

## **Broadcast Engineering Services of Bonny Doon, Inc.**

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### **Engineering Statement in support of a Minor modification to the license for KZCT Vallejo, California BLED-20110316ABV**

Ozcat Entertainment (KZCT), licensee of KZCT, is requesting a minor change to the KZCT license (BLED-20110316ABV), including a move to a new tower, and a change to the RCAMSL and HAAT, as well as a change to the effective radiated power. No other changes are proposed. The city of license will be 100% encompassed by the proposed 60 dbu contour of this modification.

There are no existing or proposed, full power FM or TV facilities that are affected or overlapped by this proposal, with the exception of KPOO in San Francisco (BLED-19800304AC). A small area of co-channel overlap occurs over the open waters of the San Pablo Bay. No population is affected by this small area of overlap. An allocation study, along with detail maps, is attached to this statement.

The proposed antenna system is a Scala model CA2-FM-2, a two-element composite yagi directional array, vertically polarized full wave spaced design, mounted 29 meters above ground. This antenna will produce a calculated worst-case RFR energy field of 39.3 mW/cm<sup>2</sup> microwatts per squared centimeter at a distance of 6 meters from the base of the tower support structure. This is just under 20% of the unoccupied limit, and is therefore compliant with the FCC rules concerning RFR both on and adjacent to the proposed tower location. There are no other radio broadcast facilities within 10 miles of this site.

Because the maximum calculated RFR level on the ground at the site (with both proposed facilities operating at full power) is less than 20% of the public limit, the applicant is confident that this complies with FCC rules concerning RFR exposure to the public.

Respectfully submitted,



Donald E. Mussell Jr. NCE-CBT  
Consulting Engineer  
October 8, 2017

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

KZCT Minor Change  
Ozcat Entertainment

REFERENCE  
38 06 04.8 N.  
122 14 40.7 W.

CH# 208A - 89.5 MHz, Pwr= 0.9 kW DA, HAAT= -4.8 M, COR= 44 M  
Average Protected F(50-50)= 9.9 km  
Standard Directional

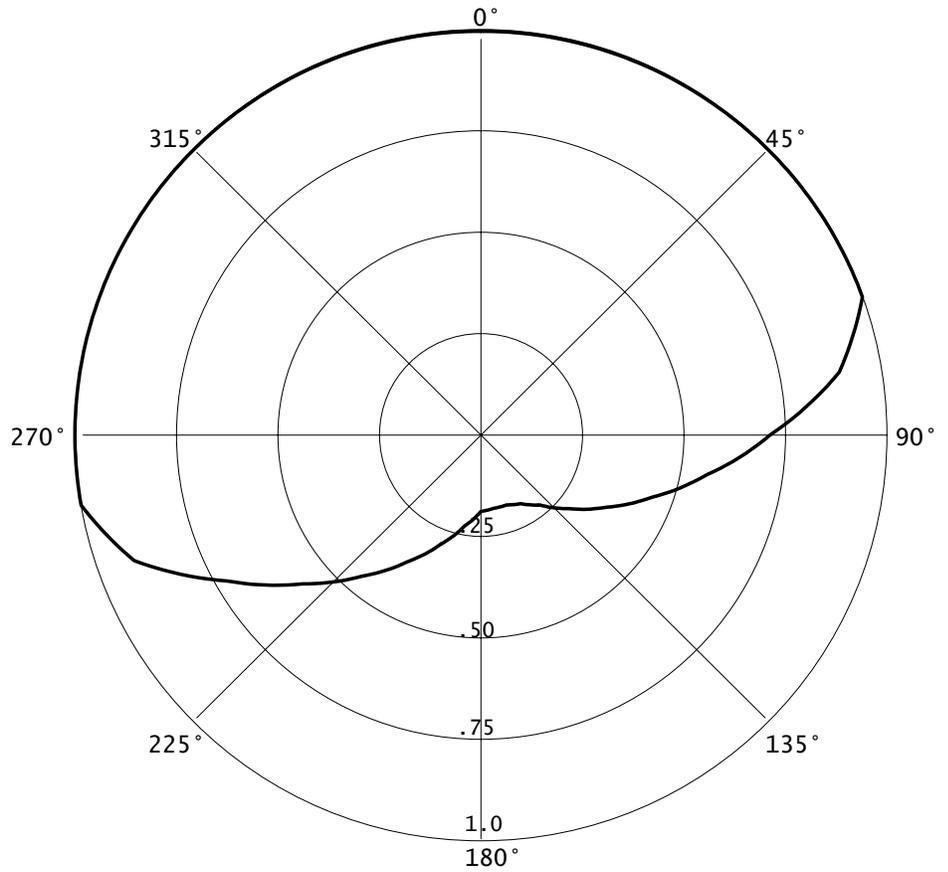
DISPLAY DATES  
DATA 10-08-17  
SEARCH 10-08-17

