

TECHNICAL STATEMENT  
K288FB HONOLULU, HAWAII 288D  
KONA COAST RADIO, LLC  
FCC FORM 349  
MAY 2010

This Technical Statement is in support of an FCC form 349 filed by Kona Coast Radio, LLC for a minor change in the licensed facility of K288FB, facility ID 150317. It is proposing to remain at its current licensed tower site located at N.  $21^{\circ}-23'-45''$ , W.  $158^{\circ}-05'-58''$ , NAD 27. It proposes to increase its Effective Radiated Power from 10 watts to 250 Watts as a proposed "fill-in" station for KHAI Wahiawa, Hawaii on channel 278C2, facility ID 164206. K288FB will utilize a Nicom model BKG77/2M, two bay, directional antenna. The antenna will be mounted at the 19 meter level on a 20 meter overall tower, with a Center of Radiation at 714 Above Mean Sea Level.

Figure 1 shows a channel interference study conducted from the proposed site for K288FB. It shows that the proposed operation of K288FB on channel 288D, will not cause any prohibited outgoing interference to any licensed or proposed FM services, with the exception of KINE-FM Honolulu, Hawaii, facility ID 34553, operating on channel 286C, and KPOI-FM Honolulu, Hawaii, facility ID 33450, operating on channel 290C. The proposed operation of K288FB on 288D is located within the protected 60 dB $\mu$  contour of both of these 2nd adjacent channel stations. Figure 2 shows the predicted F(50-50) field strength of KINE-FM at the proposed K288FB transmitter site is 131.4 dB $\mu$ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K288FB on channel 288D is an additional 40 dB $\mu$  or 171.4 dB $\mu$ . Figure 3 shows the predicted F(50-50) field strength of KPOI-FM at the proposed K288FB

transmitter site is 131.1 dB $\mu$ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K288FB on channel 288D is 171.1 dB $\mu$ . Since the KPOI-FM interference contour is slightly larger, this lower field strength was used for further study. Figure 4 shows the coverage area for the 171.1 dB $\mu$  interference contour F(50-10) and shows that there is no population in the area of interference.

The applicant, Kona Coast Radio, LLC, respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes nearby the proposed existing tower site, which is a privately owned remote mountain area, with private access. The transmitter building is uninhabited and does not have indoor plumbing. Also, with the relatively high interference contour level, the 171 dB $\mu$  interference contour will only extend 0.3 meters, which in turn will not even reach the ground at any point with the antennas mounted 19 meters above the ground level.

Figure 5 shows the proposed 60 dB $\mu$  of K288FB will be completely contained inside of the current 60 dB $\mu$  predicted coverage contour of the station being rebroadcast, KHAI Wahiawa, Hawaii on channel 278C2, facility ID 164206. The proposed operation of K288FB will be considered a "fill-in" translator for KHAI, thus some of the maximum allowable ERP limits on some of the pertinent radials will be exceeded. However, the maximum ERP on any radial will not exceed 250 watts, thus this proposed operation is in compliance with 74.1235(a). It should be noted that there are some areas where the proposed 60 dB $\mu$  contour of K288FB will extend beyond the 60 dB $\mu$  contour of KHAI. However, all of these areas where the K288FB contour is extended are located over the

open waters of the Pacific Ocean where no population resides. Therefore, such extended areas should not be counted.

The proposed operation of K288FB will remain at the same tower location where the current location of K288FB is located. Therefore it can be concluded the current 60 dB $\mu$  coverage contour will overlap with the proposed 60 dB $\mu$  contour.

Figure 6 shows the antenna polar plot of the proposed directional antenna.

Figure 7 shows a tabulation of the distances to the pertinent contours for the proposed K288FB.

It was concluded that the new proposed operation of K288FB Honolulu, Hawaii on channel 288D will not cause any harmful interference to any existing stations, and will be in full compliance with the commission's rules.

