

Minor Modification
KVIB-LP - San Diego, California
Facility ID# 197704

Engineering Section VI - Tech Box info

Coordinates: **32 43 39.45 N, 117 8 55.55 W**
Elevation : **66.5 meters**
Height of Radiation Center: **5.8 meters AGL**
RCAMSL: **72.3 meters**
Height Above Average Terrain: **13 m HAAT** (radials adjusted to terrain and water; see exhibit)
Effective Radiated Power: **48 watts**
(96% of max allowable ERP in respect to US-Mexico border)

Minor move seeks relocation of antenna site onto property of main studio.

Applicant respectfully requests expedited processing to allow for timely completion of new facility.

Conditional construction permit will be accepted pending US-Mexico processing protocols.

Technical adjustments: 13m HAAT & 0.48w ERP

Radiation center above mean sea level is calculated to **72.3 meters AMSL**.

Proximity of site to ocean is eligible for adjustments to overall Height Above Average Terrain.

Recalculation of radials over terrain and water are adjusted to an average of **13 meters HAAT**.

Due to proximity to Mexico, further adjustment is requested to 96% of allowable ERP to **48 watts**.

With the adjusted ERP and HAAT at 13 meters, the resulting **34 dBu** (f 50,10) contour stops short of landfall in respect to Pilon de Azucar and the Coronado Islands off the coast of Mexico.

The 34 dBu contour also remains outside of the protected 65 km distance from station XHAT FM on Channel 266 of Ensenada, BN, Mexico.



96% of ERP, combined with RCAMSL at 72.3 meters and surrounding terrain, results in an irregular 60 dBu contour extending up to 7 km in areas between radials at 135 and 315 degrees. Contour areas between radials 316 and 134 degrees round to 4.7 km in compliance with 73.811(b).

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The **34 dBu (f 50,10)** contour also remains well outside of the protected 65 km distance from station XHAT on Channel 266 of Ensenada, BN, Mexico.

For comparative purposes, the calculated 34 dBu (f 50,10) contour for a neighboring LPFM station (Facility # 193134), is provided below. Located 1.3 km southwest of this instant application closer towards Mexico, at 50 watts ERP and 30 m HAAT, Facility # 193134 produces a 34 dBu contour that is nearly identical to this instant application.

Description

Minor move seeks relocation of antenna site onto property of main studio. Spectrum allocation made possible due to recent cancellation of DKRSA-LP, Facility ID# 195369 (see *Public Notice 11/02/2018, Report Number: 49355, Broadcast Actions*).

Applicant respectfully requests expedited processing to allow for timely completion of new facility.

- Conditional construction permit will be accepted pending US-Mexico processing protocols.

Technical adjustments: HAAT & ERP

Although the radiation center above mean sea level is calculated to 72.3 meters AMSL, proximity of site to ocean is eligible for adjustments to overall Height Above Average Terrain.

Recalculation of radials over terrain and water is adjusted to an average of **13 meters HAAT**. Exhibit with elevation points and adjusted HAAT will be attached with engineering study

Due to proximity to Mexico, further adjustment is requested to 96% of allowable ERP to **48 watts**.

96% of ERP, combined with RCAMSL at 72.3 meters and surrounding terrain, results in an irregular 60 dBu contour extending up to 7 km in areas between radials at 135 and 315 degrees. Contour areas between radials 316 and 134 degrees round to 4.7 km in compliance with 73.811(b).

