

Broadcast Engineering Services of Bonny Doon, Inc.

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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 a 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

Broadcast Engineering Services of Bonny Doon, Inc.
Don Mussell NCE-CBT

K284AG Minor Change
Nevada City Community Broadcast Group
Average Protected F(50-50)= 14.4 km
Standard Directional

REFERENCE
38 39 49.7 N.
122 11 21.3 W.

CH# 230D - 93.9 MHz, Pwr= 0.01 kW DA, HAAT= 661.4 M, COR= 959 M

DISPLAY DATES
DATA 03-21-17
SEARCH 03-21-17

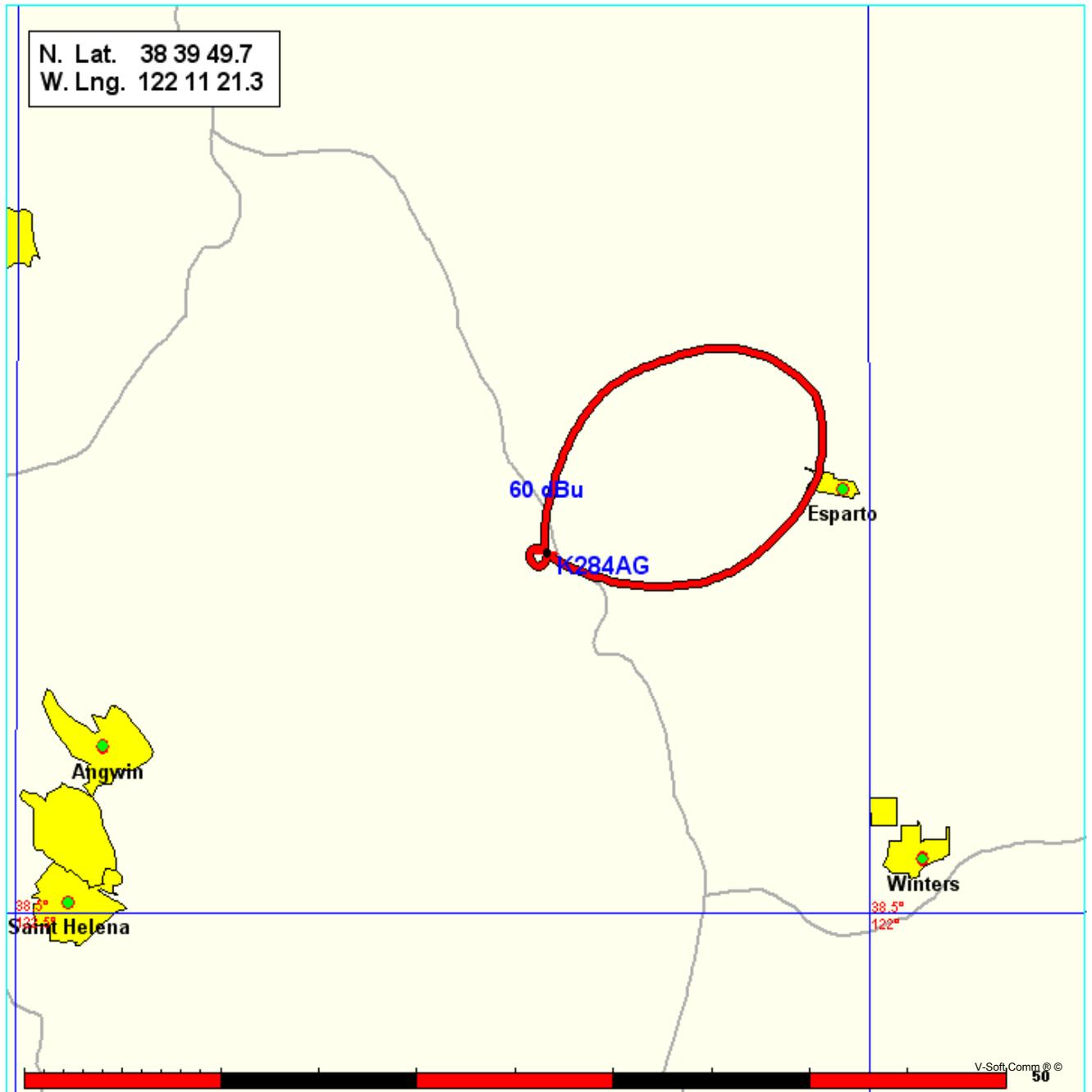
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
231B Berkeley	KPFA	LIC _HN CA	181.7	88.67	88.67 BLED19791108AE	37 51 55.0 122 13 12.0	59.000 405	103.8 534	85.0 Pacifica Foundation, Inc.	-16.5*	0.6
Commercial Channel operating Educational. Grandfathered at 59 kW ERP and 405 meters HAAT											
229B1 Roseville	KQJK	LIC _CN CA	84.0 264.6	85.26	85.26 BLH19940615KA	38 44 22.0 121 12 50.0	25.000 100	70.8 203	54.1 Amfm Texas Licenses Llc	-0.1	3.5
