

TECHNICAL STATEMENT
KAZK(FM) CATALINA, AZ, CH 209C2
FORM 340

KAZK(FM) Willcox, Arizona, facility ID 176305 is filing this minor change application to relocate to a new transmitter site. "One Step" upgrade from channel 209A to channel 209C2, and change its current city of license from Willcox, Arizona to Catalina, Arizona as the community's first local service. KAZK(AM) is proposing to relocate to an existing un-registered 20 meter overall height tower site located at the Mt Lemmon Communications site.

Figure 1 is a channel interference study showing that all of the pertinent CO, 1st, 2nd and 3rd adjacent channel stations to channel 209C2 will be fully protected. Since the proposed operation of KAZK(FM) at Catalina is within 320 Kilometers of the US/Mexican border, this study also shows that all of the required spacing to Mexican stations and allotments will be met, with the exception of a Vacant Allotment at Nogales, SO, on channel 208C. Contour protection is being proposed to this allotment.

Figure 2 shows that the proposed 54 dB μ interference contour of the proposed KAZK will not overlap with the predicted 60 dB μ maximum class C facilities of the allotment at Nogales. Figure 6 also documents that the proposed 34 dB μ interference contour will not extend beyond the US/Mexican border.

Figure 3 shows that the proposed operation of KAZK(FM) at Catalina, AZ will mutually overlap with the present operation of KAZK(FM) at Willcox, AZ.

Figure 4 shows the predicted 60 dB μ contour for the proposed KAZK(FM) at Catalina, AZ. It shows that the primary contour will completely encompass the community of license to be served.

Figure 5 shows the directional antenna data for the proposed directional antenna to be utilized at the new site.

It was determined that the proposed operation of KAZK(FM) at Catalina will meet all of the Commission rules for this Non-Commercial FM station.

Figure 1 – Detailed Channel Interference Study

REFERENCE		CH# 209C2- 89.7 MHz, Pwr= 0.25 kW DA, HAAT= 1218.0 M, COR= 2768 M DISPLAY DATES									
