

Channel Study

REFERENCE CH# 274D - 102.7 MHz, Pwr= 0.09 kW DA, HAAT= 0.0 M, COR= 1631.1 M DISPLAY DATES
 31 47 48.4 N. Average Protected F(50-50)= 5.5 km DATA 04-03-23
 106 28 57.0 W. Standard Directional SEARCH 04-03-23

| CH CITY | CALL | TYPE STATE | ANT | AZI. <-- | DIST FILE # | LAT. LNG. | Pwr(kW) HAAT(M) | INT(km) COR(M) | PRO(km) LICENSEE | *IN* (Overlap in km) | *OUT* |
|------------------|-----------|------------|-----|----------|-------------|-----------------------------|-----------------|----------------|--|----------------------|--------|
| 271C El Paso | KPRR | LIC TX | EN | 154.0 | 0.48 | 31 47 34.30 106 28 48.90 | 100.000 363 | 8.4 1583 | 64.6 Ihm Licenses, LLC | -10.4* | -64.2* |
| 274D Anthony | K274BL! | CP TX | DVN | 0.0 | 0.00 | 31 47 48.40 106 28 57.00 | 0.090 | | ---Reference--- 1631 Educational Media Foundati | | |
| 274D Anthony | K274BL! | LIC TX | DCN | 336.3 | 21.58 | 31 58 28.40 106 34 28.00 | 0.062 83 | | ---Reference--- 1347 Educational Media Foundati | | |
| 274B Cajoncitos | AL9259 | VAC CH | | 135.3 | 134.35 | 30 56 00.48 105 29 31.85 | 50.000 150 | 154.6 1365 | 65.0 From CDBS | -22.7* | 48.8 |
| 274C3 Tularosa | AU9329846 | VAC NM | N | 16.9 | 148.63 | 33 04 30.31 106 01 07.97 | 25.000 100 | 131.7 1532 | 53.2 From CDBS | -0.5 | 38.7 |
| 276A Fabens | KPAS | LIC TX | CN | 129.9 | 34.88 | 31 35 42.40 106 11 59.90 | 3.000 91 | 2.4 1228 | 25.7 | 30.1 | 9.1 |
| 273B Las Palomas | AL4142 | VAC CH | | 265.5 | 106.59 | 31 43 00.37 107 36 22.07 | 50.000 150 | 84.5 1404 | 65.0 From CDBS | 10.0 | 21.6 |
| 276A Las Cruces | KHQT | LIC NM | CN | 338.8 | 72.57 | 32 24 18.30 106 45 43.00 | 1.000 168 | 1.9 1485 | 25.5 Adams Radio Of Las Cruces, | 53.8 | 45.2 |

Terrain database is FCC NGDC 30 Sec, 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= West Zone, Co to 3rd adjacent.
 All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtlt(Y,N,X)
 "*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
 Reference station has protected zone issue: Mexico

Educational Media Foundation

5700 W Oaks Blvd
Rocklin, CA 95765

*Exhibit 1-A
Anthony, TX*

Compliance with C.F.R. 74.1204

The proposed FM Translator to operate on channel 274D is located within the protected 60dBu contour of third adjacent translator KPRR, channel 271C, El Paso, TX. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

| | |
|--|-----------|
| The proposed ERP for K274BL: | 90 watts |
| The proposed COR AGL for K274BL: | 40 meters |
| KPRR F(50/50) contour at proposed site: | 133.2dBu |
| The F(50/10) contour of proposed K274BL: | 173.2dbu |

The predicted distance to the 173.2dbu interfering contour is 0.15 meters. When taking into account the vertical elevation pattern of the single bay vertically polarized antenna and the height above ground of 40m, it has been determined that the interfering contour of 173.2dbu does not reach the ground. As seen in Exhibit 1-A1, the lowest elevation for this interfering contour is 39.95m above ground.