230B1 Chico	KFMF	LIC _CN CA	15.6 195.9	147.96	147.96 BLH19880811LB	39 56 46.0 121 43 17.0	2.000 344	122.2 1044	55.6 Mapleton License Of Chico,	13.5	46.8
233B Ukiah	KWNE	LIC _C_ CA	304.4 123.8	92.71	92.71 BLH20011002AAG	39 07 50.0 123 04 32.0	2.200 599	3.1 1148	66.5 Broadcasting Corp. Of Mend	87.6	25.6
228D Vacaville	K228DM	LIC _CN CA	155.8 335.9	39.78	39.78 BLFT19940516TE	38 20 13.0 122 00 08.0	0.010 83	0.2 192	3.2 Your Christian Companion N	35.5	34.4
Translator for KCJH, Stockton, CA											
229A Sebastopol	KJZY	LIC ZC_ CA	237.4 57.1	50.40	50.40 BLH20000119AAK	38 25 07.0 122 40 33.0	6.000 66	11.0 246	7.7 Redwood Empire Stereocaste	38.6	39.9
233D Petaluma	K233CM	LIC DC_ CA	223.8 43.6	51.03	51.03 BLFT20161205AAI	38 19 56.0 122 35 40.0	0.092	0.2 591	9.0 One Ministries, Inc.	50.0	41.8
227B San Francisco	KRZZ	LIC _CX CA	191.2 11.1	110.53	110.53 BLH20110105ABJ	37 41 13.0 122 26 03.0	6.000 415	4.5 458	65.6 Krzz Licensing, Llc	105.2	44.9
229D Rohnert Park	KJZY-FM1	LIC DC_ CA	234.7 54.4	52.20	52.20 BLFTB20000215ABO	38 23 31.0 122 40 40.0	1.200 171	2.9 321	2.1 Redwood Empire Stereocaste	48.4	47.1

