

TECHNICAL STATEMENT  
K210EC DENVER, COLORADO  
CEDAR COVE BROADCASTING, INC.  
FCC FORM 349  
JULY 2016

This Technical Statement is made in support of a minor change application for FM translator station K210EC at Douglas, Wyoming, facility ID 155203. K210EC seeks to relocate its current authorization by less than 250 miles and become a fill-in translator for KGNU(AM) Denver, Colorado, facility ID 31349. This proposal which is normally a major change move is in response to the Commissions AM Revitalization Order DA-1491 released 12/23/2015. The following will show that the new proposed operation of K210EC will meet all of the Commissions technical requirements for an FM translator station. It should be noted that K210EC is currently “authorized” to operate in the commercial band on channel 264D with Construction Permit number BPFT-20160601AGY. Thus this qualifies this translator to utilize this filing window.

The proposed operation of K210EC specifies an Effective Radiated Power of 0.06 kilowatts. It will operate with a custom directional antenna, or a custom Nicom BKG77 with circular polarization. The antenna will be mounted on an existing tower at the KGNU(AM) tower site, with an overall height of 62.5 meters above the ground, tower registration number 1024664. The antenna will be mounted with a Center of Radiation of 60 meters above the ground, and 1691 meters Above Mean Sea Level. The coordinates of this tower are located at N 39° 39’ 29”, W 105° 00’ 49”, NAD 27.

Figure 1 is a detailed interference study conducted on channel 256D with these new proposed facilities. It shows that the new operation of K210EC will not cause any

interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 256, with the exception of 2<sup>nd</sup> adjacent channel station KQMT Denver, Colorado operating on channel 258C, facility ID 26929 and third adjacent channel KYGO-FM Denver, Colorado operating on channel 253C, facility ID 30829.

The proposed operation of K210EC on 256D is located within the protected 60 dBμ contours of 2<sup>nd</sup> adjacent and 3<sup>rd</sup> adjacent channel of KQMT and KYGO-FM. The predicted F(50-50) field strength of KQMT at the proposed K210EC transmitter site is 91.5 and 91.8 dBμ (there are two license records for KQMT) see figures 2 and 3, and KYGO-FM is 84.5 dBμ, see figure 4. Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K210EC on channel 256D is an additional 40 dBμ or 124.5 dBμ (as referenced from KYGO-FM).

The predicted 124.5 dBμ interference contour only extends 32.5 meters, or will not touch the ground in any location as the Center of Radiation is 60 meters above the ground. 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 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 K210EC until such interference can be eliminated.

The proposed operation of K210EC Denver will be considered a “Fill-In” operation for Class D AM station KGNU Denver, Colorado, facility ID 31349.

KGNU(AM) operates with 5 kilowatts daytime with a non-directional antenna system on 1390 kHz. Figure 6 shows that the proposed 60 dB $\mu$  contour for the proposed K210EC will not extend beyond the daytime 2.0 mV/m contour of KGNU. It will also not extend beyond a 25 miles radius from the KGNU tower site. Since this is a “Fill-In” translator, the maximum ERP will not exceed the maximum permissible ERP of 250 watts in any azimuth.

Figure 5 is a tabulation of the directional antenna pattern.

It was found that the new proposed operation of K210EC Albuquerque, Colorado on channel 256D, will satisfy all of the required commission rules and regulations for an FM translator station.

# FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K210EC DENVER, CO, CH. 256D

REFERENCE  
39 39 29.0 N.  
105 00 49.0 W.