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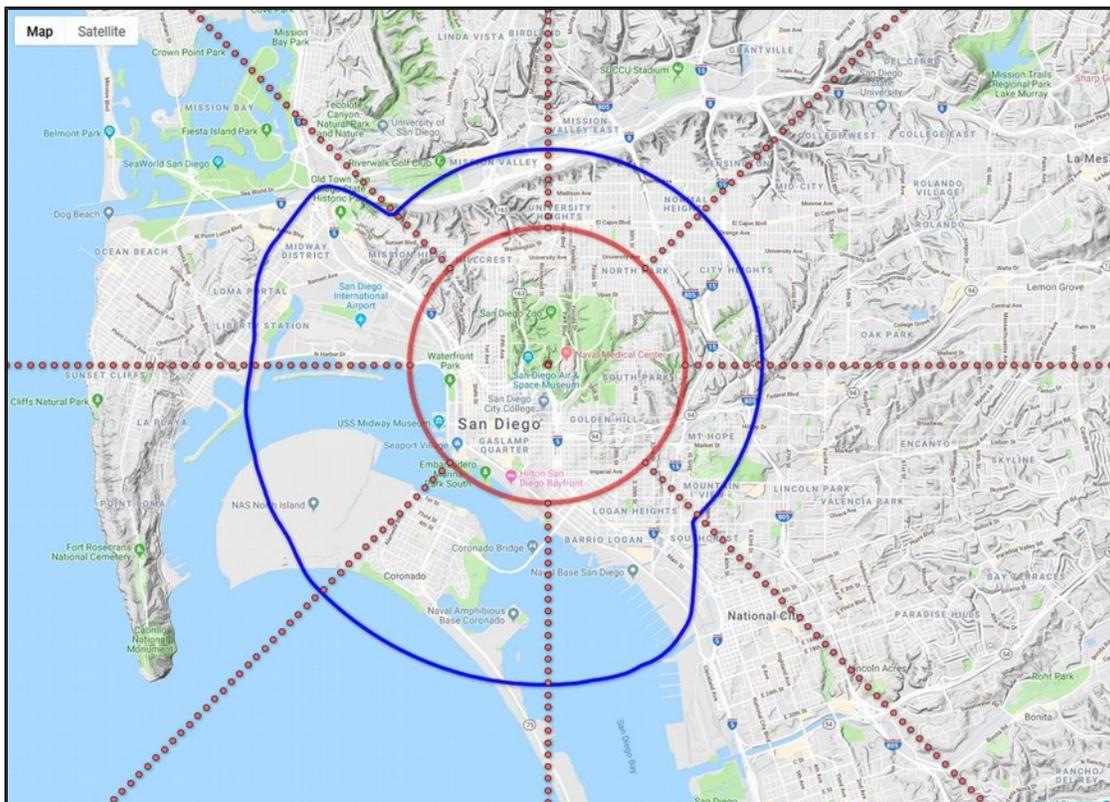
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The 34 dBu contour also remains outside of the protected 65 km distance from station XHAT FM on Channel 266 of Ensenada, BN, Mexico.

For comparison, the calculated 34 dBu (f 50,10) contour is also provided below for a neighboring LPFM station (Facility # 193134) located 1.3 km southwest of this facility, and is closer towards Mexico. At 50 watts ERP and 30 m HAAT, Facility # 193134 produces a 34 dBu contour that is nearly identical.

60 dBu contour at proposed site: 72.3 AMSL adjusted to 48 w ERP

- Adjusted to **13m HAAT** (3km-16km portion of radials over water at **180°, 225°, 270° & 315°**).



**HAAT calculations adjusted for radials over water to 13 m HAAT
per 47 CFR § 73.313 (d)(2):**

<https://www.fcc.gov/media/radio/haat-calculator>

Antenna Height Above Average Terrain Calculations -- Results

Input Data

Latitude **32° 43' 39.45" North**

Longitude **117° 8' 55.55" West (NAD 27)**

These coordinates convert to NAD 83 coordinates of

32° 43' 39.63", North, 117° 08' 58.67" West (NAD 83).

Height of antenna radiation center above mean sea level: **73.3 meters AMSL**

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

Results

Calculated HAAT = 17 meters

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

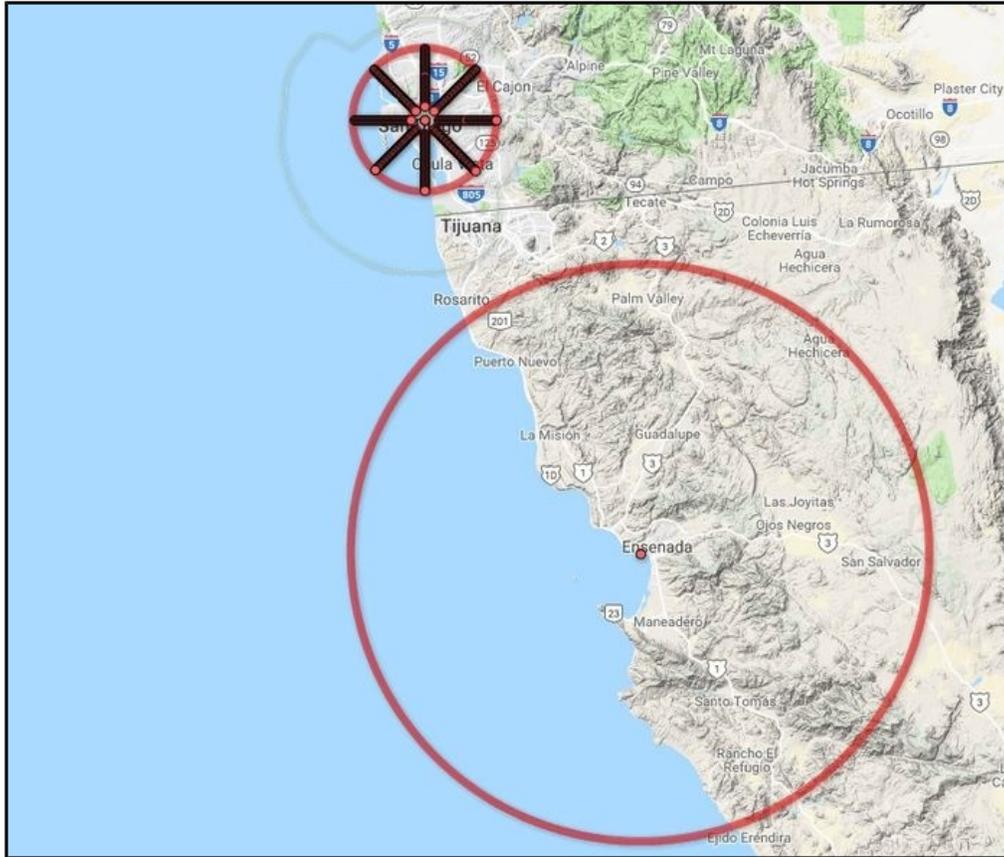
Individual "Radial HAAT" Values, in meters

