

**LANCASTER EDUCATIONAL BROADCAST SERVICE**  
**KLQS-LP 97.5 FM AGUA DULCE, CALIF**  
**FAC ID NO. 195731**

MINOR CHANGE OF LICENSED FACILITY

**PARAMETERS**

Channel	248L1
New Location:	34° 19' 01.5" N 118° 22' 26.0" W -- NAD 83
Antenna AGL	6.9 m
Tower Total	8 m
Antenna Ground	2110 ft = 643 m (see Figure 1)
Antenna COR	649.9 m
HAAT	30 m (see Figure 2)
Power	100 w
Site Move Type:	LPFM Minor Change (see Figure 3)



Figure 1: Proposed Site

**Antenna Height Above Average Terrain Calculations -- Results**

**Input Data**

Latitude    **34° 19' 1.5" North**  
Longitude   **118° 22' 26" West    (NAD 83)**

Height of antenna radiation center above mean sea level: **649.9 meters AMSL**

Number of Evenly Spaced Radials = **8**      0° is referenced to True North

**Results**

**Calculated HAAT = 30 meters**

Antenna Height Above Average Terrain calculated  
using 1 km [GLOBE terrain data](#)

**Individual "Radial HAAT" Values, in meters**

0°	-73.9 m
45°	-403.6 m
90°	-283.5 m
135°	154.4 m
180°	370.3 m
225°	346.0 m
270°	150.1 m
315°	-16.3 m

Figure 2: HAAT calculation from <https://www.fcc.gov/media/radio/haat-calculator>

Distance between:

34 22 44.3 N Latitude,    118 23 50. W Longitude (Point 1)  
As decimals: 34.3789722 Latitude, -118.3972222 Longitude

and

34 19 1.5 N Latitude,    118 22 26. W Longitude (Point 2)  
As decimals: 34.3170833 Latitude, -118.3738889 Longitude

**Distance = 7.193 km (4.469 miles)**

via the method in Sections 73.208 and 73.611(d)  
This method is only suitable for distances up to 475 km (295 miles).

Azimuth, Point 1 to Point 2: 162.70° True  
Azimuth, Point 2 to Point 1: 342.72° True

Return to Data Input

Print Results

To find the terminal coordinates given a bearing and a distance  
use the [Terminal Coordinates](#) function.

Figure 3: Per Section 73.870(a), minor change is < 11.2 km.

## TOWAIR (PASS)

DETERMINATION Results							
PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7190.84 MTRS (7.19080 KM) AWAY							
Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	34-15-49.00N	118-25-5.00W	WHITEMAN	LOS ANGELES LOS ANGELES, CA	292.6	1255.8
Your Specifications							
NAD83 Coordinates							
Latitude					34-19-01.5 north		
Longitude					118-22-26.0 west		
Measurements (Meters)							
Overall Structure Height (AGL)					6.9		
Support Structure Height (AGL)					0		
Site Elevation (AMSL)					643		
Structure Type							
POLE - Any type of Pole							

## CHANNEL SPACING

## REFERENCE

34 19 01.50 N.

CLASS = L1

## DISPLAY DATES

DATA 01-03-22

118 22 26.00 W.

Current Spacings to 2nd Adj.