CH# 256D - 99.1 MHz, Pwr= 0.06 kW DA, HAAT= 13.9 M, COR= 1691 M  
Average Protected F(50-50)= 4.94 km  
Standard Directional

DISPLAY DATES  
DATA 07-28-16  
SEARCH 07-28-16

CH CITY	CALL	TYPE ANT STATE	ANT AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
256C1 Windsor	KUAD-FM	LIC_CX CO	8.6 188.7	110.51 BLH20031223ACH	40 38 31.0 104 49 03.0	100.000 255	171.4 1816	71.9 Townsquare Media Of Ft. Co	-70.0*	8.1
258C Denver	KQMT	LIC_DC_ CO	292.6 112.5	20.59 BLH20150622AFQ	39 43 44.0 105 14 08.0	100.000 513	12.5 2280	85.9 Entercom License, Lic	3.2	-65.8*
258C Denver	KQMT	LIC_DC_ CO	292.7 112.6	20.56 BLH20020118AAT	39 43 45.0 105 14 06.0	100.000 495	12.3 2262	84.8 Entercom License, Lic	3.3	-64.8*
253C Denver	KYGO-FM	LIC_C_ CO	273.0 92.7	40.57 BMLH20120731AEH	39 40 35.0 105 29 09.0	100.000 555	16.0 3302	98.5 Bonneville International C	19.6	-58.5*
255C Pueblo	KKMG	LIC_CY CO	172.6 352.7	102.18 BLH19951005KA	38 44 43.0 104 51 41.0	72.000 695	146.7 2946	100.9 Radio License Holding Cbc,	-45.5*	0.2
255D Boulder	K255DA	LIC_DC_ CO	339.4 159.2	42.02 BLFT20160427ABD	40 00 43.0 105 11 16.0	0.250 1666	4.7 1666	3.7 Mountain Community Transla	29.4	27.7
253D Boulder	KYGO-FM1	LIC_DCN CO	333.3 153.2	37.64 BLFTB19920415TC	39 57 38.0 105 12 44.0	0.500 1753	0.1 1753	1.7 Bonneville International C	30.2	34.8
256D Dillon	K256BM	LIC_C_ CO	267.2 86.5	90.58 BMLFT20131217DOV	39 36 50.0 106 04 02.0	0.082 2861	17.5 2861	5.4 Alwaymountaintime, Lic	68.1	69.3
257D Colorado Springs	K257FO	LIC_DC_ CO	172.6 352.7	102.27 BLFT20150112AAM	38 44 40.0 104 51 41.0	0.072 2910	30.9 2910	18.3 Way Media, Inc.	71.2	76.9
258D Estes Park	K258BE	LIC_C_ CO	331.3 150.9	89.18 BLFT20060630AIH	40 21 38.0 105 31 12.0	0.013 48	0.3 2737	8.8 Educational Media Foundati	81.5	79.3
258D Breckenridge	K258AS	LIC_DC_ CO	258.6 77.9	89.08 BLFT20071009ALB	39 29 44.0 106 01 44.0	0.099 -58	0.1 3225	1.6 Skandia, Lic	84.1	83.7

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.  
Reference station has protected zone issue: AM tower

\* No actual interference will be caused to KYGO or KQMT since the 124.5 DBU contour will not cover any population. See the technical statement for details.