There are no surrounding structures which are tall enough to enter the interfering contour within the 0.15m distance from the antenna.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 1 - A1
 74.1204(d) Showing
 K274BL
 Anthony, TX

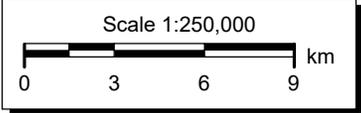
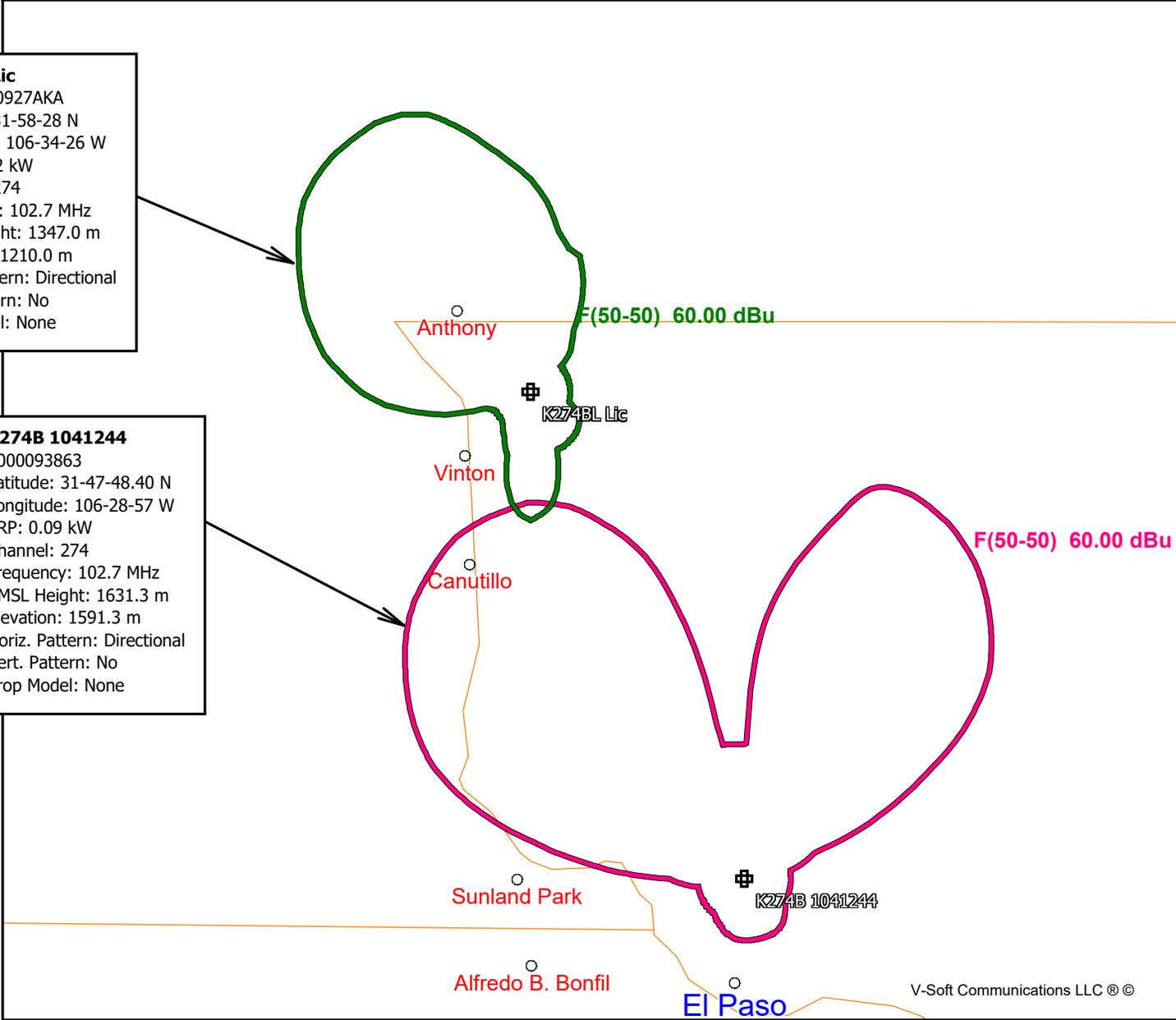
ERP (kw): 0.09
 Height of Antenna above Ground (m): 40
 Translator's IX Contour: 173.2
 Antenna Type: Scala CLFM-V

