

# **KVEA Application for Modification of Post-Repack Construction Permit**

## **November 1, 2017**

### Engineering Exhibit

The purpose of this application is to request modification of a post-repack construction permit (LMS file number 0000026307) for operation on channel 25 for KVEA, Corona, CA, Facility ID 19783, licensed to NBC Telemundo License LLC.

This application modifies the existing construction permit LMS file number 0000026307 by moving the antenna to the KNBC tower (ASR# 1026532) on Mount Wilson below the existing KNBC DTV antenna in the spot previously used for the KNBC analog antenna. The proposed radiation center height AMSL at the new site is 1877.6 meters and the TVStudy calculated height above area terrain is 991.0 meters. The antenna pattern is changed as described in the attached 73.625(c) exhibits. The maximum ERP is reduced to 665 kW.

A TVStudy 2.2.3 analysis of the proposed facility using the horizontal plane antenna azimuth pattern of the mechanically tilted antenna and the default 2 km cell size and 1 km terrain profile spacing showed the maximum amount of new interference created to any post-auction baseline facility, any application filed in the replication and first priority windows, and any granted post-auction construction permits in the LMS database dated October 26, 2017 was under 0.5%.

### Antenna System

The proposed facility uses an antenna with a combination of electrical and mechanical beam tilt.

Tabular and plotted antenna data, including depression angle calculations to the radio horizon required by FCC rules Section 73.625, is attached. The height above average terrain data used for the depression angle calculations was generated using the TVStudy 2.2.3 ptelev utility with 360 radials selected and the default terrain database.

The antenna will be elliptically polarized. As shown in the main beam azimuth plots in the attached 73.625(c) data, the vertically polarized effective radiated power does not exceed the horizontally polarized effective radiated power in any direction.

### Environmental Statement

The requested facility will replace an existing antenna on an existing tower at a site shared by other broadcasters. No new tower construction or increase in height is required for this application.

RF power density from the facility using combined horizontal and vertically polarized ERP was calculated using the procedures described in FCC Office of Engineering and Technology Bulletin 65. The maximum calculated RF power density on the ground from the proposed facility, in any location around the tower, after including an additional 2 meters for the height of a person and an additional 20 meters to allow for terrain variation and building roof tops is 0.00565 mW/cm<sup>2</sup> or 1.57% of the public exposure limit for an uncontrolled environment as specified in FCC rule §1.1310. This worst case analysis included the additional power from the 1.0 degree of antenna mechanical down tilt in all areas around the tower even though the tilt is present in only one direction. In directions where the mechanical tilt is zero or up the maximum power density is calculated at or under 0.00280 mW/cm<sup>2</sup> or 0.76% of the public exposure limit. The tower itself is protected by fences and gate and is not accessible to the general public.

RF exposure in the main beam of the antenna is calculated to drop below the maximum permissible occupational limit for a controlled environment at horizontal distances greater than 137 meters from the tower and below the public exposure limit at distances greater than 305 meters from the tower. Power will be reduced or shut off as required to protect workers on this tower or adjacent towers from RF exposure above the limits specified in FCC rule §1.1310.

## **KVEA Application for Modification of Post-Repack Construction Permit (continued)**

### Broadcast Facility

#### *Compliance with 73.616:*

A study using TVStudy 2.2.3 and the FCC LMS database dated 10/26/2017 and the horizontal plane antenna pattern showed the proposed facility complies with the interference requirements of Section 73.616 with regards to any post-auction baseline facility, any application filed in the replication and first priority window, and any granted post-auction construction permit when studied with the default settings of 2 km cell size and 1 km terrain profile point spacing.

#### *Compliance with 73.622(i):*

The proposed facility will operate on the channel assigned to KVEA for operation post-repack. The proposed KVEA facility has a predicted service area of 44,861.0 square kilometers, which is less than the service area of 51,734.5 square kilometers for the licensed KNBC facility (BLCDT20070820ACK), which is licensed in the same DMA (Los Angeles) and thus complies with the Section 73.622(f)(5) limit on permissible maximized coverage area and the ERP and HAAT limits in 73.622(f)(8) do not apply.

#### *Compliance with 73.623(e):*

Not applicable. This application does not change the assigned channel or location of the authorized station.

#### *Compliance with 73.625:*

The proposed facility will place a 48 dBμv/m principle community contour over Corona CA, the community of license. See KVEA Proposed Coverage map, attached.

#### *Compliance with 73.1030:*

A TVStudy analysis did not show a requirement for notification or coordination with any facility listed in Section 73.1030.

#### *Compliance with 73.1125:*

The proposed facility will place a 48 dBμv/m principle community contour over the main studio located at 100 Universal City Plaza 2120, Universal City, CA 91608. See KVEA Proposed Coverage map, attached.