FIGURE 1, DETAILED INTERFERENCE STUDY

K288FB HONOLULU, CH. 288D

REFERENCE CH# 288D - 105.5 MHz, Pwr= 0.25 kW DA, HAAT= 583.8 M, COR= 714 M DISPLAY DATES  
 21 23 45.0 N. Average Protected F(50-50)= 31.77 km DATA 05-05-10  
 158 05 58.0 W. Standard Directional SEARCH 05-06-10

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*
288D Honolulu	K288FB *	LIC	_C_ HI	0.0 0.0	0.0 BLFT20070425AFH	21 23 45.0 158 05 58.0	0.010 701	30.0	9.0 Kona Coast Radio, Llc.	-45.9*<	-60.9*< *
286C Honolulu	KINE-FM **	LIC	DEN HI	334.9 154.9	0.2 BLH19940411KB	21 23 51.0 158 06 01.0	100.000 599	6.5 742	72.7 Cox Radio, Inc.	-22.6*<	-73.1*< **
290C Honolulu	KPOI-FM **	LIC	DEN HI	334.9 154.9	0.2 BLH20000706ADU	21 23 51.0 158 06 01.0	100.000 599	6.3 742	72.1 Ohana Broadcast Company L1	-22.4*<	-72.5*< **
288C3 Haliimaile	KPMW	LIC	DCX HI	111.0 291.6	199.4 BLH20040415AEY	20 44 40.0 156 18 39.0	9.000 165	165.1 1255	77.0 Rey-cel Broadcasting, Inc.	0.1	26.2
234C1 Honolulu	KUMU-FM	LIC	_CN HI	114.3 294.4	29.7 BMLH20000908AAI	21 17 09.0 157 50 19.0	100.000 24	4.6 141	1.6 Ohana Broadcast Company L1	22.0R	7.7M

Terrain database is USGS 03 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 = 2, 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 protected contour.

\* Translator being modified by this application

\*\* No actual interference will occur to these two stations on 2nd adjacent channel as there is no population within the 171 dBu interference contour. See Technical Statement for complete details.

FIGURE 2, KINE-FM 131.4 DBU CONTOUR AT SITE  
K288FB HONOLULU, CH. 288D

Coverage Study - USGS 03 SEC  
05-06-2010

KINE-FM CH286 C , 100.0 kW, 599.0M HAAT, 742.0M COR AMSL  
Service Contour = 131.4 dBu. Population =

