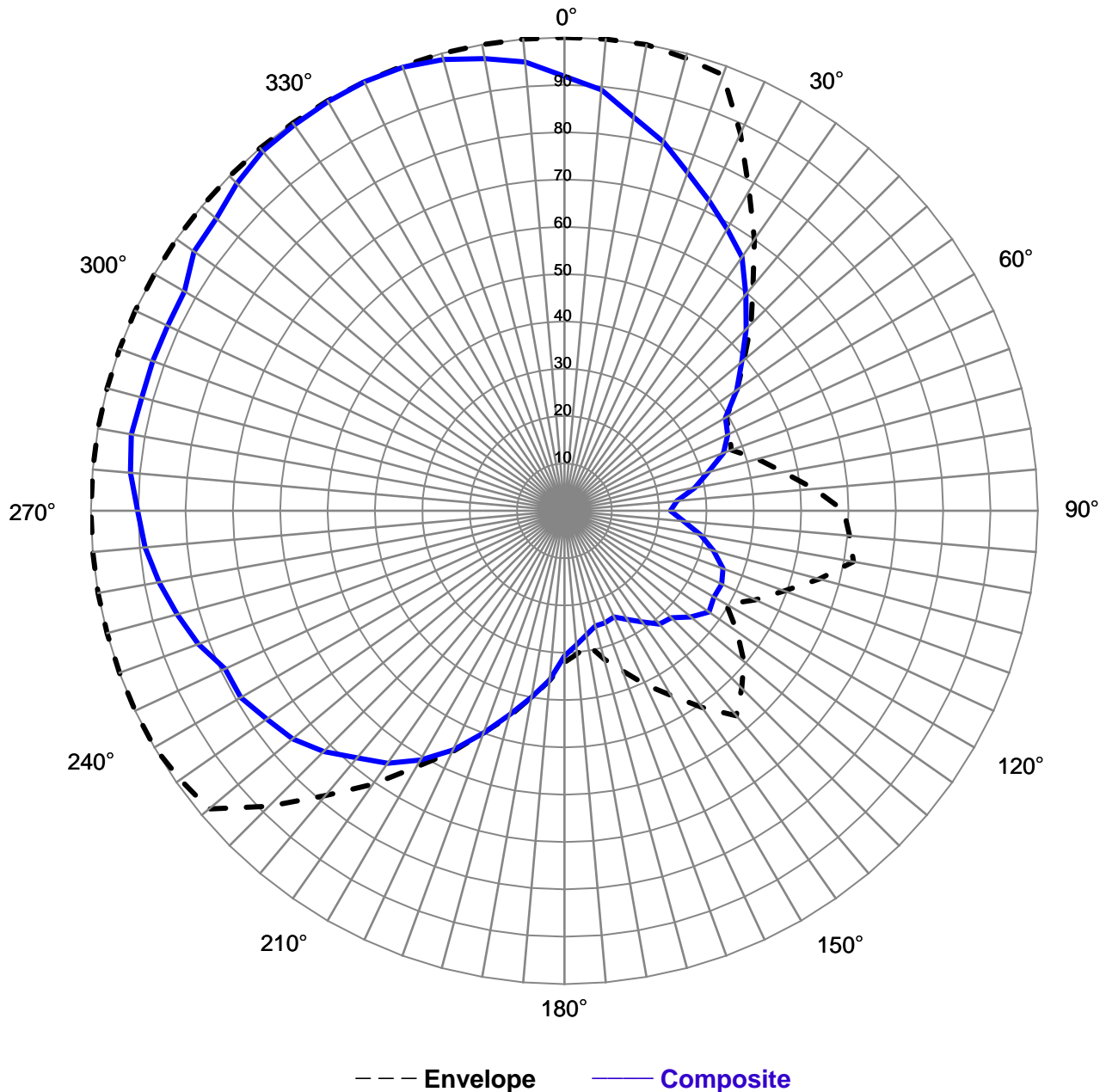




Relative Field Azimuth Plane Pattern



Pattern Type:	Measured Composite
Antenna Model:	PSIFMRH-10C-R-DA
Polarization:	Circular
RMS (envelope)	0.769
RMS (composite)	0.679

Tower:	Triangular 36" Face
Orientation:	315°
Frequency:	89.7 MHz
Station:	KVCI
Date:	4/24/2020

Maximum Envelope Tabulation

Antenna Model: PSIFMRH-10C-R-DA

VCY America, Inc.

