

Broadcast Engineering Services of Bonny Doon, Inc.

Donald E. Mussell Jr. NCE-CBT
Consulting Engineer
740 Front Street Suite 305
Santa Cruz, Ca 95060

Hawaii Office:
P.O. Box 983
Kilauea, Hi 96754

(808) 828-0209 Office
(831) 588-9463 Cell
dmsml@well.com
www.well.com/user/dmsml

Engineering Statement Minor Change to K284AG Woodland, California BLFT-20090904ACH

The Nevada City Community Broadcast Group (KVMR), licensee of KVMR (BLED-20001020AAK), proposes to make minor changes to the existing operation of K284AG, a translator for KVMR.

This proposed minor change will move this facility 9 miles southwest to Berryessa Peak. The current authorized site is no longer available, but the licensee has site assurance at Berryessa Peak from the site owner. The proposed frequency is an I.F. jump (10.8 MHz) to Ch. 230 (93.9 MHz). The use of a log-periodic directional antenna is proposed as well.

This proposed minor change will place the antenna at a remote mountain location, surrounded by forest land and steep cliffs. This proposed minor change does not overlap any proposed or existing facility.

The proposed site will include an elevation increase to 959 meters ASL. This proposed site will provide a good signal to the existing service area, and the proposed 60 dbu contour overlaps the existing 60 dbu contour to a sufficient extent.

This antenna is proposed to be mounted at 49 meters above ground, and will produce a calculated worst-case RFR energy field of $.144 \mu\text{W}/\text{cm}^2$ at a distance of 10.8 meters from the base of the tower support structure. This is under 1% of the public limit, and is therefore compliant with the FCC rules concerning RFR both on and adjacent to the proposed tower location. This site is fenced and isolated on a remote mountain, and not accessible by the general public.

KVMR is ready to quickly build the facility with these specified changes. Once this modification is granted, the licensee will commence construction on the transmission facilities, and will be completed well within the time limitations imposed by the underlying construction permit.

Respectfully submitted,



Donald E. Mussell Jr. NCE-CBT
Consulting Engineer
March 21, 2017

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Don Mussell NCE-CBT

K284AG Minor Change
Nevada City Community Broadcast Group

REFERENCE CH# 230D - 93.9 MHz, Pwr= 0.01 kW DA, HAAT= 661.4 M, COR= 959 M DISPLAY DATES
38 39 49.7 N. DATA 03-21-17
122 11 21.3 W. Average Protected F(50-50)= 14.4 km
Standard Directional SEARCH 03-21-17