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)
208A Vallejo	KZCT	CP DVN CA	0.0 0.0	0.00 BMPED20160425ACK	38 06 04.8 122 14 40.7	0.900 -5	34.4 44	9.9 Ozcat Entertainment	-44.3*	-44.3*
208A Vallejo	KZCT	LIC DV_ CA	40.3 220.4	7.34 BLED20110316ABV	38 09 06.0 122 11 25.0	0.007 264	32.3 343	9.6 Ozcat Entertainment	-34.9*	-36.7*
208A San Francisco	KPOO	LIC DHN CA	203.5 23.4	37.38 BLED19800304AC	37 47 33.0 122 24 52.0	0.270 165	32.8 188	7.8 Poor People's Radio, Inc.	-1.8	1.5
208A Moraga	KSMC	LIC DHN CA	157.8 337.9	31.29 BLED19840702CA	37 50 25.0 122 06 36.0	0.800 24	25.8 205	5.5 Associated Students Of St.	2.7	0.6
209B Lodi	KLRS	LIC DCX CA	73.4 253.9	67.50 BLED20081103AAE	38 16 18.0 121 30 18.0	2.500 487	49.7 489	31.9 Educational Media Foundati	7.9	21.7
207A Berkeley	KPFB	LIC DHN CA	185.3 5.3	25.54 BLED19910909KB	37 52 20.0 122 16 18.0	0.460 -30	11.8 72	8.1 Pacifica Foundation, Inc.	8.0	10.9
210B Angwin	KOSC	LIC _CN CA	332.0 151.8	71.51 BLED19840711DA	38 40 09.0 122 37 53.0	0.800 925	2.0 1341	55.6 University Of Southern Cal	57.8	14.3
208B1 Ukiah	KPRA	LIC _C_ CA	323.1 142.5	141.77 BLED19990803KD	39 07 01.0 123 13 54.0	1.600 346	115.8 780	44.4 Family Stations, Inc.	14.7	53.9
205B Sacramento	KXPR	LIC DCN CA	73.3 253.8	67.72 BLED19950926KB	38 16 25.0 121 30 11.0	50.000 150	5.5 152	49.7 California State Universit	52.3	15.5
206B Calistoga	KBBF	LIC _CX CA	332.5 152.3	69.59 BLED20090224ABY	38 39 23.0 122 36 54.0	0.420 844	1.4 1241	48.0 Bilingual Broadcasting Fou	56.4	19.9
209B1 Los Altos	KFJC	LIC _C_ CA	174.0 354.1	87.13 BLED19961105KB	37 19 14.0 122 08 29.0	0.110 562	44.9 820	29.0 Foothill-de Anza Community	37.1	52.2
211B Stockton	KYCC	LIC DCX CA	100.4 281.0	86.00 BLED20080930ATZ	37 57 30.0 121 16 55.0	41.000 107	4.5 116	41.7 Your Christian Companion N	72.7	40.2
261A Santa Rosa	KZST«	LIC _C_ CA	313.3 133.0	51.61 BLH19991015ABU	38 25 07.0 122 40 33.0	6.000 75	12.8 255	58.8 Redwood Empire Stereocaste	10.0R	41.6M
207A Moss Beach	KRSA	LIC DCX CA	199.1 18.9	63.30 BLED20090707ACC	37 33 44.0 122 28 46.0	0.043 498	13.3 581	9.6 Educational Public Radio,	42.5	46.3
207A North Highlands	KQEI-FM	LIC DCX CA	44.2 224.7	94.94 BLED20110411AAI	38 42 38.0 121 28 54.0	3.300 108	38.7 122	25.5 Kqed Inc.	46.4	55.6

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= - Zone 1A, 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.  
« = Station meets FCC minimum distance spacing for its class.

