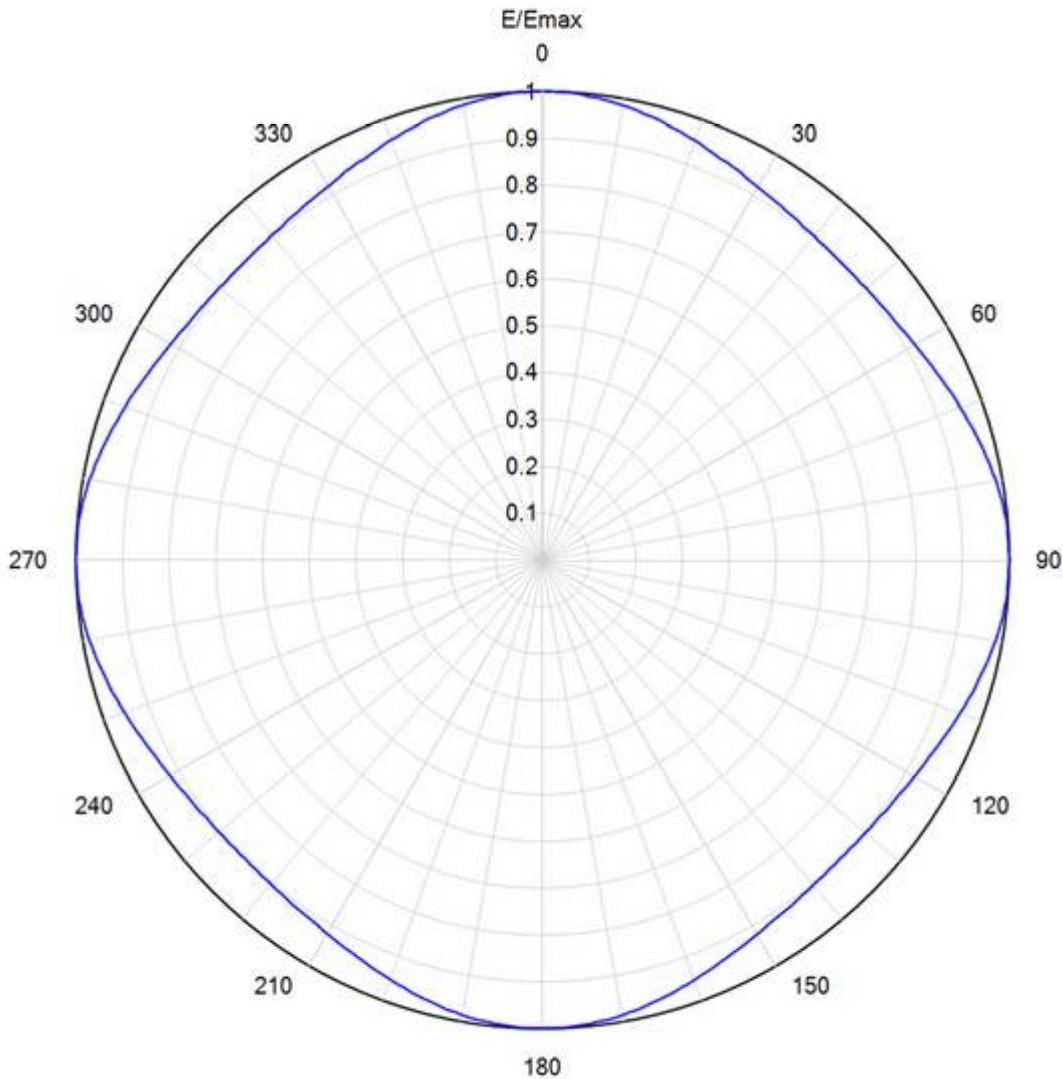




## Azimuth Pattern



Model: SAA29-O4A-J200-ET5R-16  
Location:  
Customer: Maryland Public Television  
Date: December 15, 2020  
Rotation Angle: 0 degrees

Polarization: Horizontal  
Frequency: 485.00 MHz  
Directivity: 1.1 (0.46 dB)  
Elevation Angle: 0.50 degrees  
Horizontal Unit Pattern:  
File = 0-OM-360-0.46-500-O4A.pat

Note: Pattern Tolerance +/-5% of Emax



Model: **SAA29-O4A-J200-ET5R-16**  
Location:  
Customer: **Maryland Public Television**  
Date: **December 15, 2020**

