

## TECHNICAL REPORT

### Overview

This technical report was prepared in support of an application for a construction permit for a new FM booster for KRXV-FM.

### Allocation Analysis

An allocation analysis was performed according to 74.1204 of the Commission's rules. Exhibit-1 demonstrates that the proposed KRXV 0.07 kW booster meets all FCC Section 74.1203 first adjacent and I.F. protection requirements. Exhibit 2 shows the HAAT has been calculated over 12 evenly spaced radials to be 284 meters using the FCC 30 Second Terrain Database. The proposed booster's 54 dBu contour will be entirely contained within the KRXV licensed 54 dBu contour as shown in Exhibit-3 and Exhibit-4. The proposed antenna is a Kathrein Scala 75010286 vertically polarized yagi antenna rotated to an azimuth of 050 degrees. The rotated pattern is included as Exhibit-5 as well as the manufacturer's original pattern documentation.

### Site

The proposed facility will be located on an existing pole attached to a building. A TOWERAIR study is attached as Exhibit-6 showing exemption from registration requirements. The site coordinates are: (NAD 27) N 34-36-40.8 W 117-17-19.5 at an elevation of 1188 meters AMSL.

### RF Exposure Calculation

The vertically polarized yagi antenna will be mounted at 4 meters AGL. Exhibit-7 shows the results of the Commission's FM Model program, which was used to calculate RF exposure. The worst case RF contribution of the proposed booster was calculated to be 140.01 microwatts/cm<sup>2</sup> at 1.2 meters AGL, or 70% of the maximum permissible 200 microwatts/cm<sup>2</sup> for general public exposure. There is no other contributing RF on the proposed tower.

### Conclusion

It is concluded that the proposed KHYZ booster meets all applicable FCC rules.

A handwritten signature in black ink, appearing to read 'T. Sean McNeill', is written over a horizontal line.

T. Sean McNeill

Heftel Broadcasting Company, LLC

November 24, 2018

				KRXV Proposed FM Booster
				Heftel Broadcasting Company LLC
REFERENCE	CH#	251D	- 98.1	MHZ, Pwr= 0.07 kw DA, HAAT= 284.0 M,
34 36 40.8 N.				Average Protected F(50-50)= 15.91 km
117 17 19.5 W.				Standard Directional

Terrain database is FCC NGDC 30Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= - Zone 1A, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"I"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
« = Station meets FCC minimum distance spacing for its class.  
Reference station has protected zone issue: Mexico

## Antenna Height Above Average Terrain Calculations -- Results

### Input Data

Latitude **34° 36' 40.8"** North  
Longitude **117° 17' 19.5"** West (NAD 27)

These coordinates convert to NAD 83 coordinates of  
34° 36' 40.77", North, 117° 17' 22.66" West (NAD 83).

Height of antenna radiation center above mean sea level: **1192** meters AMSL

Number of Evenly Spaced Radials = **12**      0° is referenced to True North

### Results

Calculated HAAT = **284 meters**

Antenna Height Above Average Terrain calculated  
using FCC 30 second terrain database (continental USA only)

