

TECHNICAL STATEMENT
K243BN LAVEEN, ARIZONA, CH. 243D
MOUNTAIN COMMUNITY TRANSLATORS, LLC
OCTOBER 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 3 watts. 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 3 watts, 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.
112 05 10.50 W.CH# 242D - 96.3 MHz, Pwr= 0.003 kW DA, HAAT= 0.0 M, COR= 669 M
Average Protected F(50-50)= 2.38 km
Standard DirectionalDISPLAY DATES
DATA 10-28-20
SEARCH 10-30-20

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
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.	14.9	-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.	15.3	-56.9*
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---		Mountain Community Transla
241D Phoenix	K241CS*	CP D AZ		180.0 360.0	0.00 BPFT20170206ACK	33 35 39.10 112 05 10.50	0.250	27.6 663	18.6 Stephan C. Sloan, Media Se	-28.4*	-20.0*
243C Claypool	KI KO-FM	LIC D AZ		105.9 286.6	121.64 BLH20181121AAM	33 17 20.20 110 49 47.30	30.000 966	127.9 2326	87.5 1tv.Com, Inc.	-7.4*	32.3
241D Phoenix	K241CS*	LIC D AZ		180.0 360.0	0.00 BLFT20170126ABP	33 35 39.10 112 05 10.50	0.200	1.7 663	1.0 Stephan C. Sloan, Media Se	-2.5*	-2.4*
242C3 Wickenburg	KSWG	LIC Z AZ		299.4 119.0	74.97 BLH20190701AAM	33 55 22.10 112 47 36.60	5.800 207	67.3 950	22.4 Barna Broadcasting, LLC	1.0	28.8
241D Ft McDowell	K241BQ	LIC D AZ		175.4 355.5	28.86 BLFT20171025AAL	33 20 05.20 112 03 41.50	0.140	4.4 803	2.4 Riviera Broadcasting, LLC	23.2	16.7
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,	28.6	24.3
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	38.2	28.7
241C Tucson	KLPX	LIC AZ		148.6 329.1	174.57 BLH19900503KD	32 14 56.30 111 07 01.40	100.000 595	134.3 1360	90.1 Arizona Lotus Corp.	39.5	83.6
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	107.3	43.1
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	72.6 Payson Council For The Mus		85.5
242D Cottonwood	K242BZ	LIC D AZ		358.6 178.6	121.21 BLFT20101213AHP	34 41 12.10 112 07 04.60	0.093 802	13.5 2379	2.0 Yavapai Broadcasting Corpo	102.0	97.3
244C2 Williams	KWMX	LIC AZ		358.5 178.5	170.54 BLH19970609KA	35 07 52.10 112 08 05.60	10.500 325	5.5 2390	55.8 Stone Canyon Of Flagstaff,	159.3	112.7
244D Sedona	KWMX-FM2	LIC D AZ		11.1 191.3	142.38 BLFTB20010821AAT	34 51 11.10 111 47 03.60	0.099	0.2 1475	6.5 Stone Canyon Of Flagstaff,	137.1	134.8
239B1 Parker	KPKR	LIC AZ		293.1 111.9	208.34 BMLH20190906AAK	34 18 39.10 114 10 10.80	6.300 200	4.3 537	53.5 River Rat Radio, LLC	197.5	152.3
244D Flagstaff	KWMX-FM1	LIC D AZ		13.3 193.6	187.91 BLFTB20190424AAX	35 14 29.40 111 36 34.10	0.290	1.0 2814	32.7 Stone Canyon Of Flagstaff,	181.9	153.9
239C0 St. Johns	KWKM	LIC AZ		71.8 253.2	242.26 BLH20010418AAA	34 14 58.20 109 35 13.40	100.000 364	11.3 2610	78.0 Km Radio Of St. Johns, L. L	228.8	162.7
243A Quartzsite	KBUX	LIC AZ		273.5 92.3	199.46 BLH20170508AAJ	33 41 02.10 114 14 00.80	3.000 -47	19.5 281	13.2 Marvin Vosper	173.9	178.2
239A Sonora	AL9377	SO		200.7 20.3	205.63	31 51 41.25 112 51 18.58	3.000 100	1.8 560	24.0 201.7		181.6
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	1.1 1451	34.0 Rick L. Murphy	213.9	186.1
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.	226.4	191.8
242C Las Vegas	KKLZ	LIC NV		316.0 134.3	378.29 BMLH20111201LCE	36 00 28.90 115 00 22.90	100.000 358	178.9 1056	76.6 Beasley Media Group Licens	192.6	278.3
244B Nogales	XHNGSFM	USE SO		156.7 337.3	273.48	31 19 49.36 110 56 44.31	50.000 150	7.7 1424	65.0 264.9		208.5