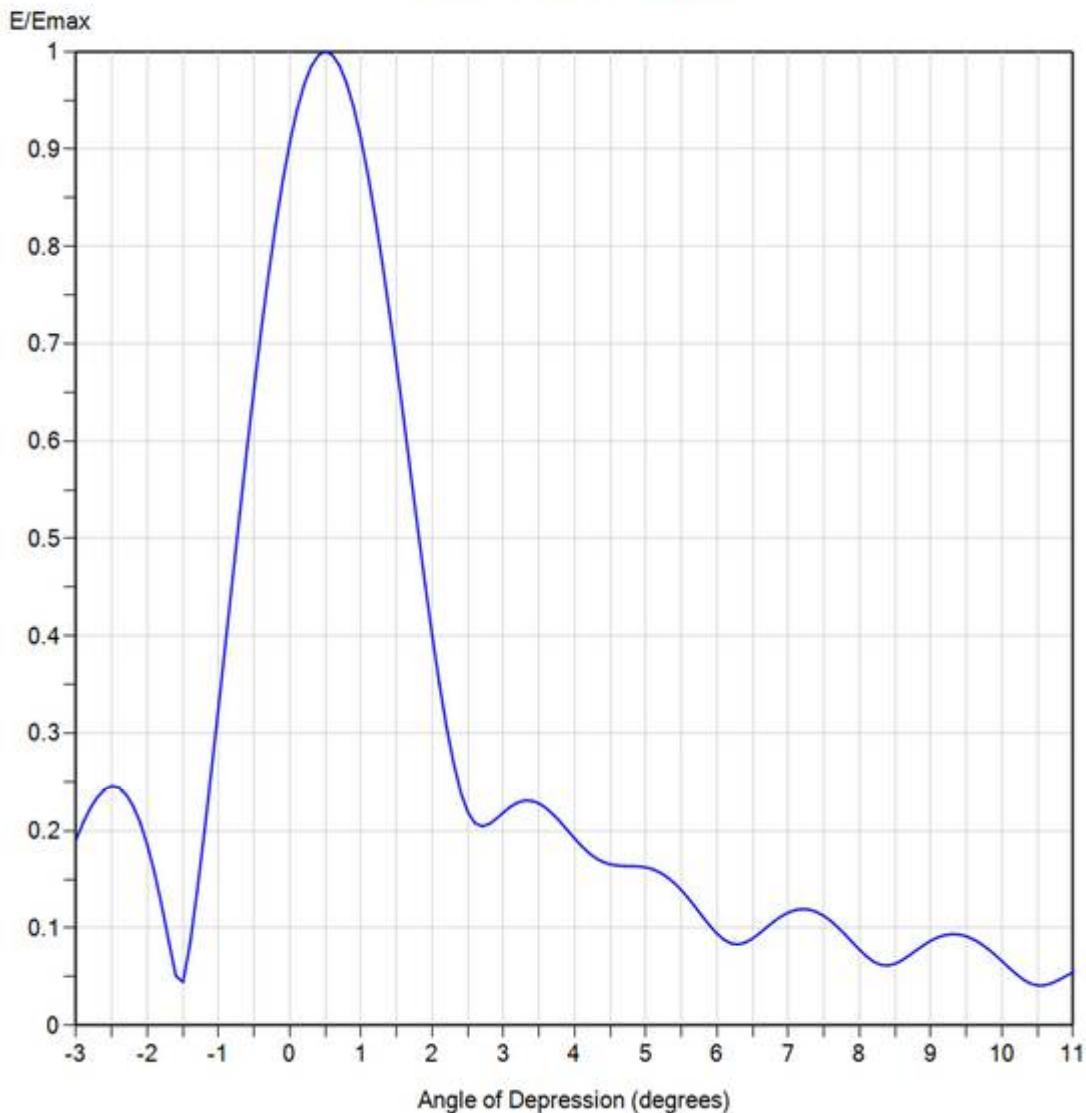
Polarization: **Horizontal**  
Frequency (MHz): **485.00**  
Directivity: **1.1 (0.46 dB)**  
Elevation Angle: **0.50 degrees**  
Rotation Angle: **0 degrees**

**TABULATED AZIMUTH PATTERN**

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	1.000	45	0.902	90	1.000	135	0.902	180	1.000	225	0.902	270	1.000	315	0.902
1	1.000	46	0.902	91	1.000	136	0.902	181	1.000	226	0.902	271	1.000	316	0.902
2	0.999	47	0.902	92	0.999	137	0.902	182	0.999	227	0.902	272	0.999	317	0.902
3	0.999	48	0.902	93	0.999	138	0.902	183	0.999	228	0.902	273	0.999	318	0.902
4	0.998	49	0.903	94	0.998	139	0.903	184	0.998	229	0.903	274	0.998	319	0.903
5	0.996	50	0.904	95	0.996	140	0.904	185	0.996	230	0.904	275	0.996	320	0.904
6	0.995	51	0.905	96	0.995	141	0.905	186	0.995	231	0.905	276	0.995	321	0.905
7	0.993	52	0.906	97	0.993	142	0.906	187	0.993	232	0.906	277	0.993	322	0.906
8	0.991	53	0.907	98	0.991	143	0.907	188	0.991	233	0.907	278	0.991	323	0.907
9	0.988	54	0.909	99	0.988	144	0.909	189	0.988	234	0.909	279	0.988	324	0.909
10	0.986	55	0.910	100	0.986	145	0.910	190	0.986	235	0.910	280	0.986	325	0.910
11	0.983	56	0.912	101	0.983	146	0.912	191	0.983	236	0.912	281	0.983	326	0.912
12	0.980	57	0.914	102	0.980	147	0.914	192	0.980	237	0.914	282	0.980	327	0.914
13	0.977	58	0.916	103	0.977	148	0.916	193	0.977	238	0.916	283	0.977	328	0.916
14	0.974	59	0.919	104	0.974	149	0.919	194	0.974	239	0.919	284	0.974	329	0.919
15	0.970	60	0.921	105	0.970	150	0.921	195	0.970	240	0.921	285	0.970	330	0.921
16	0.967	61	0.924	106	0.967	151	0.924	196	0.967	241	0.924	286	0.967	331	0.924
17	0.964	62	0.927	107	0.964	152	0.927	197	0.964	242	0.927	287	0.964	332	0.927
18	0.960	63	0.930	108	0.960	153	0.930	198	0.960	243	0.930	288	0.960	333	0.930
19	0.956	64	0.933	109	0.956	154	0.933	199	0.956	244	0.933	289	0.956	334	0.933
20	0.953	65	0.936	110	0.953	155	0.936	200	0.953	245	0.936	290	0.953	335	0.936
21	0.949	66	0.939	111	0.949	156	0.939	201	0.949	246	0.939	291	0.949	336	0.939
22	0.946	67	0.942	112	0.946	157	0.942	202	0.946	247	0.942	292	0.946	337	0.942
23	0.942	68	0.946	113	0.942	158	0.946	203	0.942	248	0.946	293	0.942	338	0.946
24	0.939	69	0.949	114	0.939	159	0.949	204	0.939	249	0.949	294	0.939	339	0.949
25	0.936	70	0.953	115	0.936	160	0.953	205	0.936	250	0.953	295	0.936	340	0.953
26	0.933	71	0.956	116	0.933	161	0.956	206	0.933	251	0.956	296	0.933	341	0.956
27	0.930	72	0.960	117	0.930	162	0.960	207	0.930	252	0.960	297	0.930	342	0.960
28	0.927	73	0.964	118	0.927	163	0.964	208	0.927	253	0.964	298	0.927	343	0.964
29	0.924	74	0.967	119	0.924	164	0.967	209	0.924	254	0.967	299	0.924	344	0.967
30	0.921	75	0.970	120	0.921	165	0.970	210	0.921	255	0.970	300	0.921	345	0.970
31	0.919	76	0.974	121	0.919	166	0.974	211	0.919	256	0.974	301	0.919	346	0.974
32	0.916	77	0.977	122	0.916	167	0.977	212	0.916	257	0.977	302	0.916	347	0.977
33	0.914	78	0.980	123	0.914	168	0.980	213	0.914	258	0.980	303	0.914	348	0.980
34	0.912	79	0.983	124	0.912	169	0.983	214	0.912	259	0.983	304	0.912	349	0.983
35	0.910	80	0.986	125	0.910	170	0.986	215	0.910	260	0.986	305	0.910	350	0.986
36	0.909	81	0.988	126	0.909	171	0.988	216	0.909	261	0.988	306	0.909	351	0.988
37	0.907	82	0.991	127	0.907	172	0.991	217	0.907	262	0.991	307	0.907	352	0.991
38	0.906	83	0.993	128	0.906	173	0.993	218	0.906	263	0.993	308	0.906	353	0.993
39	0.905	84	0.995	129	0.905	174	0.995	219	0.905	264	0.995	309	0.905	354	0.995
40	0.904	85	0.996	130	0.904	175	0.996	220	0.904	265	0.996	310	0.904	355	0.996
41	0.903	86	0.998	131	0.903	176	0.998	221	0.903	266	0.998	311	0.903	356	0.998
42	0.902	87	0.999	132	0.902	177	0.999	222	0.902	267	0.999	312	0.902	357	0.999
43	0.902	88	0.999	133	0.902	178	0.999	223	0.902	268	0.999	313	0.902	358	0.999
44	0.902	89	1.000	134	0.902	179	1.000	224	0.902	269	1.000	314	0.902	359	1.000



