

TECHNICAL STATEMENT  
MINOR CHANGE APPLICATION  
K206EO GRANITE, WYOMING  
MOUNTAIN COMMUNITY TRANSLATORS, LLC  
DECEMBER 2023

This Technical Statement is filed in support of a minor change application for K206EO Granite, Wyoming, facility ID 155323. K206EO is seeking to relocate to a new existing non-registered 12 meter overall tower site, decrease its Effective Radiated Power to 41 watts (0.041 KW), specify a directional antenna, and increase its Height Above Mean Sea Level to 2390 Meters. K206DB will be a non-fill-in” translator for KVAM(FM) Cheyenne, WY, Facility 86624.

Figure 1 is a detailed interference study for the proposed operation of K206EO on channel 206D. There will not be any prohibited outgoing interference to any same channel or pertinent adjacent channel stations, with the exception of third adjacent channel KXGR(FM) Loveland, Colorado, Facility ID 89401 operating on channel 209C0.

Figure 2 is a more detailed study against first adjacent channel KTDX(FM) Laramie, WY, facility ID 93647, Ch 207A.

Figure 3 shows that KXGR will place a 73 dB $\mu$  predicted contour over the proposed site for K206EO. Thus, the calculated interference contour for K206EO would be 113.0 dB $\mu$ .

Figure 4 shows the coverage area for the worse case 100 dB $\mu$  interference contour F(50-10) and shows that there is no population in the area of interference.

Figure 5 is a Vertical Pattern Study conducted against KXGR(FM). It also documents that the 113 dB $\mu$  will not extend beyond 72 meters from the base of the tower.

The applicant, Cedar Cove Broadcasting, Inc., 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 35 acre parcel with private access. The transmitter building is uninhabited and does not have indoor plumbing. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with K206EO until such interference can be eliminated.

Figure 6 shows that the present and proposed 60 dB $\mu$  showing the required overlap.

Figure 7 is the directional antenna data for the proposed operation of K206EO.

Figure 8 shows that the proposed operation of K206EO also meets all of the TERP regulations since it is proposing to operate with 41 watts ERP at no greater on any of its pertinent 12 radials, which is in compliance with 74.1235(b)(2).

The new proposed operation of K206EO Granite, Wyoming on channel 206D was found to meet all of the Commissions rules and regulations for an FM translator station.