CH CI TY	CALL	TYPE STATE	ANT	AZI <--	DI ST FI LE #	LAT LNG	PWR(kW) HAAT (M)	INT(km) COR (M)	PRO(km) LI CENSEE	Page # 2 *IN* (Overl ap in km)	*OUT*
244B Nogal es	XHNGSFM	LIC D SO		157.0 337.6	274.05	31 19 10.40 110 57 38.30	38.400 37	5.4 1323	65.0	267.8	209.0
239A Sasabe	AL0031	VAC SO		167.6 347.9	245.38	31 26 13.33 111 31 57.38	3.000 100	2.0 1168	24.0	242.4	221.4
239B Santa Cruz	AL9402	VAC SO		151.6 332.4	297.19	31 13 58.38 110 36 07.28	50.000 150	5.0 1651	65.0	291.4	232.2
243A Cd. Morel os	R17741	VAC BN		248.2 66.7	278.56	32 38 00.19 114 50 56.87	3.000 100	35.8 142	24.0	238.0	249.3
245A Al godones	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	259.2	242.3
243A Laguni tas	AL1171	VAC BN		246.4 64.8	289.62	32 31 05.19 114 55 00.88	3.000 100	36.0 127	24.0	249.0	260.5
242A Cal i patria	KSSB	LIC CA		261.5 79.7	323.23 BLH20140623AAK	33 07 13.10 115 30 46.00	6.000 25	68.3 -16	15.8 Lazer Li censes, LLC	249.4	291.6
239A Nogal es	R17224	VAC SO		156.8 337.4	274.65	31 19 07.36 110 56 47.30	3.000 100	2.9 1383	24.0	270.9	250.6
242A Caborca	AL0480	VAC SO		181.2 1.2	322.14	30 41 50.38 112 09 31.41	3.000 100	67.0 400	24.0	253.7	292.8
242AA Santa Ana	R17224	VAC SO		164.7 345.2	351.56	30 32 23.42 111 07 12.28	6.000 100	89.1 836	28.0	261.5	319.5
241C1 Wi ndow Rock	KWRK	LIC AZ		50.4 232.1	349.54 BLH19960911KD	35 33 36.10 109 06 32.30	100.000 178	80.2 2321	50.8 The Navajo Nation	266.2	291.6
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	318.8	298.1
241L1 Bi sbee	KBRP-LP	LIC AZ		139.0 320.2	314.00 BLL20070615ACC	31 26 31.30 109 54 52.20	0.005 137		309.6 Bi sbee Radio Project, Inc		310.6
243A Doug l as	KDAP-FM	LIC AZ		135.6 317.0	344.08 BLH19901121KB	31 21 18.30 109 33 08.20	3.000 9	25.8 1271	17.5 Donna Henderson, Personal	317.6	325.6
241A Nacozari De Garcia	AL0055	VAC SO		189.2 8.9	362.58	30 22 25.40 112 41 32.43	3.000 100	43.3 214	24.0	317.6	336.8
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	372.6	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(FM) or K241CS since the worst case 125.7 dbu contour will not cover any population. Also, since the only material change being proposed by K243BN with this application is a large reduction of ERP from 250 watts to 3 watts. Hence any currently licensed interference contours will only be reduced dramatically to KMXP and K241CS. See the Technical Statement for more details.