| <u>Depression Angle from Horizon</u> | <u>Antenna Relative Field</u> | <u>ERP (kw) from the Antenna RF</u> | <u>Dist. To IX Contour (m)</u> | <u>Height IX Contour Above Ground (m)</u> |
|--|-----------------------------------|---|--------------------------------|---|
| 0 | 1.000 | 0.0900 | 0.1456 | 40.000 |
| 5 | 0.980 | 0.0864 | 0.1427 | 39.988 |
| 10 | 0.950 | 0.0812 | 0.1383 | 39.976 |
| 15 | 0.895 | 0.0721 | 0.1303 | 39.966 |
| 20 | 0.820 | 0.0605 | 0.1194 | 39.959 |
| 25 | 0.735 | 0.0486 | 0.1070 | 39.955 |
| 30 | 0.645 | 0.0374 | 0.0939 | 39.953 |
| 35 | 0.563 | 0.0285 | 0.0819 | 39.953 |
| 40 | 0.470 | 0.0199 | 0.0684 | 39.956 |
| 45 | 0.360 | 0.0117 | 0.0524 | 39.963 |
| 50 | 0.250 | 0.0056 | 0.0364 | 39.972 |
| 55 | 0.155 | 0.0022 | 0.0226 | 39.982 |
| 60 | 0.085 | 0.0007 | 0.0124 | 39.989 |
| 65 | 0.045 | 0.0002 | 0.0066 | 39.994 |
| 70 | 0.020 | 0.0000 | 0.0029 | 39.997 |
| 75 | 0.010 | 0.0000 | 0.0015 | 39.999 |
| 80 | 0.010 | 0.0000 | 0.0015 | 39.999 |
| 85 | 0.010 | 0.0000 | 0.0015 | 39.999 |
| 90 | 0.010 | 0.0000 | 0.0015 | 39.999 |

K274BL Overlap of 60dbu Service Contours
Terrain Database: Globe 30 Second World

K274BL Lic
BLFT20060927AKA
Latitude: 31-58-28 N
Longitude: 106-34-26 W
ERP: 0.062 kW
Channel: 274
Frequency: 102.7 MHz
AMSL Height: 1347.0 m
Elevation: 1210.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

K274B 1041244
0000093863
Latitude: 31-47-48.40 N
Longitude: 106-28-57 W
ERP: 0.09 kW
Channel: 274
Frequency: 102.7 MHz
AMSL Height: 1631.3 m
Elevation: 1591.3 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None



Compliance with International Requirements

The proposed FM translator is located approximately 4.1km from the US-Mexico border. EMF has included the attached map (see Exhibit 3-A) to show that the 60dBu service contour of the proposed translator at no point extends beyond the US-Mexico border. Exhibit 3-B is a tabulation of the 60dbu contour distance of any radial towards Mexico, specifically the 120 to 270 degree radials. No radial between 120 and 270 degrees extends more than 3.04km, well below the limit of 8.7km.

Exhibit 3-C is a tabulation of the distance to the 34dbu(F50-10) contours from 120 to 270 degrees. Note that no radial in these azimuths extends greater than 22.48km, which is well below the limit of 32km.

