

TECHNICAL STATEMENT
K282BU COLORADO SPRINGS, COLORADO
MOUNTAIN COMMUNITY TRANSLATORS, LLC
FCC FORM 349
JUNE 2019

This Technical Statement is made in support of a minor modification of FM translator station, K282BU at Colorado Springs, Colorado, facility ID 151241.

K282BU seeks to remain at its current transmitter site with the current antenna heights and remain a fill-in translator for KFCS(AM) Colorado Springs, Colorado, facility ID 51816. K282BU seeks to change channels of operation from 282D to 276D. This non-adjacent channel change is allowed pursuant to FCC 17-14 MB Docket No. 13-249, footnote 22. K282BU was a translator authorized under the 250 mile AM translator window. A change in the directional antenna utilized by K282BU as well as an increase in Effective Radiated Power to 250 watts (0.25 kw) is proposed. The following will show that the new proposed operation of K282BU will meet all of the Commissions technical requirements for an FM translator station.

The proposed operation of K282BU specifies a maximum Effective Radiated Power of 0.25 kilowatts. It will operate with a directional antenna with an "off the shelf" type antenna, or a Scala CA-2-CP, dual polarized yagi type antenna. The antenna will be mounted on an existing tower with an overall height of 9 meters above the ground. The antenna will be mounted with a Center of Radiation of 9 meters above the ground, and 2170 meters Above Mean Sea Level. The coordinates of this tower are located at N 38° 48' 37", W 104° 52' 54". This antenna will replace the current Scala LOG antenna mounted on the tower at the same heights.

Figure 1 is a detailed interference study conducted on channel 282D with these new proposed facilities. It shows that the new operation of K282BU will not cause any interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 282, with the exception of 2nd adjacent channel station KBIQ, Manitou Spring, Colorado operating on channel 274C, facility ID 151241.

The proposed operation of K282BU on 276D is located within the protected 60 dB μ contour of 2nd adjacent channel of KBIQ on channel 274C. Figure 2 shows the predicted F(50-50) field strength of KBIQ at the proposed K282BU transmitter site is 106.9 dB μ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K282BU on channel 276D is an additional 40 dB μ or 146.9 dB μ .

Figure 4 is a vertical pattern interference study conducted with KBIQ(FM). It shows that the 146.9 dB μ interference contour will not extend beyond 1 meter from the transmit antenna. Hence with an antenna height of 9 meters above the ground, the proposed interference contour will not reach the ground at any point.

Figure 3 shows the coverage area for the 146.9 dB μ interference contour F(50-10) and shows that there is no population in the area of interference. The 146.9 dB μ interference contour would only extend 1 meter. 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. The site is a privately owned wooded 0.5 acre facility. The transmitter building is un-occupied and has no indoor plumbing. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with K282BU until such interference can be eliminated.

Figure 5 is the directional antenna data for the proposed BKG-1 antenna system.

The proposed operation of K282BU Colorado Springs will be considered a “Fill-In” operation for Class D AM, KFCS(AM) Colorado Springs, Colorado. KFCS(AM) operates with 10 kilowatt daytime with a non-direction antenna system on 1580 kHz. Figure 6 shows that the proposed 60 dB μ contour for the proposed K282BU will extend beyond the daytime 2.0 mV/m contour of KFCS. Since this is a “Fill-In” translator, the maximum ERP will not exceed the maximum permissible ERP of 250 watts in any azimuth.

It was found that the new proposed operation of K282BU Colorado Springs, Colorado on channel 276D, will satisfy all of the required commission rules and regulations for an FM translator station.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K282BU COLORADO SPRINGS, CO CH. 276D

REFERENCE
38 48 37.0 N.
104 52 54.0 W.