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.

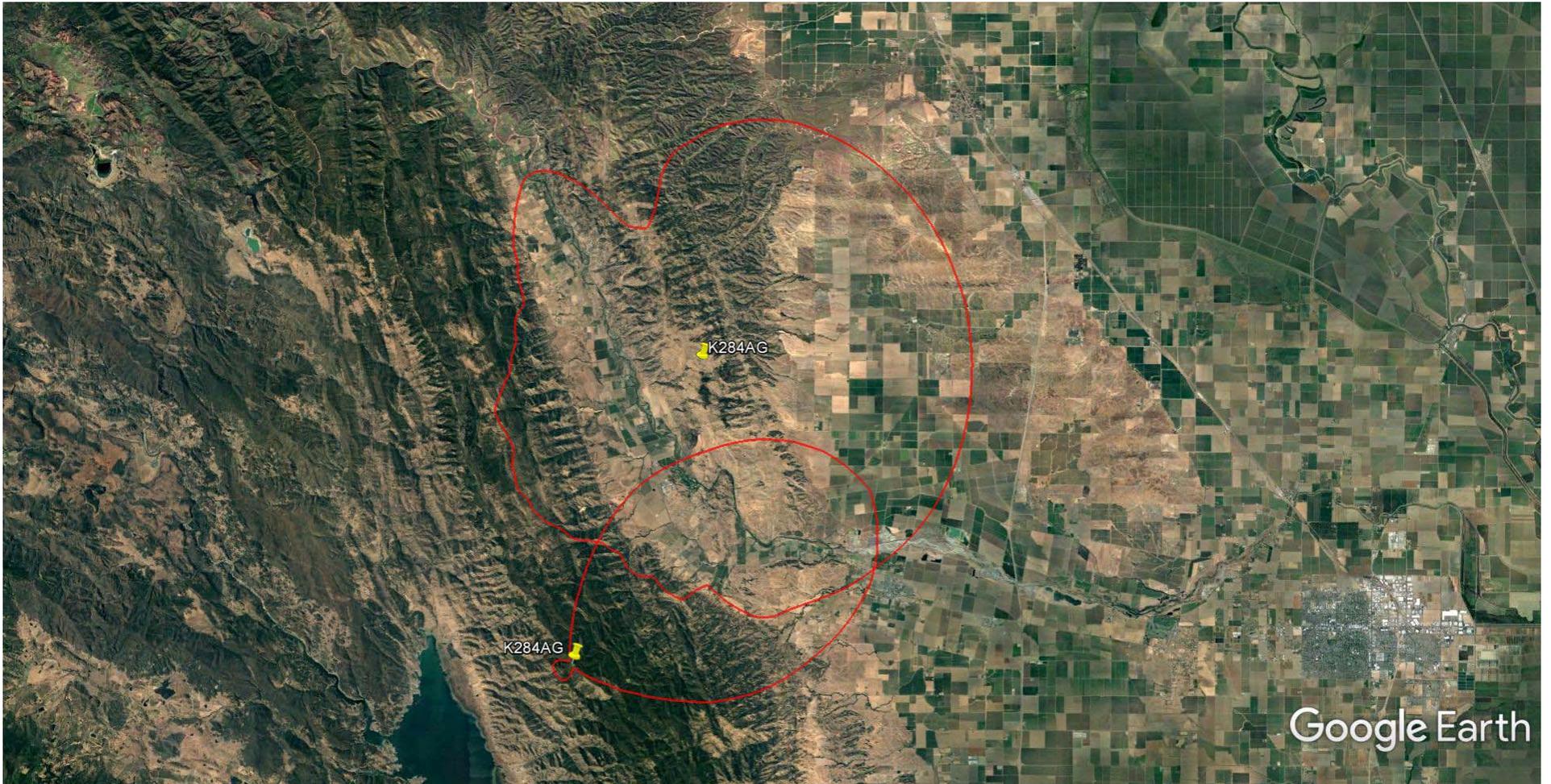
K284AG Minor Change
Nevada City Community Broadcast Group

