

TECHNICAL STATEMENT
K243BN LAVEEN, ARIZONA, CH. 243D
MOUNTAIN COMMUNITY TRANSLATORS, LLC
NOVEMBER 2020

This Technical Statement is made in support of a minor modification of FM translator station, K243BN at Laveen, Arizona, facility ID 92373. K243BN seeks to remain at its current existing tower at the Shaw Butte communications site. It will remain rebroadcasting KLVK(FM) Fountain Hills, Arizona, facility ID 76329, on channel 206C1. Because of interference issues with KIKO-FM Claypool, Arizona, facility ID 11894, which recently upgraded on to a full class C station on channel 243,, K243BN seeks to decrease its Effective Radiated Power (“ERP”) from 250 watts to 1 watt. It will also replace its current one bay directional antenna with a higher gain Nicom BLK-5 yagi directional antenna to provide further protection to KIKO-FM. The new antenna will replace the current antenna at the same height on the tower. No other changes are being proposed. The following will show that the new proposed operation of K243BN will meet all of the Commissions technical requirements for an FM translator station.

Figure 1 is a detailed interference study conducted on channel 243D with these new proposed facilities. It shows that the new operation of K243BN will not cause any interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 243 with the exception of second adjacent channel station, KMXP(FM) Phoenix, Arizona, facility ID 6361, operating on channel 245C and K241CS Phoenix, Arizona, facility ID 156046, channel 241D.

The proposed operation of K243BN on 243D is located within the protected 60 dBμ contour of 2nd adjacent channel of KMXP. Figure 2 shows the predicted F(50-50)

field strength of KMXB at the proposed K243BN transmitter site is 85.7 dB μ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K243BN on channel 243D is an additional 40 dB μ or 125.7 dB μ .

The proposed operation of K243BN on 243D is located within the protected 60 dB μ contour of 2nd adjacent channel of K241CS. Figure 3 shows the predicted F(50-50) field strength of K241CS at the proposed K243BN transmitter site is 109.3 dB μ .

Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K243BN on channel 243D is an additional 40 dB μ or 149.3 dB μ . K241CS also has an outstanding Construction Permit ("CP"), BPFT-20170206ACK. This CP only calls for K241CS to increase its ERP from its current 200 watts to 250 watts and modify its directional antenna pattern. But it will remain at its present site and antenna heights. Thus the only effect of this application if granted will be to slightly increase the contour at the proposed K243BN site. K241CS is located on a tower directly adjacent to the proposed K243BN tower. Since the interference contour generated by K243BN will be larger towards KMXB(FM), only the 125.7 dB μ interference contour was studied for any population coverage.

Figure 4 shows the coverage area for the worse case 125.7 dB μ interference contour F(50-10) and shows that there is no population in the area of interference.

Figure 5 is a vertical pattern study showing that any potential interference contour towards KMXB(FM) will not reach the ground at any point.

The applicant, Mountain Community Translators, LLC, respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes nearby the

proposed existing tower site, which is a privately owned on 1/2 acres with private locked access. The transmitter building is uninhabited and does not have indoor plumbing. The area around the tower base has restricted access. The site is a dedicated communications tower site on top of “Shaw Butte”. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with K243BN until such interference can be eliminated. It should also be noted, that with a reduction of ERP from 250 watts, as K243BN is currently licensed, to just 1 watt, this would only improve on any interference issues towards KMXB and K241CS.

Figure 6 is the directional antenna data for the proposed antenna.