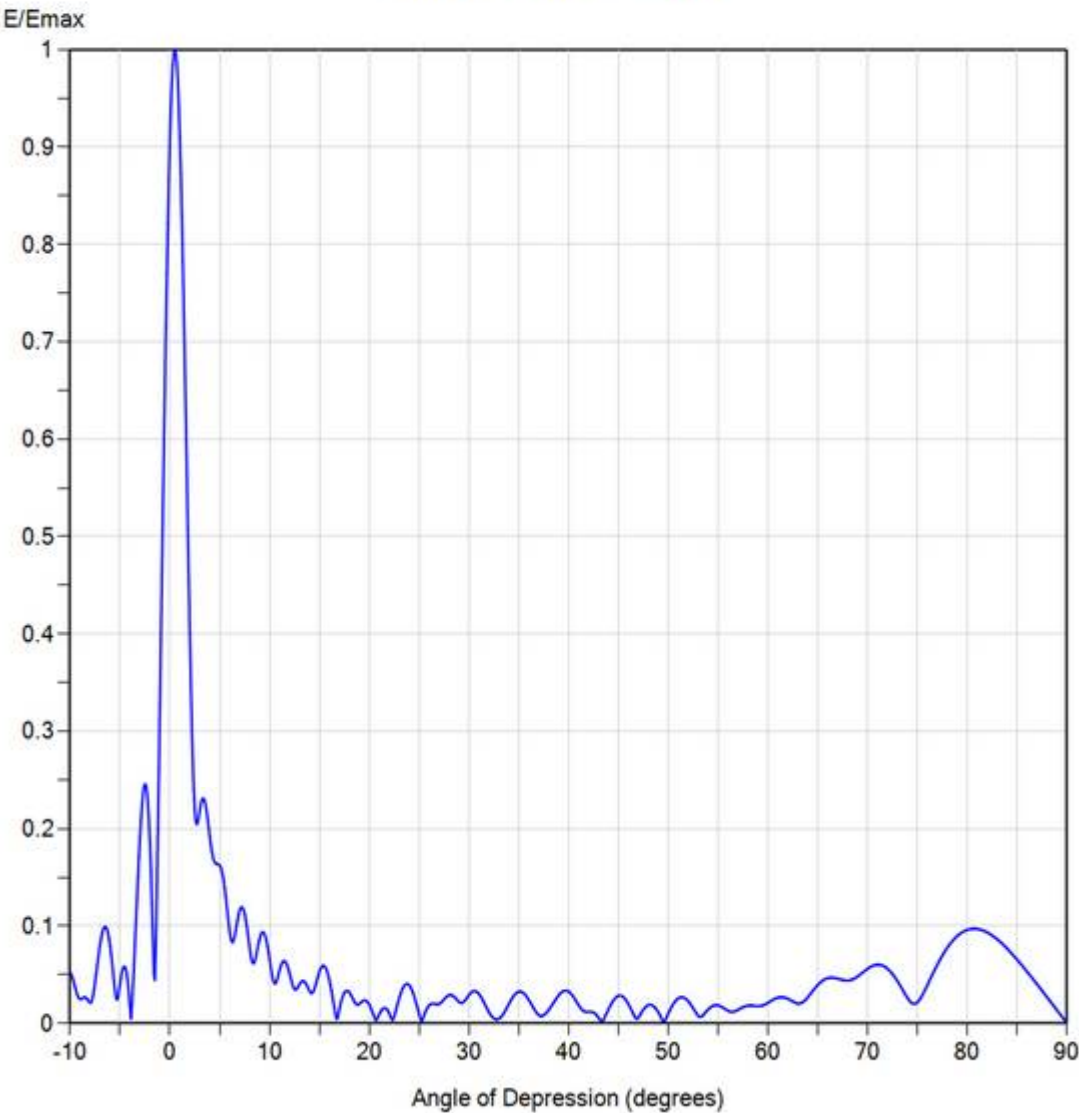
## Elevation Pattern



Model:	SAA29-O4A-J200-ET5R-16	Frequency:	485.00 MHz
Polarization:	<u>Horizontal</u>	Directivity (Main Lobe):	30.5 (14.85 dBd)
Location:		Directivity (At Horizon):	25.1 (13.99 dBd)
Customer:	Maryland Public Television	Beam Tilt:	0.50 degrees
Date:	December 15, 2020	Azimuth Angle:	0 degrees