Figure 1 - Detailed Channel Interference Study

K206EO Granite, WY, CH. 206D										
CH# 206D - 89.1 MHz, Pwr= 0.041 kW DA, HAAT= 162.6 M, COR= 2390 M										
Average Protected F(50-50)= 10.59 km										
Standard Directional										
DISPLAY DATES										
DATA 12-07-23										
SEARCH 12-13-23										
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)
209C0	KXGR	LIC _EN		191.9	52.24	40 37 02.90	80.000	11.7	83.6	-31.8*
Loveland		CO		11.8	BLED20081218AEY	105 19 41.90	372	2561	Calvary Chapel Aurora	
206D	K206EO	LIC _CN		80.1	14.92	41 06 02.00	0.092		---Reference---	
Granite		WY		260.3	0000116077	105 01 31.00		2106	Mountain Community Transla	
207A	KTDX	LIC _CN		320.8	33.50	41 18 38.90	0.450	38.0	23.5	0.2
Laramie		WY		140.6	BLED20081010BIM	105 27 13.90	347	2751	Educational Communications	
204A	KDNR	LIC DCN		80.1	14.92	41 06 02.00	2.500	1.6	12.7	1.9
South Greeley		WY		260.3	BLED20170926AFN	105 01 31.00	127	2153	western Inspirational Broa	
203A	KUWY	LIC _CN		320.5	33.50	41 18 35.90	0.135	0.8	15.5	17.2
Laramie		WY		140.3	BLED20080303AJB	105 27 18.90	298	2703	University Of Wyoming	
205C2	KRFC	LIC DCN		157.1	61.48	40 34 03.93	50.000	26.1	16.8	20.0
Fort Collins		CO		337.3	0000193523	104 54 59.57	54	1581	Public Radio For The Front	
205D	K205GF/K2	CP _CN		311.8	38.46	41 18 27.80	0.250	10.1	7.1	26.1
Laramie		WY		131.6	0000179727	105 32 35.60	-47	2278	western Inspirational Broa	
204A	KRDF	CP _CN		238.0	44.00	40 52 03.00	0.005	0.2	10.3	33.2
Red Feather Lakes		CO		57.7	0000166710	105 38 36.00	246	2928	Ridgeline Radio, Inc.	
06N--	KXDP-LD«	LI D_N		183.5	129.54	39 54 47.91	3.000	6.8	86.9	93.8R 35.8M
Denver		CO		3.4	BLTVL-20100716ABT	105 17 34.91		2536		
06 --	KXDP-LD«	STA DCN		183.5	129.54	39 54 47.91	3.000	6.8	86.9	93.8R 35.8M
Denver		CO		3.4	0000220067	105 17 34.91		2536		
06N--	KXDP-LD«	LI D_N		183.5	129.54	39 54 47.91	3.000	6.8	86.9	93.8R 35.8M
Denver		CO		3.4	BLTVL-20100716ABT	105 17 34.91		2536		
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Denver		CO		3.4	BLTVL-20100716ABT	105 17 34.91		2536		
06N--	KXDP-LD«	LI D_N		183.5	129.54	39 54 47.91	3.000	6.8	86.9	93.8R 35.8M
Denver		CO		3.4	BLTVL-20100716ABT	105 17 34.91		2536		
207A	KRKU	CP _CN		80.8	63.99	41 10 01.00	0.300	10.6	7.4	41.2
Hillsdale		WY		261.3	0000223808	104 26 51.00	32	1745	Cheyenne Broadcasting Foun	
207C1	KUVO	LIC DEN		180.6	155.94	39 40 24.30	12.000	91.1	61.1	72.6
Denver		CO		0.5	BLED20181105AAP	105 13 04.50	342	2364	Rocky Mountain Public Medi	
205C2	KAIW	LIC _CN		299.3	127.37	41 37 48.90	0.580	71.9	48.1	73.2
Saratoga		WY		118.4	BLED20170208AAL	106 32 02.90	996	3339	University Of Wyoming	
204D	K204GT	LIC _CN		198.8	84.11	40 21 37.90	0.004	0.1	7.6	75.0
Estes Park		CO		18.6	0000184893	105 31 13.90	20	2737	Educational Media 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)  
Incoming contour overlap is ignored.

\*\*\*affixed to 'IN' or 'OUT' values = site inside restricted contour.