CH# 276D - 103.1 MHz, Pwr= 0.25 kW DA, HAAT= 0.0 M, COR= 2179 M
Average Protected F(50-50)= 7.09 km
Standard Directional

DISPLAY DATES
DATA 06-05-19
SEARCH 06-05-19

CH CITY	CALL	TYPE STATE	ANT AZI ---	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
274C	KBIQ	LIC _C_	166.0 346.0	7.43 BMLH20030423AAT	38 44 43.0 104 51 39.0	72.000 695	15.0 2946	98.7 Bison Media, Inc.	-15.7*	-91.5*
276L1	KEIM-LP	LIC _C_	5.9 186.0	27.71 BLL20161026ABC	39 03 31.0 104 50 54.1	0.100	2103	East Indian Music Academy	-19.4*	4.5
277C1	KIQN	LIC _CX	165.0 345.3	118.21 BLH20110418ABT	37 46 52.0 104 32 03.0	100.000 165	96.3 1958	65.7 Pueblo Broadcasting Group	4.0	30.8
276D	K276FK	LIC _C_	343.5 163.3	106.48 BLFT20130402ACK	39 43 45.0 105 14 08.0	0.250 226	73.0 2254	20.7 Entercom License, Lic	27.4	76.7
277D	KIQN-FM1	CP DC_	160.2 340.4	60.59 BNPFTB20160719ABL	38 17 48.0 104 38 47.0	0.930	9.9 1512	7.0 Pueblo Broadcasting Group	32.2	37.4
278C0	KRFK	LIC DCX	343.6 163.3	106.91 BLH20070927AIC	39 43 59.0 105 14 10.0	100.000 346	10.8 2256	69.0 Citicasters Licenses, Inc.	89.5	32.7
275D	K275CR	LIC _C_	248.4 67.7	106.53 BLFT20170915ABV	38 27 11.0 106 01 02.0	0.094	56.4 3583	37.1 Headwaters Media, Lic	46.8	64.8
276C3	AL3178	RSV-A _C_	285.9 104.7	175.20 RM9890	39 13 33.0 106 50 00.0	25.000 100	99.8 2951	22.7 Way Media, Inc.	71.8	128.6
276C3	KFWA	LIC _C_	26.9 207.5	179.33 BMLD20150915AGB	40 14 44.0 103 55 29.3	6.800 46	71.3 1403	16.3 Way Media, Inc.	92.8	134.8
222C3	KVRH-FM	LIC _CX	248.4 67.7	106.53 BLH20090917ABD	38 27 11.0 106 01 02.0	0.220 895	0.1 3578	5.4 Three Eagles Communication	11.5R	95.0M
222A	DKKHG	VAC _C_	72.2 252.9	109.61	39 06 20.0 103 40 30.0	6.000 100	0.1 1764	5.4 Kona Coast Radio, Lic	9.5R	100.1M
278C3	KPAU	RSV-A _C_	228.9 48.0	159.84	37 51 28.0 106 15 10.0	25.000 100	6.3 2599	55.6 Cochise Media Licenses Lic	150.5	104.1