Elevation Pattern



Model:	SAA29-O4A-J200-ET5R-16	Frequency:	485.00 MHz
Polarization:	<u>Horizontal</u>	Directivity (Main Lobe):	30.5 (14.85 dBd)
Location:		Directivity (At Horizon):	25.1 (13.99 dBd)
Customer:	Maryland Public Television	Beam Tilt:	0.50 degrees
Date:	December 15, 2020	Azimuth Angle:	0 degrees



Model: **SAA29-O4A-J200-ET5R-16**  
Location:  
Customer: **Maryland Public Television**  
Date: **December 15, 2020**

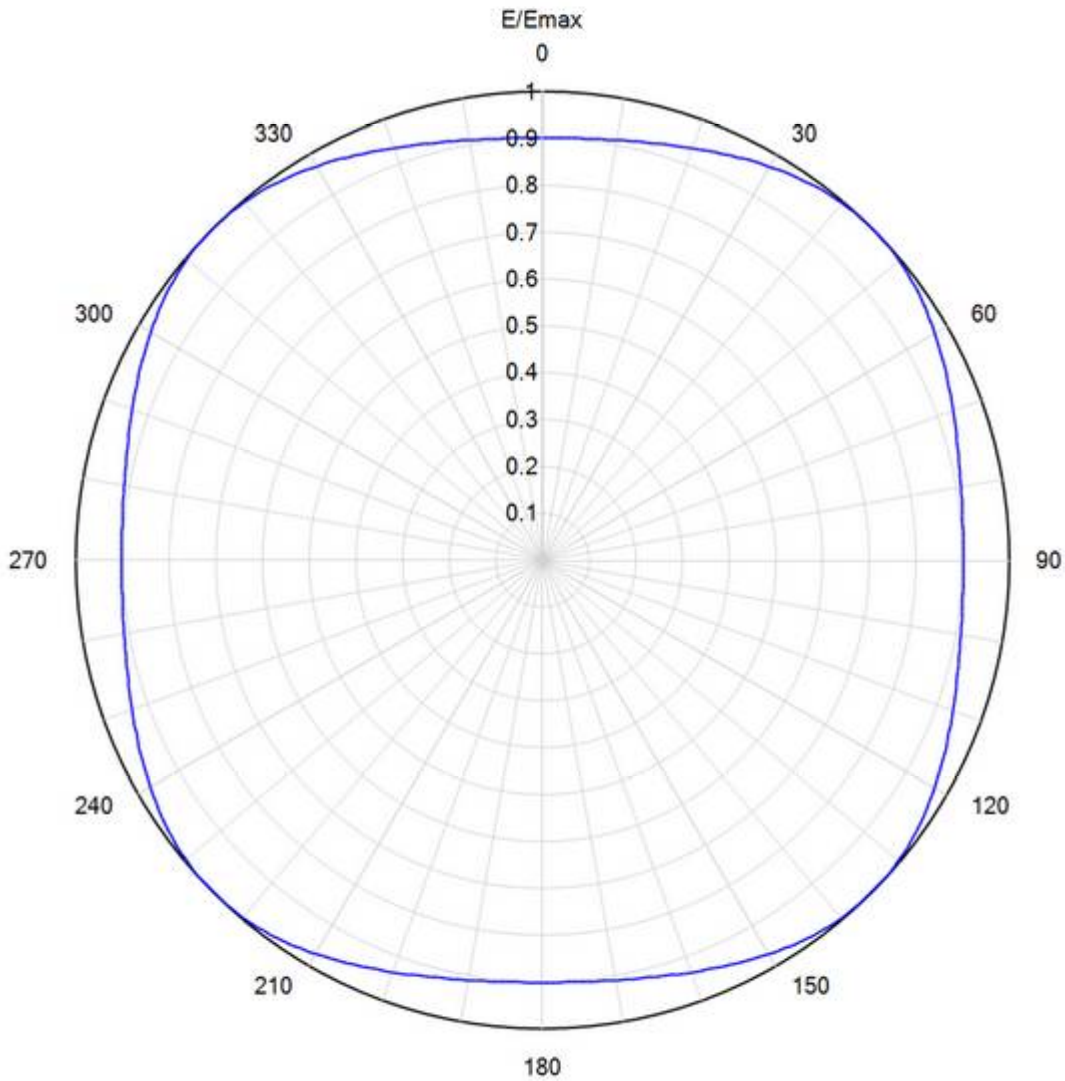
Polarization: **Horizontal**  
Frequency (MHz): **485.00**  
Directivity (Main Lobe): **30.5 (14.85 dB)**  
Directivity (At Horizon): **25.1 (13.99 dB)**  
Beam Tilt: **0.50 degrees**

