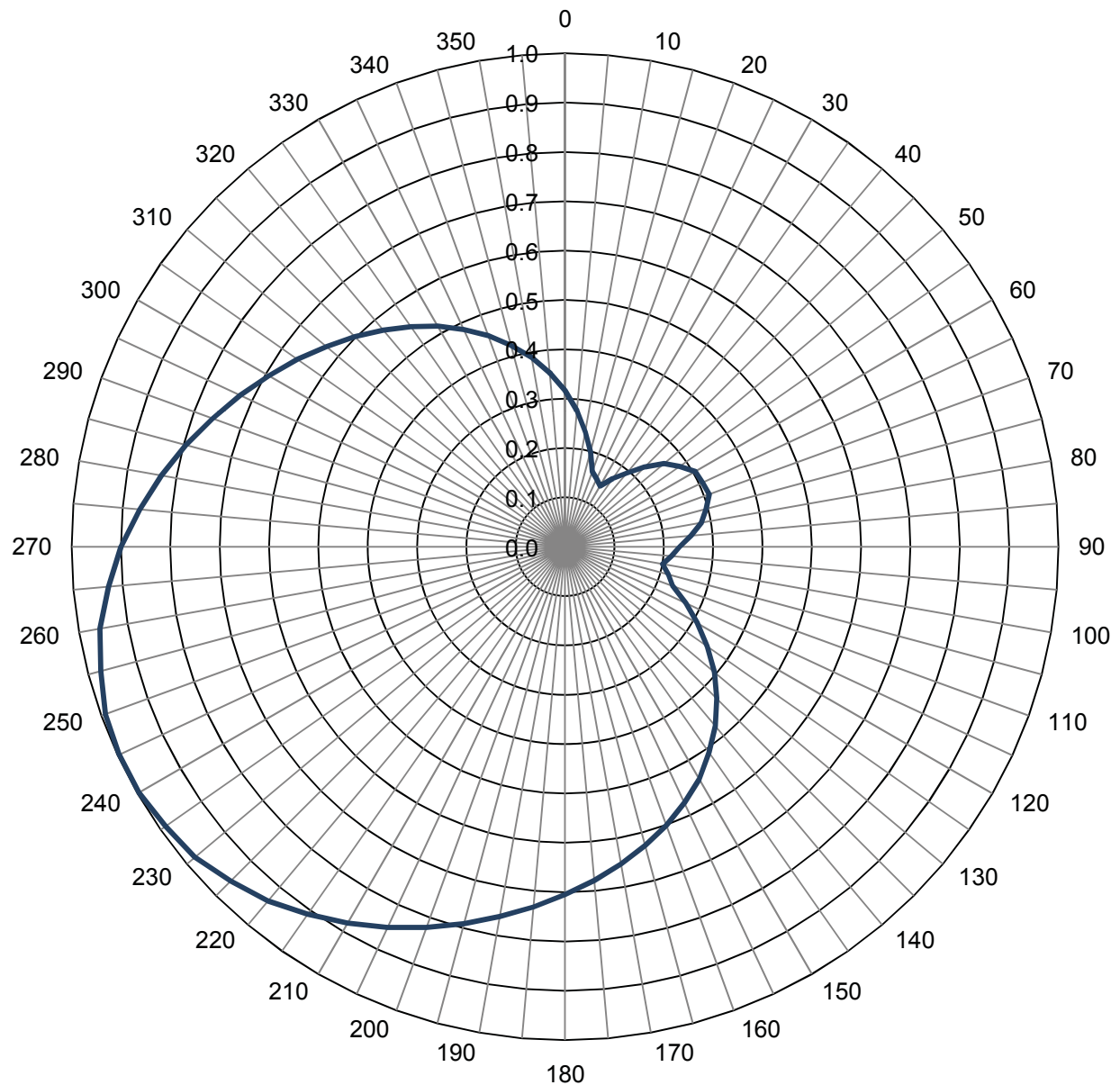


Azimuth Pattern

Type:	ATW-C4	Polarization:	Horizontal
Directivity:	2.54 numeric (4.05 dB)	Frequency:	14 (ATSC)
Peak(s) at:		Location:	Dubuque, IA
		NOTE: Pattern shape and directivity may vary with channel and mounting configuration.	