274D	K274DF	LIC DC_	353.6 173.5	115.76 BLFT20180919ABM	39 50 47.0 105 01 59.0	0.250	0.0 1772	2.8 Pillar Of Fire	107.1	108.8
276A	KSPN-FM	LIC _C_	285.9 104.7	175.20 BMLH20010913AAJ	39 13 33.0 106 50 00.0	3.000 -26	53.3 2876	13.2 Alwaysmountaintime, Lic	118.4	142.1
223C1	KKSE-FM	LIC DEN	359.3 179.3	142.79 BLH20010501AAA	40 05 47.0 104 54 04.0	57.000 377	0.1 1895	5.4 Kse Radio Ventures, Lic	21.5R	121.3M
223C1	KKSE-FM	CP ZCY	359.3 179.3	142.80 BPH20180403AAC	40 05 47.4 104 54 04.0	94.200 307	0.1 1826	5.4 Kse Radio Ventures, Lic	21.5R	121.3M
275C1	KARS-FM	LIC _C_	343.4 162.9	239.80 BLH20051031AB0	40 52 37.0 105 41 44.0	100.000 248	100.0 2999	64.6 The Fort Collins/Lafayette	133.2	164.9
273C2	KQSE	LIC _C_	302.6 121.4	194.94 BLH20110506AAP	39 44 18.0 106 47 58.0	1.350 660	2.5 3161	52.6 Alwaysmountaintime, Lic	189.0	139.9
278A	KPAU	LIC _HX	223.8 43.0	156.31 BLH20090507AB0	37 47 20.0 106 06 43.0	0.460 8	1.5 2332	8.3 Cochise Media Licenses Lic	150.7	147.9
275D	KARS-FM1	LIC DC_	354.7 174.5	236.20 BLFTB20070718AEG	40 55 41.0 105 08 36.0	17.000 140	78.3 2100	53.7 The Fort Collins/Lafayette	148.8	180.5
273C2	KTRR	LIC NCX	1.5 181.6	203.43 BLH20051107AEI	40 38 31.0 104 49 03.0	17.000 234	5.8 1793	53.4 Townsquare Media Of Ft. Co	187.2	149.8
279A	KAKR	LIC _C_	42.1 223.2	202.41 BLH20190424AAP	40 08 56.0 103 17 04.0	1.000 104	1.6 1501	17.9 Northeast Colorado Broadca	182.6	183.5
223C1	KCRT-FM	LIC _CY	169.8 350.1	204.93 BMLH19990301KC	36 59 33.0 104 28 24.0	50.000 311	0.1 2625	5.4 Phillips Broadcasting, Inc	21.5R	183.4M
279C1	KLNN	LIC _HX	195.6 15.2	248.05 BLH20100713AAS	36 39 23.0 105 37 57.0	51.000 -64	5.4 2452	50.4 West Waves, Inc.	231.5	196.6
279C2	KSNM	LIC _CX	259.9 78.2	247.85 BLH20030521ABD	38 23 15.0 107 40 31.0	4.100 480	3.8 2860	46.0 Ccr-montrose Iv, Lic	240.6	198.8

