

TECHNICAL STATEMENT  
K276GG COLORADO SPRINGS, COLORADO  
MOUNTAIN COMMUNITY TRANSLATORS, LLC  
MINOR CHANGE APPLICATION  
MARCH 2020

This Technical Statement is made in support of a minor modification of FM translator station, K276GG at Colorado Springs, Colorado, facility ID 151241.

K276GG 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. A change to a non-directional antenna utilized by K276GG is proposed. The following will show that the new proposed operation of K276GG will meet all of the Commissions technical requirements for an FM translator station.

The proposed operation of K276GG specifies a maximum Effective Radiated Power of 0.25 kilowatts. It will operate with a non-directional antenna with an “off the shelf” type antenna, or a Nicom BKG77/1L, one bay 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 CA-2-CP antenna mounted on the tower at the same heights.

Figure 1 is a detailed interference study conducted on channel 276D with these new proposed facilities. It shows that the new operation of K276GG 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. There is also an apparent overlap with KEIM-LP Monument, Colorado, facility ID 196974 on channel 276D. However, KEIM-LP has now been silent for one year, thus it's authorization should be cancelled. KEIM-LP had filed an STA to be silent, BLSTA-20190311ABC, claiming it went silent on 3/5/2019. This silent authority expired on October 12<sup>th</sup>, 2019 with no extension being filed. There is no resumption of service filed as on March 4<sup>th</sup>, 2020 for KEIM-LP. Thus this records should be able to be dismissed.

The proposed operation of K276GG on 276D is located within the protected 60 dBμ 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 K276GG transmitter site is 106.9 dBμ. Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K276GG on channel 276D is an additional 40 dBμ or 146.9 dBμ.

Figure 4 is a vertical pattern interference study conducted with KBIQ(FM). It shows that the 146.9 dBμ 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 dBμ interference contour F(50-10) and shows that there is no population in the area of interference. The 146.9 dBμ 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 K276GG until such interference can be eliminated.

The proposed operation of K276GG 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 5 shows that the proposed 60 dB $\mu$  contour for the proposed K276GG 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 K276GG 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

K276GG COLORADO SPRINGS, CO, CH. 276D

REFERENCE CH# 276D - 103.1 MHz, Pwr= 0.25 kW, HAAT= 0.0 M, COR= 2179 M  
 38 48 37.00 N. Average Protected F(50-50)= 7.09 km  
 104 52 55.90 W. Omni-directional