32 26 31.2 N.		Average Protected F(50-50)= 46.0 km DATA 09-05-21									
110 46 53.3 W.		Standard Directional SEARCH 09-05-21									
CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
209C2 Catalina	KAZK!	CP	DCN AZ	0.0 0.0	0.00 BPED20180111AAA	32 26 31.20 110 46 53.30	0.250 1202	2768	---Reference---		
208C Nogales	AL0642^	VAC	SO	187.1 7.1	124.44	31 19 52.36 110 56 39.31	100.000 600	143.3 1876	92.0	-36.4*	0.5
209A Willcox	KAZK!	LIC	HN AZ	102.1 282.6	91.27 BLED20171214ABV	32 16 01.30 109 50 02.20	2.900 5	1322	---Reference---		
206A Tucson	KUAZ-FM	LIC	CN AZ	220.0 39.9	32.91 BLED20051028ABV	32 12 53.20 111 00 23.30	1.600 187	2.4 963	29.0 Arizona Board Of Regents F	7.7	3.6
210C Superior	KLVA	LIC	DVN AZ	340.0 159.7	152.33 BLED20100305ABC	33 43 52.10 111 20 41.40	45.000 619	99.4 1748	63.8 Educational Media Foundati	8.2	10.7
208C1 Phoenix	KBAQ	LIC	DCN AZ	309.9 129.2	155.57 BMLD20181213ACI	33 19 57.60 112 03 57.70	30.000 474	93.9 841	63.0 Maricopa Co Comm Coll Dist	12.6	18.2
209C Puerto Penasco	R43118«	ADD	SO	245.1 63.6	286.99	31 19 25.30 113 31 17.63	100.000 600	231.2 608	92.0	270.0R	17.0M
209C Puerto Penasco	R29573«	ADD	SO	245.1 63.6	286.99	31 19 25.30 113 31 17.63	100.000 600	231.2 608	92.0	270.0R	17.0M
210A Nogales	R17224«	VAC	SO	187.2 7.1	125.85	31 19 07.36 110 56 47.30	3.000 100	70.1 1388	24.0	105.0R	20.9M
210C Caborca	AL8907«	VAC	SO	213.4 32.7	246.55	30 35 00.39 112 12 02.38	100.000 600	158.1 865	92.0	215.0R	31.6M
211A Globe	VA0003	VAC	N AZ	359.8 179.8	105.75	33 23 44.21 110 47 07.39	6.000 100	1.6 1359	15.8	56.8	76.1
262C Globe	KQMR«	LIC	CN AZ	355.3 175.2	94.34 BMLH20050815AEE	33 17 23.20 110 51 55.40	90.000 624	0.0 1985	0.0 Univision Radio Stations G	35.0R	59.3M
212A Nogales	R17224«	VAC	SO	187.2 7.1	125.85	31 19 07.36 110 56 47.30	3.000 100	4.9 1388	24.0	65.0R	60.9M
206A Nogales	R17274«	VAC	SO	187.2 7.1	125.85	31 19 07.36 110 56 47.30	3.000 100	4.9 1388	24.0	65.0R	60.9M
06 -- Lordsburg	K06QV-D«	CP	DHN NM	93.7 274.8	191.09 0000153207	32 26 27.20 114 45 23.80	3.000 31.8	58.4R 1518	132.7M		