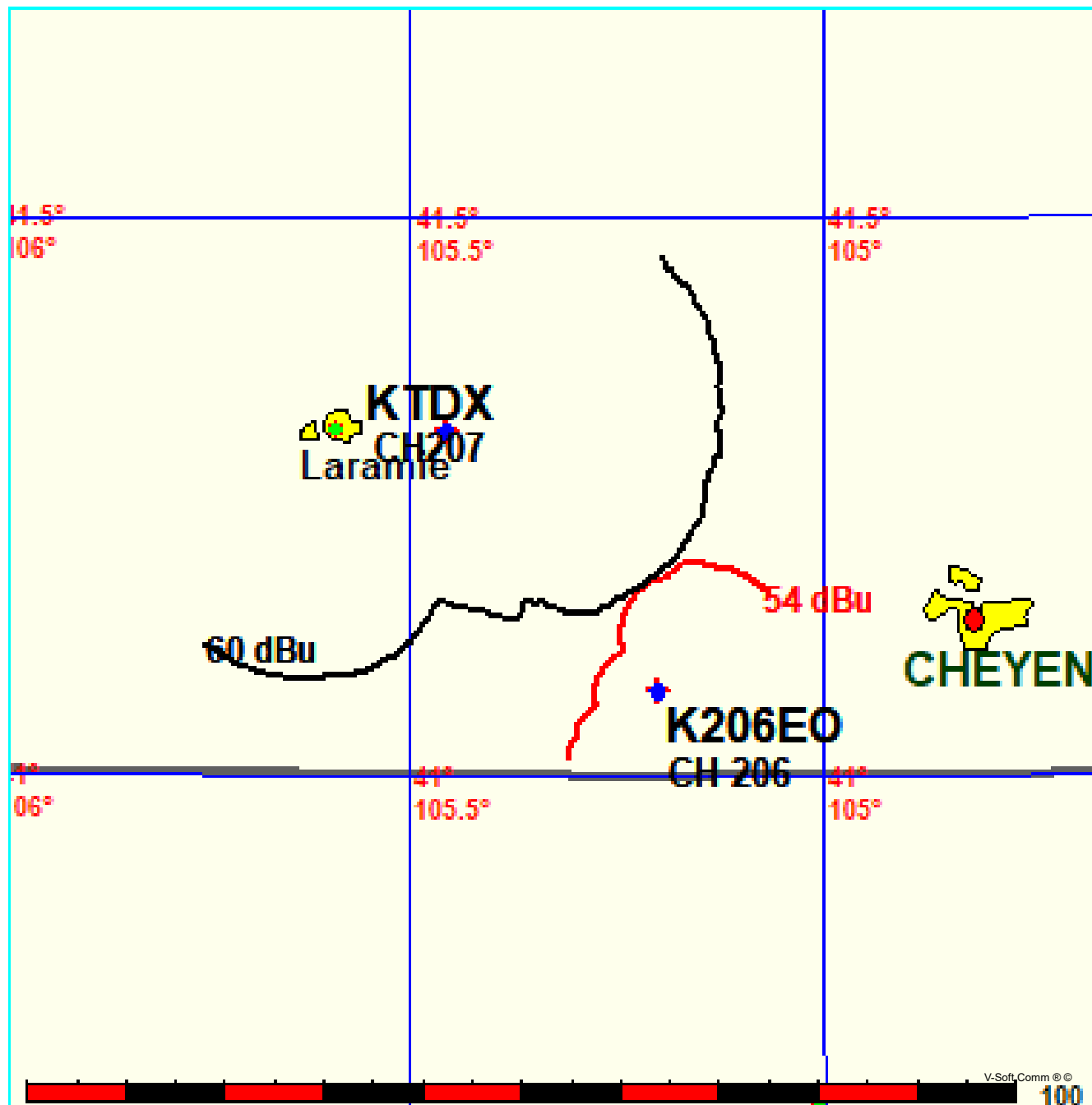
\* No actual interference will be caused to KXGR(FM) Loveland, CO since there is no population within the 100 dbu  
Interference Contour. See the Technical Statement for more details.

Figure 2 - Detailed Study with KTDX(FM)  
K206EO Granite, WY, CH. 206D

FMCommander Single Allocation Study - 12-13-2023 - FCC 30 meter  
K206EO's Overlaps (In= -9.43 km, Out= 0.24 km)

K206EO CH 206 D DA  
Lat= 41 04 40.00, Lng= 105 12 01.00  
0.041 kW 162.6 m HAAT, 2390 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

KTDX CH 207 A BLED20081010BIM  
Lat= 41 18 38.90, Lng= 105 27 13.90  
0.45 kW 347 m HAAT, 2751 m COR  
Prot.= 60 dBu, Intef.= 54 dBu



**K206EO Proposed**

0000116077  
Latitude: 41-04-40 N  
Longitude: 105-12-01 W  
ERP: 0.041 kW  
Channel: 206  
Frequency: 89.1 MHz  
AMSL Height: 2390.0 m  
Elevation: 2368.218 m  
Horiz. Pattern: Directional

**KXGR Loveland, CO**

BLED20081218AEY  
Latitude: 40-37-02.96 N  
Longitude: 105-19-39.95 W  
ERP: 80.00 kW  
Channel: 209  
Frequency: 89.7 MHz  
AMSL Height: 2561.2 m  
Elevation: 2524.0 m  
Horiz. Pattern: Omni