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



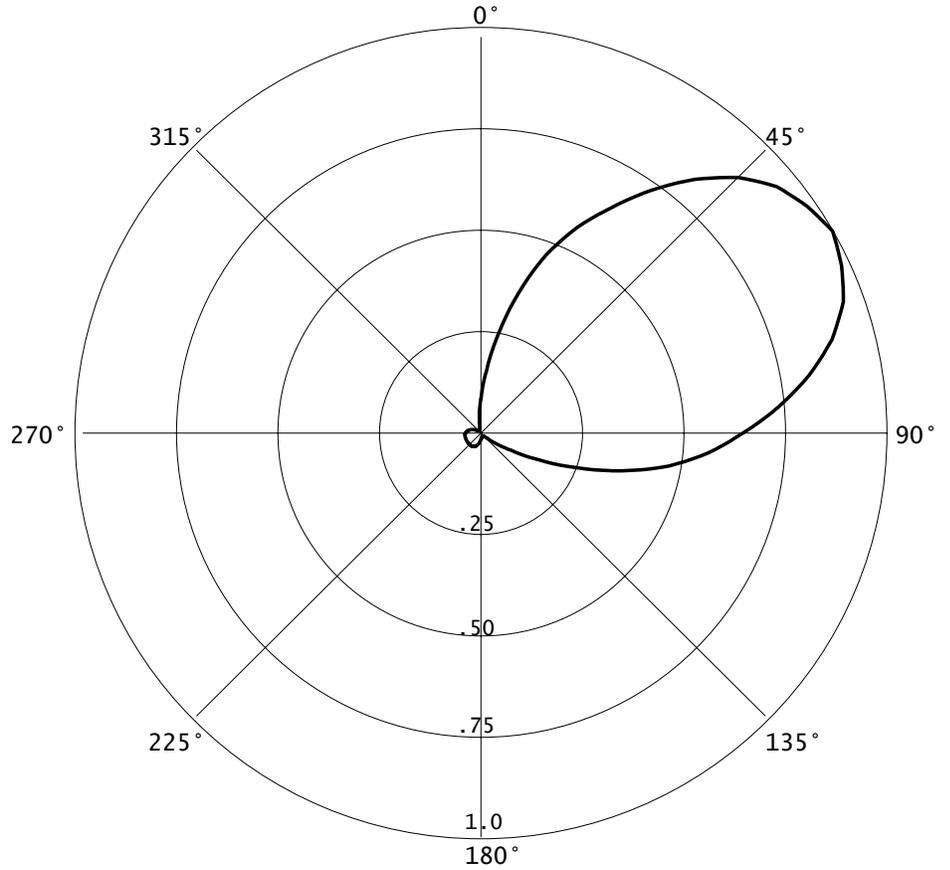
K284AG

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

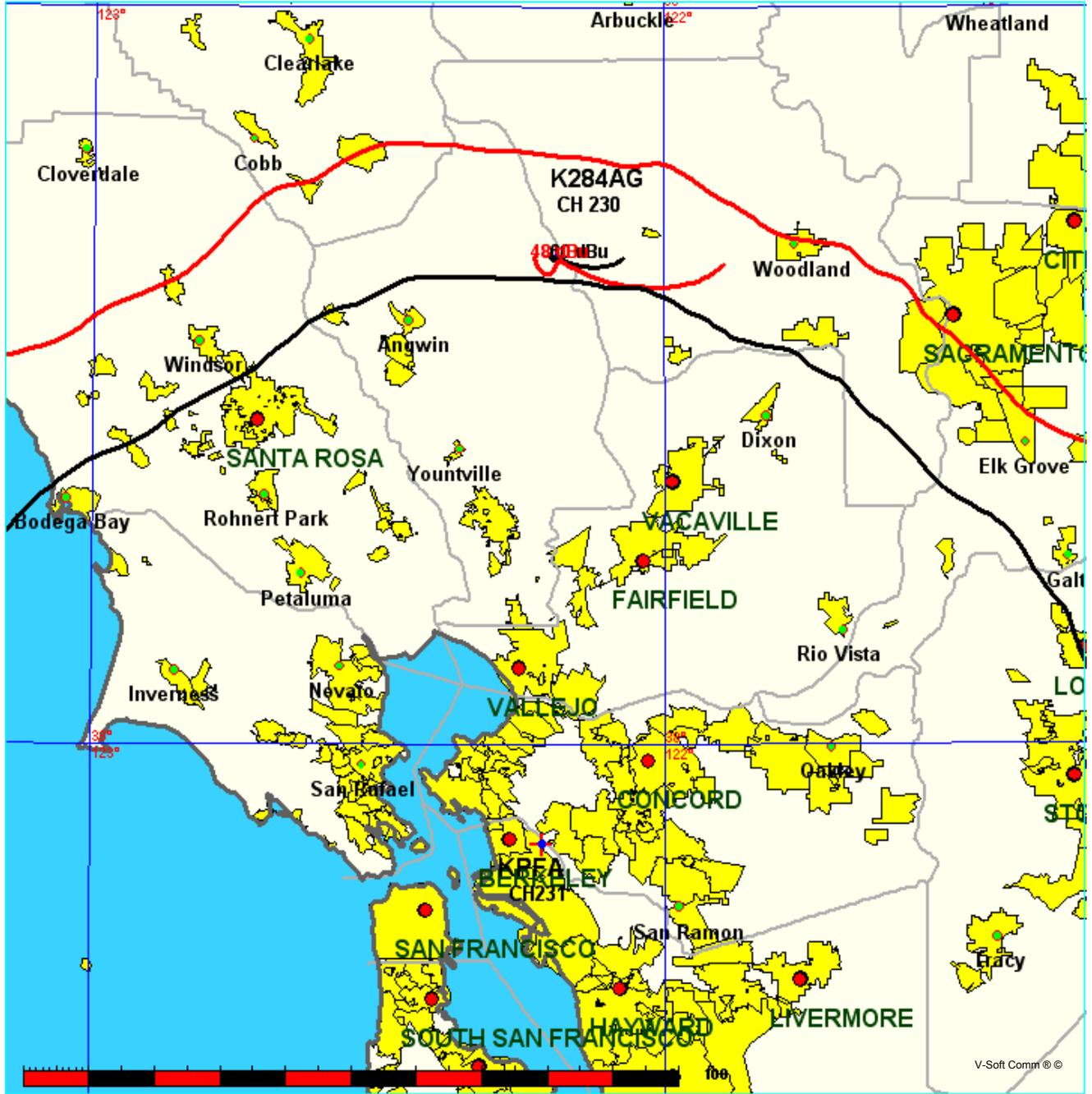


K284AG Minor Change
Nevada City Community Broadcast Group