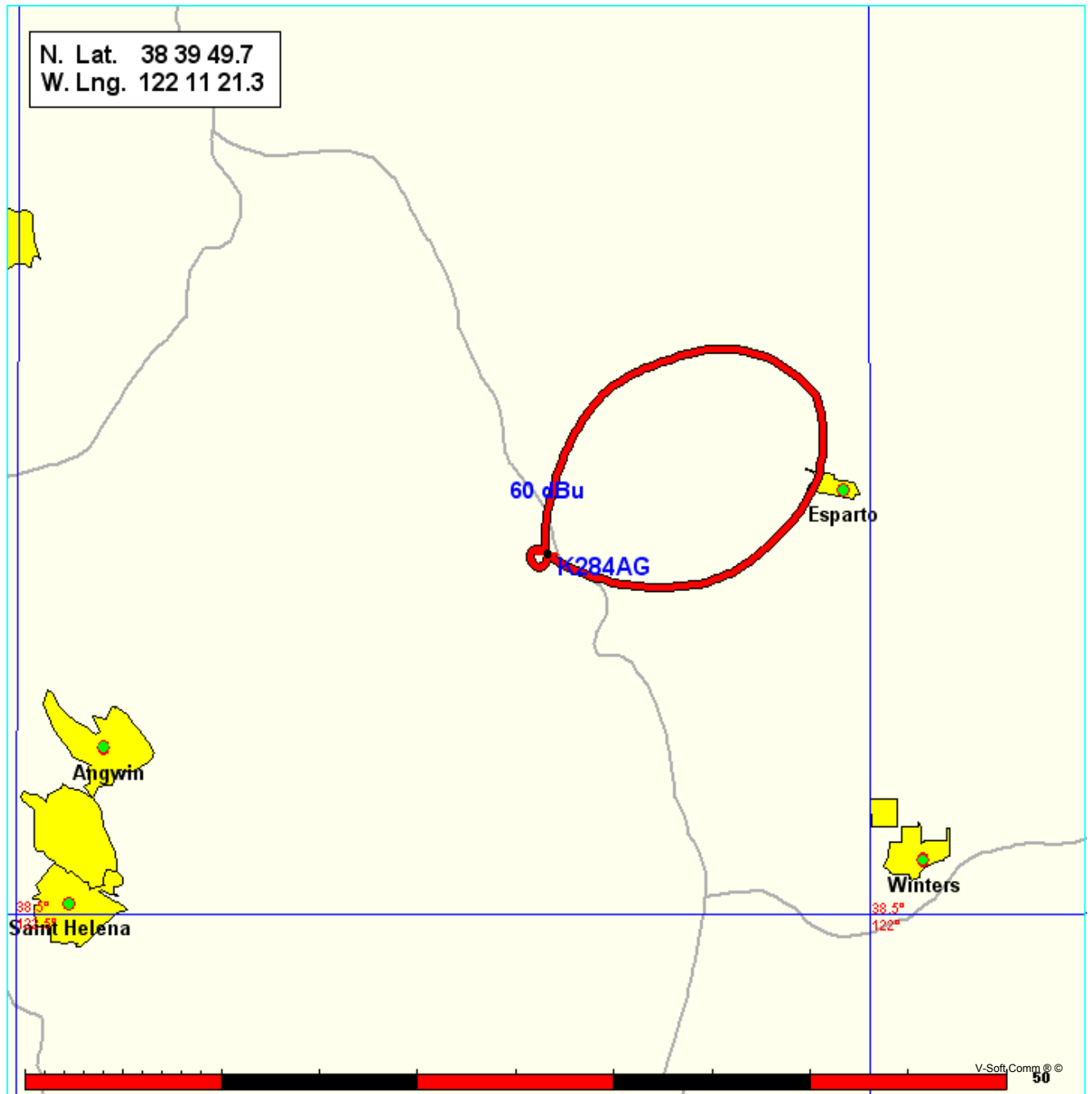
CH CITY	CALL	TYPE STATE	ANT AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
231B	KPFA	LIC _HN	181.7	88.67	37 51 55.0	59.000	103.8	85.0	-16.5*	0.6
Berkeley		CA	1.7	BLHD19791108AE	122 13 12.0	405	534	Pacifica Foundation, Inc.		
Commercial Channel operating Educational. Grandfathered at 59 kw ERP and 405 meters HAAT										
229B1	KQJK	LIC _CN	84.0	85.26	38 44 22.0	25.000	70.8	54.1	-0.1	3.5
Roseville		CA	264.6	BLH19940615KA	121 12 50.0	100	203	Amfm Texas Licenses LLC		
230B1	KFMF	LIC _CN	15.6	147.96	39 56 46.0	2.000	122.2	55.6	13.5	46.8
Chico		CA	195.9	BLH19880811LB	121 43 17.0	344	1044	Mapleton License Of Chico,		
233B	KWNE	LIC _C_	304.4	92.71	39 07 50.0	2.200	3.1	66.5	87.6	25.6
Ukiah		CA	123.8	BLH20011002AAG	123 04 32.0	599	1148	Broadcasting Corp. Of Mend		
228D	K228DM	LIC _CN	155.8	39.78	38 20 13.0	0.010	0.2	3.2	35.5	34.4
Vacaville		CA	335.9	BLFT19940516TE	122 00 08.0	83	192	Your Christian Companion N		
Translator for KCJH, Stockton, CA										
229A	KJZY	LIC ZC_	237.4	50.40	38 25 07.0	6.000	11.0	7.7	38.6	39.9
Sebastopol		CA	57.1	BLH20000119AAK	122 40 33.0	66	246	Redwood Empire Stereocaste		
233D	K233CM	LIC DC_	223.8	51.03	38 19 56.0	0.092	0.2	9.0	50.0	41.8
Petaluma		CA	43.6	BLFT20161205AAI	122 35 40.0		591	One Ministries, Inc.		
227B	KRZZ	LIC _CX	191.2	110.53	37 41 13.0	6.000	4.5	65.6	105.2	44.9
San Francisco		CA	11.1	BLH20110105ABJ	122 26 03.0	415	458	Krzz Licensing, LLC		
229D	KJZY-FM1	LIC DC_	234.7	52.20	38 23 31.0	1.200	2.9	2.1	48.4	47.1
Rohnert Park		CA	54.4	BLFTB20000215ABO	122 40 40.0	171	321	Redwood Empire Stereocaste		

Terrain database is FCC 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= East Zone 2A, Co to 3rd adjacent.
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.