Graph is Relative Field

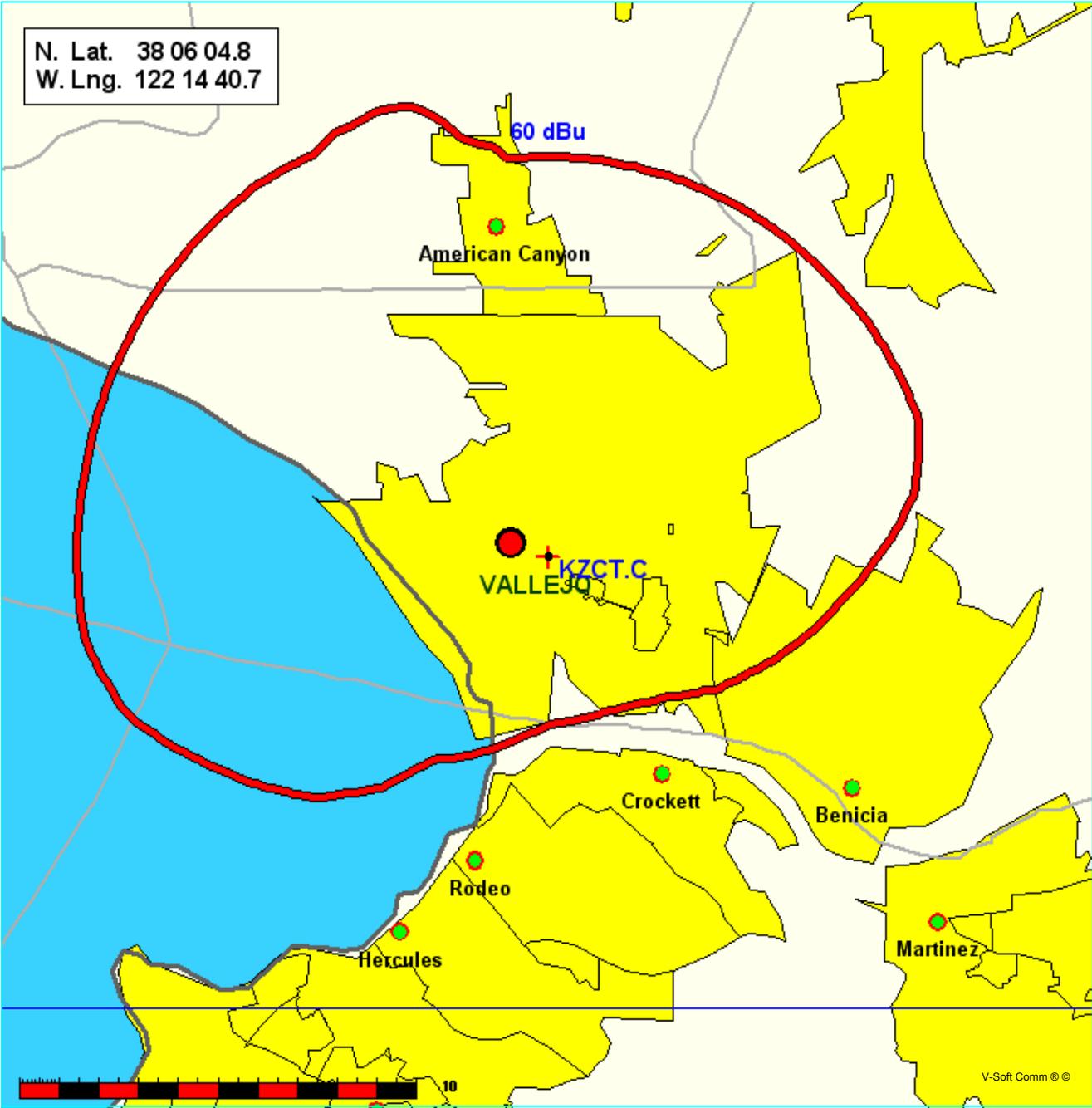
Azi	Field	dBk	kw
000	1.000	-00.458	0.900
010	1.000	-00.458	0.900
020	1.000	-00.458	0.900
030	1.000	-00.458	0.900
040	1.000	-00.458	0.900
050	1.000	-00.458	0.900
060	1.000	-00.458	0.900
070	1.000	-00.458	0.900
080	0.896	-01.411	0.723
090	0.712	-03.408	0.456
100	0.565	-05.417	0.287
110	0.449	-07.413	0.181
120	0.357	-09.404	0.115
130	0.283	-11.422	0.072
140	0.226	-13.375	0.046
150	0.196	-14.612	0.035
160	0.184	-15.161	0.030
170	0.184	-15.161	0.030
180	0.189	-14.928	0.032
190	0.228	-13.299	0.047
200	0.287	-11.300	0.074
210	0.362	-09.283	0.118
220	0.456	-07.278	0.187
230	0.573	-05.294	0.295
240	0.722	-03.287	0.469
250	0.909	-01.286	0.744
260	1.000	-00.458	0.900
270	1.000	-00.458	0.900
280	1.000	-00.458	0.900
290	1.000	-00.458	0.900
300	1.000	-00.458	0.900
310	1.000	-00.458	0.900
320	1.000	-00.458	0.900
330	1.000	-00.458	0.900
340	1.000	-00.458	0.900
350	1.000	-00.458	0.900