Relative Field



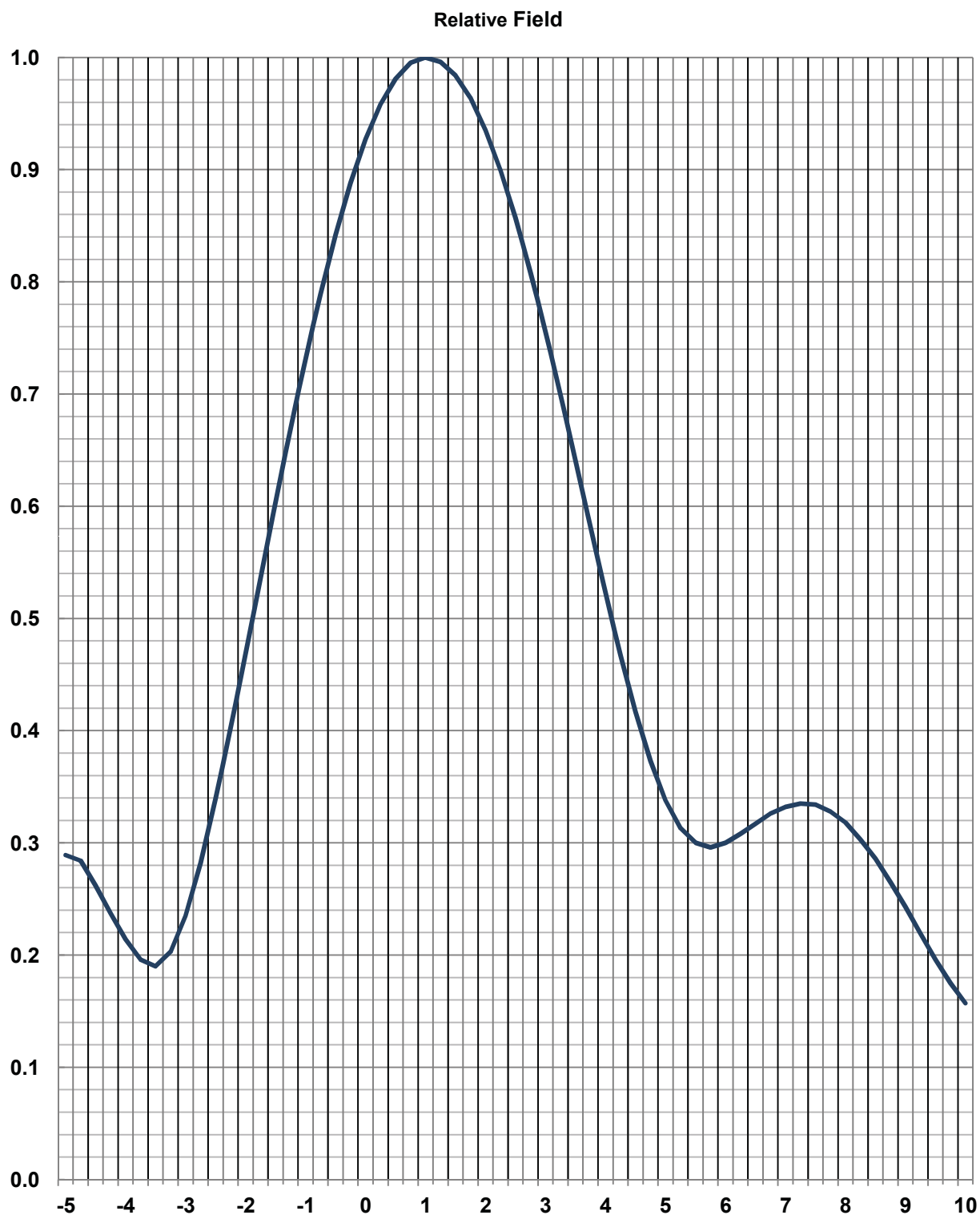
Tabulated Data for Azimuth Pattern

Type: ATW-C4

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
0	0.317	-9.98	100	0.201	-13.94	200	0.821	-1.71	300	0.693	-3.19
2	0.301	-10.43	102	0.207	-13.67	202	0.833	-1.59	302	0.681	-3.34
4	0.285	-10.92	104	0.213	-13.42	204	0.845	-1.46	304	0.668	-3.50
6	0.268	-11.42	106	0.220	-13.17	206	0.857	-1.34	306	0.656	-3.66
8	0.252	-11.97	108	0.226	-12.93	208	0.869	-1.22	308	0.643	-3.83
10	0.236	-12.54	110	0.232	-12.69	210	0.881	-1.10	310	0.631	-4.00
12	0.221	-13.10	112	0.247	-12.13	212	0.892	-0.99	312	0.619	-4.16
14	0.206	-13.71	114	0.263	-11.61	214	0.903	-0.88	314	0.608	-4.32
16	0.192	-14.35	116	0.278	-11.11	216	0.915	-0.78	316	0.596	-4.49
18	0.177	-15.05	118	0.294	-10.64	218	0.926	-0.67	318	0.585	-4.66
20	0.162	-15.81	120	0.309	-10.20	220	0.937	-0.57	320	0.573	-4.84
22	0.158	-16.03	122	0.326	-9.73	222	0.945	-0.49	322	0.562	-5.01
24	0.154	-16.25	124	0.343	-9.28	224	0.954	-0.41	324	0.550	-5.19
26	0.150	-16.48	126	0.361	-8.86	226	0.962	-0.33	326	0.539	-5.37
28	0.146	-16.71	128	0.378	-8.45	228	0.971	-0.26	328	0.527	-5.56
30	0.142	-16.95	130	0.395	-8.07	230	0.979	-0.18	330	0.516	-5.75
32	0.153	-16.33	132	0.411	-7.73	232	0.983	-0.15	332	0.504	-5.95
34	0.163	-15.75	134	0.427	-7.40	234	0.986	-0.12	334	0.492	-6.17
36	0.174	-15.20	136	0.442	-7.08	236	0.990	-0.09	336	0.479	-6.39
38	0.184	-14.68	138	0.458	-6.78	238	0.993	-0.06	338	0.467	-6.61
40	0.195	-14.20	140	0.474	-6.48	240	0.997	-0.03	340	0.455	-6.84
42	0.208	-13.62	142	0.488	-6.23	242	1.000	0.00	342	0.442	-7.09
