WTVJ Application for CP for License Modification **73.625(c) Data**
March 29, 2022

AZIMUTH PATTERN: Dielectric TFU-18ETT/VP-R 4C140
Electrical Beam Tilt: 0.50°
Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.422 (1.53 dBd)
Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 1000.0 kW 30.00 dBk
Maximum Main Beam V-Pol. Effective Radiated Power (ERP): 521.3 kW 27.17 dBk

Tabulation of Main Beam Azimuth Pattern (Horizontal polarization)

Angle	RF	dBk	ERP kW
0	1.000	30.0	1000.0
10	0.996	30.0	992.0
20	0.973	29.8	946.7
30	0.920	29.3	846.4
40	0.831	28.4	690.6
50	0.716	27.1	512.7
60	0.598	25.5	357.6
70	0.509	24.1	259.1
80	0.478	23.6	228.5
90	0.501	24.0	251.0
100	0.541	24.7	292.7
110	0.563	25.0	317.0
120	0.553	24.9	305.8
130	0.517	24.3	267.3
140	0.483	23.7	233.3
150	0.489	23.8	239.1
160	0.556	24.9	309.1
170	0.667	26.5	444.9
180	0.787	27.9	619.4
190	0.888	29.0	788.5
200	0.956	29.6	913.9
210	0.990	29.9	980.1
220	1.000	30.0	1000.0
230	0.998	30.0	996.0
240	0.994	30.0	988.0
250	0.989	29.9	978.1
260	0.983	29.9	966.3
270	0.975	29.8	950.6
280	0.967	29.7	935.1
290	0.963	29.7	927.4
300	0.964	29.7	929.3
310	0.971	29.7	942.8
320	0.980	29.8	960.4
330	0.987	29.9	974.2
340	0.992	29.9	984.1
350	0.996	30.0	992.0

Maximum

Angle	RF	dBk	ERP kW
1	1.000	30.0	1000.0
112	0.564	25.0	318.1
223	1.000	30.0	1000.0

Minimum

Angle	RF	dBk	ERP kW
80	0.478	23.6	228.5
144	0.478	23.6	228.5
292	0.962	29.7	925.4