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 2, Co to 3rd adjacent.
Call signs with exclamation marks need not be protected.
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.
^ = Power and antenna height 'Max classed' as per Sec 73.215 protection requirements
Reference station has protected zone issue: Mexico

Figure 2 - Detailed Contour Study with Nogales 208C

FMCommander Single Allocation Study - 09-05-2021 - FCC NGDC 30 Sec
KAZK.P's Overlaps (In= -36.42 km, Out= 0.45 km)

KAZK.P CH 209 C2 DA

Lat= 32 26 31.20, Lng= 110 46 53.30

0.25 kW 1218 m HAAT, 2768 m COR

Prot.= 60 dBu, Intef.= 54 dBu

AL0642^ CH 208 C

Lat= 31 19 52.36, Lng= 110 56 39.31

Max CIs: 100.0 kW 600 m HAAT, 1875.8 m COR

Prot.= 60 dBu, Intef.= 48 dBu

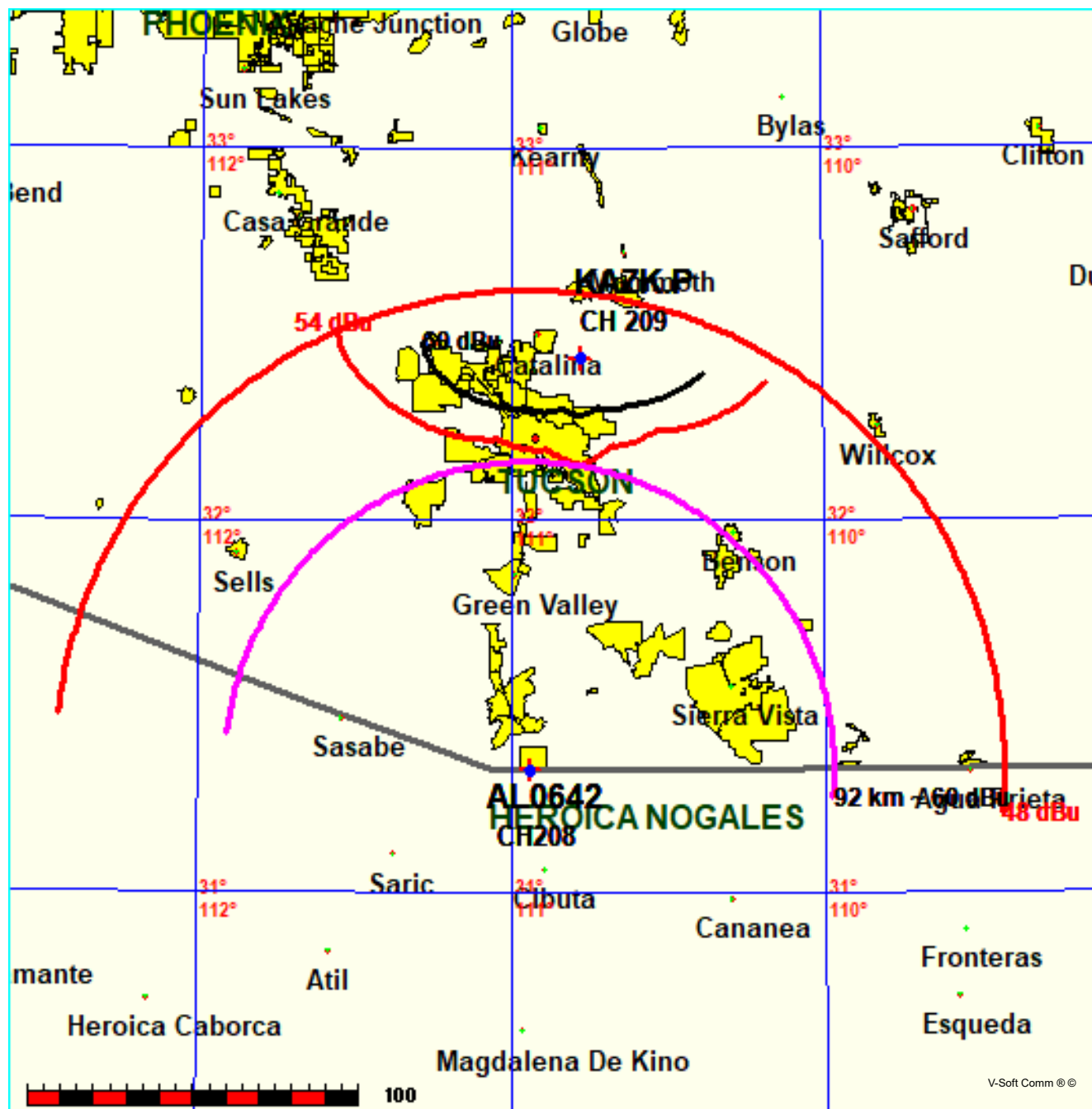
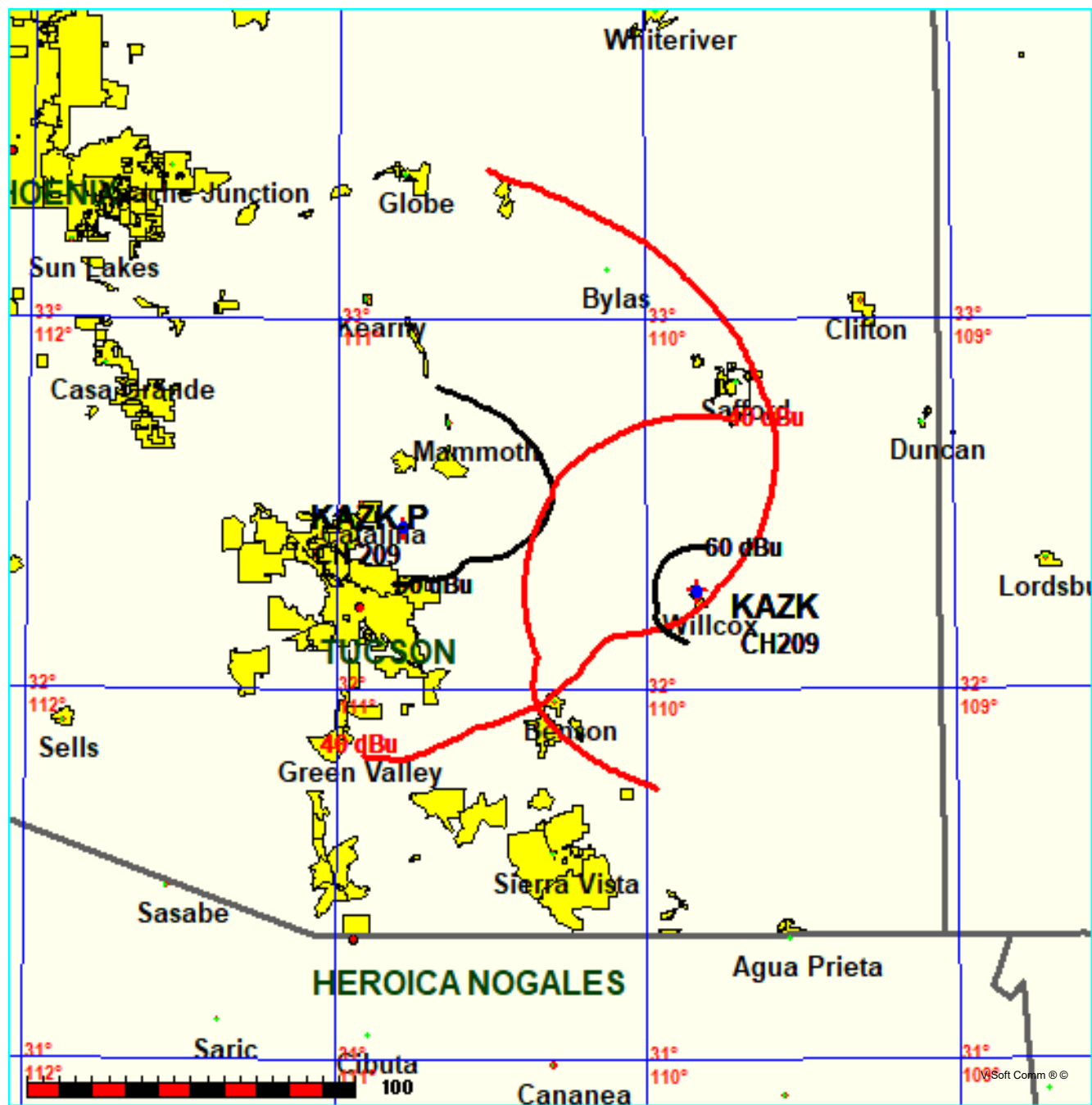