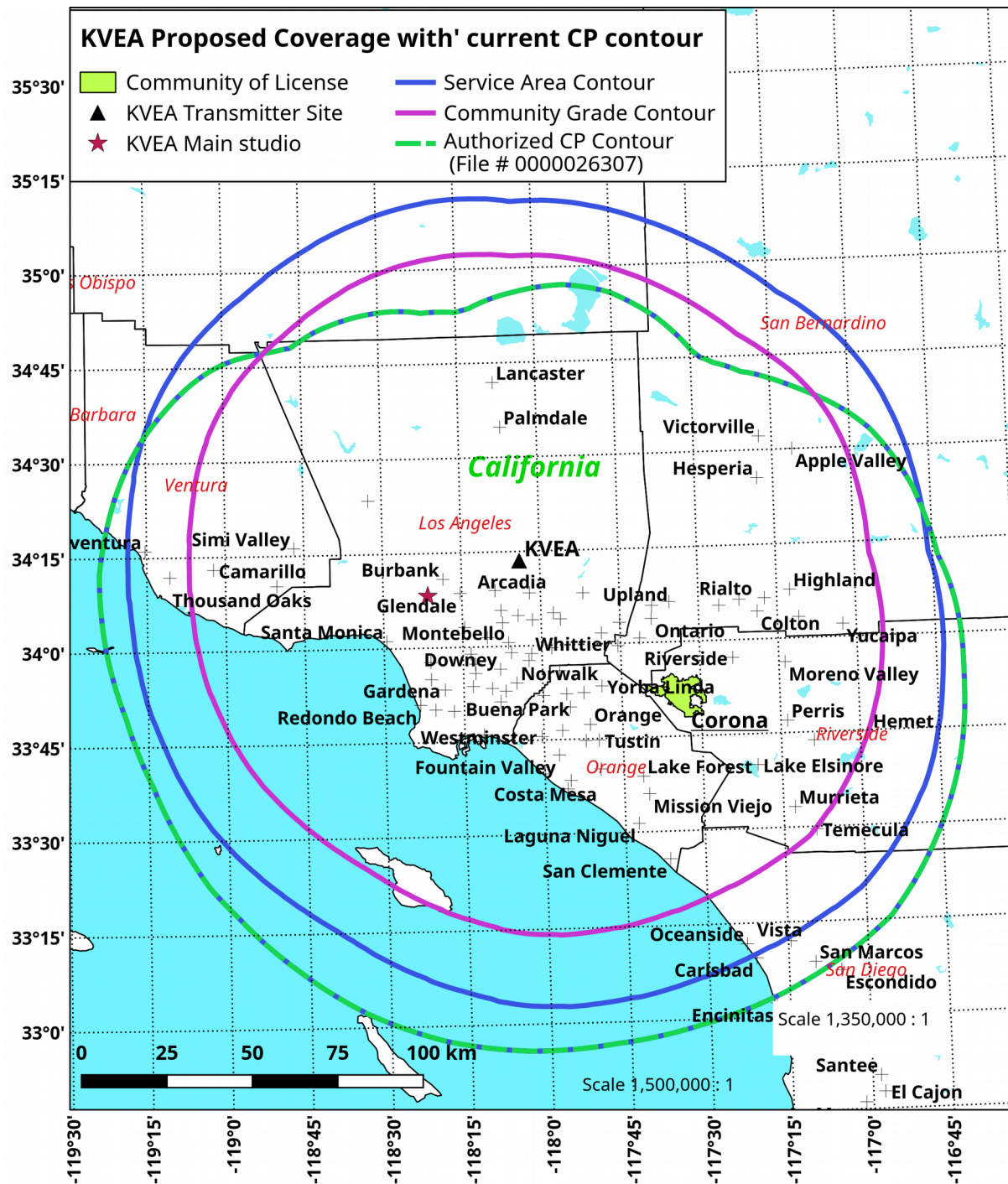
#### *Section 73.1650 Considerations:*

The proposed facility is 190.2 km from the Mexican border and within the coordination distance to the border.

While the proposed facility does not operate at the location or use the antenna pattern, HAAT and ERP described in "Exchange of coordination letters with IFT Regarding DTV Transition and Reconfiguration of 600 MHz Spectrum (July 2015)", "Table 6: Pre-Incentive Auction US Post-Transition DTV Allotment Plan", it should not require additional coordination for these reasons:

1. The proposed location is further from the Mexican border: 190.2 km proposed versus 188.8 km existing.
2. The service area contour from the proposed facility is inside the previously authorized contour in all directions toward the Mexican border. The service area contour authorized in the KVEA construction permit (LMS file number 0000026307) is shown as a green dashed line on the attached KVEA Proposed Coverage Map.
3. At an angle of 155 degrees toward the closest point on the Mexican border the calculated ERP at the radio horizon from the proposed facility is 444.0 kW, which is less than the 572.3 kW from the coordinated KVEA site which is closer to Mexico.
4. TVStudy 2.2.3 showed no interference to any Mexican station from the proposed operation when studied both with the horizontal plane antenna pattern and with the actual antenna azimuth and elevation patterns.

KVEA Application for Modification of Post-Repack Construction Permit (continued)



AZIMUTH PATTERN (Horizontal Plane – Horiz. Pol.): Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60°

Mechanical Beam Tilt: 1.00° at 225°

Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.09 (0.38 dBd)

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

**Tabulation of *Horizontal Plane* Azimuth Pattern (Horizontal polarization)**

Angle	RF	dBk	ERP kW
0	0.847	26.8	477.1
10	0.878	27.1	512.6
20	0.881	27.1	516.1
30	0.901	27.3	539.8
40	0.987	28.1	647.8
50	0.998	28.2	662.3
60	0.984	28.1	643.9
70	0.921	27.5	564.1
80	0.839	26.7	468.1
90	0.775	26.0	399.4
100	0.743	25.6	367.1
110	0.723	25.4	347.6
120	0.683	24.9	310.2
130	0.611	23.9	248.3
140	0.525	22.6	183.3
150	0.462	21.5	141.9
160	0.421	20.7	117.9
170	0.389	20.0	100.6
180	0.353	19.2	82.9
190	0.304	17.9	61.5
200	0.262	16.6	45.6
210	0.234	15.6	36.4
220	0.229	15.4	34.9
230	0.240	15.8	38.3
240	0.256	16.4	43.6
250	0.275	17.0	50.3
260	0.290	17.5	55.9
270	0.323	18.4	69.4
280	0.372	19.6	92.0
290	0.441	21.1	129.3
300	0.504	22.3	168.9
310	0.549	23.0	200.4
320	0.584	23.6	226.8
330	0.625	24.1	259.8
340	0.691	25.0	317.5
350	0.777	26.0	401.5

**Maximum**

Angle	RF	dBk	ERP kW
10	0.878	27.1	512.6
49	1.000	28.2	665.0

**Minimum**

Angle	RF	dBk	ERP kW
17	0.881	27.1	516.1
223	0.228	15.4	34.6

AZIMUTH PATTERN (Horizontal Plane – Horiz. Pol.): Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60°

