

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

70 meter move within same property, and higher AMSL to extend antenna above roofline of mail facility.
If required, conditional construction permit will be accepted pending US-Mexico processing protocols.

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

Engineering Section VI - Tech Box info

Coordinates: **32 43 37.39 N, 117 08 56.33 W (NAD 27)**

Elevation : **72 meters**

Height of Radiation Center: **8.9 m AGL**

RCAMSL: **80.9 meters AMSL**

Height Above Average Terrain: **24 m HAAT** using 1 km GLOBE terrain data

Effective Radiated Power: **50 watts**

Note: Applicant willing to voluntarily accept 96% of max allowable ERP in lieu of HAAT adjustments to conform with US-Mexico agreements and maintain clearance of Coronado Islands.

Technical adjustments: 80.9 meters AMSL & 24 meter HAAT

With the adjustment of HAAT to 24 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.



HAAT calculations adjusted to 24 m HAAT

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

https://transition.fcc.gov/fcc-bin/haat_calculator?dlat=32&mlat=43&slat=37.39&ns=1&dlon=117&mlon=8&slon=56.33&ew=-1&nad=27&rcamsi=80.9&nradials=8&terdb=0

Antenna Height Above Average Terrain Calculations – Results

Input Data

Latitude **32° 43' 37.39" North**

Longitude **117° 8' 56.33" West (NAD 27)**

These coordinates convert to NAD 83 coordinates of

32° 43' 37.57", North, 117° 08' 59.45" West (NAD 83).

Height of antenna radiation center above mean sea level: **80.9 meters AMSL**

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

Results

Calculated HAAT = **24 meters**

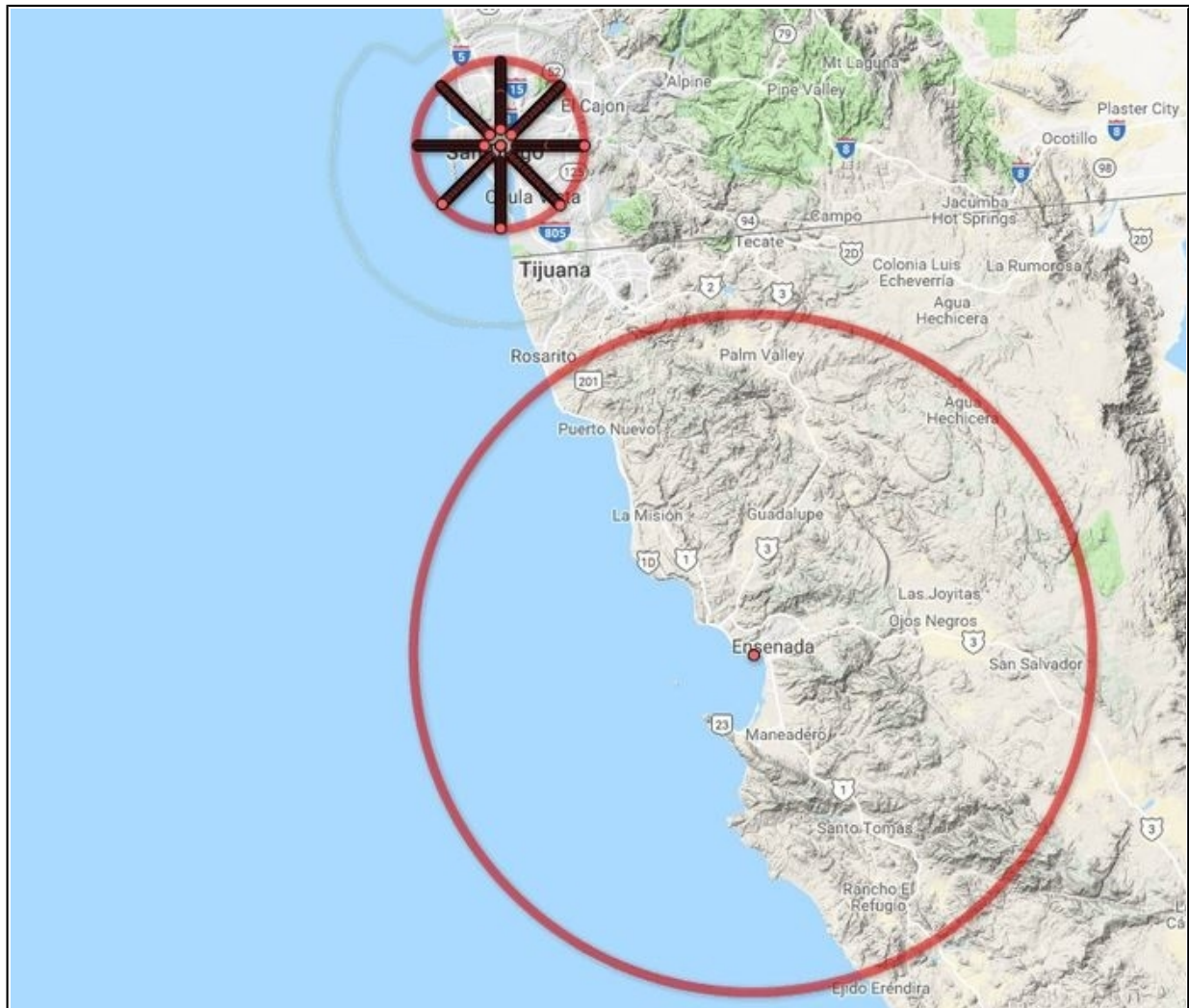
Antenna Height Above Average Terrain calculated
using 1 km [GLOBE terrain data](#)