CH CITY	CALL	TYPE STATE	ANT	AZI ---	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	Page # 2 *IN* (Overlap in km)	*OUT*
277C3 Yampa	KYVY	CP NCN CO		313.3 131.9	243.99 BNPH20151013AGJ	40 17 42.1 106 58 28.8	8.500 170	25.7 2536	17.3 Educational Media Foundati	215.0	202.5
277C2 Warren Afb	KRAN	LIC_ZCX WY		2.9 183.0	261.19 BLH20090624AEP	41 09 34.0 104 43 19.0	37.000 78	47.1 1912	29.3 Frei s land Broadcasting Cor	203.4	223.6
275C3 Battlement Mesa	DKJXR	VAC____ CO		285.8 103.8	275.87	39 26 33.0 107 58 01.0	25.000 100	35.6 2314	22.7 Cochi se Media Li censes LI c	236.7	219.2
273C1 Goodland	KKCI	LIC_C_ KS		76.3 258.4	294.48 BLH20000425AAL	39 23 24.0 101 33 35.0	100.000 216	8.1 1296	63.4 Mel ia Communi cations, Inc	263.3	229.9
277C2 Del ta	KPRU	LIC_C_ CO		272.5 90.4	290.40 BLED20010411AAF	38 52 40.0 108 13 32.0	12.000 301	28.2 2316	19.0 Publ ic Broadcasing Of Col	258.7	235.5
275C1 Imperial	KADL	CP_CX NE		54.6 236.7	335.97 BPH20160628AAI	40 30 46.0 101 38 42.0	100.000 62	70.8 1060	40.9 Armada Media - Mccook, Inc	244.7	267.6
275C0 Kirtland	KAZX	LIC_CX NM		230.9 49.1	345.47 BLH20060309ABN	36 48 52.0 107 53 32.0	100.000 303	90.3 2129	60.3 Capstar Tx, LI c	252.3	282.1
279D Taos	KLNN-FM1	CP_C_ NM		193.7 13.3	268.48 BPFTB20161007AAD	36 27 30.0 105 35 36.0	0.160	0.9 2204	6.3 West Waves, Inc.	255.9	262.1
279D Taos	KLNN-FM1	LIC_C_ NM		193.9 13.5	273.33 BLFTB20081017AHB	36 25 05.0 105 37 03.0	0.375	1.4 2145	7.9 West Waves, Inc.	260.4	265.5
222C3 Hill sdale	KY0Y	LIC_NCX WY		7.4 187.6	273.08 BLH20111005AJF	41 14 55.0 104 27 46.0	12.000 44	0.1 1772	5.4 Proshop Radio Broadcasting	11.5R	261.6M
273C3 Loma	KCDC	CP_CX CO		276.1 93.7	336.10 BPH20160906ADA	39 04 01.0 108 44 39.0	1.650 383	2.7 2175	51.7 Cochi se Media Li censes LI c	329.8	283.3
222A Holyoke	KSTH	LIC_CX CO		47.3 228.9	294.80 BLH20050713AAW	40 34 49.0 102 19 11.0	1.000 64	0.1 1217	5.4 Armada Media - Mccook, Inc	9.5R	285.3M
273A Loma	KCDC	LIC_CX CO		276.1 93.7	336.10 BLH20110427AAT	39 04 01.0 108 44 39.0	0.400 383	1.4 2175	38.3 Cochi se Media Li censes LI c	331.1	296.7
275A Imperial	KADL	LIC_CX NE		54.6 236.7	336.01 BLH20040518ABF	40 30 45.0 101 38 39.0	0.300 68	15.5 1067	10.9 Armada Media - Mccook, Inc	300.1	299.0
222C Grand Junction	KMOZ-FM	LIC_CN CO		276.1 93.7	336.14 BLH19891219KD	39 04 00.0 108 44 41.0	100.000 420	0.1 2213	5.4 Mbc Grand Broadcasting, In	28.5R	307.6M
275C3 Pecos	KJFA-FM	LIC_NHX NM		189.8 9.4	355.58 BLH20020722AAD	35 39 06.0 105 33 15.0	3.700 209	20.7 2847	13.9 Agm Nevada, LI c	322.1	333.1
278C2 Dove Creek	KDVK	CP_CN CO		246.2 63.7	376.41 BPH20160926ABF	37 22 44.0 108 46 18.0	12.000 307	5.1 2231	49.5 Cochi se Media Li censes LI c	368.0	325.8
275D Santa Fe	KJFA-FM3	LIC_DV_ NM		196.0 15.3	359.81 BLFTB20100120ACH	35 41 20.0 105 58 42.0	2.400	3.8 2145	3.1 Agm Nevada, LI c	344.8	353.9
223C1 Farmington	KRWN	LIC_NC_ NM		232.4 50.3	376.54 BLH20140528AET	36 41 45.0 108 13 23.0	63.000 116	0.1 1824	5.4 Winton Road Broadcasting C	21.5R	355.0M
278A Dove Creek	KDVK	LIC_CX CO		253.2 70.7	372.56 BLH20160923AAZ	37 46 22.0 108 55 54.0	0.100 2	0.7 2094	5.6 Cochi se Media Li censes LI c	368.5	366.7