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Coverage Study - FCC NGDC 30 Sec  
10-08-2017

KZCT-C CH208 A , 0.9 kW, -4.8m HAAT, 44.0m COR AMSL  
Service Contour = 60 dBu. Population = 139,405

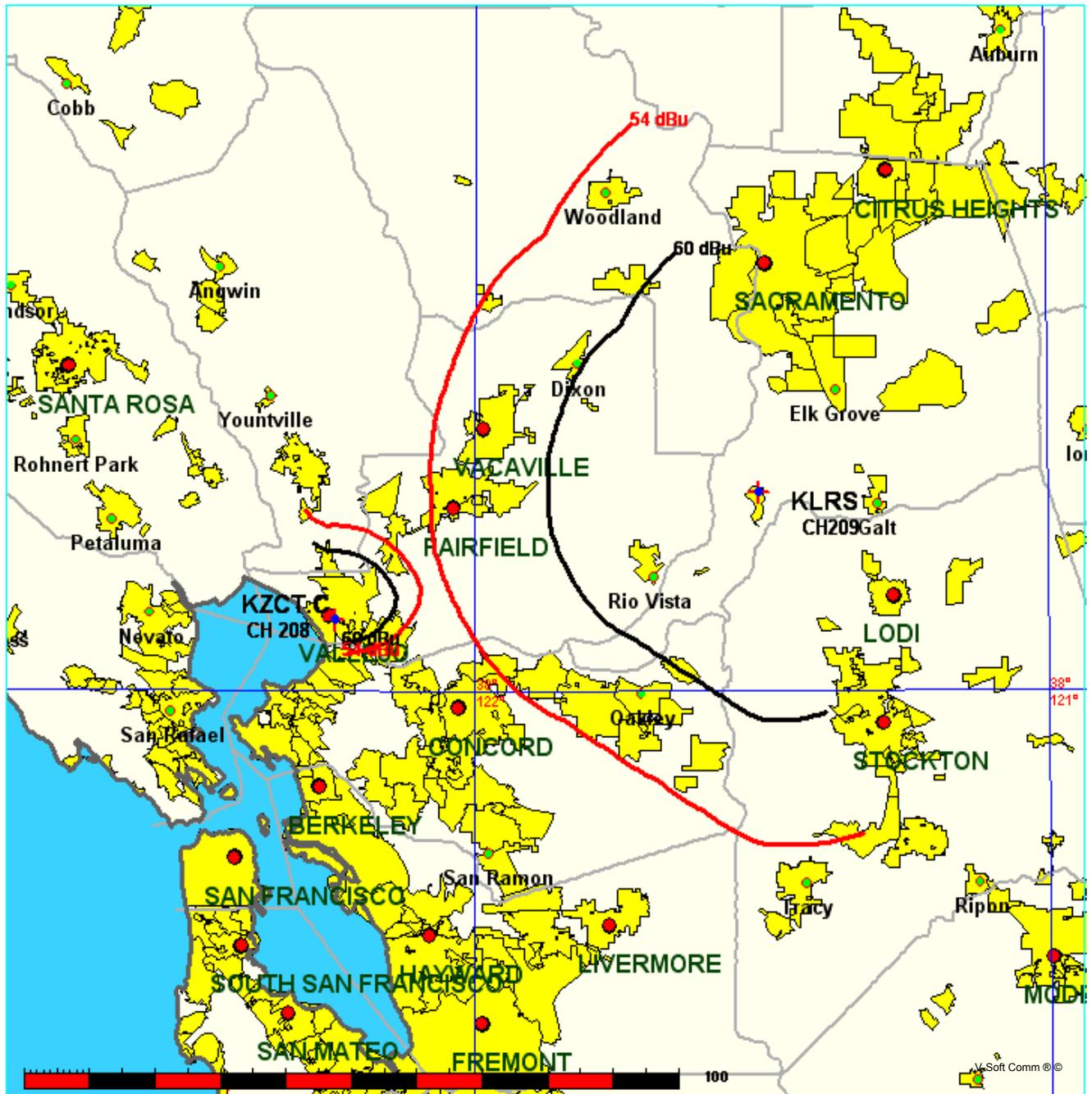


KZCT Minor Change  
Ozcat Entertainment

FMCommander Single Allocation Study - 10-08-2017 - FCC NGDC 30 Sec  
KZCT.C's Overlaps (In= 7.9 km, Out= 21.66 km)

KZCT.C CH 208 A DA  
Lat= 38 06 04.8, Lng= 122 14 40.7  
0.9 kW -4.8 m HAAT, 44 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