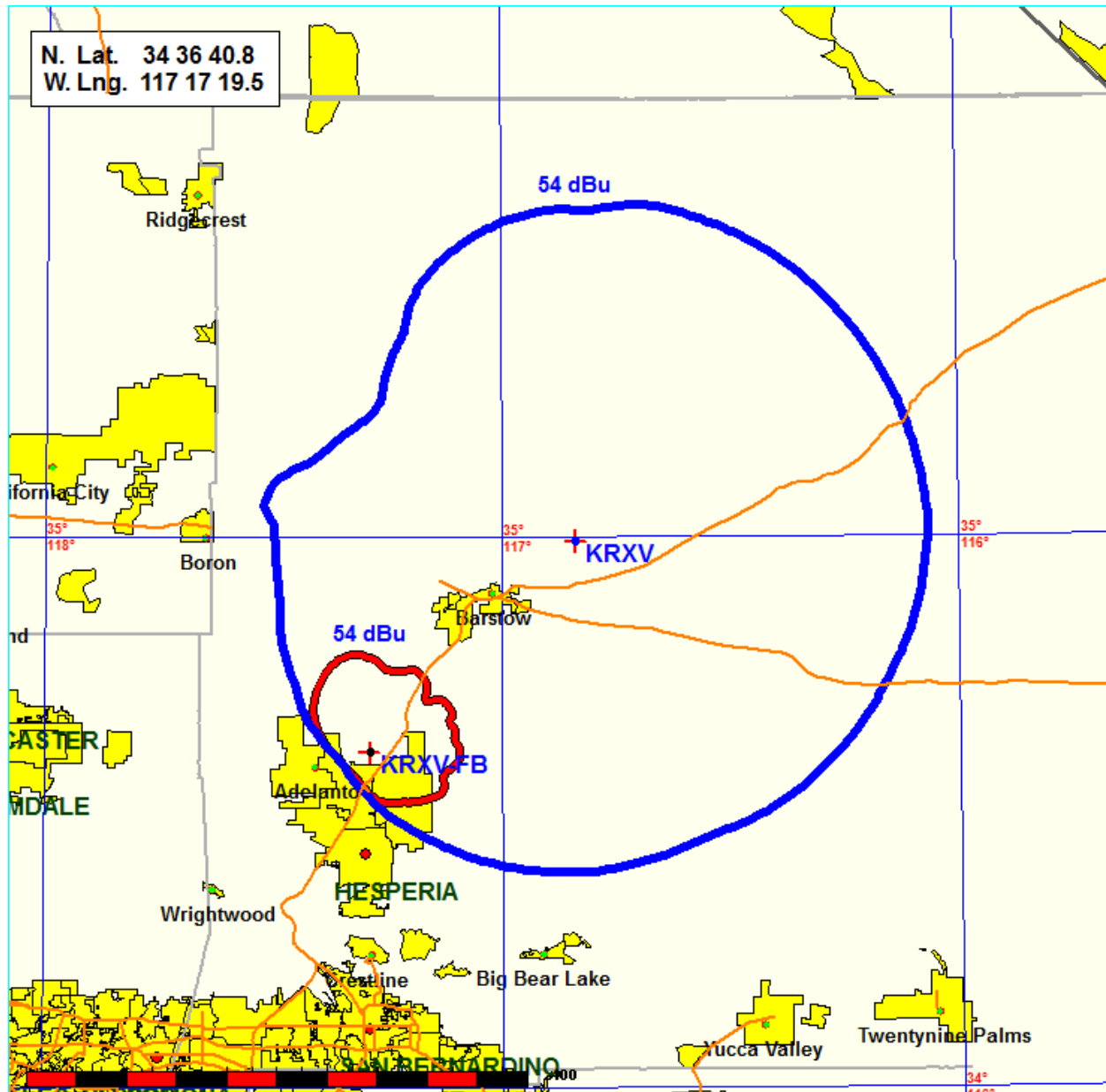
#### Individual "Radial HAAT" Values, in meters

0°	252.5 m
30°	200.4 m
60°	185.3 m
90°	215.1 m
120°	267.5 m
150°	266.3 m
180°	325.3 m
210°	296.5 m
240°	315.7 m
270°	341.6 m
300°	370.6 m
330°	366.2 m

Print Results?

New Calculation?