**FIGURE 3 - KXGR(FM) 73 DBU AT THE PROPOSED K206EO GRANITE, WY SITE**

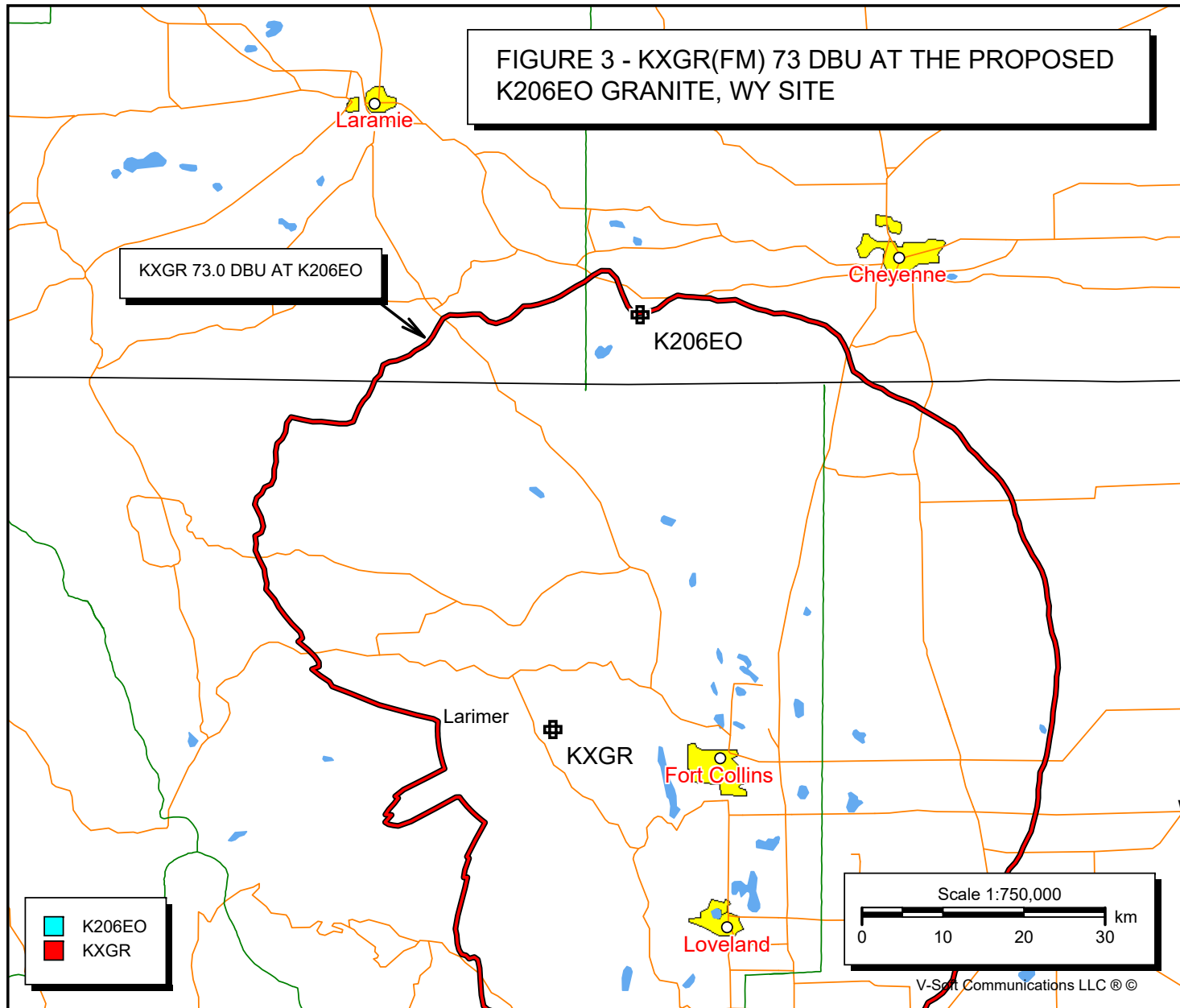
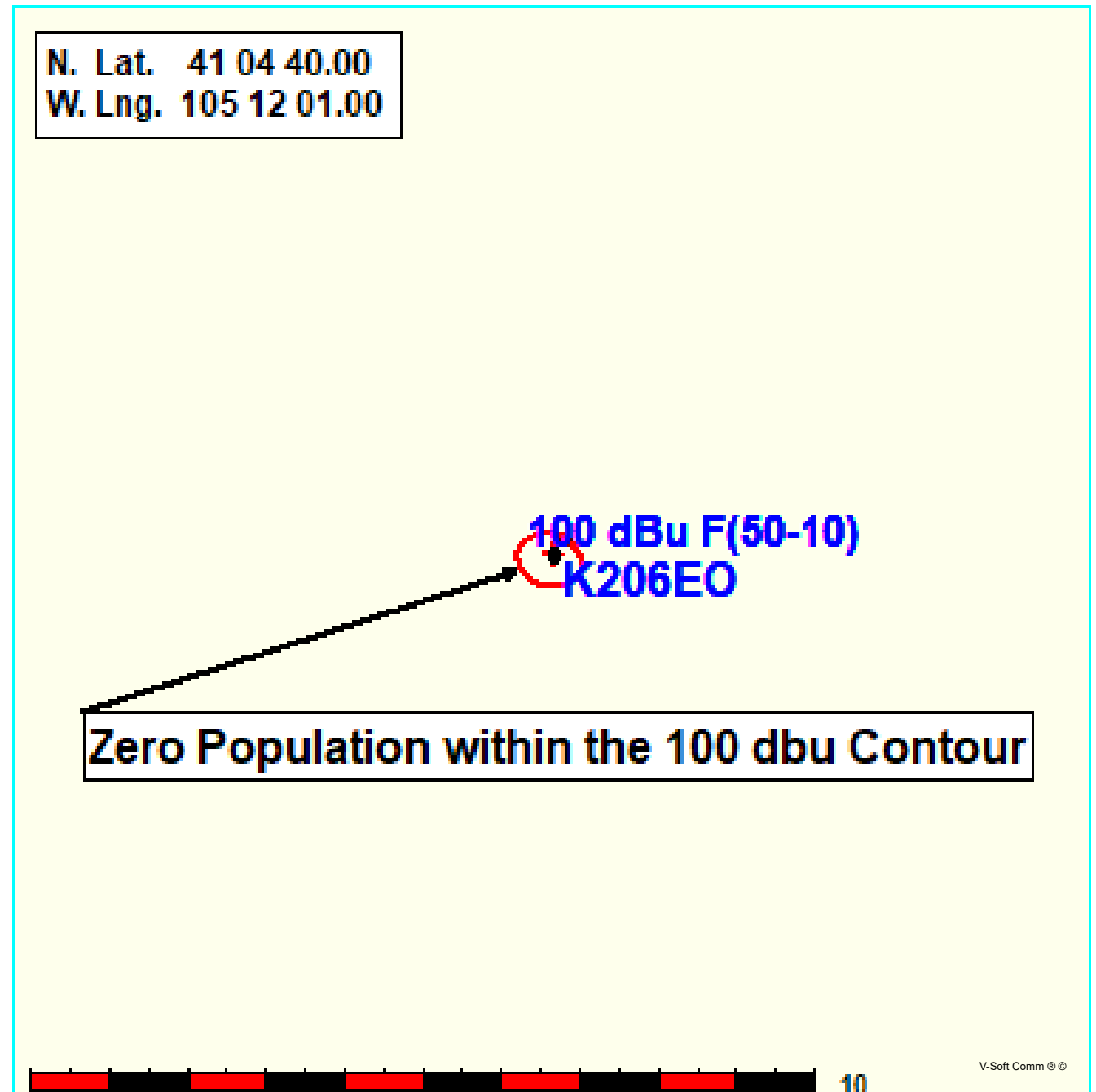