KLRS CH 209 B DA BLED20081103AAE  
Lat= 38 16 18.0, Lng= 121 30 18.0  
2.5 kW 487 m HAAT, 489 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

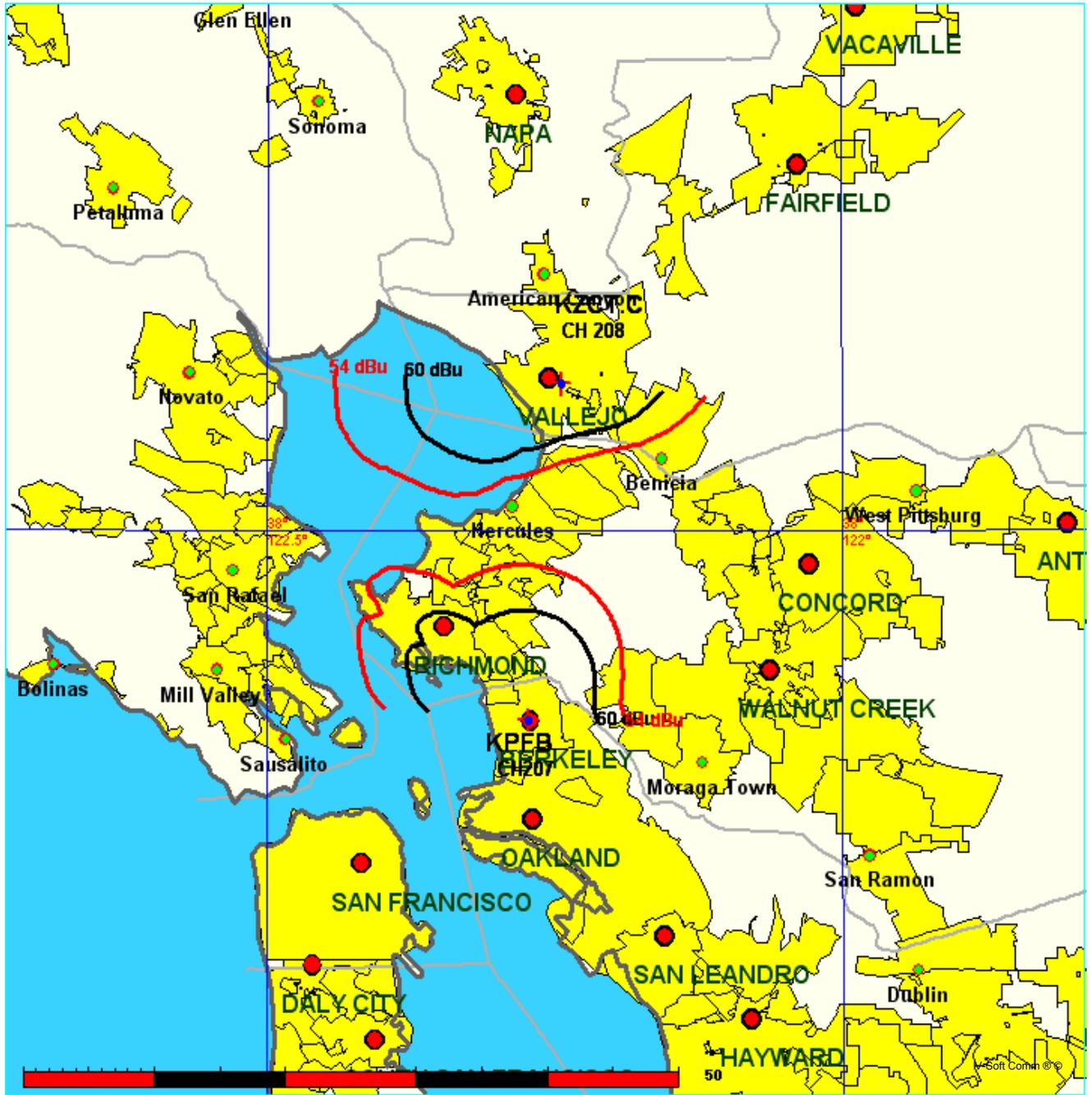


KZCT Minor Change  
Ozcat Entertainment

FMCommander Single Allocation Study - 10-08-2017 - FCC NGDC 30 Sec  
KZCT.C's Overlaps (In= 7.96 km, Out= 10.85 km)

KZCT.C CH 208 A DA  
Lat= 38 06 04.8, Lng= 122 14 40.7  
0.9 kW -4.8 m HAAT, 44 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

KPFB CH 207 A DA BLED19910909KB  
Lat= 37 52 20.0, Lng= 122 16 18.0  
0.46 kW -30 m HAAT, 72 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