Station: KVCJ

Frequency: 89.7 MHz

Location: Montezuma, IA

Maximum ERP: 100 kW

Angle	Relative Field	ERP (kW)	ERP (dBk)
0	1.000	100.00	20.00
10	1.000	100.00	20.00
20	0.980	96.04	19.82
30	0.780	60.84	17.84
40	0.620	38.44	15.85
50	0.495	24.50	13.89
60	0.395	15.60	11.93
70	0.375	14.06	11.48
80	0.470	22.09	13.44
90	0.590	34.81	15.42
100	0.620	38.44	15.85
110	0.495	24.50	13.89
120	0.395	15.60	11.93
130	0.495	24.50	13.89
140	0.565	31.92	15.04
150	0.450	20.25	13.06
160	0.360	12.96	11.13
170	0.288	8.29	9.19
180	0.320	10.24	10.10
190	0.400	16.00	12.04
200	0.500	25.00	13.98
210	0.625	39.06	15.92
220	0.785	61.62	17.90
230	0.980	96.04	19.82
240	1.000	100.00	20.00
250	1.000	100.00	20.00
260	1.000	100.00	20.00
270	1.000	100.00	20.00
280	1.000	100.00	20.00
290	1.000	100.00	20.00
300	1.000	100.00	20.00
310	1.000	100.00	20.00
320	1.000	100.00	20.00
330	1.000	100.00	20.00
340	1.000	100.00	20.00
350	1.000	100.00	20.00

Composite Pattern Tabulation

Antenna Model: PSIFMRH-10C-R-DA

VCY America, Inc.