0°	-28.0 m	
45°	-48.1 m	
90°	-61.4 m	
135°	36.5 m	
180°	-72.6 m	68.97 m
225°	-71.8 m	69.53 m
270°	-60.1 m	47.72 m
315°	-29.0 m	18.35 m

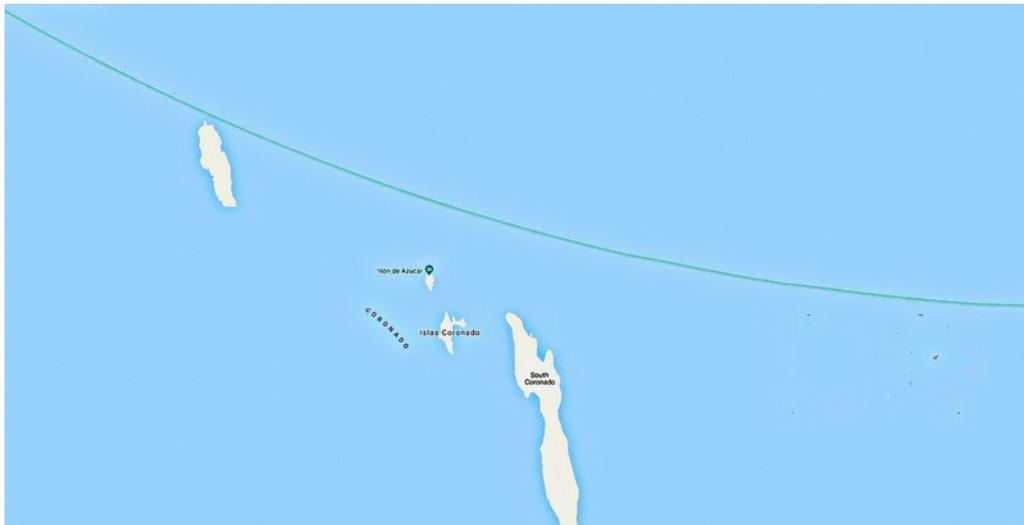
-28.0 + -48.1 + -61.4 + 36.5 +
68.97 + 69.53 + 47.72 + 18.35 / 8 = **12.95 m HAAT**

Analysis of contours

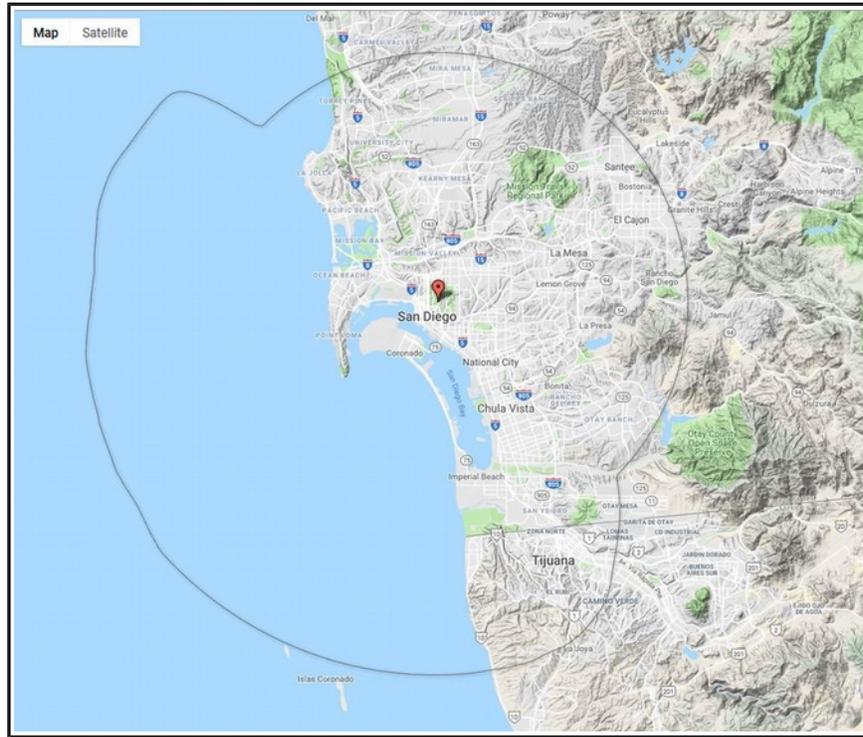
- Per § 73.313 (d)(2), 3 to 16 km portions of four radials extend over water
- The 3 km to 16 km portion of radials do not extend into foreign territory (Mexico)
- 50 uV/m (34 dBu) contour clears 65 dBu contour of XHAT FM