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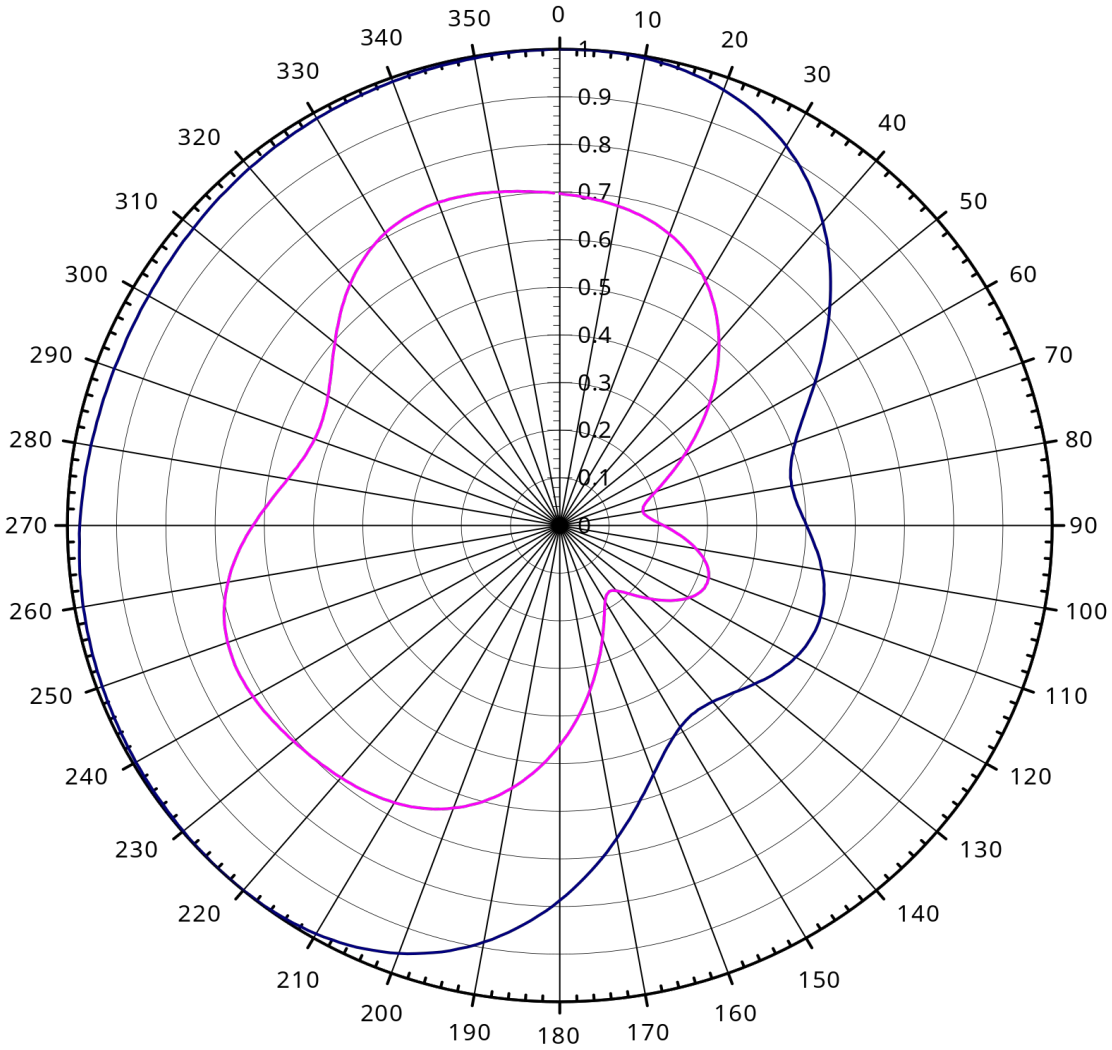
MAIN BEAM AZIMUTH PATTERN RELATIVE FIELD



Blue plot shows azimuth pattern relative field at horizontal polarization
Magenta plot shows azimuth pattern relative field at vertical polarization

