

Technical Report K224EC Minor Modification

This technical report is submitted for a minor modification to K224EC at Lagunitas, CA, FCC file no. BLFT-20140204ABD. A move to the second adjacent channel 222 with corresponding changes in antenna and ERP are requested. The translator will continue to serve as a non fill-in facility to rebroadcast KWMR(FM) 213A at Point Reyes Station, CA, FCC facility I.D. 89129.

K224EC Modification Analysis:

An overlap study (exhibit E-1) shows the K224EC modification will not produce any interference overlap to current facilities at its current location at coordinates:

38 01 37N 122 42 55W NAD 27.

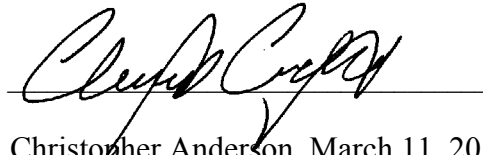
A single bay Armstrong FMA-707-1 circularly-polarized, nondirectional antenna will be mounted at a COR AGL of 8 meters, 455 meters AMSL at a HAAT of 299 meters calculated using the CONTOUR program with the FCC 30 second terrain data with 12 radials (exhibit E-2), and operate at 0.010 kW ERP. The overlap of the K224EC 60 dBu F(50-50) contour to the current K224EC 60 dBu contour relative to the primary KWMR(FM) contour is shown in exhibit E-3.

RF Exposure Calculation:

The RF contribution was calculated using the FMModel program, and is calculated to be $4.79 \mu\text{W}/\text{cm}^2$ at a distance of 5.8 meters from the base of the tower, which is below 5% of the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general public exposure, allowing exclusion from consideration.

Conclusion:

It is concluded that the K224EC modification complies with all Commission rules and policies.

A handwritten signature in black ink, appearing to read 'Christopher Anderson', is written over a horizontal line.

Christopher Anderson March 11, 2014
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E-1 K224EC Overlap Study