Detail: 34 dBu contour from proposed facility at .048kW ERP stops short of Coronado Islands:

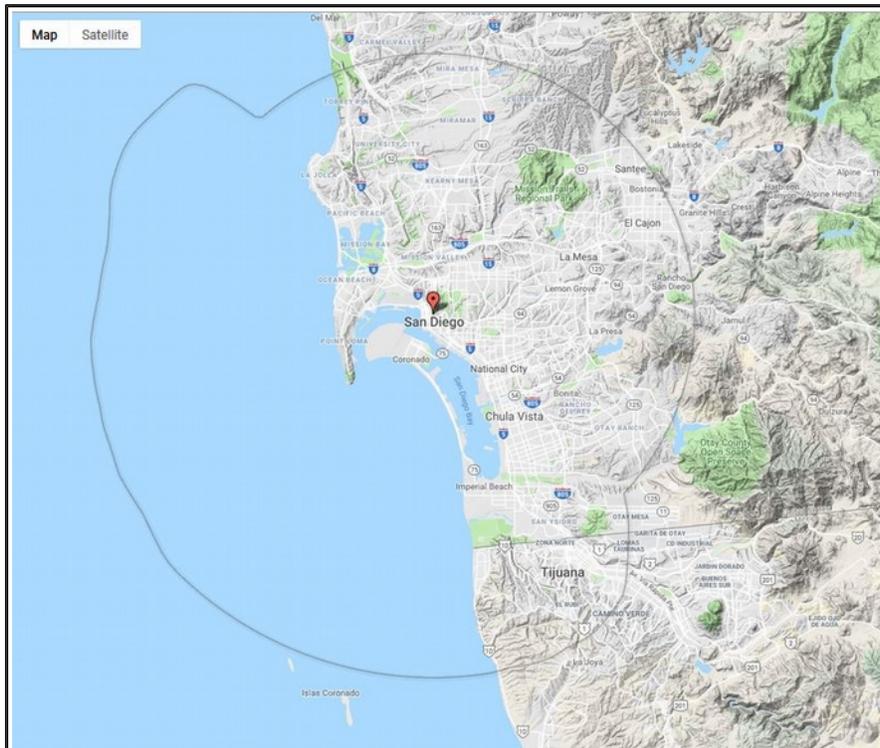


- 34 dBu (f 50,10) contour of proposed facility at .048 kW and 13 meters HAAT in relation to the Coronado Islands / Mexico:



Coronado Islands

Comparison: 34 dBu (f 50,10) contour of KCZP-LP, Facility # 193134



Coronado Islands

Second Adjacent Exhibit & Waiver Request

Waiver requested pursuant to Section 73.807(e)(1) with respect to KFMB-FM and KGB-FM.

Signal strength at proposed site for second adjacent station KFMB Facility ID# 42117 is estimated at 84.47 dBuV/m, and KGB-FM, Facility ID# 34454 is calculated to 102.2 dBuV/m. With additional 40 dBu , KFMB is protected to 124.5 dBu, calculating to a worst case interference radius of 29 m.

The radius of interference is cleared any occupied structures or four-laned roadways. Additionally, as power diminishes typically at vertical depression angles, any interference would be further minimized. No population will be subject to interference from the proposed station according to the undesired-to-desired ratio method

Area for the antenna on the property is not accessible to the public, and will be contained within a fence around the mast with warning signs. Only authorized personnel will have direct access to the antenna structure. Transmission system will be powered down for any maintenance or repair.

Blue contour: KGB-FM
Red contour: KFMB-FM