K243BN

BLFT20170721ABB

Latitude: 33-35-39.2 N

Longitude: 112-05-10.5 W

ERP: 0.003 kW

Channel: 243

Frequency: 96.5 MHz

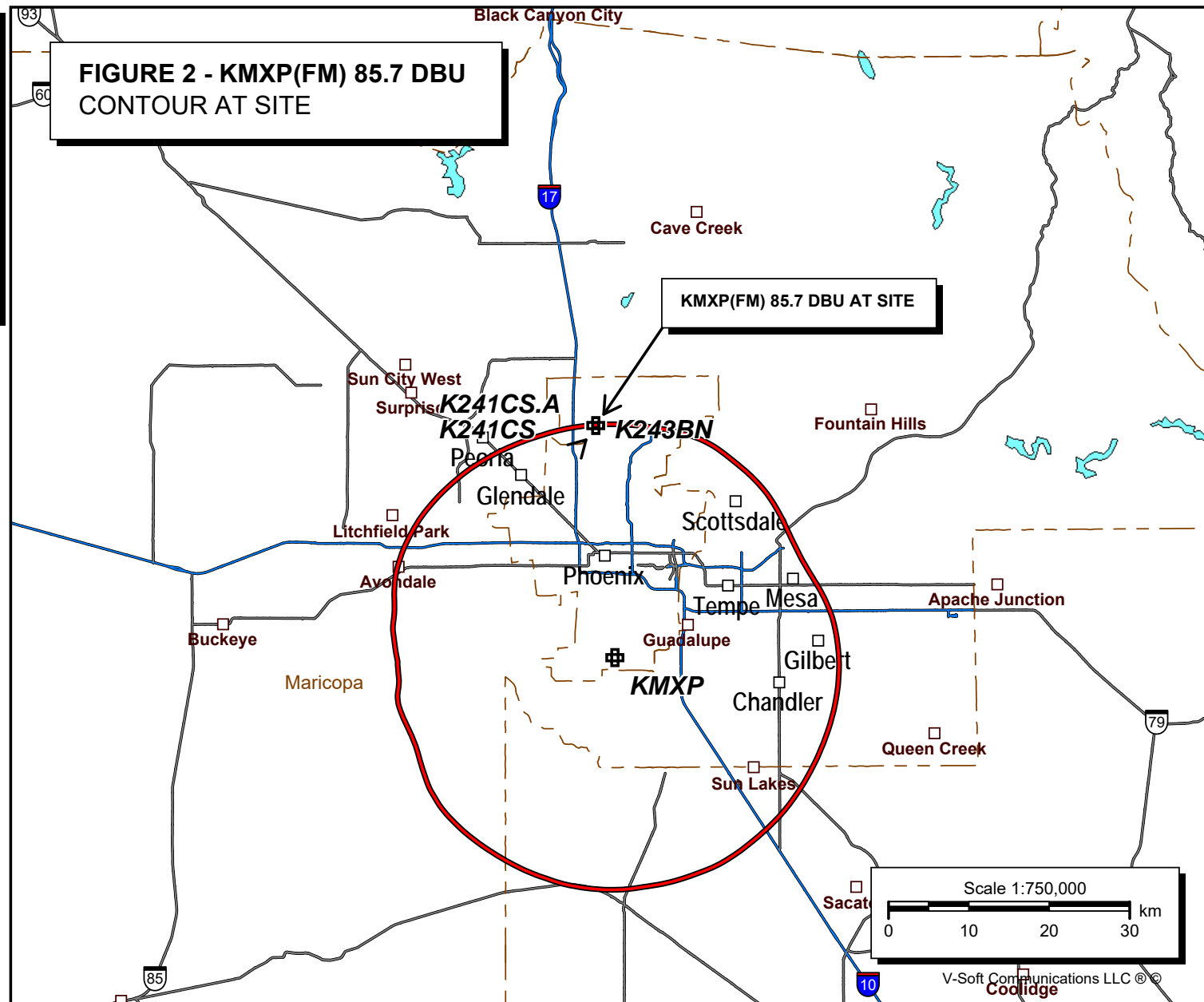
AMSL Height: 662.0 m

Elevation: 645.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model:

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

K243BN

BLFT20170721ABB

Latitude: 33-35-39.20 N

Longitude: 112-05-10.5 W

ERP: 0.003 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**

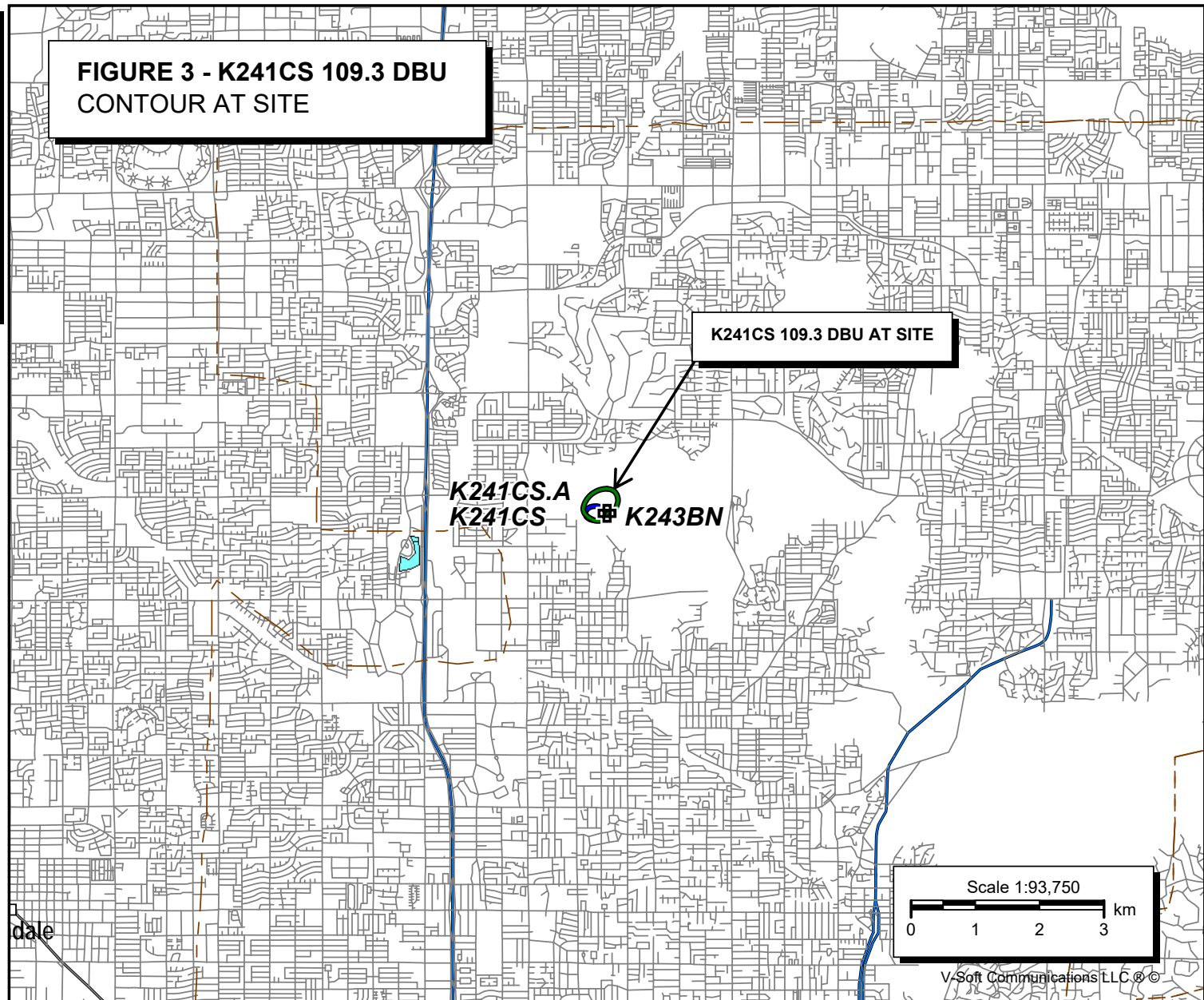


Figure 4 - Predicted 125.7 Interference Contour
K243BN Laveen, AZ, CH. 243D

Coverage Study - NGDC 30 SEC
10-30-2020

K243BN CH242 D , 0.003 kW, 0.0m HAAT, 669.0m COR AMSL
Interference Contour = 125.7 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 USGS 03 SEC Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.003 kW, Channel: 242
 Translator or LPFM Antenna Height AG = 24 meters
 K243BN Antenna Azimuth Model = Vertical Model Name = Nicom BLK-5

Protected Station's Contour = 85.73408 dBu
 Translator's or LPFM's full Interference contour 125.73408

Review Azimuth = 0 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.700
 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	0.7	0.0021	005.2530	005.2530	024.000
05.00	0.99	0.7	0.0021	005.2004	005.1807	023.547
10.00	0.979	0.7	0.0020	005.1437	005.0656	023.107
15.00	0.953	0.7	0.0019	005.0035	004.8330	022.705
20.00	0.92	0.7	0.0018	004.8327	004.5413	022.347
25.00	0.877	0.7	0.0016	004.6053	004.1738	022.054
30.00	0.829	0.7	0.0014	004.3558	003.7722	021.822
35.00	0.772	0.7	0.0013	004.0537	003.3206	021.675
40.00	0.715	0.7	0.0011	003.7559	002.8772	021.586
45.00	0.647	0.7	0.0009	003.3971	002.4021	021.598