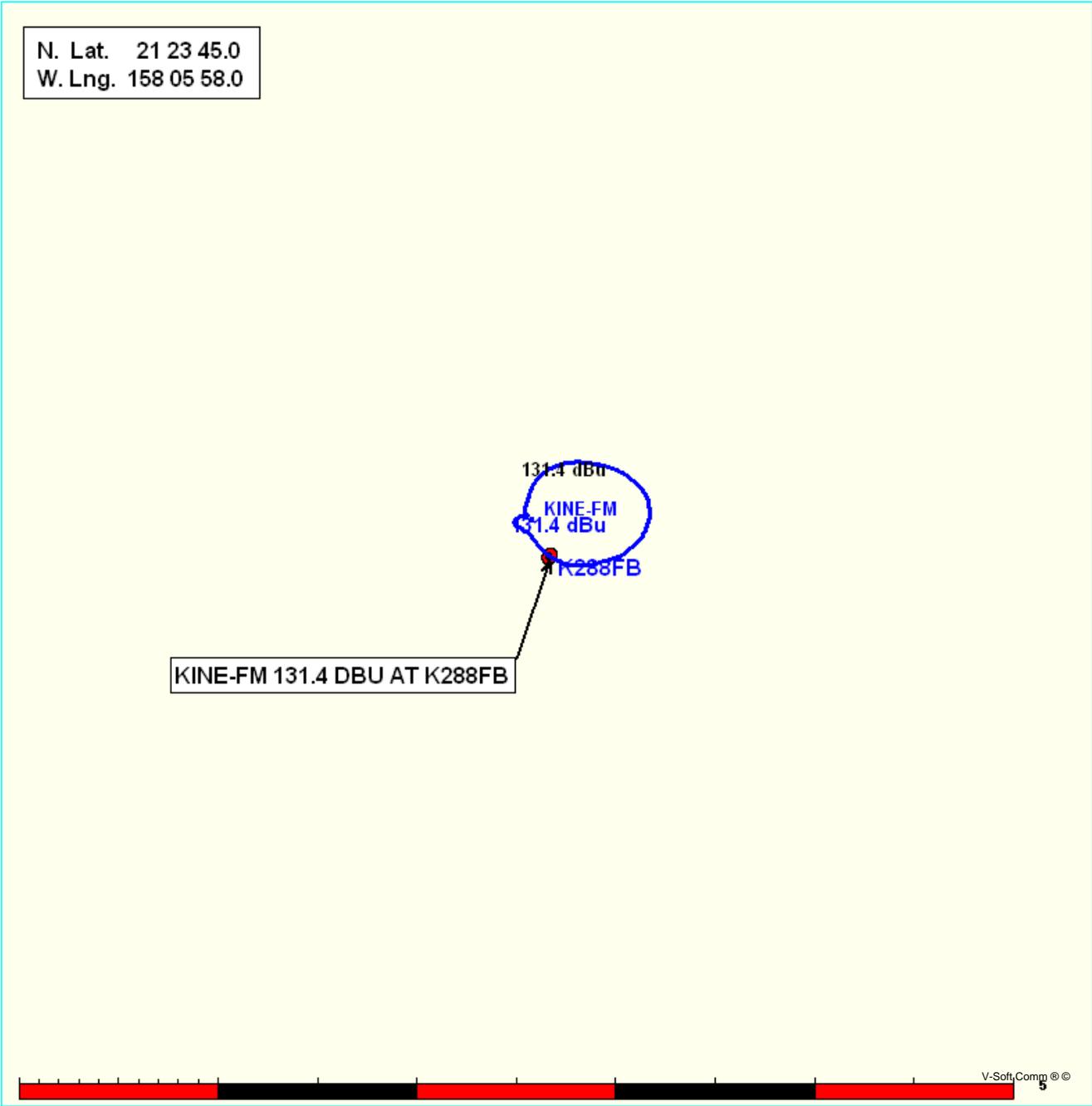


FIGURE 3, KPOI-FM 131.1 DBU CONTOUR AT SITE  
K288FB HONOLULU, CH. 288D

Coverage Study - USGS 03 SEC  
05-06-2010

KPOI-FM CH290 C , 100.0 kW, 599.0M HAAT, 742.0M COR AMSL  
Service Contour = 131.1 dBu. Population =