Figure 4 - Predicted 100 DBU Interference Contour  
K206EO Granite, WY, CH. 206D

Coverage Study - FCC 30 meter  
12-13-2023

K206EO CH206 D , 0.041 kW, 162.6m HAAT, 2390.0m COR AMSL  
Interference Contour = 100 dBu. Population = 0



# FIGURE 5 - VERTICAL PATTERN STUDY

With KXGR(FM) Loveland, CO

K206EO Granite, WY, Showing Protection to KXGR , Channel: 209  
 Geographic Coordinates: N. 410440.00 W. 105 12 01.00  
 74.1204(d) Study - Using USGS 03 SEC Terrain Database  
 Translator or LPFM Maximum Licensed ERP = 0.041 kW, Channel: 206  
 Translator or LPFM Antenna Height AG = 10 meters  
 K206EO Antenna Azimuth Model = Vertical Model Name = BKG77 2L HW

Protected Station's Contour = 72.68414 dBu  
 Translator's or LPFM's full Interference contour 112.68414

Review Azimuth = 0 Degrees True  
 Horizontal Relative Field at Review Azimuth = 0.493  
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.01 kW  
 Distance between stations = 52.3 km  
 Protected Station= KXGR, 80 kW, 2561.2 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	0.49	0.0202	073.2164	073.2164	010.000
05.00	0.984	0.49	0.0196	072.0449	071.7708	003.721
10.00	0.938	0.49	0.0178	068.6770	067.6336	-001.926
15.00	0.865	0.49	0.0151	063.3322	061.1742	-006.392
20.00	0.772	0.49	0.0120	056.5231	053.1143	-009.332
25.00	0.665	0.49	0.0089	048.6889	044.1271	-010.577
30.00	0.553	0.49	0.0062	040.4887	035.0642	-010.244
35.00	0.442	0.49	0.0039	032.3617	026.5091	-008.562
40.00	0.339	0.49	0.0023	024.8204	019.0135	-005.954
45.00	0.248	0.49	0.0012	018.1577	012.8394	-002.839
50.00	0.172	0.49	0.0006	012.5932	008.0948	000.353
55.00	0.112	0.49	0.0003	008.2002	004.7035	003.283
60.00	0.068	0.49	0.0001	004.9787	002.4894	005.688
65.00	0.037	0.49	0.0000	002.7090	001.1449	007.545
70.00	0.018	0.49	0.0000	001.3179	000.4507	008.762
75.00	0.007	0.49	0.0000	000.5125	000.1326	009.505
80.00	0.002	0.49	0.0000	000.1464	000.0254	009.856
85.00	0.001	0.49	0.0000	000.0732	000.0064	009.927
90.00	0.0	0.49	0.0000	000.0073	000.0000	009.993