FIGURE 2 - KQMT 91.8 DBU AT SITE  
K210EC DENVER, CO, CH. 256D

Coverage Study - NGDC 30 SEC  
07-28-2016

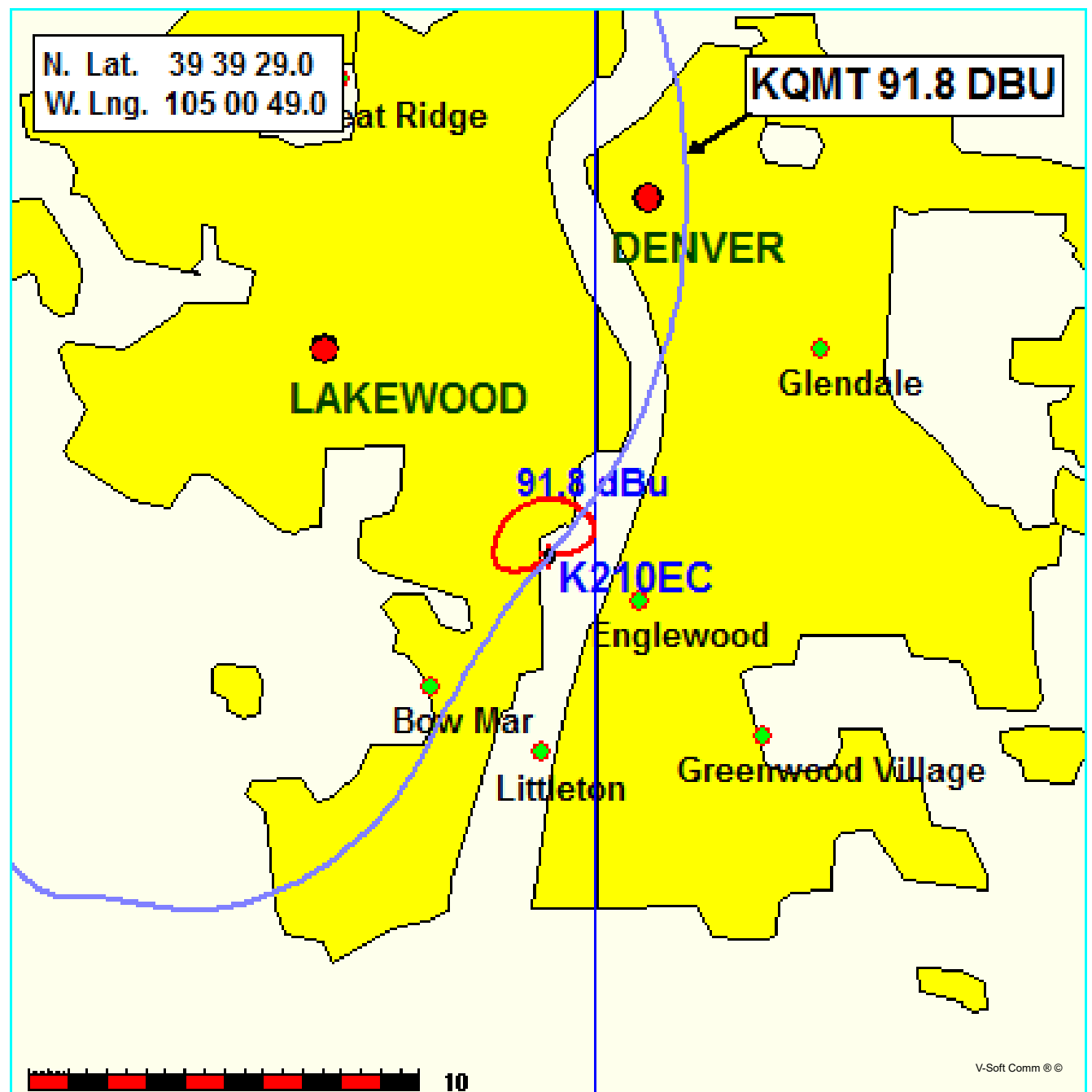


FIGURE 3 - KQMT 91.5 DBU AT SITE  
K210EC DENVER, CO, CH. 256D

Coverage Study - NGDC 30 SEC  
07-28-2016

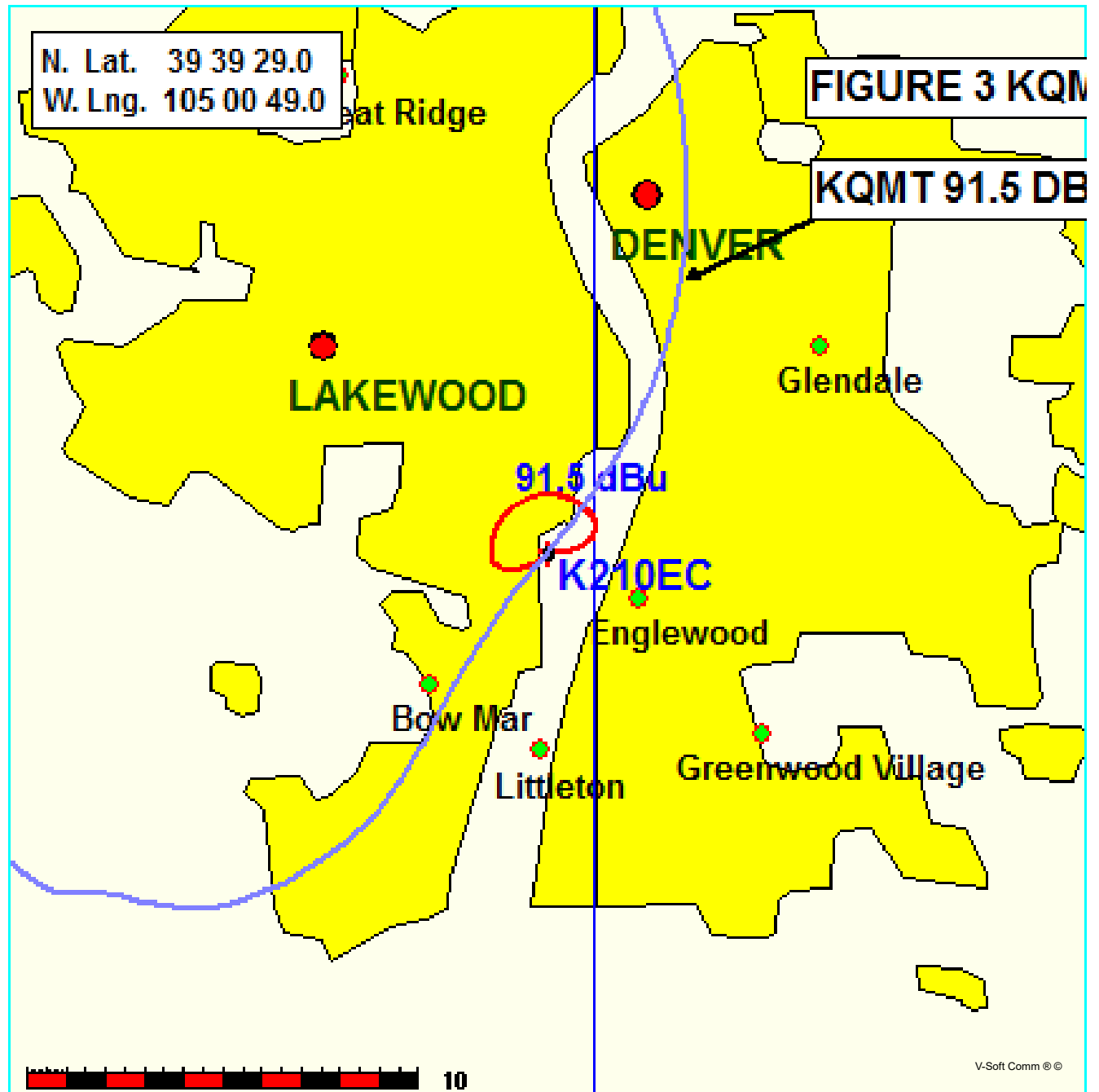


FIGURE 4 - KYGO 84.5 DBU AT SITE  
K210EC DENVER, CO, CH. 256D