### TABULATED ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.052	2.4	0.240	10.6	0.041	30.5	0.033	51.0	0.026	71.5	0.059
-9.5	0.037	2.6	0.208	10.8	0.047	31.0	0.030	51.5	0.027	72.0	0.056
-9.0	0.025	2.8	0.207	11.0	0.055	31.5	0.022	52.0	0.023	72.5	0.050
-8.5	0.027	3.0	0.219	11.5	0.064	32.0	0.012	52.5	0.015	73.0	0.043
-8.0	0.021	3.2	0.229	12.0	0.051	32.5	0.005	53.0	0.008	73.5	0.035
-7.5	0.042	3.4	0.231	12.5	0.035	33.0	0.005	53.5	0.008	74.0	0.026
-7.0	0.081	3.6	0.223	13.0	0.040	33.5	0.010	54.0	0.014	74.5	0.020
-6.5	0.099	3.8	0.209	13.5	0.043	34.0	0.020	54.5	0.018	75.0	0.022
-6.0	0.080	4.0	0.192	14.0	0.033	34.5	0.028	55.0	0.018	75.5	0.029
-5.5	0.033	4.2	0.177	14.5	0.035	35.0	0.033	55.5	0.016	76.0	0.040
-5.0	0.041	4.4	0.168	15.0	0.053	35.5	0.031	56.0	0.013	76.5	0.050
-4.5	0.058	4.6	0.164	15.5	0.059	36.0	0.024	56.5	0.012	77.0	0.061
-4.0	0.016	4.8	0.164	16.0	0.044	36.5	0.015	57.0	0.014	77.5	0.070
-3.5	0.082	5.0	0.162	16.5	0.016	37.0	0.008	57.5	0.017	78.0	0.078
-3.0	0.191	5.2	0.157	17.0	0.014	37.5	0.008	58.0	0.018	78.5	0.085
-2.8	0.223	5.4	0.146	17.5	0.031	38.0	0.014	58.5	0.018	79.0	0.090
-2.6	0.242	5.6	0.130	18.0	0.032	38.5	0.021	59.0	0.018	79.5	0.094
-2.4	0.244	5.8	0.112	18.5	0.022	39.0	0.029	59.5	0.019	80.0	0.096
-2.2	0.226	6.0	0.094	19.0	0.020	39.5	0.033	60.0	0.021	80.5	0.097
-2.0	0.185	6.2	0.084	19.5	0.024	40.0	0.033	60.5	0.024	81.0	0.097
-1.8	0.124	6.4	0.085	20.0	0.019	40.5	0.027	61.0	0.026	81.5	0.096
-1.6	0.051	6.6	0.095	20.5	0.007	41.0	0.019	61.5	0.027	82.0	0.093
-1.4	0.084	6.8	0.107	21.0	0.009	41.5	0.013	62.0	0.025	82.5	0.090
-1.2	0.198	7.0	0.116	21.5	0.016	42.0	0.012	62.5	0.022	83.0	0.086
-1.0	0.327	7.2	0.120	22.0	0.010	42.5	0.011	63.0	0.020	83.5	0.082
-0.8	0.461	7.4	0.116	22.5	0.007	43.0	0.006	63.5	0.022	84.0	0.077
-0.6	0.593	7.6	0.107	23.0	0.026	43.5	0.004	64.0	0.027	84.5	0.071
-0.4	0.715	7.8	0.093	23.5	0.038	44.0	0.014	64.5	0.033	85.0	0.065
-0.2	0.821	8.0	0.078	24.0	0.039	44.5	0.024	65.0	0.039	85.5	0.059
0.0	0.907	8.2	0.065	24.5	0.028	45.0	0.028	65.5	0.044	86.0	0.053
0.2	0.966	8.4	0.061	25.0	0.010	45.5	0.027	66.0	0.046	86.5	0.047
0.4	0.996	8.6	0.067	25.5	0.008	46.0	0.020	66.5	0.047	87.0	0.040
0.6	0.996	8.8	0.077	26.0	0.018	46.5	0.009	67.0	0.046	87.5	0.033
0.8	0.967	9.0	0.087	26.5	0.020	47.0	0.006	67.5	0.045	88.0	0.027
1.0	0.910	9.2	0.093	27.0	0.020	47.5	0.014	68.0	0.044	88.5	0.020
1.2	0.830	9.4	0.093	27.5	0.024	48.0	0.019	68.5	0.045	89.0	0.013
1.4	0.732	9.6	0.088	28.0	0.029	48.5	0.018	69.0	0.048	89.5	0.007
1.6	0.622	9.8	0.079	28.5	0.027	49.0	0.011	69.5	0.052	90.0	0.000
1.8	0.509	10.0	0.066	29.0	0.022	49.5	0.001	70.0	0.056		
2.0	0.400	10.2	0.053	29.5	0.022	50.0	0.010	70.5	0.059		
2.2	0.307	10.4	0.043	30.0	0.029	50.5	0.020	71.0	0.060		



## Azimuth Pattern



Model: SAA29-O4A-J200-ET5R-16

Location:

Customer: Maryland Public Television

Date: December 15, 2020

Rotation Angle: 0 degrees

Note: Pattern Tolerance +/-5% of Emax

Polarization: Vertical

Frequency: 485.00 MHz

Directivity: 1.1 (0.46 dB)

Elevation Angle: 0.50 degrees

Horizontal Unit Pattern:

File = 0-OM-360-0.46-500-O4A-VP.pat



Model: **SAA29-O4A-J200-ET5R-16**  
Location:  
Customer: **Maryland Public Television**  
Date: **December 15, 2020**