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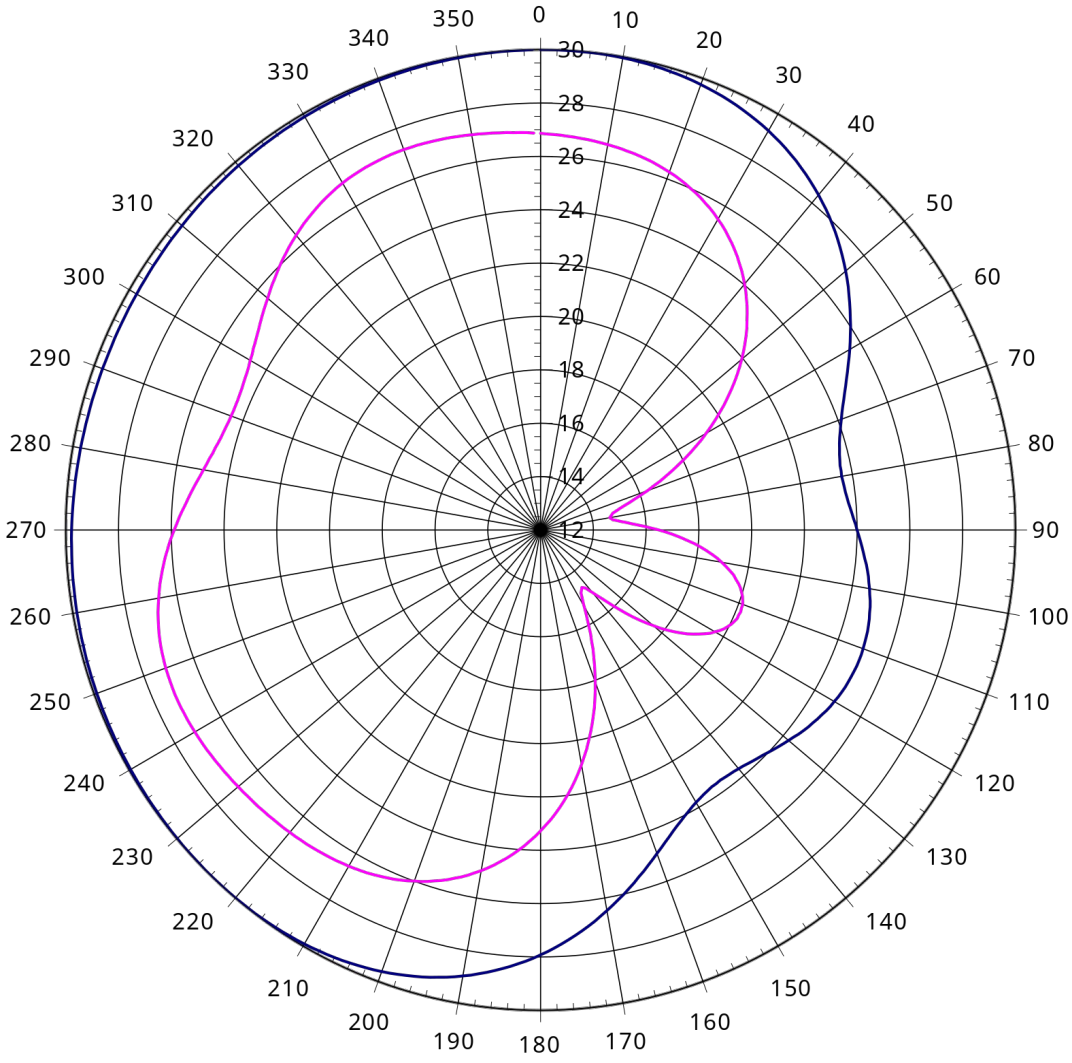
MAIN BEAM AZIMUTH PATTERN ERP (dBk)