Coverage Study - NGDC 30 SEC  
07-28-2016

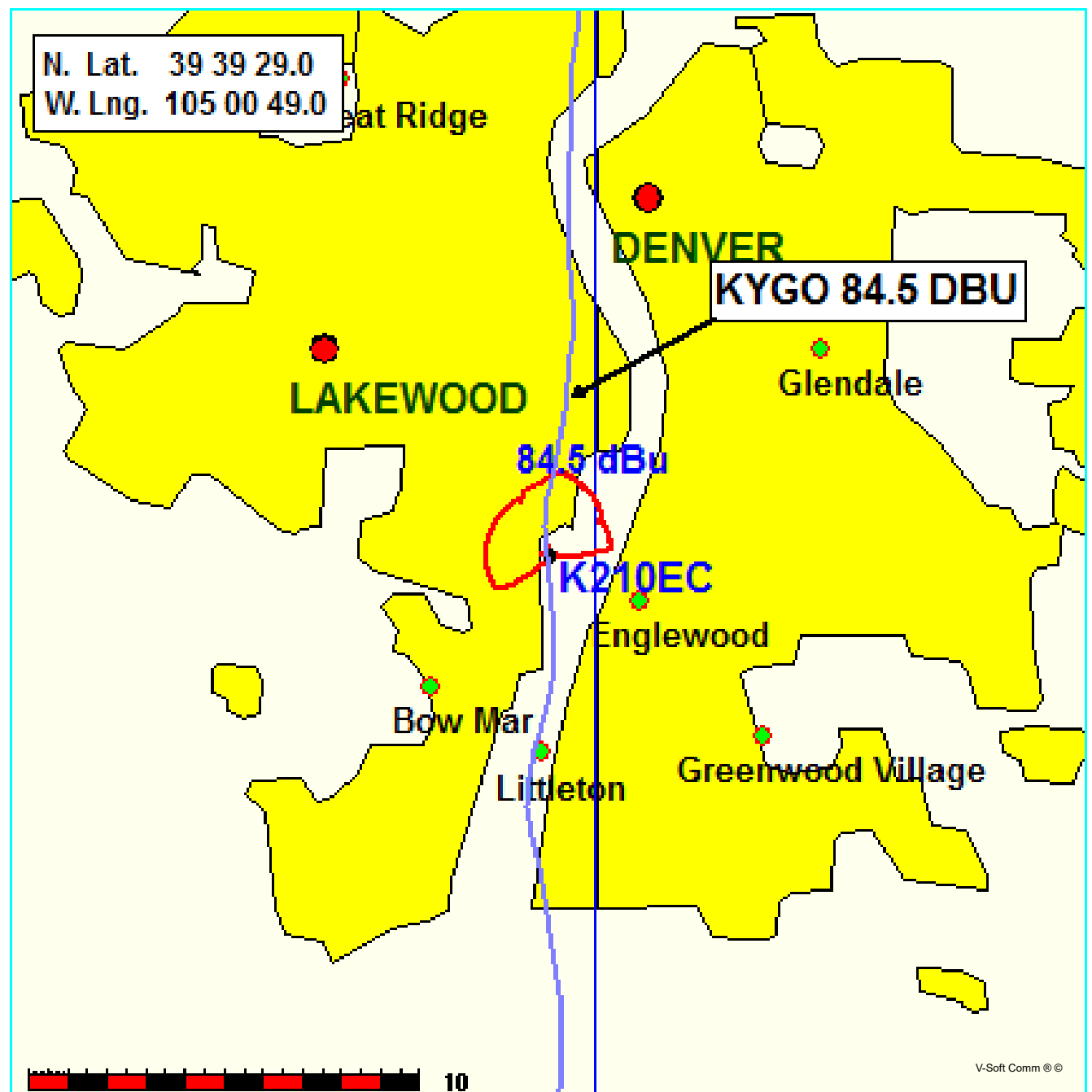


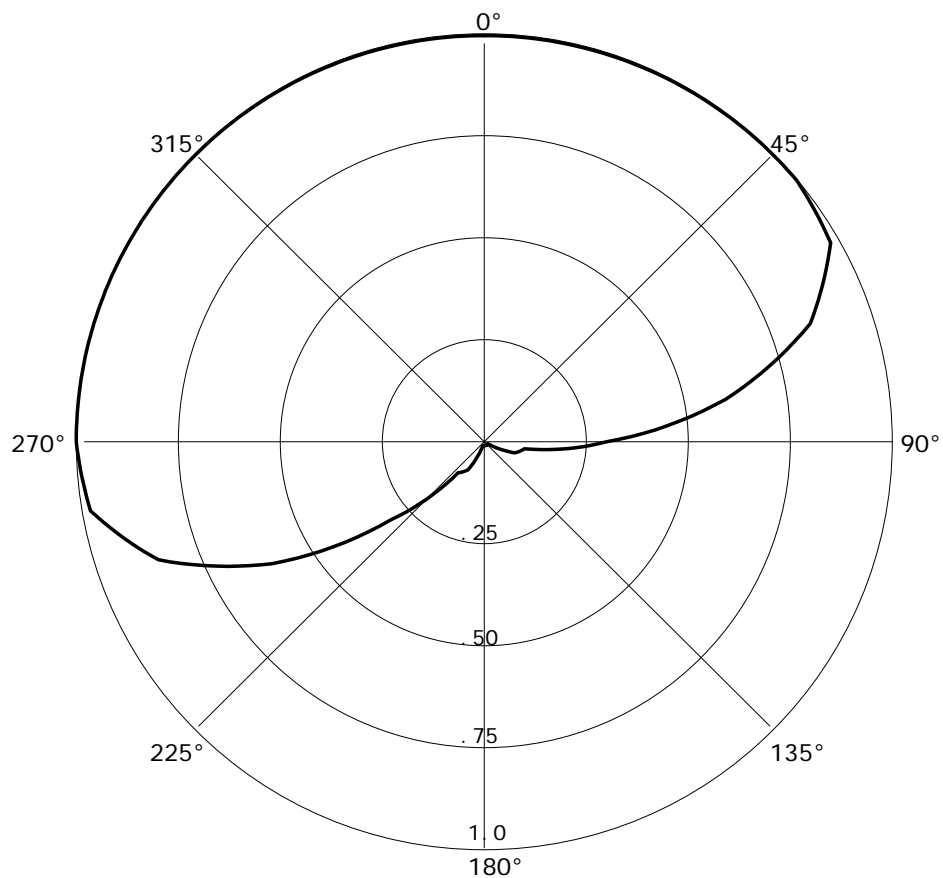
FIGURE 5 DIRECTIONAL ANTENNA DATA  
K210EC.C

07-28-2016

RMS(V) = .731

Graph is Relative Field

Azi	Field	dBk	kW
000	1.000	-12.218	0.060
010	1.000	-12.218	0.060
020	1.000	-12.218	0.060
030	1.000	-12.218	0.060
040	1.000	-12.218	0.060
050	1.000	-12.218	0.060
060	0.980	-12.394	0.058
070	0.850	-13.630	0.043
080	0.600	-16.655	0.022
090	0.300	-22.676	0.005
100	0.100	-32.218	0.001
110	0.080	-34.157	0.000
120	0.010	-52.218	0.000
130	0.010	-52.218	0.000
140	0.010	-52.218	0.000
150	0.010	-52.218	0.000
160	0.010	-52.218	0.000
170	0.010	-52.218	0.000
180	0.010	-52.218	0.000
190	0.010	-52.218	0.000
200	0.010	-52.218	0.000
210	0.080	-34.157	0.000
220	0.100	-32.218	0.001
230	0.300	-22.676	0.005
240	0.600	-16.655	0.022
250	0.850	-13.630	0.043
260	0.980	-12.394	0.058
270	1.000	-12.218	0.060
280	1.000	-12.218	0.060
290	1.000	-12.218	0.060
300	1.000	-12.218	0.060
310	1.000	-12.218	0.060
320	1.000	-12.218	0.060
330	1.000	-12.218	0.060
340	1.000	-12.218	0.060
350	1.000	-12.218	0.060