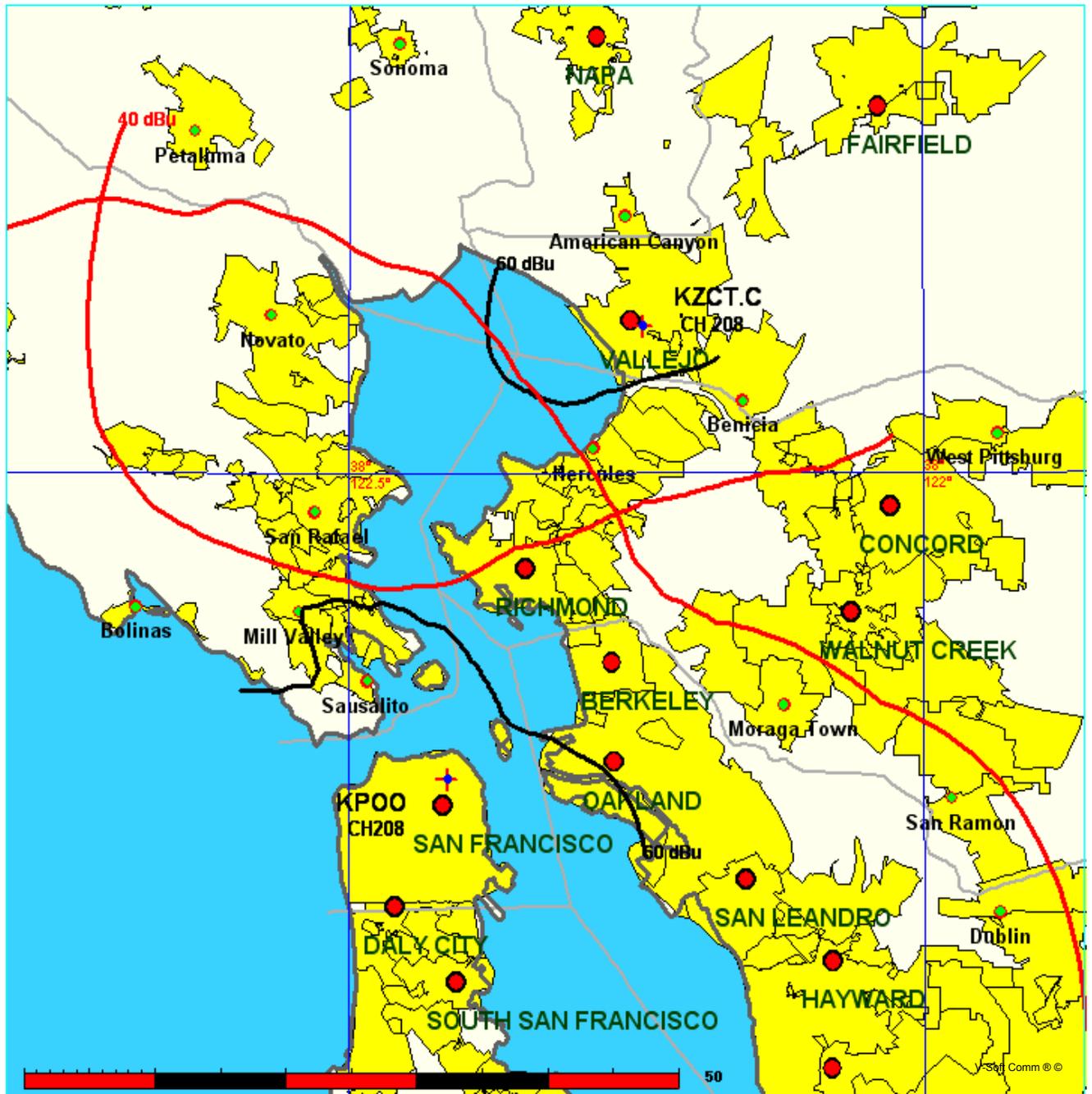


KZCT Minor Change  
Ozcat Entertainment

FMCommander Single Allocation Study - 10-08-2017 - FCC NGDC 30 Sec  
KZCT.C's Overlaps (In= -1.81 km, Out= 1.47 km)

KZCT.C CH 208 A DA  
Lat= 38 06 04.8, Lng= 122 14 40.7  
0.9 kW -4.8 m HAAT, 44 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

KPOO CH 208 A DA BLED19800304AC  
Lat= 37 47 33.0, Lng= 122 24 52.0  
0.27 kW 165 m HAAT, 188 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