DISPLAY DATES  
 DATA 03-04-20  
 SEARCH 03-04-20

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*
274C Manitou Springs	KBIQ*	LIC ____ CO	166.0 346.0	7.43 BMLH20030423AAT	38 44 43.00 104 51 40.90	72.000 695	15.0 2946	98.7 Bison Media, Inc.	-15.9*	-92.3*
276D Colorado Springs	K276GG	LIC D____ CO	74.7 285.3	0.00 BLFT20190725ABB	38 48 37.00 104 52 55.90	0.250	2179	---Reference---		Mountain Community Transla
276L1 Monument	KEIM-LP**	LIC ____ CO	5.9 186.0	27.71 BLL20161026ABC	39 03 31.00 104 50 56.00	0.100 -187	2103	-29.9*		-45.3** East Indian Music Academy
277C1 Colorado City	KIQN	LIC ____ CO	165.1 345.3	118.21 BLH20110418ABT	37 46 52.00 104 32 04.90	100.000 165	96.0 1958	65.7 Pueblo Broadcasting Group	1.1	23.5
276D Denver	K276FK	LIC ____ CO	343.5 163.3	106.48 BLFT20130402ACK	39 43 44.90 105 14 09.90	0.250 226	72.6 2254	20.7 Entercom License, LLC	17.3	46.1
278C0 Denver	KRFX	LIC D____ CO	343.6 163.3	106.91 BLH20070927AIC	39 43 59.00 105 14 12.00	100.000 346	10.8 2256	69.0 Citicasters Licenses, Inc.	79.2	31.6
275D Salida & Buena Vist	K275CR	LIC ____ CO	248.4 67.7	106.53 BLFT20170915ABV	38 27 10.90 106 01 04.00	0.094	56.4 3583	37.1 Headwaters Media, LLC	43.1	59.1
276C3 Aspen	AL3178	RSV-A ____ CO	285.9 104.7	175.21 RM9890	39 13 32.95 106 50 02.15	25.000 100	99.8 2951	22.7 Way Media, Inc.	68.3	116.2
276C3 Weldona	KFWA	LIC ____ CO	26.9 207.5	179.33 BMLE20150915AGB	40 14 43.90 103 55 31.10	6.800 46	71.3 1403	16.3 Way Media, Inc.	86.6	98.1
222C3 Salida	KVRH-FM	LIC ____ CO	248.4 67.7	106.53 BLH20090917ABD	38 27 10.90 106 01 04.00	0.220 895	1.1 3578	9.5 Three Eagles Communication	11.5R	95.0M
274D Denver	K274DF	CP D____ CO	353.6 173.5	115.76 BPFT20190920AAX	39 50 47.00 105 02 00.90	0.250	0.2 1771	7.5 Pillar of Fire	97.0	106.4
274D Denver	K274DF	LIC D____ CO	353.6 173.5	115.76 BLFT20180919ABM	39 50 47.00 105 02 00.90	0.250	0.0 1772	2.8 Pillar of Fire	97.2	107.7
222A Hugo	DKKHG	VAC ____ CO	72.2 252.9	109.61	39 06 19.97 103 40 31.83	6.000 100	1.1 1764	9.5 Kona Coast Radio, LLC	9.5R	100.1M
278C3 Center	KPAU	RSV-A ____ CO	228.9 48.0	159.84	37 51 28.00 106 15 12.11	25.000 100	6.3 2599	55.6 Cochise Media Licenses LLC	146.4	103.1
276A Aspen	KSPN-FM	LIC ____ CO	285.9 104.7	175.21 BMLH20010913AAJ	39 13 32.90 106 50 02.10	3.000 -26	53.3 2876	13.2 Alwaysmountaintime, LLC	114.8	129.9
223C1 Broomfield	KKSE-FM	LIC D____ CO	359.3 179.3	142.79 BLH20010501AAA	40 05 46.90 104 54 05.90	57.000 377	1.1 1895	9.5 Kse Radio Ventures, LLC	21.5R	121.3M
223C1 Broomfield	KKSE-FM	CP Z____ CO	359.3 179.3	142.80 BPH20180403AAC	40 05 47.30 104 54 05.90	94.200 307	1.1 1826	9.5 Kse Radio Ventures, LLC	21.5R	121.3M
275C1 Laramie	KARS-FM	LIC ____ WY	343.4 162.9	239.79 BLH20051031ABO	40 52 36.90 105 41 45.90	100.000 248	99.6 2999	64.6 The Fort Collins/lafayette	123.3	154.4
275D Fort Collins	KARS-FM1	LIC D____ CO	354.7 174.5	236.19 BLFTB20070718AEG	40 55 40.90 105 08 37.90	17.000 140	78.6 2100	53.7 The Fort Collins/lafayette	138.8	166.9
273C2 Gypsum	KQSE	LIC ____ CO	302.6 121.4	194.94 BLH20110506AAP	39 44 17.90 106 48 00.10	1.350 660	2.5 3161	52.6 Alwaysmountaintime, LLC	184.4	139.1
278A Center	KPAU	LIC ____ CO	223.8 43.0	156.32 BLH20090507ABO	37 47 20.00 106 06 45.10	0.460 8	1.5 2332	8.3 Cochise Media Licenses LLC	147.7	146.9
273C2 Loveland	KTRR	LIC N____ CO	1.5 181.6	203.43 BLH20051107AEI	40 38 30.90 104 49 04.90	17.000 234	5.8 1793	53.4 Townsquare Media Of Ft. Co	178.0	148.8
279A Akron	KAKR	LIC ____ CO	42.1 223.2	202.41 BLH20190424AAP	40 08 55.90 103 17 05.80	1.000 104	1.6 1501	17.9 Northeast Colorado Broadca	179.4	182.9
223C1 Trinidad	KCRT-FM	LIC ____ CO	169.8 350.1	204.92 BMLH19990301KC	36 59 33.10 104 28 26.00	50.000 311	1.1 2625	9.5 Phillips Broadcasting, Inc	21.5R	183.4M
277C2 warren Afb	KRAN	LIC Z____ WY	2.9 183.0	261.18 BLH20090624AEP	41 09 33.90 104 43 20.90	37.000 78	47.0 1912	29.3 Freisland Broadcasting Cor	194.4	199.4