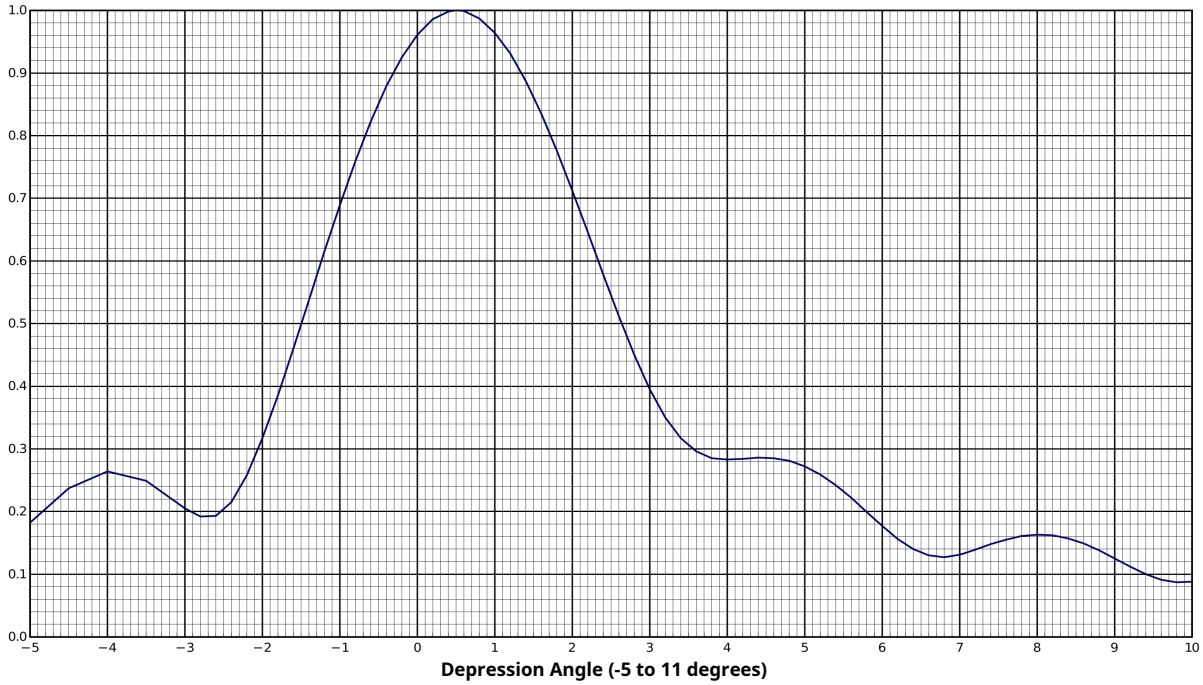


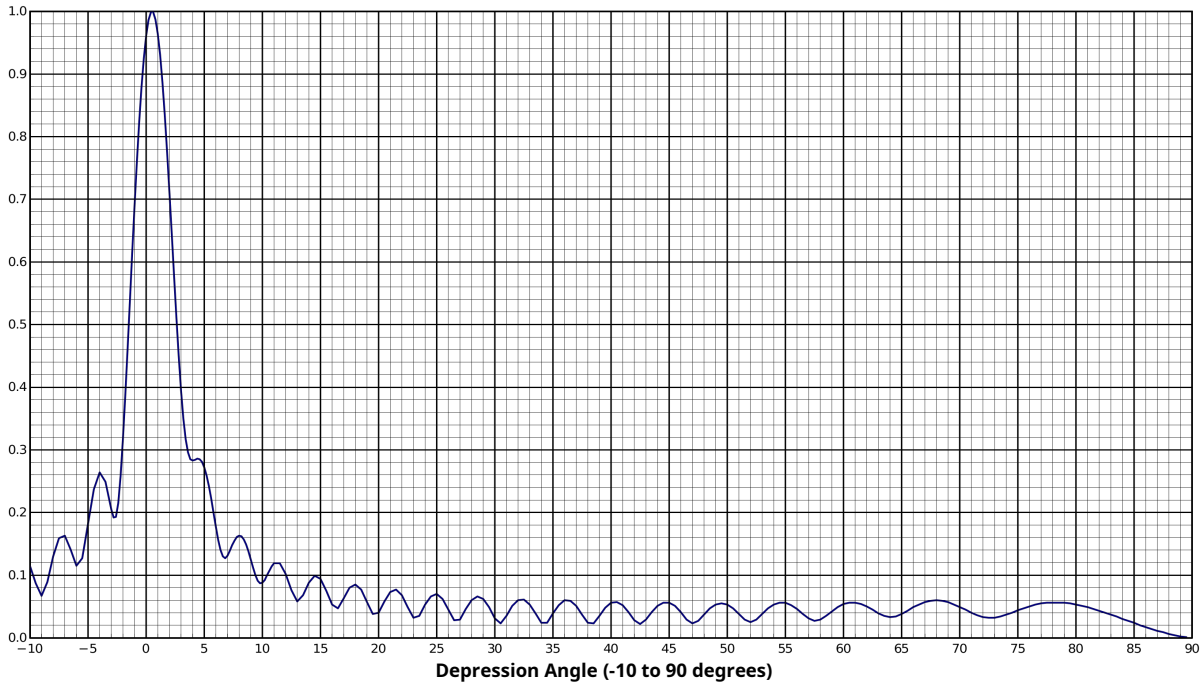
Blue plot shows effective radiated power (dBk) at horizontal polarization
Magenta plot shows effective radiated power (dBk) at vertical polarization

ELEVATION PATTERN Dielectric TFU-18ETT/VP-R 4C140 (18E171050)

Electrical Beam Tilt:	0.50°		
Calculated Maximum Elevation Gain	:	17.10	12.33 dBd
RMS Directivity at Horizontal:		15.8	11.99 dBd
Maximum Main Beam H-Pol. Effective Radiated Power (ERP):		1000.0 kW	30.00 dBk
Maximum Main Beam V-Pol. Effective Radiated Power (ERP):		521.3 kW	27.17 dBk

