

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---		
				0.0	0000203429			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---		
				156.3	BLFT20060927AKA			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), Beamtilt(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.

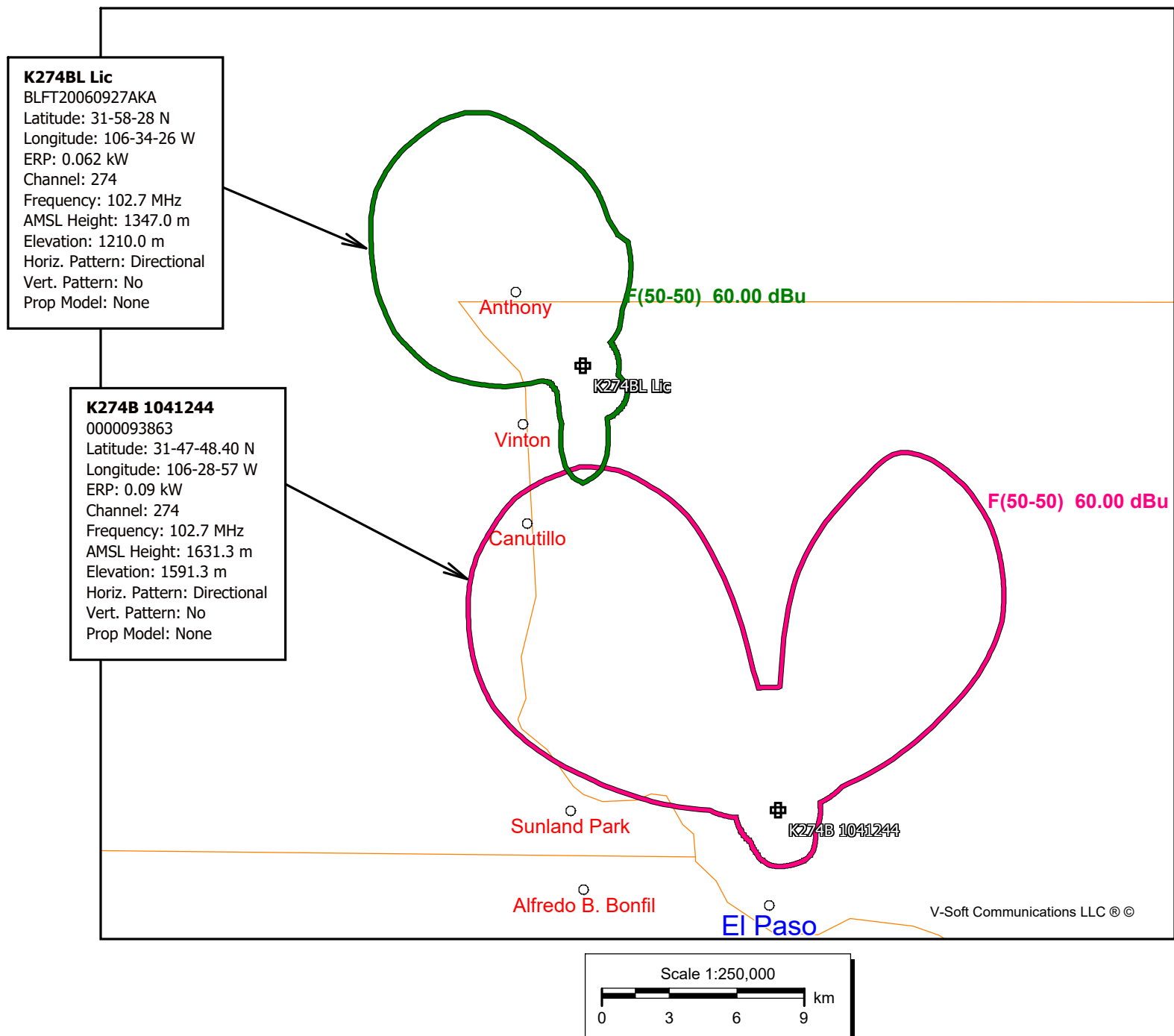
EXHIBIT 1 - A1
74.1204(d) Showing
K274BL
Anthony, TX

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

Depression Angle from Horizon	Antenna Relative Field	ERP (kw) from the Antenna RF	Dist. To IX Contour (m)	Height IX Contour Above Ground (m)
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