44	0.222	-13.08	144	0.502	-5.99	244	0.998	-0.02	344	0.429	-7.35
46	0.235	-12.57	146	0.516	-5.75	246	0.996	-0.04	346	0.416	-7.62
48	0.249	-12.09	148	0.530	-5.51	248	0.993	-0.06	348	0.403	-7.89
50	0.262	-11.63	150	0.544	-5.29	250	0.991	-0.08	350	0.390	-8.18
52	0.271	-11.35	152	0.555	-5.11	252	0.984	-0.14	352	0.375	-8.51
54	0.279	-11.08	154	0.567	-4.93	254	0.977	-0.20	354	0.361	-8.85
56	0.288	-10.82	156	0.578	-4.76	256	0.971	-0.26	356	0.346	-9.21
58	0.296	-10.56	158	0.590	-4.59	258	0.964	-0.32	358	0.332	-9.59
60	0.305	-10.31	160	0.601	-4.42	260	0.957	-0.38	360	0.317	-9.98
62	0.306	-10.28	162	0.611	-4.27	262	0.946	-0.49			
64	0.307	-10.25	164	0.622	-4.13	264	0.934	-0.59			
66	0.309	-10.21	166	0.632	-3.98	266	0.923	-0.70			
68	0.310	-10.18	168	0.643	-3.84	268	0.911	-0.81			
70	0.311	-10.14	170	0.653	-3.70	270	0.900	-0.92			
72	0.305	-10.31	172	0.663	-3.56	272	0.886	-1.05			
74	0.299	-10.49	174	0.674	-3.43	274	0.872	-1.19			
76	0.293	-10.66	176	0.684	-3.30	276	0.859	-1.32			
78	0.287	-10.84	178	0.695	-3.17	278	0.845	-1.46			
80	0.281	-11.03	180	0.705	-3.04	280	0.831	-1.61			
82	0.271	-11.33	182	0.716	-2.90	282	0.817	-1.76			
84	0.261	-11.65	184	0.727	-2.76	284	0.803	-1.91			
86	0.252	-11.99	186	0.739	-2.63	286	0.788	-2.07			
88	0.242	-12.33	188	0.750	-2.50	288	0.774	-2.22			
90	0.232	-12.69	190	0.761	-2.37	290	0.760	-2.38			
92	0.226	-12.93	192	0.773	-2.24	292	0.747	-2.54			
94	0.220	-13.17	194	0.785	-2.10	294	0.733	-2.70			
96	0.213	-13.42	196	0.797	-1.97	296	0.720	-2.86			
98	0.207	-13.67	198	0.809	-1.84	298	0.706	-3.02			