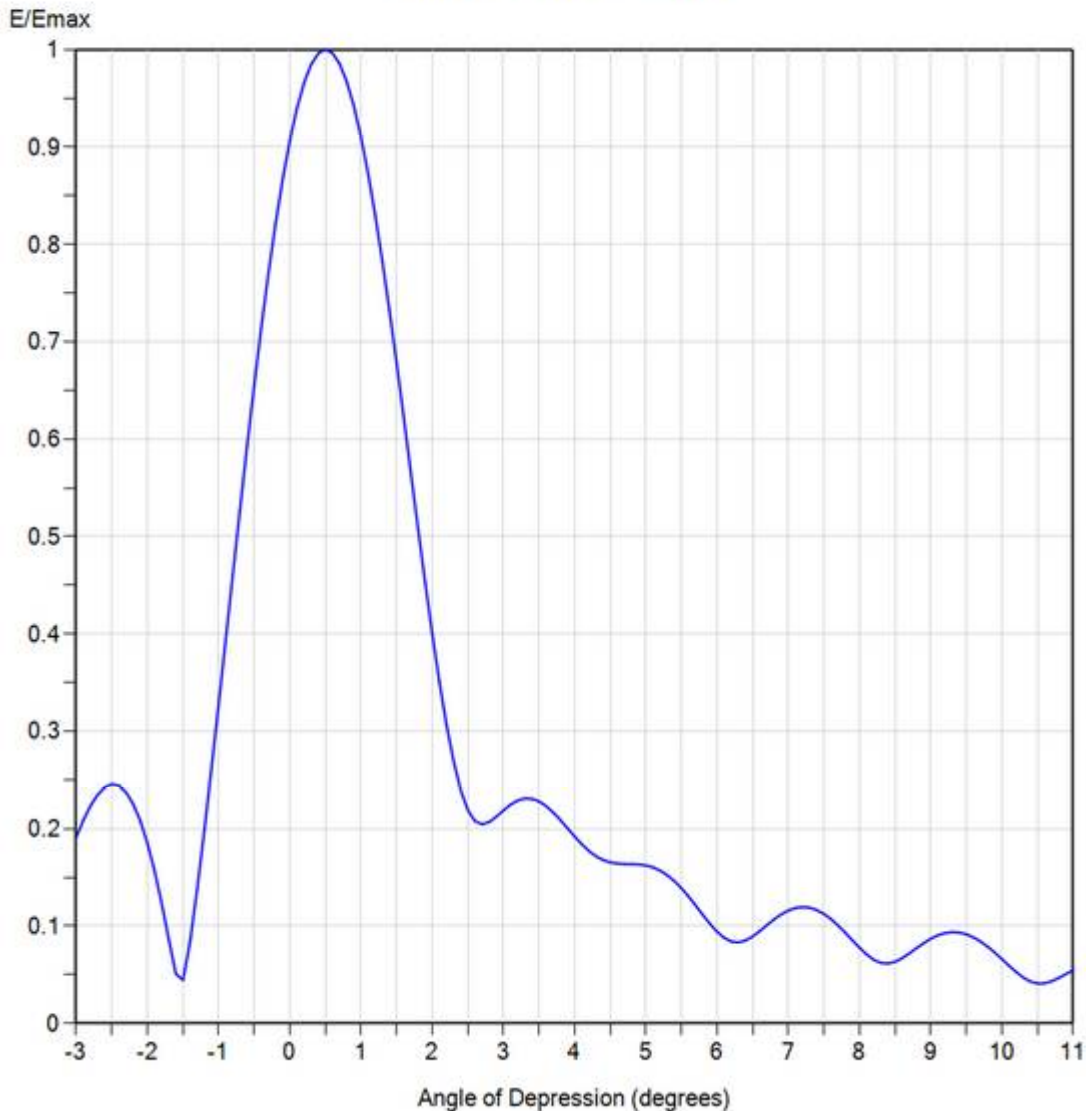
Polarization: **Vertical**  
Frequency (MHz): **485.00**  
Directivity: **1.1 (0.46 dB)**  
Elevation Angle: **0.50 degrees**  
Rotation Angle: **0 degrees**

**TABULATED AZIMUTH PATTERN**

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	0.902	45	1.000	90	0.902	135	1.000	180	0.902	225	1.000	270	0.902	315	1.000
1	0.902	46	1.000	91	0.902	136	1.000	181	0.902	226	1.000	271	0.902	316	1.000
2	0.902	47	0.999	92	0.902	137	0.999	182	0.902	227	0.999	272	0.902	317	0.999
3	0.902	48	0.999	93	0.902	138	0.999	183	0.902	228	0.999	273	0.902	318	0.999
4	0.903	49	0.998	94	0.903	139	0.998	184	0.903	229	0.998	274	0.903	319	0.998
5	0.904	50	0.996	95	0.904	140	0.996	185	0.904	230	0.996	275	0.904	320	0.996
6	0.905	51	0.995	96	0.905	141	0.995	186	0.905	231	0.995	276	0.905	321	0.995
7	0.906	52	0.993	97	0.906	142	0.993	187	0.906	232	0.993	277	0.906	322	0.993
8	0.907	53	0.991	98	0.907	143	0.991	188	0.907	233	0.991	278	0.907	323	0.991
9	0.909	54	0.988	99	0.909	144	0.988	189	0.909	234	0.988	279	0.909	324	0.988
10	0.910	55	0.986	100	0.910	145	0.986	190	0.910	235	0.986	280	0.910	325	0.986
11	0.912	56	0.983	101	0.912	146	0.983	191	0.912	236	0.983	281	0.912	326	0.983
12	0.914	57	0.980	102	0.914	147	0.980	192	0.914	237	0.980	282	0.914	327	0.980
13	0.916	58	0.977	103	0.916	148	0.977	193	0.916	238	0.977	283	0.916	328	0.977
14	0.919	59	0.974	104	0.919	149	0.974	194	0.919	239	0.974	284	0.919	329	0.974
15	0.921	60	0.970	105	0.921	150	0.970	195	0.921	240	0.970	285	0.921	330	0.970
16	0.924	61	0.967	106	0.924	151	0.967	196	0.924	241	0.967	286	0.924	331	0.967
17	0.927	62	0.964	107	0.927	152	0.964	197	0.927	242	0.964	287	0.927	332	0.964
18	0.930	63	0.960	108	0.930	153	0.960	198	0.930	243	0.960	288	0.930	333	0.960
19	0.933	64	0.956	109	0.933	154	0.956	199	0.933	244	0.956	289	0.933	334	0.956
20	0.936	65	0.953	110	0.936	155	0.953	200	0.936	245	0.953	290	0.936	335	0.953
21	0.939	66	0.949	111	0.939	156	0.949	201	0.939	246	0.949	291	0.939	336	0.949
22	0.942	67	0.946	112	0.942	157	0.946	202	0.942	247	0.946	292	0.942	337	0.946
23	0.946	68	0.942	113	0.946	158	0.942	203	0.946	248	0.942	293	0.946	338	0.942
24	0.949	69	0.939	114	0.949	159	0.939	204	0.949	249	0.939	294	0.949	339	0.939
25	0.953	70	0.936	115	0.953	160	0.936	205	0.953	250	0.936	295	0.953	340	0.936
26	0.956	71	0.933	116	0.956	161	0.933	206	0.956	251	0.933	296	0.956	341	0.933
27	0.960	72	0.930	117	0.960	162	0.930	207	0.960	252	0.930	297	0.960	342	0.930
28	0.964	73	0.927	118	0.964	163	0.927	208	0.964	253	0.927	298	0.964	343	0.927
29	0.967	74	0.924	119	0.967	164	0.924	209	0.967	254	0.924	299	0.967	344	0.924
30	0.970	75	0.921	120	0.970	165	0.921	210	0.970	255	0.921	300	0.970	345	0.921
31	0.974	76	0.919	121	0.974	166	0.919	211	0.974	256	0.919	301	0.974	346	0.919
32	0.977	77	0.916	122	0.977	167	0.916	212	0.977	257	0.916	302	0.977	347	0.916
33	0.980	78	0.914	123	0.980	168	0.914	213	0.980	258	0.914	303	0.980	348	0.914
34	0.983	79	0.912	124	0.983	169	0.912	214	0.983	259	0.912	304	0.983	349	0.912
35	0.986	80	0.910	125	0.986	170	0.910	215	0.986	260	0.910	305	0.986	350	0.910
36	0.988	81	0.909	126	0.988	171	0.909	216	0.988	261	0.909	306	0.988	351	0.909
37	0.991	82	0.907	127	0.991	172	0.907	217	0.991	262	0.907	307	0.991	352	0.907
38	0.993	83	0.906	128	0.993	173	0.906	218	0.993	263	0.906	308	0.993	353	0.906
39	0.995	84	0.905	129	0.995	174	0.905	219	0.995	264	0.905	309	0.995	354	0.905
40	0.996	85	0.904	130	0.996	175	0.904	220	0.996	265	0.904	310	0.996	355	0.904
41	0.998	86	0.903	131	0.998	176	0.903	221	0.998	266	0.903	311	0.998	356	0.903
42	0.999	87	0.902	132	0.999	177	0.902	222	0.999	267	0.902	312	0.999	357	0.902
43	0.999	88	0.902	133	0.999	178	0.902	223	0.999	268	0.902	313	0.999	358	0.902
44	1.000	89	0.902	134	1.000	179	0.902	224	1.000	269	0.902	314	1.000	359	0.902