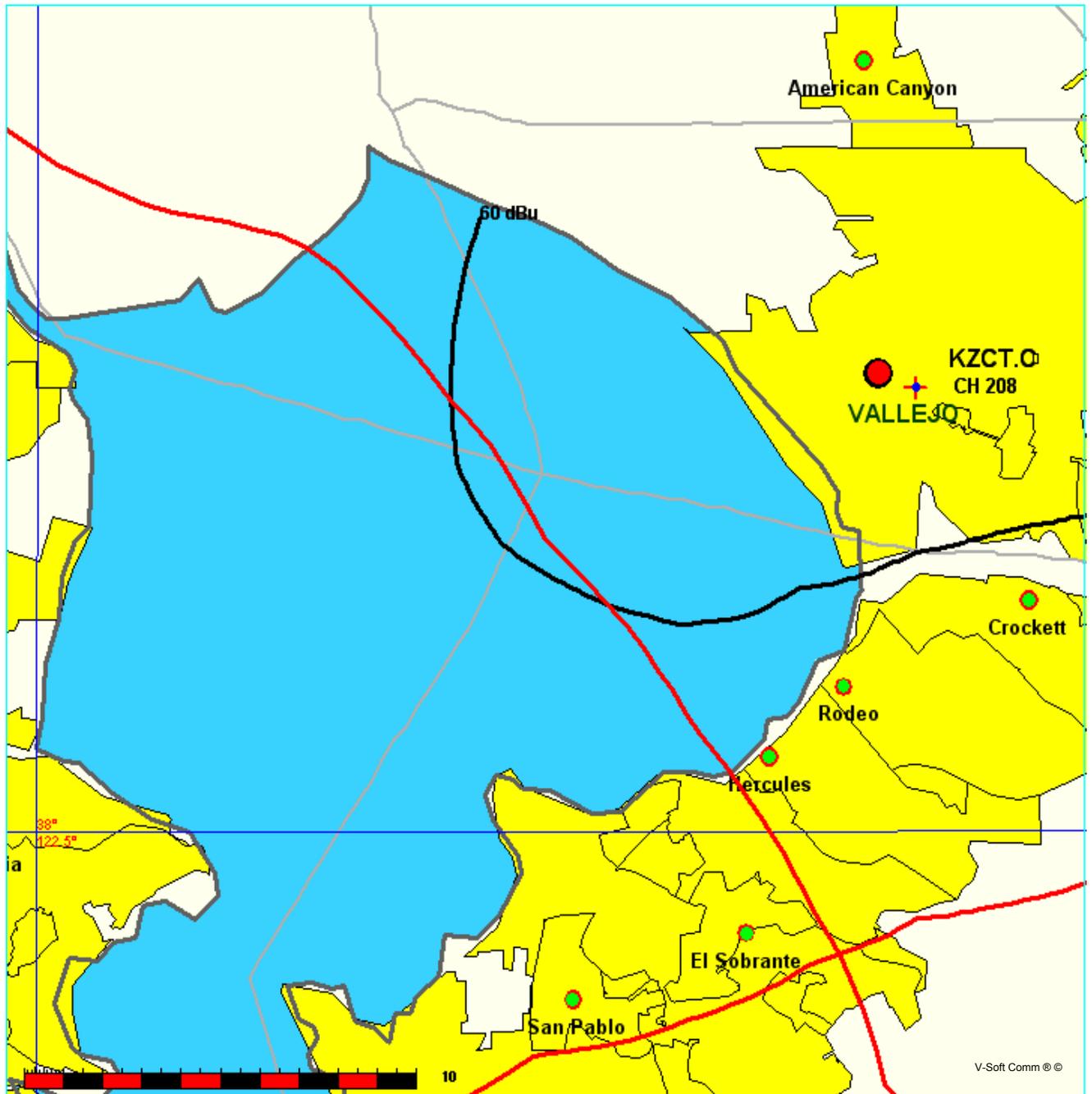


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FMCommander Single Allocation Study - 10-08-2017 - FCC NGDC 30 Sec  
KZCT.C's Overlaps (In= -1.81 km, Out= 1.47 km)

KZCT.C CH 208 A DA  
Lat= 38 06 04.8, Lng= 122 14 40.7  
0.9 kW -4.8 m HAAT, 44 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

KPOO CH 208 A DA BLED19800304AC  
Lat= 37 47 33.0, Lng= 122 24 52.0  
0.27 kW 165 m HAAT, 188 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