**KRXV Licensed Facility And Proposed 0.07kW Booster 54 dBu Contours  
(Wide View)**



**KRXV Licensed Facility And Proposed 0.07 kW Booster 54 dBu Contours  
(Zoom View)**

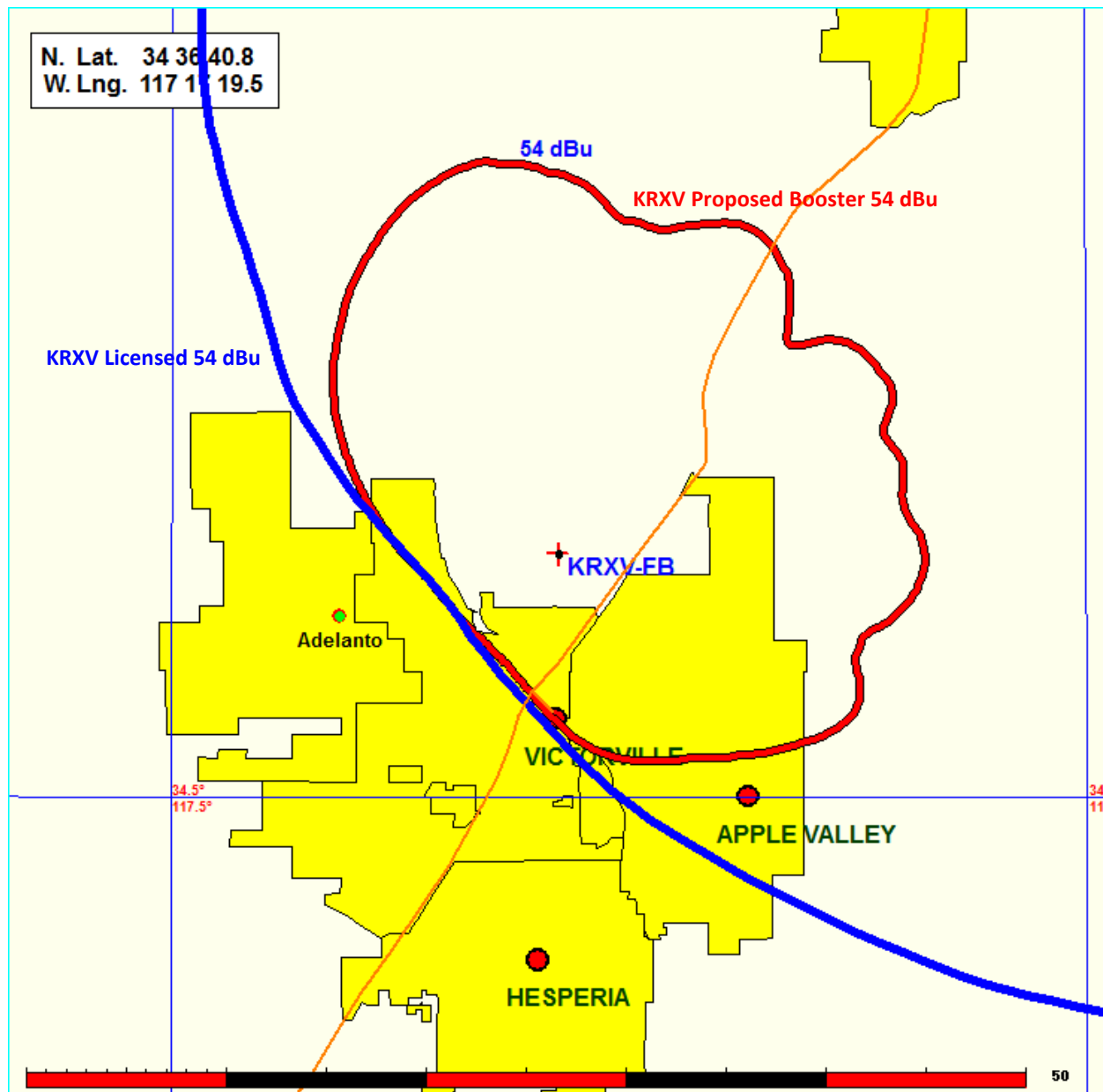


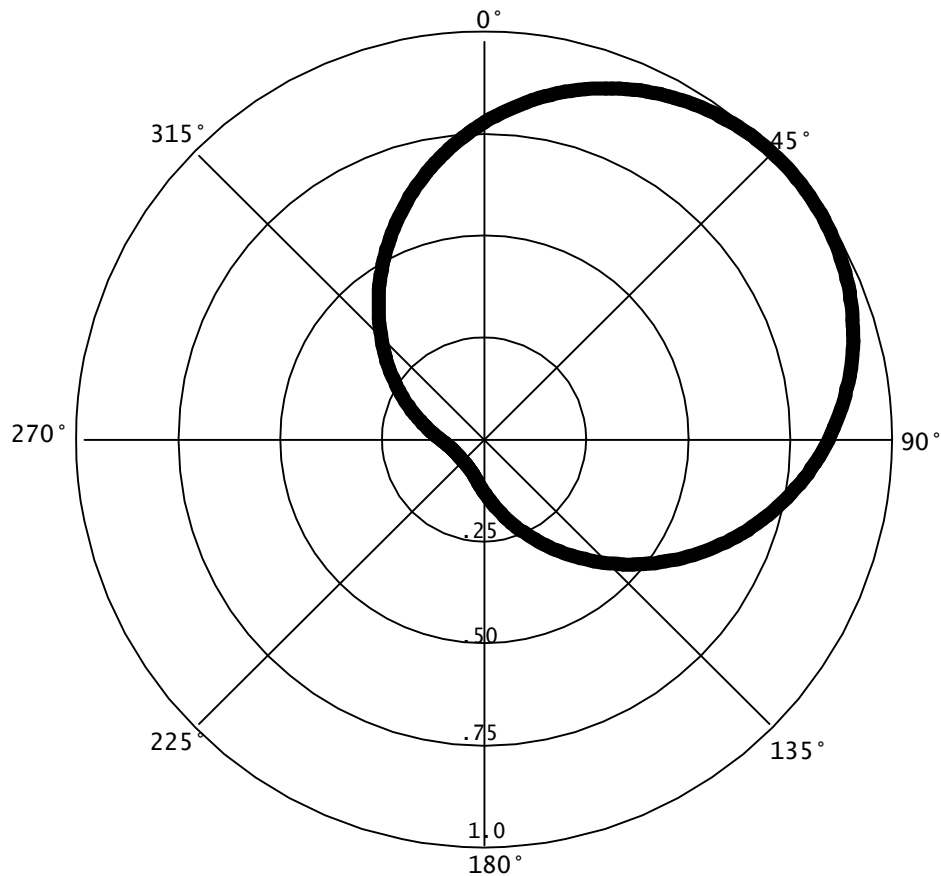
EXHIBIT-5A  
KRXV Proposed Booster  
Heftel Broadcasting Company, LLC  
KRXV-2