SEARCH 01-23-22

----- Channel 248 - 97.5 MHz -----

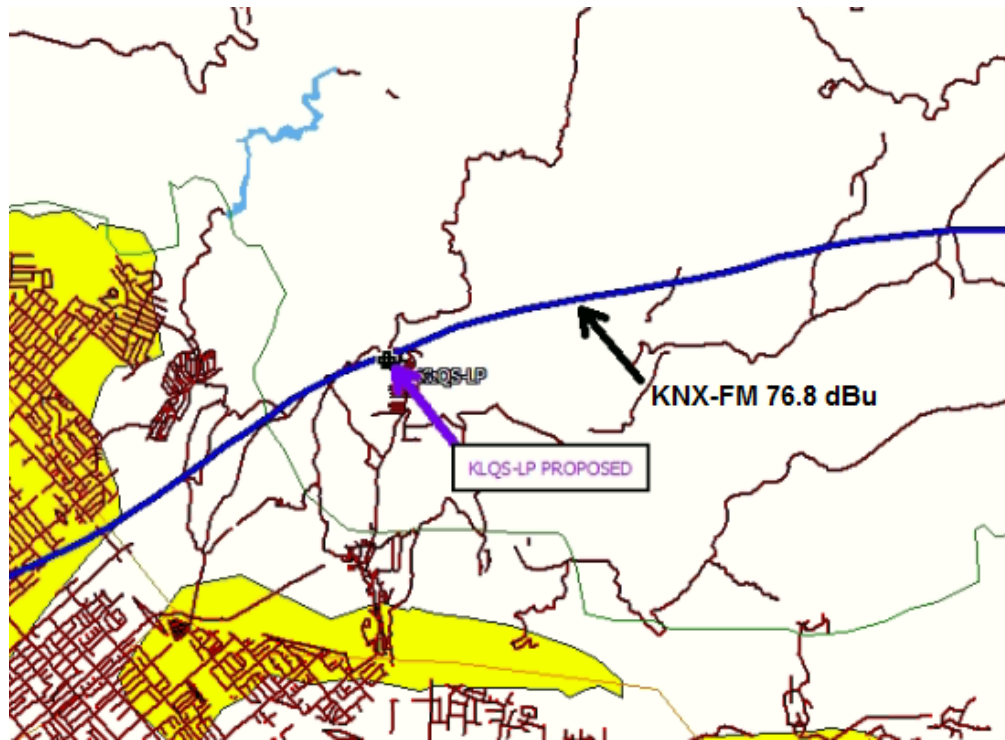
Call	Channel	Location		Azi	Dist	FCC	Margin
*KLAX-FM	LIC-Z 250B	East Los Angeles	CA	136.2	23.59	66.5	-42.9
*KNX-FM	LIC-D 246B	Los Angeles	CA	109.5	29.97	66.5	-36.5
<del>KLQS-LP</del>	<del>LIC 248L1</del>	<del>Santa Clarita</del>	<del>CA</del>	<del>342.6</del>	<del>7.19</del>	<del>23.5</del>	<del>-16.3</del>
KLYY	LIC-D 248B	Riverside	CA	94.3	113.91	111.5	2.4
KHUG-LP	LIC 248L1	Castaic	CA	309.7	31.52	23.5	8.0
KTPI-FM	LIC 249A	Mojave	CA	14.3	75.82	55.5	20.3
KLSB	LIC 248B	Goleta	CA	279.5	147.51	111.5	36.0
KRJK	LIC 247A	Lamont	CA	342.1	102.24	55.5	46.7
K247CN	LIC 247D	Mojave	CA	14.3	75.82	20.5	55.3
K250BV	LIC-D 250D	Ventura	CA	263.6	76.90	7.5	69.4

\*Second Adjacent Channel Waiver Request

## SECOND ADJACENT WAIVER REQUEST

KLAX-FM and KNX-FM are the second adjacent channels the facility is short spaced to.

Regarding KNX-FM: At the proposed site, KNX-FM has a signal strength of 76.8 dBu (FCC).