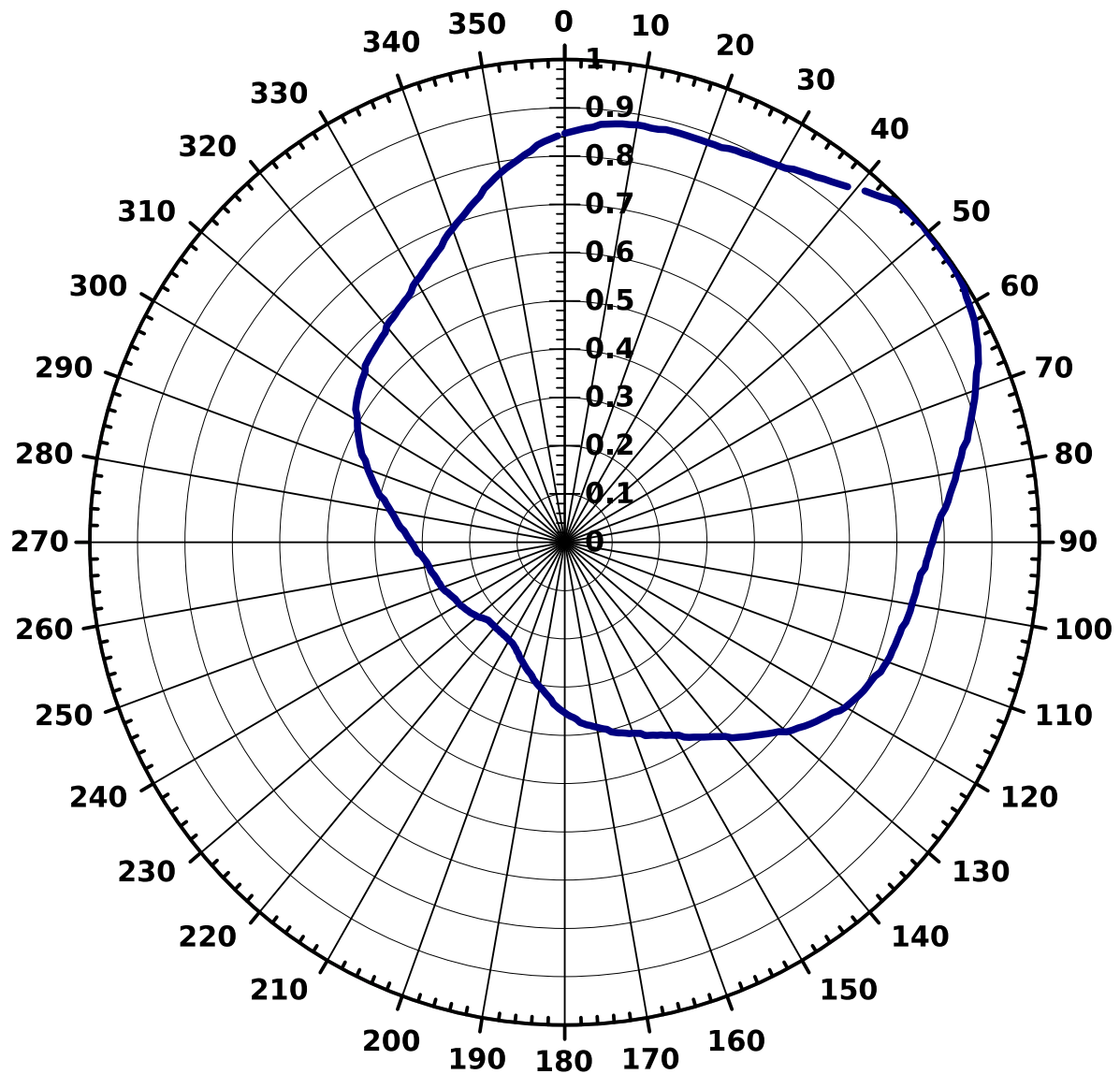
Mechanical Beam Tilt: 1.00° at 225°

Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.09 (0.38 dBd)

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

## AZIMUTH PATTERN RELATIVE FIELD – HORIZONTAL PLANE



Blue plot shows horizontal plane azimuth pattern relative field at horizontal polarization

AZIMUTH PATTERN (Horizontal Plane – Horiz. Pol.): Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60°

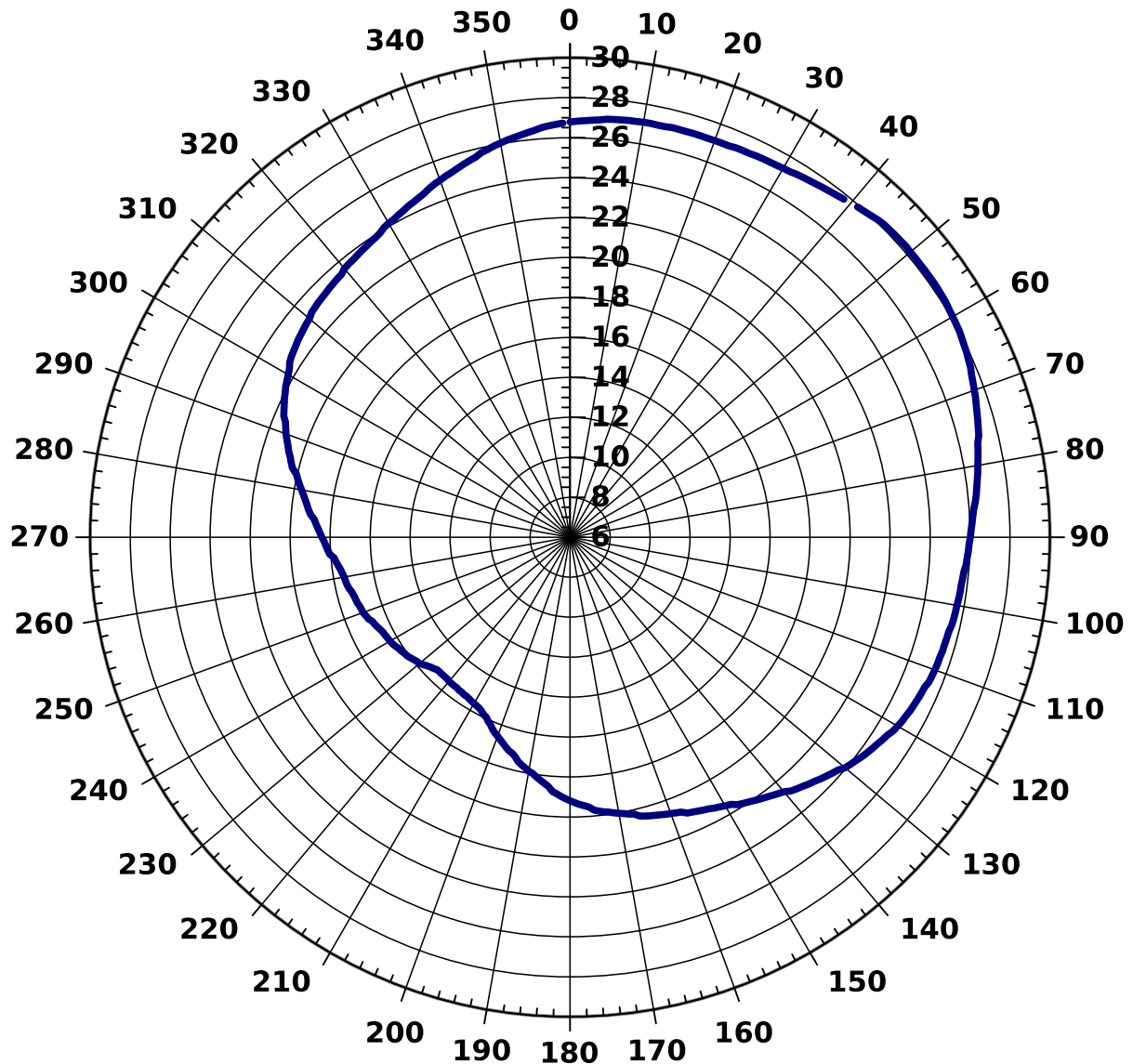
Mechanical Beam Tilt: 1.00° at 225°

Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.09 (0.38 dBd)

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

## AZIMUTH PATTERN ERP (dBk) – HORIZONTAL PLANE



Blue plot shows effective radiated power (dBk) at horizontal polarization

**AZIMUTH PATTERN (Main Beam): Dielectric TFU-22EBT/VP-R O6**

Electrical Beam Tilt: 1.60°

Mechanical Beam Tilt: 1.00° at 225°

Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.09 (0.38 dBd)