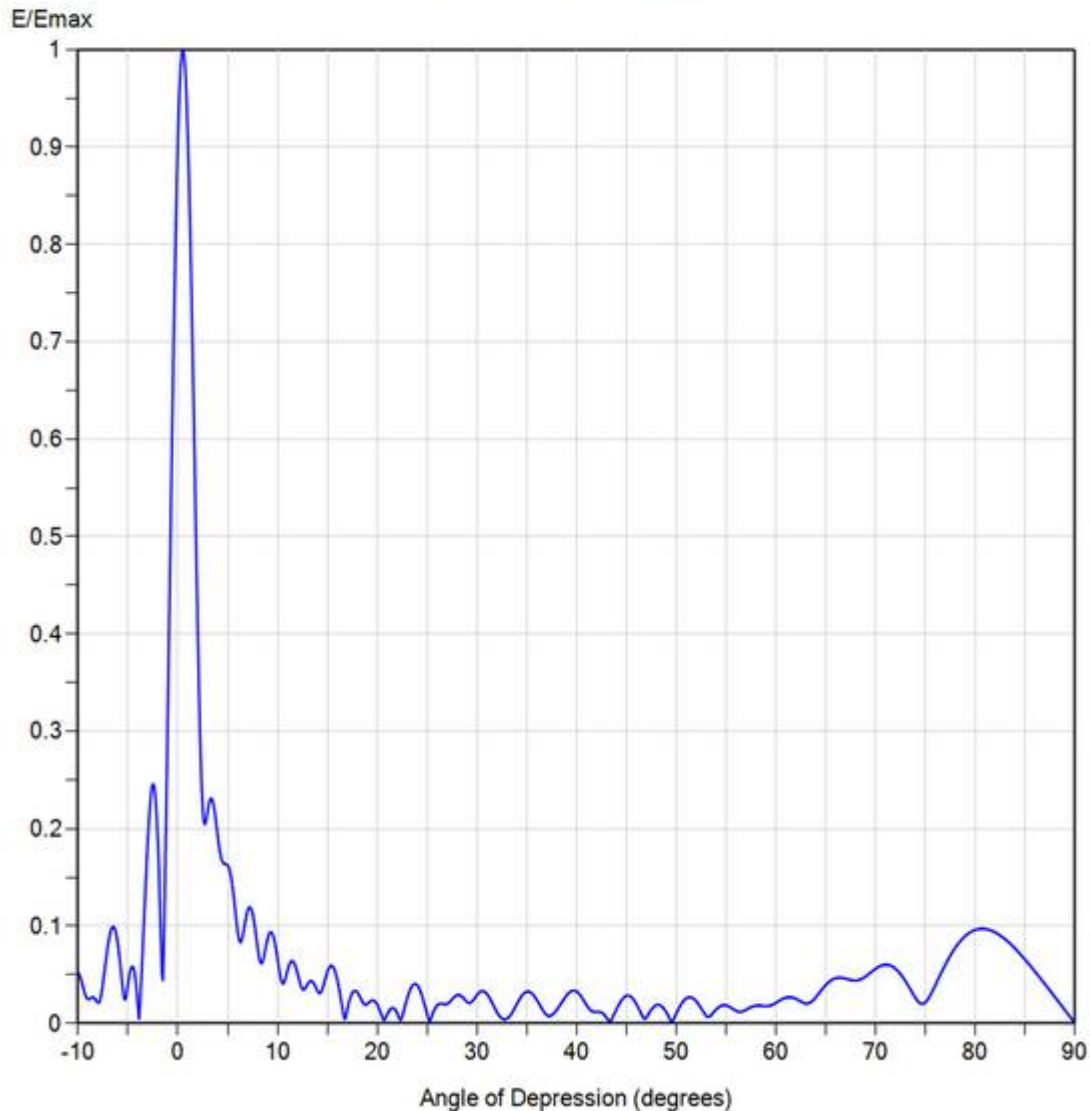
## Elevation Pattern



Model:	SAA29-O4A-J200-ET5R-16	Frequency:	485.00 MHz
Polarization:	<u>Vertical</u>	Directivity (Main Lobe):	30.5 (14.85 dBd)
Location:		Directivity (At Horizon):	25.1 (13.99 dBd)
Customer:	Maryland Public Television	Beam Tilt:	0.50 degrees
Date:	December 15, 2020	Azimuth Angle:	225 degrees