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 in km)	*OUT*
279C1 Questa	KLNN	LIC NM		195.6 15.2	248.04 BLH20100713AAS	36 39 23.10 105 37 59.00	51.000 -64	5.4 2452	50.4 228.4 West Waves, Inc.	195.5	
279C2 Ridgway	KSNM	LIC CO		259.9 78.2	247.85 BLH20030521ABD	38 23 14.90 107 40 33.20	4.100 480	3.8 2860	46.0 237.0 Ccr-Montrose IV, LLC	198.0	
277C3 Yampa	KYVY	CP NM		313.3 131.9	244.00 BMPH20190828AAQ	40 17 42.00 106 58 31.00	2.200 197	17.9 2536	12.3 215.2 Educational Media Foundati	206.4	
275C3 Battlement Mesa	DKJXR	VAC CO		285.8 103.8	275.88	39 26 32.93 107 58 03.25	25.000 100	35.6 2314	22.7 233.2 Cochise Media Licenses Llc	214.0	
273C1 Goodland	KKCI	LIC KS		76.3 258.4	294.49 BLH20000425AAL	39 23 24.00 101 33 36.60	100.000 216	8.1 1296	63.4 262.8 Melia Communications, Inc	229.7	
277C2 Delta	KPRU	LIC CO		272.5 90.4	290.41 BLED20010411AAF	38 52 39.90 108 13 34.20	12.000 301	28.2 2316	19.0 255.1 Public Broadcasting Of Col	230.3	
275C1 Imperial	KADL	CP NE		54.6 236.7	335.98 BPH20160628AAI	40 30 46.00 101 38 43.60	100.000 62	70.8 1060	40.9 243.2 Armada Media - Mccook, Inc	261.6	
275C0 Kirtland	KAZX	LIC NM		230.9 49.1	345.47 BLH20060309ABN	36 48 52.00 107 53 34.20	100.000 303	90.1 2129	60.3 248.2 Capstar TX, LLC	274.5	
279D Taos	KLNN-FM1	LIC NM		193.9 13.5	273.33 BLFTB20081017AHB	36 25 05.10 105 37 05.00	0.375 2145	1.4 2145	7.9 257.2 West Waves, Inc.	264.4	
222C3 Hillsdale	KYOY	LIC NM		7.4 187.6	273.08 BLH20111005AJF	41 14 54.90 104 27 47.80	12.000 44	1.1 1772	9.5 11.5R Proshop Radio Broadcasting	261.6M	
222A Holyoke	KSTH	LIC CO		47.3 228.9	294.80 BLH20050713AAW	40 34 49.00 102 19 12.70	1.000 64	1.1 1217	9.5 9.5R Armada Media - Mccook, Inc	285.3M	
275A Imperial	KADL	LIC NE		54.6 236.7	336.02 BLH20040518ABF	40 30 45.00 101 38 40.60	0.300 68	15.5 1067	10.9 298.5 Armada Media - Mccook, Inc	292.6	
273C3 Loma	KCDC	LIC CO		276.1 93.7	336.11 BLH20190820AAU	39 04 00.90 108 44 41.40	0.435 383	1.5 2175	39.1 327.5 Cochise Media Licenses LLC	295.1	
222C Grand Junction	KMOZ-FM	LIC CO		276.1 93.7	336.15 BLH19891219KD	39 03 59.90 108 44 43.30	100.000 420	1.1 2213	9.5 28.5R Mbc Grand Broadcasting, In	307.7M	
275C3 Pecos	KJFA-FM	LIC NM		189.8 9.4	355.58 BLH20020722AAD	35 39 06.10 105 33 17.00	3.700 209	20.7 2847	13.9 318.9 Agm Nevada, LLC	324.9	
278C2 Dove Creek	KDVK	CP CO		246.2 63.8	376.42 BPH20160926ABF	37 22 44.00 108 46 20.40	12.000 307	5.1 2231	49.5 364.2 Cochise Media Licenses LLC	324.9	
275D Santa Fe	KJFA-FM3	LIC NM		196.0 15.3	359.81 BLFTB20100120ACH	35 41 20.10 105 58 44.10	2.400 2145	3.8 2145	3.1 341.7 Agm Nevada, LLC	345.6	
275D Santa Fe	KJFA-FM3	CP NM		196.1 15.4	361.20 0000087110	35 40 43.00 105 59 27.80	5.000 2128	3.2 2128	2.5 343.7 Agm Nevada, LLC	346.0	
223C1 Farmington	KRWN	LIC NM		232.4 50.3	376.55 BLH20140528AET	36 41 45.00 108 13 25.30	63.000 116	1.1 1824	9.5 21.5R winton Road Broadcasting C	355.1M	
278A Dove Creek	KDVK	LIC CO		253.2 70.7	372.57 BLH20160923AAZ	37 46 21.90 108 55 56.30	0.100 2	0.7 2094	5.6 364.8 Cochise Media Licenses LLC	365.8	