Relative Field





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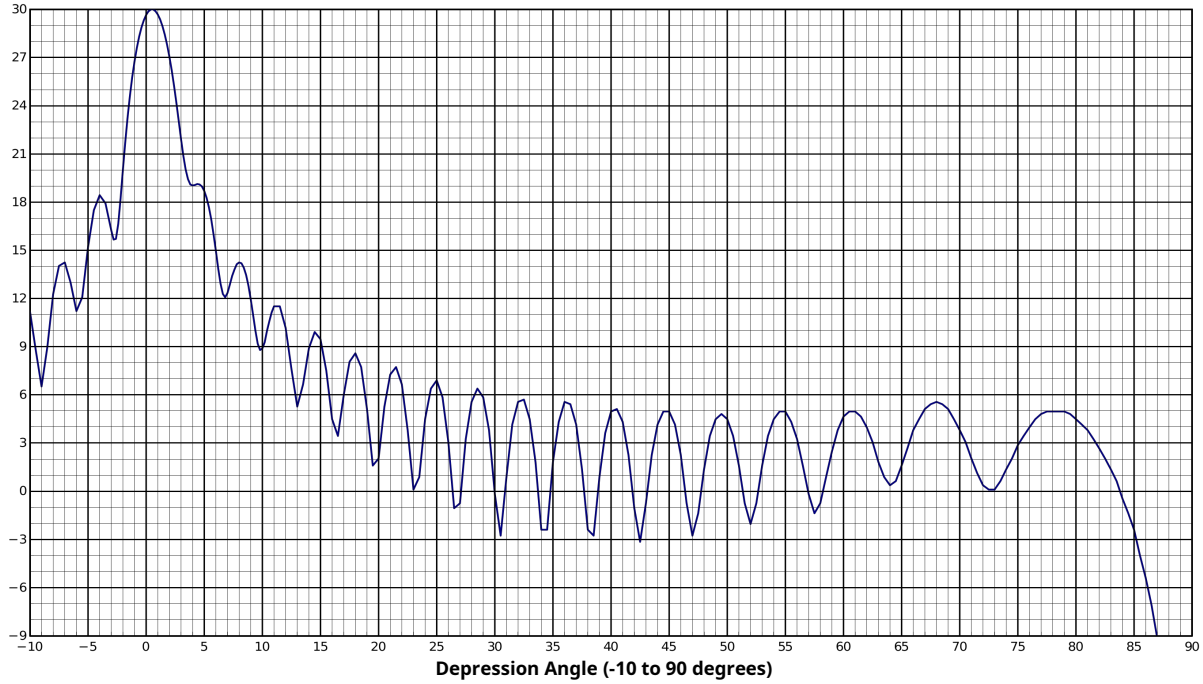
ERP (dBk):

Depression Angle (-5 to 10 degrees)



Depression Angle (-10 to 90 degrees)

