

Broadcast Engineering Services of Bonny Doon, Inc.

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Engineering Statement Minor Change to K234AN Waimea, Hawaii BLFT-20050301AAT

Hawaii Public Radio (HPR) is requesting a minor change to the license for K234AN. HPR desires to change the operating frequency to a first adjacent channel. Ch 234 is co-channel to a nearby station in Hilo, and subject to mutual interference from KUMU in Honolulu. Migrating to channel 235 eliminates all interference to these two commercial stations. A minor correction to the site coordinates and RCAMSL is also requested.

An allocation study, attached to this engineering statement, reveals no conflicts with existing or proposed stations.

The existing and proposed antenna system is a Shively 6812-1, a one bay, circularly polarized full wave spaced design. This antenna, mounted at 8 meters above ground, will produce a calculated worst-case RFR energy field of 3.9 microwatts per squared centimeter at a distance of 6.4 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.

HPR is ready to modify the facility with these specified changes. Once this modification is granted, the requested change will commence 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
July 14, 2015

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

K234AN Modification
Hawaii Public Radio, Inc.
Average Protected F(50-50)= 5.24 km
Omni-directional

REFERENCE
19 53 10.2 N.
155 39 31.8 W.

CH# 235D - 94.9 MHz, Pwr= 0.01 kw, HAAT= 80.9 M, COR= 1282 M

DISPLAY DATES
DATA 07-06-15
SEARCH 07-13-15

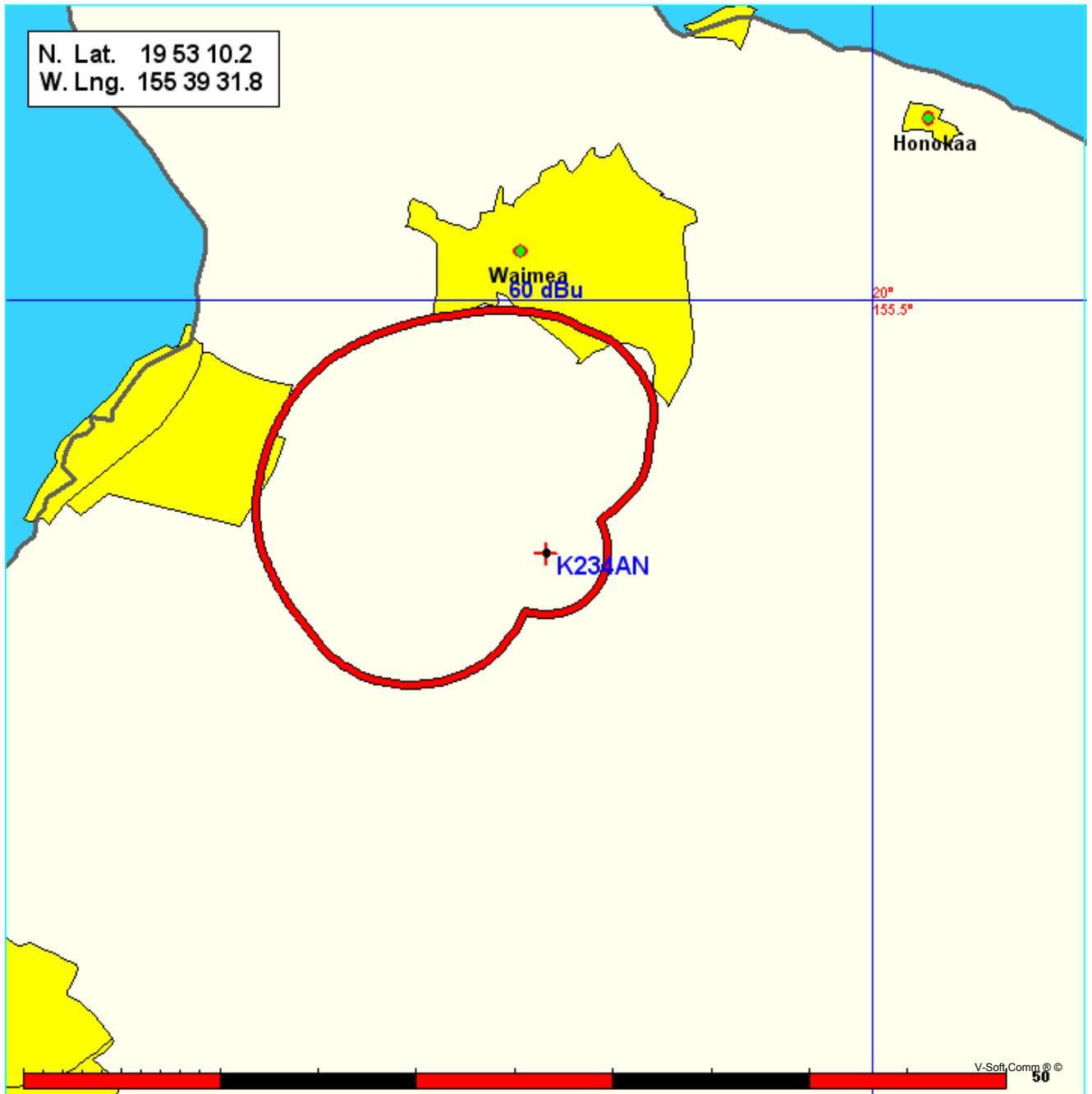
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
234D Waimea	K234AN	LIC _C_ HI		108.6 288.6	0.11 BLFT20050301AAT	19 53 09.0 155 39 28.0	0.010 77	24.1 1288	15.1 Hawaii Public Radio, Inc.	-27.2*	-19.4*
234C1 Hilo	KWXX-FM	LIC _C_ HI		100.7 280.9	60.62 BLH19980921KC	19 47 02.0 155 05 25.0	51.000 -231	45.7 123	26.6 New West Broadcasting Corp	11.0	29.5
234C2 Hilo	KWXX-FM	CP _CX HI		100.7 280.9	60.62 BPH20130116AFD	19 47 02.0 155 05 25.0	40.000 -231	41.8 123	25.2 New West Broadcasting Corp	14.9	30.9
232D Kailua	K232EL	CP DC_ HI		236.2 56.2	32.97 BNPFT20130320AEV	19 43 16.0 155 55 15.0	0.250 856	0.2 1649	12.6 Mountain Community Transla	20.8	18.4
236C1 Wailuku	KAOI-FM	LIC _HX HI		328.3 148.1	116.01 BLH20090410ARC	20 46 31.0 156 14 49.0	3.500 933	66.5 2104	42.7 Visionary Related Entertai	35.9	49.5