It was found that the new proposed operation of K243BN Laveen, Arizona on channel 243D, will satisfy all of the required commission rules and regulations for an FM translator station.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K243BN LAVEEN, AZ, CH. 243D

REFERENCE 33 35 39.20 N. CH# 243D - 96.5 MHZ, Pwr= 0.001 kW DA, HAAT= 0.0 M, COR= 669 M
 112 05 10.50 W. Average Protected F(50-50)= 1.82 km
 Standard Directional

DISPLAY DATES
 DATA 11-10-20
 SEARCH 11-10-20

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*
243D Laveen	K243BN	LIC D__ AZ	93.5 266.5	0.00 BLFT20171211AAV	33 35 39.20 112 05 10.50	0.250	669	---Reference---		
243C Claypool	KIKO-FM	LIC D__ AZ	105.9 286.6	121.64 BLH20181121AAM	33 17 20.20 110 49 47.30	30.000 966	184.0 2326	87.5 1tv.Com, Inc.	-63.3*	30.5
245C Phoenix	KMXP	APP ____ AZ	175.4 355.5	28.91 0000123821	33 20 03.70 112 03 41.20	100.000 506	12.8 874	88.2 Citicasters Licenses, Inc.	15.5	-59.3*
245C Phoenix	KMXP	LIC ____ AZ	175.3 355.3	28.93 BMLH19941024KC	33 20 03.10 112 03 38.50	100.000 475	12.5 834	85.8 Citicasters Licenses, Inc.	15.9	-56.9*
241D Phoenix	K241CS	CP D__ AZ	180.0 360.0	0.00 BPFT20170206ACK	33 35 39.10 112 05 10.50	0.250	1.1 663	18.6 Stephan C. Sloan, Media Se	-1.5*	-18.6*
243D Laveen	K243BN	APP D__ AZ	93.5 266.5	0.00 0000125254	33 35 39.20 112 05 10.50	0.003	669	---Reference---		
241D Phoenix	K241CS	LIC D__ AZ	180.0 360.0	0.00 BLFT20170126ABP	33 35 39.10 112 05 10.50	0.200	0.0 663	1.0 Stephan C. Sloan, Media Se	-0.4*	-1.0*
242C3 Wickenburg	AL4349	USE ____ AZ	310.0 129.6	73.45 RM10016	34 01 01.11 112 41 48.65	25.000 100	62.0 927	40.0 7.3		22.1
241D Ft McDowell	K241BQ	LIC D__ AZ	175.4 355.5	28.86 BLFT20171025AAL	33 20 05.20 112 03 41.50	0.140	0.0 803	2.4 Riviera Broadcasting, LLC	28.2	17.6
240D Tempe	K240EU	LIC D__ AZ	91.3 271.4	30.17 BLFT20170802ABN	33 35 16.10 111 45 40.50	0.250	0.1 665	3.7 Crc Broadcasting Company,	28.9	24.4
240D Buckeye	K240DC	LIC D__ AZ	266.2 85.9	43.89 BLFT20190322AAA	33 34 02.10 112 33 28.60	0.250	0.0 1224	0.8 Advance Ministries, Inc. D	40.4	28.7