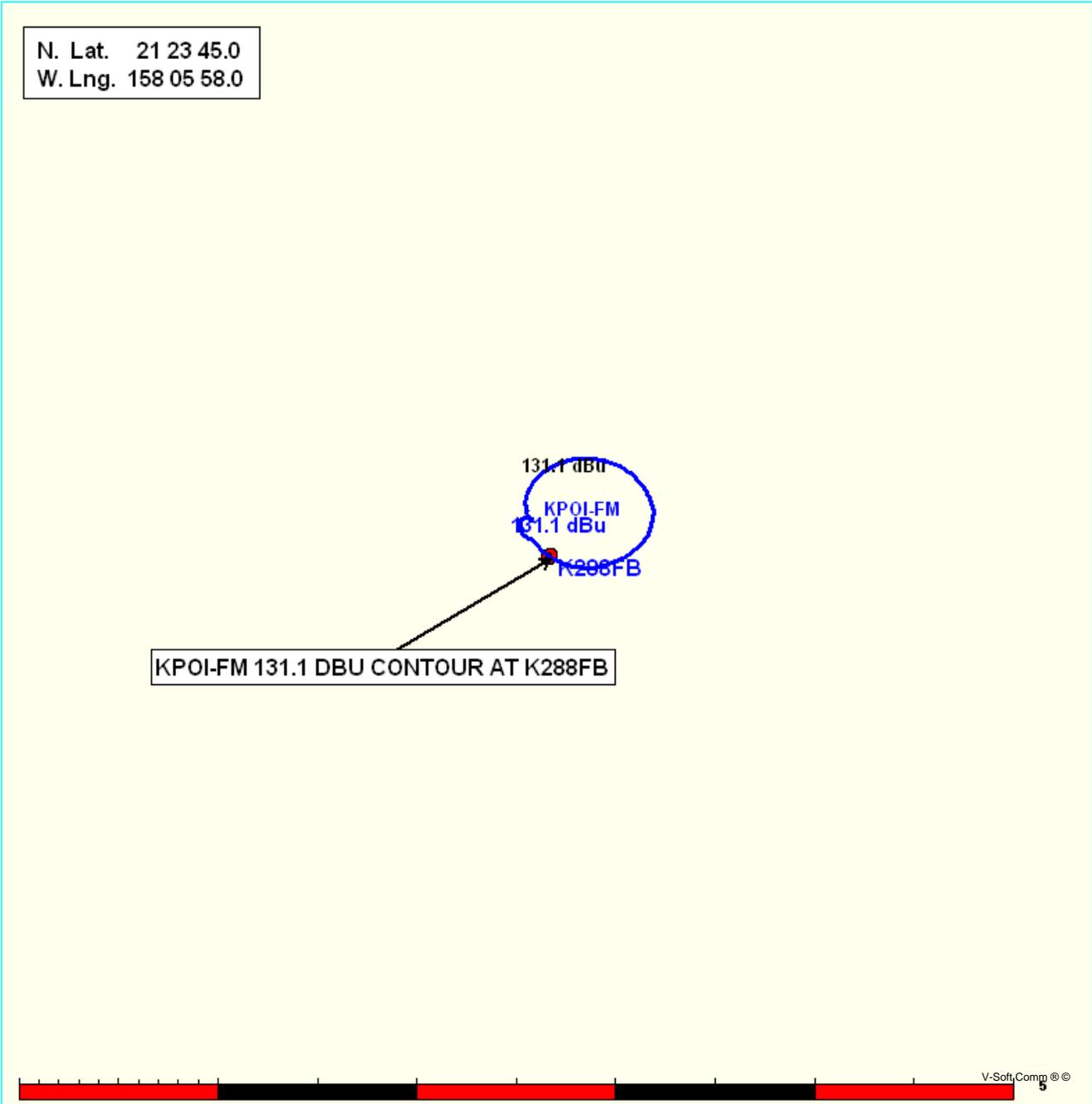


FIGURE 4, PREDICTED 171.1 DBU CONTOUR  
K288FB HONOLULU, CH. 288D

Coverage Study - USGS 03 SEC  
05-06-2010

K288FB CH288 D , 0.25 kW, 583.8M HAAT, 714.0M COR AMSL  
Interference Service Contour = 171.1 dBu. Population = 0