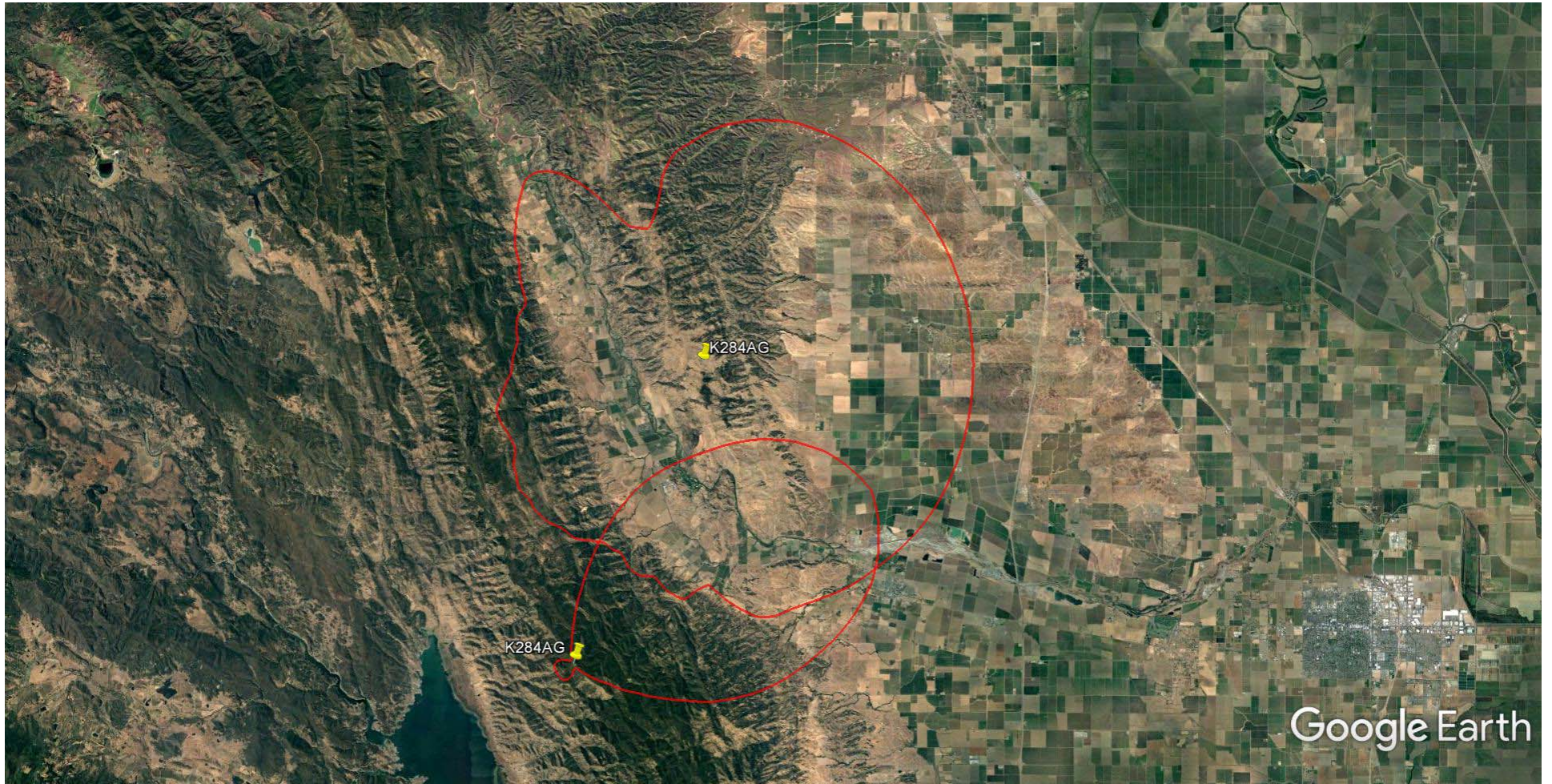
K284AG Minor Change
Nevada City Community Broadcast Group

Coverage Study - FCC NGDC 30 Sec
03-21-2017

K284AG CH230 D , 0.01 kW, 661.4m HAAT, 959.0m COR AMSL
Service Contour = 60 dBu. Population = 51