242C3 Wickenburg	KSWG	LIC Z__ AZ	299.4 119.0	74.97 BLH20190701AAM	33 55 22.10 112 47 36.60	5.800 207	33.4 950	22.4 Barna Broadcasting, LLC	37.1	45.3
240C0 Cottonwood	KKLD	LIC N__ AZ	358.6 178.6	121.21 BMLH20100428AEO	34 41 12.10 112 07 04.60	21.000 799	8.2 2388	78.1 Yavapai Broadcasting Corpo	108.9	43.1
244C2 Williams	KWMX	LIC ____ AZ	358.5 178.5	170.54 BLH19970609KA	35 07 52.10 112 08 05.60	10.500 325	83.2 2390	55.8 Stone Canyon Of Flagstaff,	83.3	106.7
241C Tucson	KLPX	LIC ____ AZ	148.6 329.1	174.57 BLH19900503KD	32 14 56.30 111 07 01.40	100.000 595	13.2 1360	90.1 Arizona Lotus Corp.	161.0	84.5
242L1 Payson	KRIM-LP	LIC ____ AZ	44.1 224.5	102.38 BLL20150623ABI	34 15 13.10 111 18 41.40	0.004 146	1612	88.3 Payson Council For The Mus		91.6
246D Prescott	K246AA	LIC D__ AZ	337.4 157.2	107.65 BLFT19931115TE	34 29 20.10 112 32 17.60	0.011 505	0.0 2173	3.2 Prescott Sound Investments	103.1	104.3
246C2 Kachina Village	AL9582	RSV-A ____ AZ	19.0 199.3	161.43 RM11518	34 58 06.08 111 30 31.55	50.000 150	5.8 2327	50.6 151.9		106.8
242D Cottonwood	K242BZ	LIC D__ AZ	358.6 178.6	121.21 BLFT20101213AHP	34 41 12.10 112 07 04.60	0.093 802	3.7 2379	2.0 Yavapai Broadcasting Corpo	113.3	106.8
246C2 Kachina Village	KBTK	LIC ____ AZ	19.0 199.3	161.43 BLH20161021ABF	34 58 06.10 111 30 31.50	5.000 444	4.3 2622	51.5 Stone Canyon Of Flagstaff,	153.5	108.6
243A Quartzsite	AL2673	USE ____ AZ	273.4 92.2	199.48 RMinv-41	33 40 58.09 114 14 01.82	6.000 100	78.7 429	22.2 117.0		163.9
244D Sedona	KWMX-FM2	LIC D__ AZ	11.1 191.3	142.38 BLFTB20010821AAT	34 51 11.10 111 47 03.60	0.099	9.2 1475	6.5 Stone Canyon Of Flagstaff,	129.2	129.8
244D Flagstaff	KWMX-FM1	LIC D__ AZ	13.3 193.6	187.91 BLFTB20190424AAX	35 14 29.40 111 36 34.10	0.290	50.8 2814	32.7 Stone Canyon Of Flagstaff,	133.3	148.8
243A Quartzsite	KBUX	LIC ____ AZ	273.5 92.3	199.46 BLH20170508AAJ	33 41 02.10 114 14 00.80	3.000 -47	53.3 281	13.2 Marvin Vosper	142.4	174.0
246C3 Green Valley	KYWD	CP ____ AZ	145.4 326.1	213.77 BPH20190301AAQ	32 00 11.80 110 47 51.10	25.000 100	5.7 1063	51.3 Capstar Tx, LLC	207.7	162.5

