

Channel Study

REFERENCE		CH# 214D - 90.7 MHz, Pwr= 0.24 kW, HAAT= 85.6 M, COR= 537 M								DISPLAY DATES	
32 50 03.8 N.		Average Protected F(50-50)= 11.8 km								DATA 08-22-17	
111 38 14.5 W.		Omni-directional								SEARCH 08-24-17	
CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
214D Casa Grande	K214FG!	LIC	C AZ	258.3 78.2	7.10 BLFT20170523ACC	32 49 17.0 111 42 42.0	0.028 827	40.7 712	12.2 Educational Media Foundati	-44.7	-43.0
216C2 Eloy	KVNG	LIC	DCX AZ	120.1 300.2	25.67 BLED20131118AOS	32 43 07.0 111 24 00.0	0.740 827	1.9 1386	50.8 Calvary Chapel Of Casa Gra	13.0	-26.2*<
213C Tucson	KUAT-FM	LIC	CX AZ	118.1 298.6	98.29 BLED20111205AJW	32 24 55.1 110 42 51.9	12.000 1113	106.2 2661	72.2 Arizona Board Of Regents F	-18.8*<	10.7
214A Apache Junction	KVIT	LIC	CX AZ	11.1 191.2	70.43 BLED20110211ABB	33 27 27.0 111 29 28.0	2.000 18	76.2 649	25.3 East Valley Institute Of T	-18.7*<	0.5
212C Phoenix	KFLR-FM	LIC	DCX AZ	324.6 144.4	68.13 BLED20070912ABQ	33 20 02.0 112 03 44.0	100.000 483	4.3 852	54.6 Family Life Broadcasting,	51.1	12.5
214A San Lucy	KOHH	LIC	CX AZ	278.4 97.9	102.21 BLED20141030ABA	32 57 52.0 112 43 08.0	6.000 -13	68.3 244	15.8 Tohono O'odham Nation	21.1	42.6
215C Safford	VA9006	VAC	N AZ	89.5 270.6	179.91	32 50 00.0 109 42 57.0	100.000 600	140.4 1595	94.8	28.2	68.7
268C Phoenix	KALV-FM	LIC	CN AZ	324.5 144.2	67.91 BLH6108	33 19 52.0 112 03 46.0	100.000 530	0.0 889	0.0 Cbs Radio Stations Inc.	29.0R	38.9M
214D Phoenix	K205CI	CP	DV AZ	333.6 153.3	94.54 BPFT20160303ACG	33 35 47.0 112 05 31.5	0.010	31.4 630	9.5 Family Stations, Inc.	50.8	42.6
214C Caborca	AL8342	VAC		191.6 11.3	251.59	30 37 00.0 112 10 00.0	100.000 600	196.8 886	92.0	43.7	121.5
215B San Francisquito	AL8651	VAC		205.3 24.9	152.55	31 35 30.0 112 19 30.0	50.000 150	80.7 740	65.0	60.6	64.1
216D Guadalupe	K216FO	LIC	C AZ	329.5 149.3	79.49 BLFT20140415AAV	33 27 03.0 112 04 20.0	0.075 133	0.6 500	10.1 World Radio Network, Inc.	66.4	68.4

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
 Contour distances are on direct line to and from reference station. Reference Zone= West Zone, 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.
 < = Contour Overlap
 Reference station has protected zone issue: Mexico