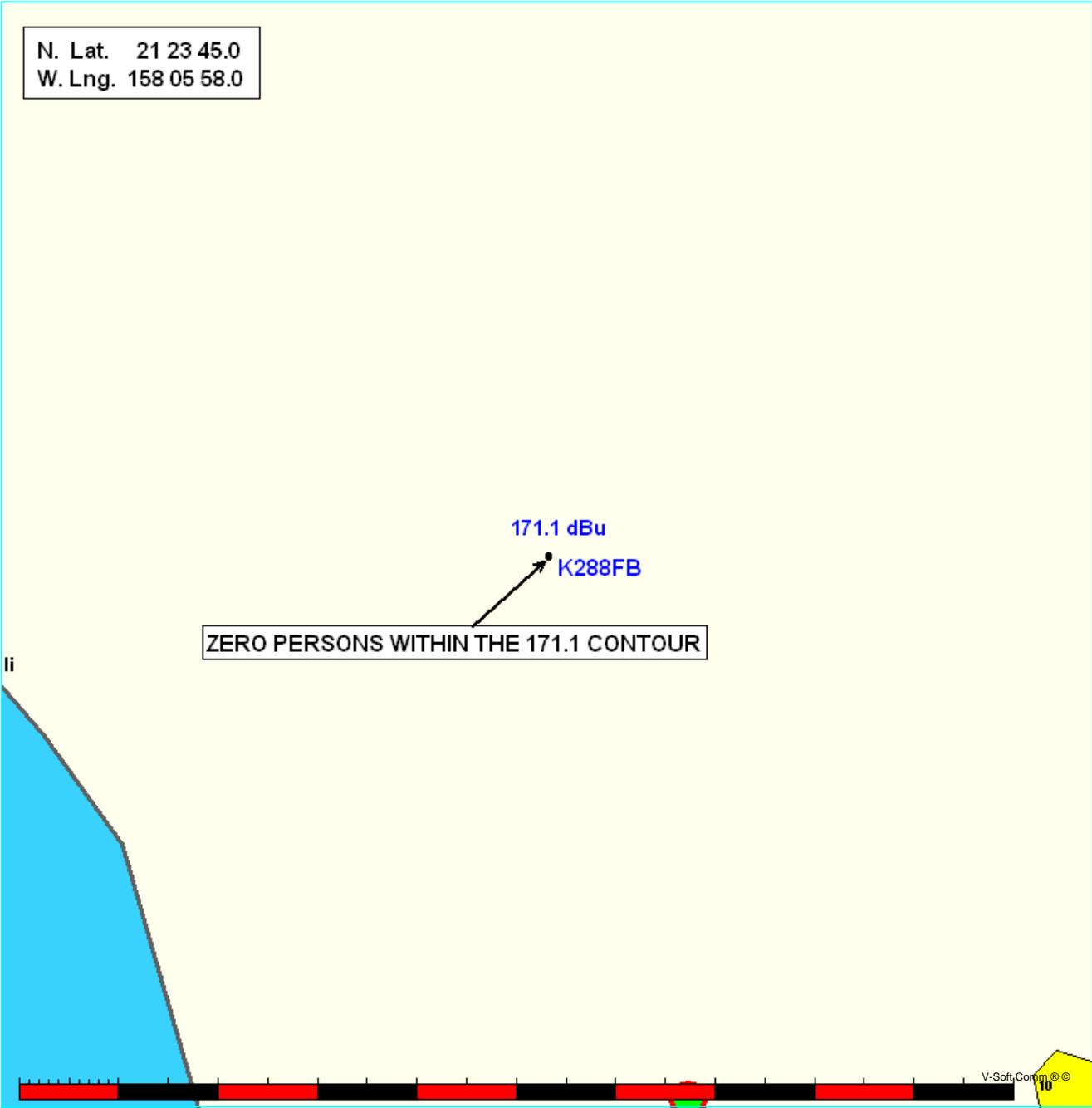


FIGURE 5, 60 DBU CONTOUR, KHAI CH. 278C2, AND PROPOSED K288FB HONOLULU, CH. 288D

Coverage Study - USGS 03 SEC  
05-06-2010

KHAI CH278 C2, 2.2 kW, 597.0M HAAT, 742.0M COR AMSL  
Service Contour = 60 dBu. Population = 723,046