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT (M)	INT(km) COR (M)	PRO(km) LICENSEE	Page # 2 *IN* (Overlap	*OUT* in km)
244C3 Lake Havasu City	KRCY-FM	LIC ____ AZ		299.3 118.1	221.69 BLH20080731ACG	34 33 06.00 114 11 39.80	0.260 825	52.4 1451	34.0 Rick L. Murphy	164.8	179.5
246A Green Valley	KYWD	LIC ____ AZ		152.6 333.2	201.67 BLH20030424AAM	31 58 37.20 111 06 06.30	1.750 187	2.6 1227	36.2 Capstar Tx, LLC	198.7	165.3
244B Nogales	XHNGSFM	USE ____ SO		156.7 337.3	273.48	31 19 49.36 110 56 44.31	50.000 150	90.6 1424	65.0	182.5	207.5
240C3 Wellton	KUKY	LIC ____ AZ		244.6 63.3	233.58 BLH20120803AAD	32 40 22.20 114 20 14.00	1.600 385	2.6 534	41.5 Hispanic Target Media Inc.	228.3	191.8
243A Cd. Morelos	R17741	VAC ____ BN		248.2 66.7	278.56	32 38 00.19 114 50 56.87	3.000 100	75.2 142	24.0	200.6	245.6
244B Nogales	XHNGSFM	LIC D__ SO		157.0 337.6	274.05	31 19 10.40 110 57 38.30	38.400 37	72.7 1323	65.0	201.0	208.0
243A Lagunitas	AL1171	VAC ____ BN		246.4 64.8	289.62	32 31 05.19 114 55 00.88	3.000 100	75.3 127	24.0	211.6	256.9
245A Algodones	AL8864	VAC ____ BN		248.9 67.4	266.37	32 42 09.17 114 44 32.85	3.000 100	2.3 166	24.0	261.2	242.4
242C Las Vegas	KKLZ	LIC ____ NV		316.0 134.3	378.29 BMLH20111201LCE	36 00 28.90 115 00 22.90	100.000 358	112.7 1056	76.6 Beasley Media Group Licens	261.0	294.3
243A Douglas	KDAP-FM	LIC ____ AZ		135.6 317.0	344.08 BLH19901121KB	31 21 18.30 109 33 08.20	3.000 9	64.3 1271	17.5 Donna Henderson, Personal	279.3	324.0
242A Caborca	AL0480	VAC ____ SO		181.2 1.2	322.14	30 41 50.38 112 09 31.41	3.000 100	27.8 400	24.0	293.7	297.4
241C1 Window Rock	KWRK	LIC ____ AZ		50.4 232.1	349.54 BLH19960911KD	35 33 36.10 109 06 32.30	100.000 178	5.8 2321	50.8 The Navajo Nation	341.1	294.7
242A Calipatria	KSSB	LIC ____ CA		261.5 79.7	323.23 BLH20140623AAK	33 07 13.10 115 30 46.00	6.000 25	23.5 -16	15.8 Lazer Licenses, LLC	296.4	303.8
245A Caborca	AL8589	VAC ____ SO		181.2 1.2	322.14	30 41 50.38 112 09 31.41	3.000 100	1.9 400	24.0	319.5	298.1
242AA Santa Ana	R17224	VAC ____ SO		164.7 345.2	351.56	30 32 23.42 111 07 12.28	6.000 100	46.4 836	28.0	304.7	323.0
241A Nacozari De Garcia	AL0055	VAC ____ SO		189.2 8.9	362.58	30 22 25.40 112 41 32.43	3.000 100	2.6 214	24.0	359.1	338.6
245A Puerto Lobos	AL9054	VAC ____ SO		190.9 10.5	376.48	30 16 00.41 112 49 37.43	3.000 100	2.1 158	24.0	373.4	352.5