Figure 6 - Present and Proposed 60 dbu  
K206EO Granite, WY, CH. 206D

Coverage Study - FCC 30 meter  
12-13-2023

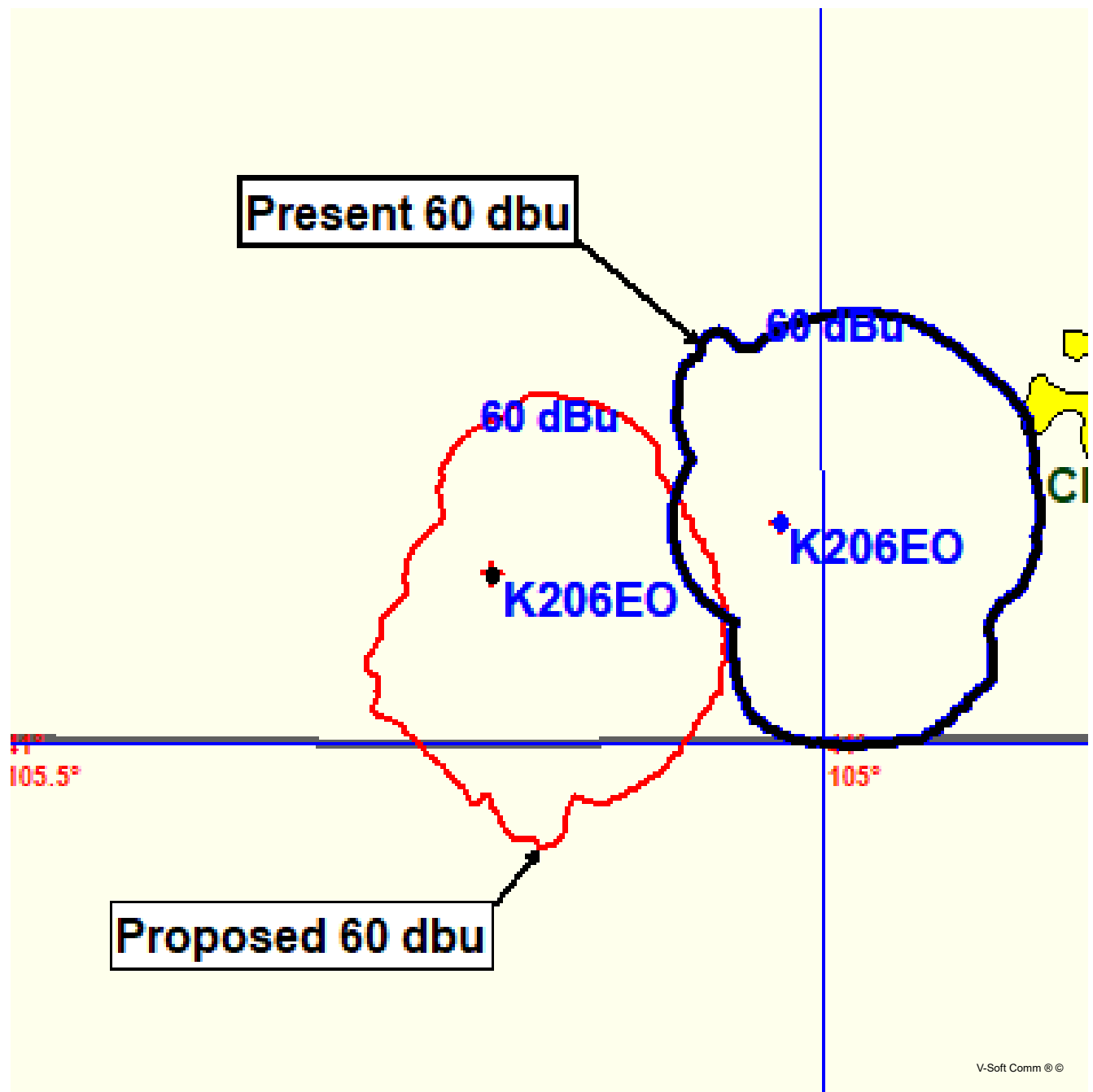




Figure 7 Directional Antenna  
K206EO

12-13-2023

RMS(V)= .811

Graph is Relative Field

NICOM BKG77-D  
Oriented at  
200 degrees

Azi	Field	dBk	kw
000	0.493	-20.015	0.010
010	0.493	-20.015	0.010
020	0.493	-20.015	0.010
030	0.493	-20.015	0.010
040	0.493	-20.015	0.010
050	0.507	-19.772	0.011
060	0.536	-19.289	0.012
070	0.596	-18.367	0.015
080	0.643	-17.708	0.017
090	0.728	-16.630	0.022
100	0.826	-15.533	0.028
110	0.908	-14.710	0.034
120	0.947	-14.345	0.037
130	0.966	-14.173	0.038
140	1.000	-13.872	0.041
150	0.984	-14.012	0.040
160	0.976	-14.083	0.039
170	0.976	-14.083	0.039
180	0.966	-14.173	0.038
190	0.966	-14.173	0.038
200	0.966	-14.173	0.038
210	0.966	-14.173	0.038
220	0.966	-14.173	0.038
230	0.976	-14.083	0.039
240	0.976	-14.083	0.039
250	0.984	-14.012	0.040
260	1.000	-13.872	0.041
270	0.982	-14.030	0.040
280	0.927	-14.531	0.035
290	0.852	-15.263	0.030
300	0.762	-16.233	0.024
310	0.692	-17.070	0.020
320	0.627	-17.927	0.016
330	0.581	-18.589	0.014
340	0.536	-19.289	0.012
350	0.504	-19.824	0.010

