

STEPHEN S. LOCKWOOD, PE, PMP

THOMAS M. ECKELS, PE
ERIK C. SWANSON, PE, PMP
THOMAS S. GORTON, PE

JAMES B. HATFIELD, PE
BENJAMIN F. DAWSON III, PE
STEPHEN PUMPLE, M.Eng, MBA, PMP
CONSULTANTS

HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
9500 GREENWOOD AVE. N.
SEATTLE, WASHINGTON 98103

TELEPHONE (206) 783-9151

E-MAIL hatdaw@hatdaw.com

MAURY L. HATFIELD, PE
(1942-2009)
PAUL W. LEONARD, PE
(1925-2011)

**Engineering Statement
Minor Modification of KILA-LD
Channel 8 at Cherry Valley, CA
Nov 2023**

I. Background

This Engineering Statement has been prepared on behalf of Bridge News, LLC, licensee of low-power station KILA-LD Cherry Valley. This material has been prepared in connection with an application for minor modification of the licensed facility.

II. Interference Study

Study has been made of all cochannel and adjacent-channel facilities in the vicinity of the proposed operation, including a detailed Longley-Rice interference study to demonstrate that the proposed operation will not cause interference to any authorized or pending proposed facilities. This study was performed using the Commission's TVStudy software.

This study was conducted using a study cell size of 1.0 km and a terrain extraction increment of 0.1 km.

The results of this study indicate that the proposed facility is predicted to cause zero additional interference to any of the listed stations, beyond the allowed values of 0.5% to full-power and Class A stations, and 2.0% to low-power stations. The one exception is KFLA-LD Ch8 Los Angeles. Both KILA-LD and KFLA-LD are licensed to Bridge News, LLC, which consents to the additional interference level. (Additionally, KFMB-TV construction permit 0000035772 has been excluded from this study, as the instant application will not be filed until after the KFMB-TV permit expires on November 23, 2023.)

Study created: 2023.11.06 10:26:17

Study build station data: LMS TV 2023-11-03

Proposal: KILA-LD D8 LD APP CHERRY VALLEY, CA
File number: KILA-3KW-KAT-0DEG
Facility ID: 129642
Station data: User record
Record ID: 1552
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Individual records excluded:
0000035772 KFMB-TV D8 DT CP SAN DIEGO, CA BLANK0000035772
NOTE: EXCLUDED BECAUSE THIS APPLICATION WILL NOT BE FILED UNTIL THE
KFMB-TV CONSTRUCTION PERMIT HAS EXPIRED

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	KABC-TV	D7	DT	LIC	LOS ANGELES, CA	BLANK0000058534	77.2 km
Yes	KABC-TV	D7	DT	CP	LOS ANGELES, CA	BLANK0000187418	77.2
No	KZTC-LD	D7	LD	LIC	SAN DIEGO, CA	BLANK0000063297	110.4
No	K08PK-D	D8	LD	LIC	BULLHEAD CITY, AZ	BLDTV20130308AAP	285.9
No	K08QN-D	D8	LD	LIC	GOLDEN VALLEY, AZ	BLANK0000193003	319.6
No	K08PT-D	D8	LD	LIC	BAKERSFIELD, CA	BLANK0000164558	210.6
No	K08QK-D	D8	LD	CP	Calexico, CA	BMJADVL20100520ADH	217.7
Yes	KFLA-LD	D8	LD	LIC	LOS ANGELES, CA	BLANK0000010497	77.2
No	KTAV-LD	D8	LD	APP	LOS ANGELES, CA	BLANK0000054684	106.6
Yes	KVPS-LD	D8+	LD	LIC	PALM SPRINGS, CA	BLANK0000124912	79.7
Yes	KFMB-TV	D8	DT	LIC	SAN DIEGO, CA	BLCDT20100520ACV	125.4
No	KZDF-LD	D8	LD	LIC	SANTA BARBARA, CA	BLANK0000001085	226.4
No	KBNI-LD	D8	LD	LIC	SANTA MARIA, CA	BLANK0000152363	285.5
No	KBNI-LD	N8z	TX	LIC	SANTA MARIA, CA	BLTVL20070508AAI	285.5
No	K08PG-D	D8	LD	LIC	INDIAN SPRINGS, NV	BLDTV20130214ADF	324.3
No	KEGS-LD	D8	LD	CP	LAS VEGAS, NV	BLANK0000158749	300.5
No	KECY-TV	D9	DT	LIC	EL CENTRO, CA	BLCDT20090723AAO	249.4
Yes	KCAL-TV	D9	DT	APP	LOS ANGELES, CA	BLANK0000190276	77.3
Yes	KCAL-TV	D9	DT	LIC	LOS ANGELES, CA	BLCDT20090612AIY	77.3
No	K09XW-D	D9	LD	LIC	PALM DESERT, ETC., CA	BLDTV20120725AFF	89.0
No	K09XW-D	D9	LD	CP	PALM DESERT, ETC., CA	BLANK0000210391	79.6
No	KSDX-LD	D9	LD	LIC	SAN DIEGO, CA	BLDVL20091026ADZ	144.7
No	K03JB-D	N12-	TX	LIC	TEMECULA, CA	BLTTV20040219ACC	43.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D8
Mask: Full Service
Latitude: 33 57 58.00 N (NAD83)
Longitude: 117 17 22.00 W
Height AMSL: 925.4 m
HAAT: 0.0 m
Peak ERP: 3.00 kW
Antenna: KAT-PANEL 0.0 deg
Elev Pattn: Generic