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

**Tabulation of Main Beam Azimuth Pattern (Horizontal polarization)**

Angle	RF	dBk	ERP kW
0	1.000	28.2	665.0
10	0.978	28.0	636.1
20	0.935	27.6	581.4
30	0.915	27.5	556.8
40	0.935	27.6	581.4
50	0.978	28.0	636.1
60	1.000	28.2	665.0
70	0.978	28.0	636.1
80	0.935	27.6	581.4
90	0.915	27.5	556.8
100	0.935	27.6	581.4
110	0.978	28.0	636.1
120	1.000	28.2	665.0
130	0.978	28.0	636.1
140	0.935	27.6	581.4
150	0.915	27.5	556.8
160	0.935	27.6	581.4
170	0.978	28.0	636.1
180	1.000	28.2	665.0
190	0.978	28.0	636.1
200	0.935	27.6	581.4
210	0.915	27.5	556.8
220	0.935	27.6	581.4
230	0.978	28.0	636.1
240	1.000	28.2	665.0
250	0.978	28.0	636.1
260	0.935	27.6	581.4
270	0.915	27.5	556.8
280	0.935	27.6	581.4
290	0.978	28.0	636.1
300	1.000	28.2	665.0
310	0.978	28.0	636.1
320	0.935	27.6	581.4
330	0.915	27.5	556.8
340	0.935	27.6	581.4
350	0.978	28.0	636.1

**Maximum**

Angle	RF	dBk	ERP kW
0	1.000	28.2	665.0
61	1.000	28.2	665.0
120	1.000	28.2	665.0
180	1.000	28.2	665.0
240	1.000	28.2	665.0
300	1.000	28.2	665.0

**Minimum**

Angle	RF	dBk	ERP kW
30	0.915	27.5	556.8
90	0.915	27.5	556.8
150	0.915	27.5	556.8
210	0.915	27.5	556.8
270	0.915	27.5	556.8
330	0.915	27.5	556.8

AZIMUTH PATTERN (Main Beam): Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60°

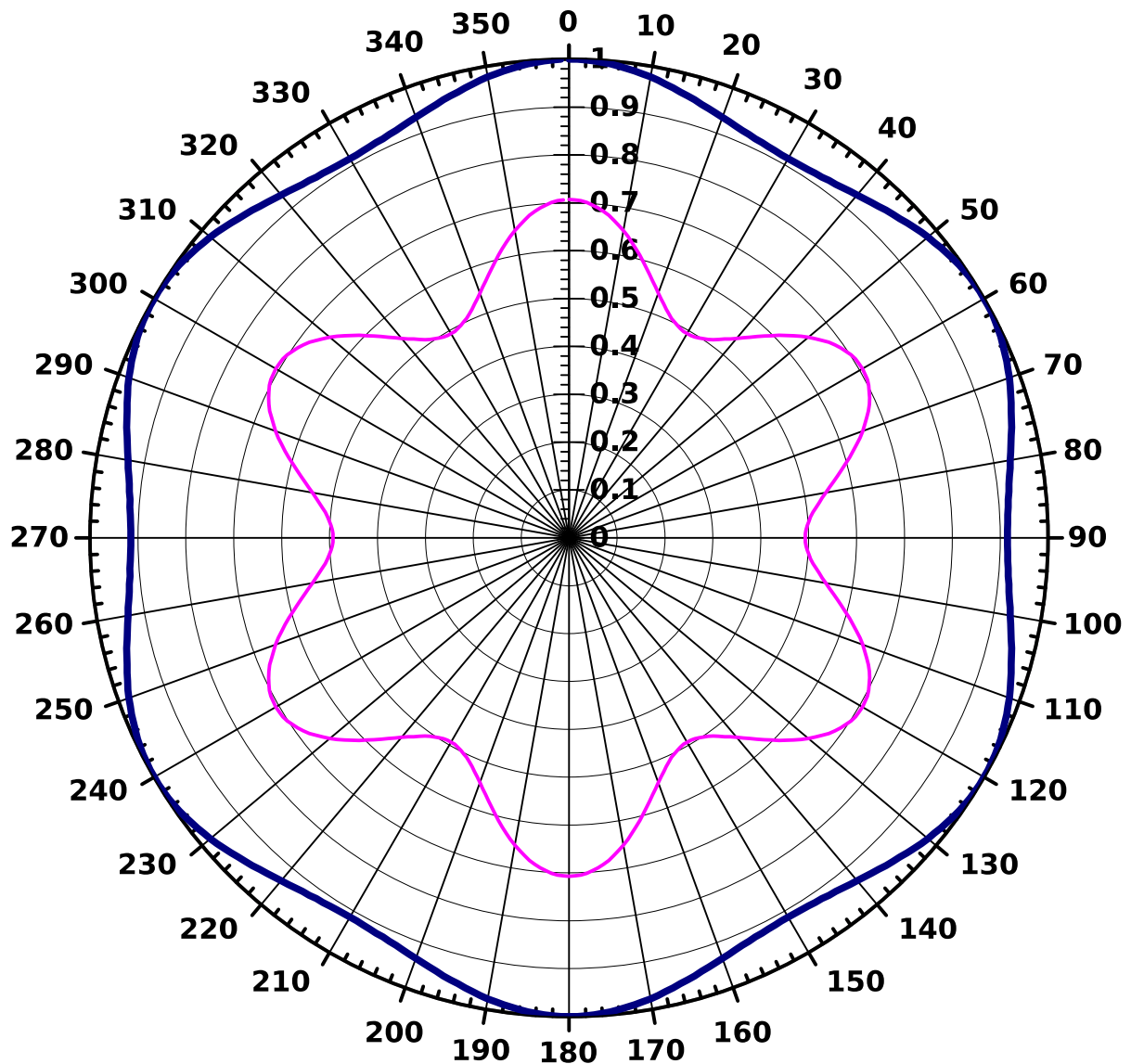
Mechanical Beam Tilt: 1.00° at 225°

Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.09 (0.38 dBd)

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

## MAIN BEAM AZIMUTH PATTERN RELATIVE FIELD



Blue plot shows azimuth pattern relative field at horizontal polarization

Magenta plot shows azimuth pattern relative field at vertical polarization



AZIMUTH PATTERN (Main Beam): Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60°

