldwell Revocable T, 0000197665

Azi. AV EL HAAT ERP kW 60-F(50-50)

000	93.0	246.3	0.2271	20.04
030	92.4	246.9	0.2500	20.55
060	92.1	247.2	0.2440	20.44
090	108.0	231.3	0.2416	19.73
120	93.3	246.0	0.2440	20.39
150	108.6	230.7	0.2500	19.88
180	141.5	197.8	0.2130	17.69
210	159.3	180.0	0.1336	14.88
240	216.3	123.0	0.0882	11.02
270	155.8	183.5	0.0765	13.08
300	112.1	227.2	0.0882	15.00
330	126.3	213.0	0.1362	16.28

Ave EI= 124.88 M HAAT= 214.42 M AMSL= 339.3

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. The structure meets the 6.10-meter (20-foot) Rule criteria.

Your Specifications

NAD83 Coordinates

Latitude	35-08-54.0 north
Longitude	092-52-05.0 west

Measurements (Meters)

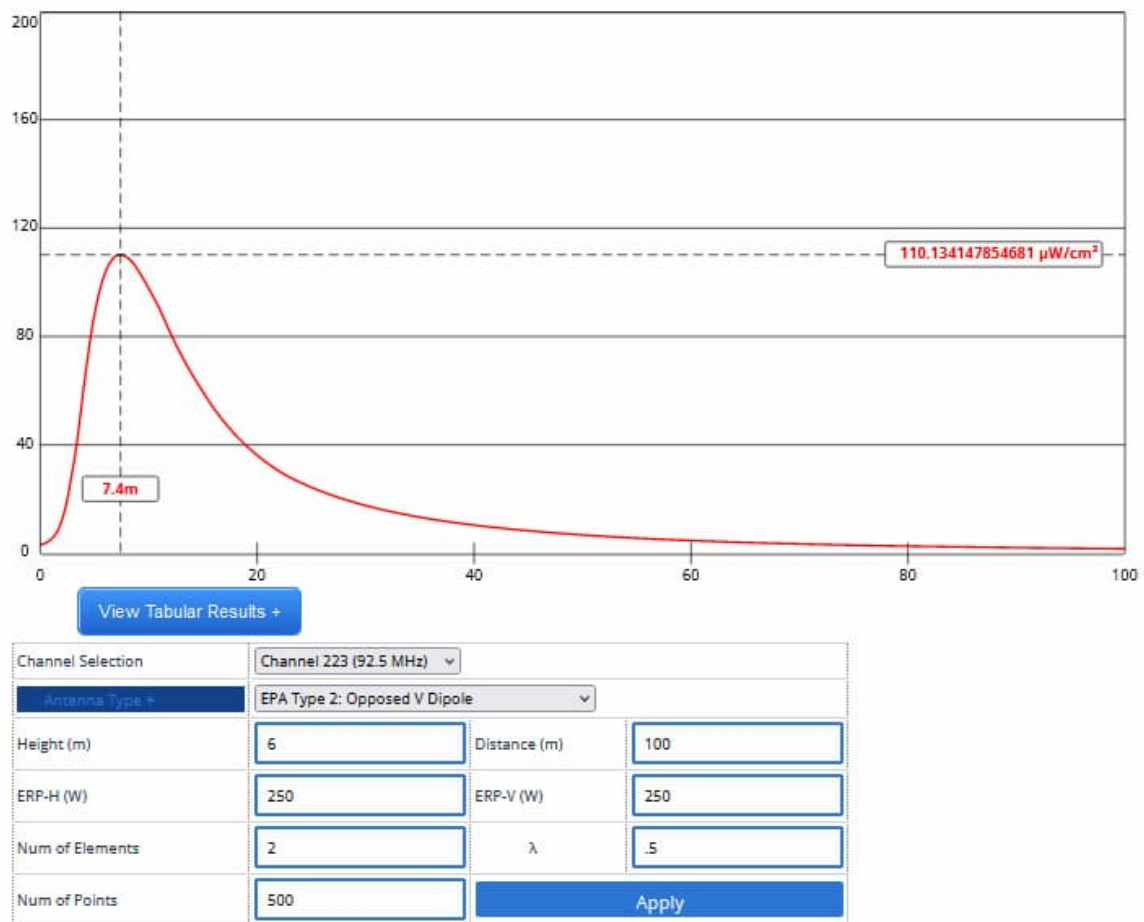
Overall Structure Height (AGL)	17
Support Structure Height (AGL)	11
Site Elevation (AMSL)	323.0

Structure Type

BPOLE - Building with Pole

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## E-10 FMMODEL RF Analysis



RF evaluated at 6 meters from radiation center based on nearest standing person on 2nd story of building.