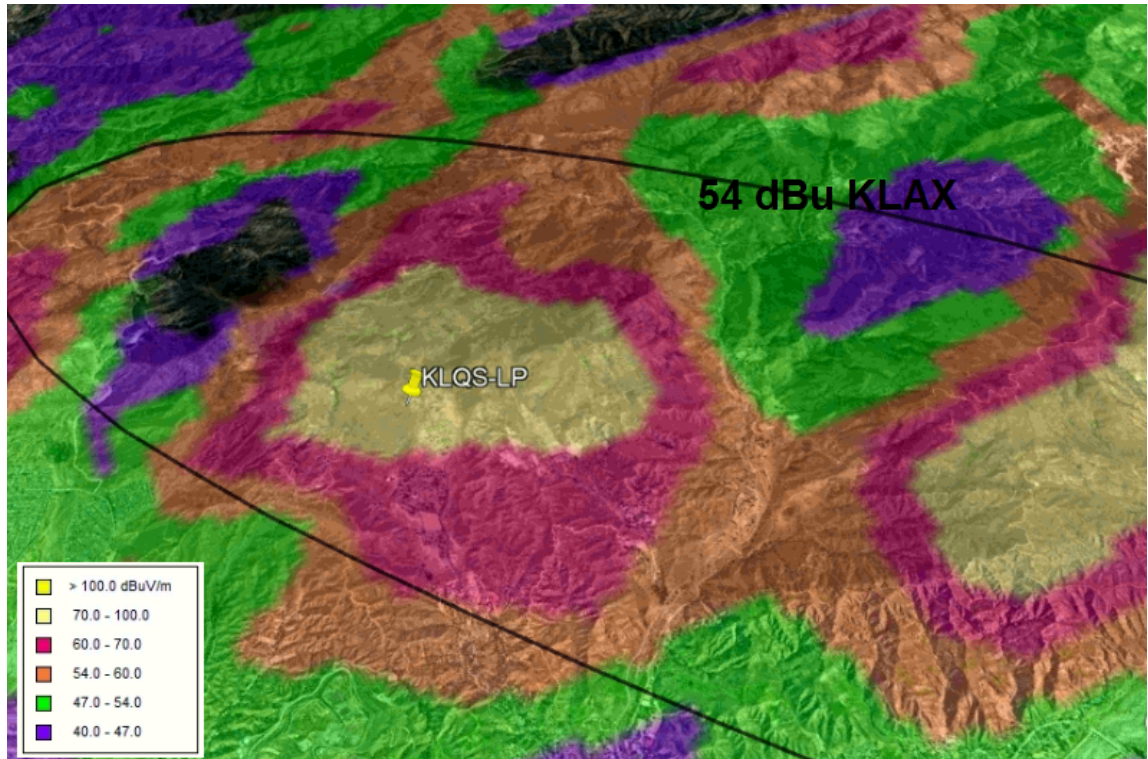
For KLAX-FM, the Class B 54 dBu FCC contour has an aberrant offshoot over a mountainous rural area with coverage that deviates from FCC calculated strength. Since FCC FM coverage is based upon a 3 to 16 kilometer sampling,<sup>1</sup> the contour calculation is “blind” to the mountains past 16 km, projecting an offshoot contour over the area. For LPFM second-adjacent inference showings, the Commission is allowed to entertain proposals “using methods of predicting interference taking into account all relevant factors, including terrain-sensitive propagation models” within requests for waivers demonstrating the proposal will not introduce interference to populated areas.<sup>2</sup>

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<sup>1</sup> §73.310(a)

<sup>2</sup> Sec. 3(b)(2)(A) of H.R. 6533 — 111th Congress: Local Community Radio Act of 2010.





Applicant thus proffers the use of Longley-Rice (ITS-ITM) propagation<sup>3</sup> to derive the most accurate signal strength at the proposed site. A signal strength of 74.7 dBu was found for KLAX at the proposed LPFM site using this methodology.

The value of 74.7 dBu (the lesser value between KNX and KLAX) will then be used to determine interference compliance. Interference will occur when the KLAX signal strength's interfering signal exceeds the desired signal by 40 dbu. So the area of predicted interference would then be bounded by the 114.7 dBu contour. To assure compliance, a directional antenna is proposed, with the 114.7 dBu contour plotted below.

<sup>3</sup> Propagation plotted via professional broadcast software *V-Soft Communications Probe 4* using FCC preferences (Climate: Continental temperate, Conductivity 0.005, Dielec Const 15, Refractivity 311, Receiver Ht AG 9.1m, Receiver Gain 0 db, Time Variability 50%, Sit. Variability 50%, ITM Mode: Broadcast, and terrain clutter setting)