Terrain database is 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= 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.
Reference station has protected zone issue: Mexico

* No actual interference will be caused to either KMXP or K241CS since the worst case 125.7 dbu interference contour will not cover any population. See the Technical Statement for more details.

K243BN

BLFT20170721ABB

Latitude: 33-35-39.20 N

Longitude: 112-05-10.5 W

ERP: 0.001 kW Channel:

243 Frequency: 96.5 MHz

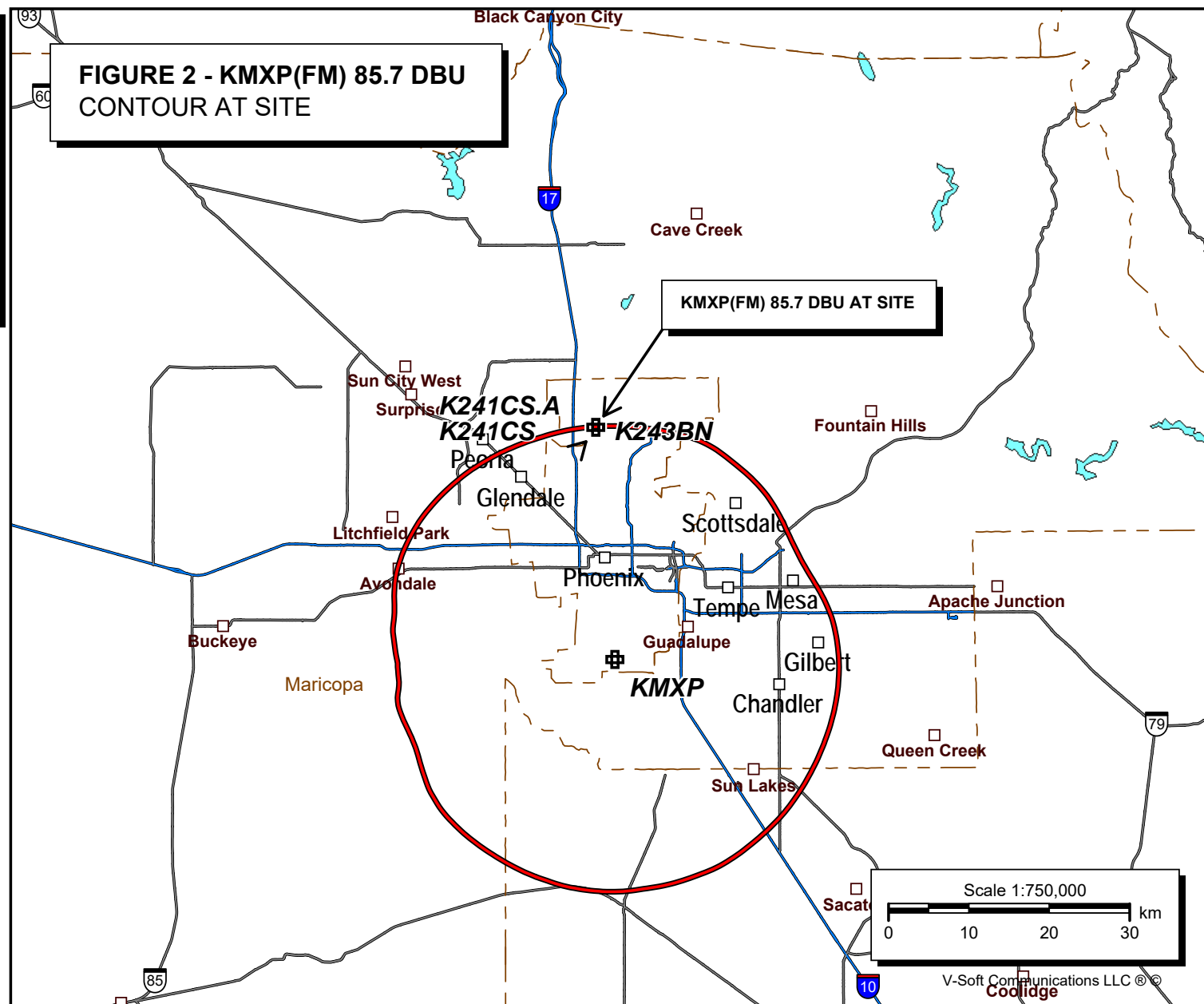
AMSL Height: 662.0 m

Elevation: 645.0 m Horiz.

Pattern: DA

Vert. Pattern: No

Prop Model:

**FIGURE 2 - KMXB(FM) 85.7 DBU
CONTOUR AT SITE**

K243BN

BLFT20170721ABB

Latitude: 33-35-39.2 N

Longitude: 112-05-10.5 W

ERP: 0.001 kW

Channel: 243

Frequency: 96.5 MHz

AMSL Height: 662.0 m

Elevation: 645.0 m

Horiz. Pattern: DA

Vert. Pattern: No

Prop Model:

**FIGURE 3 - K241CS 109.3 DBU
CONTOUR AT SITE**

K241CS 109.3 DBU AT SITE

**K241CS.A
K241CS**



K243BN

Scale 1:93,750

0 1 2 3 km

V-Soft Communications LLC ©

FIGURE 4 - PREDICTED 125.7 DBU INTERFERENCE CONTOUR
K243BN LAVEEN, AZ, CH. 243D

Coverage Study - NGDC 30 SEC
11-10-2020

K243BN CH243 D , 0.001 kW, 0.0m HAAT, 669.0m COR AMSL
Interference Contour = 126 dBu. Population = 0