50.00	0.57	0.7	0.0007	002.9942	001.9246	021.706
55.00	0.487	0.7	0.0005	002.5566	001.4664	021.906
60.00	0.388	0.7	0.0003	002.0397	001.0199	022.234
65.00	0.292	0.7	0.0002	001.5323	000.6476	022.611
70.00	0.187	0.7	0.0001	000.9807	000.3354	023.078
75.00	0.095	0.7	0.0000	000.4990	000.1292	023.518
80.00	0.045	0.7	0.0000	000.2364	000.0410	023.767
85.00	0.032	0.7	0.0000	000.1665	000.0145	023.834
90.00	0.03	0.7	0.0000	000.1576	000.0000	023.842

FIGURE 6 - Directional Antenna Data
K243BN

10-30-2020

RMS(V) = .483

Graph is Relative Field

Azi	Field	dBk	kW
000	0.700	-28.327	0.001
010	0.550	-30.422	0.001
020	0.410	-32.973	0.001
030	0.320	-35.126	0.000
040	0.250	-37.270	0.000
050	0.200	-39.208	0.000
060	0.150	-41.707	0.000
070	0.110	-44.401	0.000
080	0.100	-45.229	0.000
090	0.080	-47.167	0.000
100	0.060	-49.666	0.000
110	0.050	-51.249	0.000
120	0.040	-53.188	0.000
130	0.040	-53.188	0.000
140	0.030	-55.686	0.000
150	0.040	-53.188	0.000
160	0.040	-53.188	0.000
170	0.050	-51.249	0.000
180	0.060	-49.666	0.000
190	0.080	-47.167	0.000
200	0.100	-45.229	0.000
210	0.110	-44.401	0.000
220	0.150	-41.707	0.000
230	0.200	-39.208	0.000
240	0.250	-37.270	0.000
250	0.320	-35.126	0.000
260	0.410	-32.973	0.001
270	0.550	-30.422	0.001
280	0.700	-28.327	0.001
290	0.830	-26.847	0.002
300	0.920	-25.953	0.003
310	0.980	-25.404	0.003
320	1.000	-25.229	0.003
330	0.980	-25.404	0.003
340	0.920	-25.953	0.003
350	0.830	-26.847	0.002

Nicom BLK-5

Oriented at
320 degrees