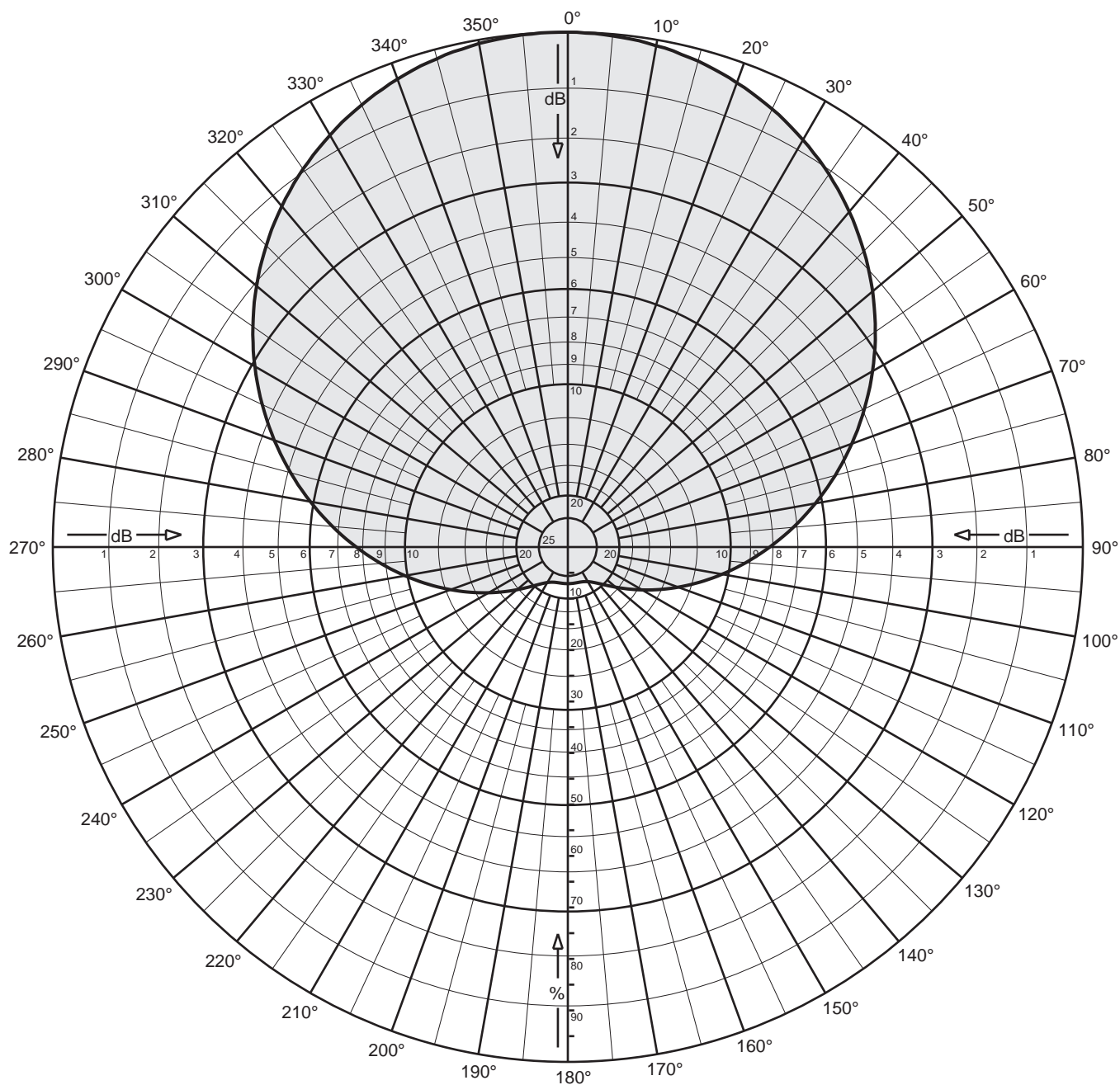
11-24-2018

RMS(V)= .577

Graph is Relative Field

Azi	Field	dBk	kw
000	0.782	-13.689	0.043
010	0.858	-12.879	0.052
020	0.920	-12.269	0.059
030	0.966	-11.849	0.065
040	0.992	-11.619	0.069
050	1.000	-11.549	0.070
060	0.989	-11.649	0.068
070	0.958	-11.919	0.064
080	0.910	-12.369	0.058
090	0.844	-13.019	0.050
100	0.764	-13.889	0.041
110	0.673	-14.989	0.032
120	0.576	-16.339	0.023
130	0.478	-17.959	0.016
140	0.384	-19.860	0.010
150	0.300	-22.018	0.006
160	0.228	-24.398	0.004
170	0.171	-26.889	0.002
180	0.130	-29.297	0.001
190	0.102	-31.369	0.001
200	0.086	-32.839	0.001
210	0.078	-33.696	0.000
220	0.075	-34.094	0.000
230	0.074	-34.200	0.000
240	0.075	-34.048	0.000
250	0.079	-33.564	0.000
260	0.089	-32.600	0.001
270	0.107	-30.986	0.001
280	0.137	-28.840	0.001
290	0.181	-26.391	0.002
300	0.241	-23.909	0.004
310	0.316	-21.569	0.007
320	0.402	-19.458	0.011
330	0.497	-17.618	0.017
340	0.596	-16.048	0.025
350	0.692	-14.749	0.034