Individual "Radial HAAT" Values, in meters

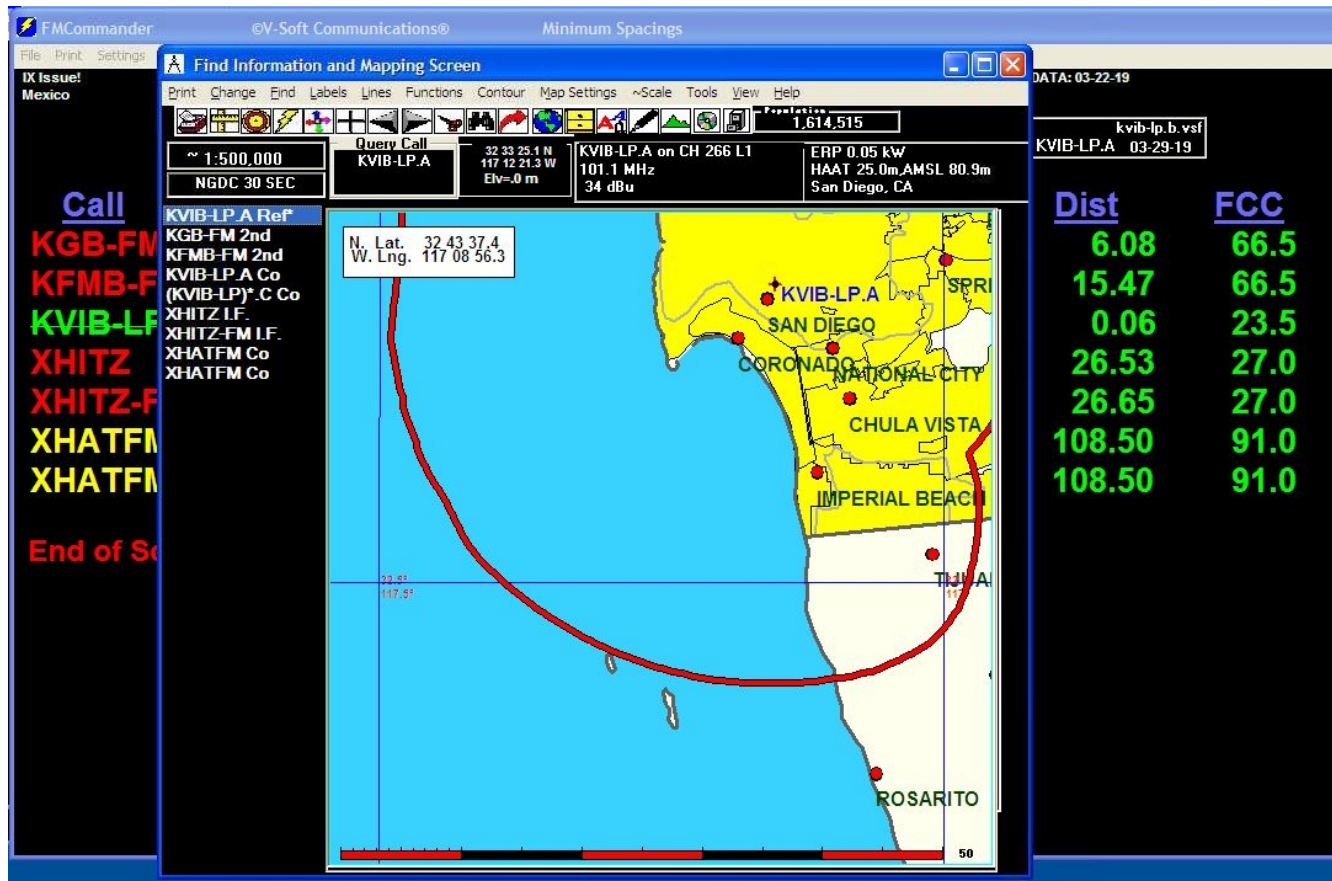
0°	-20.1 m
45°	-41.2 m
90°	-53.0 m
135°	44.8 m
180°	80.3 m
225°	79.4 m
270°	67.9 m
315°	37.5 m