Figure 3 - Mutual Overlap with current KAZX Wilcox AZ

FMCommander Single Allocation Study - 09-05-2021 - FCC NGDC 30 Sec
KAZK.P's Overlaps (In= -1.73 km, Out= -21.35 km)

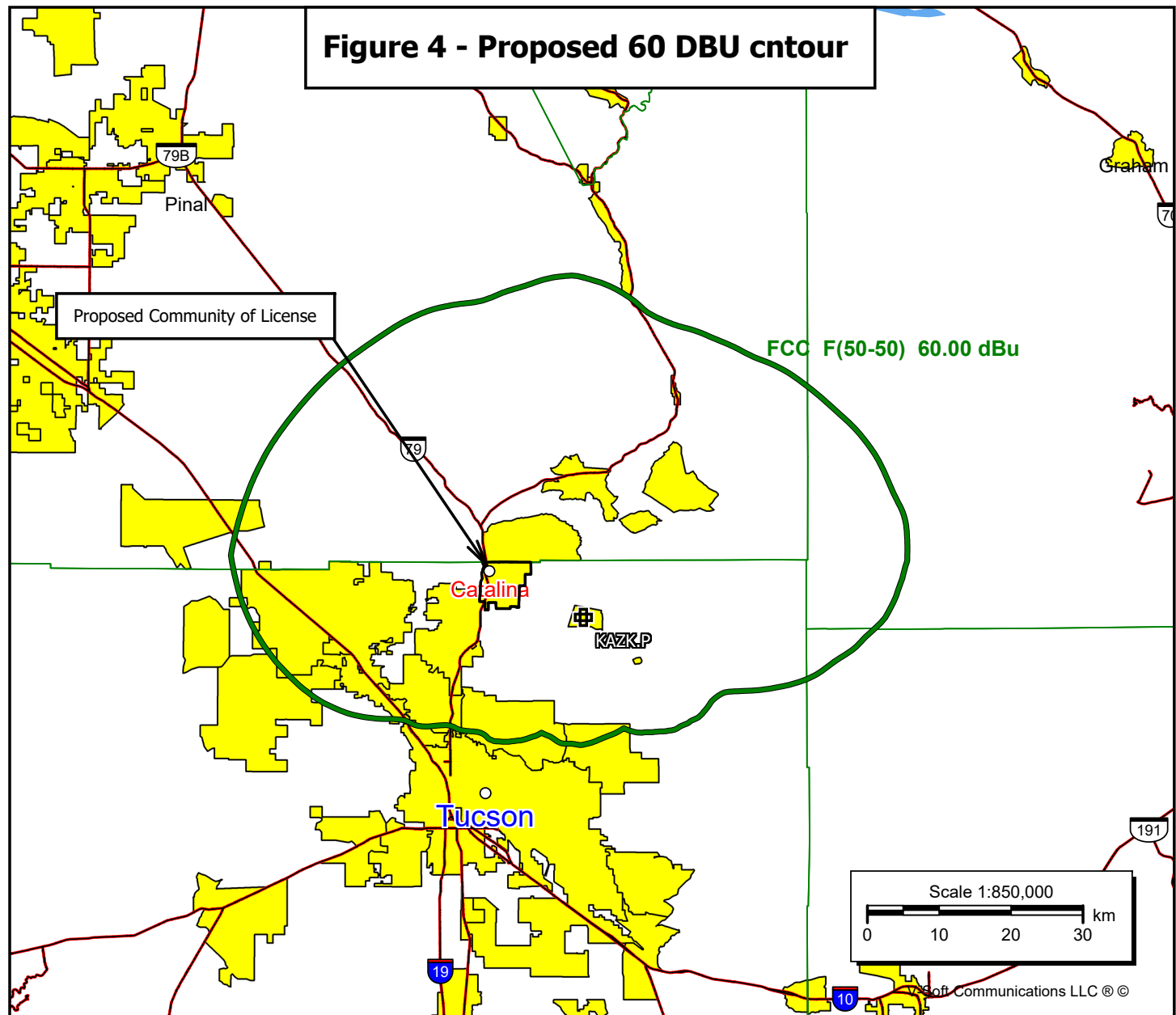
KAZK.P CH 209 C2 DA
Lat= 32 26 31.20, Lng= 110 46 53.30
0.25 kW 1218 m HAAT, 2768 m COR
Prot.= 60 dBu, Intef.= 40 dBu

KAZK CH 209 A BLED20171214ABV
Lat= 32 16 01.30, Lng= 109 50 02.20
2.9 kW 5 m HAAT, 1322 m COR
Prot.= 60 dBu, Intef.= 40 dBu



KAZK.P

Latitude: 32-26-31.20 N
Longitude: 110-46-53.30 W
ERP: 0.25 kW
Channel: 209
Frequency: 89.7 MHz
AMSL Height: 2768.0 m
Elevation: 2706.079 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: -