K284AG Existing and Proposed 60 dbu Contours



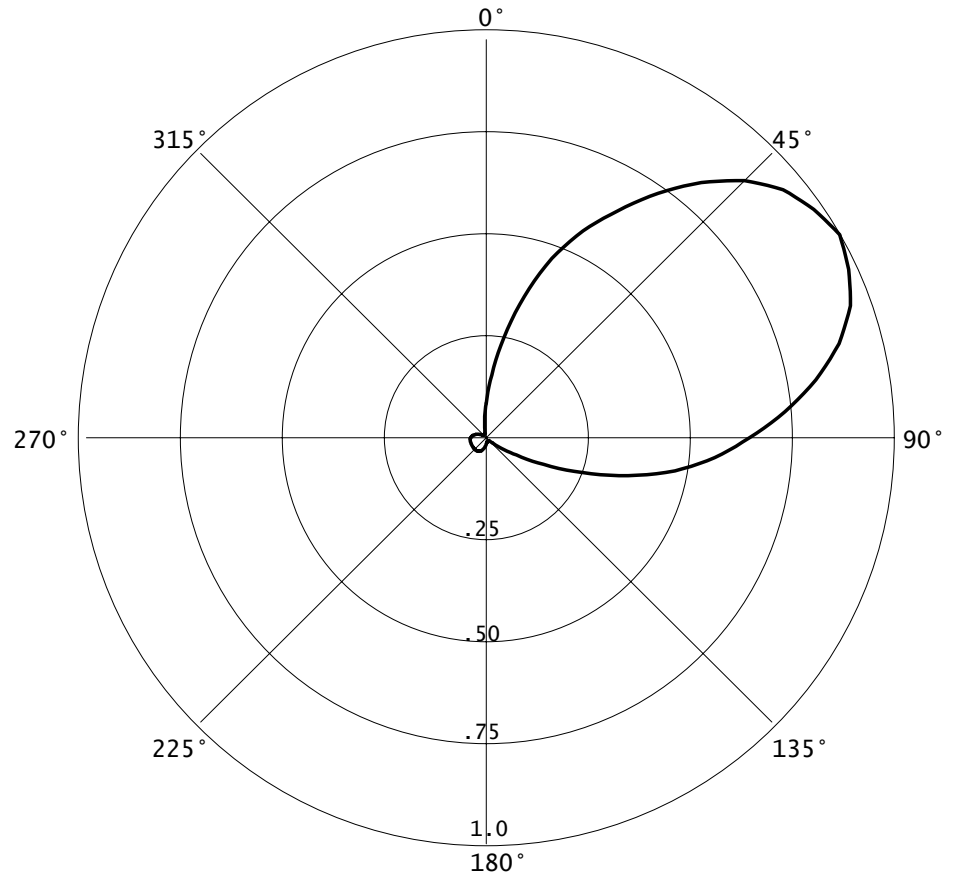
K284AG

03-22-2017

RMS(V)= .393

Graph is Relative Field

Azi	Field	dBk	kw
000	0.085	-41.412	0.000
010	0.250	-32.041	0.001
020	0.470	-26.558	0.002
030	0.645	-23.809	0.004
040	0.820	-21.724	0.007
050	0.950	-20.446	0.009
060	1.000	-20.000	0.010
070	0.950	-20.446	0.009
080	0.820	-21.724	0.007
090	0.645	-23.809	0.004
100	0.470	-26.558	0.002
110	0.250	-32.041	0.001
120	0.085	-41.412	0.000
130	0.020	-53.979	0.000
140	0.010	-60.000	0.000
150	0.010	-60.000	0.000
160	0.010	-60.000	0.000
170	0.010	-60.000	0.000
180	0.015	-56.478	0.000
190	0.025	-52.041	0.000
200	0.034	-49.370	0.000
210	0.038	-48.404	0.000
220	0.040	-47.959	0.000
230	0.040	-47.959	0.000
240	0.040	-47.959	0.000
250	0.040	-47.959	0.000
260	0.040	-47.959	0.000
270	0.038	-48.404	0.000
280	0.034	-49.370	0.000
290	0.025	-52.041	0.000
300	0.015	-56.478	0.000
310	0.010	-60.000	0.000
320	0.010	-60.000	0.000
330	0.010	-60.000	0.000
340	0.010	-60.000	0.000
350	0.020	-53.979	0.000