Station: KVCJ

Frequency: 89.7 MHz

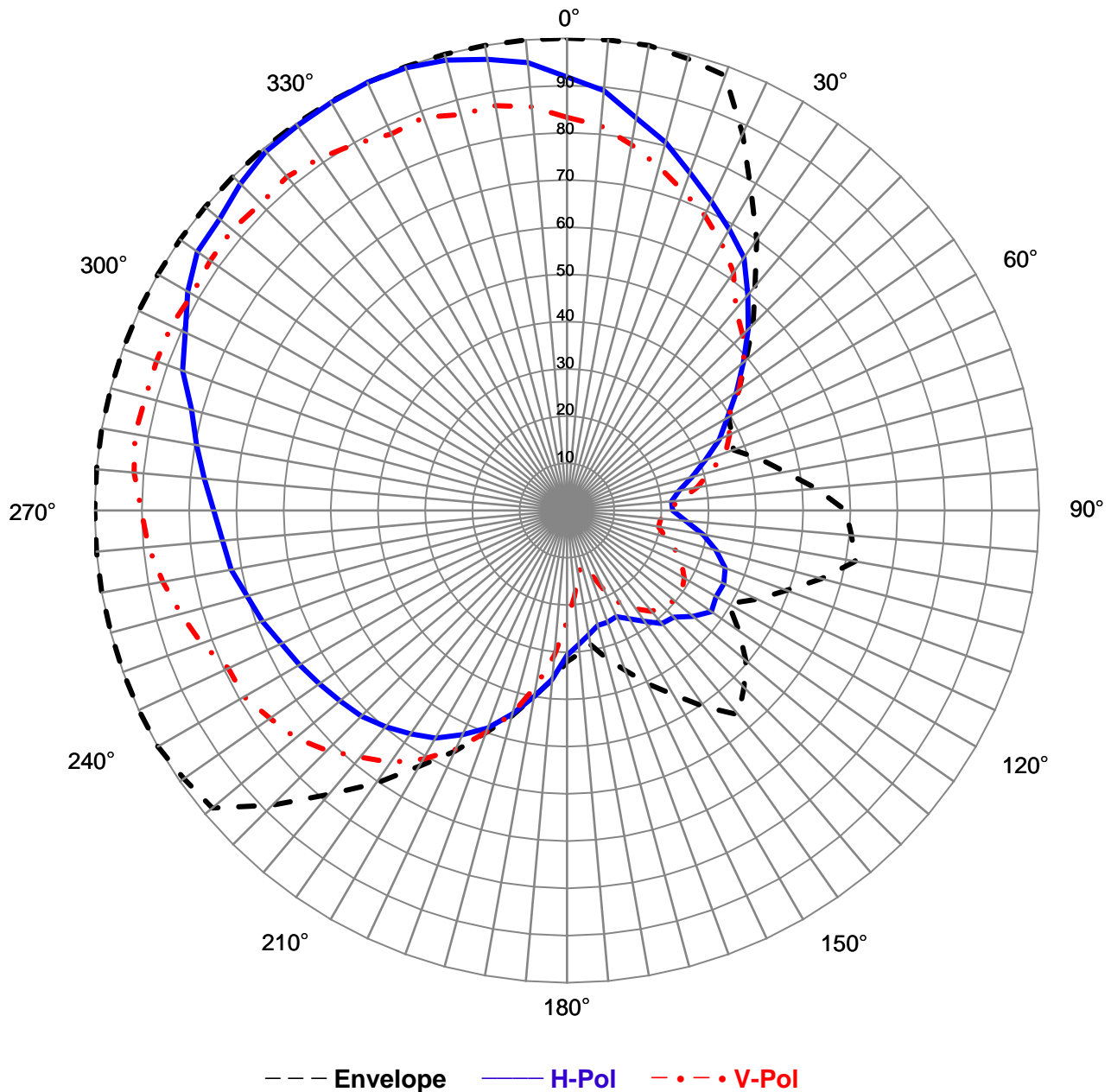
Location: Montezuma, IA

Maximum ERP: 100 kW

Angle	Relative Field	ERP (kW)	ERP (dBk)
0	0.918	84.28	19.26
10	0.844	71.29	18.53
20	0.761	57.92	17.63
30	0.688	47.29	16.75
40	0.596	35.52	15.50
50	0.489	23.93	13.79
60	0.393	15.43	11.88
70	0.358	12.79	11.07
80	0.279	7.80	8.92
90	0.224	5.01	7.00
100	0.293	8.56	9.33
110	0.356	12.70	11.04
120	0.365	13.30	11.24
130	0.349	12.15	10.85
140	0.312	9.75	9.89
150	0.265	7.01	8.46
160	0.252	6.33	8.02
170	0.267	7.13	8.53
180	0.307	9.42	9.74
190	0.400	16.00	12.04
200	0.500	24.96	13.97
210	0.608	36.93	15.67
220	0.681	46.42	16.67
230	0.749	56.16	17.49
240	0.789	62.26	17.94
250	0.823	67.76	18.31
260	0.869	75.52	18.78
270	0.901	81.26	19.10
280	0.929	86.24	19.36
290	0.925	85.56	19.32
300	0.927	85.93	19.34
310	0.960	92.16	19.65
320	0.992	98.41	19.93
330	0.998	99.60	19.98
340	0.997	99.49	19.98
350	0.970	94.08	19.74



Relative Field Azimuth Plane Pattern



Pattern Type:	Measured Field	Tower:	Triangular 36" Face
Antenna Model:	PSIFMRH-10C-R-DA	Orientation:	315°
Polarization:	Circular	Configuration:	89.7 MHz
Gain (H-pol):	10.45 (10.19 dB)	Station:	KVCI
Gain (V-pol):	9.01 (9.55 dB)	Date:	4/24/2020

Measured Relative Field Tabulation

Antenna Model: PSIFMRH-10C-R-DA

VCY America, Inc.

Station: KVCJ

Frequency: 89.7 MHz

Location: Montezuma, IA

Horizontal Polarization

Angle	Relative Field	Power Gain	Gain (dB)
0	0.918	8.807	9.45
10	0.844	7.449	8.72
20	0.761	6.052	7.82
30	0.688	4.942	6.94
40	0.596	3.712	5.70
50	0.488	2.489	3.96
60	0.392	1.606	2.06
70	0.312	1.017	0.07
80	0.241	0.607	-2.17
90	0.224	0.523	-2.81
100	0.293	0.895	-0.48
110	0.356	1.327	1.23
120	0.365	1.390	1.43
130	0.349	1.270	1.04
140	0.312	1.019	0.08
150	0.265	0.733	-1.35
160	0.252	0.662	-1.79
170	0.267	0.745	-1.28
180	0.307	0.985	-0.07
190	0.400	1.672	2.23
200	0.490	2.510	4.00
210	0.557	3.237	5.10
220	0.598	3.734	5.72
230	0.627	4.112	6.14
240	0.654	4.467	6.50
250	0.686	4.918	6.92
260	0.722	5.447	7.36
270	0.748	5.847	7.67
280	0.796	6.621	8.21
290	0.866	7.837	8.94
300	0.927	8.980	9.53
310	0.960	9.631	9.84
320	0.992	10.283	10.12
330	0.998	10.408	10.17
340	0.997	10.397	10.17
350	0.970	9.831	9.93