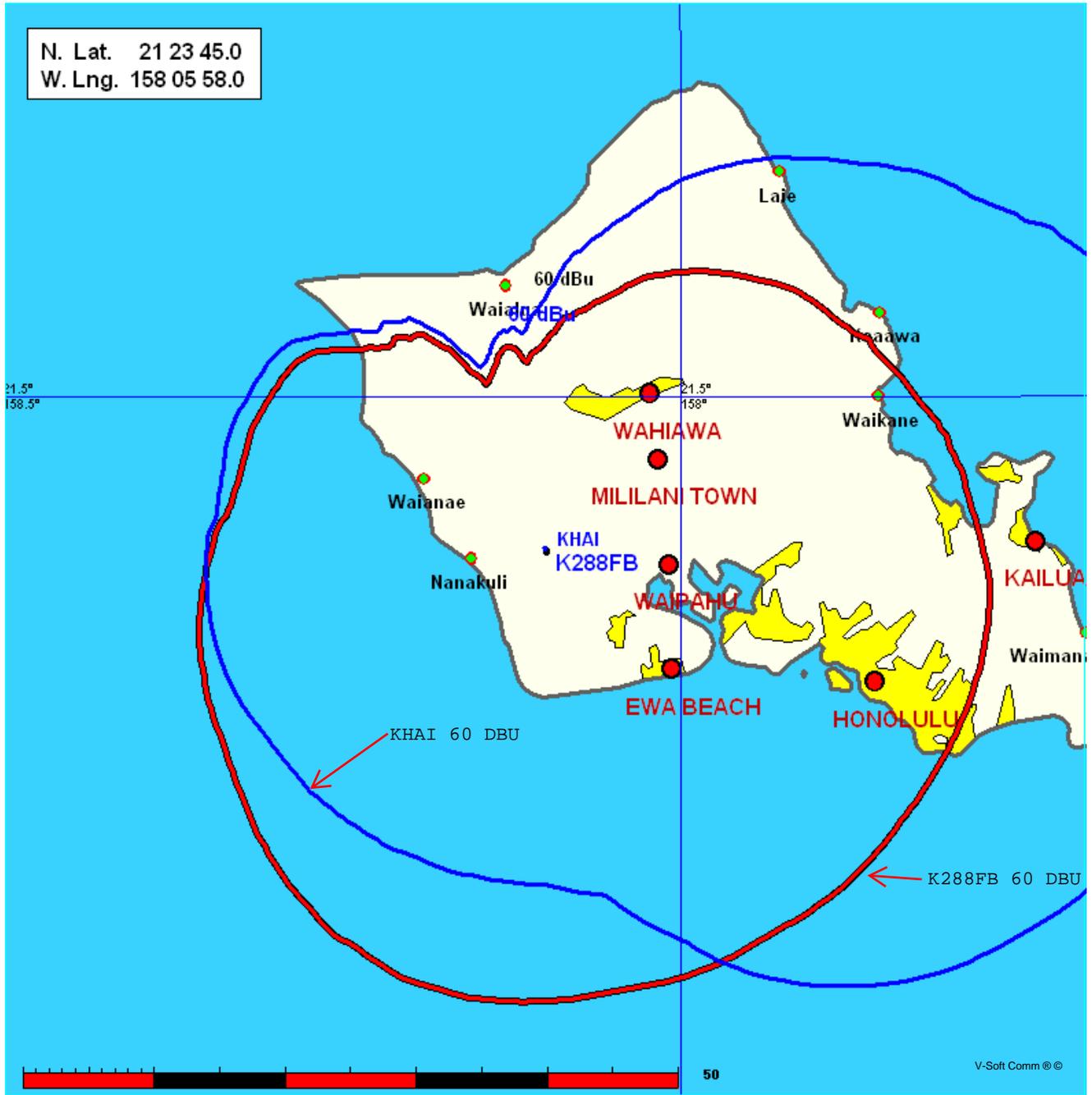


FIGURE 6, DIRECTIONAL ANTENNA PATTERN POLAR PLOT AND DATA

K288FB HONOLULU, CH. 288D

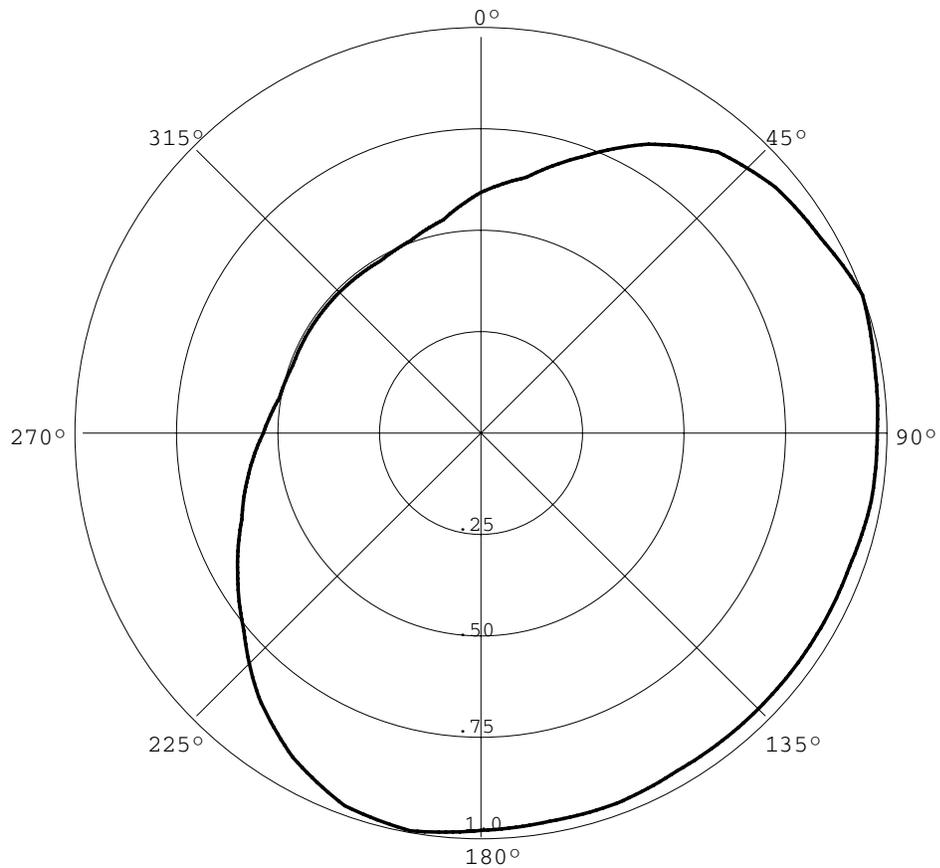
05-06-2010

RMS(V)= .811

NICOM BKG77/2M DIRECTIONAL ANTENNA

Graph is Relative Field

Azi	Field	dBk	kW
000	0.596	-10.516	0.089
010	0.643	-09.856	0.103
020	0.728	-08.778	0.132
030	0.826	-07.681	0.171
040	0.908	-06.859	0.206
050	0.947	-06.494	0.224
060	0.966	-06.321	0.233
070	1.000	-06.021	0.250
080	0.984	-06.161	0.242
090	0.976	-06.232	0.238
100	0.976	-06.232	0.238
110	0.966	-06.321	0.233
120	0.966	-06.321	0.233
130	0.966	-06.321	0.233
140	0.966	-06.321	0.233
150	0.966	-06.321	0.233
160	0.976	-06.232	0.238
170	0.976	-06.232	0.238
180	0.984	-06.161	0.242
190	1.000	-06.021	0.250
200	0.982	-06.178	0.241
210	0.927	-06.679	0.215
220	0.852	-07.412	0.181
230	0.762	-08.382	0.145
240	0.692	-09.218	0.120
250	0.627	-10.075	0.098
260	0.581	-10.737	0.084
270	0.536	-11.437	0.072
280	0.504	-11.972	0.064
290	0.493	-12.164	0.061
300	0.493	-12.164	0.061
310	0.493	-12.164	0.061
320	0.493	-12.164	0.061
330	0.493	-12.164	0.061
340	0.507	-11.920	0.064
350	0.536	-11.437	0.072



Contour.out

N. Lat. = 212345.0 W. Lng. = 1580558.0  
 HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - USGS 03 SEC

FIGURE 7, TABULATION OF CONTOURS FOR K288FB  
 Azi. AV EL HAAT dBk 60-F5 40-F1 171.1-F1

Azi.	AV EL	HAAT	dBk	60-F5	40-F1	171.1-F1