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

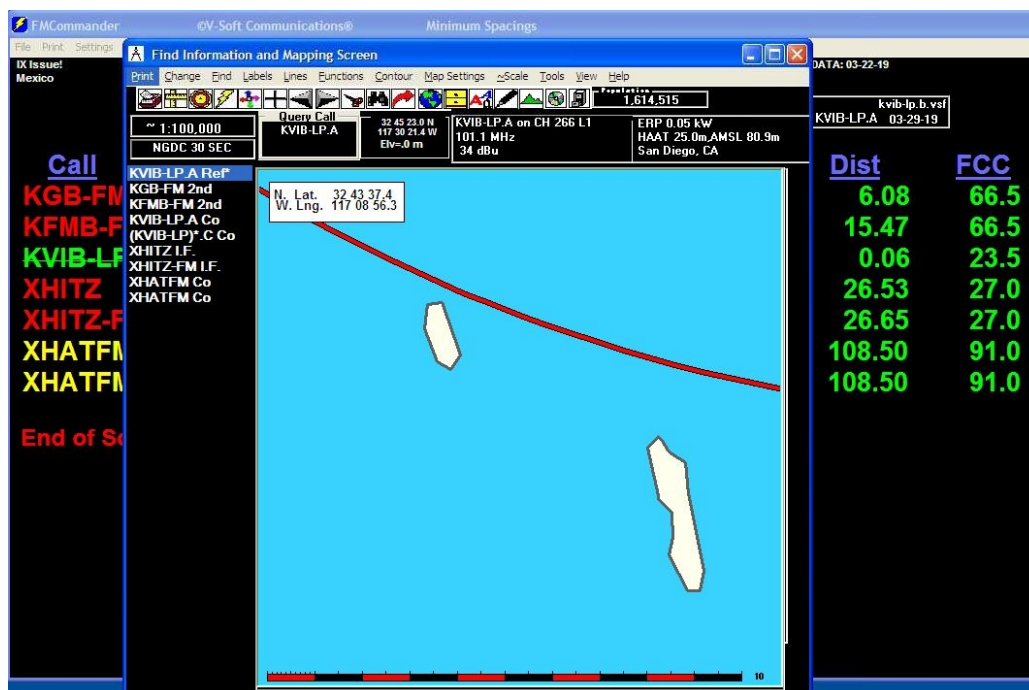


- 34 dBu contour (f 50,10) from 80.9 m AMSL remains outside of Coronado Islands / Mexico:



Detail: 34 dBu contour from adjusted antenna height (80.9 AMSL)

- Adjustment to 24m HAAT would further dissipate before reaching 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 97.87 dBuV/m, and KGB-FM, Facility ID# 34454 is calculated to 108.27 dBuV/m. With additional 40 dBu , KFMB is protected to 137.9 dBu, calculating to a worst case interference radius of 6 m.

A single-bay antenna with center of radiation at 8.9 meters AGL will be above an existing single-story structure (5.5 m height). The predicted worst-case interference radius will therefore remain clear of the ground-level areas by nearly 3 meters.