48.0 dBu contour:
Azimuth ERP HAAT Distance
0.0 deg 3.00 kW 560.1 m 77.9 km
45.0 0.876 418.7 60.1
90.0 0.038 256.6 29.0

Hatfield & Dawson Consulting Engineers

135.0	0.042	422.8	37.7
180.0	0.005	425.9	24.0
225.0	0.042	497.4	41.1
270.0	0.038	666.2	47.2
315.0	0.876	614.2	69.5

Database HAAT does not agree with computed HAAT
 Database HAAT: 0 m Computed HAAT: 483 m

Distance to Canadian border: 1666.5 km

**Proposal is within coordination distance of Mexican border
 Distance to Mexican border: 153.9 km

Conditions at FCC monitoring station: Livermore CA
 Bearing: 317.4 degrees Distance: 579.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 53.8 degrees Distance: 1266.2 km

Study cell size: 1.00 km
 Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%
 Maximum new IX to LPTV: 2.00%

**IX check failure to BLANK0000010497 LIC scenario 1, 3.35% interference caused
 **IX check failure to BLANK0000010497 LIC scenario 2, 6.08% interference caused
 **IX check failure to BLANK0000010497 LIC scenario 3, 3.35% interference caused
 **IX check failure to BLANK0000010497 LIC scenario 4, 5.89% interference caused
 NOTE: 0000010497 IS KFLA-LD WHICH HAS THE SAME LICENSEE AS KILA-LD.
 THE LICENSEE CONSENTS TO THIS LEVEL OF INTERFERENCE

---- Below is IX received by proposal KILA-3KW-KAT-0DEG ----

**MX with BLANK0000190276 APP scenario 1, 30.94% interference received
 Proposal receives 30.86% interference from scenario 2
 **MX with BLANK0000190276 APP scenario 3, 30.95% interference received
 Proposal receives 30.95% interference from scenario 4

III. RF Exposure Study

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.4 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Power density levels produced by the proposed facility were calculated for an elevation of 2 meters above ground, based on the manufacturer's vertical plane pattern for the elliptically-polarized Kathrein model 4X1 DRV panel antenna array proposed in this application. This antenna has two panels in horizontal polarization and two panels in vertical polarization, with a 50/50 power split (for 3 kW horizontal and 3 kW vertical). The highest calculated power density from the proposed antenna alone occurs at a point 19 meters from the base of the antenna support structure. At this point the power density is calculated to be 22.4 $\mu W/cm^2$, which is 11.2% of 200 $\mu W/cm^2$ (the FCC maximum for uncontrolled environments at the Channel 8 frequency).

Calculations of the power density produced by KILA-LD and the other stations at this transmitter site (i.e. within 300 meters) are summarized in the following table:

Call	ERP Antenna Model	Relative Field	Height AGL	Calculated Max Exposure	Gen Pop FCC MPE	% of Limit
KILA-LD Ch8	3 kW H 3 kW V KAT 4X1 DRV	Manf Pattern	27.4 m	22.4 $\mu W/cm^2$	200 $\mu W/cm^2$	11.2%
KUCR 202A	0.15 kW H 0.15 kW V ERI LPX-2E full wave	FMMModel	34 m	1.4 $\mu W/cm^2$	200 $\mu W/cm^2$	0.7%
KOLA 260B	29.5 kW H 29.5 kW V ERI SHP-4E-HW half wave	FMMModel	41 m	32.5 $\mu W/cm^2$	200 $\mu W/cm^2$	16.3%
K272FQ	0.055 kW H 0.055 kW V SCA CA2CP	Manf Pattern	30 m	1.0 $\mu W/cm^2$	200 $\mu W/cm^2$	0.5%
Total						28.7%

Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken. The permittee/licensee in coordination with other users of the site must reduce power or cease

operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

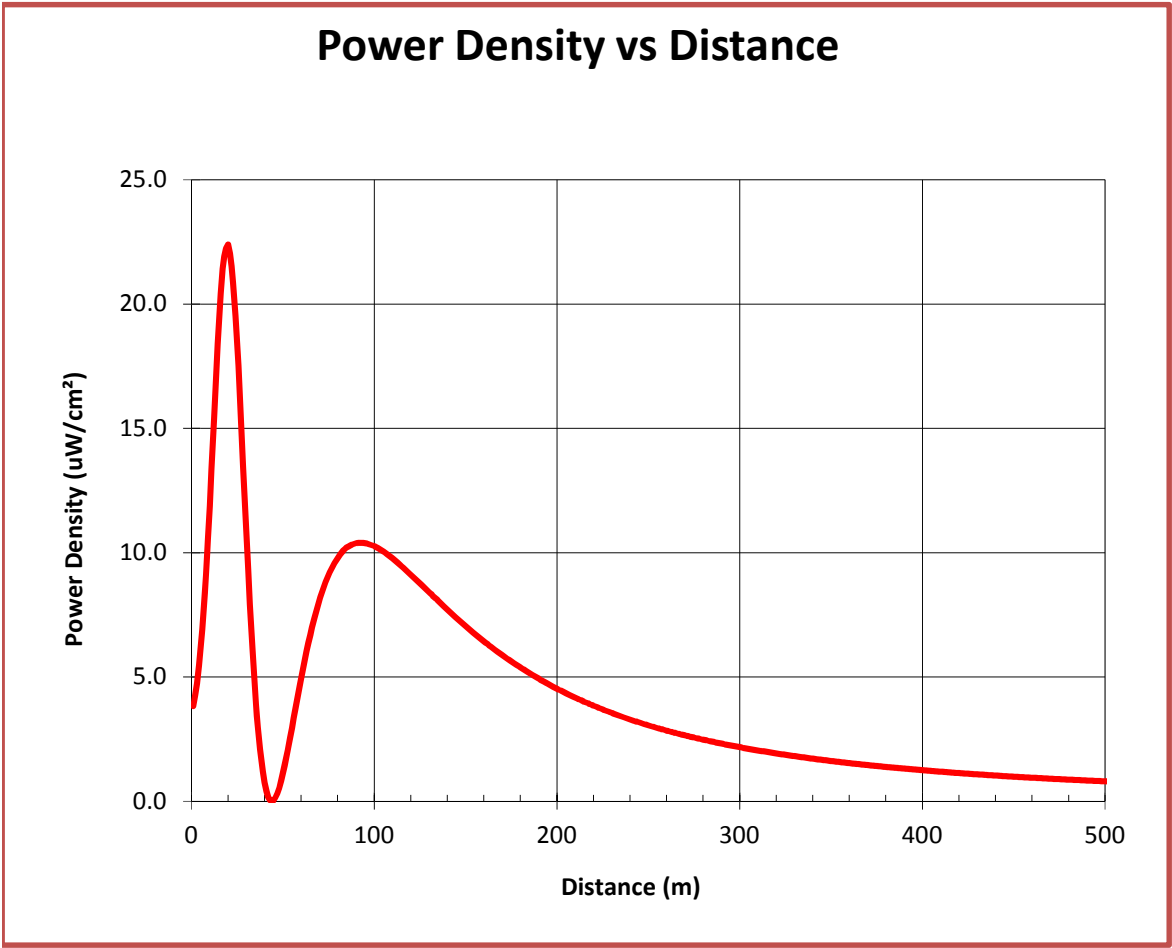
November 6, 2023

Erik C. Swanson, P.E.

KILA-LD Ch8 Cherry Valley
Ground-Level Power Density Calculations
Using Manufacturer's Vertical Plane Pattern

Antenna	4X1-DRV-K523157	
ERP	3,000 Watts H (avg)	
	3,000 Watts V (avg)	
Antenna AGL	27.4 meters less 2m is	25.4 meters above the reference plane
MBT	0 degrees	

Calculated
Maximum is 22.4 uW/cm² at 19 meters from the tower



KILA-LD Ch8 Cherry Valley
Ground-Level Power Density Calculations
Using Manufacturer's Vertical Plane Pattern