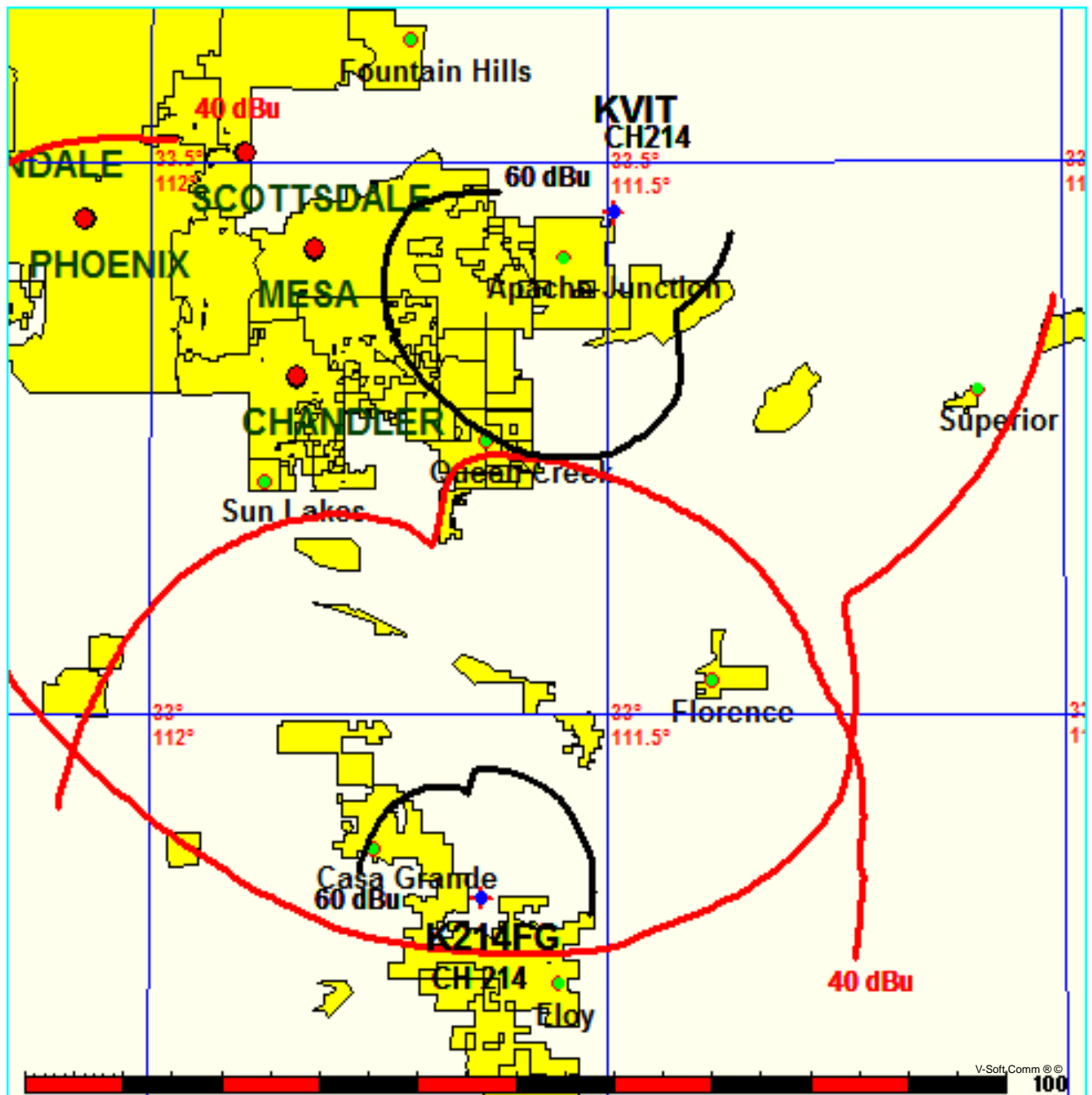
FMCommander Single Allocation Study - 08-24-2017 - FCC NGDC 30 Sec
K214FG's Overlaps (In= -18.72 km, Out= 0.47 km)

K214FG CH 214 D

Lat= 32 50 03.8, Lng= 111 38 14.5
0.24 kW 85.6 m HAAT, 537 m COR
Prot.= 60 dBu, Intef.= 40 dBu