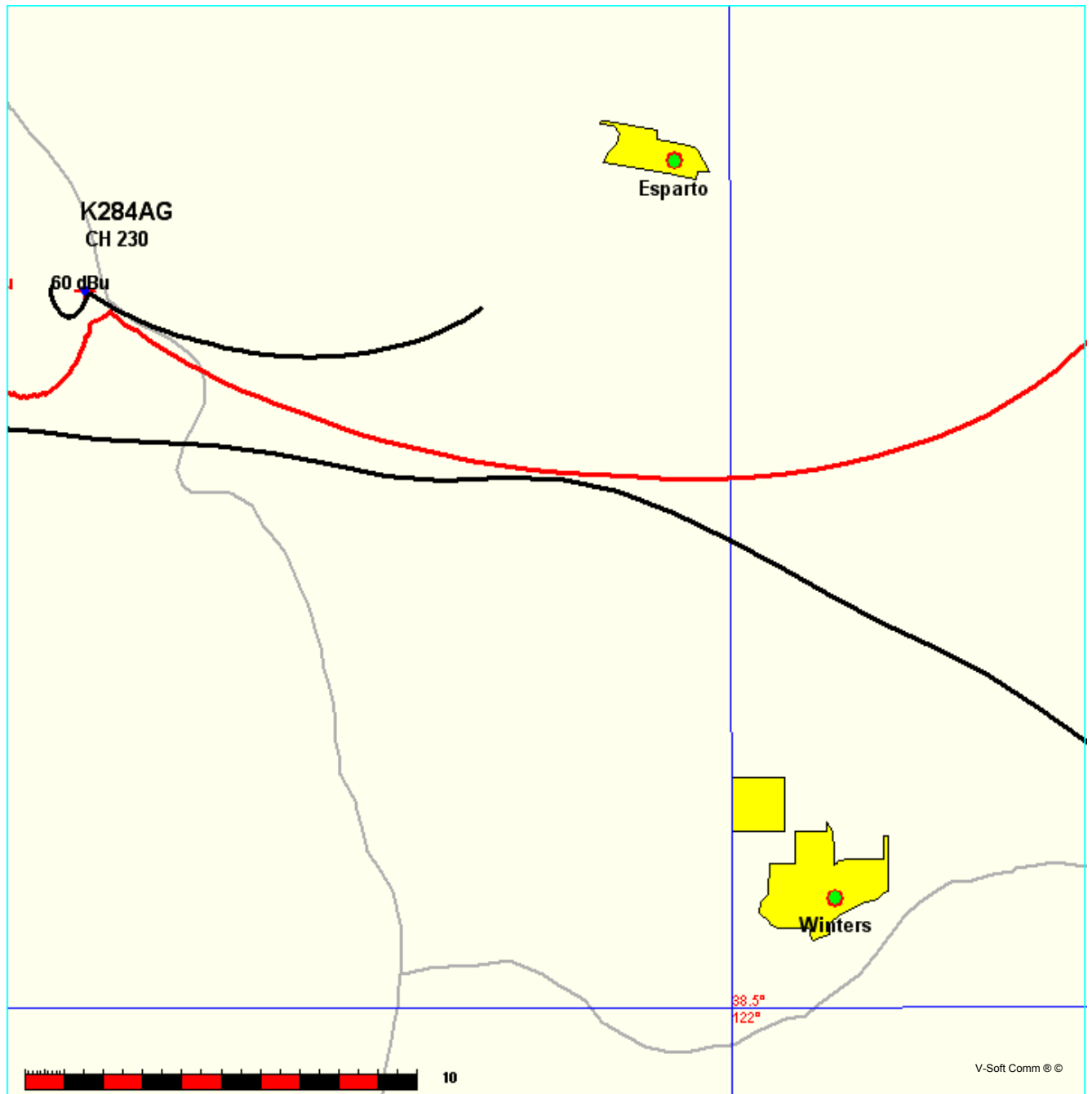


K284AG Minor Change
Nevada City Community Broadcast Group

FMCommander Single Allocation Study - 03-21-2017 - FCC NGDC 30 Sec
K284AG's Overlaps (In= -16.47 km, Out= 0.56 km)

K284AG CH 230 D DA
Lat= 38 39 49.7, Lng= 122 11 21.3
0.01 kW 661.4 m HAAT, 959 m COR
Prot.= 60 dBu, Intef.= 48 dBu

KPFA CH 231 B BLED19791108AE
Lat= 37 51 55.0, Lng= 122 13 12.0
59.0 kW 405 m HAAT, 534 m COR
Prot.= 54 dBu, Intef.= 54 dBu