Distance From Tower (meters)	Hypotenuse (meters)	Depression Angle (with MBT adjust) (degrees)	Interpolated Rel Field	Adjusted ERP (watts)	Power Density uW/cm ²
0	25.40	90.00	0.111	73.9	3.83
1	25.42	87.75	0.117	82.4	4.26
2	25.48	85.50	0.124	92.1	4.74
3	25.58	83.26	0.132	105.2	5.38
4	25.71	81.05	0.142	120.9	6.11
5	25.89	78.86	0.153	140.6	7.01
6	26.10	76.71	0.165	163.8	8.03
7	26.35	74.59	0.178	190.8	9.18
8	26.63	72.52	0.193	223.9	10.55
9	26.95	70.49	0.207	258.0	11.87
10	27.30	68.51	0.223	297.8	13.35
11	27.68	66.58	0.239	342.3	14.93
12	28.09	64.71	0.254	386.8	16.38
13	28.53	62.90	0.269	435.7	17.88
14	29.00	61.14	0.285	485.8	19.29
15	29.50	59.44	0.298	531.4	20.40
16	30.02	57.79	0.310	577.9	21.42
17	30.56	56.21	0.320	612.6	21.91
18	31.13	54.68	0.328	645.3	22.25
19	31.72	53.20	0.335	674.5	22.40
20	32.33	51.78	0.339	689.1	22.03
21	32.96	50.42	0.341	699.3	21.51
22	33.60	49.10	0.342	700.6	20.73
23	34.27	47.84	0.339	688.8	19.60
24	34.95	46.62	0.335	674.8	18.46
25	35.64	45.45	0.329	647.6	17.03
26	36.35	44.33	0.320	615.6	15.57
27	37.07	43.25	0.310	574.8	13.97
28	37.80	42.21	0.298	531.9	12.44
29	38.55	41.21	0.283	482.2	10.84
30	39.31	40.25	0.268	430.7	9.31
31	40.08	39.33	0.252	380.5	7.92
32	40.86	38.44	0.234	329.4	6.59
33	41.64	37.59	0.215	278.0	5.36
34	42.44	36.76	0.196	229.3	4.25
35	43.25	35.97	0.175	184.1	3.29
36	44.06	35.21	0.154	142.8	2.46
37	44.88	34.47	0.133	106.2	1.76
38	45.71	33.76	0.112	74.7	1.19
39	46.54	33.08	0.090	48.3	0.75
40	47.38	32.42	0.067	27.0	0.40
41	48.23	31.78	0.045	12.3	0.18
42	49.08	31.16	0.022	3.0	0.04
43	49.94	30.57	0.009	0.5	0.01
44	50.81	30.00	0.022	2.9	0.04

45	51.67	29.44	0.044	11.8	0.15
46	52.55	28.91	0.066	26.0	0.32
47	53.42	28.39	0.087	45.8	0.54
48	54.31	27.89	0.109	70.9	0.80
49	55.19	27.40	0.130	101.1	1.11
50	56.08	26.93	0.151	136.2	1.45
51	56.98	26.48	0.171	175.1	1.80
52	57.87	26.03	0.191	218.0	2.17
53	58.77	25.61	0.210	265.0	2.56
54	59.68	25.19	0.229	315.0	2.96
55	60.58	24.79	0.248	367.7	3.35
56	61.49	24.40	0.266	424.4	3.75
57	62.40	24.02	0.284	483.4	4.15
58	63.32	23.65	0.301	544.4	4.54
59	64.24	23.29	0.318	607.6	4.92
60	65.15	22.94	0.335	673.8	5.30
61	66.08	22.61	0.352	741.5	5.67
62	67.00	22.28	0.368	810.4	6.03
63	67.93	21.96	0.383	880.0	6.37
64	68.86	21.65	0.398	948.7	6.69
65	69.79	21.34	0.412	1018.1	6.98
66	70.72	21.05	0.426	1089.8	7.28
67	71.65	20.76	0.440	1162.3	7.56
68	72.59	20.48	0.454	1235.2	7.83
69	73.53	20.21	0.467	1308.4	8.09
70	74.47	19.94	0.480	1381.7	8.32
71	75.41	19.68	0.492	1453.3	8.54
72	76.35	19.43	0.504	1524.6	8.74
73	77.29	19.19	0.516	1595.7	8.92
74	78.24	18.94	0.527	1666.7	9.10
75	79.18	18.71	0.538	1737.5	9.26
76	80.13	18.48	0.549	1808.0	9.41
77	81.08	18.26	0.559	1878.2	9.55
78	82.03	18.04	0.570	1948.1	9.67
79	82.98	17.82	0.580	2017.6	9.79
80	83.94	17.61	0.590	2086.7	9.90
81	84.89	17.41	0.599	2155.4	9.99
82	85.84	17.21	0.609	2223.7	10.08
83	86.80	17.02	0.618	2289.7	10.15
84	87.76	16.82	0.626	2352.8	10.21
85	88.71	16.64	0.634	2415.4	10.25
86	89.67	16.45	0.643	2477.5	10.29
87	90.63	16.28	0.651	2539.0	10.33
88	91.59	16.10	0.658	2600.0	10.35
89	92.55	15.93	0.666	2660.4	10.38
90	93.52	15.76	0.673	2720.3	10.39
91	94.48	15.60	0.680	2778.3	10.40
92	95.44	15.43	0.687	2835.1	10.40
93	96.41	15.28	0.694	2891.3	10.39
94	97.37	15.12	0.701	2946.9	10.38
95	98.34	14.97	0.707	3001.5	10.37
96	99.30	14.82	0.713	3054.2	10.35