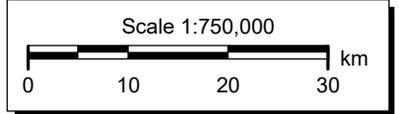
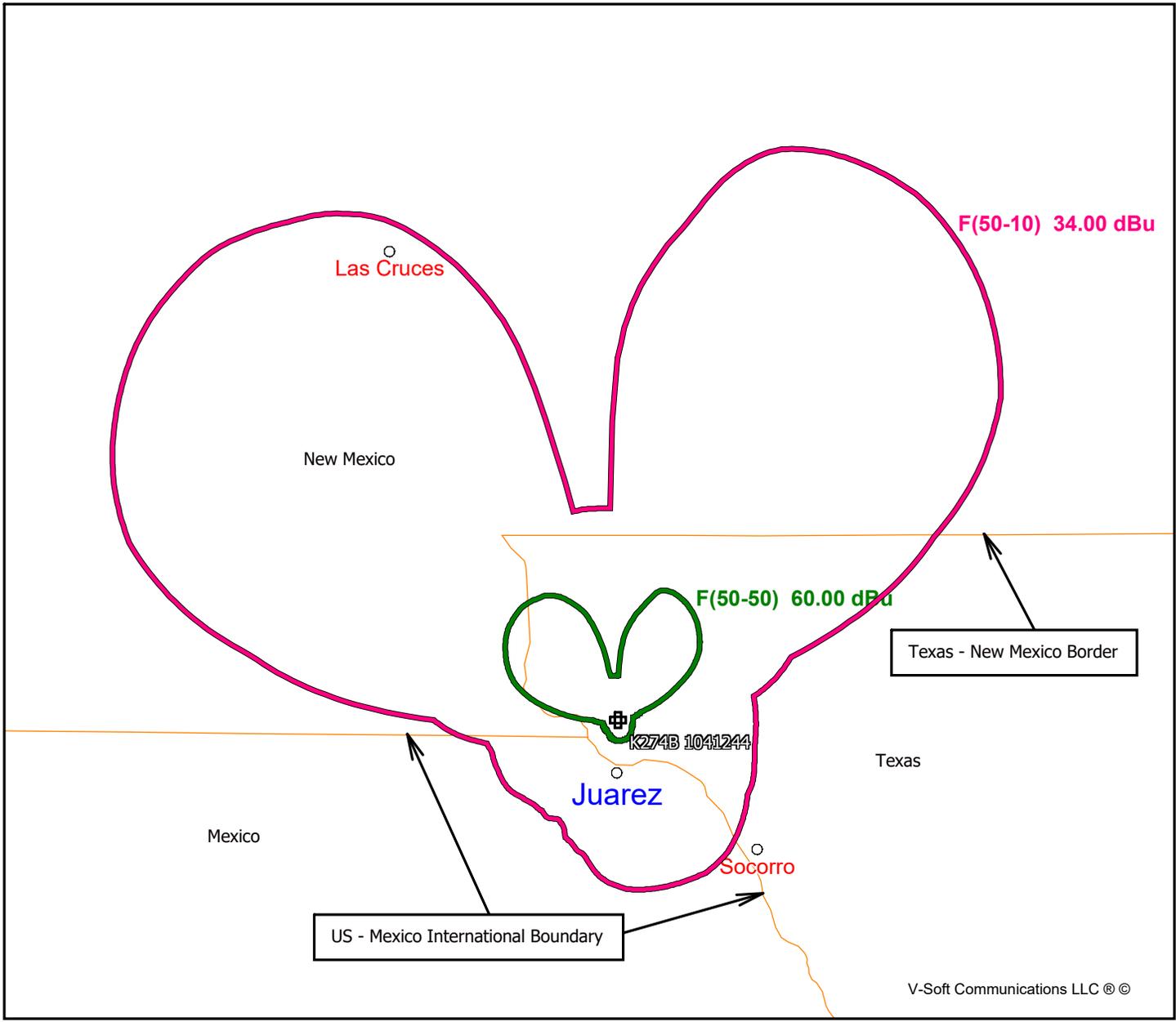
Exhibit 3-D is a tabulation of the relative field values and their associated power levels. No radial between 120 to 270 degrees radiates a power greater than 50 watts, the maximum allowed toward Mexico.

As seen in the channel search table in Exhibit 1, no prohibited overlap to any international allotment will occur as a result of a grant of this proposal.

Therefore, the proposed translator fully complies with the requirements of the US-Mexico agreement.

K274BL 60dbu(F50-50) and 34dbu(F50-10) Contours Relative to US-Mexico International Boundary
Terrain Database: Globe 30 Second World

K274B 1041244
0000093863
Latitude: 31-47-48.40 N
Longitude: 106-28-57 W
ERP: 0.09 kW
Channel: 274
Frequency: 102.7 MHz
AMSL Height: 1631.3 m
Elevation: 1591.3 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None



Distance to Contour Report

Distance to Contour Report

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 50.0 %
of Radials Calculated: 360
FCC Matching HAAT Calculation Used
Field Strength: 60.00 dBuV/m

Terrain: GLOBE 30 Second World Database

Transmitter Information:

Call Letters: K274B 1041244
File Number: 0000093863
Latitude: 31-47-48.40 N
Longitude: 106-28-57 W
ERP: 0.09 kW
Channel: 274
Frequency: 102.7 MHz
AMSL Height: 1631.3 m
Elevation: 1591.3 m
Horiz. Antenna Pattern: Directional
Vert. Elevation Pattern: No

| Azimuth (deg) | Distance (km) | HAAT (m) |
|---------------|---------------|----------|
| 120.0 | 1.91 | 508.0 |
| 130.0 | 2.17 | 509.6 |
| 140.0 | 2.40 | 509.4 |
| 150.0 | 2.51 | 507.8 |
| 160.0 | 2.51 | 500.5 |
| 170.0 | 2.50 | 479.2 |
| 180.0 | 2.49 | 449.5 |
| 190.0 | 2.45 | 375.0 |
| 200.0 | 2.31 | 343.0 |
| 210.0 | 2.07 | 317.7 |
| 220.0 | 1.86 | 355.6 |
| 230.0 | 1.87 | 387.4 |
| 240.0 | 1.88 | 404.5 |
| 250.0 | 1.88 | 405.5 |
| 260.0 | 1.88 | 413.9 |
| 270.0 | 3.04 | 436.7 |

Distance to Contour Report

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 10.0 %
of Radials Calculated: 360
FCC Matching HAAT Calculation Used
Field Strength: 34.00 dBuV/m

Primary Terrain: FCC 30 Second US Database
Secondary Terrain: GLOBE 30 Second World Database

Transmitter Information:

Call Letters: K274B 1041244
File Number: 0000093863
Latitude: 31-47-48.40 N
Longitude: 106-28-57 W
ERP: 0.09 kW
Channel: 274
Frequency: 102.7 MHz
AMSL Height: 1631.3 m
Elevation: 1591.3 m
Horiz. Antenna Pattern: Directional
Vert. Elevation Pattern: No

| Azimuth (deg) | Distance (km) | HAAT (m) |
|---------------|---------------|----------|
| ----- | ----- | ----- |
| 120.0 | 18.29 | 510.1 |
| 130.0 | 19.69 | 510.9 |
| 140.0 | 20.95 | 510.8 |
| 150.0 | 21.51 | 508.8 |
| 160.0 | 21.22 | 494.7 |
| 170.0 | 20.96 | 481.5 |
| 180.0 | 20.21 | 447.4 |
| 190.0 | 18.24 | 379.7 |
| 200.0 | 16.12 | 327.6 |
| 210.0 | 14.19 | 293.5 |
| 220.0 | 14.42 | 343.2 |
| 230.0 | 14.94 | 368.9 |
| 240.0 | 15.83 | 401.4 |
| 250.0 | 15.89 | 403.6 |
| 260.0 | 16.21 | 414.7 |
| 270.0 | 22.48 | 437.3 |