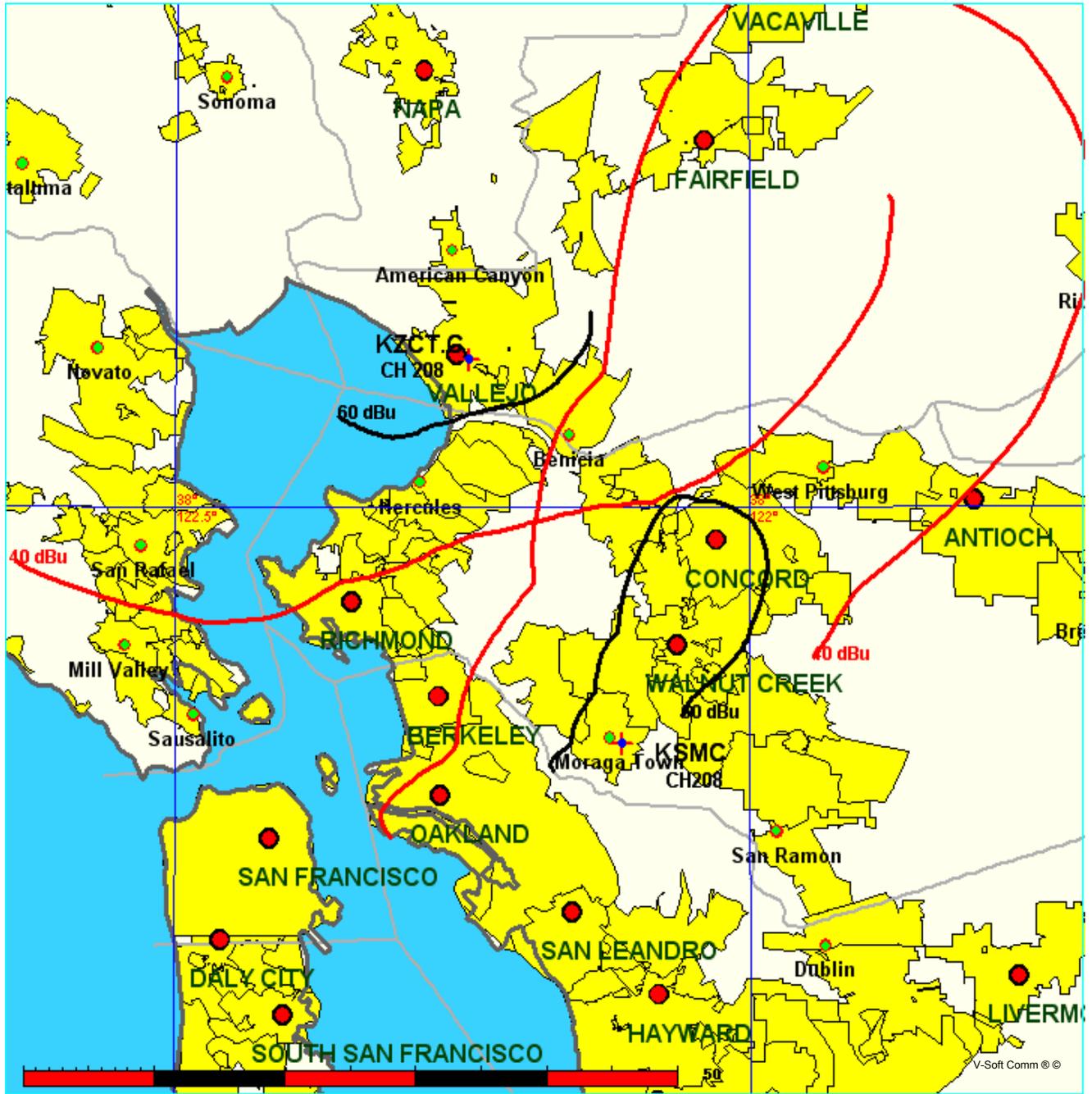


KZCT Minor Change  
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FMCommander Single Allocation Study - 10-08-2017 - FCC NGDC 30 Sec  
KZCT.C's Overlaps (In= 2.69 km, Out= 0.6 km)

KZCT.C CH 208 A DA  
Lat= 38 06 04.8, Lng= 122 14 40.7  
0.9 kW -4.8 m HAAT, 44 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

KSMC CH 208 A DA BLED19840702CA  
Lat= 37 50 25.0, Lng= 122 06 36.0  
0.8 kW 24 m HAAT, 205 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



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FMCommander Single Allocation Study - 10-08-2017 - FCC NGDC 30 Sec  
KZCT.C's Overlaps (In= 2.69 km, Out= 0.6 km)

KZCT.C CH 208 A DA  
Lat= 38 06 04.8, Lng= 122 14 40.7  
0.9 kW -4.8 m HAAT, 44 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

KSMC CH 208 A DA BLED19840702CA  
Lat= 37 50 25.0, Lng= 122 06 36.0  
0.8 kW 24 m HAAT, 205 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