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. « = Station meets FCC minimum distance spacing for its class.

* There will be no actual interference caused to second adjacent channel station KBIQ(FM) Channel 274C since the worst case 146.9 DBU interference contour will not cover any population. See the Technical Statement for more details.

K282BU

BLFT20170928ACR

Latitude: 38-48-37 N

Longitude: 104-52-54 W

ERP: 0.25 kW

Channel: 276

Frequency: 103.1 MHz

AMSL Height: 2179.0 m

Elevation: 2170.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model:

KBIQ

BMLH20030423AAT

Latitude: 38-44-43 N

Longitude: 104-51-39 W

ERP: 72.00 kW

Channel: 274

Frequency: 102.7 MHz

AMSL Height: 2946.0 m

Elevation: 2868.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model:

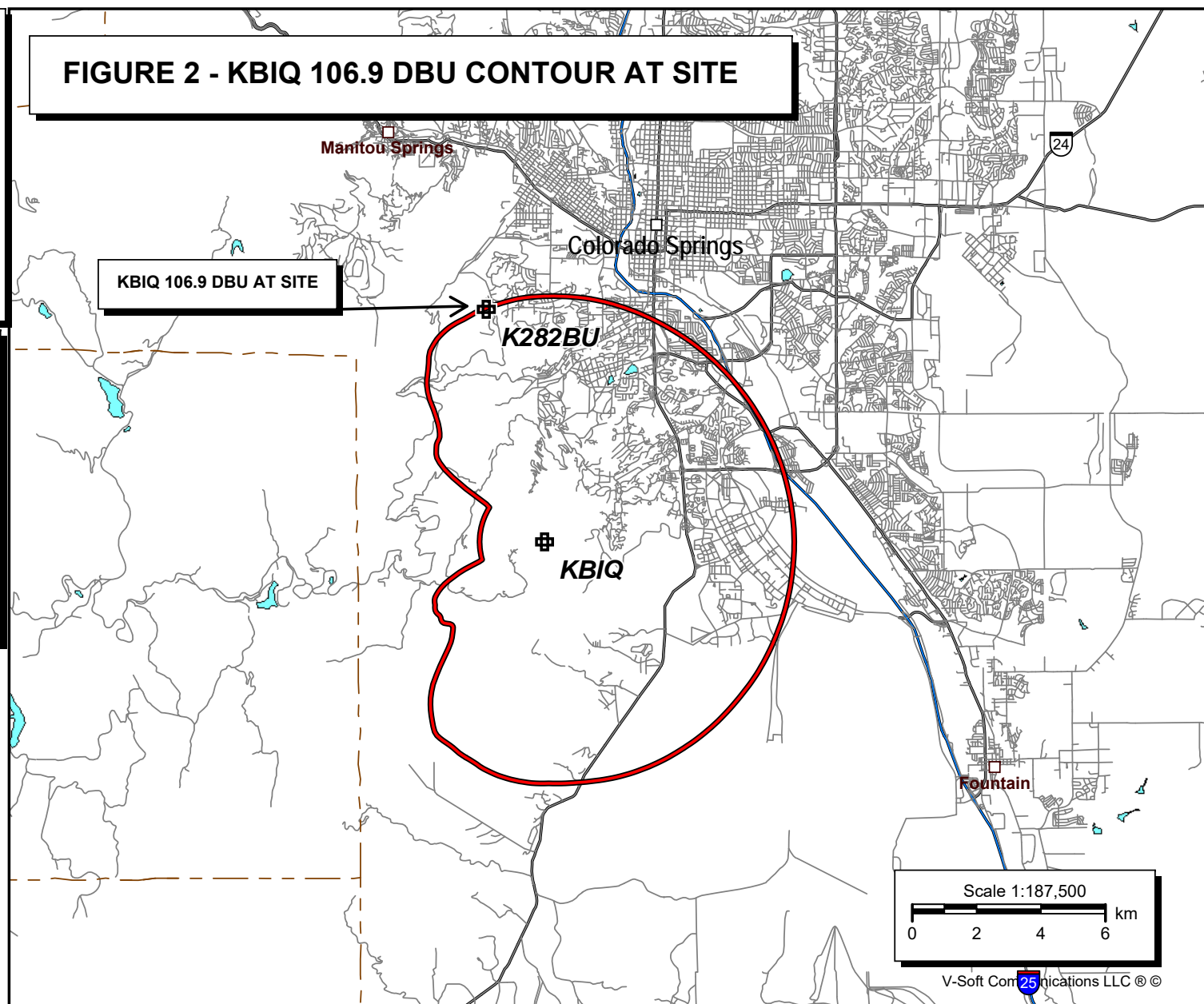
FIGURE 2 - KBIQ 106.9 DBU CONTOUR AT SITE