Exhibit 3-D

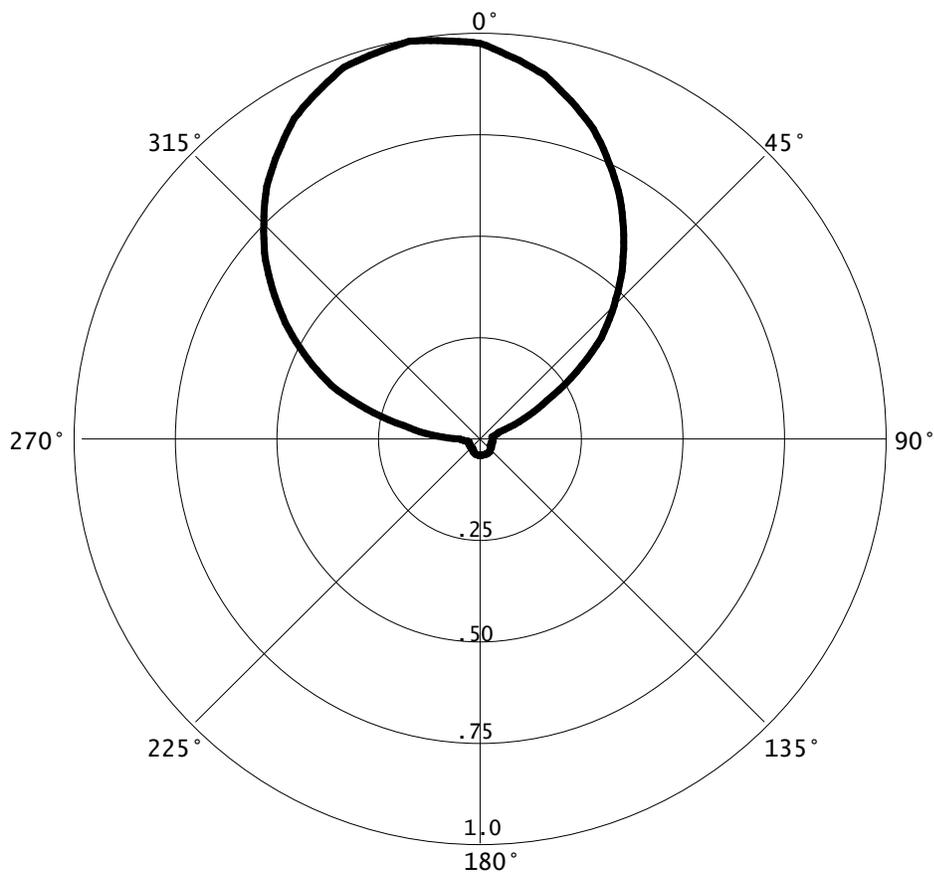
K274BL.C

11-09-2022

RMS(V)= .467

Graph is Relative Field

| Azi | Field | dBk | kw |
|-----|-------|---------|-------|
| 000 | 0.980 | -10.633 | 0.086 |
| 010 | 0.916 | -11.220 | 0.076 |
| 020 | 0.817 | -12.213 | 0.060 |
| 030 | 0.690 | -13.681 | 0.043 |
| 040 | 0.544 | -15.746 | 0.027 |
| 050 | 0.390 | -18.636 | 0.014 |
| 060 | 0.190 | -24.883 | 0.003 |
| 070 | 0.050 | -36.478 | 0.000 |
| 080 | 0.030 | -40.915 | 0.000 |
| 090 | 0.030 | -40.915 | 0.000 |
| 100 | 0.030 | -40.915 | 0.000 |
| 110 | 0.030 | -40.915 | 0.000 |
| 120 | 0.030 | -40.915 | 0.000 |
| 130 | 0.034 | -39.828 | 0.000 |
| 140 | 0.038 | -38.862 | 0.000 |
| 150 | 0.040 | -38.416 | 0.000 |
| 160 | 0.040 | -38.416 | 0.000 |
| 170 | 0.040 | -38.416 | 0.000 |
| 180 | 0.040 | -38.416 | 0.000 |
| 190 | 0.040 | -38.416 | 0.000 |
| 200 | 0.038 | -38.862 | 0.000 |
| 210 | 0.034 | -39.828 | 0.000 |
| 220 | 0.030 | -40.915 | 0.000 |
| 230 | 0.030 | -40.915 | 0.000 |
| 240 | 0.030 | -40.915 | 0.000 |
| 250 | 0.030 | -40.915 | 0.000 |
| 260 | 0.030 | -40.915 | 0.000 |
| 270 | 0.050 | -36.478 | 0.000 |
| 280 | 0.190 | -24.883 | 0.003 |
| 290 | 0.390 | -18.636 | 0.014 |
| 300 | 0.544 | -15.746 | 0.027 |
| 310 | 0.690 | -13.681 | 0.043 |
| 320 | 0.817 | -12.213 | 0.060 |
| 330 | 0.916 | -11.220 | 0.076 |
| 340 | 0.980 | -10.633 | 0.086 |
| 350 | 1.000 | -10.458 | 0.090 |



Human exposure to excess levels of radiofrequency radiation.

According to 47 C.F.R. 1.1307(b)(1) Table 1, any “Part 74 – Subpart L” facility with an ERP greater than 100 watts, is subject to routine environmental evaluation.

Since the facility proposed in this application will operate with an ERP of less than 100 watts, it is “categorically excluded from making such studies or preparing an EA” [1.1307(b)(1)]

EMF will fully cooperate with other site users to temporarily reduce power or cease broadcasting, as necessary, to protect workers and others having access to the site from excessive levels of RF Radiation.