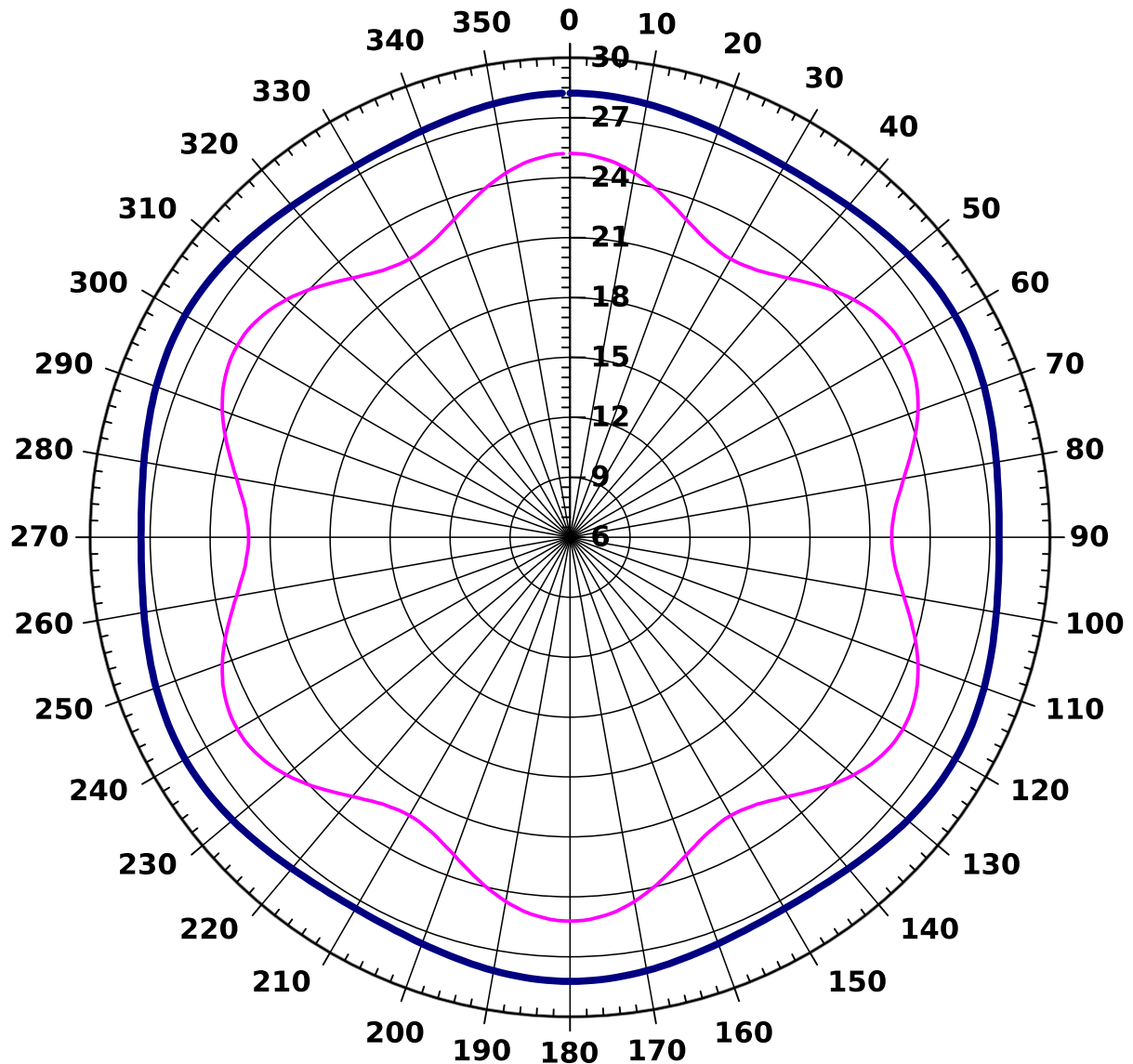
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Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.09 (0.38 dBd)

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

## MAIN BEAM AZIMUTH PATTERN ERP (dBk)



Blue plot shows effective radiated power (dBk) at horizontal polarization

Magenta plot shows effective radiated power (dBk) at vertical polarization

ELEVATION PATTERN Dielectric Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60°

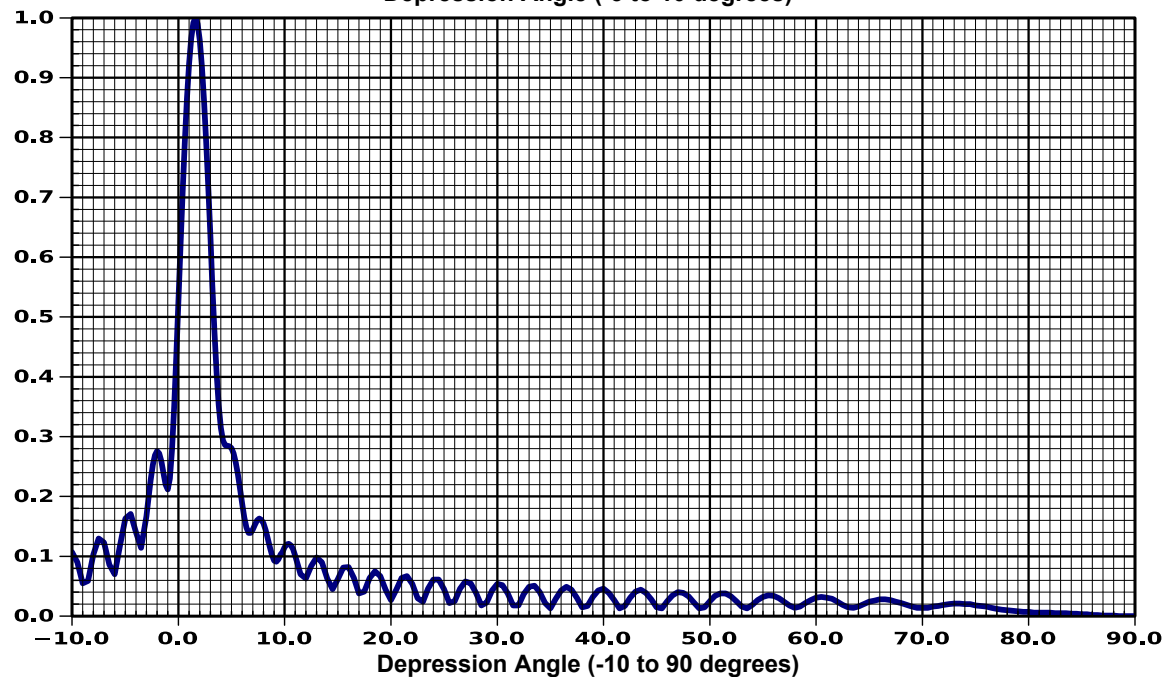
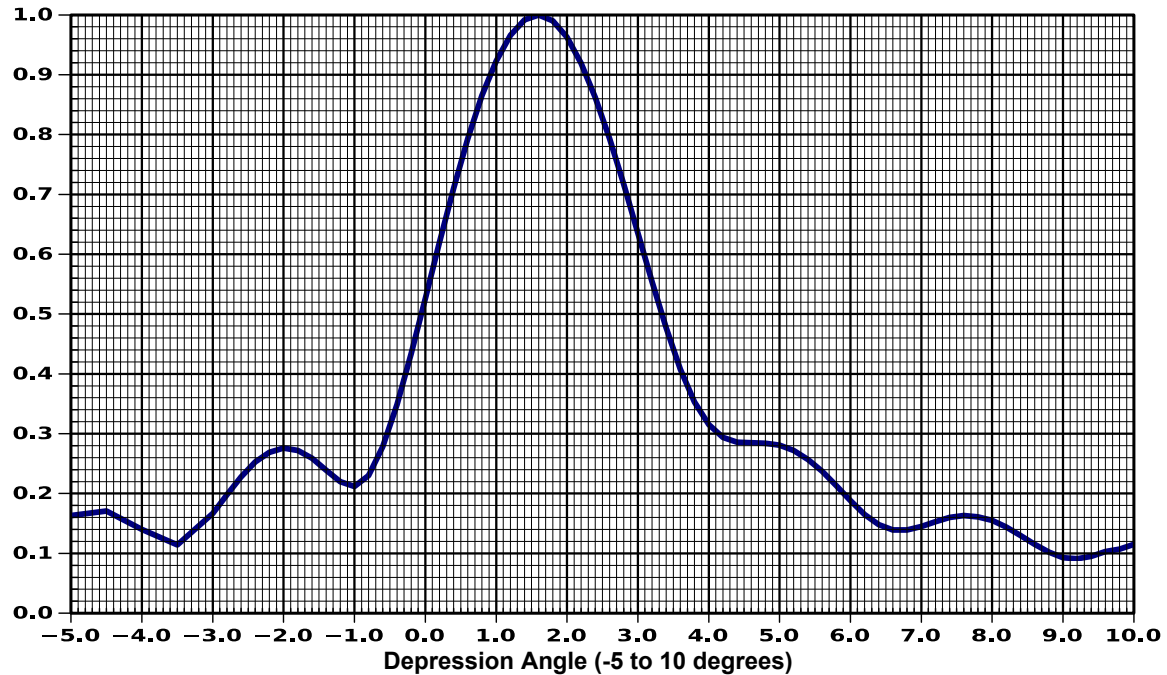
Mechanical Beam Tilt: 1.00° at 225°