Exhibit 2



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

Exhibit 3-A

K274B 1041244

0000093863

Latitude: 31-47-48.40 N

Longitude: 106-28-57 W

ERP: 0.09 kW

Channel: 274

Frequency: 102.7 MHz

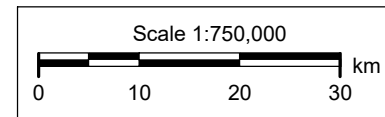
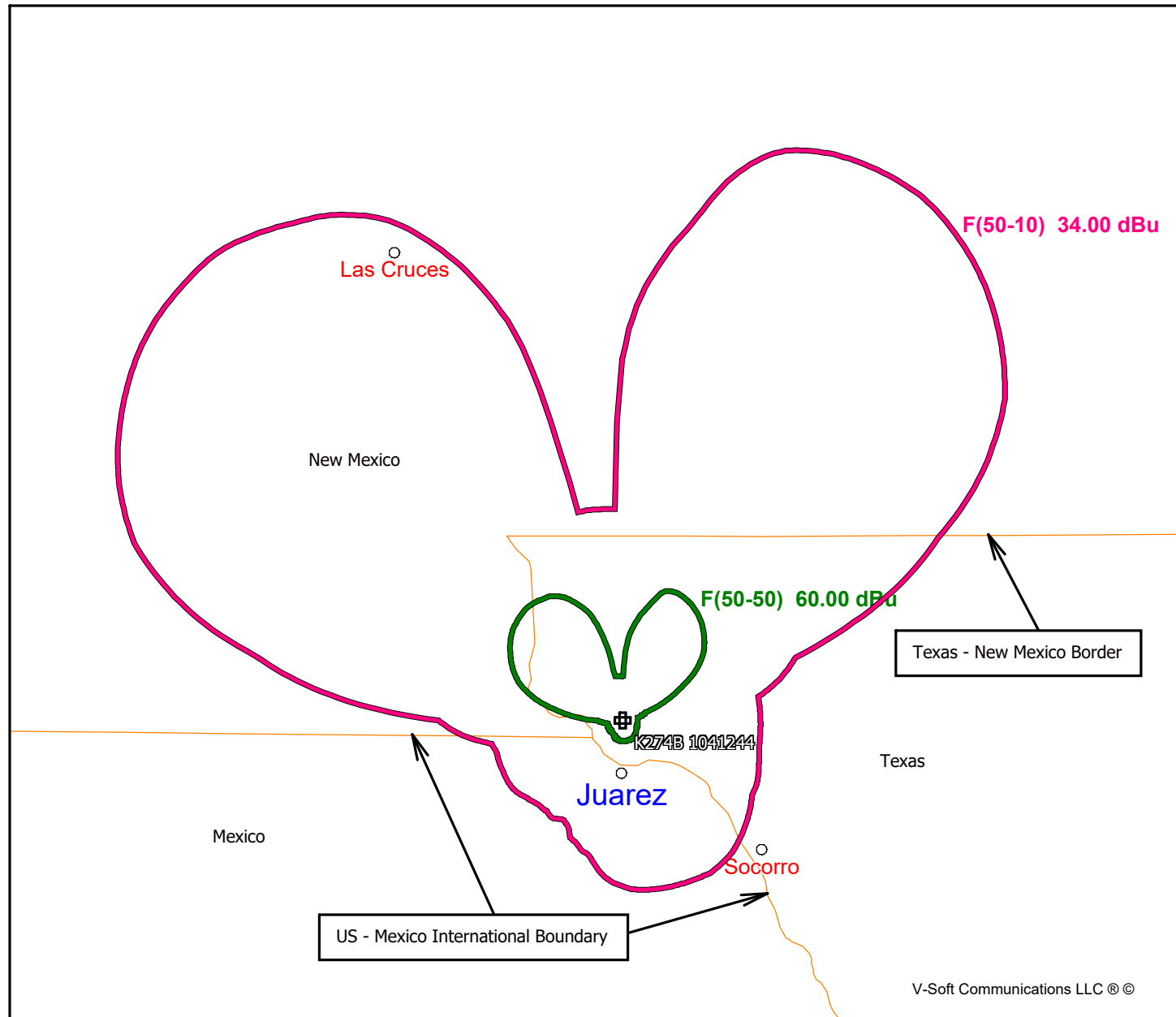
AMSL Height: 1631.3 m

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

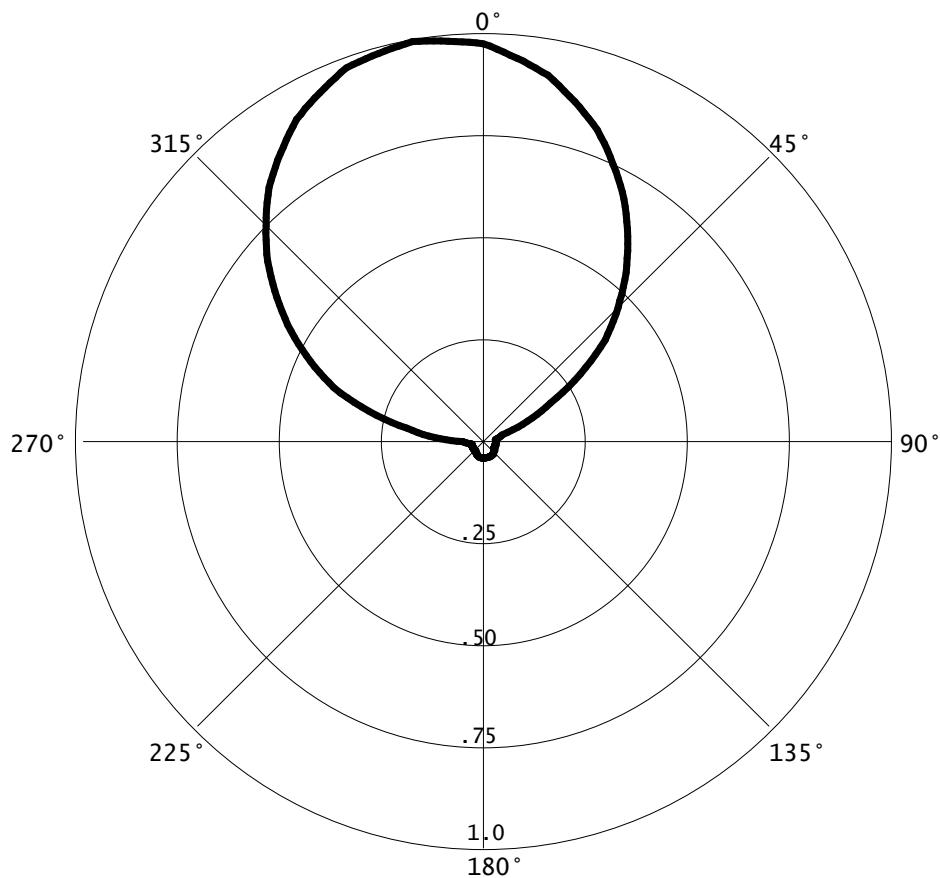
K274BL.C

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.