000	454.0	260.0	-10.52	16.14	52.61	0.00
010	390.8	323.2	-9.86	18.87	59.72	0.00
020	322.2	391.8	-8.78	21.95	68.68	0.00
030	282.6	431.4	-7.68	24.40	75.25	0.00
040	251.9	462.1	-6.86	26.44	80.39	0.00
050	221.9	492.1	-6.49	27.97	83.80	0.00
060	186.1	527.9	-6.32	29.45	86.72	0.00
070	156.9	557.1	-6.02	30.95	89.72	0.00
080	102.6	611.4	-6.16	32.32	92.75	0.00
090	60.6	653.4	-6.23	33.42	94.71	0.00
100	33.3	680.7	-6.23	34.22	96.09	0.00
110	26.0	688.0	-6.32	34.25	96.15	0.00
120	30.6	683.4	-6.32	34.11	95.92	0.00
130	33.6	680.4	-6.32	34.02	95.77	0.00
140	33.4	680.6	-6.32	34.03	95.78	0.00
150	44.9	669.1	-6.32	33.69	95.21	0.00
160	43.3	670.7	-6.23	33.92	95.59	0.00
170	49.2	664.8	-6.23	33.75	95.29	0.00
180	43.3	670.7	-6.16	34.07	95.83	0.00
190	43.6	670.4	-6.02	34.34	96.29	0.00
200	41.2	672.8	-6.18	34.09	95.87	0.00
210	35.6	678.4	-6.68	33.24	94.47	0.00
220	35.6	678.4	-7.41	31.77	92.08	0.00
230	35.4	678.6	-8.38	30.00	89.00	0.00
240	31.7	682.3	-9.22	28.69	86.54	0.00
250	7.5	706.5	-10.08	27.85	84.98	0.00
260	7.0	707.0	-10.74	26.85	82.92	0.00
270	20.0	694.0	-11.44	25.60	80.09	0.00
280	54.7	659.3	-11.97	24.25	76.71	0.00
290	40.5	673.5	-12.16	24.24	76.78	0.00
300	50.0	664.0	-12.16	24.08	76.32	0.00
310	93.9	620.1	-12.16	23.27	74.21	0.00
320	236.9	477.1	-12.16	19.96	65.44	0.00
330	295.7	418.3	-12.16	18.67	61.03	0.00
340	504.0	210.0	-11.92	13.35	44.28	0.00
350	440.0	274.0	-11.44	15.70	51.49	0.00

Ave EI = 131.68 M HAAT= 582.32 M AMSL= 714