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY
K282BU COLORADO SPRINGS, CO CH. 276D

Coverage Study - NGDC 30 SEC
06-05-2019

K282BU CH276 D , 0.25 kW, 0.0m HAAT, 2179.0m COR AMSL
Interference Contour = 146.9 dBu. Population = 0

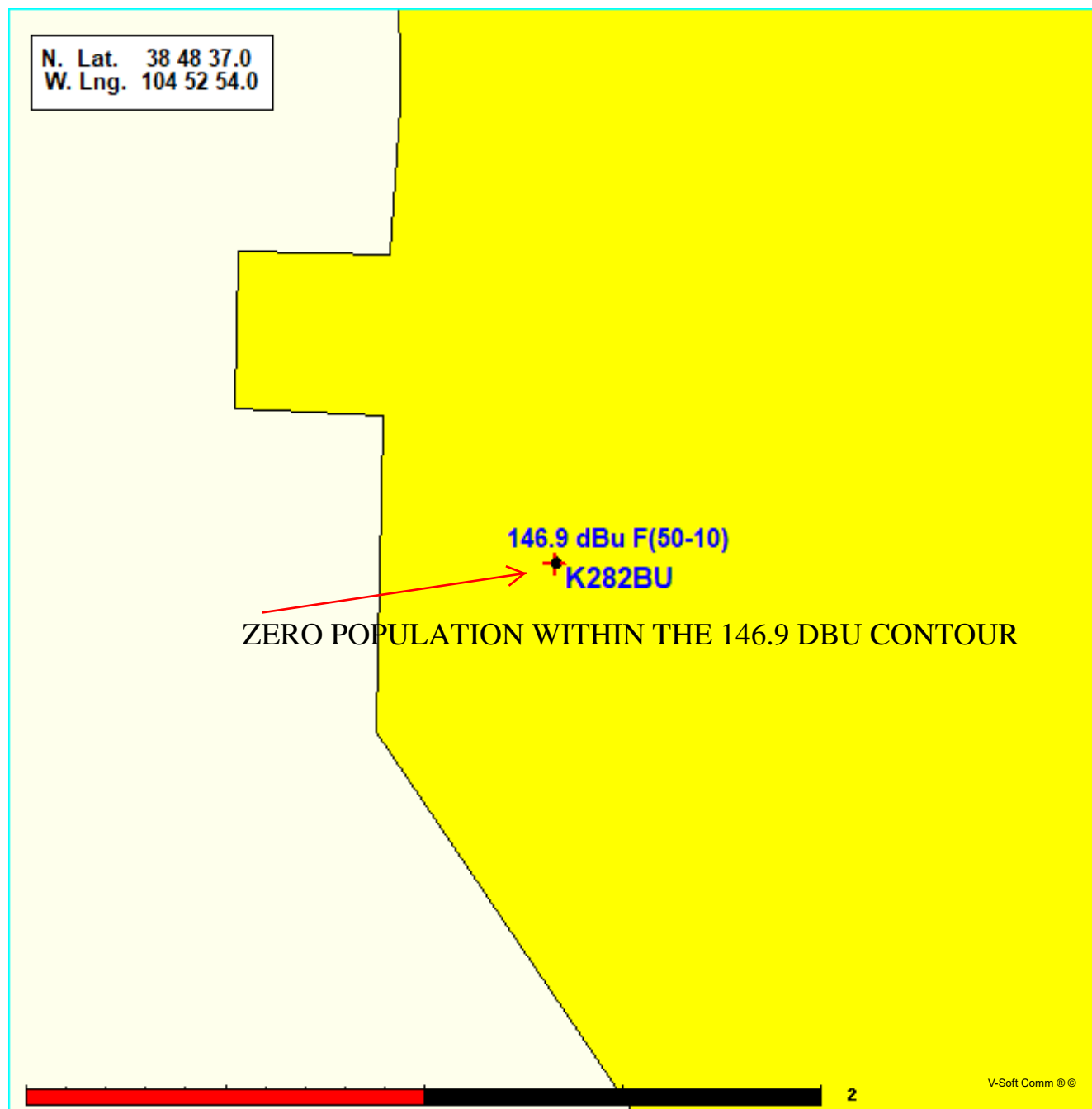


FIGURE 4 - VERTICAL PATTERN STUDY - K282BU ON CH. 276D

XField.out

K282BU Colorado Springs, CO, Showing Protection to KBIQ

Geographic Coordinates: N. 38 48 37.00 W. 104 52 54.00

74.1204(d) Study - Using NGDC 30 SEC Terrain Database

Translator or LPFM Maximum Licensed ERP = 0.25

Translator or LPFM Antenna Height AG = 9 Meters

K282BU Antenna Model = CA2-FM-CP_0098-MHz_Cpol

Protected Station's Contour = 106.9309 dBu

Translator's or LPFM's full Interference contour 146.9309

Review Azimuth = 0 Degrees True

Horizontal Relative Field at Review Azimuth = 0.032

Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW

Distance between stations = 7.4 km