## Elevation Pattern



Model:	SAA29-O4A-J200-ET5R-16	Frequency:	485.00 MHz
Polarization:	<u>Vertical</u>	Directivity (Main Lobe):	30.5 (14.85 dBd)
Location:		Directivity (At Horizon):	25.1 (13.99 dBd)
Customer:	Maryland Public Television	Beam Tilt:	0.50 degrees
Date:	December 15, 2020	Azimuth Angle:	225 degrees



Model: **SAA29-O4A-J200-ET5R-16**  
Location:  
Customer: **Maryland Public Television**  
Date: **December 15, 2020**

Polarization: **Vertical**  
Frequency (MHz): **485.00**  
Directivity (Main Lobe): **30.5 (14.85 dB)**  
Directivity (At Horizon): **25.1 (13.99 dB)**  
Beam Tilt: **0.50 degrees**

### TABULATED ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.052	2.4	0.240	10.6	0.041	30.5	0.033	51.0	0.026	71.5	0.059
-9.5	0.037	2.6	0.208	10.8	0.047	31.0	0.030	51.5	0.027	72.0	0.056
-9.0	0.025	2.8	0.207	11.0	0.055	31.5	0.022	52.0	0.023	72.5	0.050
-8.5	0.027	3.0	0.219	11.5	0.064	32.0	0.012	52.5	0.015	73.0	0.043
-8.0	0.021	3.2	0.229	12.0	0.051	32.5	0.005	53.0	0.008	73.5	0.035
-7.5	0.042	3.4	0.231	12.5	0.035	33.0	0.005	53.5	0.008	74.0	0.026
-7.0	0.081	3.6	0.223	13.0	0.040	33.5	0.010	54.0	0.014	74.5	0.020
-6.5	0.099	3.8	0.209	13.5	0.043	34.0	0.020	54.5	0.018	75.0	0.022
-6.0	0.080	4.0	0.192	14.0	0.033	34.5	0.028	55.0	0.018	75.5	0.029
-5.5	0.033	4.2	0.177	14.5	0.035	35.0	0.033	55.5	0.016	76.0	0.040
-5.0	0.041	4.4	0.168	15.0	0.053	35.5	0.031	56.0	0.013	76.5	0.050
-4.5	0.058	4.6	0.164	15.5	0.059	36.0	0.024	56.5	0.012	77.0	0.061
-4.0	0.016	4.8	0.164	16.0	0.044	36.5	0.015	57.0	0.014	77.5	0.070
-3.5	0.082	5.0	0.162	16.5	0.016	37.0	0.008	57.5	0.017	78.0	0.078
-3.0	0.191	5.2	0.157	17.0	0.014	37.5	0.008	58.0	0.018	78.5	0.085
-2.8	0.223	5.4	0.146	17.5	0.031	38.0	0.014	58.5	0.018	79.0	0.090
-2.6	0.242	5.6	0.130	18.0	0.032	38.5	0.021	59.0	0.018	79.5	0.094
-2.4	0.244	5.8	0.112	18.5	0.022	39.0	0.029	59.5	0.019	80.0	0.096
-2.2	0.226	6.0	0.094	19.0	0.020	39.5	0.033	60.0	0.021	80.5	0.097
-2.0	0.185	6.2	0.084	19.5	0.024	40.0	0.033	60.5	0.024	81.0	0.097
-1.8	0.124	6.4	0.085	20.0	0.019	40.5	0.027	61.0	0.026	81.5	0.096
-1.6	0.051	6.6	0.095	20.5	0.007	41.0	0.019	61.5	0.027	82.0	0.093
-1.4	0.084	6.8	0.107	21.0	0.009	41.5	0.013	62.0	0.025	82.5	0.090
-1.2	0.198	7.0	0.116	21.5	0.016	42.0	0.012	62.5	0.022	83.0	0.086
-1.0	0.327	7.2	0.120	22.0	0.010	42.5	0.011	63.0	0.020	83.5	0.082
-0.8	0.461	7.4	0.116	22.5	0.007	43.0	0.006	63.5	0.022	84.0	0.077
-0.6	0.593	7.6	0.107	23.0	0.026	43.5	0.004	64.0	0.027	84.5	0.071
-0.4	0.715	7.8	0.093	23.5	0.038	44.0	0.014	64.5	0.033	85.0	0.065
-0.2	0.821	8.0	0.078	24.0	0.039	44.5	0.024	65.0	0.039	85.5	0.059
0.0	0.907	8.2	0.065	24.5	0.028	45.0	0.028	65.5	0.044	86.0	0.053
0.2	0.966	8.4	0.061	25.0	0.010	45.5	0.027	66.0	0.046	86.5	0.047
0.4	0.996	8.6	0.067	25.5	0.008	46.0	0.020	66.5	0.047	87.0	0.040
0.6	0.996	8.8	0.077	26.0	0.018	46.5	0.009	67.0	0.046	87.5	0.033
0.8	0.967	9.0	0.087	26.5	0.020	47.0	0.006	67.5	0.045	88.0	0.027
1.0	0.910	9.2	0.093	27.0	0.020	47.5	0.014	68.0	0.044	88.5	0.020
1.2	0.830	9.4	0.093	27.5	0.024	48.0	0.019	68.5	0.045	89.0	0.013
1.4	0.732	9.6	0.088	28.0	0.029	48.5	0.018	69.0	0.048	89.5	0.007
1.6	0.622	9.8	0.079	28.5	0.027	49.0	0.011	69.5	0.052	90.0	0.000
1.8	0.509	10.0	0.066	29.0	0.022	49.5	0.001	70.0	0.056		
2.0	0.400	10.2	0.053	29.5	0.022	50.0	0.010	70.5	0.059		
2.2	0.307	10.4	0.043	30.0	0.029	50.5	0.020	71.0	0.060		