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.

\* No actual interference will be caused to KBIQ(FM)Manitou Springs, CO since the worse case 146.9 dbu interference contour of K276GG will not coverage any population. See the Technical Statement for more details.

\*\* KEIM-LP Monument, CO has been off the air for more than one year since being reported silent on 3/5/2019. Hence its license should be canceled. See the Technical Statement for more details.

**K276GG**

BLFT20190725ABB

Latitude: 38-48-37.03 N

Longitude: 104-52-53.99 W

ERP: 0.25 kW

Channel: 276

Frequency: 103.1 MHz

AMSL Height: 2179.0 m

Elevation: 2170.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

**KBIQ**

BMLH20030423AAT

Latitude: 38-44-43.03 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: None

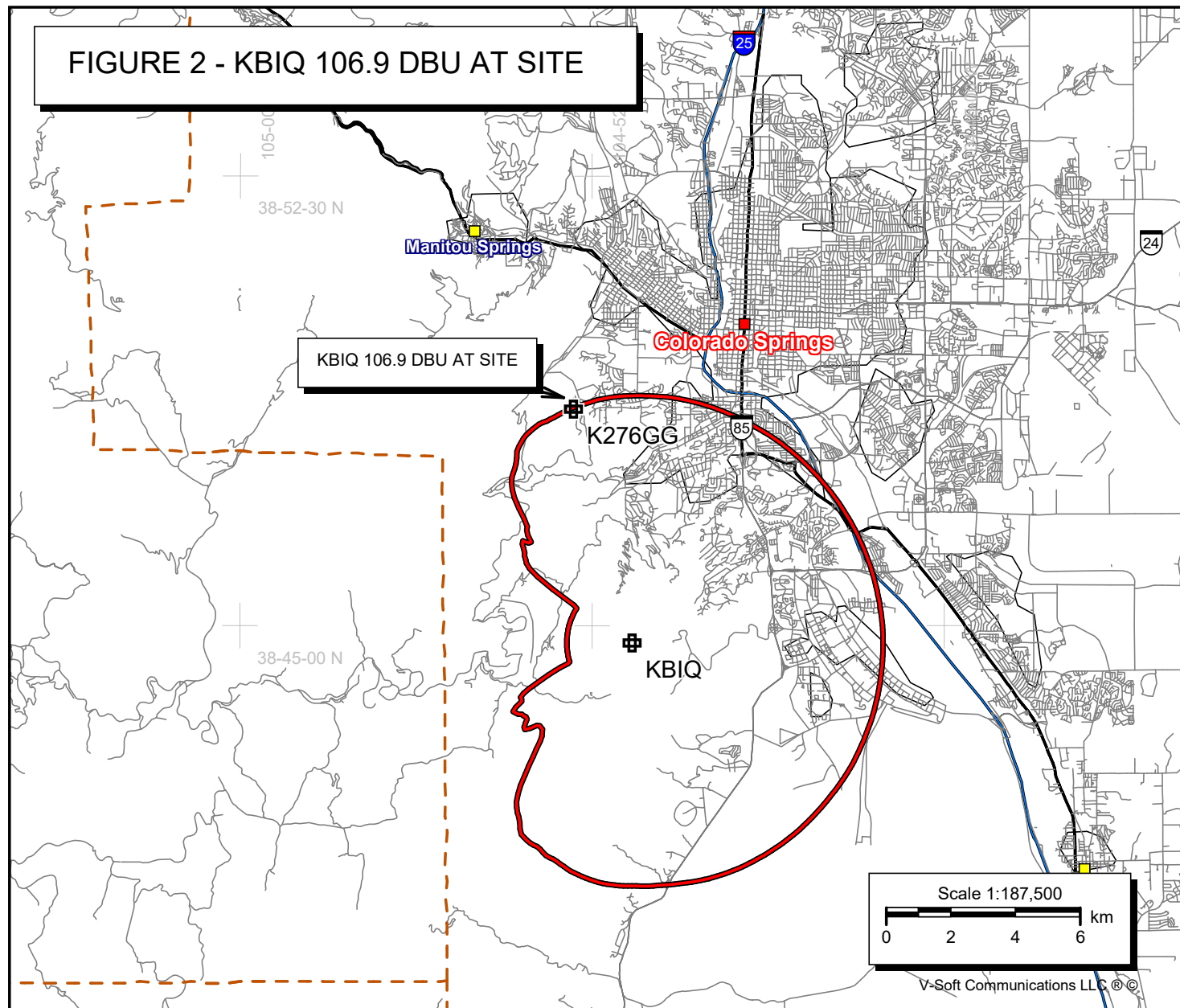
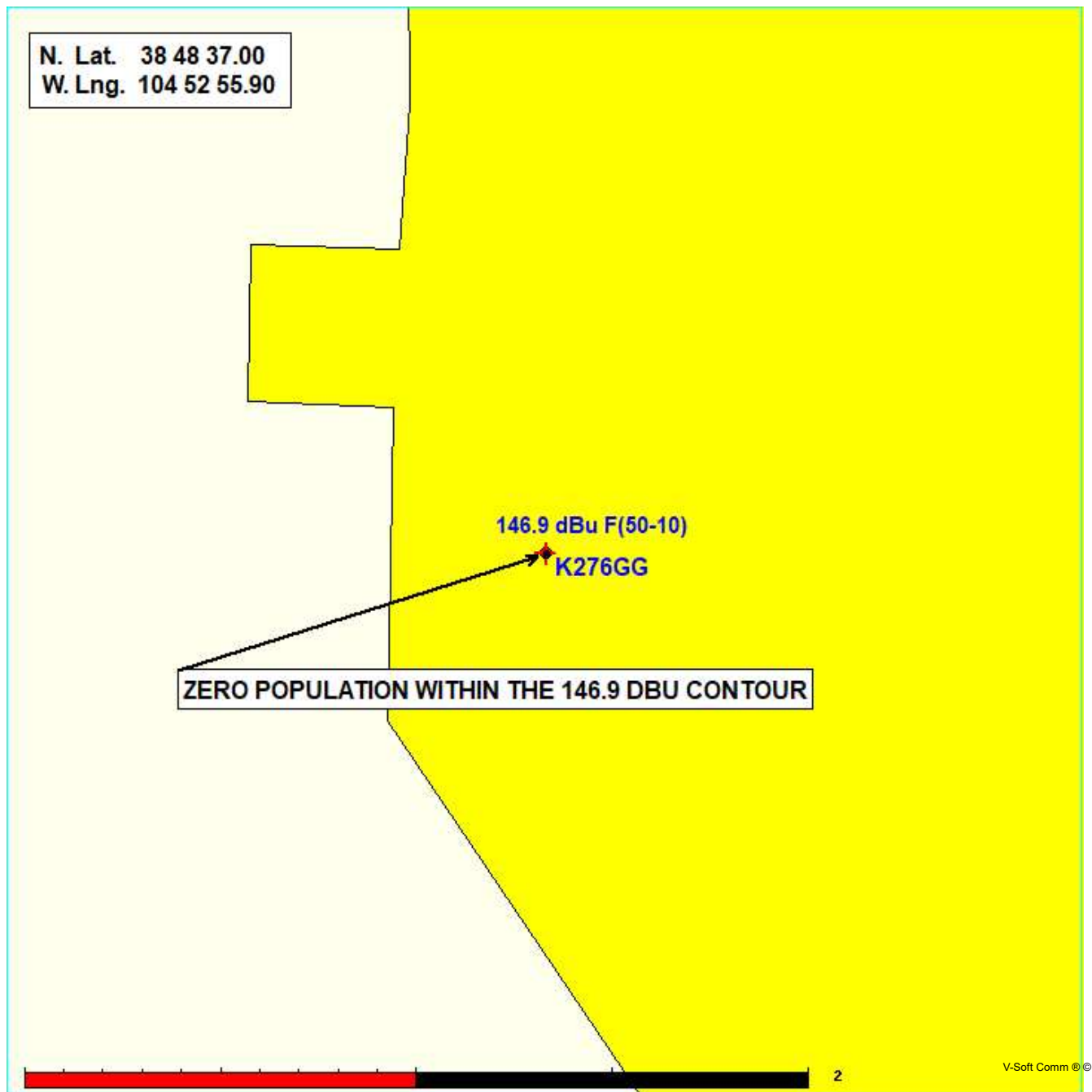
**FIGURE 2 - KBIQ 106.9 DBU AT SITE**