Protected Station= KBIQ, 72 kW, 2946 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	0.03	0.0080	000.8933	000.8933	009.000
05.00	0.99	0.03	0.0078	000.8844	000.8810	008.923
10.00	0.979	0.03	0.0077	000.8747	000.8614	008.848
15.00	0.953	0.03	0.0073	000.8509	000.8219	008.780
20.00	0.92	0.03	0.0068	000.8218	000.7723	008.719
25.00	0.877	0.03	0.0061	000.7832	000.7098	008.669
30.00	0.829	0.03	0.0055	000.7407	000.6415	008.630
35.00	0.772	0.03	0.0048	000.6894	000.5647	008.605
40.00	0.715	0.03	0.0041	000.6387	000.4893	008.589
45.00	0.647	0.03	0.0033	000.5777	000.4085	008.592
50.00	0.57	0.03	0.0026	000.5092	000.3273	008.610
55.00	0.487	0.03	0.0019	000.4348	000.2494	008.644
60.00	0.388	0.03	0.0012	000.3469	000.1734	008.700
65.00	0.292	0.03	0.0007	000.2606	000.1101	008.764
70.00	0.187	0.03	0.0003	000.1668	000.0570	008.843
75.00	0.095	0.03	0.0001	000.0849	000.0220	008.918
80.00	0.045	0.03	0.0000	000.0402	000.0070	008.960
85.00	0.032	0.03	0.0000	000.0283	000.0025	008.972
90.00	0.03	0.03	0.0000	000.0268	000.0000	008.973