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= West Zone, Co to 3rd adjacent.
Call signs with strikeout 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.

K234AN Modification
Hawaii Public Radio, Inc.

Coverage Study - FCC NGDC 30 Sec
07-13-2015

K234AN CH235 D , 0.01 kW, 80.9M HAAT, 1282.0M COR AMSL
Service Contour = 60 dBu. Population = 1,351

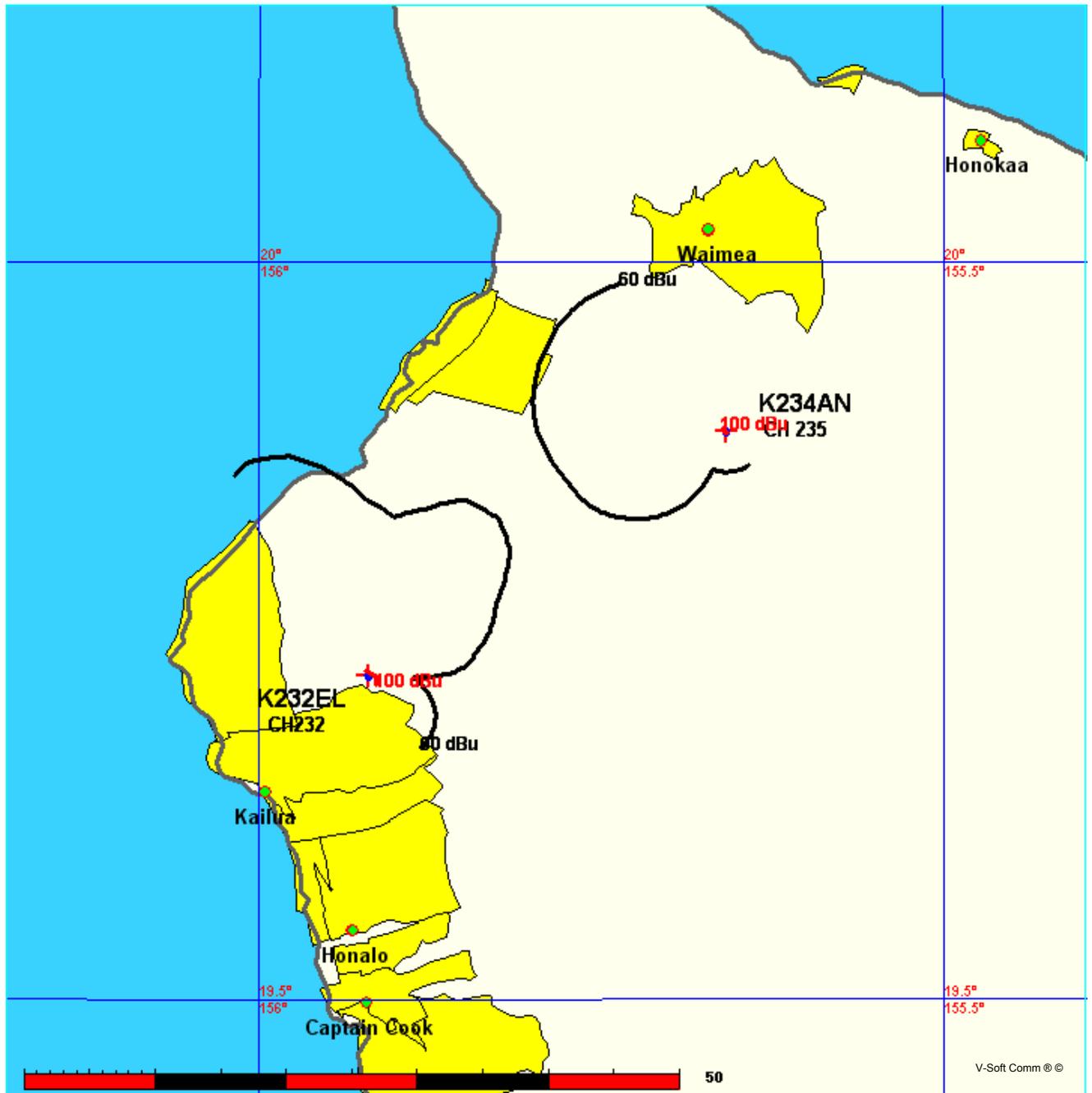


K234AN Modification
Hawaii Public Radio, Inc.

FMCommander Single Allocation Study - 07-13-2015 - FCC NGDC 30 Sec
K234AN's Overlaps (In= 20.77 km, Out= 18.42 km)

K234AN CH 235 D
Lat= 19 53 10.2, Lng= 155 39 31.8
0.01 kW 80.9 M HAAT, 1282 M COR
Prot.= 60 dBu, Intef.= 100 dBu

K232EL CH 232 D DA BNPFT20130320AEV
Lat= 19 43 16.0, Lng= 155 55 15.0
0.25 kW 856.1 M HAAT, 1649 M COR
Prot.= 60 dBu, Intef.= 100 dBu



K234AN Modification
Hawaii Public Radio, Inc.

FMCommander Single Allocation Study - 07-13-2015 - FCC NGDC 30 Sec
K234AN's Overlaps (In= 35.92 km, Out= 49.54 km)

K234AN CH 235 D
Lat= 19 53 10.2, Lng= 155 39 31.8
0.01 kW 80.9 M HAAT, 1282 M COR
Prot.= 60 dBu, Intef.= 54 dBu

KAOI-FM CH 236 C1 BLH20090410ARC
Lat= 20 46 31.0, Lng= 156 14 49.0
3.5 kW 933.1 M HAAT, 2104 M COR
Prot.= 60 dBu, Intef.= 54 dBu



K234AN Modification
Hawaii Public Radio, Inc.

FMCommander Single Allocation Study - 07-13-2015 - FCC NGDC 30 Sec
K234AN's Overlaps (In= 11.0 km, Out= 29.53 km)

K234AN CH 235 D
Lat= 19 53 10.2, Lng= 155 39 31.8
0.01 kW 80.9 M HAAT, 1282 M COR
Prot.= 60 dBu, Intef.= 54 dBu

KWXX-FM CH 234 C1 BLH19980921KC
Lat= 19 47 02.0, Lng= 155 05 25.0
51.0 kW -231 M HAAT, 123 M COR
Prot.= 60 dBu, Intef.= 54 dBu