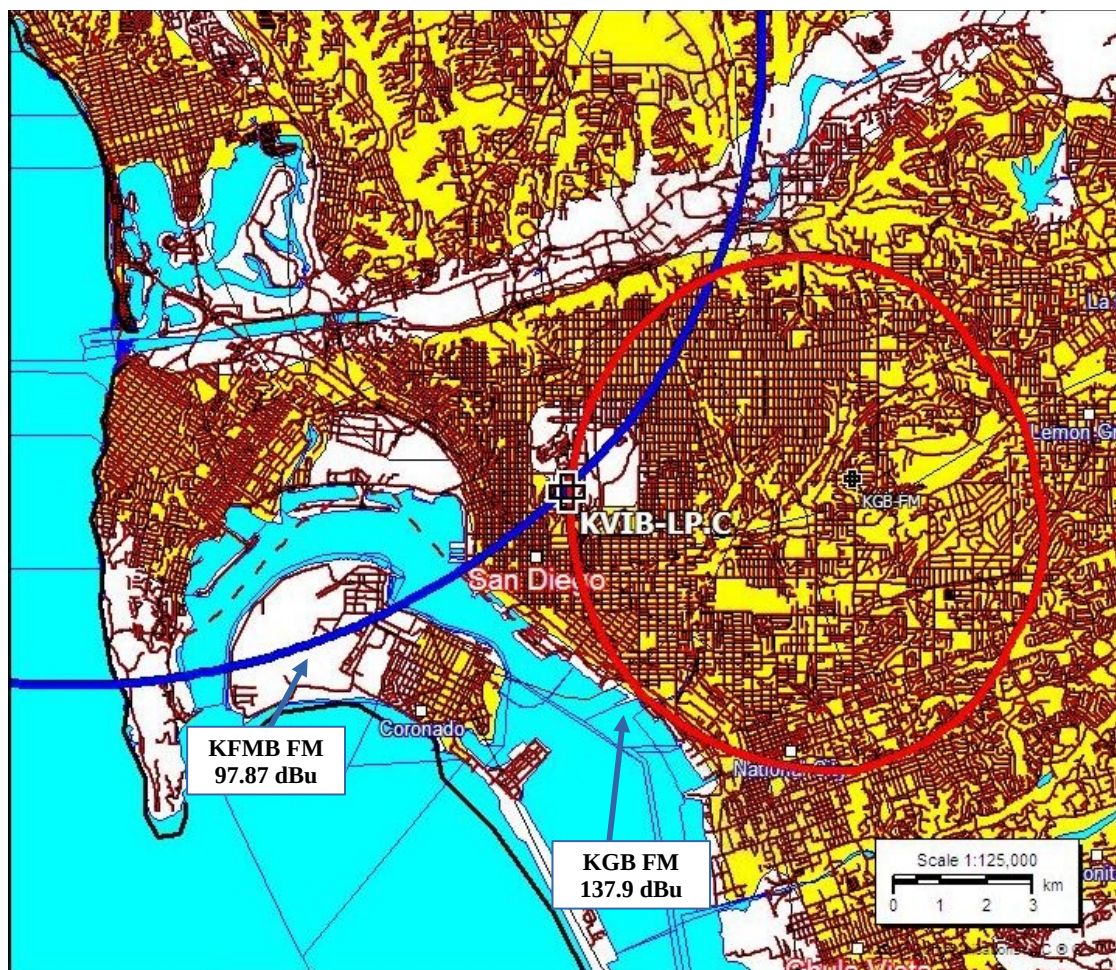
Additionally, as power quickly diminishes at vertical depression angles, any residual interference would be further minimized and contained.

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 with a barrier 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: **KFMB-FM**

Red contour: **KGB-FM**



D/U Ratio Study via V-Soft Probe 4 software
Exported calculations of Engineering Study

KFMB-FM signal calculations at reference point

Point Information Report

Latitude: 32-43-37.39 N

Longitude: 117-08-56.33 W

Signal Strength: 97.874 dBuV/m

Elevation: 61.0 m

Distance From Transmitter: 15.48 km

Azimuth From Transmitter: 142.65 degrees

Call Letters: KFMB-FM

File Number: BMLH20010717AAF

Latitude: 32-50-17 N

Longitude: 117-14-57 W

ERP: 30.00 kW

Channel: 264

Frequency: 100.7 MHz

AMSL Height: 269.0 m

Elevation: 231.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

KGB-FM signal calculations at reference point

Point Information Report

Latitude: 32-43-37.39 N

Longitude: 117-08-56.33 W

Signal Strength: 108.266 dBuV/m

Elevation: 61.0 m

Distance From Transmitter: 6.084 km

Azimuth From Transmitter: 266.94 degrees

Call Letters: KGB-FM

File Number: BMLH20041122AHP

Latitude: 32-43-48 N

Longitude: 117-05-03 W

ERP: 50.00 kW

Channel: 268

Frequency: 101.5 MHz

AMSL Height: 240.0 m

Elevation: 76.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Study Information:

D/U Ratio Study

Signal Resolution: 0.5 km

Study Date: 4/4/2019

Land Cover was not considered in this study.