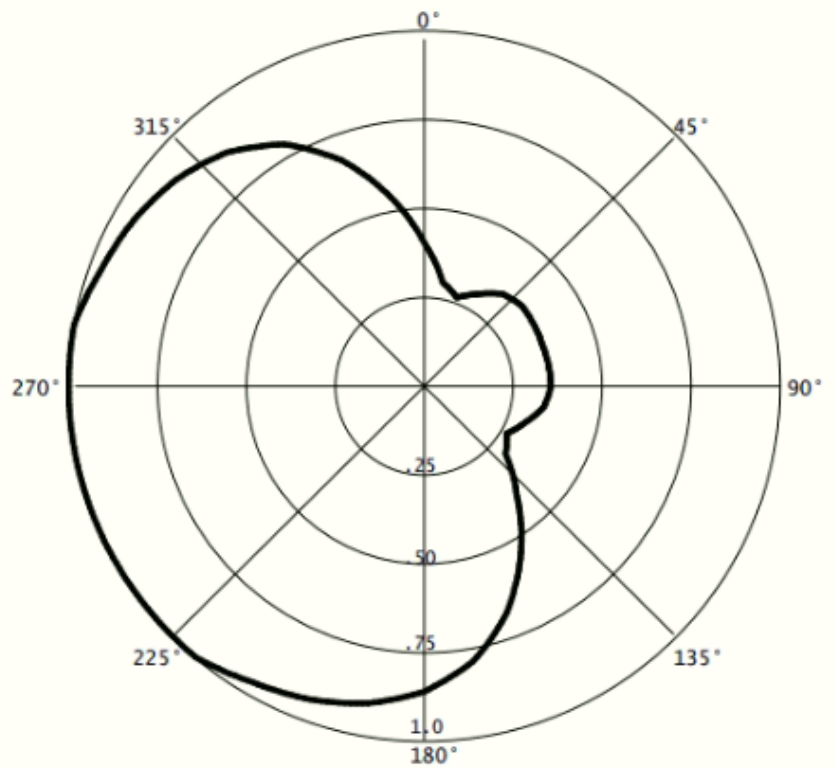
Due to zero population within this radiation radius, as demonstrated in the aerial shot, this meets the "Living Way" Criteria to qualify for a Waiver of 47 C.F.R. Section 73.807.

Applicant respectfully requests a "second adjacent channel waiver" with regards to Section 47 C.F.R. Section 73.807 of the FCC rules based upon the "Living Way" precedence (Living Way Ministries, Inc., Memorandum Opinion and Order, 17 FCC Red 17054, 17056, ¶ 5 (2002), recon. denied 23 FCC Red 15070 (2008)).