Calculated Maximum Elevation Gain : 20.80 13.18 dBd

RMS Gain at Horizontal: 12.60 11.00 dBd

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

**Relative Field**

ELEVATION PATTERN Dielectric Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60°

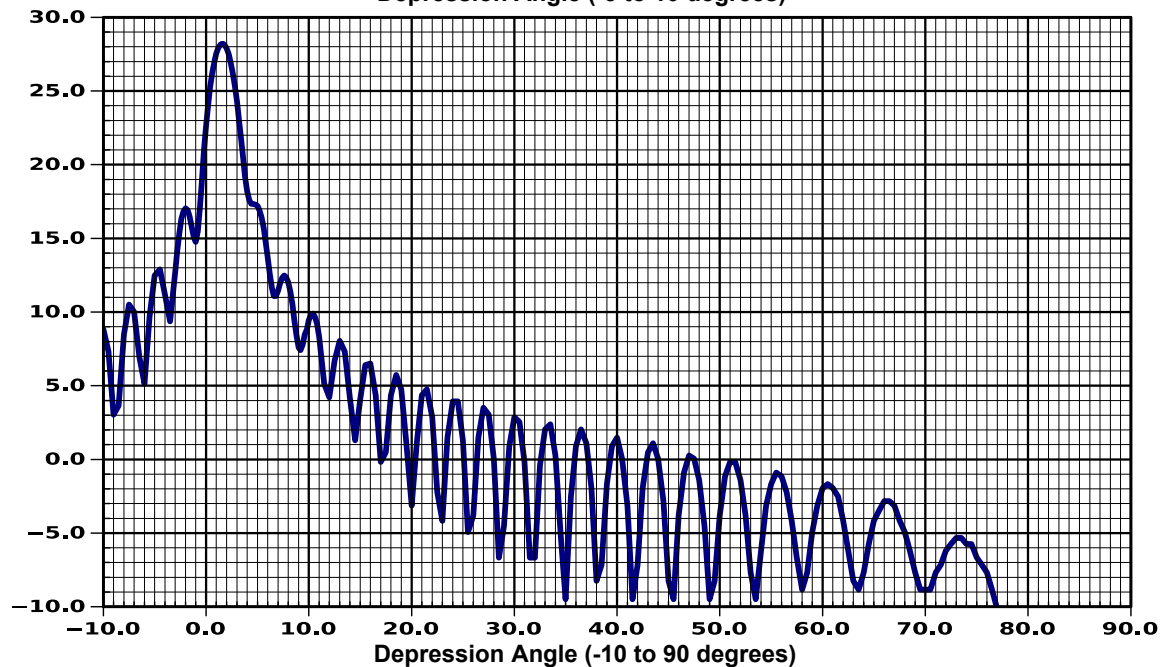
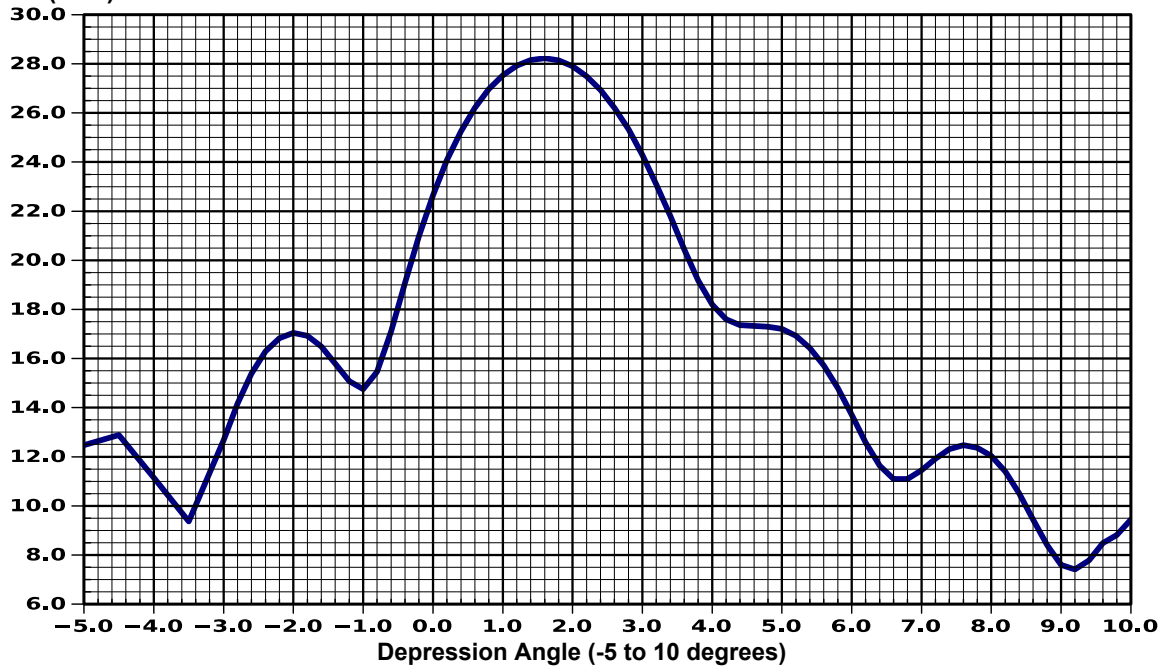
Mechanical Beam Tilt: 1.00° at 225°