Elevation Pattern

Type:	11H4H	Polarization:	Horizontal
Directivity:		Frequency:	14 (ATSC)
Main Lobe:	11.00 numeric (10.41 dB)	Location:	Dubuque, IA
Horizontal:	9.45 numeric (9.76 dB)	Beam Tilt:	1.00 degrees



Tabulated Data for Elevation Pattern

Type: 11H4H

-5 to 10 degrees in 0.25 degree increments.

10 to 90 degrees in 0.50 degree increments.

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5.00	0.289	-10.78	7.25	0.335	-9.50	29.00	0.099	-20.09	53.50	0.085	-21.41	78.00	0.079	-22.05
-4.75	0.284	-10.93	7.50	0.334	-9.53	29.50	0.090	-20.92	54.00	0.092	-20.72	78.50	0.080	-21.94
-4.50	0.262	-11.63	7.75	0.328	-9.68	30.00	0.078	-22.16	54.50	0.096	-20.35	79.00	0.081	-21.83
-4.25	0.237	-12.51	8.00	0.318	-9.95	30.50	0.064	-23.88	55.00	0.097	-20.26	79.50	0.081	-21.83
-4.00	0.214	-13.39	8.25	0.303	-10.37	31.00	0.053	-25.51	55.50	0.095	-20.45	80.00	0.081	-21.83
-3.75	0.196	-14.15	8.50	0.286	-10.87	31.50	0.050	-26.02	56.00	0.091	-20.82	80.50	0.080	-21.94
-3.50	0.190	-14.42	8.75	0.265	-11.54	32.00	0.056	-25.04	56.50	0.085	-21.41	81.00	0.079	-22.05
-3.25	0.203	-13.85	9.00	0.243	-12.29	32.50	0.068	-23.35	57.00	0.076	-22.38	81.50	0.077	-22.27
-3.00	0.235	-12.58	9.25	0.219	-13.19	33.00	0.080	-21.94	57.50	0.067	-23.48	82.00	0.075	-22.50
-2.75	0.282	-11.00	9.50	0.196	-14.15	33.50	0.089	-21.01	58.00	0.056	-25.04	82.50	0.072	-22.85
-2.50	0.339	-9.40	9.75	0.175	-15.14	34.00	0.093	-20.63	58.50	0.046	-26.74	83.00	0.069	-23.22
-2.25	0.402	-7.92	10.00	0.157	-16.08	34.50	0.093	-20.63	59.00	0.039	-28.18	83.50	0.066	-23.61
-2.00	0.468	-6.60	10.50	0.140	-17.08	35.00	0.088	-21.11	59.50	0.036	-28.87	84.00	0.062	-24.15
-1.75	0.536	-5.42	11.00	0.147	-16.65	35.50	0.078	-22.16	60.00	0.040	-27.96	84.50	0.058	-24.73
-1.50	0.604	-4.38	11.50	0.168	-15.49	36.00	0.066	-23.61	60.50	0.048	-26.38	85.00	0.054	-25.35
-1.25	0.669	-3.49	12.00	0.186	-14.61	36.50	0.054	-25.35	61.00	0.059	-24.58	85.50	0.049	-26.20
-1.00	0.731	-2.72	12.50	0.196	-14.15	37.00	0.045	-26.94	61.50	0.069	-23.22	86.00	0.045	-26.94
-0.75	0.789	-2.06	13.00	0.193	-14.29	37.50	0.045	-26.94	62.00	0.080	-21.94	86.50	0.040	-27.96
-0.50	0.842	-1.49	13.50	0.179	-14.94	38.00	0.053	-25.51	62.50	0.089	-21.01	87.00	0.035	-29.12
-0.25	0.888	-1.03	14.00	0.155	-16.19	38.50	0.064	-23.88	63.00	0.096	-20.35	87.50	0.030	-30.46