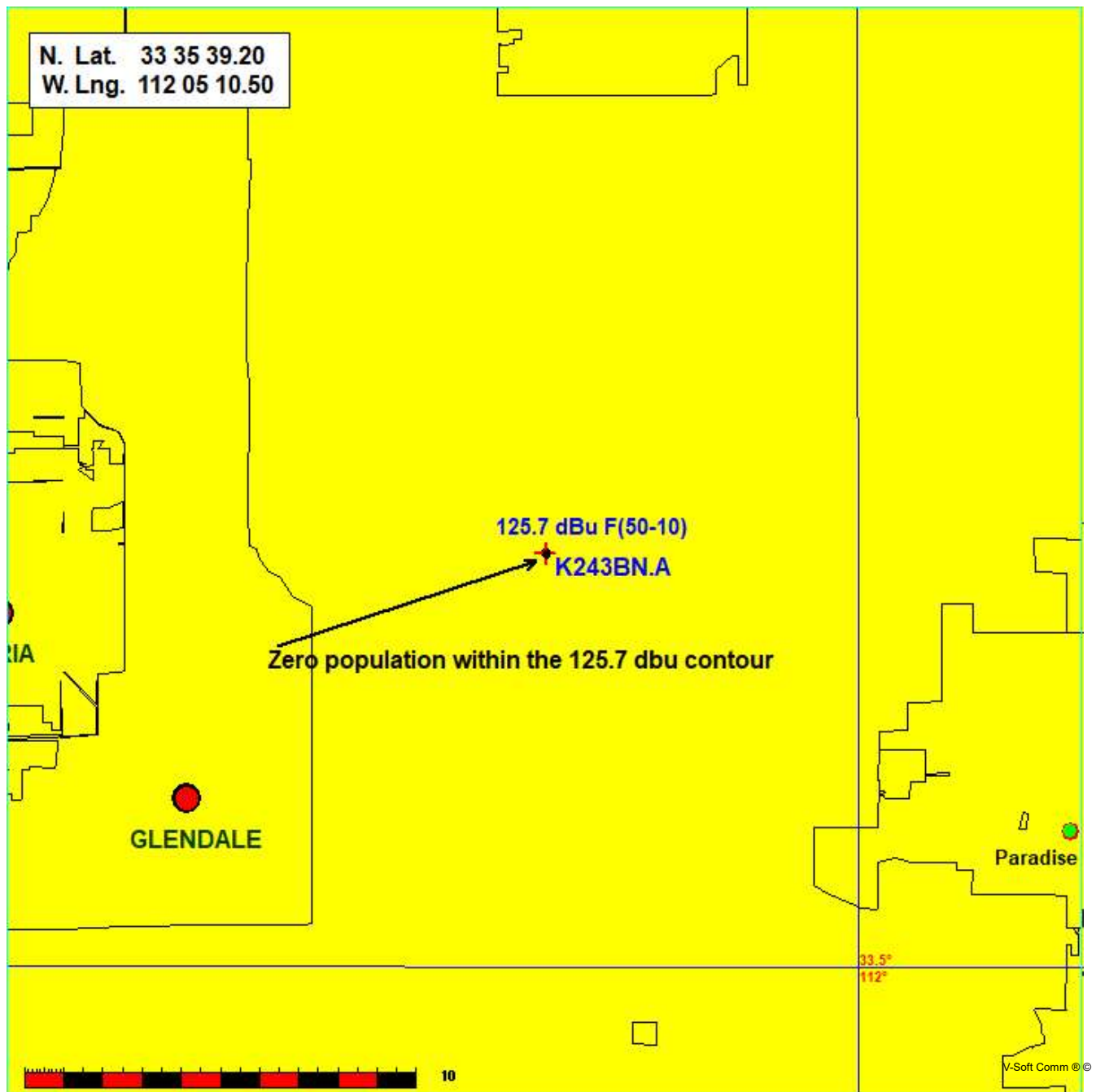


FIGURE 5 - VERTICAL PATTERN STUDY

K243BN Laveen, AZ, Showing Protection to KMXB , Channel: 245
 Geographic Coordinates: N. 33 35 39.20 W. 112 05 10.50
 74.1204(d) Study - Using NGDC 30 SEC Terrain Database Translator
 or LPFM Maximum Licensed ERP = 0.001 kW, Channel: 243 Translator
 or LPFM Antenna Height AG = 24 meters
 K243BN Antenna Azimuth Model = Vertical Model Name = Nicom BLK-5