Maximum Value

Field 1.000
Gain 10.45 (10.19 dB)
Azimuth Bearing 335 degrees

Minimum Field

Field 0.222
Gain .515 (-2.88 dB)
Azimuth Bearing 85 degrees

Vertical Polarization

Angle	Relative Field	Power Gain	Gain (dB)
0	0.833	7.243	8.60
10	0.787	6.466	8.11
20	0.720	5.410	7.33
30	0.654	4.472	6.51
40	0.556	3.236	5.10
50	0.489	2.500	3.98
60	0.393	1.612	2.07
70	0.358	1.336	1.26
80	0.279	0.815	-0.89
90	0.212	0.470	-3.28
100	0.197	0.406	-3.92
110	0.244	0.621	-2.07
120	0.287	0.859	-0.66
130	0.297	0.920	-0.36
140	0.279	0.815	-0.89
150	0.228	0.544	-2.65
160	0.138	0.199	-7.00
170	0.138	0.198	-7.03
180	0.235	0.575	-2.40
190	0.377	1.487	1.72
200	0.500	2.608	4.16
210	0.608	3.859	5.87
220	0.681	4.851	6.86
230	0.749	5.868	7.69
240	0.789	6.506	8.13
250	0.823	7.081	8.50
260	0.869	7.892	8.97
270	0.901	8.492	9.29
280	0.929	9.012	9.55
290	0.925	8.941	9.51
300	0.916	8.770	9.43
310	0.925	8.946	9.52
320	0.922	8.890	9.49
330	0.896	8.399	9.24
340	0.886	8.196	9.14
350	0.870	7.918	8.99

Maximum Value

Field 0.929
Gain 9.01 (9.55 dB)
Azimuth Bearing 280 degrees

Minimum Field

Field 0.121
Gain .153 (-8.15 dB)
Azimuth Bearing 165 degrees

ERP Tabulation

Antenna Model: PSIFMRH-10C-R-DA

VCY America, Inc.

Station: KVCJ

Frequency: 89.7 MHz

Location: Montezuma, IA

Maximum ERP: 100 kW

Horizontal Polarization

Angle	Relative Field	ERP (kW)	ERP (dBk)
0	0.918	84.28	19.26
10	0.844	71.29	18.53
20	0.761	57.92	17.63
30	0.688	47.29	16.75
40	0.596	35.52	15.50
50	0.488	23.81	13.77
60	0.392	15.37	11.87
70	0.312	9.73	9.88
80	0.241	5.81	7.64
90	0.224	5.01	7.00
100	0.293	8.56	9.33
110	0.356	12.70	11.04
120	0.365	13.30	11.24
130	0.349	12.15	10.85
140	0.312	9.75	9.89
150	0.265	7.01	8.46
160	0.252	6.33	8.02
170	0.267	7.13	8.53
180	0.307	9.42	9.74
190	0.400	16.00	12.04
200	0.490	24.02	13.81
210	0.557	30.97	14.91
220	0.598	35.74	15.53
230	0.627	39.35	15.95
240	0.654	42.75	16.31
250	0.686	47.06	16.73
260	0.722	52.13	17.17
270	0.748	55.95	17.48
280	0.796	63.36	18.02
290	0.866	75.00	18.75
300	0.927	85.93	19.34
310	0.960	92.16	19.65
320	0.992	98.41	19.93
330	0.998	99.60	19.98
340	0.997	99.49	19.98
350	0.970	94.08	19.74

Maximum Value (H-pol)

Field 1.000
ERP 100 kW (20.0 dBk)

Azimuth Bearing 325 degrees

Minimum Field (H-pol)

Field 0.222
ERP 4.93 kW (6.93 dBk)