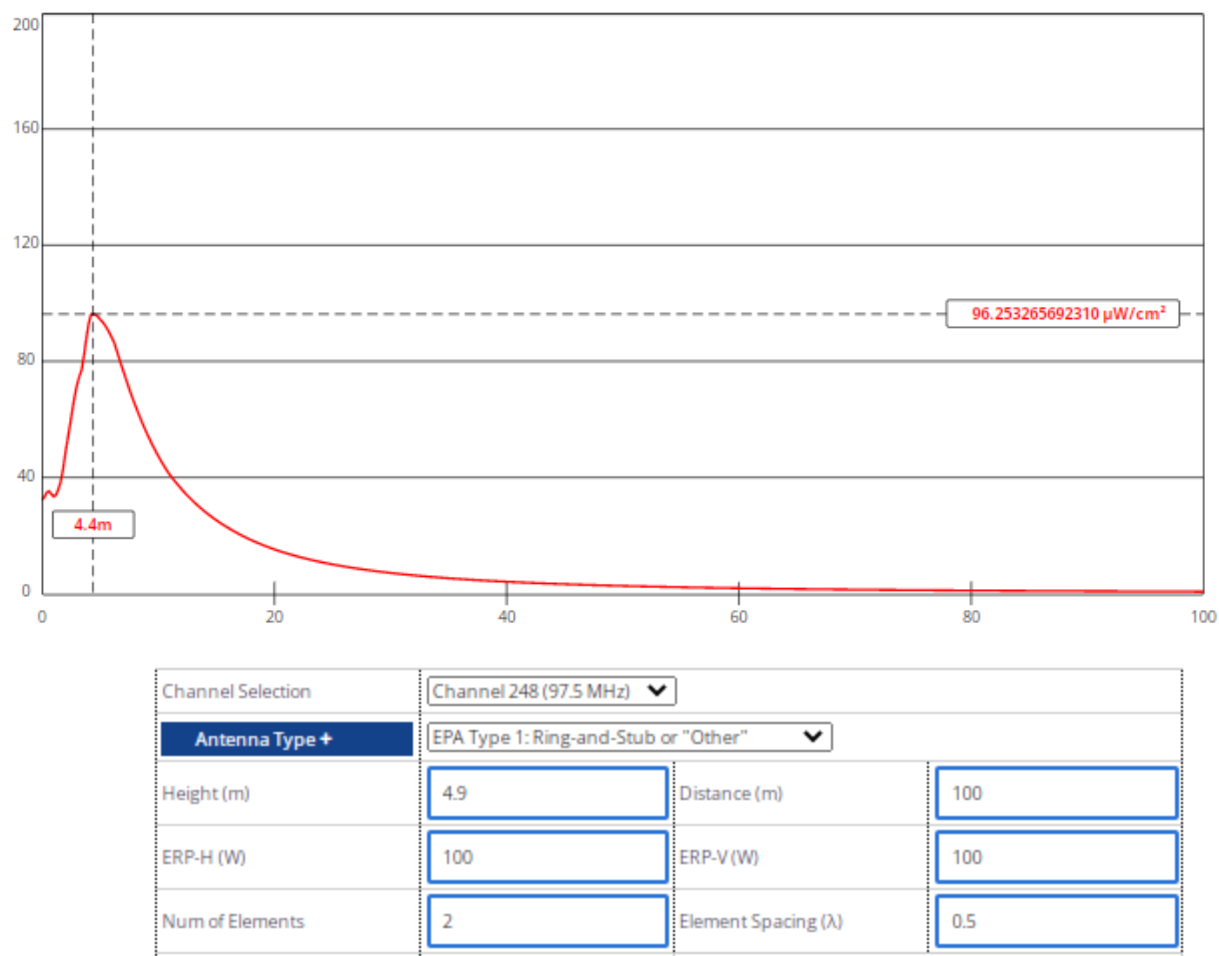
The antenna pattern is demonstrated below -- antenna ACG 01 02 23x by Aldena.

Azi	Field	dBk	kw
000	0.405	-17.851	0.016
010	0.298	-20.516	0.009
020	0.267	-21.470	0.007
030	0.301	-20.429	0.009
040	0.341	-19.345	0.012
050	0.356	-18.971	0.013
060	0.354	-19.020	0.013
070	0.352	-19.069	0.012
080	0.354	-19.020	0.013
090	0.356	-18.971	0.013
100	0.341	-19.345	0.012
110	0.301	-20.429	0.009
120	0.267	-21.470	0.007
130	0.298	-20.516	0.009
140	0.405	-17.851	0.016
150	0.543	-15.304	0.029
160	0.680	-13.350	0.046
170	0.790	-12.047	0.062
180	0.863	-11.280	0.074
190	0.910	-10.819	0.083
200	0.942	-10.519	0.089
210	0.966	-10.300	0.093
220	1.000	-10.000	0.100
230	1.000	-10.000	0.100
240	1.000	-10.000	0.100
250	1.000	-10.000	0.100
260	1.000	-10.000	0.100
270	1.000	-10.000	0.100
280	1.000	-10.000	0.100
290	0.966	-10.300	0.093
300	0.942	-10.519	0.089
310	0.910	-10.819	0.083
320	0.863	-11.280	0.074
330	0.790	-12.047	0.062
340	0.680	-13.350	0.046
350	0.543	-15.304	0.029

Graph is Relative Field



## ENVIRONMENTAL COMPLIANCE



A worst-case scenario emitter antenna (ring stub) was used to gauge the maximum RF for the proposal in OET program FM Model for Windows. The maximum predicted RF exposure was 96.2  $\mu\text{W}/\text{cm}^2$  for the level of a 2 m person standing by the pole, 48.1% of the FCC Maximum Permissible Exposure (MPR) for 200  $\mu\text{W}/\text{cm}^2$  for uncontrolled environments.

The site will have a sign regarding RF exposure hazards to tower climbers posted. If any work needs to be done around the structure the RF power will be temporarily shut off.