0.00	0.927	-0.66	14.50	0.127	-17.92	39.00	0.075	-22.50	63.50	0.103	-19.74	88.00	0.024	-32.40
0.25	0.958	-0.37	15.00	0.102	-19.83	39.50	0.084	-21.51	64.00	0.107	-19.41	88.50	0.019	-34.42
0.50	0.981	-0.17	15.50	0.091	-20.82	40.00	0.089	-21.01	64.50	0.110	-19.17	89.00	0.014	-37.08
0.75	0.995	-0.04	16.00	0.098	-20.18	40.50	0.090	-20.92	65.00	0.111	-19.09	89.50	0.008	-41.94
1.00	1.000	0.00	16.50	0.115	-18.79	41.00	0.087	-21.21	65.50	0.110	-19.17	90.00	0.003	-50.46
1.25	0.996	-0.03	17.00	0.131	-17.65	41.50	0.080	-21.94	66.00	0.108	-19.33			
1.50	0.984	-0.14	17.50	0.141	-17.02	42.00	0.070	-23.10	66.50	0.104	-19.66			
1.75	0.964	-0.32	18.00	0.143	-16.89	42.50	0.058	-24.73	67.00	0.099	-20.09			
2.00	0.935	-0.58	18.50	0.135	-17.39	43.00	0.047	-26.56	67.50	0.093	-20.63			
2.25	0.899	-0.92	19.00	0.119	-18.49	43.50	0.041	-27.74	68.00	0.086	-21.31			
2.50	0.857	-1.34	19.50	0.099	-20.09	44.00	0.043	-27.33	68.50	0.078	-22.16			
2.75	0.808	-1.85	20.00	0.080	-21.94	44.50	0.052	-25.68	69.00	0.070	-23.10			
3.00	0.755	-2.44	20.50	0.069	-23.22	45.00	0.063	-24.01	69.50	0.061	-24.29			
3.25	0.699	-3.11	21.00	0.073	-22.73	45.50	0.074	-22.62	70.00	0.052	-25.68			
3.50	0.641	-3.86	21.50	0.086	-21.31	46.00	0.082	-21.72	70.50	0.044	-27.13			
3.75	0.581	-4.72	22.00	0.101	-19.91	46.50	0.088	-21.11	71.00	0.037	-28.64			
4.00	0.523	-5.63	22.50	0.112	-19.02	47.00	0.091	-20.82	71.50	0.032	-29.90			
4.25	0.467	-6.61	23.00	0.116	-18.71	47.50	0.090	-20.92	72.00	0.030	-30.46			
4.50	0.417	-7.60	23.50	0.113	-18.94	48.00	0.086	-21.31	72.50	0.030	-30.46			
4.75	0.373	-8.57	24.00	0.104	-19.66	48.50	0.079	-22.05	73.00	0.034	-29.37			
5.00	0.338	-9.42	24.50	0.089	-21.01	49.00	0.069	-23.22	73.50	0.039	-28.18			
5.25	0.313	-10.09	25.00	0.073	-22.73	49.50	0.058	-24.73	74.00	0.044	-27.13			
5.50	0.300	-10.46	25.50	0.060	-24.44	50.00	0.048	-26.38	74.50	0.050	-26.02			
5.75	0.296	-10.57	26.00	0.057	-24.88	50.50	0.040	-27.96	75.00	0.056	-25.04			
6.00	0.300	-10.46	26.50	0.065	-23.74	51.00	0.039	-28.18	75.50	0.061	-24.29			
6.25	0.308	-10.23	27.00	0.078	-22.16	51.50	0.045	-26.94	76.00	0.066	-23.61			
6.50	0.317	-9.98	27.50	0.091	-20.82	52.00	0.055	-25.19	76.50	0.070	-23.10			
6.75	0.326	-9.74	28.00	0.099	-20.09	52.50	0.066	-23.61	77.00	0.073	-22.73			
7.00	0.332	-9.58	28.50	0.102	-19.83	53.00	0.076	-22.38	77.50	0.076	-22.38			