KVIT CH 214 A BLED20110211ABB

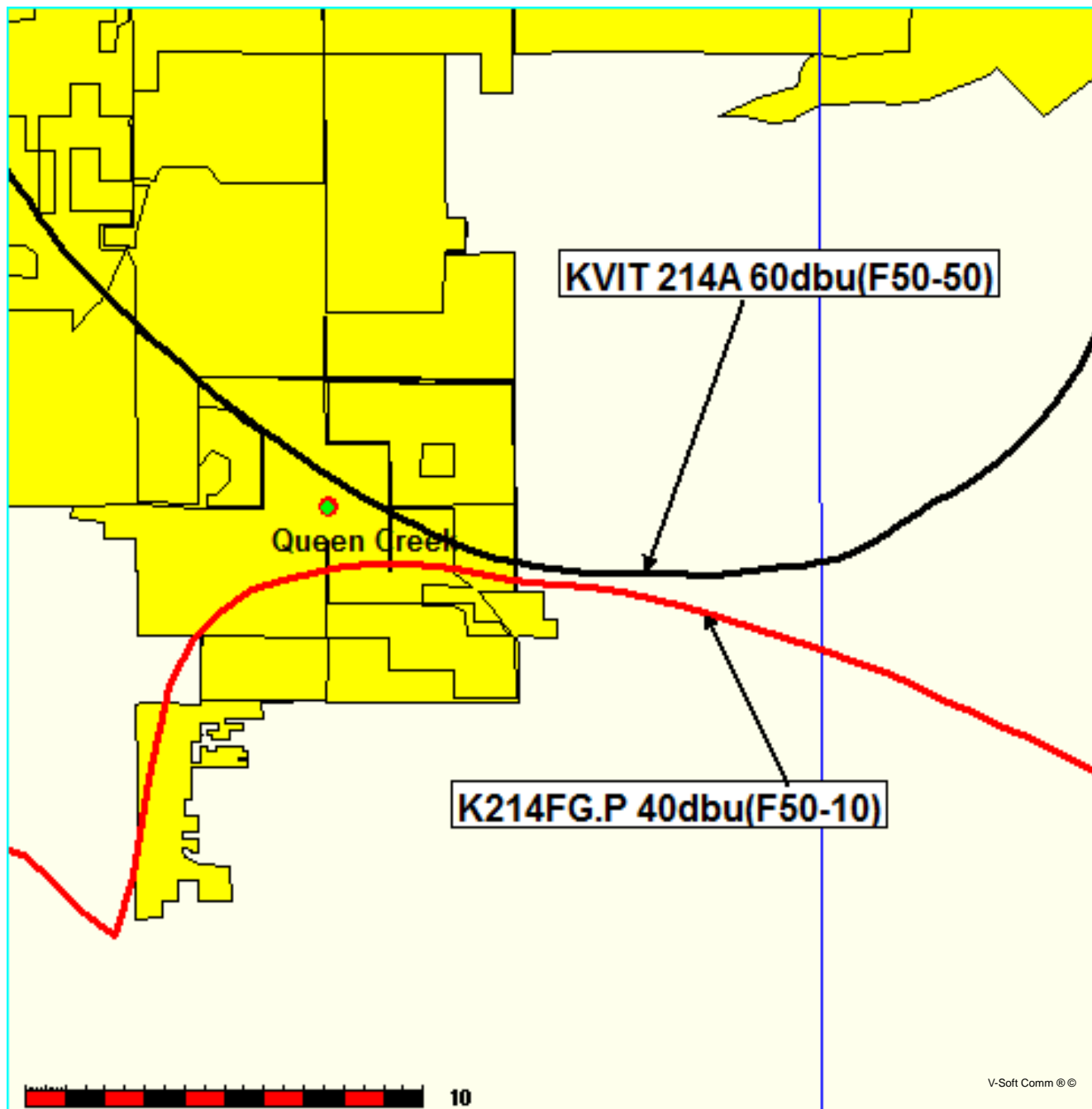
Lat= 33 27 27.0, Lng= 111 29 28.0
2.0 kW 18 m HAAT, 649 m COR
Prot.= 60 dBu, Intef.= 40 dBu



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Educational Media Foundation

5700 W Oaks Blvd
Rocklin, CA 95765

Exhibit 13-A
Casa Grande, AZ

Compliance with C.F.R. 74.1204

The proposed FM Translator to operate on channel 214 is located within the protected 60dBu contour of second adjacent channel station KVNG, channel 216C2, Eloy, AZ. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for K214FG.P:	240 watts
The proposed COR for K214FG.P:	87 meters
KVNG F(50/50) contour at proposed site:	72.2dBu
The F(50/10) contour of proposed K214FG.P:	112.2dBu

The predicted distance to the 112.2dbu interfering contour is 266.8 meters. Taking into account the vertical elevation pattern of the Nicom BKG77 two bay circularly polarized 0.85 wave-spaced antenna and the height above ground of 87m, it has been determined that the interfering contour of 112.2dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 10.5m above ground at a distance of 88.3m from the antenna.

As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 266.8m distance from the antenna.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1
74.1204(d) Showing
K214FG
Casa Grande, AZ

ERP (kw): 0.24
Height of Antenna above Ground (m): 87
Translator's IX Contour: 112.2
Antenna Type: Nicom BKG88 2BAY 0.85 SPACING

Depression Angle from Horizon	Antenna Relative Field	ERP (kw) from the Antenna RF	Dist. To IX Contour (m)	Height IX Contour Above Ground (m)
0	1.000	0.2400	266.7507	87.000
5	0.967	0.2244	257.9480	64.518
10	0.871	0.1821	232.3399	46.655
15	0.711	0.1213	189.6598	37.912
20	0.518	0.0644	138.1769	39.741
25	0.310	0.0231	82.6927	52.053
30	0.112	0.0030	29.8761	72.062
35	0.062	0.0009	16.5385	77.514
40	0.198	0.0094	52.8166	53.050
45	0.288	0.0199	76.8242	32.677
50	0.336	0.0271	89.6282	18.341
55	0.349	0.0292	93.0960	10.740
60	0.331	0.0263	88.2945	10.535
65	0.295	0.0209	78.6915	15.681
70	0.246	0.0145	65.6207	25.337
75	0.197	0.0093	52.5499	36.241
80	0.151	0.0055	40.2794	47.333
85	0.122	0.0036	32.5436	54.580
90	0.117	0.0033	31.2098	55.790

Exhibit 13-A2



Yellow Pin Marker

NAD27

32-50-03.8 N 111-38-14.5 W

Red Line Marker: 267m at 180 degrees