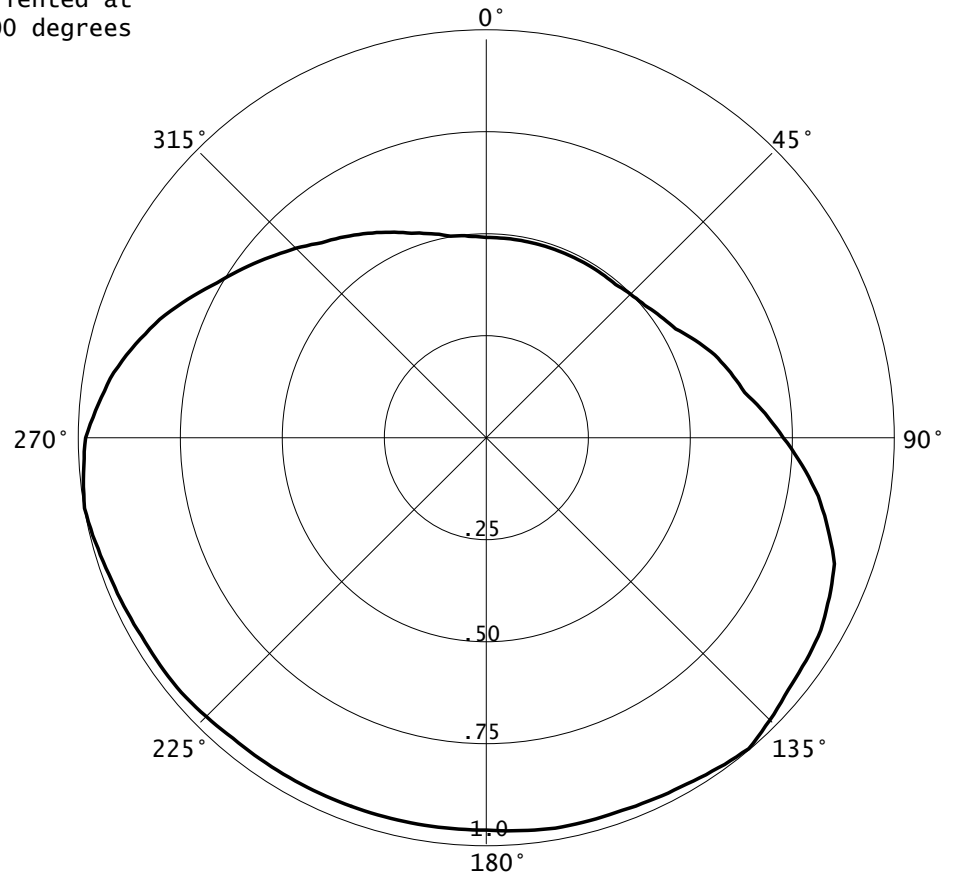


FIGURE 8 - TERP STUDY

MAXIMUM ERPS FOR NON-FILL-IN TRANSLATORS

N. Lat. = 410440.0 W. Lng. = 1051201.0  
 HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - NED 30 Meter

FIGURE 8 - TERPS

Azi.	AV EL	HAAT	dBk	60-F5	MAX ERP	Proposed ERP
000	2212.3	177.7	-20.02	7.74	75	10
030	2100.9	289.1	-20.02	9.94	28	10
060	2129.3	260.7	-19.29	9.84	34	11
090	2131.6	258.4	-16.63	11.39	41	17
120	2128.5	261.5	-14.35	12.99	34	34
150	2130.8	259.2	-14.01	13.17	41	41
180	2170.8	219.2	-14.17	12.04	50	39
210	2262.3	127.7	-14.17	9.16	170	38
240	2320.5	69.5	-14.08	6.75	250	39
270	2393.4	-3.4	-14.03	4.43	250	41
300	2395.6	-5.6	-16.23	3.90	250	30
330	2318.8	71.2	-18.59	5.32	250	16

Ave El= 2224.58 M HAAT= 165.42 M AMSL= 2390.0