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Tabulated Elevation Pattern

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.115	1.0	0.964	7.8	0.161	20.5	0.058	38.0	0.024	55.5	0.052	73.0	0.032
-9.5	0.087	1.2	0.931	8.0	0.163	21.0	0.073	38.5	0.023	56.0	0.046	73.5	0.034
-9.0	0.067	1.4	0.887	8.2	0.162	21.5	0.077	39.0	0.035	56.5	0.038	74.0	0.037
-8.5	0.089	1.6	0.835	8.4	0.157	22.0	0.068	39.5	0.048	57.0	0.031	74.5	0.040
-8.0	0.130	1.8	0.776	8.6	0.149	22.5	0.049	40.0	0.056	57.5	0.027	75.0	0.044
-7.5	0.159	2.0	0.712	8.8	0.138	23.0	0.032	40.5	0.057	58.0	0.029	75.5	0.047
-7.0	0.163	2.2	0.646	9.0	0.125	23.5	0.035	41.0	0.052	58.5	0.035	76.0	0.050
-6.5	0.141	2.4	0.578	9.2	0.112	24.0	0.053	41.5	0.041	59.0	0.042	76.5	0.053
-6.0	0.115	2.6	0.512	9.4	0.100	24.5	0.066	42.0	0.028	59.5	0.049	77.0	0.055
-5.5	0.127	2.8	0.450	9.6	0.091	25.0	0.070	42.5	0.022	60.0	0.054	77.5	0.056
-5.0	0.182	3.0	0.395	9.8	0.087	25.5	0.062	43.0	0.029	60.5	0.056	78.0	0.056
-4.5	0.237	3.2	0.350	10.0	0.088	26.0	0.045	43.5	0.041	61.0	0.056	78.5	0.056
-4.0	0.264	3.4	0.317	10.2	0.092	26.5	0.028	44.0	0.051	61.5	0.054	79.0	0.056
-3.5	0.249	3.6	0.296	10.4	0.100	27.0	0.029	44.5	0.056	62.0	0.050	79.5	0.055
-3.0	0.205	3.8	0.285	10.6	0.107	27.5	0.046	45.0	0.056	62.5	0.045	80.0	0.053
-2.8	0.192	4.0	0.283	10.8	0.114	28.0	0.060	45.5	0.051	63.0	0.039	80.5	0.051
-2.6	0.193	4.2	0.284	11.0	0.119	28.5	0.066	46.0	0.041	63.5	0.035	81.0	0.049
-2.4	0.215	4.4	0.286	11.5	0.119	29.0	0.062	46.5	0.029	64.0	0.033	81.5	0.046
-2.2	0.258	4.6	0.285	12.0	0.102	29.5	0.049	47.0	0.023	64.5	0.034	82.0	0.043
-2.0	0.317	4.8	0.281	12.5	0.076	30.0	0.031	47.5	0.027	65.0	0.038	82.5	0.040
-1.8	0.385	5.0	0.272	13.0	0.058	30.5	0.023	48.0	0.037	65.5	0.043	83.0	0.037
-1.6	0.460	5.2	0.259	13.5	0.068	31.0	0.035	48.5	0.047	66.0	0.049	83.5	0.034
-1.4	0.537	5.4	0.242	14.0	0.088	31.5	0.051	49.0	0.053	66.5	0.053	84.0	0.030
-1.2	0.615	5.6	0.222	14.5	0.099	32.0	0.060	49.5	0.055	67.0	0.057	84.5	0.027
-1.0	0.689	5.8	0.199	15.0	0.094	32.5	0.061	50.0	0.053	67.5	0.059	85.0	0.024
-0.8	0.759	6.0	0.177	15.5	0.075	33.0	0.053	50.5	0.047	68.0	0.060	85.5	0.020
-0.6	0.823	6.2	0.156	16.0	0.053	33.5	0.039	51.0	0.038	68.5	0.059	86.0	0.017
-0.4	0.879	6.4	0.140	16.5	0.047	34.0	0.024	51.5	0.029	69.0	0.057	86.5	0.014
-0.2	0.925	6.6	0.130	17.0	0.063	34.5	0.024	52.0	0.025	69.5	0.053	87.0	0.011
0.0	0.961	6.8	0.127	17.5	0.080	35.0	0.039	52.5	0.029	70.0	0.049	87.5	0.009
0.2	0.986	6.9	0.129	18.0	0.085	35.5	0.052	53.0	0.038	70.5	0.045	88.0	0.006
0.4	0.998	7.0	0.131	18.5	0.077	36.0	0.060	53.5	0.047	71.0	0.040	88.5	0.004
0.5	**1.000**	7.2	0.139	19.0	0.057	36.5	0.059	54.0	0.053	71.5	0.036	89.0	0.002
0.6	0.999	7.4	0.148	19.5	0.038	37.0	0.051	54.5	0.056	72.0	0.033	89.5	0.001
0.8	0.987	7.6	0.155	20.0	0.040	37.5	0.037	55.0	0.056	72.5	0.032	90.0	0.000