X-Field™ By V-Soft Communications®LLC

FIGURE 5 - DIRECTIONAL ANTENNA DATA

K282BU

06-05-2019

RMS(V) = .484

Graph is Relative Field

Azi	Field	dBk	kW
000	0.032	-35.918	0.000
010	0.030	-36.478	0.000
020	0.045	-32.956	0.001
030	0.187	-20.584	0.009
040	0.388	-14.244	0.038
050	0.570	-10.903	0.081
060	0.715	-08.934	0.128
070	0.829	-07.650	0.172
080	0.920	-06.745	0.212
090	0.979	-06.205	0.240
100	1.000	-06.021	0.250
110	0.979	-06.205	0.240
120	0.920	-06.745	0.212
130	0.829	-07.650	0.172
140	0.715	-08.934	0.128
150	0.570	-10.903	0.081
160	0.388	-14.244	0.038
170	0.187	-20.584	0.009
180	0.045	-32.956	0.001
190	0.030	-36.478	0.000
200	0.032	-35.918	0.000
210	0.037	-34.657	0.000
220	0.046	-32.765	0.001
230	0.065	-29.762	0.001
240	0.142	-22.975	0.005
250	0.202	-19.914	0.010
260	0.234	-18.636	0.014
270	0.250	-18.062	0.016
280	0.260	-17.721	0.017
290	0.250	-18.062	0.016
300	0.234	-18.636	0.014
310	0.202	-19.914	0.010
320	0.142	-22.975	0.005
330	0.065	-29.762	0.001
340	0.046	-32.765	0.001
350	0.037	-34.657	0.000

SCALA CA-2-CP

Oriented at 100

degrees

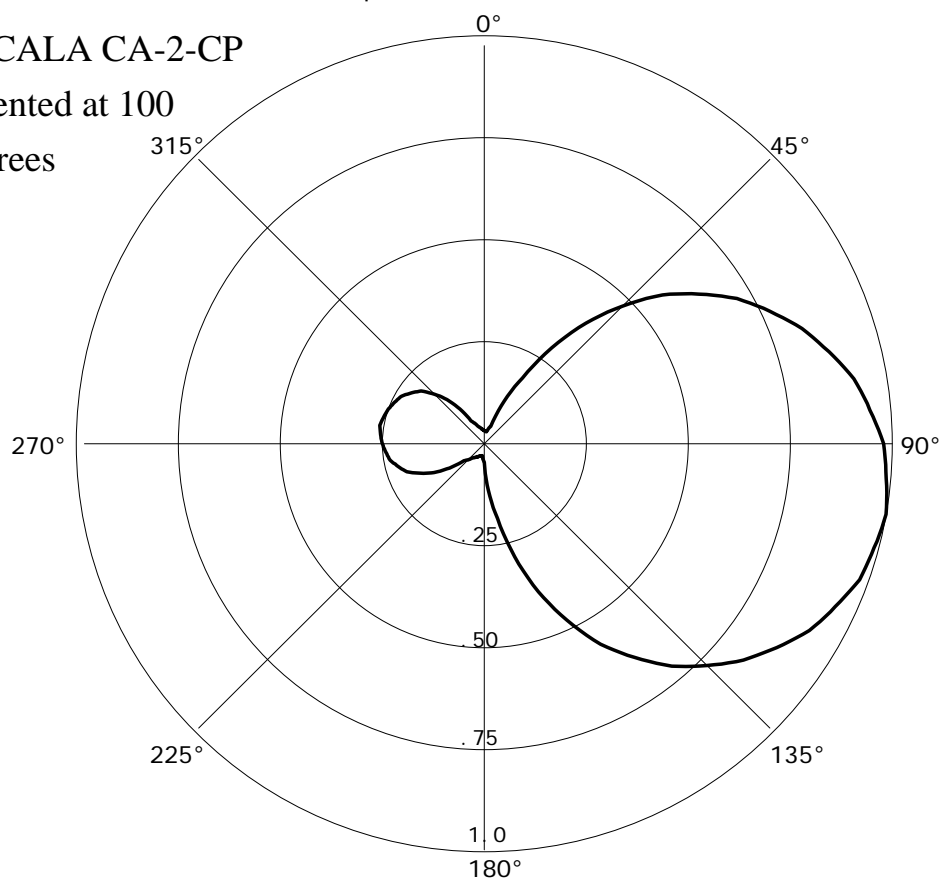


FIGURE 6 - FILL-IN MAP WITH KFCS(AM) COLORADO SPRINGS
K282BU COLORADO SPRINGS, CO CH. 276D

Coverage Study - NGDC 30 SEC
06-05-2019

K282BU CH276 D , 0.25 kW, 0.0m HAAT, 2179.0m COR AMSL
Service Contour = 60 dBu. Population = 340,507