Azimuth Bearing 85 degrees

Vertical Polarization

Angle	Relative Field	ERP (kW)	ERP (dBk)
0	0.833	69.31	18.41
10	0.787	61.87	17.91
20	0.720	51.77	17.14
30	0.654	42.79	16.31
40	0.556	30.97	14.91
50	0.489	23.93	13.79
60	0.393	15.43	11.88
70	0.358	12.79	11.07
80	0.279	7.80	8.92
90	0.212	4.50	6.53
100	0.197	3.88	5.89
110	0.244	5.94	7.74
120	0.287	8.22	9.15
130	0.297	8.80	9.45
140	0.279	7.80	8.92
150	0.228	5.20	7.16
160	0.138	1.91	2.80
170	0.138	1.90	2.78
180	0.235	5.50	7.40
190	0.377	14.23	11.53
200	0.500	24.96	13.97
210	0.608	36.93	15.67
220	0.681	46.42	16.67
230	0.749	56.16	17.49
240	0.789	62.26	17.94
250	0.823	67.76	18.31
260	0.869	75.52	18.78
270	0.901	81.26	19.10
280	0.929	86.24	19.36
290	0.925	85.56	19.32
300	0.916	83.92	19.24
310	0.925	85.60	19.32
320	0.922	85.07	19.30
330	0.896	80.37	19.05
340	0.886	78.43	18.94
350	0.870	75.77	18.79

Maximum Value (V-pol)

Field 0.929
ERP 86.24 kW (19.36 dBk)

Azimuth Bearing 280 degrees

Minimum Field (V-pol)

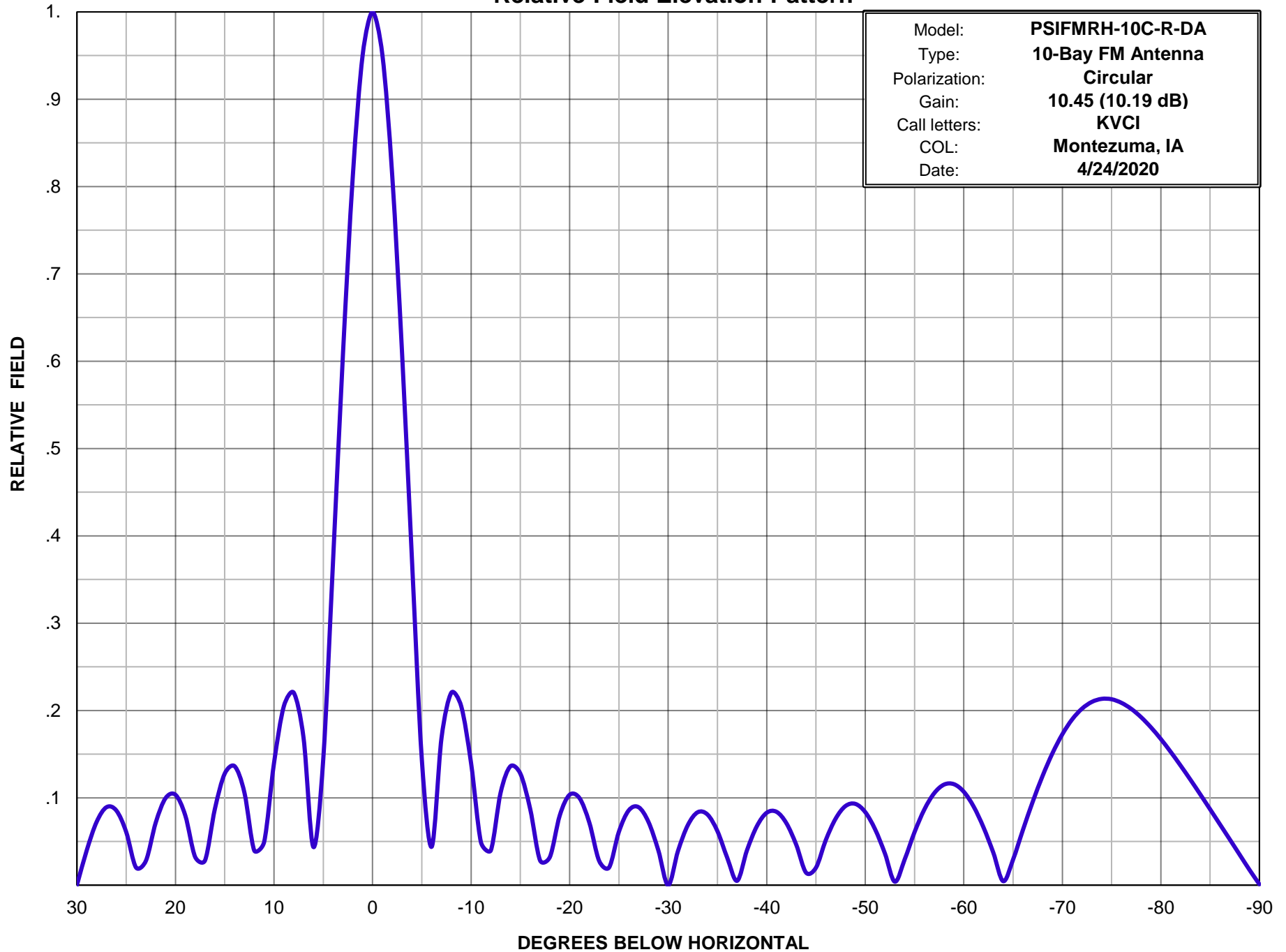
Field 0.121
ERP 1.46 kW (1.66 dBk)

Azimuth Bearing 165 degrees



Propagation Systems, Inc.