Figure 4 - Proposed 60 DBU cntour

Scale 1:850,000

0 10 20 30 km

Soft Communications LLC ©

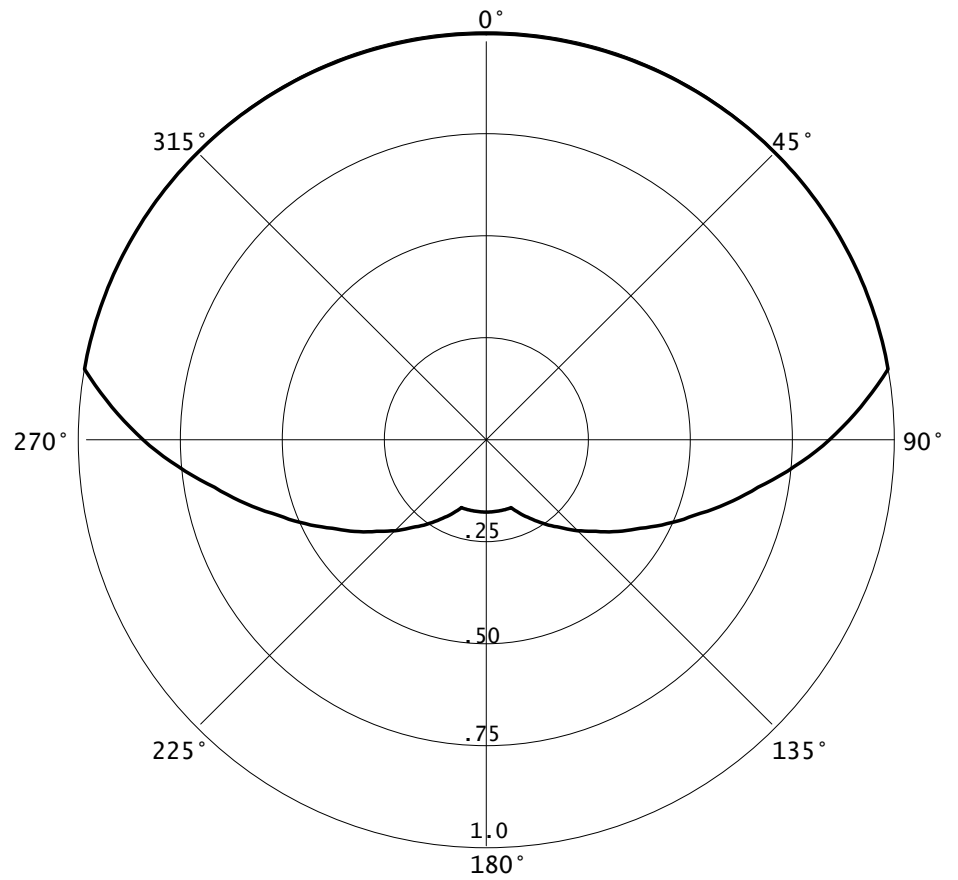
Figure 5 - Directional Pattern
KAZK.P

09-05-2021

RMS(V)= .763

Graph is Relative Field

Azi	Field	dBk	kw
000	1.000	-06.021	0.250
010	1.000	-06.021	0.250
020	1.000	-06.021	0.250
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	0.841	-07.525	0.177
100	0.676	-09.422	0.114
110	0.543	-11.325	0.074
120	0.436	-13.231	0.048
130	0.351	-15.114	0.031
140	0.282	-17.016	0.020
150	0.226	-18.938	0.013
160	0.178	-21.012	0.008
170	0.178	-21.012	0.008
180	0.178	-21.012	0.008
190	0.178	-21.012	0.008
200	0.178	-21.012	0.008
210	0.226	-18.938	0.013
220	0.282	-17.016	0.020
230	0.351	-15.114	0.031
240	0.436	-13.231	0.048
250	0.543	-11.325	0.074
260	0.676	-09.422	0.114
270	0.841	-07.525	0.177
280	1.000	-06.021	0.250
290	1.000	-06.021	0.250
300	1.000	-06.021	0.250
310	1.000	-06.021	0.250
320	1.000	-06.021	0.250
330	1.000	-06.021	0.250
340	1.000	-06.021	0.250
350	1.000	-06.021	0.250



KAZK.P

Latitude: 32-26-31.20 N
Longitude: 110-46-53.30 W
ERP: 0.25 kW
Channel: 209
Frequency: 89.7 MHz
AMSL Height: 2768.0 m
Elevation: 2706.079 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: -

Figure 6 - Proposed 34 DBU Interference Contour