FIGURE 3 - PREDICTED 146.9 DBU INTERFERENCE CONTOUR  
K276GG COLORADO SPRINGS, CO, CH. 276D

Coverage Study - NGDC 30 SEC  
03-04-2020

K276GG CH276 D , 0.25 kW, 0.0m HAAT, 2179.0m COR AMSL  
Service Contour = 147 dBu. Population =



#### FIGURE 4 VERTICAL PATTERN STUDY

K276GG COLORADO SPRINGS, COLORADO, Showing Protection to KBIQ  
 Geographic Coordinates: N. 38 4 8 37.00 W. 104 5 2 55.90  
 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  
 K276GG Antenna Model = BKG77/1L

Protected Station's Contour = 106.9259 dBu  
 Translator's or LPFM's full Interference contour 146.9259

Review Azimuth = 0 Degrees True  
 Horizontal Relative Field at Review Azimuth = 1.000  
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 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	1.0	0.2500	004.9966	004.9966	009.000
05.00	0.993	1.0	0.2465	004.9616	004.9427	008.568
10.00	0.974	1.0	0.2372	004.8667	004.7928	008.155
15.00	0.941	1.0	0.2214	004.7018	004.5416	007.783
20.00	0.897	1.0	0.2012	004.4820	004.2117	007.467
25.00	0.843	1.0	0.1777	004.2121	003.8175	007.220
30.00	0.78	1.0	0.1521	003.8974	003.3752	007.051
35.00	0.709	1.0	0.1257	003.5426	002.9019	006.968
40.00	0.633	1.0	0.1002	003.1629	002.4229	006.967
45.00	0.554	1.0	0.0767	002.7681	001.9574	007.043
50.00	0.473	1.0	0.0559	002.3634	001.5192	007.190
55.00	0.394	1.0	0.0388	001.9687	001.1292	007.387
60.00	0.317	1.0	0.0251	001.5839	000.7920	007.628
65.00	0.245	1.0	0.0150	001.2242	000.5174	007.891
70.00	0.181	1.0	0.0082	000.9044	000.3093	008.150
75.00	0.124	1.0	0.0038	000.6196	000.1604	008.402
80.00	0.077	1.0	0.0015	000.3847	000.0668	008.621
85.00	0.041	1.0	0.0004	000.2049	000.0179	008.796

90.00

0.016

1.0

0.0001

000.0799

000.0000

008.920

X-Field™ By V-Soft Communications®LLC

FIGURE 5 - FILL-IN MAP WITH KFCS(AM) COLORADO SPRINGS  
K276GG COLORADO SPRINGS, CO, CH. 276D

Coverage Study - NGDC 30 SEC  
03-04-2020

K276GG CH276 D , 0.25 kW, 0.0m HAAT, 2179.0m COR AMSL  
Service Contour = 60 dBu. Population = 447,701