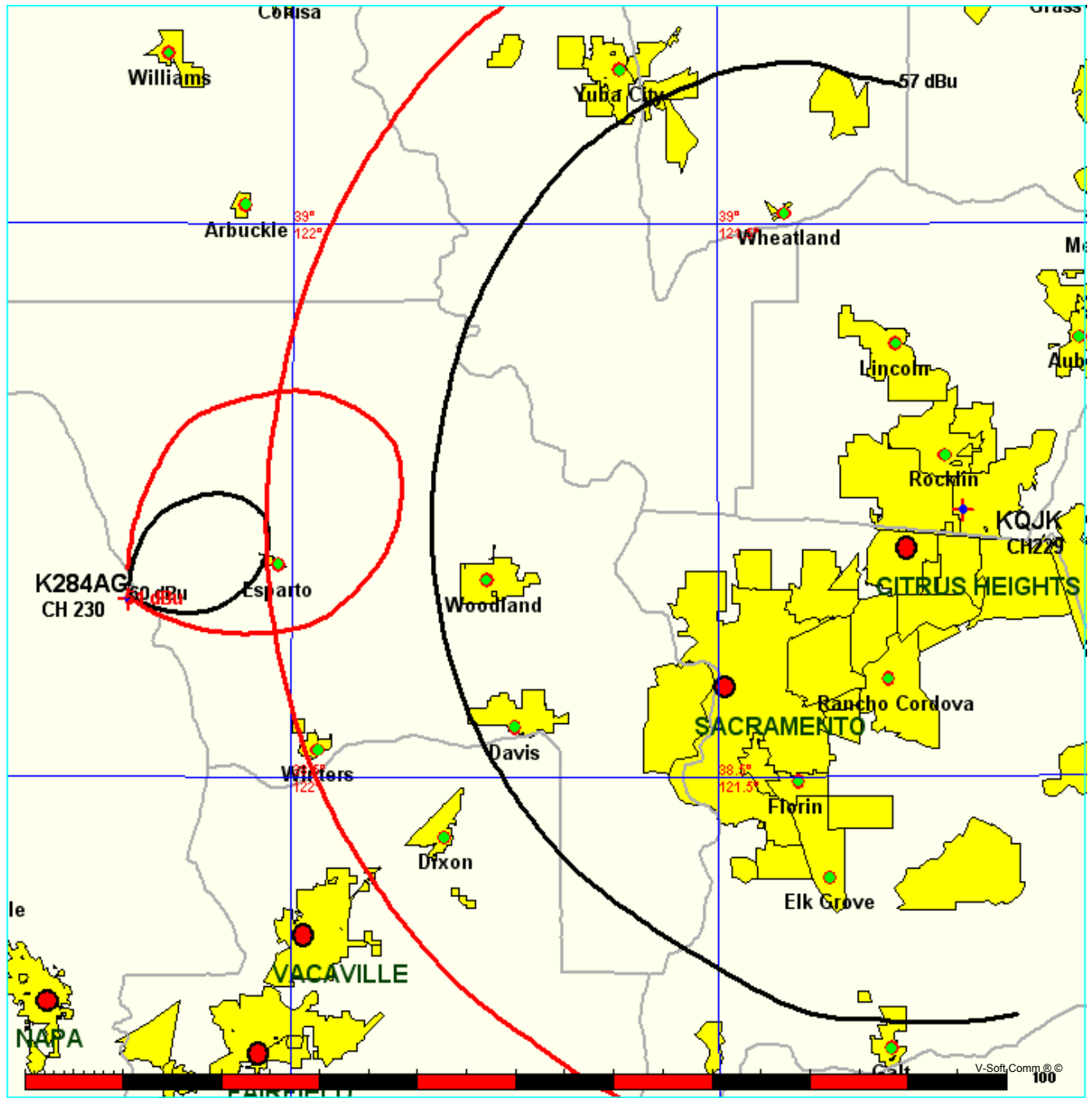


K284AG Minor Change
Nevada City Community Broadcast Group

FMCommander Single Allocation Study - 03-21-2017 - FCC NGDC 30 Sec
K284AG's Overlaps (In= -0.07 km, Out= 3.5 km)

K284AG CH 230 D DA
Lat= 38 39 49.7, Lng= 122 11 21.3
0.01 kW 661.4 m HAAT, 959 m COR
Prot.= 60 dBu, Intef.= 51 dBu

KQJK CH 229 B1 BLH19940615KA
Lat= 38 44 22.0, Lng= 121 12 50.0
25.0 kW 100 m HAAT, 203 m COR
Prot.= 57 dBu, Intef.= 54 dBu



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