Relative Field Elevation Pattern



Propagation Systems Inc.

Relative Field Tabulation Elevation Pattern

Antenna Model: PSIFMRH-10C-R-DA

Gain: 10.45 (10.19 dBd)

Station: KVCJ

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90	0.001	-60.00	-50	0.084	-21.55	-10	0.140	-17.11
-89	0.017	-35.18	-49	0.093	-20.63	-9	0.205	-13.77
-88	0.035	-29.16	-48	0.091	-20.86	-8	0.220	-13.13
-87	0.052	-25.63	-47	0.076	-22.36	-7	0.169	-15.46
-86	0.070	-23.15	-46	0.052	-25.74	-6	0.044	-27.14
-85	0.087	-21.23	-45	0.020	-33.98	-5	0.144	-16.82
-84	0.104	-19.66	-44	0.014	-36.93	-4	0.373	-8.57
-83	0.121	-18.36	-43	0.046	-26.70	-3	0.608	-4.32
-82	0.137	-17.27	-42	0.071	-22.99	-2	0.812	-1.81
-81	0.153	-16.33	-41	0.084	-21.52	-1	0.951	-0.44
-80	0.167	-15.53	-40	0.083	-21.63	0	1.000	0.00
-79	0.181	-14.87	-39	0.067	-23.42	1	0.951	-0.44
-78	0.192	-14.32	-38	0.040	-27.96	2	0.812	-1.80
-77	0.202	-13.90	-37	0.005	-46.02	3	0.608	-4.32
-76	0.209	-13.61	-36	0.031	-30.11	4	0.373	-8.56
-75	0.213	-13.44	-35	0.062	-24.18	5	0.145	-16.80
-74	0.213	-13.42	-34	0.081	-21.86	6	0.044	-27.20
-73	0.210	-13.56	-33	0.083	-21.57	7	0.168	-15.47
-72	0.202	-13.89	-32	0.069	-23.25	8	0.220	-13.13
-71	0.190	-14.43	-31	0.039	-28.12	9	0.205	-13.76
-70	0.173	-15.25	-30	0.001	-60.00	10	0.140	-17.10
-69	0.151	-16.42	-29	0.040	-27.96	11	0.049	-26.13
-68	0.125	-18.05	-28	0.072	-22.80	12	0.040	-28.06
-67	0.096	-20.39	-27	0.089	-20.99	13	0.106	-19.50
-66	0.063	-23.99	-26	0.086	-21.35	14	0.136	-17.32
-65	0.029	-30.68	-25	0.061	-24.28	15	0.128	-17.87
-64	0.005	-46.85	-24	0.020	-33.91	16	0.087	-21.18
-63	0.037	-28.61	-23	0.028	-31.14	17	0.028	-30.95
-62	0.066	-23.58	-22	0.072	-22.89	18	0.032	-29.82
-61	0.090	-20.92	-21	0.100	-20.03	19	0.080	-21.97
-60	0.107	-19.41	-20	0.103	-19.70	20	0.103	-19.70
-59	0.116	-18.74	-19	0.080	-21.95	21	0.100	-20.03
-58	0.115	-18.77	-18	0.032	-29.82	22	0.072	-22.89
-57	0.105	-19.55	-17	0.028	-30.95	23	0.028	-31.09
-56	0.087	-21.24	-16	0.087	-21.20	24	0.020	-33.91
-55	0.061	-24.35	-15	0.128	-17.87	25	0.061	-24.31
-54	0.029	-30.63	-14	0.136	-17.32	26	0.085	-21.37
-53	0.004	-48.09	-13	0.106	-19.49	27	0.089	-20.99
-52	0.036	-28.82	-12	0.040	-28.02	28	0.072	-22.80
-51	0.064	-23.88	-11	0.049	-26.15	29	0.040	-27.96