REFERENCE 38 01 37.0 N. 122 42 55.0 W.		CH# 222D - 92.3 MHz, Pwr= 0.01 kW, HAAT= 299.0 M, COR= 455 M Average Protected F(50-50)= 10.11 km Omni-directional							DISPLAY DATES DATA 03-10-14 SEARCH 03-10-14	
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* (in km)
222B San Jose	KSJO	LIC_CX CA	137.4 317.9	123.04 BLH20080214ABH	37 12 32.0 121 46 27.0	32.000 136	149.5 394	77.6 Universal	-32.2*<	18.6 Access - K
224D Lagunitas	K224EC	LIC_DV_ CA	0.0 0.0	0.00 BLFT20140204ABD	38 01 37.0 122 42 55.0	0.001 299	0.0 455	0.3 West Marin Community Radio	-10.3*	-0.5*
219B1 San Francisco	KALW	LIC_CN CA	141.9 322.1	38.41 BLED1644	37 45 17.0 122 26 44.0	1.900 280	2.6 310	32.8 San Francisco Unified Scho	29.5	5.4
225B Healdsburg	KFGY	LIC_CN CA	352.5 172.4	82.49 BLH19791211AJ	38 45 45.0 122 50 24.0	2.300 594	3.2 1058	76.5 Amaturo Sonoma Media Group	69.0	5.6
221D Petaluma	K221DQ	LIC_C_ CA	17.2 197.3	35.57 BLFT20060120ADV	38 19 57.0 122 35 40.0	0.010 424	19.8 582	12.8 Educational Media Foundati	5.9	8.9
222L1 Santa Rosa	1593041	APP_ CA	359.1 179.1	51.77 BNPL20131113BTH	38 29 33.2 122 43 27.9	0.030 54	161	12.4 Redwood Justice Fund		8.8
222L1 Santa Rosa	1593828	APP_ CA	359.1 179.1	51.77 BNPL20131113BSB	38 29 33.2 122 43 27.9	0.030 54	161	12.4 Santa Rosa Community Medi a		8.8
224A Alameda	KREV	LIC_CN CA	134.0 314.2	36.51 BLH19980908KD	37 47 54.0 122 24 59.0	3.600 128	2.5 152	26.4 Golden State Broadcasting	27.9	9.9
221D Petaluma	K221DQ	CP_DC_ CA	136.1 316.2	27.39 BPFT20130327AGV	37 50 57.0 122 29 56.0	0.010 310	5.6 353	3.9 Educational Media Foundati	16.2	15.5
224A Alameda	KREV	CP_ZCX CA	140.7 320.9	44.60 BPH20131112CFX	37 42 58.0 122 23 38.0	6.000 100	2.5 143	25.8 Golden State Broadcasting	35.8	18.6
220B Middletown	KLVR	LIC_ZCX CA	5.8 185.9	71.77 BMLED20100201AAJ	38 40 09.0 122 37 53.0	0.830 911	1.4 1331	47.8 Educational Media Foundati	60.3	23.7
223L1 Santa Rosa	1569887	APP_ CA	0.8 180.8	44.29 BNPL20131108AJV	38 25 31.0 122 42 30.0	0.100 -63	49	26.1 Faith Christian Fellowship		24.3
223L1 Santa Rosa	1577810	APP_ CA	356.5 176.5	45.86 BNPL20131114AGR	38 26 19.3 122 44 51.0	0.100 -5	67	27.9 Roman Catholic Bishop Of S		26.2
221A Walnut Creek	KKDV	LIC_CX CA	104.1 284.5	56.98 BMLH20090325ACY	37 54 02.0 122 05 07.0	3.000 24	19.5 211	13.2 Contra Costa County Radio,	26.8	28.7
221D Martinez	KKDV-FM3	LIC_DHN CA	91.7 272.1	50.75 BLFTB19931118TD	38 00 43.0 122 08 10.0	0.253	1.6 63	1.6 Contra Costa County Radio,	39.6	35.8
220D Aetna Springs, Etc.	KLVR-FM1	LIC_HN CA	7.0 187.1	70.48 BLFTB19880712TA	38 39 22.0 122 36 57.0	0.082	0.6 1207	30.6 Educational Media Foundati	59.8	39.7
223B Sacramento	KBEB	LIC_CN CA	54.6 235.4	131.88 BLH19850412KK	38 42 26.0 121 28 33.0	50.000 137	76.8 151	63.8 Amfm Broadcasting Licenses	44.9	46.7
220D Leisure Town	K220JB	LIC_DV_ CA	52.9 233.3	67.63 BLFT20060519ACE	38 23 32.0 122 05 46.0	0.010 601	0.0 832	3.0 Educational Media Foundati	57.3	64.4
222D Clearlake	K222CK	CP_DC_ CA	357.5 177.5	107.14 BNPFT20130826AAJ	38 59 23.0 122 46 07.0	0.008 674	14.4 1214	2.8 Your Christian Companion N	82.6	70.6
220D Byron	K220JV	LIC_DV_ CA	105.3 285.9	85.12 BLFT20110308AAL	37 49 17.0 121 46 49.0	0.010 458	0.0 692	0.9 Calvary Chapel Of Twin Fal	74.5	84.0

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= East Zone 2A, 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.
 < = Contour Overlap

E-2 K224EC HAAT Calculation

N. Lat. = 380137.0 W. Lng. = 1224255.0

HAAT and Distance to Contour,

FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	146.3	308.7	0.0100	-20.00	1.000	10.26
030	156.0	299.0	0.0100	-20.00	1.000	10.11
060	182.8	272.2	0.0100	-20.00	1.000	9.65
090	187.1	267.9	0.0100	-20.00	1.000	9.57
120	205.0	250.0	0.0100	-20.00	1.000	9.24
150	303.2	151.8	0.0100	-20.00	1.000	7.14
180	131.4	323.6	0.0100	-20.00	1.000	10.49
210	124.0	331.0	0.0100	-20.00	1.000	10.61
240	84.6	370.4	0.0100	-20.00	1.000	11.20
270	105.9	349.1	0.0100	-20.00	1.000	10.90
300	74.4	380.6	0.0100	-20.00	1.000	11.33 (1)
330	168.1	286.9	0.0100	-20.00	1.000	9.91

Ave El= 155.73 M HAAT= 299.27 M AMSL= 455

(1) Following CFR 74.1235(b)(1), the highest MERP
allowed = 0.010 kW ERP.

E-3 K224EC Mod. 60 dBu Contour Plot