Calculated Maximum Elevation Gain : 20.80 13.18 dBd

RMS Gain at Horizontal: 12.60 11.00 dBd

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 332.4 kW 25.22 dBk

**ERP (dBk):**

## ELEVATION PATTERN Dielectric Dielectric TFU-22EBT/VP-R O6

Electrical Beam Tilt: 1.60° Mechanical Beam Tilt: 1.00° at 225°

Calculated Maximum Elevation Gain : 20.80 13.18 dBd

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Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 665.0 kW 28.23 dBk

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## Tabulated Elevation Pattern

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.107	1.2	0.966	8.2	0.144	21.5	0.067	39.0	0.032	56.5	0.030	74.0	0.020
-9.5	0.090	1.4	0.992	8.4	0.130	22.0	0.054	39.5	0.043	57.0	0.024	74.5	0.020
-9.0	0.055	1.6	1.000	8.6	0.115	22.5	0.030	40.0	0.046	57.5	0.018	75.0	0.018
-8.5	0.059	1.8	0.990	8.8	0.102	23.0	0.024	40.5	0.039	58.0	0.014	75.5	0.017
-8.0	0.103	2.0	0.963	9.0	0.093	23.5	0.046	41.0	0.027	58.5	0.016	76.0	0.016
-7.5	0.130	2.2	0.919	9.2	0.091	24.0	0.061	41.5	0.013	59.0	0.022	76.5	0.014
-7.0	0.123	2.4	0.862	9.4	0.095	24.5	0.061	42.0	0.017	59.5	0.027	77.0	0.012
-6.5	0.086	2.6	0.793	9.6	0.103	25.0	0.045	42.5	0.031	60.0	0.031	77.5	0.011
-6.0	0.070	2.8	0.717	9.8	0.107	25.5	0.022	43.0	0.041	60.5	0.032	78.0	0.010
-5.5	0.118	3.0	0.635	10.0	0.115	26.0	0.025	43.5	0.044	61.0	0.031	78.5	0.009
-5.0	0.163	3.2	0.554	10.2	0.120	26.5	0.046	44.0	0.039	61.5	0.029	79.0	0.008
-4.5	0.171	3.4	0.477	10.4	0.121	27.0	0.058	44.5	0.028	62.0	0.024	79.5	0.007
-4.0	0.140	3.6	0.408	10.6	0.118	27.5	0.055	45.0	0.015	62.5	0.019	80.0	0.007
-3.5	0.114	3.8	0.353	10.8	0.112	28.0	0.039	45.5	0.013	63.0	0.015	80.5	0.006
-3.0	0.167	4.0	0.315	11.0	0.101	28.5	0.018	46.0	0.025	63.5	0.014	81.0	0.006
-2.8	0.198	4.2	0.294	11.5	0.070	29.0	0.023	46.5	0.035	64.0	0.016	81.5	0.006
-2.6	0.228	4.4	0.286	12.0	0.063	29.5	0.043	47.0	0.040	64.5	0.020	82.0	0.006
-2.4	0.253	4.6	0.285	12.5	0.084	30.0	0.054	47.5	0.039	65.0	0.024	82.5	0.005
-2.2	0.269	4.8	0.284	13.0	0.098	30.5	0.052	48.0	0.033	65.5	0.026	83.0	0.005
-2.0	0.276	5.0	0.281	13.5	0.090	31.0	0.038	48.5	0.023	66.0	0.028	83.5	0.005
-1.8	0.272	5.2	0.272	14.0	0.063	31.5	0.018	49.0	0.013	66.5	0.028	84.0	0.004
-1.6	0.259	5.4	0.257	14.5	0.045	32.0	0.018	49.5	0.015	67.0	0.027	84.5	0.004
-1.4	0.239	5.6	0.237	15.0	0.062	32.5	0.037	50.0	0.025	67.5	0.024	85.0	0.003
-1.2	0.220	5.8	0.213	15.5	0.081	33.0	0.049	50.5	0.034	68.0	0.022	85.5	0.003
-1.0	0.212	6.0	0.188	16.0	0.082	33.5	0.051	51.0	0.038	68.5	0.019	86.0	0.002
-0.8	0.230	6.2	0.165	16.5	0.064	34.0	0.040	51.5	0.038	69.0	0.016	86.5	0.002
-0.6	0.278	6.4	0.148	17.0	0.038	34.5	0.022	52.0	0.033	69.5	0.014	87.0	0.001
-0.4	0.349	6.6	0.139	17.5	0.041	35.0	0.013	52.5	0.025	70.0	0.014	87.5	0.001
-0.2	0.434	6.8	0.139	18.0	0.064	35.5	0.029	53.0	0.016	70.5	0.014	88.0	0.001
0.0	0.526	7.0	0.145	18.5	0.075	36.0	0.043	53.5	0.013	71.0	0.016	88.5	0.000
0.2	0.620	7.2	0.153	19.0	0.067	36.5	0.049	54.0	0.019	71.5	0.017	89.0	0.000
0.4	0.710	7.4	0.160	19.5	0.044	37.0	0.044	54.5	0.027	72.0	0.019	89.5	0.000
0.6	0.793	7.6	0.163	20.0	0.027	37.5	0.031	55.0	0.032	72.5	0.020	90.0	0.000
0.80	0.865	7.8	0.161	20.5	0.044	38.0	0.015	55.5	0.035	73.0	0.021		
1.0	0.923	8.0	0.155	21.0	0.064	38.5	0.017	56.0	0.034	73.5	0.021		

**CALCULATIONS REQUIRED BY SECTIONS 73.625(b) and 73.625(c)**

Calculated depression angle, relative field and effective radiated power at radio horizon