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

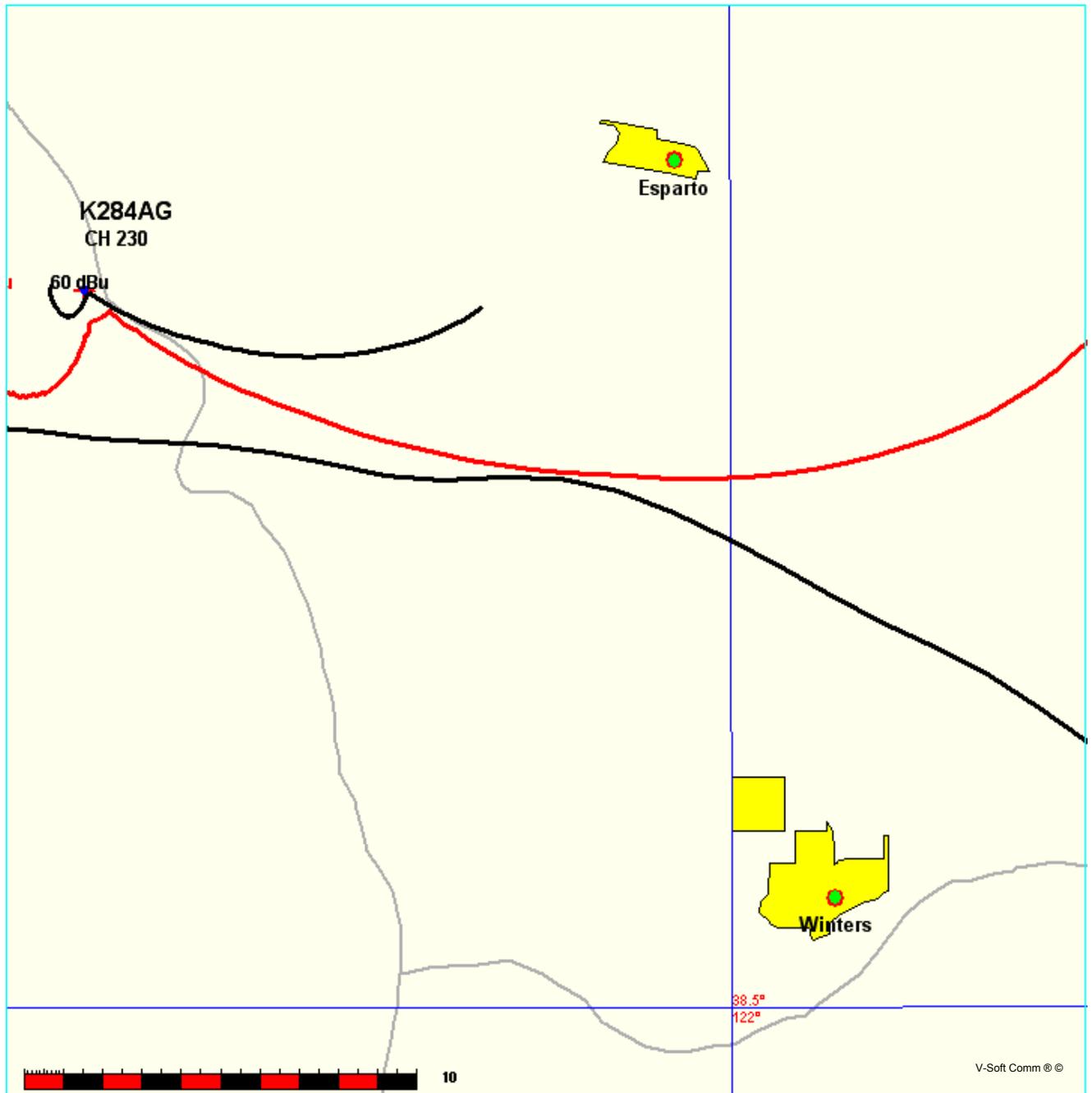


K284AG Minor Change
Nevada City Community Broadcast Group

FMCommander Single Allocation Study - 03-21-2017 - FCC NGDC 30 Sec
K284AG's Overlaps (In= -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