75010286

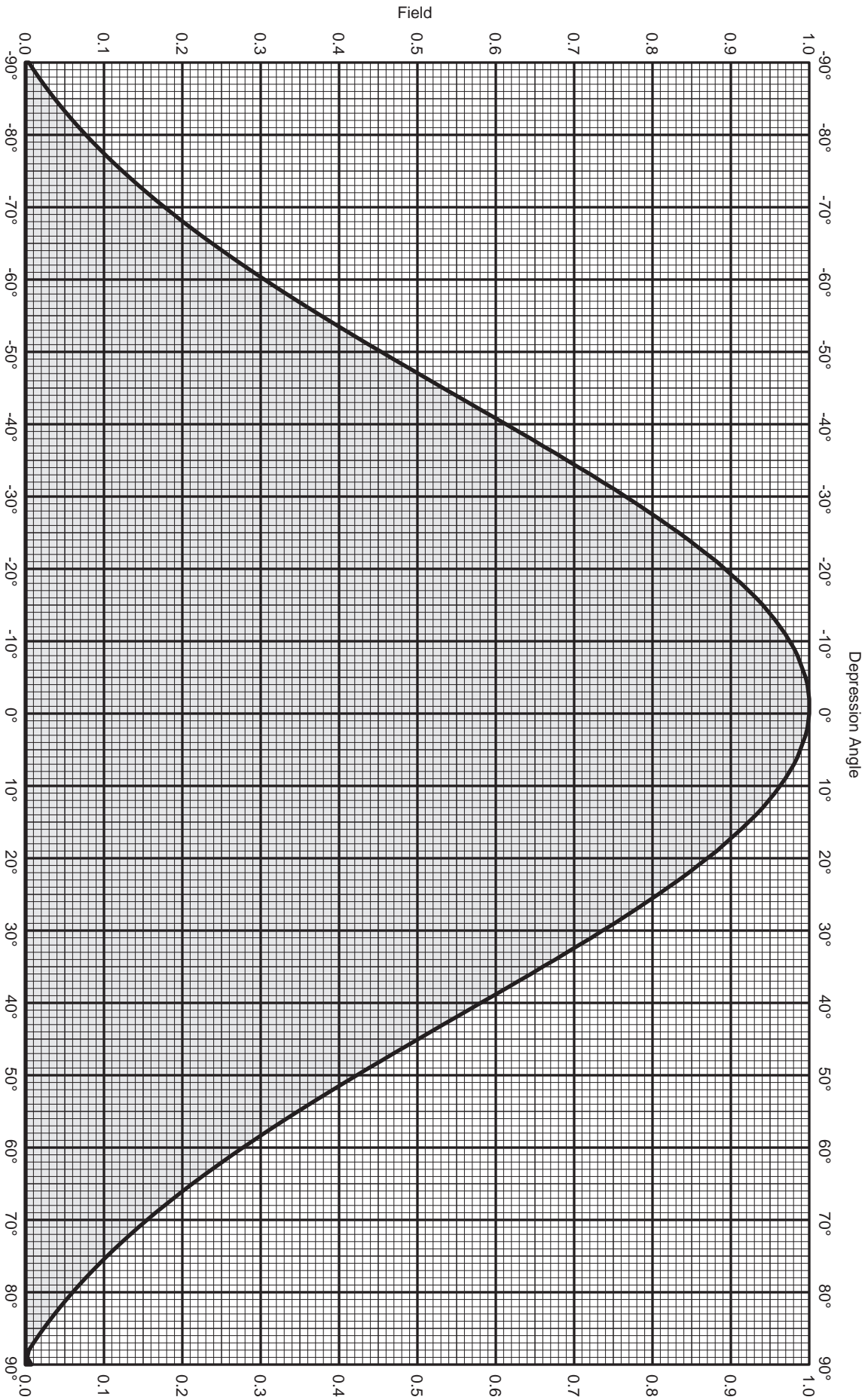
97.5 MHz

Maximum gain: 5.0 dBd

Vertical polarization

Horizontal plane pattern

**KATHREIN**  
USA



Vertical plane pattern

75010286

97.5 MHz

Maximum gain: 5.0 dBd

Vertical polarization

**KATHREIN**  
USA



## TOWAIR Determination Results

### \*\*\* NOTICE \*\*\*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

#### DETERMINATION Results

**Antenna Structures whose total height (AGL) is  $\leq$  6.1 meters (20 feet) do not require registration**

#### Your Specifications

##### NAD83 Coordinates

Latitude	34-36-40.8 north
Longitude	117-17-22.7 west

##### Measurements (Meters)

Overall Structure Height (AGL)	5.2
Support Structure Height (AGL)	2.4
Site Elevation (AMSL)	1188

##### Structure Type

BPOLE - Building with Pole

#### Tower Construction Notifications

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW

**KRXV Proposed FM Booster  
FCC FM Model Results**