Primary Terrain: V-Soft 30 Second US Database

Secondary Terrain: V-Soft 3 Second Alaska Terrain

Coordinate System: NAD27

Transmitters:

Transmitter Information:

Call Letters: KVIB-LP.A

File Number: BMPL20181126ABC

Latitude: 32-43-37.39 N

Longitude: 117-08-56.33 W

ERP: 0.05 kW

Channel: 266

Frequency: 101.1 MHz

AMSL Height: 80.9 m

Elevation: 72.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Propagation Model: Longley-Rice

Climate: Continental temperate

Conductivity: 0.0050

Dielectric Constant: 15.0

Refractivity: 311.0

Receiver Height AG: 9.1 m

Receiver Gain: 0 dB

Time Variability: 50.0%

Situation Variability: 50.0%

ITM Mode: Broadcast

Transmitter Information:

Call Letters: KFMB-FM

File Number: BMLH20010717AAF

Latitude: 32-50-17 N

Longitude: 117-14-57 W

ERP: 30.00 kW

Channel: 264

Frequency: 100.7 MHz

AMSL Height: 269.0 m

Elevation: 231.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Propagation Model: Longley-Rice

Climate: Continental temperate

Conductivity: 0.0050
Dielectric Constant: 15.0
Refractivity: 311.0
Receiver Height AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 10.0%
Situation Variability: 50.0%
ITM Mode: Broadcast

Transmitter Information:

Call Letters: KGB-FM
File Number: BMLH20041122AHP
Latitude: 32-43-48 N
Longitude: 117-05-03 W
ERP: 50.00 kW
Channel: 268
Frequency: 101.5 MHz
AMSL Height: 240.0 m
Elevation: 76.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No
Propagation Model: Longley-Rice
Climate: Continental temperate
Conductivity: 0.0050
Dielectric Constant: 15.0
Refractivity: 311.0
Receiver Height AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 10.0%
Situation Variability: 50.0%
ITM Mode: Broadcast

Depression angle calculations – circular polarized single-bay antenna

Shively 6812 – 1 Bay

Power – 50 W

Height – 8.9 m

Contour – 137.9

depression angle below horizon	relative field	db from relative	ERP	angular distance to contour	vertical distance	horizontal distance	clearance above ground
0	1.000	0.00	50.00	6.313	0.000	6.313	8.900
5	0.996	-0.03	49.60	6.287	0.548	6.263	8.352
10	0.985	-0.13	48.51	6.218	1.080	6.123	7.820
15	0.967	-0.29	46.75	6.104	1.580	5.896	7.320
20	0.942	-0.52	44.37	5.946	2.034	5.588	6.866
25	0.910	-0.82	41.41	5.744	2.428	5.206	6.472
30	0.871	-1.20	37.93	5.498	2.749	4.762	6.151
35	0.826	-1.66	34.11	5.214	2.991	4.271	5.909
40	0.774	-2.23	29.95	4.886	3.141	3.743	5.759
45	0.717	-2.89	25.70	4.526	3.200	3.200	5.700
50	0.654	-3.69	21.39	4.128	3.163	2.654	5.737
55	0.586	-4.64	17.17	3.699	3.030	2.122	5.870
60	0.514	-5.78	13.21	3.245	2.810	1.622	6.090
65	0.437	-7.19	9.55	2.759	2.500	1.166	6.400
70	0.357	-8.95	6.37	2.254	2.118	0.771	6.782
75	0.273	-11.28	3.73	1.723	1.665	0.446	7.235
80	0.186	-14.61	1.73	1.174	1.156	0.204	7.744
85	0.096	-20.35	0.46	0.606	0.604	0.053	8.296
90	0.001	-60.00	0.00	0.006	0.006	0.000	8.894