Electrical Beam Tilt: 1.60° Mechanical Beam Tilt: 1.00° at 225°

Azimuth	Antenna HAAT (meters)	Depression angle to radio horiz.	Antenna Main Beam Rel. Field	At Radio Horizon			In Horizontal Plane		
				Relative Field	E.R.P. (kW)	E.R.P. (dBk)	Relative Field	E.R.P. (kW)	E.R.P. (dBk)
0	447.8	0.59	1.000	1.000	665.0	28.23	0.847	476.6	26.78
5	549.9	0.65	0.994	1.000	665.0	28.23	0.869	502.6	27.01
10	532.7	0.64	0.978	1.000	665.0	28.23	0.878	512.2	27.09
15	446.2	0.59	0.956	1.000	665.0	28.23	0.881	516.3	27.13
17	394.0	0.55	0.947	1.000	665.0	28.23	0.881	515.6	27.12
20	379.2	0.54	0.935	1.000	665.0	28.23	0.881	515.9	27.13
25	362.6	0.53	0.920	1.000	665.0	28.23	0.889	525.6	27.21
30	356.4	0.52	0.915	1.000	665.0	28.23	0.901	539.3	27.32
35	364.5	0.53	0.920	1.000	665.0	28.23	0.924	567.2	27.54
40	430.9	0.58	0.935	1.000	665.0	28.23	0.954	605.0	27.82
45	450.8	0.59	0.956	1.000	665.0	28.23	0.994	657.1	28.18
49	490.2	0.61	0.974	1.000	665.0	28.23	1.000	665.0	28.23
50	497.1	0.62	0.978	1.000	665.0	28.23	0.998	662.0	28.21
55	625.5	0.69	0.994	1.000	665.0	28.23	0.998	662.1	28.21
60	752.8	0.76	1.000	1.000	665.0	28.23	0.984	644.2	28.09
65	844.9	0.81	0.994	1.000	665.0	28.23	0.961	613.5	27.88
70	876.8	0.82	0.978	1.000	665.0	28.23	0.921	564.4	27.52
75	990.6	0.87	0.956	1.000	665.0	28.23	0.881	516.3	27.13
80	1053.3	0.90	0.935	1.000	665.0	28.23	0.839	468.2	26.70
85	935.3	0.85	0.920	1.000	665.0	28.23	0.805	430.6	26.34
90	708.2	0.74	0.915	0.889	525.2	27.20	0.775	399.0	26.01
95	753.1	0.76	0.920	0.889	525.2	27.20	0.753	377.1	25.76
100	834.8	0.80	0.935	1.000	665.0	28.23	0.743	367.2	25.65
105	974.1	0.86	0.956	1.000	665.0	28.23	0.731	355.1	25.50
110	981.7	0.87	0.978	1.000	665.0	28.23	0.723	347.4	25.41
115	1055.2	0.90	0.994	1.000	665.0	28.23	0.704	329.9	25.18
120	1196.8	0.96	1.000	1.000	665.0	28.23	0.683	309.8	24.91
125	1312.6	1.00	0.994	1.000	665.0	28.23	0.647	278.3	24.44
130	1406.1	1.04	0.978	1.000	665.0	28.23	0.611	247.9	23.94
135	1465.8	1.06	0.956	0.895	532.4	27.26	0.566	213.4	23.29
140	1497.1	1.07	0.935	0.865	497.6	26.97	0.525	183.3	22.63
145	1511.9	1.08	0.920	0.841	470.5	26.73	0.493	161.4	22.08
150	1551.4	1.09	0.915	0.823	450.8	26.54	0.462	141.7	21.51
155	1586.0	1.10	0.920	0.817	444.0	26.47	0.441	129.3	21.12
160	1604.6	1.11	0.935	0.817	443.8	26.47	0.421	118.0	20.72
165	1575.1	1.10	0.956	0.817	443.5	26.47	0.408	110.6	20.44
170	1581.2	1.10	0.978	0.814	440.9	26.44	0.389	100.7	20.03
175	1582.7	1.10	0.994	0.810	436.0	26.39	0.375	93.5	19.71

(continued on next page)

**KVEA Application for Modification of Post-Repack Construction Permit**
**73.625(c) Data  
November 1, 2017**
**CALCULATIONS REQUIRED BY SECTIONS 73.625(b) and 73.625(c)**

Calculated depression angle, relative field and effective radiated power at radio horizon

Electrical Beam Tilt: 1.60° Mechanical Beam Tilt: 1.00° at 225°

Continued from previous page)

Azimuth	Antenna	Depression	Antenna	At Radio Horizon			In Horizontal Plane		
	HAAT (meters)	angle to radio horiz.	Main Beam Rel. Field	Relative Field	E.R.P. (kW)	E.R.P. (dBk)	Relative Field	E.R.P. (kW)	E.R.P. (dBk)
180	1576.7	1.10	1.000	0.793	418.2	26.21	0.353	82.9	19.19
185	1582.2	1.10	0.994	0.763	387.6	25.88	0.327	71.2	18.52
190	1593.2	1.11	0.978	0.735	359.2	25.55	0.304	61.3	17.88
195	1586.7	1.10	0.956	0.691	317.2	25.01	0.281	52.6	17.21
200	1569.3	1.10	0.935	0.655	285.7	24.56	0.262	45.8	16.61
205	1561.3	1.09	0.920	0.616	252.3	24.02	0.243	39.4	15.95
210	1556.0	1.09	0.915	0.592	233.1	23.67	0.234	36.5	15.62
215	1534.5	1.09	0.920	0.570	216.4	23.35	0.230	35.2	15.46
220	1534.6	1.09	0.935	0.558	206.9	23.16	0.229	34.9	15.42
223	1540.7	1.09	0.947	0.547	199.0	22.99	0.228	34.6	15.39
225	1535.9	1.09	0.956	0.543	196.3	22.93	0.228	34.7	15.40
230	1505.0	1.07	0.978	0.574	219.2	23.41	0.240	38.2	15.81
235	1446.6	1.05	0.994	0.598	237.5	23.76	0.248	41.1	16.13
240	1391.6	1.03	1.000	0.620	255.6	24.08	0.256	43.6	16.39
245	1363.5	1.02	0.994	0.634	267.5	24.27	0.263	46.0	16.62
250	1333.9	1.01	0.978	0.646	277.5	24.43	0.275	50.1	17.00
255	1299.7	1.00	0.956	0.649	279.8	24.47	0.281	52.6	17.21
260	1251.6	0.98	0.935	0.651	282.0	24.50	0.290	56.0	17.48
265	1176.3	0.95	0.920	0.649	280.2	24.47	0.303	61.0	17.85
270	1067.8	0.91	0.915	0.653	284.0	24.53	0.323	69.4	18.42
275	934.9	0.85	0.920	0.657	287.1	24.58	0.347	80.1	19.03
280	779.5	0.77	0.935	0.655	285.7	24.56	0.372	92.1	19.64
285	801.0	0.78	0.956	0.699	324.6	25.11	0.408	110.6	20.44
290	844.7	0.81	0.978	0.747	371.2	25.70	0.441	129.2	21.11
295	750.0	0.76	0.994	0.763	387.6	25.88	0.476	151.0	21.79
300	730.8	0.75	1.000	0.785	409.5	26.12	0.504	169.2	22.28
305	640.0	0.70	0.994	0.784	408.9	26.12	0.532	188.4	22.75
310	591.4	0.67	0.978	0.779	403.6	26.06	0.549	200.5	23.02
315	674.2	0.72	0.956	0.799	425.0	26.28	0.566	213.4	23.29
320	559.2	0.66	0.935	0.782	406.5	26.09	0.584	226.6	23.55
325	551.1	0.65	0.920	0.783	407.2	26.10	0.599	238.4	23.77
330	635.1	0.70	0.915	0.810	436.4	26.40	0.625	259.4	24.14
335	630.5	0.70	0.920	0.828	455.7	26.59	0.652	282.6	24.51
340	668.3	0.72	0.935	0.863	495.3	26.95	0.691	317.5	25.02
345	632.3	0.70	0.956	0.889	525.0	27.20	0.731	355.1	25.50
350	587.9	0.67	0.978	1.000	665.0	28.23	0.777	401.8	26.04
355	487.6	0.61	0.994	1.000	665.0	28.23	0.814	440.2	26.44