**K210EC.C**

BPFT20160601AGY

Latitude: 39-39-29 N

Longitude: 105-00-49 W

ERP: 0.06 kW

Channel: 256

Frequency: 99.1 MHz

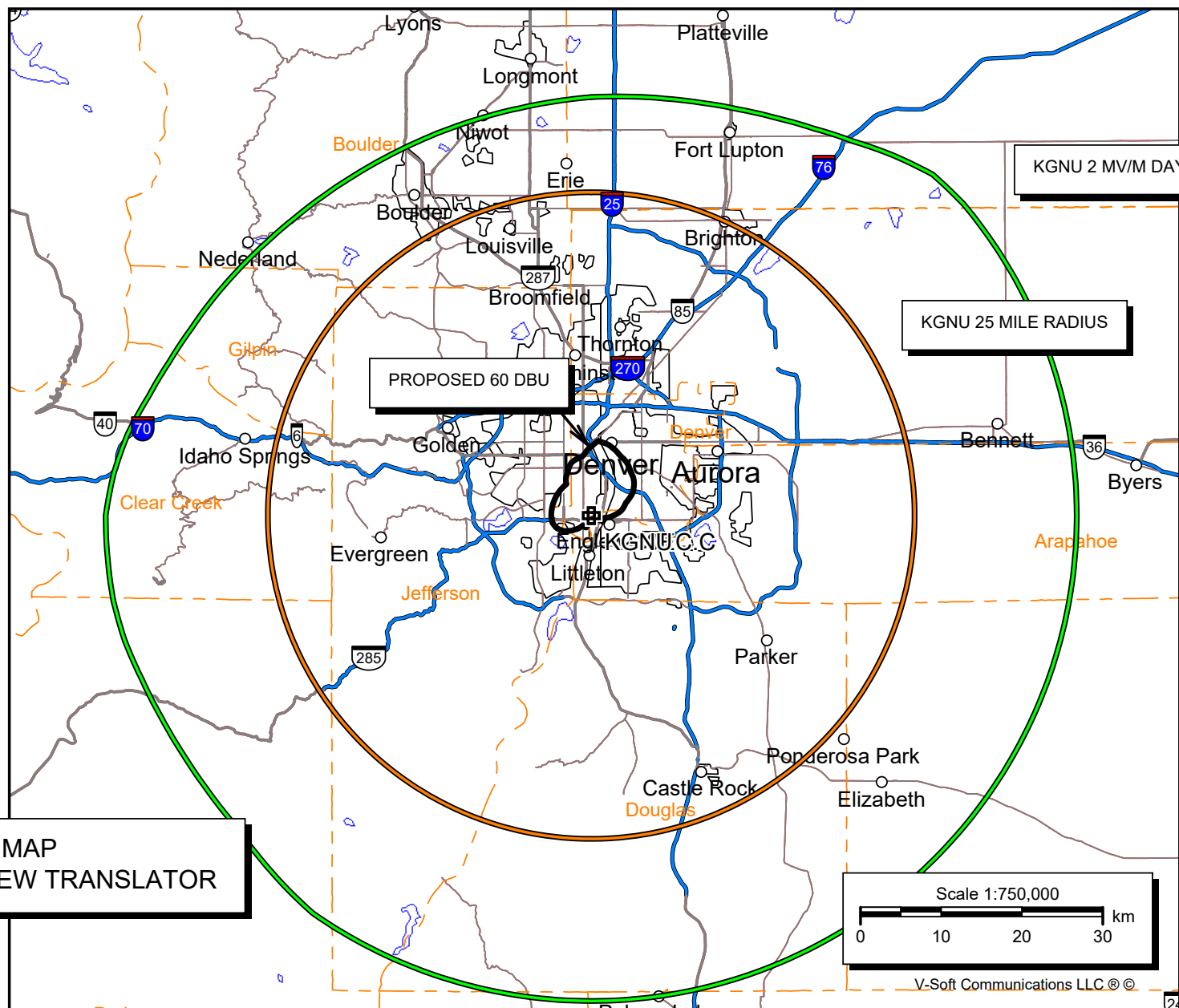
AMSL Height: 1691.0 m

Elevation: 1616.914 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None



**FIGURE 6 - FILL-IN MAP  
KGNU(AM) WITH NEW TRANSLATOR**

KGNU 2 MV/M DAYTIME

KGNU 25 MILE RADIUS

PROPOSED 60 DBU

KGNU.C.C