Protected Station's Contour = 85.71512 dBu
 Translator's or LPFM's full Interference contour 125.71512

Review Azimuth = 0 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.830
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.001 kW
 Distance between stations = 29.0 km
 Protected Station= KMXB, 100 kW, 834 M meters COR AMSL

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	0.83	0.0008	003.3097	003.3097	024.000
05.00	0.99	0.83	0.0008	003.2766	003.2641	023.714
10.00	0.979	0.83	0.0008	003.2408	003.1916	023.437
15.00	0.953	0.83	0.0008	003.1524	003.0450	023.184
20.00	0.92	0.83	0.0007	003.0449	002.8613	022.959
25.00	0.877	0.83	0.0006	002.9016	002.6297	022.774
30.00	0.829	0.83	0.0006	002.7444	002.3767	022.628
35.00	0.772	0.83	0.0005	002.5541	002.0922	022.535
40.00	0.715	0.83	0.0004	002.3664	001.8128	022.479
45.00	0.647	0.83	0.0003	002.1404	001.5135	022.487
50.00	0.57	0.83	0.0003	001.8865	001.2126	022.555
55.00	0.487	0.83	0.0002	001.6108	000.9239	022.681
60.00	0.388	0.83	0.0001	001.2851	000.6426	022.887
65.00	0.292	0.83	0.0001	000.9654	000.4080	023.125
70.00	0.187	0.83	0.0000	000.6179	000.2113	023.419
75.00	0.095	0.83	0.0000	000.3144	000.0814	023.696
80.00	0.045	0.83	0.0000	000.1489	000.0259	023.853
85.00	0.032	0.83	0.0000	000.1049	000.0091	023.895
90.00	0.03	0.83	0.0000	000.0993	000.0000	023.901

FIGURE 6 - DIRECTIONAL ANTENNA PATTERN
K243BN.A

11-10-2020

RMS(V)= .483

Graph is Relative Field

Azi	Field	dBk	kw
000	0.830	-31.618	0.001
010	0.700	-33.098	0.000
020	0.550	-35.193	0.000
030	0.410	-37.744	0.000
040	0.320	-39.897	0.000
050	0.250	-42.041	0.000
060	0.200	-43.979	0.000
070	0.150	-46.478	0.000
080	0.110	-49.172	0.000
090	0.100	-50.000	0.000
100	0.080	-51.938	0.000
110	0.060	-54.437	0.000
120	0.050	-56.021	0.000
130	0.040	-57.959	0.000
140	0.040	-57.959	0.000
150	0.030	-60.458	0.000
160	0.040	-57.959	0.000
170	0.040	-57.959	0.000
180	0.050	-56.021	0.000
190	0.060	-54.437	0.000
200	0.080	-51.938	0.000
210	0.100	-50.000	0.000
220	0.110	-49.172	0.000
230	0.150	-46.478	0.000
240	0.200	-43.979	0.000
250	0.250	-42.041	0.000
260	0.320	-39.897	0.000
270	0.410	-37.744	0.000
280	0.550	-35.193	0.000
290	0.700	-33.098	0.000
300	0.830	-31.618	0.001
310	0.920	-30.724	0.001
320	0.980	-30.175	0.001
330	1.000	-30.000	0.001
340	0.980	-30.175	0.001
350	0.920	-30.724	0.001

NICOM BLK-5 YAGI
Oriented at 330
degrees

